

Water Supplies Department

New Works Branch

Construction Division

11 Tai Yip Lane

Kowloon Bay

Kowloon

Hong Kong

Attention: Mr Y M Chan

Your reference:

Our reference:

HKWSD201/50/106234

Date:

15 January 2020

BY POST

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.17

We refer to emails of 14 and 15 January 2020 attaching Monthly EM&A Report No.17 for the captioned project prepared by the ET.

We have no further comments and hereby verify the Monthly EM&A Report No.17 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 Francis Lau on 2618 2831.

Yours faithfully

ANEWR CONSULTING LIMITED

James Choi

Independent Environmental Checker

CPSJ/LYMA/LHYF/lhmh

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Contract No. 13/WSD/16

Mainlaying in Tseung Kwan O

Monthly EM&A Report No.17 (Period from 1 to 31 December 2019)

December 2019 (Rev. 0)

	Prepared by:	Certified by:
Name	Karen Cheung	Jacky Leung
Position	Environmental Team	Environmental Team Leader
Signature		
Date:	14 January 2020	14 January 2020



Revision History

0	1 st Submission	14/01/2020
Rev.	DESCRIPTION OF MODIFICATION	DATE



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EXECUTIVE SUMMARY

<u>Introduction</u>

- 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 17th 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 December 2019 to 31 December 2019.
- 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 following:

Location	Works Conducted in the reporting month		
	 Pipes have been laid from CH.C 11+65 (CH.CA 04+25) to CH.C 7+33 (CH.CA -0+07). 		
Portion H of the	 Backfilling of trench to the required level from CH.C 11+65 (CH.CA 04+25) to CH.C 7+33 (CH.CA -0+07) 		
Project Site	was completed.		
	Inspection pit for trenchless Pit 137B was in		
	progress.Trench excavation from CH.CT 0+07 will continue.		
	2 nos. of inspection pits at an abandoned road near May May Tagi Village and Bit 127B inside TKO Assa		
	Mau Wu Tsai Village and Pit 137B inside TKO Area 137 were in progress for alternative alignment.		
	Preparation works for bend block construction at		
	CH.A 7+20 was in progress for the upcoming lane		
Portion J of the Project Site	shifting from the fast lane to the slow land due to obstructions encountered. Installation of watermain was in progress.		
	Concreting for combined thrust block at CH.A 12+45		
	was completed.		
	Remedial works were performed at the cycling		
	track and carriageway at Pit B.		
	 Construction work at Pit C was resumed. 		



- A6. The major environmental impacts brought by the above construction works include:
 - Construction dust and noise generation from the erection of fencing and gates, ground investigation works, saw cutting of concrete surface and trial pits works
 - Waste generation from the construction activities
- A7. The key environmental mitigation measures implemented for the Project in this reporting period associated with the above construction works include:
 - Dust suppression by regular wetting and water spraying for the erection of fencing and gates and trial pits works
 - Reduction of noise from equipment and machinery on-site
 - Sorting and storage of general refuse and construction waste

Summary of Exceedance & Investigation & Follow-up

A8. No noise monitoring was conducted in the reporting month due to the overly distant monitoring station from the works location. No project-related exceedance of the Action Level was recorded during the reporting period.

Complaint Handling and Prosecution

- A9. No project-related environmental complaint was received during the reporting period.
- A10. Neither notifications of summons nor prosecution was received for the Project.

Reporting Change

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



Summary of Upcoming Key Issues and Key Mitigation Measures

A12. Key works in January 2020 (the next reporting month) for the Project will include the followings:

Location	Works Conducting in the next reporting month		
Portion H of the Project Site	Further liaison with relevant government department/contractors for the continuation of works in TKO Area 137 was on-going. Site Clearance of early possessed area and make ready for return of land to WSD. Site liaison for temporary land possession for trench excavation towards SENTX (South-East New Territories Landfill Extension) area for mainlaying in TKO Area 137. Trial pit for 137B will continue.		
Portion J of the Project Site	 2 nos. of work fronts implemented as scheduled for the open-trench between CH. A 6+64 to 13+70 will continue. Relocation of traffic signal light at Pit A at Wan Po Road near Chun Yat Street under arrangement with EMSD. 2 nos. of work fronts including Pit B and Pit C implemented as scheduled for pipe jacking at CH.A 16+00 and CH.A 19+26, respectively. Implement approved (temporary traffic management scheme) TTMS at Landfill Stage 1 cycle track for CE no. 34 mainlaying works. Continuation of trial pits works at rural road near Mau Wu Tsai Village (Po Lam South Road) for alternative alignment. Arrange new trial pit at Mau Wu Tsai Village (Po Lam South Road) for alternative alignment. Continue preliminary design of river crossing at Tsui Lam. Carry out site clearance at Landfill stage 1 – Area A for the conduction of 2 inspection pits to finalize the alignment of inclined drillhole to finalize the design level of the pipe jacking underneath across MTR tunnels. 		

- A13. The major environmental impacts brought by the above construction works will include:
 - Construction dust and noise generation from trial pit works and opentrench
 - Waste generation from construction activities



- A14. The key environmental mitigation measures for the Project in the coming reporting period associated with the above construction works will include:
 - Dust suppression by regular wetting and water spraying for trial pit works
 - Reduction of noise from equipment and machinery on-site
 - Sorting and storage of general refuse and construction waste



1. Basic Project Information

- 1.1 Background
- 1.1.1 The proposed Desalination Plant at Tseung Kwan O (DPTKO) will produce potable water with an initial capacity of 135 million 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.
- 1.1.2 Pursuant to the Environmental Impact Assessment Ordinance (EIAO), the Director of Environmental Protection granted the Variation of Environmental Permit (No. EP-503/2015/A) to Water Supplies Department (WSD) for the Project on 26 January 2018.
- 1.1.3 The scope of the Contract may be considered in brief, to consist of the laying of about 10km long 1200mm diameter 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
- 1.2.1 This is the 17th Monthly EM&A Report for the Project which summarizes the key findings of the EM&A programme during the reporting period from 1 December 2019 to 31 December 2019.
- 1.3 Project Organization
- 1.3.1 The Project Organization structure for Construction Phase is presented in **Figure 1.1**.

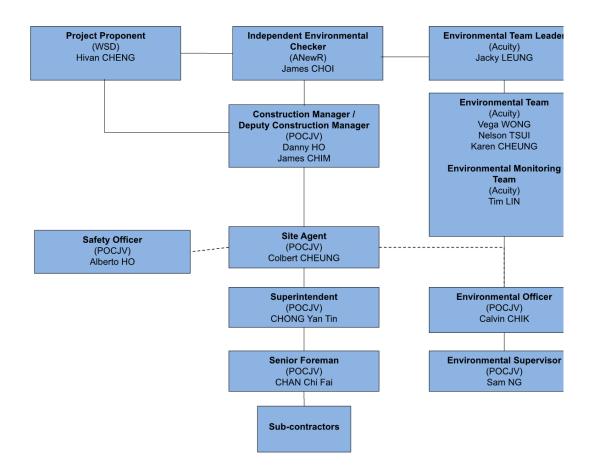


Figure 1.1 Project Organization Chart

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



Table 1.1 Contact Details of Key Personnel

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

- 1.4 Summary of Construction Works
- 1.4.1 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 of works	Construction works undertaken	Remarks progress	on
Portion H of the Project Site	 Pipe laying from CH.C 11+65 (CH.CA 4+25) to CH.C 7+33 (CH.CA 0-07) Backfilling of trench to the required level from CH.C 11+65 (CH.CA 4+25) to CH.C 7+33 (CH.CA 0-07) 	Completed	
	 Inspection pit for proposed trenchless Pit 137B Trench excavation from CH.CT 0+07 	In progress	
Portion J of the Project Site	 Pipe laying from CH.A 0+00 to 0+78 Perimeter grouting between shield head and sleeve pipe was completed at CH7+20 Concreting for combined thrust block at CH.A 12+45 was completed. 	Completed	



Location of works	Construction works undertaken	Remarks on progress
	Remedial works were performed at the cycling track and carriageway at Pit B.	
	 2 nos. of inspection pits at an abandoned road near Mau Wu Tsai Village and Pit 137B inside TKO Area 137 were in progress for alternative alignment. Preparation works for bend block construction at CH7+20 was in progress for the upcoming lane shifting from the fast lane to the slow land due to obstructions encountered. Installation of watermain was in progress. Construction work at Pit C was resumed. 	In progress

- 1.5 Summary of Environmental Status
- 1.5.1 A summary of the valid permits, licences, and or notifications on environmental protection for this Project is presented in **Table 1.3**

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

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	GW-RE1016-19	Until 29 June 2020	-



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

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

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

- 1.5.3 Other than the EM&A works by ET, regular environmental management meetings were conducted in order to enhance environmental awareness and closely monitor the environmental performance of the contractors.
- 1.5.4 The EM&A programme has been implemented in accordance with the recommendations presented in the approved EIA Report and the EM&A Manual. A summary of implementation status of the environmental mitigation measures for the construction phase of the Project during the reporting period is provided in **Appendix C**.



2. Noise Monitoring

- 2.1 Monitoring Requirements
- 2.1.1 To ensure no adverse noise impact, noise monitoring is recommended to be carried out within 300m radius from the nearby 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.
- 2.1.2 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-minutes measurements Leq, L10 and L90 levels recorded at each monitoring station between 0700 and 1900 hours on normal weekdays.
- 2.1.3 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.
- 2.1.4 No impact monitoring for noise impact was conducted in the reporting month due to the overly distant monitoring station from the works location, where they were farther than 1 km from the closet monitoring station NSR4 to the works location.
- 2.2 Noise Monitoring Parameters, Time, Frequency
- 2.2.1 Impact noise monitoring will be conducted weekly in the reporting period between 0700-1900 hours on normal weekdays. No construction works were carried out during 1900-0700 hours in all days or any time on Sundays or general holidays during the reporting period.
- 2.2.2 Construction noise level measured in terms of the A-weighted equivalent continuous sound pressure level (LAeq). Leq 30min was used as the monitoring parameter for the time period between 0700 and 1900 hours 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 hours	Once per week	Continuously in $L_{eq \; 5min}/L_{eq \; 30min}$ (average of 6 consecutive L_{eq} $_{5min}$)	L _{eq} , L ₁₀ & L ₉₀

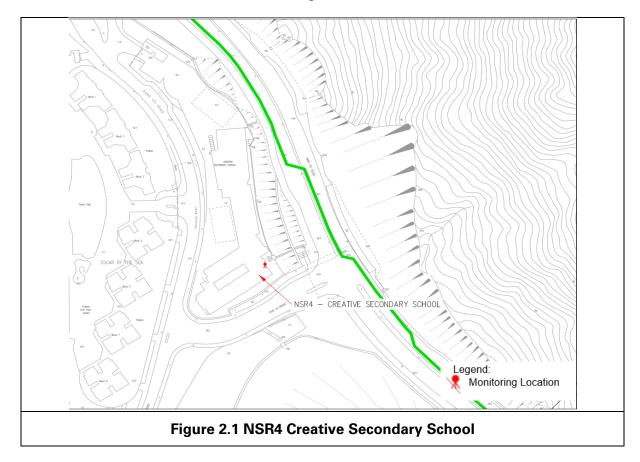


- 2.3 Noise Monitoring Locations
- 2.3.1 The monitoring locations should normally be made at a point 1m from the exterior of the NSRs building façade and be at a position 1.2m above the ground. A correction of +3dB(A) should be made to the free-field measurements.
- 2.3.2 According to the environmental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

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









- 2.4 Impact Monitoring Methodology
- 2.4.1 Integrated sound level meter shall be used for the noise monitoring. The meter shall be 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 meter shall be 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. Appendix E is intentionally left blank since no impact monitoring equipment was used in the reporting month.
- 2.4.2 Noise measurements shall not be 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 shall 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	Detection Limit
Sound Level Meter	Nti XL2	30-130 dB(A)
Sound Level Meter Calibrator	Rion NC-74	Nil
Pocket Wind Meter	Kestrel 1000 Wind	Nil
Anemometer	Meter	1411

- 2.5 Action and Limit Levels
- 2.5.1 The Action/Limit Levels 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	Limit (dB(A))	
0700-1900 hours on normal weekdays	When one documented complaint is received from any one of the noise sensitive receivers	 70 dB(A) for school and 65 dB(A) during examination period 	
Notes: (a) Limits specified in the GW-TM and IND-TM for construction and operation noise, respectively.			

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

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- 2.6 Monitoring Results and Observations
- 2.6.1 Referring to EM&A manual Section 4.1.2, no impact monitoring for noise impact was conducted in the reporting period.
- 2.6.2 Detailed monitoring results are presented in **Appendix G**. **Appendix G** is intentionally left blank since there is no impact monitoring for noise impact 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

	Quantity					
			Non-inert C&D Materials			
Reporting period	Inert C&D Chemical Waste (in '000m3)	Others, e.g. General Refuse	Recycled materials			
			disposed at Landfill (in '000m3)	Paper/card board (in '000kg)	Plastics (in '000kg)	Metals (in '000kg)
Dec-19	0.052	0.000	0.002	0.062	0.000	0.000



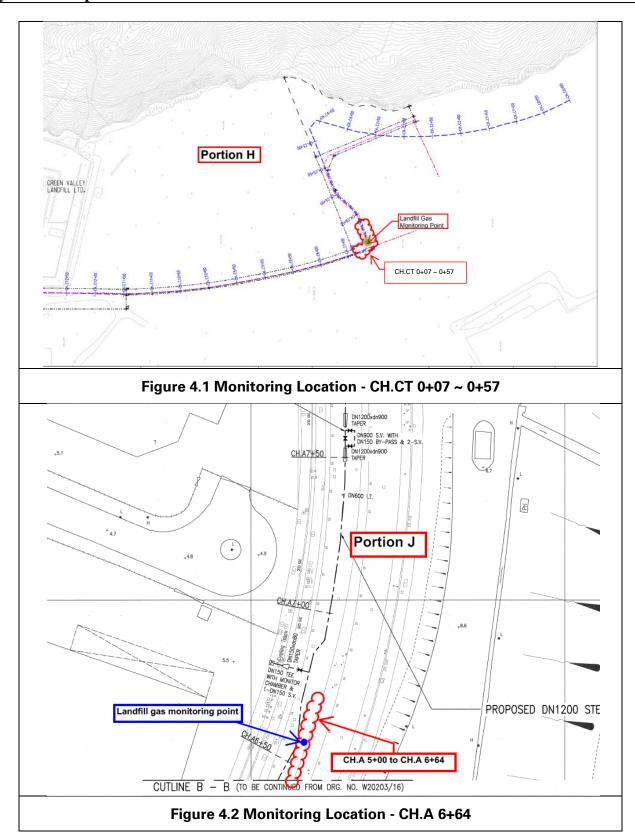
4. LANDFILL GAS MONITORING

- 4.1 Monitoring Requirement
- 4.1.1 In accordance with Section 11 of the EM&A Manual, monitoring of landfill gas is required for construction works within the 250m Consultation Zone. Part of the desalination plant and the indicative area of natural slope mitigation works fall within the SENT Landfill Extension Consultation Zone; and part of the 1,200 mm diameter 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
- 4.2.1 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, 290 times of monitoring was recorded.
- 4.2.2 During construction of works within the consultation zones, excavations of 1m depth or more was monitored:
 - At the ground surface before excavation commences;
 - Immediately before any worker enters the excavation;
 - At the beginning of each working day for the entire period the excavation remains open; and
 - Periodically through the working day whilst workers are in the excavation.

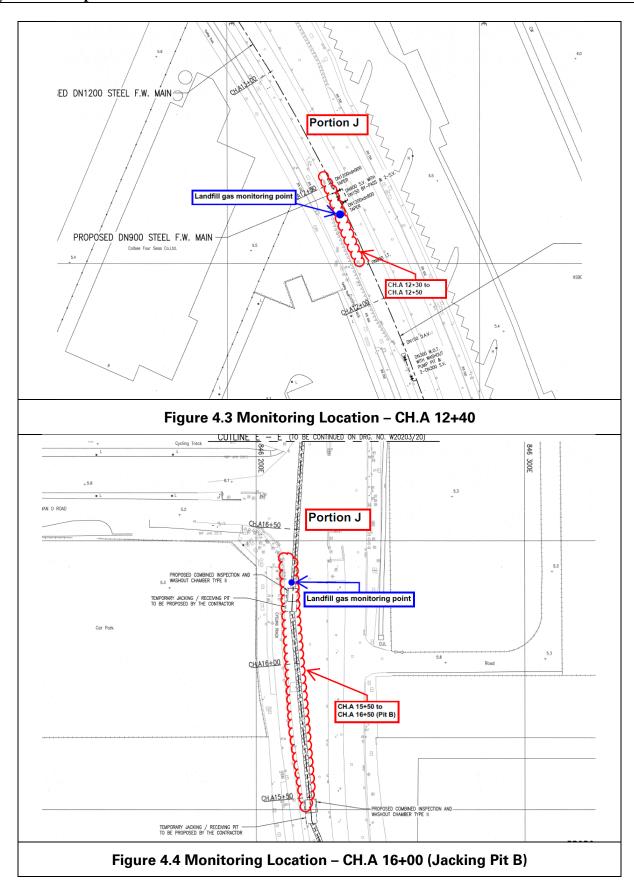
For excavations between 300mm and 1m deep, measurements should be carried out:

- Directly after the excavation has been completed; and
- Periodically whilst the excavation remains open.
- 4.2.3 The area required to be monitored for landfill gas in the reporting period are shown in **Figure 4.1** to **Figure 4.7**.

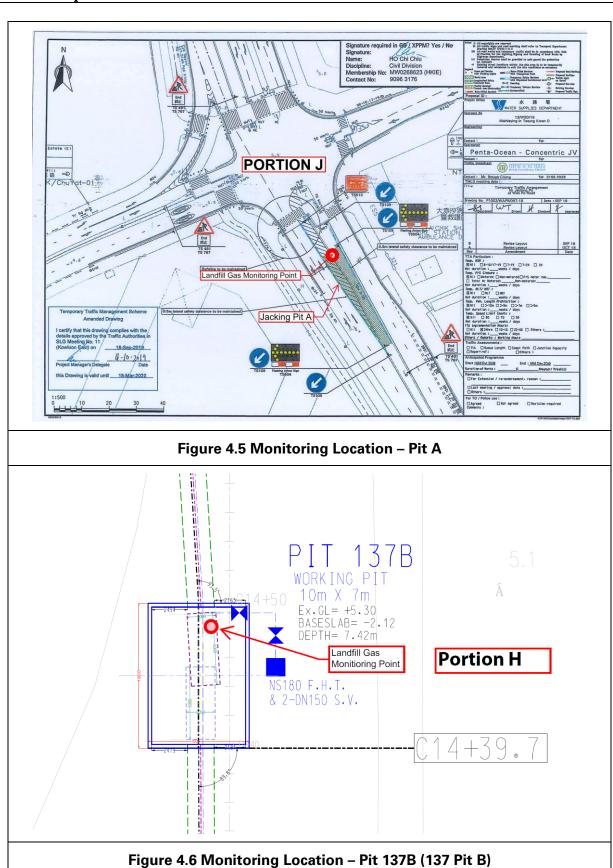














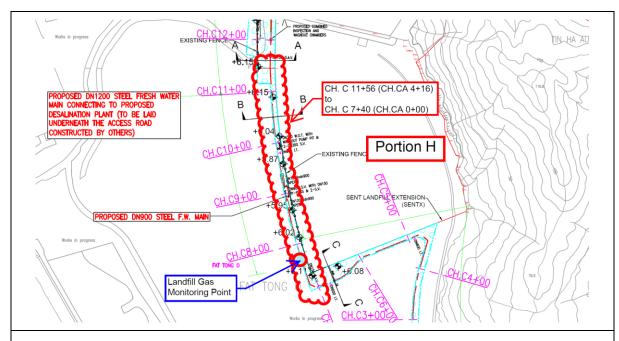


Figure 4.7 Monitoring Location -CH.CA 0+00 to CH.CA 04+16 (CH.CA0+60 ~ 4+25)

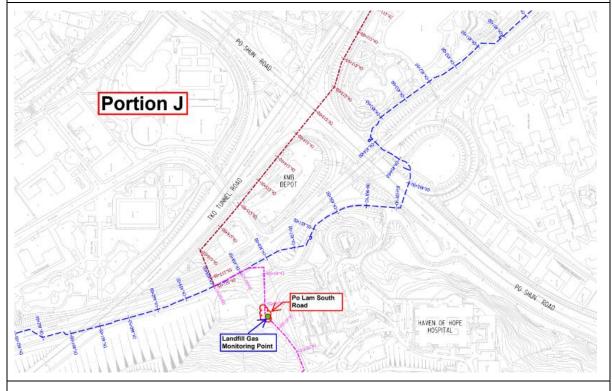
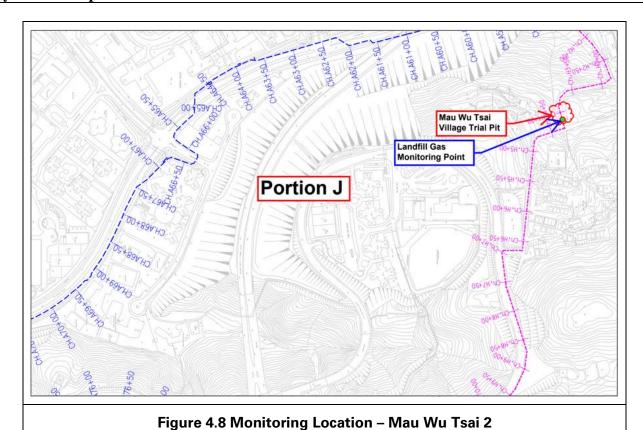


Figure 4.8 Monitoring Location – Mau Wu Tsai 1 (Po Lam South Road 1)





Monitoring Parameters

- 4.3.1 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.
- 4.3.2 The following parameters were monitored:
 - Methane.

4.3

- Oxygen.
- Carbon Dioxide.
- Barometric Pressure.
- 4.4 Action and Limit Level
- 4.4.1 Action and Limit Level is provided in **Table 4.1**.

Table 4.1 Action and Limit Level for Landfill Gas Monitoring Equipment

Parameters	Action Level	Limit Level
Oxygen (O2)	<19% O2	<19% O2



Methane (CH4)	>10% LEL	>80% LEL
Carbon Dioxide (CO2)	>0.5% CO2	>1.5% CO2



- 4.5 Monitoring Equipment
- 4.5.1 Landfill Gas monitoring was carried out using intrinsically-safe, portable multi-gas monitoring instruments. The gas monitoring equipment is:
 - Comply with the Landfill Gas Hazard Assessment Guidance Note as intrinsically safe;
 - Capable of continuous barometric pressure and gas pressure measurements;
 - Normally operate in diffusion mode unless required for spot sampling, when it should be capable of operating by means of an aspirator or pump;
 - Have low battery, fault and over range indication incorporated;
 - Store 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	0-100% 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	>0.5% by volume; and
carbon dioxide	<19% by volume
barometric pressure	mBar (absolute)

4.5.2 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 II	28 August 2020

4.6 Monitoring Results

4.6.1 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 by the Contractor at the excavation locations for 290 times. All the measured results were presented in **Appendix J** and 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**:

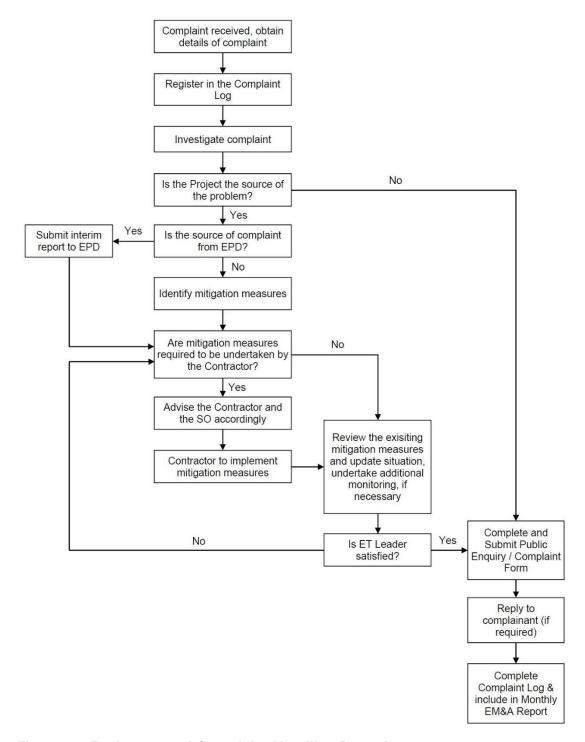


Figure 5.1 Environmental Complaint Handling Procedure

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- 5.2 No noise monitoring was conducted during the reporting period since there are no project-related construction activities undertaken within a radius of 300m from the monitoring locations.
- 5.3 No project-related exceedance of the Action Level was recorded during the reporting period.
- 5.4 No notification of summons and prosecution was received in the reporting period.
- 5.5 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 5, 12, 18, 23 and 31 December 2019 at the site portions list in **Table 6.1** below.

Table 6.1 Site Inspection Record

Date	Inspected Site Portion	Time
5 December 2019	Portion F and J	9:30am – 12:00pm
12 December 2019	Portion J	9:30am – 12:00pm
18 December 2019	Portion J	9:30am – 12:00pm
23 December 2019	Portion F, H and J	9:30am – 12:00pm
31 December 2019	Portion J	9:30am – 12:00pm

- 6.2 One joint site inspection with IEC was carried out on 31 December 2019.
- 6.3 Minor deficiencies were observed during weekly site inspection. Key observations during the site inspections are summarized in **Table 6.2**.

Table 6.2 Site Observations

Date	Environmental Observations	Follow-up Status
5 December 2019	 Environmental Observations Accumulated mud-pile was observed directly next to the waterbarriers. The mud-pile should be treated properly to prevent it to escape from the construction site. Sandbags should be fully placed along the working boundaries. Road section near the site exits should be free from dusty materials. Excess underground water should be cleaned regularly to prevent the accumulation or contamination of other construction materials. The drip tray was observed without the plug/stopper that may lead to the leakage of chemicals. 	 The mud-pile next to the water-barrier was cleaned. Sandbags have been placed fully along the construction boundaries. Road Section near the site exit was cleaned. Underground water was pumped regularly. The drip tray was plugged.



Date	Environmental Observations	Follow-up Status
12 December 2019	 Sandbags should be fully placed along the working boundaries. The drip tray was observed without the plug/stopper that may lead to the leakage of chemicals. Construction wastes should be properly treated to prevent dust emission. 	 Sandbags were placed fully along the construction boundaries. The plug was added on the drip tray. Construction waste was cleaned.
18 December 2019	 Dust suppression mitigations should be implemented to prevent dust emission. Accumulated mud-pile was observed directly next to the water-barriers. The mud-pile should be treated properly to prevent it to escape from the construction site. Construction wastes should be properly treated to prevent dust emission. 	 Mitigations were implemented to prevent dust emission. The mud-pile was cleaned. Construction wastes were treated.
23 December 2019	 Chemical stain on the ground should be cleaned. Chemicals should be placed properly. Construction waste should be treated properly. 	 Chemical was cleaned. Chemicals have been removed. Construction waste was treated.
31 December 2019	No major observations were recorded.	N/A

- 6.4 According to the EIA Study Report, Environmental Permit, contract documents and EM&A Manual, the mitigation measures detailed in the documents are 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 anticipated in the next reporting period for the Project will include in **Table 7.1**.

Table 7.1. Key works for the next reporting month

Location	Works Conducted in the next reporting month
Portion H of the Project Site	 Further liaison with relevant government department/contractors for the continuation of works in TKO Area 137 was on-going. Site Clearance of early possessed area and make ready for return of land to WSD. Site liaison for temporary land possession for trench excavation towards SENTX Area for mainlaying in TKO Area 137. Trial pit for 137B will continue. Trench excavation from CH.CT 0+07 will continue.
Portion J of the Project Site	 2 nos. of work fronts implemented as scheduled for the open-trench between CH. A 6+64 to 13+70 will continue. Relocation of traffic signal light at Pit A at Wan Po Road near Chun Yat Street under arrangement with EMSD. 2 nos. of work fronts including Pit B and Pit C implemented as scheduled for pipe jacking at CH.A 16+00 and CH.A 19+26, respectively. Implement approved TTMS at Landfill Stage 1 cycle track for CE no. 34 mainlaying works. Continuation of trial pits works at rural road near Mau Wu Tsai Village (Po Lam South Road) for alternative alignment. Arrange new trial pit at Mau Wu Tsai Village (Po Lam South Road) for alternative alignment. Continue preliminary design of river crossing at Tsui Lam. Carry out site clearance at Landfill stage 1 – Area A for the conduction of 2 inspection pits to finalize the design level of the pipe jacking underneath across MTR tunnels.

- 7.2 The major environmental impacts brought by the above construction works will include:
 - Construction dust and noise generation from trial pits works, trench excavating works
 - Waste generation 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 trial pits works, trench excavation
 - Reduction of noise from equipment and machinery on-site
 - Sorting and storage of general refuse and construction waste
- 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 impact monitoring schedule for the next reporting month is attached in **Appendix N**. **Appendix N** is intentionally left blank since no impact monitoring will be conducted in the next reporting month.



8. CONCLUSION AND RECOMMENDATIONS

- 8.1 This 17th monthly Environmental Monitoring and Audit (EM&A) Report presents the EM&A works undertaken during the period from 1 December 2019 to 31 December 2019 in accordance with the EM&A Manual and the requirement under EP-503/2015/A.
- 8.2 No noise monitoring was conducted in the reporting period due to the over distant monitoring station from the works location.
- 8.3 No project-related exceedance of the Action Level was recorded during the reporting period.
- 8.4 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.
- 8.5 According to the environmental site inspections performed in the reporting month, the Contractor is reminded to pay attention on maintaining site tidiness, dust suppression mitigations and proper materials storage.
- 8.6 No environmental complaint was received in the reporting period.
- 8.7 No notification of summons or prosecution was received since commencement of the Contract.
- 8.8 The ET will keep track on the construction works to confirm compliance of environmental requirements and the proper implementation of all necessary mitigation measures.



Appendix A

Construction Programme



13/WSD/16 - Mainlaying in Tseung Kwan O

Outline Construction Programme (As on 31 Aug 2018)

					_																		_									_									\neg
YEAR		LOCATION	FROM	то	<u> </u>	_		_	2018				_	L.,				2019	_			_	Ь.	_	_	_		20	_	_	_	_	_	_		_	2021		_		\dashv
MONTH	PJ-ID	ROAD			1 2	2 3	4	5	6 7	8	9	10 1	11 12	1	2 3	4	5	6 7	7 8	9	10 1	1 12	1	2	3 4	1 5	6	7	8 9	10	11	12	1 2	3	4	5 (5 7	8	9 1	10 13	1 12
							Ш				Ш																														
Section A (TKO137 to Wan Po Road)																																									
Section A1 (Open-trench)	-	Wan Po Road	0	362																																					
Section A2 (Pipe-Jacking)	A	Wan Po Road	362	530																					Т					Т											
Section A3 (Open-trench)	-	Wan Po Road	530	1379	П		П	Т		#																		П	Т	Т	П		Т	П	П		Т				\Box
Section A4 (Pipe-Jacking)	В	Wan Po Road	1379	2268	П		П	Т			П		Т		Т			Т		П		Т			Т	Т			Т	Т			Т					П		Т	\Box
Section A5 (Open-trench)	-	Wan Po Road	2268	4113				Т																														П	\top	Т	
					П		П	Т		П	П		Т			П				П		Т	П			Т	П	П	Т	Т	П		Т	П	П			П	Т	Т	П
Section B (Po Yap Road to Po Hong Road)					П		П	Т		Т																											Т	П	Т	Т	\Box
Section B1 (Pipe-Jacking)	С	Po Yap Road	4113	4200	П		П	T			П									П		Т				Т				Т	П		Т	П							\Box
Section B2 (Open-trench)	-	Po Yap & Po Hong Rd	4200	5500	П		П	T		Т																		П	Т	Т	П			П	Т		Т	П	Т	\top	\Box
Section B3 (Pipe-Jacking)	D1 & D2	Po Hong & Ling Hong Rd	5500	5600	П		П	T		Г												Т	П			Т	П	П	T	Т	П			П				П	Т		\Box
Section B4 (Open-trench)	-	Ling Hong Road	5600	5799	П		П	Т												П			П			Т												П			П
Section B5 (Pipe-Jacking)	Е	Po Hong Road	5799	5838	П		П	T			П									П								П		Т	П			П							
Section B6 (Open-trench)	-	Po Hong Road	5838	6254	П		П	T		П													П			Т	П	П	Т	Т	П			П	T			П	Т	Т	\Box
Section B7 (Pipe-Jacking)	F	Po Hong Road	6254	6368	П															П		Т																			П
Section B8 (Open-trench)	-	Po Hong Road	6368	7250	П		П	Т		П																				П	П			П	Т			П	Т	Т	\Box
					П		П	Т		Г	П		T			П				П		Т	П			Т	П	П	Т	Т	П			П	Т			П	Т	Т	П
Section C (Po Lam Road to Tsui Lam to TKOFWPSR*)					П		П	T		П																											Т	П	\top		\Box
Section C1 (Open-trench)	-	Po Lam Road	7250	7740	П		П																																T		П
Section C2 (Pipe-Jacking)	G	Tsui Lam Road	7740	7770	П		П	T	\top	T	П		T		T	П	П	T		П		T	П			T	Γ	П		Т					T		T	П	T	T	\Box
Section C3 (Open-trench)	-	Tsui Lam Road	7770	8300	П		П	T		T																										T	Т	П	T	\top	\Box
Section C4 (Slope)	-	TKOFWPSR	8300	8376							П				T	П		T		П		T	П			T								П					T		\Box
					П		П	丁		T	П		\top			П				П	\neg		П			Т	Γ	П	T	T	П		\top	П	T		Т	П	\top	\top	\Box

[#] Commencement of works at CH.A 720 on 30 Aug 2018.

^{*}TKOFWPSR - Tseung Kwan O Fresh Water Primiary Service Reservoir

^{**}Remaining 1581m within TKO137 with site possession from Nov 2019



Appendix B

Overview of Mainlaying in Tseung Kwan O



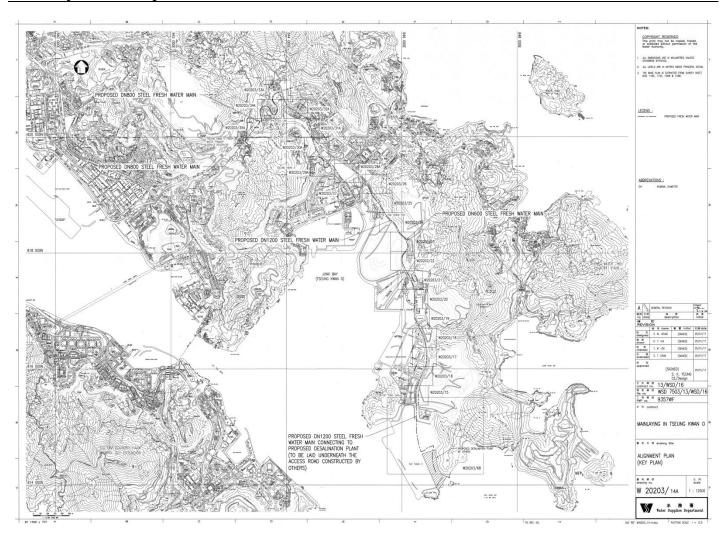


Figure B1. Overview of Mainlaying in TKO



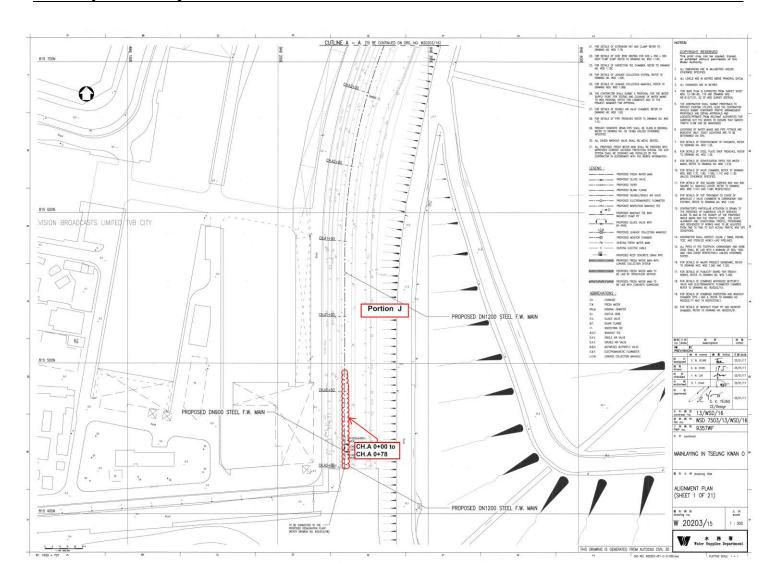


Figure B2. Location Plan for Portion J - CH.A 0+00 to CH.A 0+78



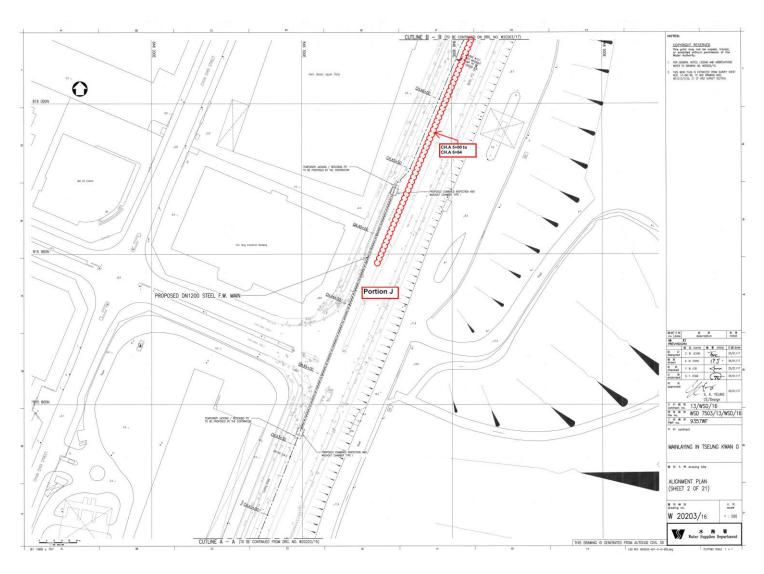


Figure B3a. Location Plan for Portion J - CH.A 5+00 to CH.A 6+64



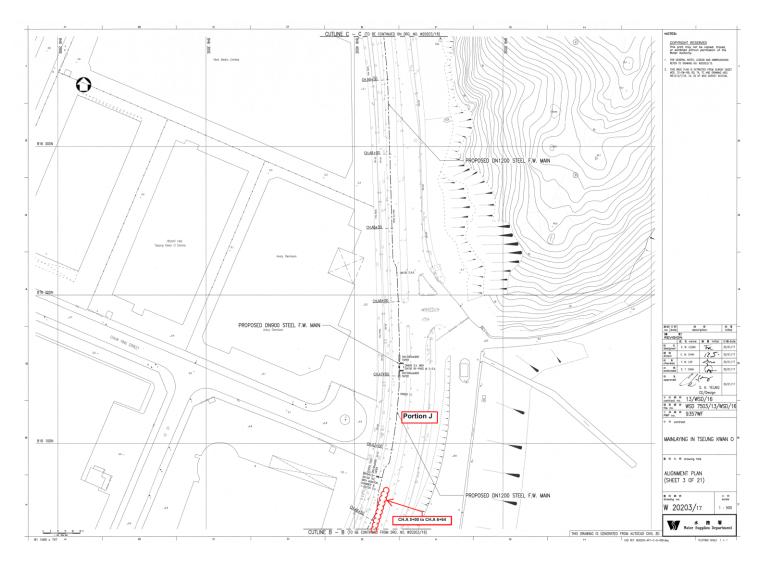


Figure B3b. Location Plan for Portion J - CH.A 5+00 to CH.A 6+64



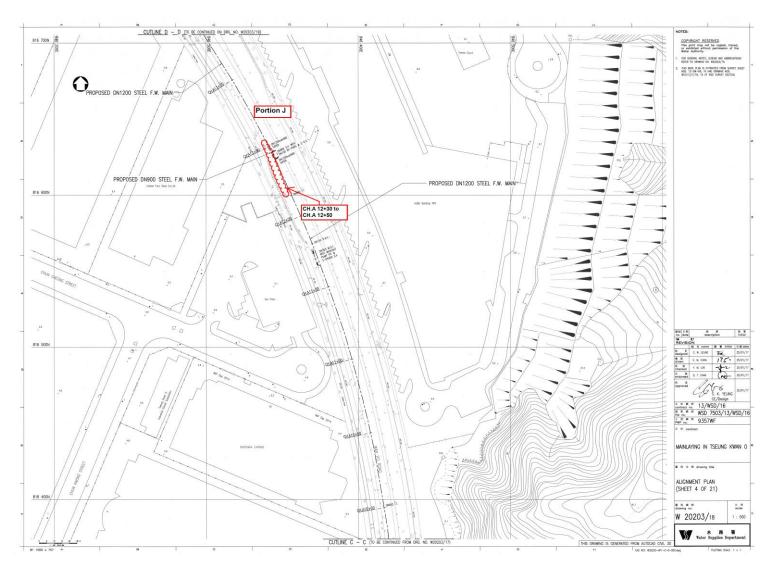


Figure B4. Location Plan for Portion J - CH.A 12+30 to CH.A 12+50



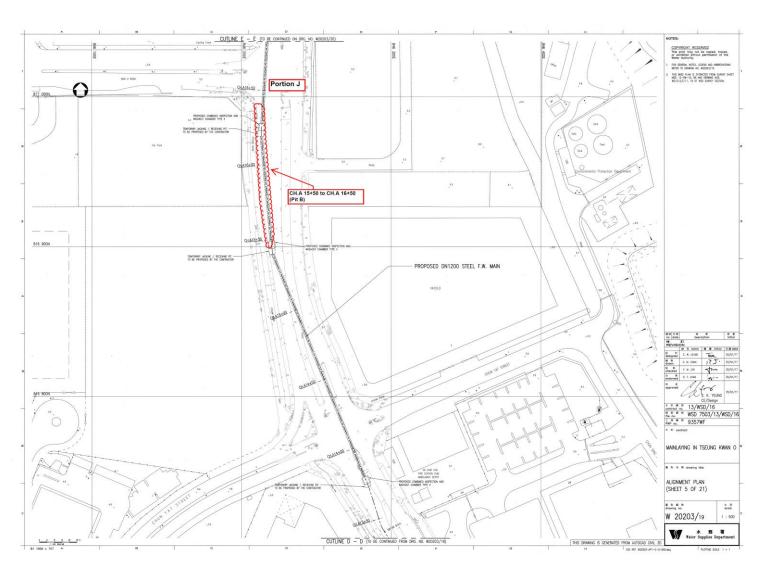


Figure B5. Location Plan for Portion J – CH. A15+50 to CH.A 16+50 (Pit B)



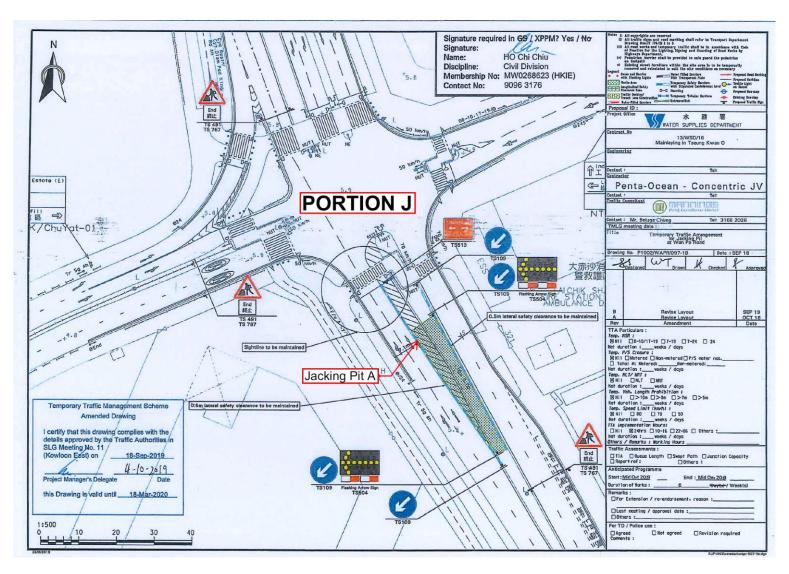


Figure B6. Location Plan for Portion J - Pit A



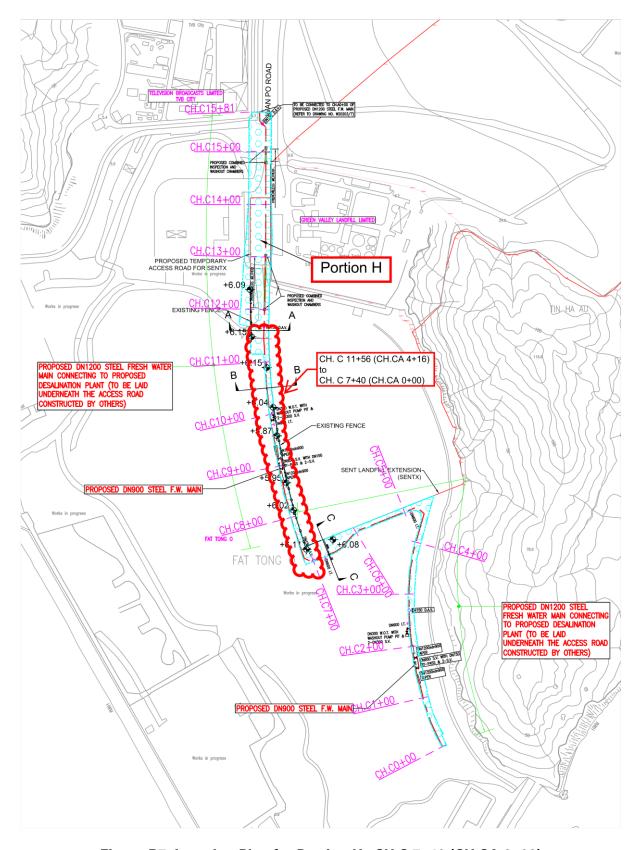


Figure B7. Location Plan for Portion H- CH.C 7+40 (CH.CA 0+00) to CH.C 11+56 (CH.CA 04+16)



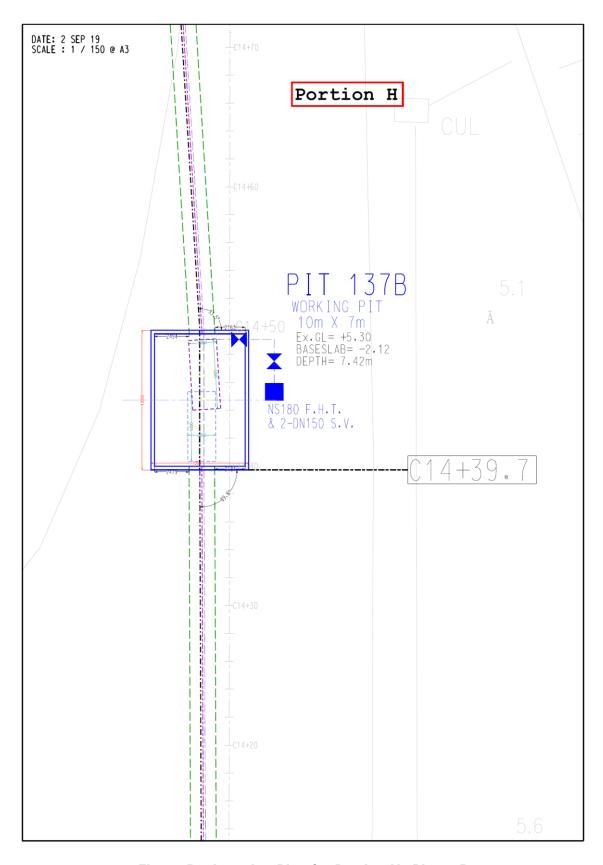


Figure B8. Location Plan for Portion H- Pit 137B



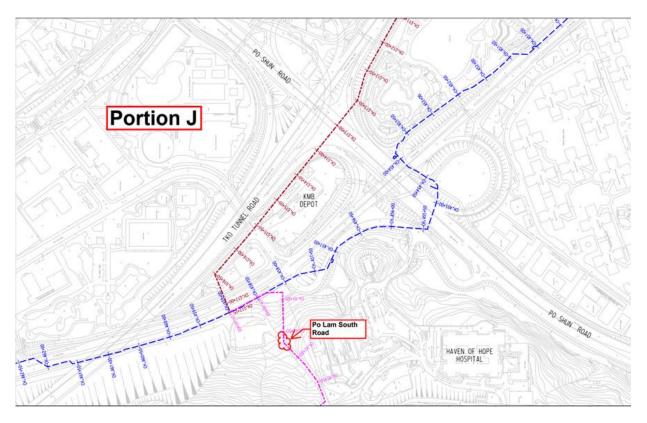


Figure B9. Location Plan for Mau Wu Tsai 1 (Po Lam South Road 1)

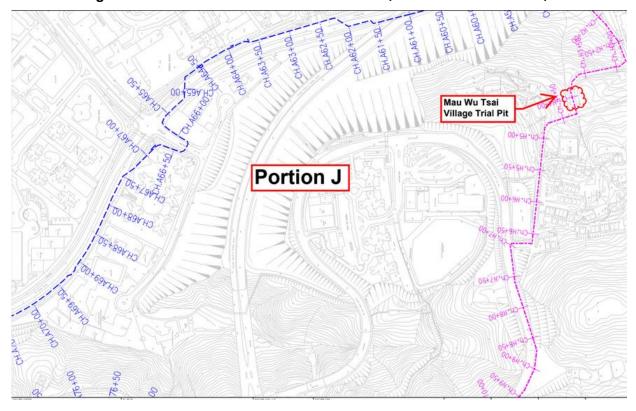


Figure B10. Location Plan for Mau Wu Tsai 2



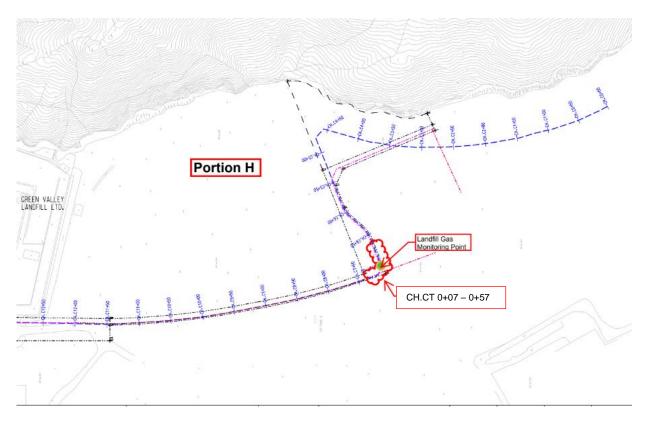


Figure B10. Location Plan for CH.CT 0+07 – 0+57



Appendix C

Summary of Implementation Status of Environmental Mitigation



EIA Reference	Recommended Environmental Protection	Objectives of the recommended measures	Implementation	Imple Stage	mentat	ion	Implementation	Relevant Legislation & Guidelines
LIA Nelelelice	Measures/ Mitigation Measures	& main concerns to address	Agent	D	С	0	status	
Air Quality								
S4.8.1	Impervious dust screen or sheeting will be provided to enclose scaffolding from the ground floor level of building for construction of superstructure of the new buildings.	Land site/ During Construction	Contractor(s)		✓		N/A	Air Pollution Control (Construction Dust)
S4.8.1	Impervious sheet will be provided for skip hoist for material transport.	Land site/ During Construction, particularly dry season	Contractor(s)		*		Implemented	
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 minimise the fugitive dust arising from unloading.	Land site/ During Construction	Contractor(s)		√		N/A	
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)		*		N/A	
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	



FIA D.C.	Recommended Environmental Protection	Objectives of the recommended measures	Implementation	Imple: Stage		ion	Implementation	Relevant Legislation & Guidelines
EIA Reference	Measures/ Mitigation Measures	& main concerns to address Land site/ During	Agent	D	С	0	status	
S4.8.1	Road sections between vehicle-wash areas and vehicular entrance will be paved.	Land site/ During Construction	Contractor(s)		√		Implemented	
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, rectified after observation.	
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, rectified after observation.	
S4.8.1	Stockpiles of more than 20 bags of cement, dry pulverised fuel ash and dusty construction materials will be covered entirely by impervious sheeting sheltered on top and 3-sides.	Land site/ During construction	Contractor(s)		✓		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



EIA Reference	Recommended Environmental Protection	Objectives of the recommended measures	Implementation	Impler Stage		ion	Implementation	Relevant Legislation & Guidelines
EIA Neiereilce	Measures/ Mitigation Measures	& main concerns to address	Agent	D	С	0	status	
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)/ Environmenta I Team (ET) & Independent Environmenta I Checker (IEC)		✓		Implemented	



EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures &	Implementation Agent	Impler Stage	nentat	ion	Implementation status	Relevant Legislation & Guidelines
	ivieasures/ ivilligation ivieasures	main concerns to address	Agent	D	С	0		Guidelines
Noise								
S5.7	Only well-maintained plant will be operated on-site and plant will be serviced regularly during the construction phase.	All area/ During construction	Contractor(s)		✓		Implemented	A Practical Guide for the Reduction of Noise from Construction Works,
S5.7	Silencers or mufflers on construction equipment will be utilised and will be properly maintained during the construction phase.	Noise control/ During construction	Contractor(s)		✓		N/A	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)		✓		N/A	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 Quite 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,



EIA Reference	Recommended Environmental Protection	Objectives of the recommended measures &	Implementation	Impler Stage	nentat	ion	Implementation status	Relevant Legislation &
	Measures/ Mitigation Measures	main concerns to address	Agent	D	С	0		Guidelines
	than its height. The noise barrier material							
	should have a superficial surface density of at							
	least 7 kg m ⁻² and have no openings or gaps.							
S5.7	The noise insulating sheet should be deployed	Noise control/	Contractor(s)		✓		N/A	A Practical Guide for
	such that there would be no opening or gaps	During						the Reduction of Noise
	on the joints.	construction						from Construction Works,
S5.7	Construction activities (e.g. excavation/shoring,	Noise control/	Contractor(s)		✓		Implemented	A Practical Guide for
	reinstatement (asphalt), and pipe jacking) will be	During						the Reduction of Noise
	planned and carried out in sequence, such that	construction						from Construction
	items of PME proposed for these activities will							Works
	not be operated simultaneously.							
S5.7	PMEs will not be used at the works areas near	Noise control /	Contractor(s)		✓		Implemented	A Practical Guide for
	educational institutions with residual impact	During						the Reduction of
	(ie the "influence area" within a radius of	construction						Noise from
	40m) during school hours in order to reduce							Construction Works
05.7	impact to the educational institutions.	Nieża z z z z z z z z z z z z z z z z z z z	011 - (-)	1	/		NI/A	
S5.7	Noise enclosures or acoustic sheds would be	Noise control/	Contractor(s)	"	Y		N/A	
	used to cover stationary PME such as generators.	construction/						
	Portable/Movable noise enclosure made of	During						
	material with superficial surface density of at	construction						
	least 7 kg m ⁻² may be used for screening the	Construction						
	noise from operation of the saw/groover,							
	concrete.							
S5.9	Sawcutting pavement, breaking up of	Noise control/	Contractor(s)	✓	✓		N/A	
	pavement, excavation /shoring, pipe laying,	Pre-						
	backfilling, reinstatement (concrete) and	construction/						
	pipe jacking shall be scheduled outside the	During						
	examination period.	construction						



EIA Reference	Recommended Environmental Protection	Objectives of the recommended measures &	Implementation	Imple: Stage	nentat	ion	Implementation status	Relevant Legislation &
	Measures/ Mitigation Measures	main concerns to address	Agent	D	С	0	-	Guidelines
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)/ Environment al Team (ET) & Independent Environment al Checker (IEC)		✓		Implemented	-



EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures &	Implementati on Agent	Implen Stage	nentat	ion	Implementation status	Relevant Legislation &
	ivieasures/ iviitigation ivieasures	main concerns to address	on Agent	D	С	0		Guidennes
Water Quality								
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	-



EIA Reference	Recommended Environmental Protection	Objectives of the recommended measures &	Implementati	Impler Stage	nentat	ion	Implementation status	Relevant Legislation &
	Measures/ Mitigation Measures	main concerns to address	on Agent	D	С	0		Guidelines
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	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, rectified after observation	-
S6.9	Appropriate surface drainage will be designed and provided where necessary.	Land site & drainage/ During construction	Contractor(s)		✓		N/A	-
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)		√		Implemented, rectified after observation.	-
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	-



EIA Reference	Recommended Environmental Protection	Objectives of the recommended measures &	Implementati	lmp Sta	oleme ige	entati	ion	Implementation status	Relevant Legislation &
	Measures/ Mitigation Measures	main concerns to address	on Agent	С)	С	0		Guidelines
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	-



EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures &	Implementati	Impler Stage		ion	Implementation status	Relevant Legislation & Guidelines
	ivieasures/ iviitigation ivieasures	main concerns to address	on Agent	D	С	0		Guidennes
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)/ Environment al Team (ET) & Independent Environment al Checker (IEC)		•		Implemented	-



EIA Reference	Recommended Environmental Protection	Objectives of the recommended measures &	Implementation	Impler Stage	nentat	ion	Implementation Status	Relevant Legislation & Guidelines
	Measures/ Mitigation Measures	main concerns to address	Agent	D	С	0		Guidelines
Waste Manage				1				
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, rectified after observation	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, rectified after observation	DEVB TC(W) No. 8/2010, Enhanced Specification for Site Cleanliness and Tidiness.
S8.5	A waste management plan (WMP) as stated in the "ETWB TC(W) No. 19/2005, Environmental Management on Construction Sites" for the amount of waste generated, recycled and disposed of (including the disposal sites) will be established and implemented during the construction phase as part of the Environmental Management Plan (EMP). The Contractor will be required to prepare the EMP and submits it to the Architect/ Engineer under the Contract for approval prior to implementation.	All area/ During construction	Contractor(s)		*		Implemented	ETWB TC(W) No. 19/2005, Environmental Management on Construction Sites
S8.5	Separation of chemical wastes for special handling and appropriate treatment at the Chemical Waste Treatment Centre at Tsing Yi.	All area/ During construction	Contractor(s)		✓		N/A	Chapters 2 & 3 Code of Practice on the Packaging Labelling & Storage of



EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation	Implen Stage	nentat	ion	Implementation Status	Relevant Legislation & Guidelines
			Agent	D	С	0		
								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	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 potential for damage or contamination of construction materials.	All areas/ During construction	Contractor(s)		√		Implemented, rectified after observation	-



EIA Reference	Measures / Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Imple Stage	menta	tion	Implementation Status	Relevant Legislation & Guidelines
				D	С	0		
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)		V		Implemented, rectified after observation	-
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.</i> 34/2002 will be incorporated in the Specification of the Contract Documents.	Marine works/ During construction	WSD/ Contractor(s)		V		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)/ Environmen tal Team (ET) & Independent Environmen tal Checker (IEC)		✓		Implemented	ETWB TC(W) No. 19/2005, Environmental Management on Construction Sites



EIA Reference	Recommended Environmental Protection	Objectives of the recommended measures &	Implementation	Impler Stage	nentat	ion	Implementation Status	Relevant Legislation & Guidelines
	Measures/ Mitigation Measures	main concerns to address	Agent	D	С	0		Guidelines
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)		✓		N/A	-
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)		✓		N/A	-
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)		•		N/A	-
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, rectified after observation	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		✓	1	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 and Storage of Chemical Wastes



EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Imple Stage	menta	tion	Implementation Status	Relevant Legislation & Guidelines
				D	С	0		
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		V	V	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	All area/ During	Contractor(s)/		✓	✓	Implemented	Waste Disposal



EIA Reference	Recommended Environmental Protection Measures / Mitigation Measures		Implementation	lmp Sta	olemen ge	tatio		Implementation Status	Relevant Legislation & Guidelines
			Agent	Г			0	1	
	arranged so that incompatible materials are appropriately separated.	construction/ During operation	WSD						(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		*		✓	N/A	-
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	7	*		✓	Implemented	-
S8.5	To avoid any odour and litter impact, accurate number of portable toilets will be provided for workers on-site.	All area/ During construction	Contractor(s)		~			Implemented	-
S8.5	The burning of refuse on construction sites is prohibited by law.	All area/ During construction	Contractor(s)		~			Implemented	Air Pollution Control Ordinance (Cap 311)
S8.7	To facilitate monitoring and control over the contractors' performance on waste management, a waste inspection and audit	All facilities/ During construction	ET/ IEC		✓			Implemented	-



I	IA Rafaranca	Recommended Environmental Protection	Objectives of the recommended measures &	Implementation	Implen Stage	nentati	on	Implementation Status	Relevant Legislation & Guidelines
	Measures/ Mitigation Measures	main concerns to address	Agent	D	С	0		Guidelilles	
		programme will be implemented throughout							
		the construction phase.							



EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation	Imple: Stage	menta	tion		Relevant Legislation & Guidelines
			Agent	D	С	0		Guidelines
	Ecology							
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)	~	*		Implemented	-
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)	~	*		N/A	-
S9.7	Temporary fencing will be installed to fence off	Slope mitigation works	Contractor(s)		✓		N/A	-



EIA Reference	Kacammandad Enviranmantai Protection	Objectives of the recommended measures &	Implementation Agent	Implementation Stage		ion	STATUS	Relevant Legislation & Guidelines
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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	area/ During construction						
S9.7 and S9.10	individuals to visualize their locations. A specification for fencing and demarcating individuals of <i>Marsdenai 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)		√		Implemented	-
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)		√		N/A	-
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	-



EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	recommended measures &	Implementation	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
guion mouduloo	main concerns to address		D	С	0			
S9.7	Reinstate temporarily affected areas, particularly the habitats of plantation and shrubland-grassland immediately after completion of construction works, through onsite 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	-



EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation	Imple Stage	mentat	tion		Relevant Legislation & Guidelines
_			Agent	D	С	0		Guidelines
	Landscape & Visual							
S11.10 & 11.11	The construction area and area allowed for temporary structures, such as the contractor's office, will be minimized to a practical minimum. (MM1)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	*	✓	Implemented	-
S11.10 & 11.11	At the detailed design stage, the design team will seek to minimize the landscape footprint of the Project and above ground facilities, while satisfying all other requirements. (MM2)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	V	√	1	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)	*	•	V	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)	✓	V	√	Implemented	DEVB TC(W) No. 10/2013



EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures &	Implementation Agent	Imple Stage	mentat	ion		Relevant Legislation & Guidelines
	ineasures/ initigation ineasures	main concerns to address	Agent	D	С	0		Guidelilles
	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



EIA Reference	Recommended Environmental Protection	Objectives of the recommended measures &	Implementation				Implementation Status	Relevant Legislation & Guidelines
	Measures/ Mitigation Measures	main concerns to address	Agent	D	С	0		Guidelines
	Landfill Gas Hazard							
S12.7	During all works, safety procedures should be implemented to minimise the risks of fires and explosions, asphyxiation of workers and toxicity effects resulting from contact with contaminated soil and groundwater.	All area/ Detailed design/ During construction/ During operation	Contractor(s)		•	•	Implemented	-
S12.7	During trenching and excavation as well as creation of confined spaces at near to or below ground level, precautions should be clearly laid down and rigidly Gas detection equipment and appropriate breathing apparatus should be available and used when entering confined spaces or trenches deeper than 1 metre.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	*	✓	√	Implemented	
S12.7	The Contractor should make the workers are aware of potential hazards of working in confined spaces (any chamber, manhole or culvert which is large enough to permit access to personnel). Such work in confined spaces is controlled by the Factories and Industrial Undertakings (Confined Spaces) Regulations of the Factories and Industrial Undertakings Ordinance. Following the Safety Guide to Working in Confined Spaces ensures compliance with the above regulations.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	•	V	✓	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	



EIA Reference	Recommended Environmental Protection	Objectives of the recommended measures &	Implementation		Implementation Stage			Relevant Legislation &
	Measures/ Mitigation Measures	main concerns to address	Agent	D	С	0	1	Guidelines
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)	✓	✓	✓	N/A	
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)	V	*	*	N/A	
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	



EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures &	Implementation Agent	Imple: Stage	menta		STATUS	Relevant Legislation & Guidelines
		main concerns to address	Agent	D	С	0		Guidelines
	pathway for landfill gas and hence grilled 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	All area/ Detailed design/ During construction/ During operation	Contractor(s)				N/A	
	months.							
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)	•	•	•	N/A	
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 minimised on-site.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	V	✓	Implemented	

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



Appendix D

Impact Monitoring Schedule of the Reporting Month





Appendix E

Noise Monitoring Equipment Calibration Certificate





Appendix F

Event/Action Plan for Noise Exceedance



Event and Action Plan for Construction Noise Monitoring

Event	Act	ion						
	ET		IEC		ER		Co	ntractor
Action Level	1.	Carry out investigation to identify the source and cause of the complaint/ exceedance(s)	1. 2.	Review the analyzed results submitted by the ET Review the proposed remedial	1.	Confirm receipt of Notification of Exceedance in writing Require Contractor to propose	1.	Submit noise mitigation proposals, if required, to the IEC and ER Implement noise mitigation
	2.	Notify IEC, ER, and Contractor and report the results of investigation		measures by the Contractor and advise the ER accordingly	2.	remedial measures for the analysed noise problem	2.	proposals.
		to the Contractor, ER and the IEC	3.	Supervise the implementation of	3.	Ensure remedial measures are		
	3.	Discuss with the Contractor and IEC for remedial measures required		remedial measures		properly implemented		
	4.	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						



Appendix G

Noise Monitoring Data





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 <u>December 2019</u>

		Actual Quantities o	f <u>Inert</u> Construction Wa	ste Generated Mo	onthly	
Month	Total Quantity Generated	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 ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)
2018	1.157	0.063	0.000	0.000	1.157	0.518
Jan 2019	0.457	0.021	2.118	0.000	0.457	0.331
Feb 2019	0.372	0.004	0.093	0.000	0.372	0.407
Mar 2019	0.575	0.004	0.000	0.000	0.575	0.140
Apr 2019	0.101	0.000	0.000	0.000	0.101	0.086
May 2019	0.035	0.000	0.000	0.000	0.035	0.019
Jun 2019	0.252	0.000	0.000	0.000	0.252	0.039
Sub-total	1.792	0.029	2.211	0.000	1.792	1.022
Jul 2019	0.176	0.000	0.000	0.000	0.176	0.074
Aug 2019	0.359	0.005	0.000	0.000	0.359	0.133
Sep 2019	0.030	0.000	0.000	0.000	0.030	0.421
Oct 2019	0.078	0.009	0.000	0.000	0.078	0.542
Nov 2019	0.033	0.000	0.000	0.000	0.033	0.504
Dec 2019	0.052	0.000	0.000	0.000	0.052	0.504
Total	2.520	0.043	2.211	0.000	2.520	3.200



		Actual Quantities of	f <u>Non-inert</u> Constructio	n Waste Generated Mo	nthly
Month	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 ³)
2018	0.000	0.417	0.000	0.000	0.139
Jan 2019	0.000	0.000	0.000	0.000	0.016
Feb 2019	0.000	0.000	0.000	0.000	0.001
Mar 2019	0.000	0.000	0.000	0.000	0.009
Apr 2019	0.000	0.000	0.000	0.000	0.018
May 2019	0.000	0.000	0.000	0.000	0.028
Jun 2019	0.000	0.000	0.000	0.000	0.013
Sub-total	0.000	0.000	0.000	0.000	0.085
Jul 2019	0.000	0.000	0.000	0.000	0.012
Aug 2019	0.000	0.000	0.000	0.000	0.001
Sep 2019	0.000	0.000	0.000	0.000	0.000
Oct 2019	0.000	0.000	0.000	0.000	0.001
Nov 2019	0.000	0.000	0.000	0.000	0.001
Dec 2019	0.000	0.062	0.000	0.000	0.002
Jan 2020					
Total	0.000	0.936	0.000	0.000	0.241

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.



- 4. "Total Quantity Generated" only refers to the actual quantities of inert C&D materials generated monthly excluding those that will be recycled (Hard Road and Large Broken Concrete, 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. Source and types of Imported Fill in the reporting month
 - i. K. Wah Quarry Company Limited (Soil): 39.165 m³ (78.33 tonnes/ 3 truck-load)

6. The amount of 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^3)
	Bentonite	
	Broken Concrete	
	Broken Rock	
	Mixed Construction Waste (>50% inert)	27.55
Inout	Building Debris	24.4
Inert	Mixed Rock and Soil	
	Reclaimed Asphalt Pavement	
	Slurry	
	Soil	
	TOTAL =	51.95
Non-inert		1.95



Appendix I

Landfill Gas
Equipment
Certificate

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-2400F	P (QRAE II)	LEL/C	02/CO/	H2S	
		<u> </u>			4	
UNIT INFORMATION	<u> </u>				XI.	
Customer: Penta-Ocean	Construction Co., Ltd	Serial#:	181-147			QRAE II
		Firmware :	V3.5			LEL/02/CO/H2S
		Cal date:	29-Aug-	2019	Inspected:	Teddy
SENSOR DATA:		2			50	
	LEL sensor (ME)	O2 sensor	·	CO ser	sor (Tox1)	H2S sensor (Tox2)
Calibration dates:	29-Aug-2019	29-Aug-201			ug-2019	29-Aug-2019
After Calibration levels	50%	18.00%			ppm	10.2 ppm
Alarm levels (Low):	10.00%	19.50%			ppm	10 ppm
Alarm levels (High):	20.00%	23.50%) ppm	20 ppm
TWA Level: STEL Level:	u				ppm	10 ppm
SIEF FeAGE:			J.	100) ppm	15 ppm
Status: Pump Speed Clock	peed Low Yes				anual erage	
LEL Gas Selection LEL Calibration Gas LEL Custom Gas	Methane LEL_custom_gas	LEL measuremen LEL Custom Fac			thane 1.0	a a
Gas types used : 4-Gas *** Fresh Air Calibration						Gas lot # 1128619Cyl#6
Replaced Parts:		process pilot to	4 modoc	a Gijoja C	iden tarie.	
Notes: The unit was calibrated ar	nd checked under good w	vorking condition				·
*Next calibration due on	or before 28 August 2020)				
Serviced by						



Appendix J

Landfill Gas Monitoring Data



Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O Penta-Ocean - Concentric Joint Venture

Landfill Gas Monitoring -Field Measurement Recording Sheet

Name of site:

13/WSD/16 - Mainlaying in Tseung Kwan O

Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2400P (QRAE II)	29 Aug 2019

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission				· · · · · · · · · · · · · · · · · · ·		
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
<u>CH.CAO+60~4+25</u>		0830	Fine	Q	0	2	20.4	(5/1027	3.5
	2/12/2019	1330	Finl	0	0	0	20,5	19/1520	7.5
137 P+ B	2/12/2019	0900	Fine	J	0	0	20.9	15/1027	1.0
0	2/12/2019	1400	Fire	ð	Q	Û	20,9	20 / 1020	1,0
C(4, A 6+64		0930	Fine	9	O .	0	20.9	16/1022	3,3
	2/12/2019	1430	Fine.	6	0	0	20,3	20/1020	3.3
CHA 12+40		1000	Figh	0	0	0	20.9	16/1022	57.3
017	2/12/2019	1200	I I we	0	C	0	20.9	20 / 1020	3.3
Pit A	2/12/2019	030	Fine	0	0	o o	20.4	17/1022	2.0
	2/12/2019	₹30	Enc	0	0	0	20.3	20/1020	2.0
Jacking Pit B	2/12/2019	1100	Fine	0	0	0	20,5	18/1022	v 2
	2/12/2019	[[00	Fine	Ð	0	0	20.9	19/1020	0.2
	·							/	
								/	. —

Name & Designation

Signature

Date

Field Operator:

Ken NG (Assistant Engineer)

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2/12/2019

Laboratory Staff:

Checked by:

ENVIRONMENTAL RESOURCES MANAGEMENT

ENVIRONMENTAL PROTECTION DEPARTMENT



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-2400P (QRAE II)	29 Aug 2019

	·	3as Emission	Sampling Monitoring wells / Surface Gas Extime						Sample location
p (°C) / Roma ure (mbar) Depti	3 -	Oxygen (%)	Carbon dioxide (%)	Flammable gas (methane %)	Balance gas (%)	Weather condition			
1 (0L) 7.3	12/	20.4	0	0	0	Fine	0 \$ 30	3/12/2019	CH.CA0+60~4+25
1022 7.5		20.9	0	0	9	Fine	1330	3/12/2019	
1003 1,0	13/	20.9	0	0	0	Fire	2902	3/12/2019	137 Pit B
1022 (.0	18/	. 2a-ĥ	0	C	0	Fine	(400	3/12/2019	24(***
1 (027 7.3	14 /	20.9	0	ø	0	Fire	0930	3/12/2019	CH.A 6+64
1021 3.3	18 /	20.4	ŷ	0	0	Fine	1430	3/12/2019	
1024 5.3	14 /	204	9	3	0	Fine	1000	3/12/2019	C(+, A 12+40
1021 5-3	18 /	20-9	٥	o	0	the_	(200	3/12/2019	52) . 6
/ 1924 Z.P	15/	20.4	C	0	0	Fire	1030	3/12/2019	PITA
1021 2.6	(8 /	20.9	0	0	0	Fine	(X30	3/12/2019	
1027 0.2	16/	20.4	0	ð	0	Fine			Lacking Yit B
1021 0.2	17/	20-9	0	0	0	Fire	1600	3/12/2019	
/	1					ļ. <u> </u>			
777	16/	20.9	0	ð	0	Fine	1600		Tacking Pit B

Name & Designation

Signature

<u>Date</u>

Field Operator:

Ken NG (Assistant Engineer)

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3/12/2019

Laboratory Staff:

Checked by:

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ENVIRONMENTAL PROTECTION DEPARTMENT



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-2400P (QRAE II)	29 Aug 2019

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
11.CA 0+60~4+25	4/12/2019	0830	Fine	. 0	0	0	20.9	18/1025	7.5
	4/12/2019	\330	Fine	0	Ĉ	0	20.9	20 / 1021	3.5
137 Pit B	4/12/2019	0400	Fine	Ð	o .	0	20.9	15/1025	1.0
	9/12/2019	1400	I Fine	0	0	l l	20.3	20 / 1021	1.0
CH.A 6+64	4/ 12/2014	0930	Fine	O	0	0	20.4	16/1025	2.3
	4/12/2019	1430	Fire	đ	0	0	20.4	20 / 1021	3.3
CH. A 12+40	4/12/2019	1000	Fine	0	C	0	20.9	16/1028	3:.3
	4/12/2019	540	Fine	d	D	Ð	20.4	20/1121	5.3
Pit A	4/12/2019	1040	Fire	0	θ	0	20.4	17/1025	2.0
	4/12/2019	1230	Fige	0	0	0	20.9	Lo / 1028	2.0
Jacking Pit B	4/12/2019	1100	Fire	0	Û	0	20.9	18/1024	0.2
	4/12/2019	1600	Fire	0	Û	0	20.9	20/1021	0.2
			<u> </u>	-					

Name & Designation

<u>Date</u>

Field Operator:

Ken NG (Assistant Engineer)

Signature

4/12/2019

Laboratory Staff:

Checked by:

ENVIRONMENTAL RESOURCES MANAGEMENT

ENVIRONMENTAL PROTECTION DEPARTMENT



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-2400P (QRAE II)	29 Aug 2019

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						-
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
C11.CA0+60~4+25		0}30	Fine	0	0	0	20.9	15/1027	7.5
	5/12/2019	1330	Fine	0	o .	· · · · · ·	209	13/1024	3.5
137 PXB	X/12/2019	0900	Fine	0	0	٥	20.9	15/1025	-0
	5/12/2019	1400	- Five	ð	0	0	70.4	13/1024	1.0
C14.A 6+64	5/12/2019	0938	Fine	0	0	σ	2.0.4	15/1026	3.3
	5/12/2019	1430	Fire	J J	0	0	20.9	13/1024	3.3
CH. A 12+40	5/12/2019	1000	Flore	0	O O	0	20.4	14/1026	₹.₹
	X/ 12/2019	(20)	tial	0	0	g g	20.4	13 / 1024	2.3
P, 7 A	5/12/2019	1039	Fine	j j	0	0	20.9	13/1026	2.0
	5/12/2019	1530	Fige	0	Ö	0	20.9	13 / 1024	2.0
Jacking Pit B	5/12/2019	1100	Fix	0	0	0	20-4	14 / lozy	0.2
	5/12/2019	1 600	Fine		0	0	20.9	13/1024	0-2-
		<u> </u>						/	

Name & Designation

Date

Signature

Field Operator: Ken NG (Assistant Engineer)

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5/12/2019

Laboratory Staff:

Checked by:

Environmental Resources Management

ENVIRONMENTAL PROTECTION DEPARTMENT



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-2400P (QRAE II)	29 Aug 2019

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						· f
			Weather condition	Balance gas	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH.CAOHO24725	6/12/2019	0870	Fihe	0	0	0	20.9	15/1026	3.5
	6/12/2019	1330	Fine	0	0	0	20.9	19/ (023	3.5
137 PHB	6/12/2019	0950	tive	0	0	0	20.9	15/1026	1.0
	6/12/2019	(4-00	Fine	0	0	0	20.9	19 / (023)	1,0
CH-A 6+64	6/12/2019	0930	Fire	0	J	0	29.9	15 / 1026	3.3
	6/12/2019	147,	Fine	0	0	0	20.9	19/1023	5.3
(H.A 12+40	6/12/2019	1000	Fine	C	0	0	20.9	15/1026	¥.3
	6/12/2019	1500	tire	0	Ĵ	G	20.9	20 / 1022	2.4
Pit A	6/12/2019	(030	Fire	0	0	0	20.9	16/1026	2.0
	6/12/2019	1530	Fine	v v	.0	0	20.9	19/1022	2.0
Jacking Pit B	6/12/2019	1100	Fine	J.	- 6	0	20-9	17/1026	0.2
	6/12/219	1600	Fine	٥	0	0	20.9	14/1023	0.2
								//	

Name & Designation

Signature

Date

Field Operator:

Ken NG (Assistant Engineer)

6/12/2019

Laboratory Staff:

Checked by:

ENVIRONMENTAL RESOURCES MANAGEMENT

ENVIRONMENTAL PROTECTION DEPARTMENT



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-2400P (QRAE II)	29 Aug 2019

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH.CAOHO24+C	7/12/2019	0830	Fine	0	0	0	209	15/1026	3.5
	7/12/2019	1330	Fine	g .	0	g	20.9	18/1023	3.5
137 PHB	7/12/2019	09.00	Fine	S	0	0	2.9.4	15/1027	1.0
	7/12/2019	1400	tine	C	0	0	20.9	18/1027	1.0
CH.A 6+64	7/12/2019	०५३,	Fine	0	0	0	20.1	16/1026	3.3
rv	7/12/2019	4430	Figs	J	0	0	20.4	18/ (orc	2.3
CH, A 12740	7/12/2019	1000	Fine	J	0	0	20.9	16/1026	2.3
	7/12/2019	(50)	! Fial	0	0	0	20.9	18/1022	2.2
Pit A	7/12/2019	1040	Fire	Û	0	0	20.9	16/1026	2.0
	7/12/2019	123°	Fine	0	0	0	20.9	18/1022	2.0
Jacking Pit B	7/12/2019	1100	Fine	0	0	0	70.9	17/1026	0. 2
	7/12/2019	1600	Fine	0	J	0	20-9	18/1023	0, Z
ii.									
					1	L		/	

Name & Designation

Signature

<u>Date</u>

Field Operator:

Ken NG (Assistant Engineer)

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7/12/2019

Laboratory Staff:

Checked by:

ENVIRONMENTAL RESOURCES MANAGEMENT

ENVIRONMENTAL PROTECTION DEPARTMENT



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-2400P (QRAE II)	29 Aug 2019
	[
]

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
(H.CAD+60~4+25	9/12/2019	0 8 30	Fine	O	0	0	20.9	16/1024	3.5
	9/12/2019	1330	Fine	0	0	0	20.0	21/1020	2.5
137 PHB	9/12/2019	0900	Fine	0	0	0	20.0	16/1024	1.0
	9/12/2019	(400	Figz	0	0	0	20.3	21/1020	1.0
CHA 6+64	9/12/2019	0930	Finz	0	ū	0	20.9	17/1024	3.3
	9/12/2019	(43,0	Flac	0	0	0	720.9	21/1019	3.3
CHA 1240	9/12/2019	1002	Fine	0	0	0	20.4	17/1024	2.2
	9/12/2019	(503	Fiel	0	0	Ü	20.4	21/1019	\$.5
PHA	9/12/2019	1030	Fine	0	0	0	20.9	18/1024	2.0
···	9/12/2019	1530	Fige	o o	0	0	20.7	21/1019	2.0
Jacking Pit B	9/12/2019	1100	Finz	0	0	0	20.4	19/1023	0.2
	9/12/2019	1600	Fier	0	0	0	70.9	20/ 1019	ی. ت
								/	
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Name & Designation

Signature

Date

Field Operator:

Ken NG (Assistant Engineer)

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9/12/2019

Laboratory Staff:

Checked by:

ENVIRONMENTAL RESOURCES MANAGEMENT

ENVIRONMENTAL PROTECTION DEPARTMENT



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-2400P (QRAE II)	29 Aug 2019

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission							
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)	
CH. CAOHOO~4+25	10/12/2019	0 8 30	Fige	0	0	0	20.4	17/1020	3.5	
	10/12/2019	\ 330	Figs	0	0	0	20.9	21/1017	3.5	
137 PHB	10/12/2019	0900	Fine	0	0	0	20.9	18/1000	1.0	
	10/12/2019	[450	Fine	С	0	0	20.9	22/1017	1.0	
CH.A 6764	10/12/2019	0930	Fine	0	G	0	20.9	19/1020	3.3	
	10/12/2019	1470	Fige	2	0	Ð	70.4	22/107	3.3	
CH. A 12740	10/12/2019	1000	Fire	0	0	0	20.9	19/1020	5.7	
	10/12/2019	1200	Fige	0	0	2	20-9	22/1017	53	
PitA	10/12/2019	1040	Fine	ð	0	0	20.9	19/1020	2.0	
	10/12/2019	1230	FIRE	0	G	ű	20.4	21/1017	2.0	
Jacking Pit B		1100	Fire	0	0	9	20.9	20/1020	0.2	
*	10/12/2019	(bes	FIRE	0	0	0	Z0.9	21/1017	0.2	
							 	 		

Name & Designation

gnature

<u>Date</u>

Field Operator:

Ken NG (Assistant Engineer)

10/12/2019

Laboratory Staff:

Checked by:

Environmental Resources Management

ENVIRONMENTAL PROTECTION DEPARTMENT



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-2400P (QRAE II)	29 Aug 2C19

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
H.(A0160~4127		0 § 30	Five	О	0	0	20.4	18/1019	3.5
	11/12/2019	1330	Fire	0	a a	0	20.9	24/1017	3.5
137 Pit B	11/12/2019	0900	- Fige	ō	. 0	0	20.9	19/1020	1.0
	11/12/2019	1400	Fine	a a	0	Ü	20.9	24/1016	1,6
CH.A 6764	11/12/2019	0930	the.	0	0	0	20.4	20/1020	33
	11/12/2019	(430	Fine	0	0	o o	20.4	24/10/6	3.3
CH. A 12-140	11/12/2019	1000	Fine	G	0	0	20.9	20/1020	₹.2
	11/12/2019	1200	Fine	9	С	0	20.9	22/1016	x.3
Pit A	11/12/2019	1070	Fine	ט	0	0	10.9	21/1020	2.0
	11/12/2019	530	ENL	0	0	G	20.9	22/1017	2.0
Jacking PitB		1100	Fine	0	0	0	20.9	22/1019	0.2
· · · · · · · · · · · · · · · · · · ·	11/12/2019	1600	Fine	. G	0	0	20.9	22/ 1017	0.2
								/	

Name & Designation

Signature

<u>Date</u>

Field Operator:

Ken NG (Assistant Engineer)

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11/12/2019

Laboratory Staff:

Checked by:

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ENVIRONMENTAL PROTECTION DEPARTMENT



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-2400P (QRAE II)	29 Aug 2019

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission							
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)	
137 PHB	12/12/2019	0 } 30	Fine	0	0	0	20.9	18/1021	1.0	
	12/12/2019	1330	Fine	0	9	0	20.9	21/1020	(,0	
CHA 6+64	12/12/2019	0950	Fine	0	0	0	20.9	19/1022	3.3	
	12/12/2019	1406	Fire	ŷ.	0	0	20.9	22/1020	7.3	
CHA 12+40	12/12/2019	0430	Fine	£	0	l 0	209	20/1022	5.3	
	12/12/2019	14 30	Fine	0	0	o o	20.3	21/1020	5.3	
P;+A	12/12/2019	1000	Fine	Ø	0	0	20.9	10/1022	2.0	
	12/12/2019	59.7	Fige	J	0	o	20.9	21/1020	2.0	
Jacking Pit B	12/12/2019	1030	Fine	Ĵ	ð	U	20.9	21/1022	0٠	
	12/2019	(530	Fine	0	0	0	20.9	20 / 1020	0.2	
								1,		
				-				 		

Name & Designation

Signature

<u>Date</u>

Field Operator:

Ken NG (Assistant Engineer)

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12/12/2019

Laboratory Staff:

Checked by:

ENVIRONMENTAL RESOURCES MANAGEMENT

ENVIRONMENTAL PROTECTION DEPARTMENT



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-2400P (QRAE II)	29 Aug 2019

Sample location	Date of measurement	Sampling time		Monitoring wells / Surface Gas Emission							
			Weather condition	Balance gas	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)		
137 B+B	13/12/2019	0350	Fine	0	0	0	20.9	18 / 1024	1.0		
	13/12/2019	(330	Fige	9	0	0	2.0.9	21/1022	1,0		
CH A 6+64	13/12/2019	0900	Fine	0	0	0	20.9	19/1024	3.3		
	13/12/2019	1400	Fine	0	0	0	20.4	21/1022	3.3		
(H, A 12+40	13/12/2019	0930	Fine	0	0	0	20.3	19 / 1024	5.3		
	13/12/2019	1430	Fial	0	0	0	20.9	20/1022	5.3		
Pit A	13/12/2019	1000	Fige	0	o o	0	20.9	20/1024	2.0		
	13/12/2019	1200	Fine	0	0	0	20.3	20 / 1021	20		
Jacking Pit B		1.50	Fige	0	0	0	20.9	20/1024	0.2		
	13/12/2019	1530	Fire	C	0	0	20,9	21/1021	0.2		
								/ "			
			1.					/			
			<u> </u>					/			
1 May and a special section of the s		<u> </u>			<u></u>						

Name & Designation

Signature

<u>Date</u>

Field Operator:

Ken NG (Assistant Engineer)

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13/12/2019

Laboratory Staff:

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ENVIRONMENTAL PROTECTION DEPARTMENT



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-2400P (QRAE II)	29 Aug 2019

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
137 P7B	14/12/2019	0 & 3º	Fire	0	J	0	20.3	18/1024	1.0
	14/12/2019	1330	Fine	0	đ	0 .	20.9	23/1021	1.0
CA.A 6+64	14/12/2019	0900	Fige		0	0	22.9	19/1024	3.3
	14/12/2019	[400	Fine	D D	a	0	20.7	27/1021	3.3
CH.A 12+40	14/12/2019	0430	Fine	9 .	0	J	20.9	19/1024	¥.7
	14/12/2019	1430	Fine	0	0	0	20.9	23/1020	5.3
PH A	14/12/2019	1000	Fine	ı 0	0	0	209	20/1014	2.0
	14/12/2019	500	Fine	o	0	o	20.9	23/1014	20
Jacking PitB		1030	Fine	0	0	0	20.9	21/1024	0.2.
۵ 	14/12/2019	(530	Fine	σ	0	0	20.9	22/1019	0,2
								1,	
								 	

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Field Operator:

Ken NG (Assistant Engineer)

Date

14/12/2019

Laboratory Staff:

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ENVIRONMENTAL PROTECTION DEPARTMENT



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-2400P (QRAE II)	29 Aug 2019

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	
137 PHB	16/12/2019	0 \$ 30	Fine	0	0	O	20.9	21/1019	1.0
	16/12/2019	1330	Fine	В	0	0	20.9	23 / 1017	1.0
CH.A 6+64	16/12/2019	0900	Fine	0	0	0	20.9	21/1019	3.3
	16/12/2019	1400	Fire	0	0	0	20.9	23/1016	3.3
(H. A 1244)	16/12/2019	0930	Fire	C	0	0	20.9	22/1000	x 7
	16/12/2019	1430	Fine	_ 0	0	0	20.9	23/1016	5-3
P.+ A	16/12/2019	1000	Fine	٥	0	0	20.9	22/1019	2.0
	16/12/2019	500	Fine	G	0	0	20.9	27/1016	2.0
Jecking 7it B		1030	Fine	- 0	0	0	20.0	22/1019	0.2
4	16/12/2019	1230	Fine	0	0	0	20.9	23/1016	0.2
								/	

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Field Operator:

Ken NG (Assistant Engineer)

16/12/2019

Laboratory Staff:

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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-2400P (QRAE II)	29 Aug 2019

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission							
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)	
137 P.+ B	17/12/2019	0850	Fine	0	J .	0	20.9	22/1019	1.0	
	17/12/2019	1330	Fine	G	0	0	209	26/1017	1.0	
CH.A 6+64	17/12/2019	0900	Fine	ð	0	0	20.9	23/1019	3.3	
	17/12/2019	1400	Fine	0	; (C	0	20.9	26/1016	7.3	
CH.A 12740	17/12/2019	0930	Fige	0	0	0	20.9	24/1019	>5.3	
<u>-</u>	17/12/2019	1430	Fine	! 0	. 0	С	20.9	26/1016	x .3	
Pi+ A	17/12/2019	1000	Fine	0	0	0	20.9	24/1019	2.0	
	17/12/2019	200	Fine	0	0	0	20.9	27/101/	2.0	
Jacking Pit B	17/12/2019	1030	Fine	. 0	0	ū	20.9	25/1019	0.1.	
	17/12/2019	1530	Fige	! 0	0	C	2.0.9	26/1016	0.2	
MVT 1	17/12/2019	1100	Fine	0	Ů	0	20.9	25/194	1.0	
	17/12/2019	1600	Fine	6	0	0	20.9	26/1016	1.0	
			1					//		

Name & Designation

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Field Operator:

Ken NG (Assistant Engineer)

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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-2400P (QRAE II)	29 Aug 2019

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission							
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)	
137 PAB	18/12/2019	0 } 30	Fine	0	0	0	20.9	23/1019	1.0	
	18/12/2019	(550	Fine	0	σ	0	20.9	27/1017	1.0	
CH.A 6+64	18/12/2019	0900	Fine	0	. ο	Ø	20.9	23/1019	7.3	
	18/12/2019	(400	Fine	0	0	r ₀	20.9	21/106	3.3	
CH. A 12+40	18/12/2019	0430	Fine	0	a	0	20-9	24/1019	3-3	
	13/12/2019	430	Fine	0	0	o	20.9	27/ 1016	x.3	
Pi+ A	18/12/2019	1000	Fine	0	0	0	20.9	24/1019	2.0	
	18/12/2019	[Z D 3	Fine	. 0	0	ø	20.9	27/1016	2.,0	
Jacking PitB	13/12/2019	1030	Fire	: 0	0	0	20.9	28/1019	0.2	
	18/12/2019	(530	Fine	. 0	C	0	20.4	26/1016	0.2	
MVT I	18/12/2019	1100	Fine	J	0	J	20.9	25/ 1019	(, 0	
	18/12/2019	1600	Fine	: 0	0	0	20.9	26/1016	1.0	
								/		

Name & Designation

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<u>Date</u>

Field Operator:

Ken NG (Assistant Engineer)

City

18/12/2019

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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-2400P (QRAE II)	29 Aug 2019

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission							
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)	
137 Pit B	19/12/2019	0 & 30	Fine	0	0	0	20.3	13/1021	1.0	
	19/12/2019	1330	Fine	0	0	0	20.4	22/1019	1.0	
CH-A 6+64	19/12/2019	8900	Fine	0	٥	0	20.9	18/1022	7.3	
	19/12/2019	(400	Fine	0	. 0	9	20.9	24/1019	7.3	
CH. A 12740	19/12/2019	9930	Fine	Ð	2	0	20.9	18/1023	>-3	
	19/12/2019	(430	Fine	. 0	0	0	70.9	21/1018	5.3	
P;+ A	19/12/2019	[000	Fine	. 0	0	Q	20.9	18/1023	2.0	
	19/12/2019	1200	Fine	0	0	0	20.9	21/1018	2.0	
Jacking PitB	19/12/2019	1030	Fire	: 0	0	0	20.9	19/1023	0.2	
9	19/12/2019	1530	Fine	Ð	9	. 0	20.9	20/10/8	0.2	
MVT I	19/12/2019	1100	Fire	ŋ	0	0	20-À	19/1022	(.0	
	19/12/2019	1600	Fine	· 0	0	0	20.9	20/1018	1.0	
		L						/ /		

Name & Designation

<u>Date</u>

Field Operator:

Ken NG (Assistant Engineer)

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19/12/2019

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ENVIRONMENTAL PROTECTION DEPARTMENT



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-2400P (QRAE II)	29 Aug 2019

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission							
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)	
137 Pit B	20/12/2019	083c	Fine	0	0	Ö	20.9	18/1021	1.0	
	20/12/2019	1330	Fine	0	0	0	20.9	21/1018	1.0	
CH.A 6+64	20/12/2019	0900	Fine.	0	0	0	20.9	18/1021	7.7	
	20/12/2019	1401	Fire	0	0	0	20.9	22/1018	3.3	
CHA 12+40	20/12/2019	0930	Fine	0	0	0	20.4	19/1021	¥.7	
	20/12/2019	1430	Fine	0	0	0	20.9	20/ 017	2.3	
P;+ A	20/12/2019	(000	Fire	0	G	σ	20.9	14/104	2.0	
	20/12/2019	(200	Fire	٥	C	0	20.9	21/1017	2.0	
Jacking P+B		1030	Fiaz	. 0	Û	· G	20-9	19/1021	0.2	
4	20/12/2017	(230	Fine	C	C	D	20.9	20/1017	0-2	
MV71	20/12/2019	1(00	Fine	0	0	0	20.9	20/1021	1.0	
	20/12/2019	1600	Fine	0	Ö	0	20.9	20/1011	(.9	
	1			<u> </u>						
				_ i .		L.	}			

Name & Designation

<u>Date</u>

Signature

Field Operator:

Ken NG (Assistant Engineer)

20/12/2019

Laboratory Staff:

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ENVIRONMENTAL PROTECTION DEPARTMENT



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-2400P (QRAE II)	29 Aug 2019

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission							
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen(%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)	
137 PHB	21/12/2019	0 8 30	Fire	0	0	0	20,8	18/1019	1.0	
	21/12/2019	1330	Fine	0	0	0	20.9	22/1016	1.0	
CHA 6+64	21/12/2019	0900	Fire	0	0	0	20-9	19/1019	3.3	
	21/12/2019	1400	Fige	. 0	0	0	20.9	22/1016	7.3	
CH.A 12+40		0930	Fine	0	0	G	20.9	19/100	3.3	
	21/12/2019	1430	Fige	С	O	0	209	21/1016	3.3	
Pi+ A	21/12/2019	1000	Fine	: 0	0	0	20.9	19/1020	2.0	
	21/12/2019	204	Fine	C	B	0	20.9	21/1015	2.0	
Jakin PitB	21/12/2019	1030	Fine	: 0	0	0	20.9	19/1025	0.2	
0	21/12/2019	1530	Fire	0	0	0	20.9	21/10/5	ی ک	
	21/12/2019	llog	Fine	.0	0	0	20.9	20/1019	1.0	
	21/12/2019	1600	Fine		0	0	20-9	21/1015	1.0	
		ļ								
					1		1	/		

Name & Designation

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Date

Field Operator:

Ken NG (Assistant Engineer)

Cles

21/14/2019

Laboratory Staff:

Checked by:

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ENVIRONMENTAL PROTECTION DEPARTMENT



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-2400P (QRAE II)	29 Aug 2019
-	

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission							
			Weather condition	Balance gas	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)	
137 P.+B	23/12/2019	0230	Fine	0	0	0	203	19/1018	1.0	
	23/12/2019	1330	Fine	0)	0	20.9	20/1016	1.0	
CH-A 6+64	23/12/2019	0900	Fine	0	0	0	20.9	14/018	4.3	
	23/12/2019	400	Fire	0	0	0	20.9	20/1016	3.3	
CH A 12+10	27/12/2019	0930	Fine	0	0	0	20.9	14/1018	¥.3	
	23/12/2019	1430	Fine	٥	0	0	20.9	20 / 1016	3.3	
PitA	23/12/2019	(000	Fine	D	0	0	20.2	20/1018	2.0	
	23/ 12/2019	200	Fine	0	0	0	20.9	20/1016	2.0	
Jacking PitB	23/ 12/2019	1030	Fire		0	ø	20.9	20/1018	0.2	
	23/12/2019	\x30	Fine	Û	0	0	20.9	20 / 1016	0.2	
MYT	27/12/2019	(100	Fine	G	C	0	20.9	21/10/8	1.0	
	23/12/2019	1600	Fine	0	0	0	20.9	20/1016	(.0	
MVT 2	23/12/2019	1 (30	Fine	0	0	0	20.9	2//1017	1.2	
	23/12/2019	1630	Fine	v	0	0	20.9	20/1016	1, 2	

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Field Operator:

Ken NG (Assistant Engineer)

23/12/2019

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13



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-2400P (QRAE II)	29 Aug 2019

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission							
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)	
137 PHB	24/2019	0 830	Fine	0	0	ō	20.3	19/109	1.7	
	24/12/2019	1350	Fine	0	Ø	0	20.9	24/1017	1.7	
CH.A 6+64	24/12/2019	090 <i>0</i>	Fire	0	0	0	20.9	19/1019	7.3	
	24/12/2019	14(30	Fine	0	0	o	20-3	24/1016	3.3	
CH.A 12+40	24/12/2019	0930	Fine	0	0	0	20,9	20/1000	7.72	
	29/12/2019	1430	Fine	0	0	v	20.9	23/1016	5-3	
Pit A	24/12/2019	1000	Fine	0	0	O	20.3	2/100	2.0	
	24/12/2019	1,200	Fire	0	0	0	20.9	23/1016	2.0	
Jacking P.+ B	24/12/2019	1030	Fine	0	0	0	20.9	21/1020	0,2	
<u>a</u>	24/12/2019	1270	FIR	0	0	0	20.9	24/1016	0.2	
MVTI	24/12/2019	iloo	Fine	0	. 0	0	20.9	21/1020	1.0	
	24/12/2019	(6:0	Fine	0	0	0	20.9	23 / 1016	1.0	
MYT 2	24/12/2019	1130	Fine	0	C	0	20.9	22/1010	(.2	
	24/12/2019	1630	Fine	0	Ò	0	20 - 4	23/1016	1.2	

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Field Operator:

Ken NG (Assistant Engineer)

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24/12/2019

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13



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-2400P (QRAE II)	29 Aug 2019

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission							
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)	
137 PH B	21/12/2019	0 830	Fine	0	0	0	20,9	12/1021	1.7	
	27/12/2019	1330	Fine	0	0	0	20.9	21/1020	1.7	
CH.A 6+64		19490	Fine	÷ v	0	۵	20.9	16/1021	3.3	
	27/12/2019	1400	Fige	0	0	0	20.9	21/1019	3.3	
CH. A 12+40	27/12/2019	0950	Fine	0	0	٥	20.9	16/104	Z:2	
Maria a constant	27/12/2019	1430	Fine	0	0	0	20.4	21/1014	Z.Z	
P:+ A	27/12/2019	1000	Fine	0	0	0	20.9	17/1021	2.0	
	21/12/2019	200	Fine	0	0	0	20.1	21/1019	2.0	
Jacking PHB	27/12/2019	030	Fine	D	0	0	209	17/1021	0.2	
	27/12/2019	1230	Fine	0	0	Ø	20.9	21/1019	0.2	
MVT	27/12/2019	100	Fine	0	0	0	20.9	18/1021	1.0	
	27/12/2019	[60]	Fine	0	0	0	20.9	20 / 1019	1.0	
MVT 2	27/12/2019	1130	Fire	0	0	O	25.9	19/1021	1.2	
	127/12/2019	1630	Fine	0	0	0	20.9	20/1019	1.2	

Name & Designation

gnature

<u>Date</u>

Field Operator:

Ken NG (Assistant Engineer)

27/12/2019

Laboratory Staff:

Checked by:

ENVIRONMENTAL RESOURCES MANAGEMENT

ENVIRONMENTAL PROTECTION DEPARTMENT



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-2400P (QRAE II)	29 Aug 2019

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission							
			Weather condition	Balance gas	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)	
	28/12/2019	0 33C	Fine	0	0	Э	20.9	16/1021	1.7	
	23/12/2019	330	Fire	0	ລ	0	20.9	20/1019	1.7	
CH.A 6+64	23/12/2019	0900	Fine	O.	0	0	20.9	17/1021	3.3	
	28/12/2019	1400	Fine	9	0	0	20.9	20/1019	3.3	
CHA 12+40	23/12/2019	0930	Fine	0	0	0	20.9	17/1022	5.3	
	23/12/2019	1430	Fine	0	0	J	20.9	20/1019	2.3	
Pit A	23/12/2019	1000	Fine	Ĵ.	g	0	20.9	17/1022	2.6	
	28/12/2019	200	Fire	0	v	0	20.9	21/1019	2.0	
Jacking Pit B	23/12/2019	1030	Fine	ū	0	0	20.9	17/10LL	0.2	
<u> </u>	23/12/2019	1530	Fine	0	0	0	20.9	20/1019	0.2	
MVT 2	28/12/2019	1100	Fine	0	0	0	20.9	18/1022	1.2	
	28/12/2019	1620	Fine	0	0	0	20.9	20/1019	1.2	
								/		

Name & Designation

Signature

Date

Field Operator:

Ken NG (Assistant Engineer)

28/12/2019

Laboratory Staff:

Checked by:

ENVIRONMENTAL RESOURCES MANAGEMENT

ENVIRONMENTAL PROTECTION DEPARTMENT



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 Kwar. O

Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2400P (QRAE II)	29 Aug 2019

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission							
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (moar)	Remark Depth (m)	
CH. CT 0+07~0+57	30/12/2019	0330	Fine	0	0	0	20.9	20/1020	7.0	
	30/12/2019	1330	Fine	0	Ö	0	20.9	22/1019	₹.0	
137 PitB	30/12/2019	09,00	Fine	0	0	0	29.3	20/1020	1.7	
	30/12/2019	1400	Fine	0	0	2	20.9	12/1019	1.7	
CH. A 6+64	30/12/2019	0930	Fire	0	0	Ö	20.9	21/1020	3.3	
	30/12/2019	1430	Fine	0	0	อ	20.4	21/1019	3.3	
CH.A 12+40	30/12/2019	1000	Fine	0	0	. 0	20.9	21/1020	Y.3	
	30/12/2019	1200	Fine	٥	0	0	20.9 .	71/1019	≥.3	
Pit A	3:/12/2019	1030	Fine	O O	.0	0	20.9	21/104	2.0	
	30/12/2019	1830	Fire	а	0	0	20-9	21/1019	2.0	
Taking Pit B	30/12/2019	lleo	Fine	0	٥	0	2,9	21/1021	0.2	
۵	30/12/2019	1600	Fine	0	0	0	20.9	21/1019	0.2	
MYT 2	30/12/2019	1(30	Fine	٥	0	0	20-9	21/1000	1,2	
	30/12/2019	1630	Fine	0	0	0	20.9	21/1019	1.2	

Name & Designation

Ţ

Signature

Field Operator:

Marco Sheung (Graduated Engineer)

30/

30/12/2019

Laboratory Staff:

Checked by:

Environmental Resources Management

ENVIRONMENTAL PROTECTION DEPARTMENT

13



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-2400P (QRAE II)	29 Aug 2019

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission								
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)		
CH.CT0+07-0+57	31/12/2019	0830	Fine	0	0	อ	20.9	19/1026	3.0		
	31/12/2019	1330	Fine	0	0	0	20.9	18/1025	3.0		
137 PH B	31/12/2019	0900	Fine	0	С	0	20.9	19/1026	1.7		
	31/12/2019	1400	Fine	0	0	0	20.9	18/1024	1.7		
CH.N 6+64	31/12/2019	0930	Fine	0	0	บ	209	19/1027	3.3		
	31/12/2019	1430	Fine	0	0	0	20.9	18/1024	7.3		
CH.A 12+40	31/12/2019	[000	Fine	0	2	0	20.9	19/1027	X.3		
	31/12/2019	1,200	Fine	0	0	0	20.q ·	18/1024	¥.3		
Pit A	31/12/2019	1030	Fine	0	0	0	20.9	19/1027	2.0		
	31/12/2019	1230	Fire	0	0	0	20.3	13/1024	20		
Tacking Pit B	31/12/2019	1100	Fine	0	0	0	20,9	14/1027	0.2		
٩	31/12/2019	1600	Fine	0	0	5	20.4	13/1029	0.2		
MVT 2	31/12/2019	1130	Fine	0	0	ð	70.3	19/1016	1.2		
	31/12/2019	1630	Fire	0	0	C	20.9	18/1024	1.2		

Name & Designation

Signature

Marco Sheung (Graduated Engineer)

31/12/2019

Field Operator: Laboratory Staff:

Checked by:

FINVIRONMENTAL RESCURCES MANAGEMENT

ENVIRONMENTAL PROTECTION DEPARTMENT

13



Appendix K

Complaint Log and Regulatory Compliance Proforma



Statistical Summary of Environmental Complaints

Reporting Period	Environmental Complaint Statistics						
	Frequency	Cumulative Complaint Nature					
1 Dec 2019 - 31 Dec 2019	0	0	N/A				

Statistical Summary of Environmental Summons

Reporting Period	Environmental Summons Statistics				
	Frequency	Cumulative	Details		
1 Dec 2019 - 31 Dec 2019	0	0	N/A		

Statistical Summary of Environmental Prosecution

Reporting Period	Environmental Prosecution Statistics					
	Frequency	Cumulative	Details			
1 Dec 2019 - 31 Dec 2019	0	0	N/A			



Appendix L

Site Inspection Proforma





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

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

WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST

	WEEKLY ENVIRONMENTAL INSPECTION	CHECKLIST	
	on Three: 09-30 to special by Carlingue, SOM	wsn An Wai TAK IEC. N/A.	
Wealth			-1
Condi		Silona Fizzy	
Const	iosFin:		
Irmp	refer 18 C Hamilely Vilgo Messens	Lore	
Wird	Care Light Brezer Second		
			_
		N/A Yes No Prote-Remarks.	_
0.00	General	1	
0.01	Is the current Environmental Permit displayed conspicuously at all vehicle site		
	entrances/exits fre public's information at any time?		$\overline{}$
0.02	Is F1 Leader's log-book kept readily available for inspections?		_
			_
1.00	Construction Dust	t .	_
1.01	Are dusty materials, such as exceptated materials, building debris and construction		
	risterials, and exposed earth surface property covered to prevent dust emission?	U Ŭ U	
1.02	Are screenings, enclosures, water spraying or vacuum cleaning devices previded to dusty		_
	construction works for (call suppression?)		
	100 to 0 t		_
1.03	Are furnes or smoke emitting plants or construction activities shielded by a serven?		_
			_
1 74	Are wheel washing facilities with high-pressure water jets provided at all site as it?"		100
1.04	rate wheel washing factions with high-pressure water jets province at it, and trens,		
1.05	Is wheel-washing provided to all vehicles leaving the site!	7 1 1	-
		Ľ L L	
1.36	Are rand section near the site exit (see from clisty material?		
		065(5)	-0.
1.27	Are all much hard reads inside the site paved or sprayed with water to minimize dust		
	emission during vehicle movement?		
1.08	Are water spraying provided immediately prior to any loading or transfer of dusty		- 12
200000	materia a °		-
1,09	Are covers provided to all champ trucks carrying dusty materials when entering and		
	letsing the site"	<u> </u>	
1 10	Are the working areas for operating of frees, shrubs, or vegetation or the removal of		
	houlders, pales, pillars sprayed with water to maintain the online surface wot?		_
1 11	is exposed earth properly treated within six months after the last construction retainly on		
	site?		-
1 12	Does the operation of plants on site free form dark smoke emission?		
			15
	I San I		

Page 1 of 6





Unit, 1908, Nov. 301-305 Castle Peak Road, Kwal Chung, N.T. C: 2833-6873 | F: 2383-1316 | E. general@acuitynk.com | www.acuitynk.com

	Contract no. 13/WSD/16 Mainlaying in Tse	N/A	Yes	No	Physic-Remorks
.13	Are vehicles travelling at speed not exceeding 15km/hr within the site?				
.14	Are stock of more than 20 bags of centent or day PFA covered or sheltered or top and 3	T	П	П	
	sides/		ш	السار	
.15	Are de-hagging, hatching and mixing processes of bagged coment carried out in sheltered preas?	\Box			
.16	Are hearding of at least 2.4m high provided along the site boundary adjoining areas accessible by the public?		П	П	
47			-		_
.17:	Is open burning prohibited?	35	V		
.00	Construction Noise (Airhorne)	700 700			
01	Are quiet plants adopted on site?		Z		
02	Are the PMEs operating on site well-maintained to numinize the generation of excessive ninse?				
.03	Are plants throttled down or turned off when not in use?		d		
.04	Are the plants known to emit noise strongly in one direction oriented in face away from	7	\equiv	$\overline{}$	-
	NSRs?	V ,	300		2
.05	Are mayeable harriers provided to screen NSRs from plant or noisy aperances?	\Box			
.06	Are silencers, mufflers and chelosures provided to plants?	$\overline{\Box}$			
07	Are the boods, cover punels and inspection natelies of PMEs closed during operation?	M		П	
.08	Are proposedy-built slig locarding construction with appropriate materials provided along the site boundary?	d			
.09	Are noisy aperation properly scheduled to minumize exposure and cumulative impacts to nearby sensitive receivers?		V		
.10	Are valid noise emission lahel(s) affixed to all hond-held breakers operating on size?	T			0.0
.11:	Are valid noise emission label(s) affixed to all air compressors operating an site?	7	\Box	$\overline{\Box}$	
,12	Are all construction mass permit(s) applied for percussive piling work?	A	Ħ	H	
13	Are construction noise pennity) applied for general construction works during restricted hours?	T,			_
14	Are valid construction noise permit's) displayed at all vehicular exits?	M			
00	Water Quality		1100		
31	Is effluent discharge liceuse obto-red for wastewater discharge from size?		1	П	
.02	is effluent discharged according to the effluent discharge license?		F	Ħ	
.03	Is wastewater discharge from site properly treated prior to discharge?		Ħ	Ī	

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

	Contract no. 13/WSD/16 Mainlaying in Tse	eung Kwa	in O		
		A.A	Yes	No	Photo-Remarks
3 04	Are perimeter channels provided to intercept storm (most! from outside the site?		1		obslas
3.05	Are sandrell removal facilities such as sandrall craps and sediment basins provided to remove sandrall particles from rame [2]		d		
3.08	Is surface month deverted to sedimentation facilities?		d		
3.07	Is the drainage system properly maintained?		d	$\overline{\Box}$	
3.08	Are construction works carefully programmed to minimize so I aways ion works during tainty seasons?		d		
3.09	Are exposed sell surface protected by paving as soon as possible to reduce the potential of soil crossou?		Ø		
3.10	Are temporary access mads protected by crushed gravel?		d		
3.51	Are exposed slope surface properly printered?				
3.12	Is trench excavation avaided in the wet season as far as practicable, or if necessary, buckfilled in shart sections after excavation?		d		V3
3.13	Are open strekgiles of constructive materials on site covered by terputality or similar fabric furing construction?		1		
3.14	is ranoff from wheel-washing facilities avoided?	V			
3.15	Is oil leakage or spillage prevented?		V		
3.16	Are there any measures to prevent the release of all and grease into the steen desinage system?		卤		OP(2)
3.17	Are the oil interceptors' grease trops properly maintained?		d		
3.18	Are debris and rubhish generated on side collected, bandled and dispused of properly to usual them entering the streams?		Ø		Obs (1)
3.19	Are all fluit units and storage areas provided with lacks and he sited on seaked areas, within bunds of expucity equal to 110% of the storage capacity of the largest tank?				F
3.20	Are tanks, consumers, storage area bunded and the lineations looked as far as possible from the sometime watercourse and stormwater drains?		V		/-
3.21	Are sufficient elemical toilets provided on site to handle sewage from emistraction work large?		$ \sqrt{} $		
3.22	Are saving disposal and foiler maintenance of the purtable chemical toilets provided by the beensed contractors?		d		
3.23	Is concrete washing water properly collected and cented prior to discharge?				
4.00	Waste Management		100		
4 01	is a trap ficket system implemented to measure the disposal of C&D and solid wastes at public Elling facilities and and fills?		\Box		@

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Unit 1998, Nov. 201-305 Castle Peas Road, Kwai Chung, N.T. O: 2333-6823 [F: 2333-1316] E. general@acuityhs.com | www.acuityhs.com

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 wester generated, recycled and concessed of?		V		85	
4.03	Is the Contractor registered as a chemical waste producer?		7			
4.04	Are common waste separated from other waste and collected by a libersed therweal waste collector?		d			
4.05	And trip tickets for shemical wasted apusal available for inspection?	7				
4.06	Is chemical waster-used and recyclad an site as far as practicable?	<u></u>	ī	$\overline{\Box}$		
4.07	Are all comminers for chemical waste properly label (ed.)	A	$\overline{\Box}$			
4.08	is chemical waste storage zero used solely for storage of chemical waste and properly labelled?	4				
4.09	Aire incompatible chemical wastes stored in different areas?	V	1			
4,10	le the chiam cal waste storage area emplosed on at least 3 sides and adequately verifilited?	d				
4.11	is as impermeable floor and braiding, of capacity to accommutate 110% of the volume of the largest container or of 20% by volume of the chemical waste stimed in this area, whichever is the preciest, provide?	Ø				
4,12	Are a runtine cleaning and mointenance programme implemented for drainage systems, sump pils, and till interceptors?		V.		obs(4)	
4.13	Are sufficient general refuse disposal/collection points you ded on site!		d			
4.14	is general refuse disposed of property and regularie?		I			
4.15	Are appropriate measures adopted to minimize windo own! The and dust during transporter kin of waste?		V		<u> </u>	
4,16	Are individual collectors for alumnum cans, plustic bottles and packaging materia, and office paper provided to encourage wasta segregation?					
4.17	Are C&D wastes sorted on site!		1			
4.18	Are C&D warte disposed of property?		d			
4.18	Any unused C&D materials or themicals recycled or reused to reduce the quantity of waste?	\triangle				
4.20	Are public fill and CAD waste russes of site as far as perecipiable to avoid disposal off suc?		\square			
4.21	Are the construction materials stored properly to minimize the potential for damage or continuoustion?		d		·	
4.22	is a dumping license obtained to deliver public fill to public filling areas?					

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Unit 1909, Nos. 302-305 Castre 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			
5.00	Landscape and Visual							
5.01	Are is site trearding provided?	\triangle						
5.02	Anni-agenti kei distunturasi minimoval ur soil protected to traduce potential soil erosion?		d		4			
5.03	is constructed light one med away from the sensitive receivend?							
5.04	is gross hydroseeding provided to slopes as soon as the completion of works?	4						
5.05	Are damages to have misside site boundary due construction works avoided?		d					
5.08	is excavation works curred our manually instead of machinery operation within 2.5m vicinity of any preserved trees?	d,						
5 G7	Are the retained and transplanted tree; a) properly processed and in good conditions?				8			
5.08	Are surgery works earned out for damaged news?	1						
B.00	Ecology	12=30	200 (20)	92. 48	100			
6.01	is site runoff properly costed to prevent any silly runoff?		d		32			
6.02	Arc sill mp installed and well-maintained?	7						
8.03	Are stackpiles properly covered to avoid generaling silly runoff?		V		4			
6.04	Are construction works restricted to works area which are clearly defined?		d					
7.00	Overall	7.0	7	-				
7.01	Is the FMAA properly implemented in general?							

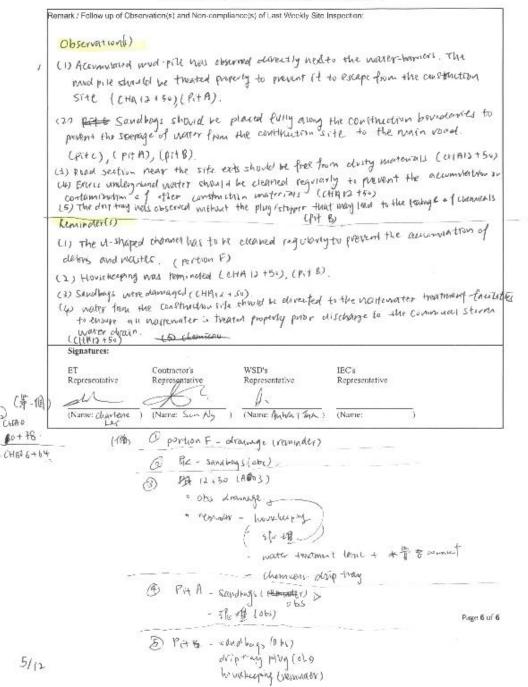
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Unit 1908, Nos. 301-305 Castle Peak Road, Kwai Chung, N.T. C: 2833-6823 | F: 2833-1816 | E: general@acuityhk.com | www.acuityhk.com

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







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

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

WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST

	tion Date: 12/12/2019 temperated by ET. Flore Rev. Km. Contractor. Salm.	nc ⊤ rdeq man		Chong	v.
Condi		512	m [Place	
	ensture 200 Hamility High Voluction	\equiv		(1275)	
			N.		
Wind	√feln tight Breze Sautg				
		N/A	Yes	No :	Preto-Remarks
0.00	General	Di ann	1	ee-m	
0.01	is the current Environmental Pearnal disologed conspicuously et all velness site enhances/exits for public's information at any time!		V		
0.02	Is ET Leader's log-book kept readily available for inspections?				
1.00	Construction Dust		-1		- 1
1.01	Are dusty materials, such as excavated materials, building debris and construction materials, and exposed earth surface properly curvered to prevent dust emission?		\checkmark		obs(d)
1.02	Are screenings, enclosures, water apraying or vacuum cleaning devices provided to dusty	Pos 15	78 39	89	
	construction works live dust suppression?		V		
1.03	Are furnes or smoke emitting plants or construction activates shielded by a server?	d			
1.04	Are wheel washing facilities with high-pressure water jets provided at all site oxits?	A			
1.05	Is wreel-washing provided to all vehicles leaving the sire?				
108	Are road section near the site exit then from dusty material 5				
1.07	Are fill main haul roads insect the site peved or appayed with water to minimize dust emission during vehicle movement?		V		2
1.09	Are write apageing provided inmodiately price to any loading or number of decay uniterals?				
1.09	Are cowers provided to all dump trucks carrying dusty makerials when entering and leaving the site?	D			
1.10	Are the working areas for uproating of trees, shrubs, or vegetation or the centeral of boulders, poles, pillars sprayed with water to maintain the orthogologic work!				
1,11	Is exposed earth properly treated within six months after the last construct on activity on site?		V		
1.12	Does the operation of plants on site free from dark smarke emission?	N			-

Page 1 of 6





Unit 1908, Nos. 301-305 Castle Peak Road. Kwai Chung, N.T. G: 2333-6823 [=: 2333-1326] F: general@acuityhk.com | www.acuityhk.com

	Contract no. 13/WSD/16 Mainlaying in Tse	eung Kwa	in O		
		NA	Yes	No.	Photo: Kemarks
13	Are vehicles travelling at speed not exceeding 15km/hr within the k te?!	-			
13	pare venticies travelling at special for exceeding from a partial mess ger	V			2
14	Are stock of more than 20 bags of coment or day PFA covered or sheltered on top and 3	-			
	sxks!	V		\square	
.15	Are de-hagging, batching and mixing processes of bagged coment carried out in sheltered	7			
	preps?	7			
.16	Are hourding of at least 2.4m high provided along the site houndary adjoining areas	-			
	accessible by the public?	V			
.17	is open huming prohibited?		Th		
.00	Construction Noise (Airhorne)	200 510		200	
01	Are quiet plants adopted on site :		1		
02	Are the PMEs operating on site we I-maintained to minimize the generation of excessive				
	niose?		IV.		
					-
03	And plants directled down or carned off when not in use?		r./		
		Ш,	v	Ш	
04	Are the plants known to emit nesse strongly in one direction priemed to face away from				
	NSR ₈ :	Ľ,	\Box		1
05	Are movemble barriers provided to screen NSRs from plant or missy operations?				
08	Are si eneers, mufflers and enclosures provided to plants?	1			
.07	Are the hoods, cover panels and inspection hotores of PMFs closed during operation?	1	П	П	
.08	Are purposely-built site hoording construction with appropriate materials provided along		=	\equiv	_
	the site boundary!	V			-
09	Are noisy operation properly scheduled to minurize exposure and cumulative impacts to		7		
	pearby sensitive receivers?		V		
10	Are valid noise emission label(s) affixed to all hand-held presiders operating on site?	1	П		
11	Are valid noise emission label(s) affixed to all air compressors operating on site?	7	Ħ	$\overline{\Box}$	
.12	Are all construction noise permit(s) applied for percessive piling week?	7	=		(4)
.13	Are construction noise permit(a) applied for general construction works during restricted	1			
	hours?				
14	Are valid construction noise pennitys) displayed at all schooler exits?				
00	Water Quality		-1		A-
01	Is effluent a scharge, scense abhanned for scastewater discharge from site?				
1.02	is cell, cort clischanged according to the offluent discharge license?		1		
.03	Is wastewater discharge from site properly mested point to discharge!		=	=	7/
-	a common according to the control of		1		

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Unit 1908, Nos. 401-365 Cristle Peak Road, Kwai Chung, N.F. O: 2333-6823 | F: 2333-1316 | E. general@acuityfik.com | www.acuityfik.com

	Contract no. 13/WSD/16 Mainlaying in Tse	eung Kwa			
		N-A	Yes	b.o.	Photo-Remarks
3.04	Are perimeter channels provided to intercept storm ranoff from outside the site?		1		abs(1)
3.05	Are sand/self removal facilities such as sand/ailt trops and sedument basins provided to		1		
	remove sand/silt particles from nunoff?		V	\square	-
3.06	is surface (unot) diverted to sed mentation facilities?		1		
3.07	is the drainage system properly maintained?		V		
3 08	Are construction works carefully programmed to minimize soil excavation works during rainy seasons?		\square		
3 09	Are expused sail surface protected by paying as soon as possible to reduce the potential of sed crossor?		V		
310	Are temporary access mads protected by crushed gravel?		T		
3.11	Are expased slope surface properly protected?				
3,12	is trench executation availed in the wet season as far as grantinable, or if necessary, backfilled in shart sections often executation?		V		
3.13	Are egen stockertes of construction metanals on site covered by taipaulin or sum ar fabric during construction."		V		
3.14	Is rimal!' from wheel-washing facilities avoided?	V			25
3.15	Is mill-taskage or spillage prevented?		$\sqrt{}$		
3.16	Are there any measures to prevent the recease of oil and grease into the storm than spe system?		V,		Obs (2)
3.17.	Are the col interceptors' grease trips properly institutioned?		V		
3.18	Are debris and rubbish generated on site collected, handled and disposed of properly to avail them entering the streams?				
3.19	Are all feel unles and storage areas provided with locks and be sited on scaled areas, within bunds of capacity equal to 110% of the storage capacity of the largest tank?	\square			
3.20	Are tanks, containers, storage area bunded and the lucations locked as far as possible from the sensitive watercourse and stormwater drains?		V		
3.21	Are sufficient chemical toilets provided on site to handle sewage from construction work force?		d		
3.22	Are sewage disposal and soilet maintenance of the portable chemical toilets provided by the licensed contractors?		d		
3.23	Is concrete washing water groupally collected and fremat proof a discharge?	7			
4.00	Waste Management				
4.01	is a trip-ticket system implemented to munitor the disposal of C&D and solid wastes at public filling facilities and landfills?				

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Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O								
		N/A	Yes	No	Photo-Remarks			
4 112	is a recording system implemented to record the amount of wastes generated, recycled and disposed off		\checkmark		N			
1 03	Is the Contractor registered as a chemical waste producer?		1		0			
4 04	Are channel waste separated finni inha waste and collected by a licensed channel waste pellector?		1		2			
4 35	Are trip tickers for chemical waste disposal available for inspection?	d						
4 36	is abouted waste unserland recyclest on site as fit us granificable?							
4.07	Are all containers for chemical waste properly labelled?	4						
4.08	Is obemical wasse storage area used solely for storage of chemical waste and properly labelled?	\Box			:-			
4.08	Are incompatible chemical wastes stored in different areas?							
4 10	is the eleminal wage storage area coclesse on at least 3 sides and adocoately ventilated?	V)						
4 11	is an impenioable floor and bunding, of capacity to accommodate 110% of the volume of the targest continuer in of 20% by solume of the diem of waste stored in that man, whichever is the greatest, provide?				4			
4 12	Are a rootine eleating and maintenance programme implemented for drainage systems, sump- pits, and cell interceptors?		V					
4 13	Are sufficient general refuse craposal collection points provided on site!		1					
1.14	is geteral refuse disposed of properly and regularly?		1					
4.15	Are appropriate measures adopted to minimize wind x own litter and dust during it suspendence of waste?"	1			92			
4.15	Are individual collectors for aluminum cons, plastic builties and packaging material and office paper provided to encourage waste segregation?		d					
4 17	Ar. CWD wistes write, no sit."		V					
4.18	Are C&D wisse disposed of properly?				<u> </u>			
1 18	Are unused C&D materials or chemicals recycled or reused to reduce the quantity of waste?	d						
4.20	Arc public fill and CAD waster asserts site as far as practicable to avoid disposal off-size?		₫,					
4 21	are the construction materials stated properly to minimize the polarical for duringe or contact nation?		回		()			
4 22	is a dumping license obtained to deliver public (CI to public filling areas?							

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	Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O							
		NA	Yes	Nu	Photo/Kemarks			
5.00	Lundscupe and Visual	,						
5.01	Are Is sac hearding provided*				- 70			
5.02	Are vegetation disturbance minimized or soil protected to reduce potential soil acossor?	N	V		×			
5.03	Is construction light oriented away from the sensitive receivers?	1			10-			
5.04	Is given hydroseculing provided to suppose seven in the completion of works?	1			<u> </u>			
5.05	Are damages to tree outside site hourstary due construction works avoided?	(x)	V					
5.06	Is excavation works carried out manually inseed of machinery operation within 2 am vicinity of any preserved trees?	1			125			
5.07	Are the retained and transplanted tree(s) properly protected and in good conditions?	d			ra-			
5.08	Are surgery works carried out for damaged trees!	1						
6.00	Ecology		0.0-7	-1				
5.01	Is site runself properly trested to proven any sally runoff?		4		92			
8.02	Are all trap moralled and well-main/ama/?	1						
8.03	Are stockpiles properly covered to avoid generating sitty rain(1)		Ø,		8			
6.04	An emissing ion works assisted to works are, which are userly defined?		V		-			
7.00	Overall		1					
7.01	is the LOM& A property implemented in general?							

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12/12.





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

mark / Follow up of Observation(s) and Non-compli	per a service de la company		
observations(1) Sandhags shove boundants (pi	l he placed fung as	tong the cons	truction
(2) The olings tray that may u	was observed with	mout the place of chem	y/storper
(3) Construction was	atte should be prop		
Reminders. (1) Sandbags show boundaries (Ch	d be placed fully .	aloy the ce	instruction
(2) Drip tray sho	ould be cleaned reg	ularly (CH	A 12 +50)
(4) Hovsekeeping	out veninged	CHAID+	5 9(P+B)
MARKAT - Flor	ground water show	id be cleaned	d regularly to
Construction i	accumulation or materials. CettA12	Contonina	ion of other
(5) ovit suppressi	so mitigations show	450)	ente d
Project aust	emission (CHAI)	the second	entry to
,	Carrier of Carrier	120).	
Signatures:			
ET Contractor's	WSD's	IEC's	
Representative Representative	Representative	Representative	
(Name: B) (Name: 54- N)	Name The contin	/Name:	
Traine. San No.	1 (Name: T.K. CHOWL)	113000	350
1 CHA6+64			
Reminder 1V/4			
- Callabor 1			
@ 12+50			
- Reminder = = 13 2			
Today tray diffe			
- House kacping			
- A crucis water in tank.			
· d涉審選住	-		
(2) P14 B			N21 1971
(3) pit B Reminder Horsebegging			Page 6 of
OBS OSPE			
Secretary of the second			
图 山沙 頂書蓋有	ž.		

1 disp tray stopper.

12/12.





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

WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST

Wear! Cond	10 mg	Impected in: ET. Chaj (EME Contrate: Salan Mg		n Sew Bu			-
Wind	<u>√</u> : □	Diverse Savay	2000				
Г				N/A	Yes	No :	Photo-Remarks
0.00	General				-		
0.01	is the current Fovironmental Permit display entrances/exits for public's information at a		K 5070		4		
0.02	is IT Lender's log-book kept readily availab				J		
1.00	Construction Dust				,		
1.01	Are dusty materials, such as excavated mater materials, and exposed earth surface properly		3012 kilon		V		obs(1),13)
1.02	Are streetings, enclosures, water spraying of construction works for dust suppression?	r vacuura cleuning nevices p	cividad to duscy		J		
1.03	Are Jumes or smoke emitting plants or cous	ruction activities shielded by	a sereen?	1			
1.04	Are wheel-washing facilities with high-pres	sure we'ver jets provided at all	site exits?	7		П	
1.05	is wheel washing provided to all vehicles to	iving the site?		7		Ī	
1.05	Are road section near the site exit free from	dusty material?			1		
1.07	Are all main hauf cases inside the site paved emission during vehicle movement?	or sprayed with water to min	unizo dast		1		
1.08	Are water spraying provided innucliately pr materials?	iur to any Inading or transfer	of dusty.				
1,09	Are covers previoed to all dump trucks early leaving the size?	ing dusty materials when enti-	ering and				
1.10	Are the working areas for uproaring all trees, boulders, pules, pillars sprayed with water to			1			
1.11	Is exposed earth properly treated within six a site?	nombs after the last conscruen	ion activity on		1		
12	Does the operation of plants on sile free form	ndark smoke emission!!		1			

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	Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O								
		N/A	Yes	No:	Zinto Remarks				
1.13	Are vehicles travelling at speed not exceeding 15km/hr within the site?	1							
1.14	Are steek of more than 50 bags of cement or sky PFA covered or shortered on top and 5 sistes?	d							
1.15	Are de-hegging, heads ng and mixing processes of bagged cement envised out in sheltered areas?	1							
1.16	Are hourding of at least 2.4m high provided along the site boundary adjoining areas accessible by the public?	1							
1.17	Is open burning prohibited?		1						
2.00	Construction Noise (Airhorne)		7						
2.01	Are quiet plants adopted on site?								
2.02	Are the PMEs operating on site well-maintained to minimize the generation of excessive mose?		V						
2.03	Are plants thruttled down or turned all when not in use?		4						
2.04	Are the plants known to emit noise strongly in one direction oriented to face away from	-4		_					
	NSRs?	V							
2.05	Are moveable barriers provided to senset. NSRs from plant or noisy apentions?	Z,							
2.06	Are silenters, mufflers and enclosures provided to plants?	1							
2.07	Are the boods, cover panels and inspection hatches of PMEs closed during operation?	1							
2.06	Are proposely-built site hearding construction with appropriate materials provided along	1							
100000	the side boundary?	1	5						
2.09	Are noisy operation properly scheduled to minimize exposure and cumulative impacts to	-		-					
	pearby sensitive receivers?		1						
2.10	Are valid noise emission lobel(s) allised to all hand-held breakers operating on site?	T							
2.11	Are salid noise emission label(s) affixed to all air compressors operating on sing!	1							
2.12	Are all construction noise permuta) applied for percussive pulling work?	1							
2.13	Are construction noise permit(s) applied for general construction works during restricted	-							
	50.05?	V	0 0	3	<u> </u>				
2.14	Are valid construction noise permit(s) displayed at all vehicular exits?	4							
3.00	Water Quality	100							
3 01	Is effluent discharge license obtained for wastewater discharge from site?		V						
3.02	Is effluent discharged according to the effluent discharge license?		1						
3.03	Is wastewater discharge from site properly treated prior to discharge?		1						

Page 2 of 6







Umit 1908, Nos. 301-305 Castie Pesk 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 Photo-Remarks 3.04 Are perimeter channels provided to intercept sterm runoff from outside the site? 1 3.05 Are sand/silt removal facilities such as sand/silt traps and sediment basins provided to znove sand/silt particles from r,molf? -> Is surface runoll' diverted to sechmentation facilities? 3.07 Is the drainage system properly maintained? 3.08 Are construction works carefully programmed to manimize soil excavation works during 3.09 Are exposed sail surface protected by paving as soon as possible to reduce the potential of 3.10 Are temporary access made protected by crushed gravel? Are exposed slope surface properly protested? Is trench excavation avoided in the wet senson as far as practicable, or if necessary. ackfilled in short sections after excavation? Are open stockpiles of construction materials on site covered by tarpaulin or similar fabric LONG Y Juring construction? Is runoff from wheel-washing facilities avoided? 3.15 Is oil leakage or spillage prevented? Are there any measures to prevent the release of oil and grease into the storm drainage Are the nel interceptoral grease traps properly maintained? 3.18 Are debris and rubbish generated on site collected, handled and disposed of properly to world them entering the streams? 3.19 Are all fuel tanks and storage areas provided with locks and be sized on sealed areas, within bunds of capacity equal to 110% of the storage capacity of the largest tank? 3.20 Are tanks, containers, storage area bunded and the locations locked as far as possible from the sensitive watercourse and stormwater drains? 3.24 Arc sufficient chemical tellets provided on site to handle sewage from construction work orce? 3.22 Are sewage disposal and tedet maintenance of the portable chemical toilets provided by the licensed contractors? 3.22 Is concrete washing water properly collected and treated prior to discharge? 4.00 Waste Wanagement 4.01 Is a trip-licky; system implemented to monitor the disposal of C&D and solid wastes at public Elling facilities and landfills?

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Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O							
		N/A	Yes	No	Photo-Remarks		
4.02	is a meanting system implemental to norm! The amount of wastes generated, recycled and disposed of:		d		<u> </u>		
4.03	is the Commotor registered as a chemical waste producer?		1				
4 Ç4	And thereign weste separated from other waste and as lected by a licensed chemical waste collective?	d			2		
.05	Are cup tickets for chemical waste disposal available for inspection?	1					
.06	is chemical waste reused and recycled on site as far as provinciable?	1					
0.07	Are all containers for chemical waste properly labelled?	V					
:.08	is chemical waste storage area used solely for storage of chemical waste and properly labelled?	1					
4.09	Are incompatible disentical wastes stored in different areas?	1					
.10	Is the chemical waste storage area creckwed on a least 3 sides and adequately verificate?	1			-		
111	is an imperiocable their and handing, of capacity to accommodate 110% of the volume of the larges cum aims or of 20% by volume of the chemical waste stoned in that area, which even is the greatest, provide?	V					
1.12	Are a routine deaning and magnetioned programme implemented for drainage systems, some case and oil interceptors?		1		£		
1.13	Are sull'intent general refuse dispussible disappoints provided market		V		4		
1.14	is general refuse disposed of properly and regularly?		1				
4 15	Are appropriate ocussors object in monto 22 wordblown litter and dest during transportation of waste?	1	SM		25		
1.16	Are increased to encourage waste segregation?		V				
1.17	Ary CAD wastes serted an are 9		d				
1.18	Are C&D waste capased of property?				-		
1.19	Are unused C&D materials or chemicals recycled or reused to reduce the custory of wase?						
20	Are public fill and CAD wast, reuse no site to list as posit scalin to aveou dispusal off-site?				9		
4.21	We the construction materials stored properly to minimize the potential for damage or multi-material?				065(1)		
4.22	is a comping license obtained to deliver public fill to public filling treas?				-		

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Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O						
		N/A	Yes	No	Photo-Remarks	
5.00	Landscape and Visual					
5.01	Are Is site hearding provided?	1				
5.02	Are vegetative disturbance differenced or sail protected to reduce potential set, erosion?		1			
5.03	is construction light oriented away from the sensitive receivers?	1			IV.	
5.04	is grave hydrosculing provided to slopes as soon as the completion of works?	1				
5.05	Are damages to trees outside site boundary this construction works avoided?		1			
5.06	is each within works carried our manually instead of machinery operation within 2.5m vicinity of any preserved upos?	1				
0.37	Are the estational and transplanted tree(s) properly protected and in good conditions?	<u></u>				
5.08	Are surgery works carned out for duringed mas+?	1				
6.00	Ecology					
6.01	is site runoff properly treated to prevent one sully runoff?		V		·	
8.02	Are allt trap installed and well-main; aimed?	1			2	
6.03	Are stockpiles properly covered to avoid generating silty minit?		1			
6.04	Are construction with natricted to works area which are clearly defined?		d		2	
7.00	Overall		1			
7.01	Is the EM&A properly implemented in general?		1			

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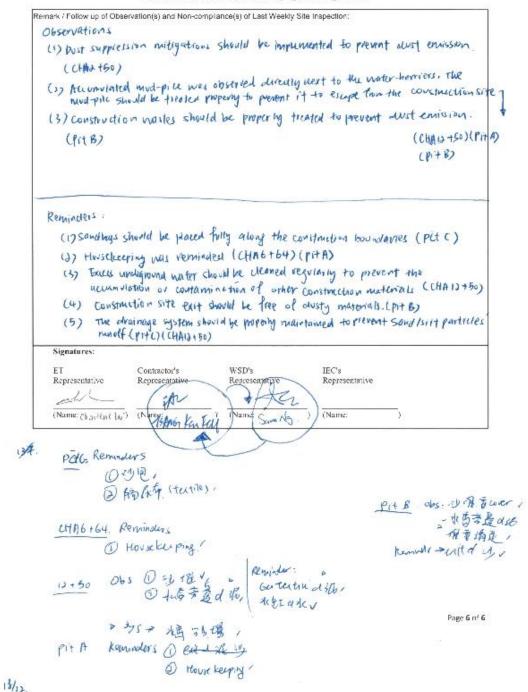






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Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O









Line 1903, New 100 S00 Cast of Peak Boad, New Chang St T O. 2013 L823 (Fi. 2015 | 1) princial plantabilication over an arbibicate

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

WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST

	WEEKLT ENVIRONMENTAL INSPECTION	CHECK	LIST		
Inspect	in Date: 22/12/2019 Inspected by: Et Karpa Yan	WSD	Tsang	Kin Foo	
	os Titer	FE 1874	2200		
Weath Conds Femps		Siz		Ti bash	
Wind	There Death Death District	W-30			
THE					
		N/A	Yes	No	Photo Remarks
0.00	General				
0.01	is the current Environmental Permit displayed conspicuously at all vehicle site internections for politic's information at any time?		V		1
0.02	ks ET Lender's log-book kept readily available for inspections?		ď		
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 dest emission?				S
1,02	Are so conings, circles ares, water solaying, or vacuum cleaning devices provided to dissy				
	construction works for dust suppression?		V		5
1.03	Are fumes or smake emitting plants or construction activities shielded by a serien?		V		ş
1.04	Are wheel washing facilities with high-pressure water jets provided at all site exits?	V			
1.05	Is wheel-washing provided to all vehicles leaving the site?	V			37
1.06	Are road section near the site exit free from dusty material?		V		22
1,07	Are all main had roads inside the site paved or sprayed with water to minimize dust emission during vehicle movement?				
1.08	Are water spraying possided immediately prior to any leading or massier of dusty materials?				
1.09	Are covers provided to all dump trucks carrying dusty materials when entering and caving the sale!		V		
1.10	Are the working areas for appropting of trees, shrubs, or vegetation or the removal of		-		20.
2007257	bookka's, pokes, pillars sprayed with water to maintain the entire surface wet?	-	V		
1.11	is expased earth properly treated within aix months at leather last construction activity on site?				n
1.12	Dues the operation of plants on size five form dark smoke consecue?		∇		45

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Umt 1998, Nov. 201305 Castle Peak Road Kwy Chung, V T 5: 2233-3823 [* 5187-1315] E. gesenzionachityn lamn [www.acuitynk.com

	Contract no. 13/WSD/16 Mainlaying in Tse	eung Kwa			
3 .6		N/A	Yes	No	Photo-Remarks
1.13	Are vehicles haveling at speed not exceeding 158 min within the stage		V		80-
1.14	Are stace of more than 20 hags of cement or day PTA covered or sheltered on too and 3 sides?				
1.15	Are de bagging, basching and mixing processes of bagged content carried out in sheltered press?	V			<u> </u>
1.16	Are hearding of at least 2.4m high provided along the site boundary adjaining areas accessible by the public?	V			
1.17	Is open burning prohibited?		∇		
2.00	Construction Noise (Airhorne)	64 100		(m/m	
201	Are quiet plants adopted on site?		∇		Q
2.02	Are the PMEs operating on site well-maintained to minimize the gaveston of excessive moss?		\bigvee		% <u></u>
2.03	Are paints theothed down or turned off when not to use?		\square		
2.04	Are the plants known to emit noise strangly in one direction oriented to face away from NSRs?		\bigvee		
2.05	Are moveable barriers provided to screen NSRs thum plant of noisy operations?		V		
2.06	Are silencers, multi-re and strolosures previoed to plants*		∇		
2.07	Are the bords, cover panels and inspection harches of PMEs closed during operation?		V		
2.08	Are purposely-beelt are hearding construction with appropriate materials pees ced along the site boundary?		V		
2.09	Are noisy operation properly scheduled to in minute expessive and contributive impacts to feedby sensitive reservers?		V		
2.10	Are valid noise emission label(s) affixed to all hand-beld breakers operating on site?	M			
2.11	Are valid noise emission label(s) affixed to all air compressors operating on site!	V			
2.12	Are all construction noise permit(s) applied for percussive piling work?	V			
2.13	Are construction naise paint I(-) applied for general construction warm during restricted tours?	V			
2.14	Are valid construction noise permit(s) displayed at all vehicular exist?	V			
3.00	Water Quality	A	-		
	Is off users disease placese obtained for warrewater diseasing from site?		∇		
3.02	Is official discharged according to the official discharge license?		$\sqrt{}$		
3.03	Is wastewater discharge from size properly treated prior to discharge?		V		

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| Unit 1998; New 301-305 Ceatle Psec Road, Kwai Chung, N. L | D. 2348-6829 | F. 2543-3416 | F. genic abbient typ scrom | www.au. dybb.com

	Contract no. 13/WSD/16 Mainlaying in Tse	eung Kwa	o ne		
		N-A	Yes	No	Photo-Remarks
3.04	Are pertineter channels provided to intercept storm purioff from outside the sire?		M		
3.05	Are sandrs if nemoval landities such as sandrall traps and sediment basins provided to remove sandrall particles from numel?		V		
2.03	is aurface constit discreted to sedimentation liked mes t		V		
3.07	Is the drainage system properly maintained?		V		
3.08	Are construction wards carefully programmed to minumize soil exercation works during rainy seasons?		\vee		N-
3.09	Are exposed soil surface protected by paving as sum as possible to reduce the potential of soil crossion?		\square		(<u>-</u>
3.10	Are temporary access roads portected by crushed gravel?		$ \sqrt{} $		8
3.11	Are exposed slope surface properly (varietisd)	V			Y
3.12	is trench exceptation avoided in the wet season as far as practicable, or if necessary, buckfilled in short sections after exceptation?		V		
3.13	Are open stockpiles of censuration materials on site covered by targather or sum at likely during construction?		V		
3.14	Is runaff from whee -washing facilities avoided?	V			
3 15	ls ed tokage or spillage prevented?		V		ebseryation cl
318	Are there any measures to prevent the release of oil and grease into the stann drainage system?		V		observation(2)
3 17	Are the oil interceptors' grease maps properly maintained?		V		88
3 18	Are debris and rubbish generated on site collected, handled and disposed of properly to award them entering the streems?				
3.19	Are all fuel tanks and sternge area: provided with looks and be sited on scaled ereas, within bunds of capacity equal to 110% at the stornge eageerty of the largest tank?		V		9
3.20	Are tanks, containers, storage area bunded and the lacations becked as the as possible from the sensitive watercourse and stormwater deales?		V		8
3.21	Are sufficient chemical to lets provided on site to hondle sawage from construction work force?		V		
3.22	Are sewage disposal and soilet maintenance of the partiable chemical interes provided by the licensed contractors?				
3.23	is cenerate washing water properly collected and treated prior to discharge?	V			
	Waste Management is a trip ficter system implemented to mention the disposal of C&D and solid wastes at public filling facilities and landfill st		V		(<u>)</u>

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| Int 1938, Nov. (31 ±05 Easter Feak Agrz. Koo Eming, N.T. | (37243) 5821 | 57233-1321 | Eligeneral@aguitynk (on | www.aerutynk.com

	Contract no. 13/WSD/16 Mainlaying in Tse	eung Kwa	in O		
		NA	Yes	Ne	Photo/Romanke
4.02	is a recording system implemented to record the amount of wasts generated, recycled and disposed of?		V		
4 03	is the Cart metric registered as a channel waste producer?				a
4 04	Are chemical waste separated from other waste and collected by a licensed obsorbed waste collector?		$\sqrt{}$		
4 05	Are any trebets for eleminal waste disposal available for aspection?	V			
4 06	bedramed wasteroused and recycled on site as far as practicable?	V			8-
4.07	Are all containers for chemical wasse properly labelled ³		V		8
4.08	Is chamical waste storage area used solely for storage of chamical waste and properly labelled?		\square		3
4.09	Are incompatible chemical wasses stored in different areas?		\bigvee		
4.10	Is the premital waste worage area enclosed on at least 3 sides and adequately ventilated?		V		03
4.11	is an importunitie floor and building, of expectly to account slate 110% of the softence of the largest container or of 20% by volume of the chamical waste stored in that area, which we is the greatest, provide?		V		S:
4.12	Are a routine dearing and maintenance programme implemented for distrage systems, sumplies, and or interceptors?		V		
4.13	Are sufficient general retires despesar collection points provides on site?		V		
4.14	is general refuse disposed of properly and regularly?		V		88-
4.15	Are appropriate measures adopted to minimize wind Found that and dust during transporters on waste?				7.
4.15	We individual collectors for distribution case, pastic boilles and packaging material and office paper provided to commange waste segregation?		V		8
4.17	Are C&D wastes somed on site?		V		
4 18	Acc C&D wast, disp-sed of purporly?		V		observation 13
4 19	Are unused CAD materials or chemicals recycled or reused to reduce the quantity of wyste?	∇			
4 20	Are public fill and C&D waste reuse on site as for as practicable to avoid dispared off-site?		V		
4 21	Are the essistation of meterials stored properly to minimize the potential for damage to estimating on?		V		
4.22	is a dumping license obtained to deliver public fill to public filling areas?		V		

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Let 1908 Kinc 352-305 Castin Peak Boad, Kwa Chung, N. .. U 2343 6923 [F 2334.3416] Eigenera Carounythicom - www.acunythicom

	Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O						
		MA	Yes	No	Photo/Remarks		
5.00	Landscape and Visual		,	8			
5.01	Arc lastic handing previded?		¥				
5.02	Are vegetation disturbance minimized of soil portected to reduce potential soil crosson?"		V				
5.03	Is construction light oriented away from the sensitive receivers?		M		8		
5 04	legrass by drose along provided to slopes as soon as the completion of weeks?	V					
5.05	Are damages to trees occasie site boundary due construction son's ascedus?		V				
5.06	Is excuration works carned our manually instead of machinery operation within 2.5m vicinity of any preserved trees?	V					
5.07	Are the retained and imasplanted tree (-) properly protected and in good conditions?	V			VI.		
5.08	Are surgery works carried out for damaged trees?	V			7		
6.00	Etology						
6 01	is an ermost properly treated to preventing sally numerity						
6.02	Are silt trap installed and well anaimamed?	V					
6.03	A to seek pikes properly covered to soond generating silty name?		V		3		
6.04	Are construction works remoted to works area which are clearly defined?		V		8		
7.00	Overall		968				
701	Is the EM&A properly implemented in general 3		∇		(n)		

Page 5 of 6

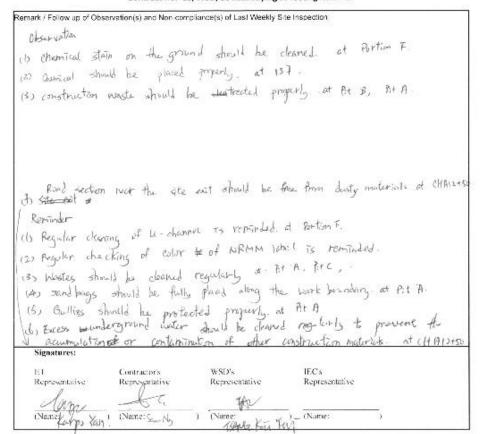






Unit 1908, Nes. 171 (03 Caste-Peak Role: Kwa. Emane, K.f. D. 2843-1828 [+ 2848 1826 | Experimal@scartyte.com] www.acutyte.com

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



(b) Parton F. A) PAC (b) 137 (b) CHB 7 +20 (b) CHB 7 +20 (c) CHB 7 +20 (d) Pt B (d) Pt B

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Unit 1908, Nos. 301, 305 Cartie Priak Boart, Kwai Chung, N. I. O: 2333-5824 | F. 2333-1416 | Engrand Statistyhk.com - www.accityhk.com

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

WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST

	WEEKLY ENVIRONMENTAL INSPECTION	N CHECKLIST					
laspects		nd was Tshy Kilu Pan IEC Francis Low					
Weather To							
Coulin	adiisa Nerry Nerry Just Just Stein 1924						
Tempe	rature 19 C Hamidity 102 Missaret	sa Link					
Wind	See State						
		N/A. Yes No. Photo-Remarks					
0.00	General						
00-	Is the current Environmental Permit displayed conspicuously at all vehicle site						
	entrances/exits for public's information at any time?						
0.02	ls ET Leader's log-book kept readily available for inspections?						
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?	9-35 8-31 36-38 39					
1.02	Are screenings, enclosures, water spraying or vacuum deaning devices provided to dusty						
	construction works for dust suppression?						
1.02	N. F	2					
.00	Are fernes er smoke emitting olivits or construction activities sineidad by a serven?						
1.04	And wheel-washing facilities with high-pressure water jets provided of all site exits?						
-							
05	Is wheel-washing provided to all vicinities leaving the site?						
/ pc	Are road section near the site exit free from dusty material?						
	pare road section near the size exit free from dasky mandrate.						
1.07	Are all main haul roads inside the sue paved or sprayed with water to minimize dust						
	emission during vehicle movement?						
*.08	Are water spraying provided immediately prior to any loading or banafar of dusty						
	naxonals?						
. 09	Are covers provided to all dump tracks carrying dusty materials when critating and carring the stud!						
10	Are the working areas for uprooding of these, abrups, or vegetation on the removal of						
27.55	soulders, pokes, pollars sprayed with water to mountain the currie surface wer?	Ŭ U, U					
1.11	is exposed earth properly treated within six months after the last construction activity on						
	site :						
1.12	Does the operation of plants on site free form dark smake emission?						

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		SS Costle Fear Room, Keep Chang, N. F.
	□ 0.00 (c) 2333-6823 (° 2333-13)t (E general	
	Contract no. 13/WSD/16 Mainlaying in Tse	eung Kwan O
		N/A Yes be Photo-Remarks
13	the vericles travelling at speed not exceeding 15km/hr within the site?	doo
14	Are stock of more than '90 hags of coment or day PEA covered or sheltered on top and 3 sides?	\square , \square
15	Are the target regularity natching and in ixing princesses of bugged cement carried out in sheltered press?	
.16	Are boarding of at least 2.4m high provided along the site boundary who may weak	
	occessible by the public?	Ľ U, U
1.17	s open huming prohibited?	
2.00	Construction Noise (Alrhorne)	/
2.01	Are quier plants adopted on site?	
2.02	Are the PMHs operating on site well-maintained to minimize the generation of excess so mose?	
2.03	Are plants throttled down or turned off when not in 1889	
2.04	And the prents known to condinous alreangly in one direction oriented to face away from	7
	NSRs?	<u> </u>
60.5	Are moveable binners and idea to seeen NNRs from plant or noisy uperations?	
.08	Are silencers, mufflers and enclosures provided to plants?	d
.07	Are the hoods, cover pends and inspection fieldbey of PMFa classificating operation?	
2.09	Are pursone y-liviilt site boarding construction with appropriate materials provided along the site boundary?	
2.09	Are naisy operation properly scheduled to minimize exposure and consulative impacts to	
	nearby sensitive receivers?	□, □ □ □
2 10	She valid noise emission label(s) affixed to all heavished disease operating on site?	
21"	Are valid noise emission label(s) artificel to all air compressors operating an site?	700_
2 12	Are all construction noise permit(s) applied for percussive pilling work?	
213	Are construction mass permit(s) applied for general construction works during restricted	The Charles
	hours?	
2,14	Are valid construction noise permit(s) displayed at all velocular exerci-	
00.0	Water Quality	
3.01	Is effluent discharge license obtained for wastewater discharge from site?	
3.02	Is afflicent discharged according to the affluent discharge license?	
3.03	Is wastewater discharge from size properly treated prior to discharge?	

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Unit 1908, Nov. 101-305 Ceatle Pyek Ruads awai Chung, 5c.'. D. 2333-6823 [C. 2332-1326 | L. generaljets autynkonen | www.sc.arlyhk.com

_	Contract no. 13/WSD/16 Mainlaying in Ts				
		MA	Yes	Nn	Photo:Remarks
3.04	Are permeter channels provided to intercept steem renolT from outside the site?		1		
2.05	Are sand/silt removal facilities such as sand/selt maps and sediment basins grossided to		-		
	emove secutivalt particles from runnif?		1		21
3.06	Is surface repoll diversed to sedimentation facilities?	П	d		
3.07	Is the drainage system properly maintained?	$\overline{}$		一	
2.00		1	رت		39-
3.08	Are canst-noticel works carefully programmed to minimize and excavation worst during rainy seasons?				
3.09	Are expanded and surface protected by paying as soon as possible to reduce the potential of still emission?		V		A <u>. </u>
3.10	Are remposiny across roots protected by crushed grave?		V		
3,11	Are reposed slope surface properly proceeded?	1			\$ <u></u>
3,12	Is trench excusation avoided in the wet season as for as practicable, or if necessary makfilled in short sections after exceedable?		1		
2.13	And open studepiles of conscruction materials on site covered by introducing annular labric during construction?		V		
3.14	Is runnil' from wheel-washing facilities avaided?				
3 15	Is an leakage or spellage prevented?		1		
3.18	And there any measures to prevent the release of oil and grouse into the storm drainage system?		1		·
3.17	Are the oil interceptors' grease traps properly mannerned?		V		
5.18	Are debris and rubbian generated consite so facted, familied and disposed of properly in avoid them entering the streams?		d		
3.19	Are all fael tarks and storage areas provides with help and be sited on scaled areas, within bands of capacity equal to 10% of the storage capacity of the largest tank?	V			
3.20	Are taries, containers, storage area bunded and the locations locked as far as possible from the sensitive watercourse and stormwater drains?				
3.21	Are sufficient chemical toilets provided on site to hondle sawage from construction work force.		d		
3.22	Are severyed sposed and willet maintenance of the partiable chemical roders provided by the braneau contraduct?		d	П	
3.23	is concrete withing wither properly collected and treated prior to discharge?	1			
4.00	Waste Munngement				
4 01	is a impolitisked system implemented to monitor the disposal of CASD and solid westes at public, tilling facilities and landfills?		1		

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	Acuity Sustainab 0.011 1908, 928, 502-3 0.2733-6821	05 Castle F	eak Road	l, Kwai Cl	ung N.
	Contract no. 13/WSD/16 Mainlaying in Tso	NA	Yes	No	Prom-Remarks
- 02	is a recording system implemented to record the amount of wastes generated, recorded and disposed of:		1		
03	In the Commetter registered as a chemical weste producer."		1		
04	And channel waste separated from other waste and collected by a licensed chemical waste soffector?	1			
05	Are trip tickets for chemical waste disposal available for inspection?				
.06	Is chemical waste reused and recycled on site as far as practicable?	1			
107	Are all continues for electrical waste properly label ed?	1			
4.06	is chemical waste storage area used solely for storage of chemical waste and properly labelled?	1			
1.09	Are incompatible chemical wastes stored in different areas?	1			16
1.10	Is the chemical waste strong, area enclosed on at kins. I substant advantacly servidated?	1			-
1.11	is an impermentile floor and building, or capacity in accommodate 110% of the volume of the largest container or of 20% by volume of the chemical waste stared in that area, whichever is the profest, provide?				-
1.12	Are a routine cleaning and meintenance programme implemental for drivings systems, sumptions and oil interceptors?		V		
1.13	Are sufficient general refuse disposation lection points provided on site?		7		
1.14	Is general refuse disposed of properly and regularly?		1	П	
1.15	Are appropriate measures adopted to minimize windshown liner and due during fransportation of winds?	$\overline{\Box}$	7		
1.16	Are individual collectors for aluminum cans, plassic beaches and packaging muscrial and office baper provided or encourage waste segregation?			$\overline{\Box}$	
1 17	Are C&D wester sortal on a '25'		7	一	No.
1.10	Are CACD waste dispused of properly?	ī	7		
1.18	Are unused C&D materials or chemises's caspellal in casesal to reduce the quantity of want?			$\frac{\Box}{\Box}$	\$6
4 20	As public fill and C&D waste reuse on site as for as practicable to avoid dispersal off-site!	1		一	4
12.	Are the construction materials stored properly to minimize the potential for damage or contamination?		d		
4 22	Is a comping license obtained to deliver public fill to public filling actual		7		## TENERS TO THE

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Aude

Acuity Sustainability Consulting Limited

Unit 1908, Not. 191-305 Castle Peak Rhan, Kwai Chung, N. T. Cl. 2938 6828 [× 2333-1308 - Eligene algoria tyhkidom] www.stu-tyhkidom

_	Contract no. 13/WSD/16 Mainlaying in Tse	N/A	Yes	No	Photo-Remarks
5.00	Landscape and Visual				
5.01	Are is site hearding provided*	1			
02	Are separation disturbance minimized or so "protested to reduce potential soil erosion?"				
.03	is construction light, oriented away from the sensitive receivers?	1			
04	is grass hydroscoding provided in slopes as snon as the completion of works?	1			
0.05	Are damages to trees outside site boundary due construction works availed in		1		
i D6	is excavation works samied out menusly instead of machinery operation within 2.5m vicinity of my preserved trees?	d			
.07	Are the returns) and transplanted free(s) properly protected and in good wordst outs?	1			-
.08	Are singlely works carried out for damaged tools?	4			
.00	Feelogy				
01	is site runoff groperly treated to prevent any silly remoff		1		
3.02	Access I may establish and well-maintained?	4			
D3	Are stockpoles properly covered to avoid generating vilty runoff?		Ø,		
3.04	Are constructed works restricted to works area which are alknowly defined?				
7.00	Overall		1		
7 01	Is the EM&A properly implemented in general?		1		

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Unit 1908, Nov. 101 105 Circle Pees Road, Keye Chung, N. F © 2333-0823 (** 2333-1316 - E. general@ac.intyns.com) www.ac.inyns.com

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: Reminders: (1) NEMM latel rehard to properly maintained on the NEMMY (CHA 6+64). (2) construction material should be properly stored in the construction site. (3) Accomplated and pour was observed claretly wert to the water barners. The mud-pile should be treater properly to prevent it to escape from the constinction orfe. (CHA12+50) (4) Excess underground water showl be cleaned rejutarly to present the accompleted or contamination of other construction materials. (CHA U + 50) (5) stayment nater was observed in the dup tray-(CHA12+50) Signatures: Centractor's WSD's IEC's Representative Representative Representative Representative (Name: Charlese Ida (Name: Sane Ng

NAME (abe) smill be paperty unistanced on the WRATH (removed) THAO TELY construction materials showed be properly stored

CHAO5+12 - Strupping of earth day was found next to the autorbanness The sto day pite threat be properly maintened to prevent it to congretion me austrolos site (henrien) - chaptent war was a bunch (warrows). All nater Own to be develop to water freeting lovelether before - styras water are to seemed in the dust tray tremments

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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 January 2020 - 31 January 2020	 Excavation of trench Mainlaying of pipe Backfilling of the trench Work fronts for open trench Work fronts for pipe jacking Trial pits works 	Construction dust and noise generation	 Dust suppression by regular wetting and water spraying Reduction of noise from equipment and machinery on- site Sorting and storage of general refuse and construction waste



Appendix N

Impact Monitoring Schedule of Next Reporting Month

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