





# Contract No. 13/WSD/17

# Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant

# Construction Phase Monthly EM&A Report No.57 (Period from 1 November to 30 November 2024)

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Contract No. 13/WSD/17
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Tseung Kwan O Desalination Plant
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## **REVISION HISTORY**

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Contract No. 13/WSD/17 Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant Construction Phase Monthly EM&A Report No.57





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#### **EXECUTIVE SUMMARY**

#### **INTRODUCTION**

- A1. The Project, Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant (TKODP), is a Designated Project under the Environmental Impact Assessment Ordinance (Cap. 499) (EIAO) and is currently governed by a Further Environmental Permit (EP No. FEP 01/503/2015/B) for the construction and operation of the Contract.
- A2. In accordance with the Environmental Monitoring and Audit (EM&A) Manual for the Contract, EM&A works for marine water quality, noise, waste management and ecology should be carried out by Environmental Team (ET), Acuity Sustainability Consulting Limited (ASCL), during the construction phase of the Contract.
- A3. This is the 57<sup>th</sup> Monthly EM&A Report, prepared by ASCL, for the Contract summarizing the monitoring results and audit findings of the EM&A programme at and around Tseung Kwan O Area 137 (TKO 137) during the reporting period from 1 November to 30 November 2024.
- 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 activities carried out in this reporting period for the Contract included the followings:

#### All Area

- Security Fence footing construction work
- Footpath Construction
- Landscape Construction
- Irrigation System Construction
- Water Pressure Test for FS and PL system
- Landscape planting work
- Traffic signage work
- E&M Works and Mechanical Installation

#### **PWST**

- Water Test in Tank A
- Waterproofing work at Roof Slab on Tank A
- Installation of building services, electrical switchboards and cables
- Installation of mechanical equipment, steel pipe, Pressure Test





#### Administration Building

- External wall aluminum features installation
- Finishing works for dog house
- Minor Installation of building services, electrical switchboards & cables, Pressure Test, T&C

### Chemical building

- Defect rectification
- Repairing the defects inside the dangerous store

#### Combined Shaft & Pump House

- Internal finishing, defect rectification
- Construction of hose reel cabinet
- T&C

#### ActiDAFF

- Installation of access opening covers for filtered water tank
- Carrying out finishing works for staircase no. 3.
- Minor Installation of mechanical equipment, piping system
- Minor Installation of building services, electrical switchboards and cables, Installation of FRP Enclosure System

#### Product Water Storage Tank Building

 Minor Installation of building services, cable laying and termination, PV Panel Installation, Testing & Commissioning

#### **OSCG** Building

- Protective Coating for DG Rooms
- Installation of Railing on Brine Maker Tank
- Minor Installation of building services, cables and pipe works, T&C
- Tank surface cleaning, T&C

#### Reverse Osmosis Building

- Installation of Signage, AP doors, sanitary fitting, sanitary ware in toilet, tiling work and water meter cabinets
- Minor Installation of building services, minor cable laying and termination,
   Testing & Commissioning, PV Panel Installation

#### Post Treatment Building

- Installation of Cat Ladders in Water Tanks
- Placing Soil Mix at Roof
- Curb Construction for Rescue Opening at Water Tanks
- Installation of building services, piping system, mechanical equipment and piping system, Pressure Test

#### Inspection gallery

- Construction of roof tiling works
- Installation of steel balustrade at roof
- Installation of movement joints





- Construction of block works
- Minor Installation of building service, T&C

#### RO and Electrical Building

- Installation of Glass House
- Minor Installation of building services, electrical switchboards and cables
- Minor Installation of mechanical pipework and raised Floor,
- PV Panel Installation, T&C

#### Chiller plant & Main Electrical Building

 Minor Installation of building services, electrical switchboards and cables, Pressure Test, T&C

#### Others

- Construction works of extended access road
- A6. The major environmental impacts brought by the above construction works include:
  - Construction dust and noise generation from construction works and excavation works;
  - Waste generation from the construction activities
- A7. The key environmental mitigation measures implemented for the Contract in this reporting period associated with the above construction works include:
  - Dust suppression by regular wetting and water spraying for construction works;
  - Reduction of noise from equipment and machinery on-site and regular inspection to machinery and plants/vehicles on-site to ensure proper functioning;
  - Sorting and storage of general refuse and construction waste; and
  - Deployment protective fencing for trees

#### **SUMMARY OF EXCEEDANCE & INVESTIGATION & FOLLOW-UP**

- A8. No noise monitoring was conducted during the reporting period since there are no Contract -related construction activities undertaken within a radius of 300m from the monitoring locations. No exceedance of the action Level was recorded during the reporting period.
- A9. The construction phase marine water quality programme was ceased from 1 September 2023 due to the completion of marine-related construction works.
- A10. Water quality monitoring of the discharge of dechlorinated effluent in disinfection procedure is completed in December 2023. The hourly dechlorinated effluent monitoring during the discharge is finished.
- A11. According to the Contractors, all pits or trenches were backfilled and undergo reinstatement. No landfill gas monitoring was carried out. The landfill gas monitoring was ceased from 31 October 2024.





A12. Joint site inspections of the construction work by ET and IEC were carried out on 26 November 2024 to audit the mitigation measures implementation status.

#### **COMPLAINT HANDLING AND PROSECUTION**

A13. No environmental complaint, notification of summons and prosecution was received in the reporting period.

#### **REPORTING CHANGE**

- A14. According to the contractor's information, the TKODP commenced operation phase on 1 July 2024. The outstanding construction works were being carried out during this reporting period.
- A15. A Justification of Termination of the EM&A Programme for the Construction Phase was submitted to EPD on 2 December 2024 and pending for EPD approval.

#### SUMMARY OF UPCOMING KEY ISSUES AND KEY MITIGATION MEASURES

A16. Key activities anticipated in the next reporting period for the Contract will include the followings:

#### All Area

- Water Pressure Test for FS and PL system
- Traffic signage work
- E&M Works and Mechanical Installation

#### **Administration Building**

- Minor Installation of building services, electrical switchboards & cables, Pressure Test, T&C
- Fitting out works
- Painting Works
- A17. It is considered that no significant adverse environmental impacts brought by the above construction works.





#### 1. Basic Contract Information

#### BACKGROUND

- 1.1. The Acciona Agua, S.A. Trading, Jardine Engineering Corporation, Limited and China State Construction Engineering (Hong Kong) Limited as AJC Joint Venture (AJCJV) is contracted to carry out the Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant (DPTKO) under Contract No. 13/WSD/17 (the Contract).
- 1.2. Acuity Sustainability Consulting Limited (ASCL) is commissioned by AJCJV to undertake the Environmental Team (ET) services as required and/or implied, both explicitly and implicitly, in the Environmental Permit (EP), Environmental Impact Assessment Report (EIA Report) (Register No. AEIAR-192/2015) and Environmental Monitoring and Audit Manual (EM&A Manual) for the Contract; and to carry out the Environmental Monitoring and Audit (EM&A) programme in fulfillment of the EIA Report's EM&A requirements and Contract No. 13/WSD/17 Specification requirements.
- 1.3. Pursuant to the Environmental Impact Assessment Ordinance (EIAO), the Director of Environmental Protection granted the Environmental Permit (No. EP-503/2015/B) to Water Supplies Department (WSD); and granted the Further Environmental Permit (No. FEP-01/503/2015/B) to AJCJV for the Contract.
- 1.4. According to the contractor's information, the TKODP commenced operation phase on 1 July 2024. The outstanding construction works were being carried out during this reporting period.

#### THE REPORTING SCOPE

1.5. This is the 57<sup>th</sup> Monthly EM&A Report for the Contract which summarizes the key findings of the EM&A programme during the reporting period from 1 November to 30 November 2024.

#### **CONTRACT ORGANIZATION**

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

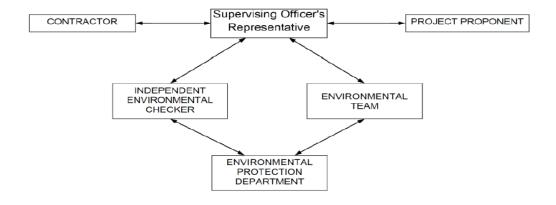


Figure 1.1 Contract Organization Chart





1.7. 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.
Contract Proponent (Water Supplies Department)	SE/CM2	Milton Law	2634-3573
Supervising Officer	Project Manager	Augustine Li	2608-7671
(Binnies Hong Kong Limited)	Chief Resident Engineer	David Wong	5229-8638
	Project Manager	Stephen Yeung	2807-4665
The Jardine Engineering Corporation, Limited, China State	Environmental Monitoring Manager	Brian Kam	9456-9541
Construction Engineering (Hong Kong) Limited and Acciona Agua, S.A. Trading	Operation Manager	Arnes Parra, Victor	6468-6710
	Environmental Monitoring Manager	Tommy Law	6468-1782
Acuity Sustainability Consulting Limited	Environmental Team Leader	Toby Wan	9719-5422
Lam Environmental Services Limited	Independent Environmental Checker (IEC)	Serena Shek	6149-6683

#### **SUMMARY OF CONSTRUCTION WORKS**

- 1.8. Details of the major construction activities undertaken in this reporting period are shown below. The master programme is presented in **Appendix A**.
- 1.9. Key activities carried out in this reporting period for the Contract included the followings:

#### All Area

- Security Fence footing construction work
- Footpath Construction
- Landscape Construction
- Irrigation System Construction
- Water Pressure Test for FS and PL system
- Landscape planting work
- Traffic signage work





#### • E&M Works and Mechanical Installation

#### **PWST**

- Water Test in Tank A
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- Installation of mechanical equipment, steel pipe, Pressure Test

#### **Administration Building**

- External wall aluminum features installation
- Finishing works for dog house
- Minor Installation of building services, electrical switchboards & cables, Pressure Test, T&C

#### Chemical building

- Defect rectification
- Repairing the defects inside the dangerous store

#### Combined Shaft & Pump House

- Internal finishing, defect rectification
- Construction of hose reel cabinet
- T&C

#### ActiDAFF

- Installation of access opening covers for filtered water tank
- Carrying out finishing works for staircase no. 3.
- Minor Installation of mechanical equipment, piping system
- Minor Installation of building services, electrical switchboards and cables, Installation of FRP Enclosure System

#### Product Water Storage Tank Building

 Minor Installation of building services, cable laying and termination, PV Panel Installation, Testing & Commissioning

#### OSCG Building

- Protective Coating for DG Rooms
- Installation of Railing on Brine Maker Tank
- Minor Installation of building services, cables and pipe works, T&C
- Tank surface cleaning, T&C

#### Reverse Osmosis Building

- Installation of Signage, AP doors, sanitary fitting, sanitary ware in toilet, tiling work and water meter cabinets
- Minor Installation of building services, minor cable laying and termination, Testing & Commissioning, PV Panel Installation

#### Post Treatment Building

- Installation of Cat Ladders in Water Tanks
- Placing Soil Mix at Roof





- Curb Construction for Rescue Opening at Water Tanks
- Installation of building services, piping system, mechanical equipment and piping system, Pressure Test

#### Inspection gallery

- Construction of roof tiling works
- Installation of steel balustrade at roof
- Installation of movement joints
- Construction of block works
- Minor Installation of building service, T&C

#### RO and Electrical Building

- Installation of Glass House
- Minor Installation of building services, electrical switchboards and cables
- Minor Installation of mechanical pipework and raised Floor,
- PV Panel Installation, T&C

#### Chiller plant & Main Electrical Building

 Minor Installation of building services, electrical switchboards and cables, Pressure Test, T&C

#### Others

- Construction works of extended access road
- 1.10. A summary of the valid permits, licences, and/or notifications on environmental protection for this Contract is presented in **Table 1.2**.





Table 1.2 Summary of the Status of Valid Environmental Licence, Notification, Permit and Documentations

	Valid Period							
Permit/ Licences	From	То	Status	Remark				
Environmental Peri	Environmental Permit							
EP-503/2015/B	Throughout	the Contract	Valid	-Issued on 3 April 2024				
FEP - 01/503/2015/B	Throughout	the Contract	Valid	-Issued on 3 April 2024				
Notification of Const Dust) Regulation (F		s under the Air	Pollutio	on Control (Construction				
451539	Throughout	the Contract	Valid	-				
Billing Account for I	Disposal of Cor	nstruction Was	ste					
7036276	Throughout	the Contract	Valid	-				
Sludge (Special Was	ste) Disposal (A	Admission Ticl	ket)					
17913	01/07/2024	31/12/2024	Valid	-				
17372	12/06/2024	31/12/2024	Valid	-				
Chemical Waste Pro	ducer Registra	ation						
5213-839-A2987- 01	Throughout	the Contract	Valid	-				
Wastewater Dischar	rge Licence (La	and and Marin	e works)					
WT00035775-2020	23/08/2021	31/07/2025	Valid	-				
WT00044188-2023	16/06/2023	30/06/2028	Valid	- For Plant T&C and operation Variation sampling point S.P.1 is approved by the EPD on 25 June 2024 (EPD ref.: EP640/W3/D1358/46 2874) The variation of application of discharge license was submitted on 9 September 2024 and pending for EPD approval				
Construction Noise Permit								
GW-RE0667-24	22/06/2024	20/12/2024	Valid	-				





1.11. The status for all environmental aspects is presented in **Table 1.3**.

Table 1.3 Summary of Status for Key Environmental Aspects under the EM&A Manual

Manual				
Parameters	Status			
Water Quality				
Baseline Monitoring under EM&A Manual	The baseline water quality monitoring was conducted between 12 May 2020 to 6 Jun 2020.			
Construction Phase Impact Monitoring	Ceased from 1 September 2023			
Operation phase Marine Impact Monitoring	On-going			
Impact Monitoring of Effluent Discharge from Main Disinfection	Completed			
Noise				
Baseline Monitoring	The baseline noise monitoring result has been reported in Baseline Monitoring Report and submitted to EPD under EP Condition 3.4			
Impact Monitoring	Completed			
Waste Management				
Mitigation Measures in Waste Management Plan	On-going			
Landfill Gas (Construction Phase)				
Regular Monitoring when construction works are within the 250 m Consultation Zone	According to the Contractors, all pits or trenches were backfilled and undergo reinstatement. No landfill gas monitoring was carried out. The landfill gas monitoring was ceased from 31 October 2024.			
Landfill Gas (Operation Phase)				
Monthly Monitoring for buildings, manholes and utility pits within the Project Site and along the fresh water mains	On-going			
Ecology (Coral)				
Operation phase Regular Coral Monitoring (Monthly)	On-going			
Ecology (Fishery)				
Operation phase Regular Fishery Monitoring (Seasonally)	On-going			
Ecology (Landscape)	Ecology (Landscape)			
Operation phase Landscape and Visual Site Inspection	On-going			





Parameters	Status
Environmental Audit	
Site Inspection covering Measures of Air Quality, Noise Impact, Water Quality, Waste, Ecological Quality, Fisheries, Landscape and Visual	

- 1.12. Other than the EM&A work by ET, environmental briefings, trainings, and regular environmental management meetings were conducted, in order to enhance environmental awareness and closely monitor the environmental performance of the contractors.
- 1.13. 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 Contract during the reporting period is provided in **Appendix C**.
- 1.14. A Justification of Termination of the EM&A programme for the Construction Phase was submitted to EPD on 2 December 2024 and pending for EPD approval.





#### 2. Noise

#### **MONITORING REQUIREMENTS**

- 2.1. 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.
- 2.2. Construction noise level were 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 on normal weekdays. Construction works would follow stipulations of the valid Construction Noise Permits if works had to be conducted during restricted hours or public holidays. **Table 2.1** summarizes the monitoring parameters, frequency, and duration of the impact noise monitoring.

 Table 2.1
 Noise Monitoring Parameters, Time, Frequency and Duration

Time	Duration	Interval	Parameters
Daytime: 0700-1900	Day time: 0700-1900 (during normal weekdays)	Continuously in $L_{\text{eq }5\text{min}}/L_{\text{eq }30\text{min}}$ (average of 6 consecutive $L_{\text{eq }5\text{min}}$ )	$\begin{array}{c} L_{eq~30min} \\ L_{10~30min} ~\&~ L_{90~30min} \end{array}$

#### **MONITORING LOCATIONS**

- 2.3. The monitoring locations were normally 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.
- 2.4. 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.

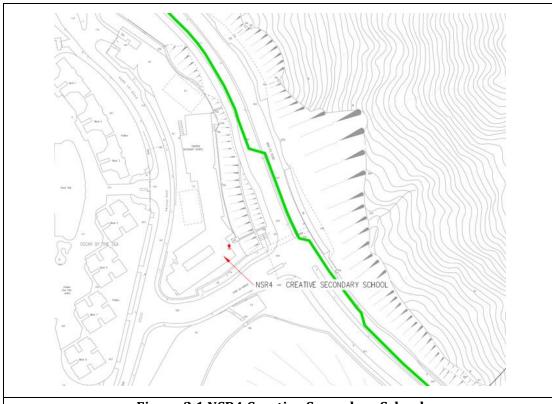
Table 2.2 Noise Sensitive Receivers

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

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







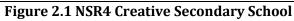
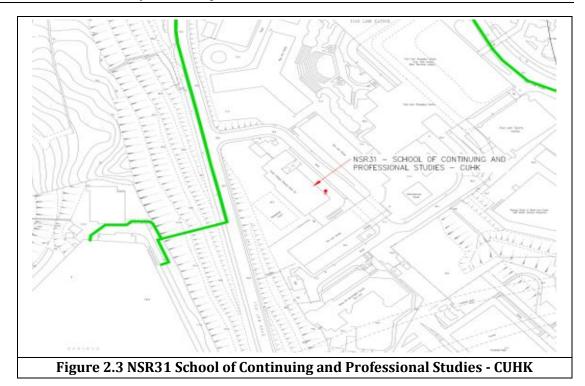




Figure 2.2 NSR24 PLK Laws Foundation College







#### **IMPACT MONITORING METHODOLOGY**

- 2.6. Integrated sound level meter will be used for the noise monitoring. The meter will 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 will be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements will be accepted as valid only if the calibration levels before and after the noise measurements agree to within 1.0 dB(A).
- 2.7. Noise measurements were not made in the presence of fog, rain, wind with a steady speed exceeding 5 m/s or wind with gusts exceeding 10 m/s. The wind speed shall be checked with a portable wind speed meter capable of measuring the wind speed in m/s.

#### **ACTION AND LIMIT LEVELS**

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





Table 2.3 Action and Limit Levels for Noise per EM&A Manual

Time Period	Action	Limit (dB(A))
	When one documented	• 70 dB(A) for school
0700-1900 on normal	complaint is received from any	and
weekdays	one of the noise sensitive	• 65 dB(A) during
	receivers	examination period

Note: Limits specified in the GW-TM and IND-TM for construction and operation noise, respectively.

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

#### MONITORING RESULTS AND OBSERVATIONS

2.10. Referring to EM&A Manual Section 4.1.2, the impact noise monitoring should be carried out when there are Contract-related construction activities undertaken within a radius of 300m from the monitoring stations. As no Contract-related construction activities were undertaken in the reporting month within a radius of 300m from the monitoring stations as shown in **Figure 2.4**, no impact noise monitoring was conducted in the reporting period.

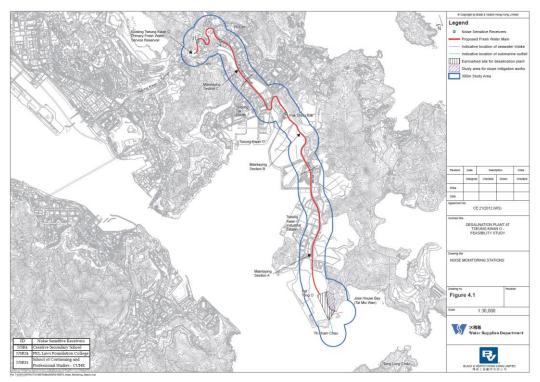


Figure 2.4 Site Layout Plan with Noise Sensitive Receivers and Desalination Plant





# 3. WATER QUALITY

- 3.1. In accordance with the recommendations of the EIA, water quality monitoring is required during dredging for the submarine pipelines and, during operation phase. The following Section provides details of the water quality monitoring to be undertaken by the Environmental Team (ET) to verify the distance of sediment and brine plume dispersion and to identify whether the potential exists for any indirect impacts to occur to ecological sensitive receivers.
- 3.2. The water quality monitoring programme was be carried out to allow any deteriorating water quality to be readily detected and timely action taken to rectify the situation.
- 3.3. Water quality monitoring for the Contract can be divided into the following stages:
  - · Dredging activities during construction phase;
  - · Discharge of effluent from main disinfection during construction phase; and
  - Operation activities during operation phase.

#### **WATER QUALITY PARAMETERS**

3.4. The parameters that have been selected for measurement in situ and in the laboratory are those that were either determined in the EIA to be those with the most potential to be affected by the construction works or are a standard check on water quality conditions. Parameters to be measured in the impact monitoring are listed in **Table 3.1**.

Table 3.1 Parameters measured in the Impact Marine Water Quality Monitoring

Parameters	Unit	Abbreviation			
In-situ measurements					
Dissolved oxygen	mg/L	DO DO			
Temperature	۰C	-			
рН	-	-			
Turbidity	NTU	-			
Salinity	0/00	-			
Total Residual Chlorine NOTE1	mg/L	TRC			
Laboratory measurements					
Suspended Solids	mg/L	SS			
Iron-Soluble	mg/L	Fe			
Anti-scalant as Reactive Phosphorus	mg/L	PO4 as P-			

NOTE 1: Monitoring of Total Residual Chlorine will be conducted when cleaning and sterilization of the new freshwater main is carried out.

3.5. In addition to the water quality parameters, other relevant data were also being measured and recorded in Water Quality Monitoring Logs, including the location of the sampling stations, water depth, time, weather conditions, sea conditions, tidal stage, current direction and velocity, special phenomena and work activities undertaken around the monitoring and works area that may influence the monitoring results.

#### **MONITORING EQUIPMENT**

3.6. For water quality monitoring, the following equipment were used:





**Dissolved Oxygen and Temperature Measuring Equipment** - The instrument was a portable, weatherproof dissolved oxygen measuring instrument complete with cable, sensor, comprehensive operation manuals, and was operable from a DC power source. It was capable of measuring: dissolved oxygen levels in the range of 0 - 20 mg/L and 0 - 200% saturation; and a temperature of 0 - 45 degrees Celsius. It has a membrane electrode with automatic temperature compensation complete with a cable of not less than 35 m in length. Sufficient stocks of spare electrodes and cables were available for replacement where necessary (e.g. YSI model 59 DO meter, YSI 5739 probe, YSI 5795A submersible stirrer with reel and cable or an approved similar instrument).

**Turbidity Measurement Equipment** - The instrument was a portable, weatherproof turbidity-measuring unit complete with cable, sensor and comprehensive operation manuals. The equipment was operated from a DC power source, it has a photoelectric sensor capable of measuring turbidity between 0 - 1000 NTU and complete with a cable with at least 35 m in length (for example Hach 2100P or an approved similar instrument).

**Salinity Measurement Instrument** - A portable salinometer capable of measuring salinity in the range of 0 - 40 ppt was provided for measuring salinity of the water at each monitoring location.

**Water Depth Gauge** – A portable, battery-operated echo sounder (for example Seafarer 700 or a similar approved instrument) was used for the determination of water depth at each designated monitoring station. This unit will preferably be affixed to the bottom of the work boat if the same vessel is to be used throughout the monitoring programme. The echo sounder was suitably calibrated.

**Positioning Device** – A Global Positioning System (GPS) was used during monitoring to allow accurate recording of the position of the monitoring vessel before taking measurements. The Differential GPS, or equivalent instrument, was suitably calibrated at appropriate checkpoint (e.g. Quarry Bay Survey Nail) to verify that the monitoring station is at the correct position before the water quality monitoring commence.

**Water Sampling Equipment** - A water sampler, consisting of a PVC or glass cylinder of not less than two litres, which can be effectively sealed with cups at both ends, was used. The water sampler has a positive latching system to keep it open and prevent premature closure until released by a messenger when the sampler is at the selected water depth.

**Total Residual Chlorine** -Total residual chlorine (TRC) shall be measured in-situ using approved test kit.

#### **SAMPLING / TESTING PROTOCOLS**

3.7. All in situ monitoring instruments were checked, calibrated, and certified by a laboratory accredited under HOKLAS or any other international accreditation scheme before use, and subsequently re-calibrated at monthly intervals throughout the stages of the water quality monitoring. Responses of sensors and electrodes were checked with certified standard solutions before each use.





3.8. On-site calibration of field equipment was following the "Guide to On-Site Test Methods for the Analysis of Waters", BS 1427: 2009. Sufficient stocks of spare parts were maintained for replacements when necessary. Backup monitoring equipment was made available so that monitoring can proceed uninterrupted even when equipment is under maintenance, calibration etc.

#### **LABORATORY MEASUREMENT AND ANALYSIS**

- 3.9. Sufficient volume of each water sample was collected for carrying out the laboratory analyses. Using chain of custody forms, collected water samples were transferred to a HOKLAS accredited laboratory (Acumen Laboratory and Testing Limit HOKLAS 241) for immediate processing. The determination work was start within the next working day after collection of the water samples. Analytical methodology and sample preservation of other parameters were based on the latest edition of Standard Methods for the Examination of Waste and Wastewater published by APHA, AWWA and WPCF and methods by USEPA, or suitable method in accordance with requirements of HOKLAS or another internationally accredited scheme. The QA/QC details were in accordance with the requirements of HOKLAS or another internationally accredited scheme.
- 3.10. Parameters for laboratory measurements, standard methods and detection limits are presented in **Table 3.2**.

Table 3.2 Laboratory measurements, standard methods, and corresponding detection limits of marine water quality monitoring

detection mines of marine water quanty monitoring					
Parameters	Standard Methods	Detection Limit	Reporting Limit	Precision	
Dissolved oxygen	Instrumental, CTD	0.1	-	±25%	
Temperature	Instrumental, CTD	0.1	-	±25%	
рН	Instrumental, CTD	0.1	-	±25%	
Turbidity	Instrumental, CTD	0.1	-	±25%	
Salinity	Instrumental, CTD	0.1	-	±25%	
Suspended Solids	APHA 23 <sup>rd</sup> Ed 2540D	1.0	2.5	±17%	
Iron	АРНА 3111 В	0.2	-	±25%	
Total residual chlorine	Test Kit (Lovibond MD200)	Lowest limit = 0.01mg/L; Upper limit = 6 mg/L	-	±25%	

#### **MONITORING LOCATION**

#### **Construction Phase**

3.11. The Impact water quality monitoring was ceased from 1 September 2023 due to the completion of marine-related construction works.





#### Operation phase

3.12. The operation phase impact water quality monitoring locations are in accordance with the EM&A Manual and detailed in **Table 3.3** below. A schedule for water quality monitoring was prepared by the ET and submitted to IEC and EPD prior to the commencement of the monitoring.

Table 3.3 Location of Impact Water Quality Monitoring Stations

Station	Easting	Northing	Description
CE	843550	815243	Upstream control station at ebb tide
CF	846843	810193	Upstream control station at flood tide
WSR1	846864	812014	Ecological sensitive receiver at Tung Lung Chau
WSR2	847645	812993	Fisheries sensitive receiver at Tung Lung Chau
WSR3	848023	813262	Ecological sensitive receiver at Tung Lung Chau
WSR4	847886	814154	Ecological sensitive receiver at Tai Miu Wan
WSR16	845039	815287	Ecological sensitive receiver at Fat Tong Chau
WSR33	847159	814488	Ecological sensitive receiver at Tai Miu Wan
WSR36	846878	814081	Ecological sensitive receiver at Kwun Tsai
WSR37	846655	813810	Ecological sensitive receiver at Tit Cham Chau
NF1	846542	813614	Edge of Mixing zone, ~ 200m west of outfall diffuser
NF2	846942	813614	Edge of Mixing zone, $\sim$ 200m east of outfall diffuser
NF3	846742	813414	Edge of Mixing zone, ~ 200m south of outfall diffuser

3.13. WSR1 to WSR37 were identified in accordance with Annex 14 of the EIAO-TM as well as Clause 3.4.4.2 of the Environmental Impact Assessment Study Brief for Desalination Plant at Tseung Kwan O (No. ESB-266/2013). WSR1 to WSR3 are sited near the Tung Lung Chau Fish Culture Zone; WSR16 and WSR36 are sited near the coral assemblages along the coastlines of Fat Tong Chau and Kwun Tsai respectively; WSR 4 and WSR33 are sited near the Coastal Protection Area and coral assemblages in waters of Tai Miu Wan; WSR37 is sited near the fisheries resource including spawning and nursery grounds at the coastal water of Tit Cham Chau. NF1 to NF3 are the Edge of Mixing zone.





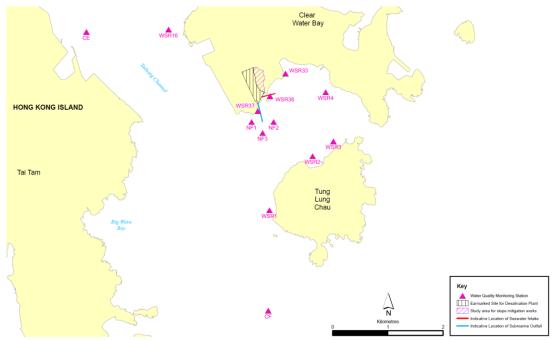


Figure 3.1 Impact water quality monitoring locations under EM&A Manual

#### SAMPLING FREQUENCY

#### Operation phase

3.14. Impact water quality monitoring were carried out three days per week during the commission phase. Monitoring at each station was undertaken once per day. The interval between two sets of monitoring was not less than 36 hours. The monitoring frequency would be increased in the case of exceedances of Action/Limit Levels if considered necessary by ET. Monitoring frequency would be maintained as far as practicable.

#### **SAMPLING DEPTHS & REPLICATION**

3.15. During impact water quality monitoring, each station was sampled, and measurements/ water samples were taken at three depths, 1 m below the sea surface, mid-depth, and 1 m above the seabed. For in situ measurements, duplicate readings were made at each water depth at each station. Duplicate water samples were collected at each water depth at each station.

#### **ACTION AND LIMIT LEVELS**

#### Operation phase

3.16. The Action and Limit Levels have been set based on the derivation criteria specified in the EM&A Manual. The Action/Limit Levels have been derived and are presented in **Table 3.4**.





Table 3.4 Derived Action and Limit Levels for Water Quality

Parameters	Action	Limit			
Operation phase Impact Monitoring					
DO in mg/L	Surface and Middle	Surface and Middle			
	7.30 mg L <sup>-1</sup>	4 mg L <sup>-1</sup>			
	<u>Bottom</u>	<u>Bottom</u>			
	$7.31 \text{ mg L}^{-1}$	2 mg L <sup>-1</sup>			
	Tung Lung Chau Fish Culture Zone	Tung Lung Chau Fish Culture Zone			
	5.1 mgL <sup>-1</sup> or level at control station	5.0 mgL <sup>-1</sup> or level at control station			
	(Whichever the lower)	(Whichever the lower)			
SS in mg/L	5.00 mg L <sup>-1</sup> or 20% exceedance of	6.00 mg L <sup>-1</sup> or 30% exceedance of value			
(Depth-	value at any impact station	at any impact station compared with			
averaged)	compared with corresponding data	corresponding data from control			
	from control station	station			
Turbidity in	2.41 NTU or 20% exceedance of	2.84 NTU or 30% exceedance of value			
NTU (Depth-	value at any impact station	at any impact station compared with			
averaged)	compared with corresponding data	corresponding data from control			
	from control station	station			
0.11.11	24.25 POH 00/ 1 /	2456 POW 4000			
Salinity in	34.25 PSU or 9% exceedance of	34.56 PSU or 10% exceedance of value			
PSU (Depth-	value at any impact station	at any impact station compared with			
averaged)	compared with corresponding data	corresponding data from control			
	from control station	station			
Iron in mg/L	0.3 mg/L	0.3 mg/L			
(Depth-					
averaged)					
Total residual	0.01 mg/L	0.01 mg/L			
chlorine in					
mg/L					

#### Notes:

i."Depth-averaged" is calculated by taking the arithmetic means of reading of all three depths.

 $ii. For \ DO, non-compliance \ of \ the \ water \ quality \ limits \ occurs \ when \ monitoring \ result \ is \ lower \ than \ the \ limits.$ 

iii.For Turbidity, SS, iron and Salinity, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.

iv.Monitoring of Total Residual Chlorine (Disinfection) will be conducted when cleaning and sterilization of the new freshwater main is carried out.

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#### MONITORING RESULTS AND OBSERVATIONS

#### **Construction Phase**

3.17. Referring to EM&A Manual, the general water quality monitoring should be carried out when there are marine-related construction activities undertaken. General water quality monitoring at the ten monitoring stations (CE, CF, WSR1, WSR2, WSR3, WSR4, WSR16, WSR33, WSR36 and WSR37) was ceased from 1 September 2023 due to the completion of marine-related construction works.

#### Operation phase

3.18. According to the contractor's information, the operation phase of TKODP commenced on 1 July 2024. Details of the operation phase marine water quality monitoring and continuous monitoring of effluent quality will be presented in the Operation Monthly EM&A Report.





#### 4. WASTE

4.1. The waste generated from this Contract 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 Contract 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 Contract, the quantities of different types of waste generated in the reporting month are summarized in **Table 4.1**. Details of cumulative waste management data are presented as a waste flow table in **Appendix E**.

Table 4.1 Quantities of Waste Generated from the Contract during the reporting period

	Actual Quantities of Inert C&D Materials Generated Monthly				Actual Quantities of C&D Wastes Generated Monthly						
Reporting Month	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper / cardboard packaging	Plastics (1)	Chemical Waste	Others, e.g., general refuse
	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)
Nov 2024	237.790	0.000	0.000	0.000	237.790	0.000	0.000	0.000	0.000	0.000	62.300

Notes: (1) Plastics refer to plastic bottles / containers, plastic sheets / foam from packaging material





#### 5. LANDFILL GAS MONITORING

#### MONITORING REQUIREMENT

5.1. 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.

#### MONITORING PROGRAMME

5.2. Since part of the desalination plant (Wan Po Road and MIC compound/Basketball Court) and the indicative area of natural slope mitigation works fall within the SENT Landfill Extension Consultation Zone in this contract (**Figure 5.1**), landfill gas monitoring would be required for Wan Po Road and MIC compound/Basketball Court (**Figure 5.2**) if excavations were conducted at more than 300mm deep. Although SENT Landfill Extension has commenced operation since November 2021, no excavation works were conducted at MIC compound/Basketball Court. Hence no landfill gas monitoring would be scheduled for MIC compound/Basketball Court at the current stage.

#### **MONITORING LOCATION**

- 5.3. Monitoring of oxygen, methane, carbon dioxide and barometric pressure would be performed for excavations at 1m depth or more within the consultation Zone.
- 5.4. 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.
- 5.5. For excavations between 300mm and 1m deep, measurements were carried out:
  - Directly after the excavation has been completed; and
  - Periodically whilst the excavation remains open.
- 5.6. The area required to be monitored for landfill gas in the reporting period is shown in **Figure 5.1**.





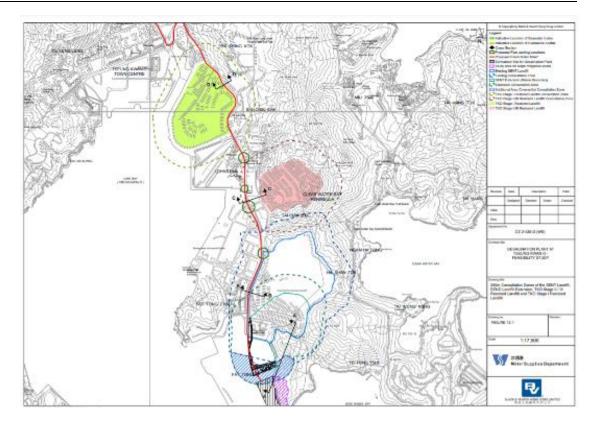


Figure 5.1 Overview of the SENT Extension Consultation Zone and the Contract Site Area

#### **MONITORING PARAMETERS**

5.7. The landfill gas monitoring parameters and the action and limit level are summarized in **Table 5.1**.

Table 5.1 Action and Limit Level for Landfill Gas Monitoring Equipment

		<u> </u>
Parameters	Action Level	Limit Level
Oxygen (O <sub>2</sub> )	<19% 02	<19% 02
Methane (CH <sub>4</sub> )	>10% LEL	>20% LEL
Carbon Dioxide (CO <sub>2</sub> )	>0.5% CO <sub>2</sub>	>1.5% CO <sub>2</sub>

#### **MONITORING EQUIPMENT**

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





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

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

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

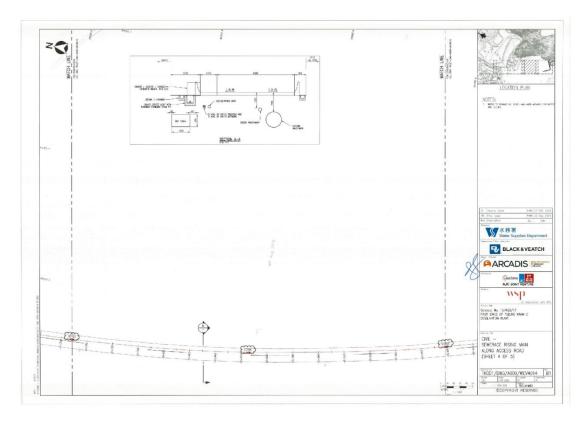


Figure 5.2 Location Map for Landfill Gas Monitoring at TKO Area 137 (-0+440 - -0+760)







Figure 5.3 Location Map for Landfill Gas Monitoring at TKO Area 137 (-0+740 - -1+060)

#### MONITORING RESULTS AND OBSERVATIONS

5.9. According to the Contractors, all pits or trenches were backfilled and undergo reinstatement. No landfill gas monitoring was carried out. The landfill gas monitoring was ceased from 31 October 2024.





# Ecology(Landscape)

#### **MONITORING REQUIREMENTS**

6.1. In accordance with Section 8.1 of the EM&A Manual, weekly site audit shall be carried out by the ET include checking whether good site practices are being properly implemented by the Contractor and the extent of the works area within the Clear Water Bay Country Park should be checked by the ET during the weekly site audit.

#### **SITE INSPECTION**

- 6.2. Weekly site audit was carried out by the ET in the reporting month, no trespass by the Contractor outside the works area of the Project and Clear Water Bay Country Park, and no damage to the vegetation and rocky shore outside the Project area was observed in the reporting month. Retained trees was properly protected during the construction works, no unacceptable construction works was observed.
- 6.3. If non-compliance were found during the construction works, the actions in accordance with the Event and Action Plan will be carried out according to **Appendix D**.





# 7. ECOLOGY (CORAL MONITORING)

7.1. Under the approval conditions of the EIA Report for the Project, an EM&A programme on coral for the operation phase of the Project is recommended. Pursuant to these EIA approval conditions and Condition 3.1 of the EP and FEP, details of the regular coral monitoring programme have been proposed based on the baseline coral monitoring results in the Report on Pre-Operation Baseline Coral Monitoring and Regular Coral Monitoring Methodology.

#### **MONITORING LOCATION**

7.2. In accordance with Appendix B Section 5.1 of the approved supplementary EM&A Manual, two indirect impact sites (C2 and C3) and one control site (C8) as shown in **Figure 7.1** should be monitored during the operation Phase. Pre-operation coral survey should be conducted at the indirect impact and control sites. Ten selected hard coral colonies with similar species should be tagged at each of the control and indirect impact sites before commencement of the operation phase. Tagged hard coral colonies should be monitored in open waters during the pre-operation phase and operation phase.

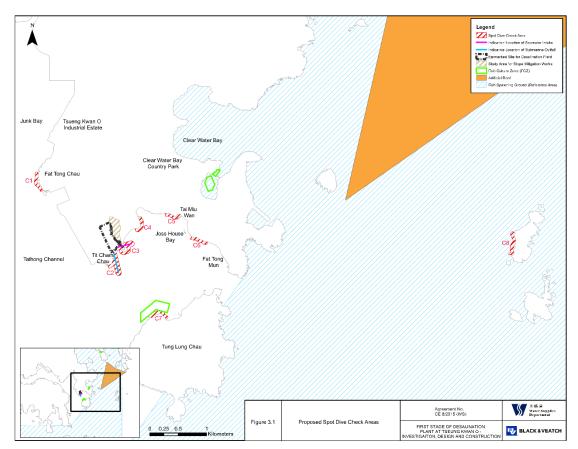


Figure 7.1 Spot Dive Check Areas Two Proposed Indirect Impact Sites (C2 and C3) and one control site (C8) during operation Phase





#### **ACTION AND LIMIT LEVELS**

7.3. The Action and Limit Levels have been set based on the derivation criteria specified in the EM&A Manual. The Action/Limit Levels have been derived and are presented in **Table 7.1**.

Table 7.1 Action and Limit Level for Coral Monitoring Equipment

Parameter	Action Level Definition	<b>Limit Level Definition</b>
Mortality	If during Impact Monitoring a 15% increase in the percentage of partial mortality on the corals occurs at more than 20% of the tagged indirect impact site coral colonies that is not recorded on the tagged corals at the control site, then the Action Level is exceeded	If during Impact Monitoring a 25% increase in the percentage of partial mortality on the corals occurs at more than 20% of the tagged indirect impact site coral colonies that is not recorded on the tagged corals at the control site, then the Limit Level is exceeded

Note: If the defined Action Level or Limit Level for coral monitoring is exceeded, the actions as set out in **Table E3 of Appendix D** will be implemented.

7.4. If non-compliance were found during the construction works, the actions in accordance with the Event and Action Plan will be carried out according to **Appendix D**.

#### **MONITORING FREQUENCY**

7.5. Operation phase coral monitoring shall be monitored once per month as the requirement of the first year of operational phase.

#### MONITORING RESULT AND OBSERVATION

7.6. According to the contractor's information, the operation phase of TKODP commenced on 1 July 2024. Details of the operation phase coral monitoring will be presented in the Operation Monthly EM&A Report.





# 8. ECOLOGY (FISHERY MONITORING)

8.1. The purpose of the operation phase regular fisheries monitoring programme is to monitor the potential impacts on fisheries resources in the vicinity of the project site. Apart from the regular fisheries monitoring programme, a water quality monitoring programme in addition to the water quality monitoring programme in the approved EM&A Manual is also described in Section 2.4 to (i) provide supplementary information in the interpretation of the findings of the fisheries monitoring and (ii) assist the monitoring of the potential impact on the Tung Lung Chau Fish Culture Zone (FCZ) in Joss House Bay.

#### **MONITORING LOCATION**

- 8.2. In accordance with Section 2.3 of the approved Methodology Paper on Regular Fisheries Monitoring, it is recommended to set up six (6) fisheries monitoring locations in Joss House Bay and its vicinity to monitor the fisheries resources.
- 8.3. Two (2) sampling locations are set up in close proximity of the direct footprint of the proposed submarine utilities around TKO Area 137. These sampling locations represent the potential Project impact zones (i.e. areas at and in close proximity to the footprint of the proposed submarine utilities that will be directly affected by the Project works).
- 8.4. Two (2) gradient locations are proposed between the proposed submarine utilities and Tung Lung Chau FCZ to assist in the interpretation and identification of any potential fisheries impact in the vicinity of the FCZ.
- 8.5. Two (2) reference locations are proposed in the outer Joss House Bay between the waters of Tung Lung Chau and Fat Tong Mun. These reference locations are further away and will not be affected by the Project discharge (based on the EIA prediction) and will serve as control stations. Any significant fisheries impact identified at the reference locations should be caused by other natural factors or non-Project activities. The trends of fisheries conditions recorded in the reference locations will be used to assist in the interpretation of the trends of fisheries impact identified in the impact and gradient locations.
- 8.6. The coordinates of the proposed monitoring locations are shown in **Figure 8.1**.





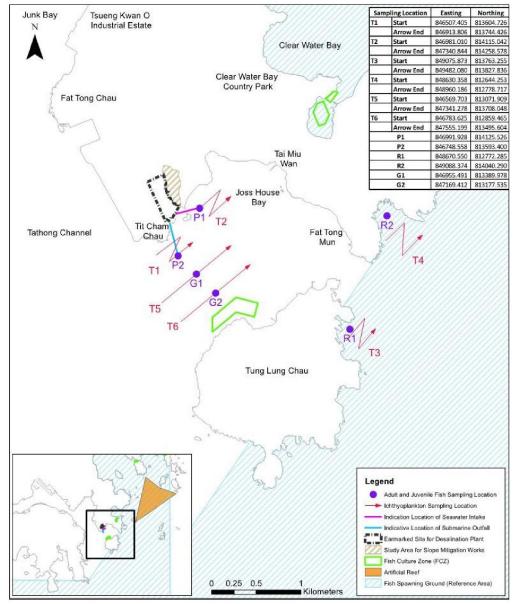


Figure 8.1 Monitoring location of regular fishery monitoring during pre-operation

#### **MONITORING FREQUENCY**

- 8.7. Operation phase fishery monitoring shall be carried out 2 times in wet season (April to October) and 2 times in dry season (November to March) to examine the following:
  - Fish species composition;
  - Abundance: number of fish captured;
  - Diversity of fish resources: species diversity and evenness;
  - Size: range of total length; Biomass in weight; and
  - Values of catches of commercial species: catch per unit effort (CPUE) and yield per unit effort (YPUE).

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Tseung Kwan O Desalination Plant
Construction Phase Monthly EM&A Report No.57





#### MONITORING RESULT AND OBSERVATION

8.8. According to the contractor's information, the operation phase of TKODP commenced on 1 July 2024. Details of the operation phase fishery monitoring will be presented in the Operation Monthly EM&A Report.





#### 9. SUMMARY OF EXCEEDANCE, COMPLAINTS, NOTIFICATION OF SUMMONS AND PROSECUTIONS

9.1. The Environmental Complaint Handling Procedure is shown in below **Figure 9.1**:

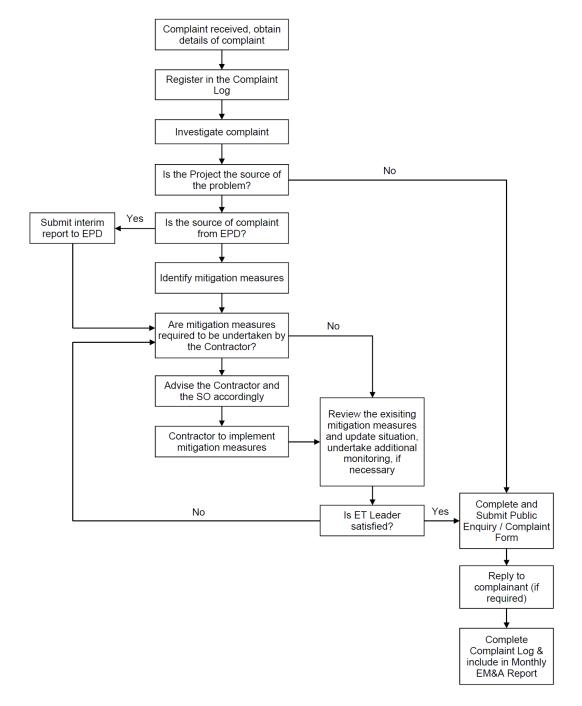


Figure 9.1 **Environmental Complaint Handling Procedures** 





- 9.2. No noise monitoring was conducted during the reporting period since there are no Contract-related construction activities undertaken within a radius of 300m from the monitoring locations. No action Level exceedance for construction noise monitoring was recorded in the reporting month.
- 9.3. Construction phase general water quality monitoring at the ten monitoring stations (CE, CF, WSR1, WSR2, WSR3, WSR4, WSR16, WSR33, WSR36 and WSR37) are ceased from 1 September 2023 due to the completion of marine-related construction works.
- 9.4. The operation phase of TKODP commenced on 1 July 2024. Details of the operation phase marine water quality monitoring, continuous monitoring of effluent quality, coral monitoring, fishery monitoring and operation landfill gas monitoring will be presented in the Operation Monthly EM&A Report.
- 9.5. According to the Contractors, all pits or trenches were backfilled and undergo reinstatement. No landfill gas monitoring was carried out. The landfill gas monitoring was ceased from 31 October 2024...
- 9.6. No environmental complaint, notification of summons and prosecution Statistics on complaint and notification of summons and prosecution are summarized in **Appendix G**.





#### 10. EM&A SITE INSPECTION

10.1. 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, 14, 18 and 26 November 2024 at the site portions listed in **Table 10.1** below.

**Table 10.1** Summaries of Site Inspection Record

Date	Inspected Site Portion	Time
5 November 2024	TKO Area 137	14:30 - 15:30
14 November 2024	TKO Area 137	14:30 - 15:30
18 November 2024	TKO Area 137	09:30 - 10:30
26 November 2024	TKO Area 137	09:15 - 12:30

- 10.2. Joint site inspection with IEC was carried out on 26 November 2024.
- 10.3. Environmental deficiencies were observed during weekly site inspection. Key observations during the site inspections and during the reporting period are summarized in **Table 10.2**.

Table 10.2 Site Observations

Date	Environmental Observations	Follow-up Status
5 November 2024	No major environmental deficiency was observed.	N/A
14 November 2024	No major environmental deficiency was observed.	N/A
18 November 2024	No major environmental deficiency was observed.	N/A
26 November 2024	No major environmental deficiency was observed.	N/A

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





### 11. FUTURE KEY ISSUES

11.1. Works to be undertaken in the next reporting month are:

#### All Area

- Water Pressure Test for FS and PL system
- Traffic signage work
- E&M Works and Mechanical Installation

#### **Administration Building**

- Minor Installation of building services, electrical switchboards & cables, Pressure Test, T&C
- Fitting out works
- Painting Works
- 11.2. It is considered that no significant adverse environmental impacts brought by the above construction works.





#### 12. CONCLUSIONS AND RECOMMENDATIONS

- 12.1. This is the 57<sup>th</sup> Monthly EM&A Report for the Project which summarizes the key findings of the EM&A programme during the reporting period from 1 November to 30 November 2024, in accordance with the EM&A Manual and the requirement under FEP-01/503/2015/B.
- 12.2. No noise monitoring was conducted in the reporting period due to the construction activities not being undertaken within a radius of 300m from the monitoring locations.
- 12.3. The construction phase marine water quality programme was ceased from 1 September 2023 due to the completion of marine-related construction works.
- 12.4. The operation phase of TKODP commenced on 1 July 2024. Details of the operation phase marine water quality monitoring, continuous monitoring of effluent quality, coral monitoring, fishery monitoring and operation landfill gas monitoring will be presented in the Operation Monthly EM&A Report.
- 12.5. According to the Contractors, all pits or trenches were backfilled and undergo reinstatement. No landfill gas monitoring was carried out. The landfill gas monitoring was ceased from 31 October 2024.
- 12.6. Weekly environmental site inspections were conducted during the reporting period. Observations and reminders were reported during the site inspections. All items are rectified within the reporting period. The environmental performance of the project was therefore considered satisfactory.
- 12.7. No environmental complaint, notification of summons and prosecution was received in the reporting period.
- 12.8. The ET will keep track on the construction works to confirm compliance of environmental requirements and the proper implementation of all necessary mitigation measures.
- 12.9. A Justification of Termination of the EM&A programme for the Construction Phase was submitted to EPD on 2 December 2024 and pending for EPD approval.

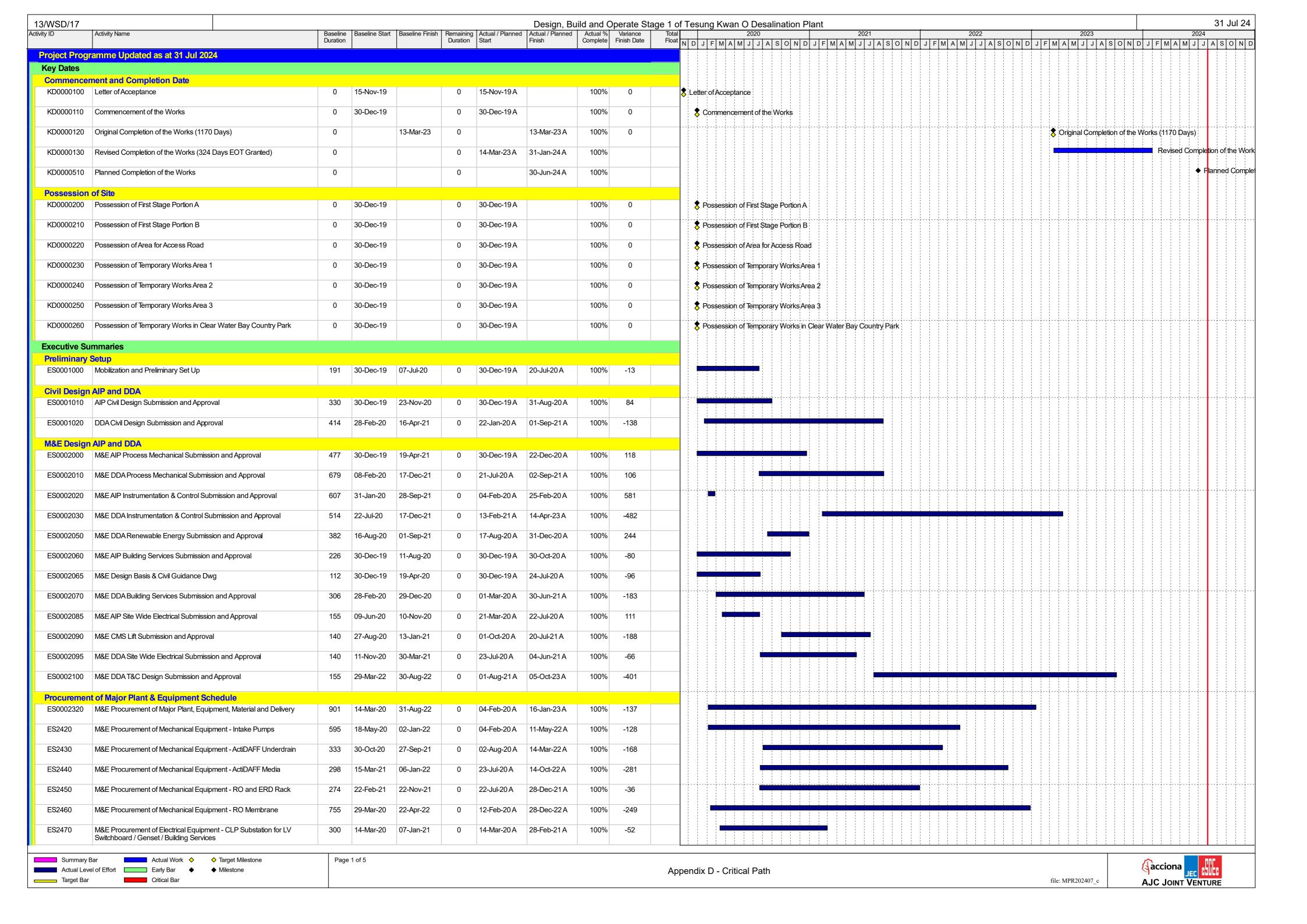
Contract No. 13/WSD/17 Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant

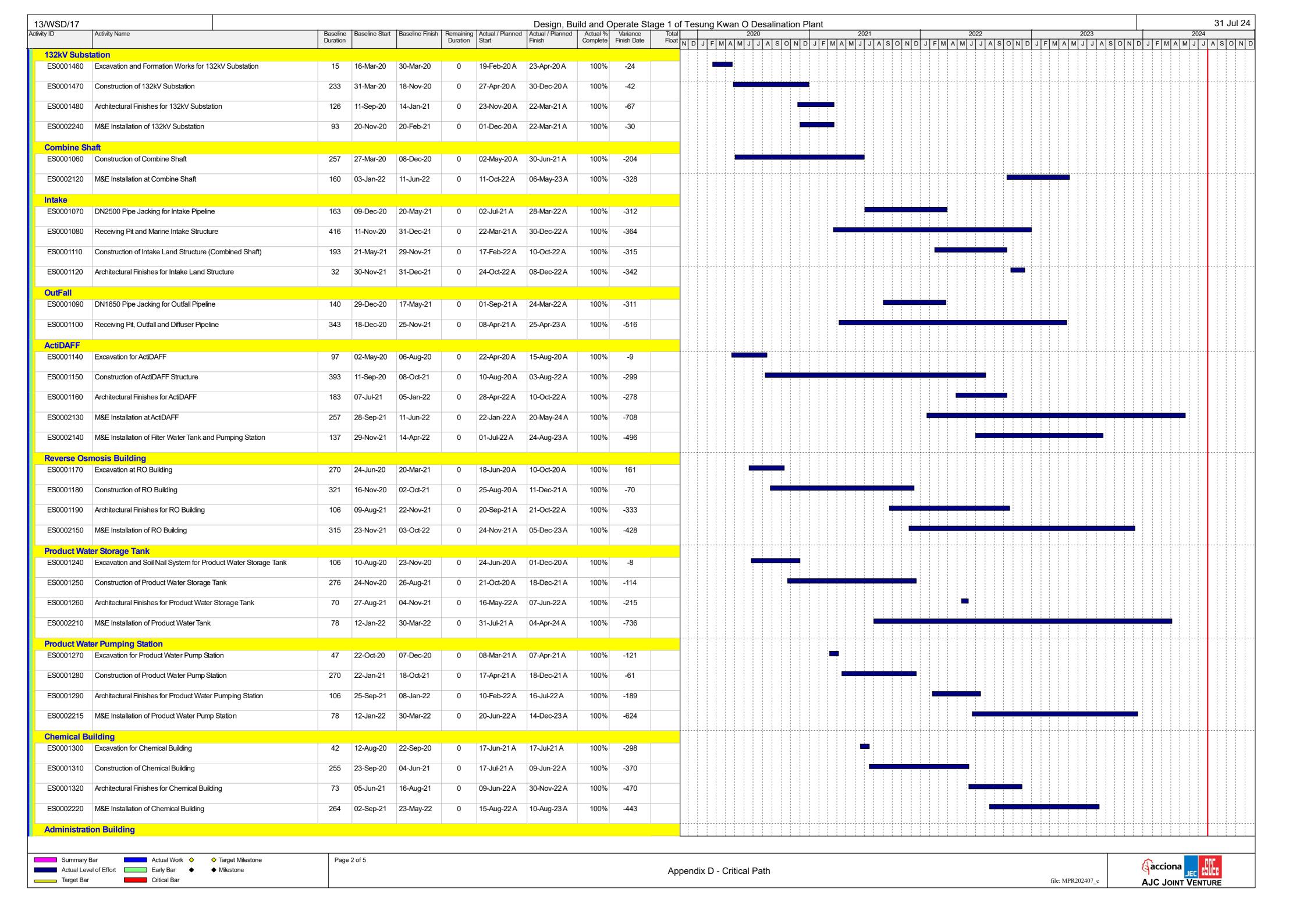


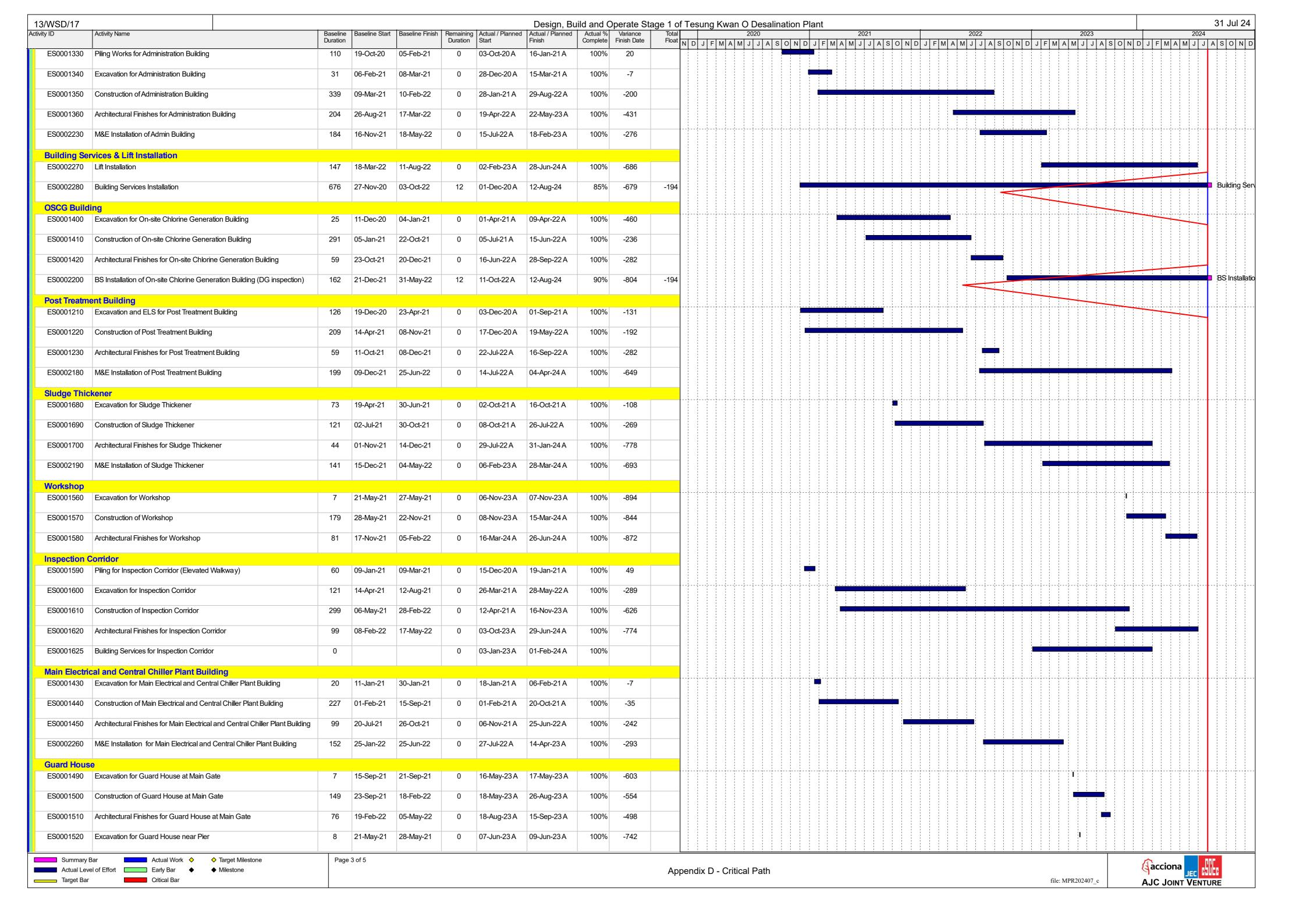


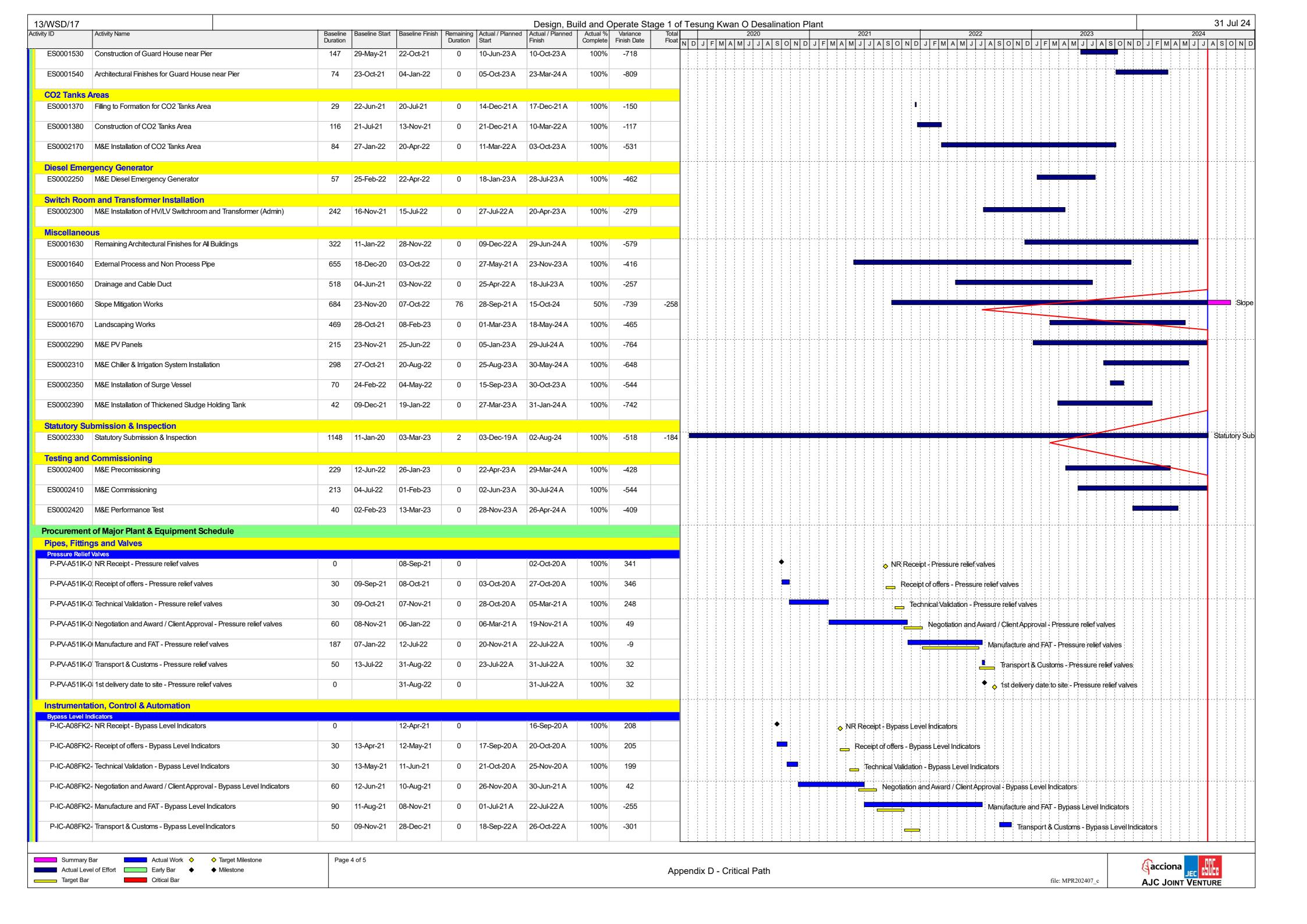
# Appendix A

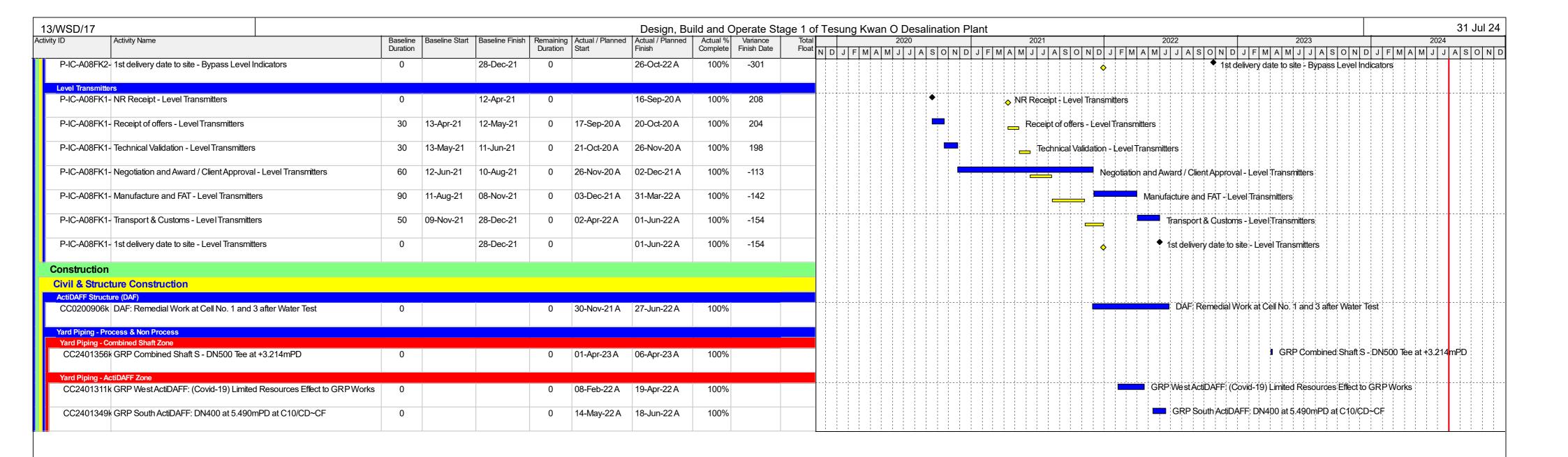
Master Programme











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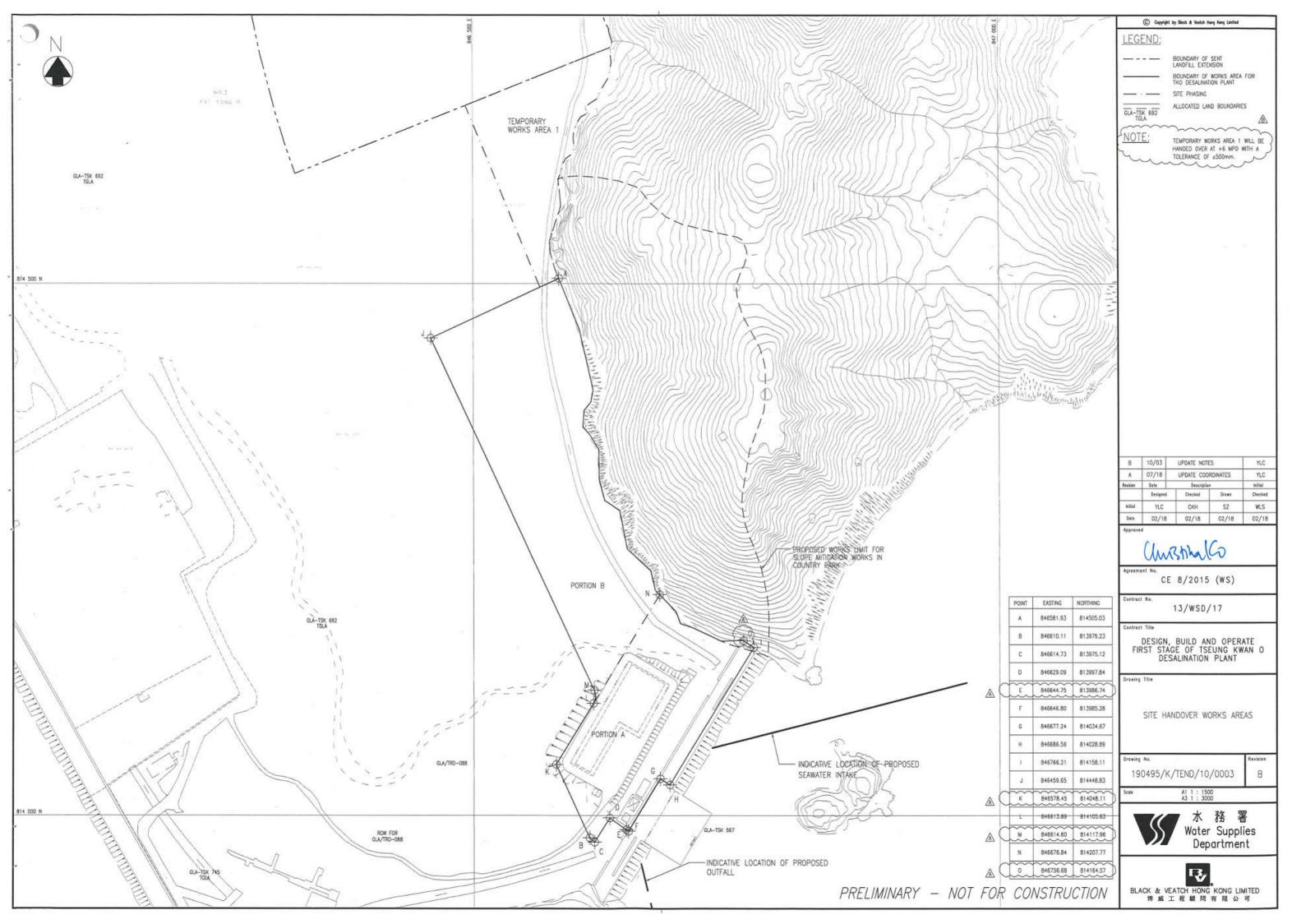






# Appendix B

# Overview of Desalination Plant in Tseung Kwan O



#### BUILDINGS IN FIRST STAGE NAME OF BUILDING TOTAL G.F.A. (m2) SITE COVERAGE (m2) COMBINE SHAFT 759,876 759,876 ACTIDAFF 10027.547 5455.346 REVERSE OSMOSIS BUILDING AND ELECTRICAL BUILDING 4511,455 5367,935 PRODUCT WATER STORAGE TANK, PUMP STATION AND ELECTRICAL BUILDING SLUDGE TREATMENT BUILDING, TANK AND PUMP 1228,361 ADMINISTRATION BUILDING & ELECTRICAL BUILDING C MAIN ELECTRICAL AND CENTRAL CHILLER PLANT BUILDING

ELECTROCHLORINATION BUILDING & ELECTRICAL BUILDING A

IRRIGATION WATER TANK AND PUMP ROOM

GUARD HOUSE AND FS CONTROL ROOM

WASTE WATER TREATMENT PLANT

132 kV SUBSTAT**I**ON

CHEMICAL BUILDING

VISITOR GALLERY

GUARD HOUSE

R + D OUTDOOR

R2

X1

## LEGEND / ABBREVIATION H/L WINDOW HIGH LEVEL WINDOW

METAL LOUVRES

CAT LADDER A.U.T. ACCESSIBLE UNISEX TOILET

PROPOSED FINISH FLOOR LEVEL IN METER ABOVE P.D. STRUCTURAL FLOOR LEVEL IN METER ABOVE P.D.

MECHANNICAL VENTILATION & ARTIFICIAL LIGHTING 4.5kg CO2 FIRE EXTINGUISHER

HOSE REEL

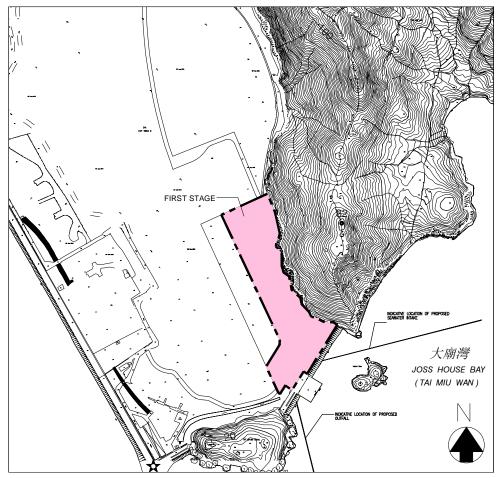
FIREMAN'S LIFT LIFT FOR THE BARRIER FREE ACCESS

PIPE DUCT

#### PLOT RATIO & SITE COVERAGE CALCULATION:

= 27,28 ... TOTAL G.F.A.
TOTAL SITE COVERAGE

= 21414.841 / 56108 x 100 = 38.167% SITE COVERAGE



1 : 5000

SITE LOCATION PLAN

## FIRST STAGE OF TSEUNG KWAN O DESALINATION PLANT

813.056

1330.410

39.585

22.035

48,000

TOTAL = 25175,323

825.776

943.560

156.148

813,056

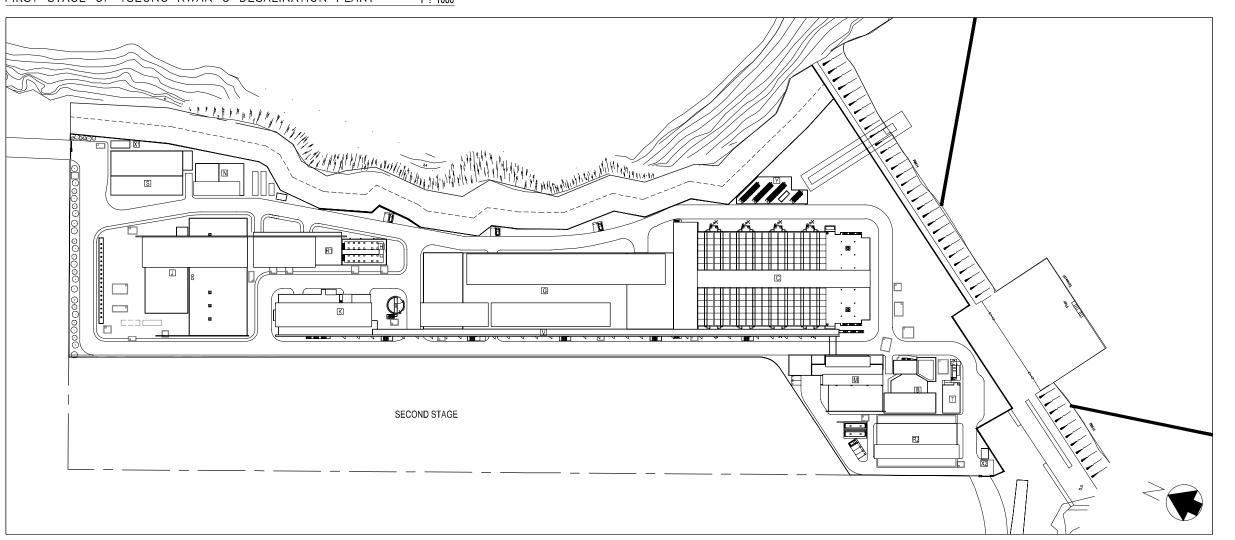
1330.410

39.585

22.035

48,000

21498.023









# Appendix C

Summary of Implementation Status of Environmental Mitigation





EIA	Recommended Environmental Protection Measures/	Objectives of the recommended measures &	Implementation Accept	_	ement Stage	tation	Implementation	Relevant Legislation &
Reference	Mitigation Measures	main concerns to address	Implementation Agent	D	С	0	status	Guidelines
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)		<b>√</b>		Implemented	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)		1		NA	-
S4.8.1	The area where dusty work takes place should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after dusty activities as far as practicable.	Land site/ During Construction	Contractor(s)		<b>√</b>		Implemented after observation	-
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)		1		Implemented	-
S4.8.1	Dropping heights for excavated materials should be controlled to a practical height to minimize the fugitive dust arising from unloading.	Land site/ During Construction	Contractor(s)		1		Implemented	-
S4.8.1	During transportation by truck, materials should not be loaded to a level higher than the side and tail boards and should be dampened or covered before transport.	Land site/ During Construction	Contractor(s)		1		Implemented	-
S4.8.1	Wheel washing device should be provided at the exits of the work sites. Immediately before leaving a construction site, every vehicle shall be washed to remove any dusty material from its body and wheels as far as practicable.	Land site/ During Construction	Contractor(s)		<b>√</b>		Implemented	-
S4.8.1	Road sections between vehicle-wash areas and vehicular entrance will be paved.	Land site/ During Construction	Contractor(s)		<b>√</b>		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)	<b>√</b>	<b>√</b>		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)		<b>√</b>		Implemented	-





EIA	Recommended Environmental Protection Measures/	Objectives of the recommended measures &	Implementation Agent		emen Stage	tation	Implementation	Relevant Legislation &
Reference	Mitigation Measures	main concerns to address	implementation rigent	D	С	0	status	Guidelines
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)		<b>√</b>		Implemented	-
S4.8.1	Stockpiles of more than 20 bags of cement, dry pulverised fuel ash and dusty construction materials will be covered entirely by impervious sheeting sheltered on top and 3-sides.	Land site/ During construction	Contractor(s)		<b>√</b>		Implemented	-
S4.8.1	All exposed areas will be kept wet always to minimise dust emission.	Land site/ During construction	Contractor(s)		<b>√</b>		Implemented	-
S4.8.1	Ultra-low-sulphur diesel (ULSD) will be used for all construction plant on-site, as defined as diesel fuel containing not more than 0.005% sulphur by weight) as stipulated in Environment, Transport and Works Bureau Technical Circular (ETWB-TC(W)) No 19/2005 on Environmental Management on Construction Sites.	Land site/ During construction/ During Operation	Contractor(s)		•	•	Implemented	Environment, Transport and Works Bureau Technical Circular (ETWB- TC(W)) No 19/2005 on Environmental Management on Construction Sites
S4.8.1	The engine of the construction equipment during idling will be switched off.	Land site/ During construction	Contractor(s)		<b>√</b>		Implemented	-
S4.8.1	Concrete batching plant will be required on site. control measures recommended in the Guidance Note on a Best Practicable Means for Cement Works (Concrete Batching Plant) (BPM 3/2 (93)) will be implemented. The control measures recommended in the Guidance Note on a Best Practicable Means for Cement Works (Concrete Batching Plant) (BPM 3/2 (93)) will be implemented.	Land site/ During construction	Contractor(s)		•		N/A	-
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)		<b>√</b>		Implemented	-
S4.10	To ensure proper implementation of the recommended dust mitigation measures and good construction site practices during the construction phase, environmental site audits on weekly basis is recommended throughout the construction period.	Land site/ During construction	Contractor(s)/ Environmental Team (ET) & Independent Environmental Checker (IEC)		<b>√</b>		Implemented	-





EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures &	Implementation Agent	_	ementa Stage	entation Implementation ge status		Relevant Legislation & Guidelines
	, and the second	main concerns to address	3	D	C	0		
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)		<b>✓</b>		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)		<b>✓</b>		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)		<b>✓</b>		N/A	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)		<b>V</b>		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)		<b>V</b>		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)		<b>V</b>		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)		<b>V</b>		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 than its height. The noise barrier material should have a superficial surface density of at least 7 kg m-2 and have no o or gappeningss.	Noise control/ During construction	Contractor(s)		<b>✓</b>		N/A	A Practical Guide for the Reduction of Noise from Construction Works
S5.7	The noise insulating sheet should be deployed such that there would be no opening or gaps on the joints.	Noise control/ During construction	Contractor(s)		1		N/A	A Practical Guide for the Reduction of Noise from Construction Works
S5.7	Construction activities (e.g. excavation/shoring, reinstatement (asphalt), and pipe jacking) will be planned and carried out in sequence, such that items of PME proposed for these activities will not be operated simultaneously.	Noise control/ During construction	Contractor(s)	<b>✓</b>	<b>✓</b>		Implemented	A Practical Guide for the Reduction of Noise from Construction Works
S5.7	PMEs will not be used at the works areas near educational institutions with residual impact (ie the "influence area" within a	Noise control / During construction	Contractor(s)		1		N/A	A Practical Guide for the Reduction of Noise from





EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures &	Implementation Agent	-	ementa Stage	ation	Implementation status	Relevant Legislation & Guidelines
		main concerns to address		D	С	0		
	radius of 40m) during school hours in order to reduce impact to the educational institutions.							Construction Works
S5.7	Noise enclosures or acoustic sheds would be used to cover stationary PME such as generators.  Portable/Movable noise enclosure made of material with superficial surface density of at least 7 kg m-2 may be used for screening the noise from operation of the saw/groover, concrete.	Noise control/ Pre- construction/ During construction	Contractor(s)	<b>✓</b>	<b>✓</b>		N/A	-
S5.9	Sawcutting pavement, breaking up of pavement, excavation /shoring, pipe laying, backfilling, reinstatement (concrete) and pipe jacking shall be scheduled outside the examination period.	Noise control/ Pre- construction/ During construction	Contractor(s)	<b>*</b>	<b>*</b>		N/A	-
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)	*	<b>✓</b>		N/A	-
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		<b>✓</b>		N/A	-
S5.10	The effectiveness of on-site control measures could also be evaluated through the regular site audits.	All facilities/ During construction	Contractor(s)/ET & Independent Environmental Checker (IEC)		✓		Implemented	-





EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures &	Implementation Agent	nentation tage	Implementation status	Relevant Legislation & Guidelines
Trefer ence	Printigueton Production	main concerns to address		 CO		a duracimes
Water Qua	lity			 <u> </u>		
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)		Implemented	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)		Implemented	-
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)		Implemented	-
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)		Implemented	-
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)	/	Implemented	-
S6.9	All vessels must have a clean ballast system.	Marine Dredging/ During construction	Contractor(s)		Implemented	-
S6.9	No discharge of sewage/grey wastewater should be allowed. Wastewater 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)		Implemented	-
S6.9	No soil waste is allowed to be disposed overboard.	Marine Dredging/ During construction	Contractor(s)		N/A	-
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	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	-





EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures &	Implementation Agent	_	emen Stage	tation	Implementation status	Relevant Legislation & Guidelines
		main concerns to address		D	С	0		
S6.9	Appropriate surface drainage will be designed and provided where necessary.	Land site & drainage/ During construction	Contractor(s)		✓		Implemented	-
S6.9	The precautions to be taken at any time of year when rainstorms are likely together with the actions to be taken when a rainstorm is imminent or forecasted and actions to be taken during or after rainstorms are summarized in Appendix A2 of ProPECC PN 1/94.	Land site & drainage/ During construction	Contractor(s)	<b>√</b>	✓		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)		<b>✓</b>		N/A	-
S6.9	Temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge, if any, will be adequately designed for the controlled release of storm flows.	Land site & drainage/ During construction	Contractor(s)		✓		Implemented	-
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)		<b>√</b>		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)		<b>√</b>	*	N/A	Technical Memorandum for Effluents Discharged into Drainage and Sewerage Systems
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)		✓	✓	Implemented	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	-
S6.12	Regular site inspections will be carried out in order to confirm that regulatory requirements are being met and that contractors are implementing the standard site practice and mitigation measures as proposed to reduce potential impacts to water quality.	During construction	Contractor(s)/ ET & IEC		✓		Implemented	-





EIA	Recommended Environmental Protection Measures/	Objectives of the recommended measures &	Implementation Agent		emen Stag	tation	implementation	Relevant Legislation &
Reference	Mitigation Measures	main concerns to address	imprementation rigent	D	C	0	Status	Guidelines
Waste Mar	nagement							
S8.5	Nomination of approved personnel to be responsible for standard site practices, arrangements for collection and effective disposal to an appropriate facility of all wastes generated at the site.	Contract mobilization/ During construction	Contractor(s)		✓		Implemented	-
S8.5	Training of site personnel in proper waste management and chemical handling procedures. Training will be provided to workers on the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse, and recycling at the beginning of the construction works.	Contract mobilization/ During construction	Contractor(s)		✓		Implemented	-
S8.5	Provision of sufficient waste disposal points and regular collection for disposal.	All area/ During construction/ During operation	Contractor(s)		✓	<b>&gt;</b>	Implemented	DEVB TC(W) No. 8/2010, Enhanced Specification for Site Cleanliness and Tidiness.
S8.5	Appropriate measures to reduce windblown litter and dust transportation of waste by either covering trucks or by transporting wastes in enclosed containers.	All area/ During construction	Contractor(s)		✓		Implemented	DEVB TC(W) No. 8/2010, Enhanced Specification for Site Cleanliness and Tidiness.
S8.5	A waste management plan (WMP) as stated in the "ETWB TC(W) No. 19/2005, Environmental Management on Construction Sites" for the amount of waste generated, recycled and disposed of (including the disposal sites) will be established and implemented during the construction phase as part of the Environmental Management Plan (EMP). The Contractor will be required to prepare the EMP and submits it to the Architect/ Engineer under the Contract for approval prior to implementation.	All area/ During construction	Contractor(s)		<b>√</b>		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)		<b>✓</b>		Implemented	Chapters 2 & 3 Code of Practice on the Packaging, Labelling & Storage of Chemical Wastes published under the Waste Disposal Ordinance (Cap 354), Section 35
S8.5	Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors.	Land site/ During construction	Contractor(s)		✓		Implemented	Waste Disposal Ordinance (Cap 354)





EIA	Recommended Environmental Protection Measures/	Objectives of the recommended measures &	Implementation Agent	Impl	emen Stag	tation	Implementation	Relevant Legislation &
Reference	Mitigation Measures	main concerns to address	implementation rigent	D	C	0	Status	Guidelines
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)		<b>√</b>		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)		<b>✓</b>		Implemented	WBTC 32/92, The Use of Tropical Hard Wood on Construction Site
S8.5	Encourage collection of aluminium cans and wastepaper by individual collectors during construction with separate labelled bins provided to segregate these wastes from other general refuse by the workforce.	Land site/ During construction	Contractor(s)		<b>✓</b>		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)		<b>✓</b>		N/A	-
S8.5	Use of reusable non-timber formwork to reduce the amount of C&D materials.	All areas/ During construction	Contractor(s)		<b>✓</b>		Implemented	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)		<b>✓</b>		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)		<b>*</b>		Implemented	-
S8.5	Plan and stock construction materials carefully to reduce amount of waste generated and avoid unnecessary generation of waste.	All areas/ During construction	Contractor(s)		✓		Implemented	-
S8.5	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)		<b>✓</b>		N/A	ETWB TC(W) No. 34/2002 and Dumping at Sea Ordinance (DASO)





EIA	Recommended Environmental Protection Measures/	Objectives of the recommended measures &	Implementation Acous	Impl	emen Stag	tation	Implementation	Relevant Legislation &
Reference	Mitigation Measures	main concerns to address	Implementation Agent	D	C	0	Status	Guidelines
S8.5	The management of dredged/ excavated sediment management requirement from ETWB TC(W) No. 34/2002 will be incorporated in the Specification of the Contract Documents.	Marine works/ During construction	WSD/ Contractor(s)		✓		Implemented	ETWB TC(W) No. 34/2002 and Dumping at Sea Ordinance (DASO)
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 mobilization/ During construction	Contractor(s)		<b>√</b>		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 mobilization/ During construction	Contractor(s)		<b>✓</b>		Implemented	DEVB TC(W) No. 6/2010, Trip Ticket System for Disposal of Construction & Demolition Materials
S8.5	The project proponent will also conduct regular inspection of the waste management measures implemented on site as described in the Waste Management Plan.	All area/ During construction	Contractor(s)/ Environmental Team (ET) & Independent Environmental Checker (IEC)		✓		Implemented	ETWB TC(W) No. 19/2005, Environmental Management on Construction Sites
S8.5	A recording system (similar to summary table as shown in Annex 5 and Annex 6 of Appendix G of ETWB TC(W) No. 19/2005) for the amount of waste generated, recycled and disposed of (including the disposal sites) will be established during the construction phase.	All area/ During construction	Contractor(s)		<b>✓</b>		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)		<b>√</b>		Implemented	-
S8.5	Public fill and construction waste shall be segregated and stored in different containers or skips to facilitate reuse or recycling of materials and their proper disposal.	All area/ During construction	Contractor(s)		✓		Implemented	-
S8.5	Specific areas of the work site will be designated for such segregation and storage if immediate use is not practicable.	All area/ During construction	Contractor(s)		<b>√</b>		Implemented	-
S8.5	To reduce the potential dust and water quality impacts of site formation works, C&D materials will be wetted as quickly as possible to the extent practice after filling.	All area/ During construction	Contractor(s)		<b>√</b>		Implemented	Air Pollution Control (Construction Dust) Regulation (Cap 311R); WPCO (Cap 358)





EIA	Recommended Environmental Protection Measures/	Objectives of the		Impl		ntation	Implementation	Relevant Legislation &
Reference	Mitigation Measures	recommended measures &	Implementation Agent		Stag		Status	Guidelines
S8.5	Open stockpiles of excavated/ fill materials or construction wastes on-site should be covered with tarpaulin or similar fabric.	main concerns to address  Land site/ During  Construction, particularly  dry season	Contractor(s)	D	C ✓	0	Implemented	Air Pollution Control (Construction Dust) Regulation (Cap 311R)
S8.5	Chemical waste container shall be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	<b>√</b>	Implemented	
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		✓	<b>√</b>	Implemented	
S8.5	A label in English and Chinese shall be displayed on the chemical container in accordance with instructions prescribed in Schedule 2 of the Regulations.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	
S8.5	Storage areas for chemical waste shall be enclosed on at least 3 sides.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	Waste Disposal
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		✓	<b>√</b>	Implemented	(Chemical Waste) (General) Regulation; Code of Practice on the Packaging,
S8.5	Storage areas for chemical waste shall have adequate ventilation.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	<b>√</b>	Implemented	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		✓	<b>√</b>	Implemented	
S8.5	Storage areas for chemical waste shall be arranged so that incompatible materials are appropriately separated.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	<b>√</b>	Implemented	
S8.5	General refuse will be stored in enclosed bins or compaction units separately from construction and chemical wastes.	All area/ During construction/ During operation	Contractor(s)/ WSD		<b>✓</b>	<b>✓</b>	Implemented after reminder	1
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		✓	<b>√</b>	Implemented	DEVB TC(W) No. 8/2010 Enhanced Specification for Site Cleanliness and Tidiness.





EIA	Recommended Environmental Protection Measures/	Objectives of the recommended measures &	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
Reference	Mitigation Measures	main concerns to address		D	C	0	Status	Guidennes
S8.5	A reputable waste collector will be employed by the Contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimize odour, pest and litter impacts.	All area/ During construction/ During operation	Contractor(s)/ WSD		<b>*</b>	<b>*</b>	Implemented	-
S8.5	Recycling bins will be provided at strategic locations within the Site to facilitate recovery of recyclable materials (including aluminum can, wastepaper, glass bottles and plastic bottles) from the Site. Materials recovered will be sold for recycling.	All area/ During construction/ During operation	Contractor(s)/ WSD		<b>*</b>	<b>√</b>	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)		<b>√</b>		Implemented	-
S8.5	The burning of refuse on construction sites is prohibited by law.	All area/ During construction	Contractor(s)		✓		Implemented	Air Pollution Control Ordinance (Cap 311)
S8.7	To facilitate monitoring and control over the contractors' performance on waste management, a waste inspection and audit programme will be implemented throughout the construction phase.	All facilities/ During construction	ET/IEC		<b>✓</b>		Implemented	-





EIA	Recommended Environmental Protection Measures/	Objectives of the recommended measures &	Implementation Agent	Impl	emen Stag	tation	implementation	Relevant Legislation &	
Reference	Mitigation Measures	main concerns to address		D	С	0	Status	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)	•	<b>✓</b>		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)		<b>\</b>		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)	<b>✓</b>	<b>~</b>		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)	<b>V</b>			Implemented	-	
S9.7	Temporary fencing will be installed to fence off the concerned species either in groups of individually within the works area and in the close proximity to prevent from being damaged and disturbed during construction. A sign identifying the site shall be attached to the fence and flagging tape shall be attached to the individuals to visualize their locations.	Slope mitigation works area/ During construction	Contractor(s)		*		Implemented	-	
S9.7 and S9.10	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)		<b>√</b>		Implemented	-	
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)		<b>√</b>		Implemented	-	





EIA	Recommended Environmental Protection Measures/	Objectives of the recommended measures &	Implementation Agent		emer Stag	ntation e	implementation	_
Reference	Mitigation Measures	main concerns to address		D	С	0	Status	Guidelines
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)		<b>√</b>		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)		<b>&gt;</b>		Implemented	-
S9.7	Regularly check the work site boundaries to ensure that they are not breached, and that damage does not occur to surrounding areas.	All area/ During construction	Contractor(s)/ ET		<b>&gt;</b>		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)		<b>&gt;</b>		Implemented	-
S9.7	Reinstate temporarily affected areas, particularly the habitats of plantation and shrubland-grassland immediately after completion of construction works, through on-site tree/shrub planting. The tree/shrub species will be chosen with reference to those in the surrounding area.	All area/ During construction	Contractor(s)		<b>&gt;</b>		To be implemented	-
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)		<b>*</b>		To be implemented	-





EIA	Recommended Environmental Protection Measures/	Objectives of the recommended measures &	Implementation Agent		emen Stag	tation	Implementation	Relevant Legislation &
Reference	Mitigation Measures	main concerns to address	imprementation rigent	D	C		Status	Guidelines
	e & 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)	<b>✓</b>	<b>✓</b>	✓	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)	<b>✓</b>	<b>✓</b>	<b>√</b>	Implemented	-
S11.10 & 11.11	Design principles will be adopted to take into account the surrounding area, particularly Clear Water Bay Country Park behind and the nearby waterfront, with due consideration given to:  - green roofs where practical (i.e. without equipment on the roof);  - roadside planting;  - aesthetic treatment of all structures;  - vertical greening;  - screen planting along application site; and  - landscape enhancement with amenity planting where practical including planting along the edge (site boundary) fence with native shrubs where feasible, to reduce their visual impact and blend them into the surrounding landscape. (MM3)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	•	*	<b>√</b>	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 departments.  A compensatory tree planting proposal including locations of tree compensation will be submitted to seek relevant government department's approval, in accordance with DEVB TC(W) No. 10/2013. (MM5)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	<b>*</b>	<b>✓</b>	<b>*</b>	Implemented	DEVB TC(W) No. 10/2013
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)	<b>✓</b>	<b>✓</b>	<b>√</b>	Implemented	





EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures &	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
Reference	Mitigation Measures	main concerns to address		D	C	0	Status	Guidennes
S11.10 &	Dredging works for the installation of intake structures and outfall	All area/ Detailed design/	WSD/ Contractor(s)	✓	✓	✓	Implemented	
11.11	diffusers should be minimized to avoid or reduce any potential	During construction/ During						
	environmental impacts to as low as reasonably practicable	operation						
	(ALARP). The intake and outfall structures (e.g. intake openings							
	and diffuser heads) will be prefabricated and transferred to site							
	for installation. (MM7)					_		
S11.10 &		All area/ Detailed design/	WSD/ Contractor(s)	✓	✓	✓	Implemented	-
11.11	both in terms of number of level and will be hooded and	During construction/ During						
	directional. (MM8) units and lux level and will be hooded and	operation						
	directional. (MM8)							





EIA	Recommended Environmental Protection Measures/	Objectives of the		_	ement Stage	tation	Implementation	Relevant Legislation & Guidelines
Reference	Mitigation Measures	recommended measures & main concerns to address	Implementation Agent	D	С	0	Status	
Landfill G						L		
S12.7	During all works, safety procedures should be implemented to minimize 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/operation	Contractor(s)	<b>&gt;</b>	<b>✓</b>	✓	Implemented	-
S12.7	During trenching and excavation as well as creation of confined spaces at near to or below ground level, precautions should be clearly laid down and rigidly Gas detection equipment and appropriate breathing apparatus should be available and used when entering confined spaces or trenches deeper than 1 meter.	All area/ Detailed design/ During construction/operation	Contractor(s)	<b>~</b>	<b>~</b>	<b>✓</b>	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/operation	Contractor(s)	<b>✓</b>	~	<b>√</b>	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/operation	Contractor(s)	<b>~</b>	<b>*</b>	<b>✓</b>	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/operation	Contractor(s)	<b>√</b>	✓	✓	Implemented	
S12.7	Monitoring for landfill gas should be undertaken in all excavations, manholes, chambers (particularly during pipe jacking) and any confined spaces through the use of an intrinsically safe portable instrument, appropriately calibrated and capable of measuring the concentrations of methane. carbon dioxide and oxygen.	All area/ Detailed design/ During construction/operation	Contractor(s)	<b>√</b>	•	<b>√</b>	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/operation	Contractor(s)	<b>~</b>	<b>√</b>	<b>√</b>	Implemented	
S12.7	Proceed drilling with adequate care and precautions against the potential hazards which may be encountered.	All area/ Detailed design/ During construction/operation	Contractor(s)	✓	<b>√</b>	✓	Implemented	





EIA	Recommended Environmental Protection Measures/	Objectives of the		_	emen Stage	tation	Implementation	Relevant Legislation & Guidelines
Reference	Mitigation Measures	recommended measures & main concerns to address	Implementation Agent	D	C	0	Status	
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, <i>supervisors</i> responsibilities, storage and use of safety equipment, safety procedures and signs, barriers and guarding). The site <i>supervisor</i> and all operatives must be familiar with this statement.	All area/ During construction/operation	Contractor(s)	<b>✓</b>	1	<b>✓</b>	Implemented	
S12.7	Where below ground service entries are necessary to the Incoming Switchgear Room, 132 kV Substation and Chlorine Store (I) and (II), the entry point should be sealed to prevent gas entry. In addition, any below grade cable trenches entering the Incoming Switchgear Room and 132 kV Substation can become the pathway for landfill gas and hence grilled metal covers should be used.	All area/ Detailed design/ During construction/operation	Contractor(s)	<b>✓</b>	<b>✓</b>	<b>✓</b>	N/A	
S12.7	It is recommended regular landfill gas monitoring should be carried out at the Incoming Switchgear Room, 132 kV Substation and Chlorine Store (I) and (II). The monitoring frequency will be monthly for the first year of operation. If the monitoring results show no sign of landfill gas migration, reduce the monitoring frequency to once every six months.	All area/ Detailed design/ During construction/operation	Contractor(s)	•	•	<b>✓</b>	N/A	
S12.7	The manholes and utility pits within the Project Site and along the fresh water mains. Each manhole/ utility pit should be monitored with two measurements (at mid depth and base). Each measurement should be monitored for a minimum of 10 minutes. A steady reading and peak reading should be recorded at each manhole/ utility pit and for each measurement. The need for venting the manhole/ utility pit and further monitoring will be reviewed after the initial monitoring.	All area/ Detailed design/ During construction/operation	Contractor(s)	•	<b>✓</b>	<b>✓</b>	Implemented	
S12.7	All construction, operation and maintenance personnel working on-site as well as visitors should be made aware of the hazards of landfill gas and its possible presence on-site. This should be achieved through a combination of posting warning signs in prominent places and also by access to detailed information on landfill gas hazards and the designs and procedural means by which these hazards are being minimized on-site.	All area/ Detailed design/ During construction/operation	Contractor(s)	<b>✓</b>	<b>✓</b>	<b>√</b>	Implemented	





# Appendix D

Event / Action Plan





## Table D1 Event and Action Plan for Construction Noise Monitoring

Event	Action												
	ET		IEC		ER		Con	ntractor					
Action Level	and cause of t  Notify IEC, E results of inve the IEC  Discuss with remedial mea  If the compliadditional mo effectiveness	restigation to identify the source he complaint/ exceedance(s) R, and Contractor and report the stigation to the Contractor; ER and the Contractor and IEC for sures required inti is related to the Project, conduct nitoring for checking mitigation and report the findings and results and the Contractor	1. 2. 3.	Review the analyzed results submitted by the ET Review the proposed remedial measures by the Contractor and advise the ER accordingly Supervise the implementation of remedial measures	<ol> <li>2.</li> <li>3.</li> </ol>	Confirm receipt of Notification of Exceedance in writing Require Contractor to propose remedial measures for the analysed noise problem Ensure remedial measures are properly implemented	1.	Submit noise mitigation proposals, if required, to the IEC and ER Implement noise mitigation proposals.					
Limit Level	and cause of t Notify IEC, E Contractor Repeat meas Provide inve Contractor he If the exceed effectiveness Report the r additional mo	restigation to identify the source the exceedance R, Project Proponent, EPD and turements to confirm findings stigation report to IEC, ER, EPD and causes of the exceedances ance is related to the Project, assess by additional monitoring. Emedial action implemented and the nitoring results to IEC, EPD, ER and estops, cease additional monitoring		Review the analyzed results submitted by the ET Discuss the potential remedial measures with ER, ET Leader and Contractor Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly Supervise the implementation of remedial measures	2.	Confirm receipt of Notification of Exceedance in writing Require the Contractor to propose remedial measures for the analysed noise problem Ensure remedial measures are properly implemented If exceedance continues, consider what activity of the work is responsible and instruct the Contractor, in agreement with the Project Proponent, to stop that activity of work until the exceedance is abated	1. 2. 3. 4. 5.	Take immediate action to avoid further exceedance Submit proposals for remedial actions to IEC and ER within 3 working days of notification Implement the agreed proposals Resubmit proposals if problem still not under control Stop the relevant activity of works as determined by the Project Proponent until the exceedance is abated					

Notes: ET = Environmental Team, IEC = Independent Environmental Checker; ER = Engineering Representatives





## Table D2 Event and Action Plan for Water Quality Monitoring

Event	Action			
	ET	IEC	Contractor(s)	ER
Action Level being exceeded by one sampling day	Repeat in situ measurement on the next day of exceedance to confirm findings;     Check monitoring data, plant, equipment and Contractor(s)'s working methods;     Identity source(s) of impact and record in notification of exceedance;     Inform IEC, Contractor(s) and ER.	Check monitoring data submitted by ET and Contractor(s)'s working methods;     Inform EPD.	Confirm receipt of notification of exceedance in writing:     Check plant and equipment and rectify unacceptable practice	<ol> <li>Confirm receipt of notification of exceedance in writing.</li> </ol>
Action Level being exceeded by two or more consecutive sampling days	Repeat in situ measurement on the next day of exceedance to confirm findings;     Check monitoring data, plant, equipment and Contractor(s)'s working methods;     Identify source(s) of impact and record in notification of exceedance;     Inform IEC, Contractor(s) and ER;     Discuss with IEC and Contractor(s) on additional mitigation measures and ensure that they are implemented	Check monitoring data submitted by ET and Contractor(s)'s working methods;     Inform EPD;     Discuss with ET and Contractor(s) on additional mitigation measures and advise ER accordingly;     Assess the effectiveness of the implemented mitigation measures.	Confirm receipt of notification of exceedance in writing;     Check plant and equipment and rectify unacceptable practice;     Consider changes of working methods;     Discuss with ET and IEC on additional mitigation measures and propose them to ER within 3 working days;     Implement the agreed mitigation measures.	Confirm receipt of notification of exceedance in writing;     Discuss with the IEC on the proposed additional mitigation measures and agree on the mitigation measures to be implemented.     Ensure additional mitigation measures are properly implemented.
Limit Level being exceeded by one sampling day	Repeat in situ measurement on the next day of exceedance to confirm findings;     Check monitoring data, plant, equipment and Contractor(s)'s working methods;     Identify source(s) of impact and record in notification of exceedance;     Inform IEC, Contractor(s) and ER;     Discuss with IEC and Contractor(s) on additional mitigation measures and ensure that they are implemented	Check monitoring data submitted by ET and Contractor(s)'s working methods;     Inform EPD;     Discuss with ET and Contractor(s) on additional mitigation measures and advise ER accordingly;     Assess the effectiveness of the implemented mitigation measures.	Confirm receipt of notification of exceedance in writing;     Check plant and equipment and rectify unacceptable practice;     Critically review the need to change working methods;     Discuss with ET and IEC on additional mitigation measures and propose them to ER within 3 working days;     Implement the agreed mitigation measures.	1. Confirm receipt of notification of exceedance in writing; 2. Discuss with the IEC on the proposed additional mitigation measures and agree on the mitigation measures to be implemented. 3. Ensure additional mitigation measures are properly implemented. 4. Request Contractor(s) to critically review the working methods.
Limit Level being exceeded by two or more consecutive sampling days	Repeat in situ measurement on the next day of exceedance to confirm findings;     Check monitoring data, plant, equipment and Contractor(s)'s working methods;     Identify source(s) of impact and record in notification of exceedance;     Inform IEC, Contractor(s) and ER;     Discuss with IEC and Contractor(s) on additional mitigation measures and ensure that they are implemented	Check monitoring data submitted by ET and Contractor(s)'s working methods;     Inform EPD;     Discuss with ET and Contractor(s) on additional mitigation measures and advise ER accordingly;     Assess the effectiveness of the implemented mitigation measures.	1. Confirm receipt of notification of exceedance in writing: 2. Check plant and equipment and rectify unacceptable practice; 3. Critically review the need to change working methods; 4. Discuss with ET and IEC on additional mitigation measures and propose them to ER within 3 working days; 5. Implement the agreed mitigation measures. 6. As directed by ER, slow down or stop all or part of the marine construction works/ production volume of the desalination plant until no exceedance of Limit Level.	mitigation measures and agree on the mitigation measures to be implemented.  3. Ensure additional mitigation measures are properly implemented.  4. Request Contractor(s) to critically review the working methods;  5. Consider and instruct, if necessary, the  Contractor(s) to slow down or to stop all or part of

Notes: ET = Environmental Team, IEC = Independent Environmental Checker; ER = Engineering Representatives. The above actions should be taken within 1 working day after the exceedance is identified during operation phase.





Table D3 Event and Action Plan for Ecology during Construction Phase

Event	300		IEC		ion	ntractor(s)		
Licht	ET				ER			
Non- conformity on one occassion	1. 2. 3.	Identify source Inform IEC and ER Discuss remedial actions with IEC, the ER and the Contractor Monitor/ audit/ review remedial actions until rectification has been completed	1. 2. 3. 4.	Check monitoring/ auditing results Check the Contractor's working method Discuss with the ET and Contractor on possible remedial measures Advise the ER on effectiveness of proposed remedial measures Check the implementation of remedial measures	<ol> <li>2.</li> <li>3.</li> <li>4.</li> </ol>	Take immediate action to avoid further problem Amend working methods if needed Submit proposals for remedial actions to ET, ER and IEC Rectify damage and implement the agreed remedial actions	1. 2. 3.	Notify Contractor Ensure remedial measures are properly implemented Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the works in case of serious non-conformity until situation i rectified
Repeated Non- comformity	1. 2. 3. 4. 5.	Identify source Inform IEC, ER, EPD and AFCD Increase monitoring and audit frequency Discuss remedial actions with the IEC, the ER and the Contractor Monitor/ audit/ review remedial actions until rectification has been completed If non-conformity stops, cease additional monitoring/ auditing	<ol> <li>2.</li> <li>3.</li> <li>4.</li> <li>5.</li> </ol>	Check monitoring/ auditing results Check the Contractor's working method Discuss with the ET and Contractor on possible remedial measures Supervise the implementation of remedial measures Advise the ER on effectiveness of proposed remedial measures and keep EPD and AFCD informed	1. 2. 3. 4.	Take immediate action to avoid further problem Amend working methods if needed Submit proposals for remedial actions to ET, ER and IEC Rectify damage and implement the agreed remedial actions	1. 2. 3.	Notify Contractor Ensure remedial measures are properly implemented Consider and instruct, if necessary, the Contactor to slow down or to stop all or part of the works in the case of serious non-conformity until situation is rectified

Notes: ET = Environmental Team, IEC = Independent Environmental Checker; ER = Engineering Representatives





Table D4 Event and Action Plan for Pre-Operation Phase Coral Monitoring

Event	Action								
Event	ET Leader	IEC	SOR **	Contractor					
Action Level Exceedance	<ol> <li>Check monitoring data</li> <li>Inform the IEC, SOR and Contractor of the findings;</li> <li>Increase the monitoring to at least once a month to confirm findings;</li> <li>Propose mitigation measures for consideration</li> </ol>	1. Discuss monitoring with the ET and the Contractor;  2. Review proposals for additional monitoring and any other measures submitted by the Contractor and advise the SOR accordingly.	1. Discuss with the IEC additional monitoring requirements and any other measures proposed by the ET; 2. Make agreement on the measures to be implemented.	1. Inform the SOR and confirm notification of the noncompliance in writing; 2. Discuss with the ET and the IEC and propose measures to the IEC and the SOR; 3. Implement the agreed measures.					
Limit Level Exceedance	1. Undertake Steps 1-4 as in the Action Level Exceedance. If further exceedance of Limit Level, propose enhancement measures for consideration.	1. Discuss monitoring with the ET and the Contractor; 2. Review proposals for additional monitoring and any other measures submitted by the Contractor and advise the SOR accordingly.	1. Discuss with the IEC additional monitoring requirements and any other measures proposed by the ET; 2. Make agreement on the measures to be implemented.	confirm notification of the non-compliance in writing;					

Remark: \*\* The "SOR" is equivalent to the "ER" as defined in the EM&A Manual of the Project





## Appendix E

Waste Flow Table

Contract No. 13/WSD/17

Environmental Management Plan for Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant

Appendix F - Monthly Summary Waste Flow Table

Name of Department: WSD Contract No.: 13/WSD/17

## **Monthly Summary Waste Flow Table for <u>2024</u> (year)**

W		Actual Qua	antities of Inert C&I	O Materials Generat	ted Monthly			Actual Quantities	of C&D Wastes G	enerated Monthly	
Month	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)
Jan	4978.345	0.000	0.000	4667.745	310.600	0.000	0.000	0.000	0.000	0.000	77.800
Feb	22561.796	0.000	0.000	21883.006	678.790	0.000	0.000	0.000	0.000	0.000	53.480
Mar	81.140	0.000	0.000	0.000	81.140	0.000	0.000	0.000	0.000	0.000	52.260
Apr	57.130	0.000	0.000	0.000	57.130	0.000	0.000	0.000	0.000	0.000	47.390
May	91.370	0.000	0.000	0.000	91.370	0.000	0.000	0.000	0.000	0.000	77.260
Jun	61.590	0.000	0.000	0.000	61.590	0.000	0.000	0.000	0.002	0.000	59.320
Sub-total	27831.371	0.000	0.000	26550.751	1280.620	0.000	0.000	0.000	0.002	0.000	367.510
Jul	60378.440	0.000	0.000	0.000	60378.440	0.000	0.000	0.000	0.000	0.000	66.800
Aug	163.330	0.000	0.000	0.000	163.330	0.000	0.000	0.000	0.000	2.460	42.260
Sep	834.890	0.000	0.000	0.000	834.890	0.000	0.000	0.000	0.000	0.805	27.020
Oct	78.140	0.000	0.000	0.000	78.140	0.000	0.000	0.000	0.000	0.000	71.810
Nov	237.790	0.000	0.000	0.000	237.790	0.000	0.000	0.000	0.000	0.000	62.300
Dec											
Total	89523.961	0.000	0.000	26550.751	62973.210	0.000	0.000	0.000	0.002	3.265	637.700

Notes:

- (1) The performance targets are given in Section 1.69 of Specification B
- (2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
- (3) Plastics refer to plastic bottles/containers, plastic sheets/ foam from packaging material





## Appendix F

Site Inspection Proforma





### WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST

Inspectio	on Date: _	05 November 2024	Inspected by:	ET:	Toby Wan  Andy Leung	SO:De	rek Lai	WSD:	
Inspectio	on Time: _	14:30							
Weathe									
Conditi	on	Sunny	Overcast	Drizzle	Rain	Storm	Haz	zy	
Temper	ature	26 °C	Humidity	✓ High	Moderate	Low			
Wind		Calm <b>√</b> Light	Breeze	Strong					
Item I	EIA ref.					N/A	Yes	No	Photo/Remarks
No.									
0.00		General							
0.01		Is the current Environmental Perr	nit displayed cor	nspicuously at	all vehicle site		<b>√</b>		
		entrances/exits for public's informa	tion at any time?						-
0.02		Is ET Leader's log-book kept readil	v available for in	onactions?					
		is E1 Leader's log-book kept reading	ly available for his	spections:			✓		
		Construction Dust							
1.00	\$4.8.1	Are dusty materials, such as excav	ated materials, bu	uilding debris	and construction				
1.01		materials, and exposed earth surface	e properly covered	d to prevent du	ist emission?				-
1.02	S4.8.1	Are screenings, enclosures, water s	praying, or vacuu	m cleaning de	vices provided to				
		dusty construction works for dust su	uppression?				<b>√</b>		
1.03	\$4.8.1	Are fumes or smale emitting plants	or construction o	ativitias shials	dad by a samaan?				
		Are fumes or smoke emitting plants	s of construction a	ictivities sineit	led by a screen?	✓			
1.04	S4.8.1	Are wheel-washing facilities with h	igh-pressure wate	er jets provide	d at all site exits?	<b>√</b>			
1.05	\$4.8.1	Is wheel-washing provided to all ve	chicles leaving the	site?		<b>√</b>			
1.06	S4.8.1	Are road section near the site exit fi	ree from dusty ma	iterial?			<b>√</b>		
1.07	S4.8.1	Are all main haul roads inside the	site paved or sp	rayed with w	ater to minimize				
		dust emission during vehicle mover	ment?				✓		
1.08	\$4.8.1	Are water spraying provided imme	diately prior to a	ny loading or	transfer of dusty				
		materials?					✓		
1.09	\$4.8.1	Are covers provided to all dump tru	ucks carrying dust	ty materials w	hen entering and				
		leaving the site?					✓		
1.10	\$4.8.1	Are the working areas for uprooting	ig of trees, shrubs	s, or vegetatio	n or the removal			$\overline{}$	
		of boulders, poles, pillars sprayed w	vith water to main	tain the entire	surface wet?		✓		
1.11	S4.8.1	Is exposed earth properly treated							
		activity on site?				✓			
1.12	S4.8.1	Does the operation of plants on site	free form dark sn	noke emission	?		<b>√</b>		
1.13	\$4.8.1								
		Are vehicles travelling at speed not	exceeding 15km/	hr within the s	site?		<b>√</b>		
1.14	\$4.8.1	Are stock of more than 20 bags of	cement or day PI	FA covered or	sheltered on top		<b>√</b>		





200111	EIA ref.		N/A	Yes	No	Photo/Remarks
No.		and 3 sides?				
1.15	S4.8.1	Are de-bagging, batching and mixing processes of bagged cement carried out in				
1.13	54.6.1	sheltered areas?	✓			
1.16	S4.8.1	Are hoarding of at least 2.4m high provided along the site boundary adjoining areas				
		accessible by the public?	✓			
1.17	S4.8.1	Is open burning prohibited?				
				✓		
2.00		Construction Noise (Airborne)				
2.01	S5.7	Are quiet plants adopted on site?		✓		
2.02	S5.7	Are the PMEs operating on site well-maintained to minimize the generation of				
		excessive noise?		✓		
2.03	S5.7	Are plants throttled down or turned off when not in use?				
		Are plants unfortied down of turned on when not in use:	<b>✓</b>			
2.04	S5.7	Are the plants known to emit noise strongly in one direction oriented to face away				
		from NSRs?				
2.05	S5.7	Are moveable barriers provided to screen NSRs from plant or noisy operations?				
		1 7 1				
2.06	S5.7	Are silencers, mufflers and enclosures provided to plants?		<b>√</b>		
2.07	S5.7	Are the hoods, cover panels and inspection hatches of PMEs closed during				
		operation?		✓		
2.08	S5.7	Are purposely-built site hoarding construction with appropriate materials provided				
		along the site boundary?	✓			
2.09	S5.7	Are noisy operation properly scheduled to minimize exposure and cumulative				
		impacts to nearby sensitive receivers?	✓			
2.10	S5.7	Are valid noise emission label(s) affixed to all hand-held breakers operating on				
		site?	<b>✓</b>			
2.11	S5.7	Are valid noise emission label(s) affixed to all air compressors operating on site?				
				<u> </u>		
2.12	S5.7	Are all construction noise permit(s) applied for percussive piling work?	<b>/</b>			
2.13	S5.7	Are construction noise permit(s) applied for general construction works during				
2.13	55.7	restricted hours?		✓		
2.14	S5.7	Are valid construction noise permit(s) displayed at all vehicular exits?				
				✓		
3.00		Water Quality				
3.01	S6.9	Is effluent discharge license obtained for wastewater discharge from site?		✓		
3.02	S6.9	Is effluent discharged according to the effluent discharge license?				
				✓		
3.03	S6.9	Is wastewater discharge from site properly treated prior to discharge?				
3.04	S6.9	Are perimeter channels provided to intercept storm runoff from outside the site?		<b>_</b>		
3.05	S6.9	Are sand/silt removal facilities such as sand/silt traps and sediment basins provided				
2.33	~ 0.7	and said self-termoral racinities said as said six tarps and sediment outsins provided				





Item No.	EIA ref.		N/A	Yes	No	Photo/Remarks
		to remove sand/silt particles from runoff?		✓		
3.06	S6.9	Is surface runoff diverted to sedimentation facilities?		<b>√</b>		
3.07	S6.9	Is the drainage system properly maintained?		<b>√</b>		
3.08	S6.9	Are construction works carefully programmed to minimize soil excavation works during rainy seasons?	<b>√</b>			
3.09	S6.9	Are exposed soil surface protected by paving as soon as possible to reduce the potential of soil erosion?		<b>√</b>		
3.10	S6.9	Are temporary access roads protected by crushed gravel?	<b>√</b>			
3.11	S6.9	Are exposed slope surface properly protected?	<b>√</b>			
3.12	S6.9	Is trench excavation avoided in the wet season as far as practicable, or if necessary, backfilled in short sections after excavation?		<b>√</b>		
3.13	S6.9	Are open stockpiles of construction materials on site covered by tarpaulin or similar fabric during construction?		<b>√</b>		
3.14	S6.9	Is runoff from wheel-washing facilities avoided?		<b>/</b>		
3.15	S6.9	Is oil leakage or spillage prevented?		<b>√</b>		
3.16	S6.9	Are there any measures to prevent the release of oil and grease into the storm drainage system?		<b>√</b>		
3.17	S6.9	Are the oil interceptors/ grease traps properly maintained?		<b>√</b>		
3.18	S6.9	Are debris and rubbish generated on site collected, handled and disposed of properly to avoid them entering the streams?		<b>√</b>		
3.19	S6.9	Are all fuel tanks and storage areas provided with locks and be sited on sealed areas, within bunds of capacity equal to 110% of the storage capacity of the largest tank?		<b>√</b>		
3.20	S6.9	Are tanks, containers, storage area bunded and the locations locked as far as possible from the sensitive watercourse and stormwater drains?		<b>/</b>		
3.21	S6.9	Are sufficient chemical toilets provided on site to handle sewage from construction work force?		<b>√</b>		
3.22	S6.9	Are sewage disposal and toilet maintenance of the portable chemical toilets provided by the licensed contractors?		<b>√</b>		
3.23	S6.9	Is concrete washing water properly collected and treated prior to discharge?		<b>√</b>		
3.24	S6.9	Is suitable type of silt curtains deployed during dredging to reduce the elevation of suspended solids to nearby sensitive receivers?		<b>√</b>		
3.25	S6.9	Is closed grab dredger used to reduce the potential leakage of sediments?	<b>√</b>			
3.26	S6.9	Is closed grab dredger of 3 to 6 m <sup>3</sup> used for dredging at seawater intake?	<b>4</b>			
3.27	S6.9	Is specific work staff assigned the responsibility for monitoring the number of grab				



wastes at public filling facilities and landfills?

To also Comence and internal on a shame and an analysis of another mandardano

recycled and disposed of?

Is a recording system implemented to record the amount of wastes generated,

4.02 S8.5



Member of the Aurecon Group Contract no. 13/WSD/17 Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant Photo/Remarks Item No. dredged per hour? Is number of cycle limited to 20-21 grab per hour for 3m<sup>3</sup> closed grab, 10-11 grab per hour for 6m3 closed grab? 3.28 S6.9 Is the grab operated in slow and controlled manner such that the impact to seabed by the grab when being lowered could be minimized? Is the operator ensured the grab be properly closed before lifting the grab? 3.29 S6.9 Is the maximum allowed dredging rate at the seawater intake limited to 750 m3/day while the maximum allowed dredging rate at the submarine outfall is 3,500 m3/day? 3.30 S6.9 Is dredged marine sediment disposed of in a gazetted marine disposal area in accordance with marine dumping permit conditions of the Dumping at Sea Ordinance (DASO)? 3.31 S6.9 Are disposal vessels fitted with tight bottom seals in order to prevent leakage of material during transport? 3.32 Are barges filled to a level which ensures that material does not spill over during S6.9 transport to the disposal site and that adequate freeboard is maintained to ensure that the decks are not washed by wave action? Are excess materials cleaned from decks and exposed fittings before the vessel is 3.33 S6.9 moved from the dredging area after dredging? S6.9 3 34 Are the contractor(s) confirmed that the works cause no visible foam, oil, grease, litter or other objectionable matter to be present in the water within and adjacent to the dredging site? When the dredged material has been unloaded at the disposal areas, is any material 3 35 S6 9 accumulated on the deck or other exposed parts of the vessel removed and placed in the hold or a hopper? 3.36 S6.9 Is dredger maintained adequate clearance between vessels and the seabed at all states of the tide and reduce operations speed to ensure that excessive turbidity is not generated by turbulence from vessel movement or propeller wash? 3.37 S6.9 Is the contractor shall regularly inspect the silt curtains and check that they are moored and marked to avoid danger to marine traffic? Is regular inspection on the integrity of the silt curtain carried out by the contractor and any damage to the silt curtain shall be repaired by the contractor promptly? 3.38 S6.9 Are all vessels have a clean ballast system? 3.39 S6.9 Are all vessels well maintained and inspected before use to limit any potential discharges to the marine environment? 3.40 S6.9 Is any discharge of sewage/grey wastewater? Is wastewater from potentially contaminated area on working vessels should be minimized and collected? 3.41 S6.9 Is any soil waste disposed overboard? 4.00 Waste Management 4.01 S8.5 Is a trip-ticket system implemented to monitor the disposal of C&D and solid





Contract no. 13/WSD/17 Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant Photo/Remarks Item No 4.04 S8.5 Is chemical waste separated from other waste and collected by a licensed chemical waste collector? 4.05 S8.5 Are trip tickets for chemical waste disposal available for inspection? 4.06 S8.5 Is drip tray provided for chemical storage? S8.5 4.07 Are all containers for chemical waste properly labelled? S8.5 4.08 Is chemical waste storage area used solely for storage of chemical waste and properly labelled? 4.09 S8.5 Are incompatible chemical wastes stored in different areas? 4.10 S8.5 Is the chemical waste storage area enclosed on at least 3 sides and adequately ventilated? 4.11 S8.5 Is an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or of 20% by volume of the chemical waste stored in that area, whichever is the greatest, provide? 4.12 S8.5 Are a routine cleaning and maintenance programme implemented for drainage systems, sump pits, and oil interceptors? 4.13 S8.5 Are sufficient general refuse disposal/collection points provided on site? 4.14 S8.5 Is general refuse disposed of properly and regularly? S8.5 4.15 Are appropriate measures adopted to minimize windblown litter and dust during transportation of waste? 4.16 S8.5 Are individual collectors for aluminum cans, plastic bottles and packaging material and office paper provided to encourage waste segregation? 4.17 S8.5 Are C&D wastes sorted on site? Reminder 1 4.18 S8.5 Are C&D waste disposed of properly? 4.19 S8.5 Are unused C&D materials or chemicals recycled or reused to reduce the quantity 4.20 S8.5 Are public fill and C&D waste reuse on site as far as practicable to avoid disposal 4.21 S8.5 Are the construction materials stored properly to minimize the potential for damage or contamination? 4.22 S8.5 Is a dumping license obtained to deliver public fill to public filling areas? 5.00 S11.10 Landscape and Visual 5.01 & 11.11 Are Is site hoarding provided? 5.02 S11.10 & Are vegetation disturbance minimized or soil protected to reduce potential soil erosion?





Contract no. 13/WSD/17 Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant Photo/Remarks Item No. 11.11 5.03 S11.10 & Is construction light oriented away from the sensitive receivers? 11.11 5.04 S11.10 Is grass hydroseeding provided to slopes as soon as the completion of works? & 11.11 5.05 S11.10 & Are damages to trees outside site boundary due construction works avoided? 11.11 5.06 \$11.10 & Is excavation works carried out manually instead of machinery operation within 2.5m 11.11 vicinity of any preserved trees? 5.07 S11.10 & Are the retained and transplanted tree(s) properly protected and in good conditions? 11.11 5.08 S11.10 & Are surgery works carried out for damaged trees? 11.11 S9.7 6.00 Ecology 6.01 Is site runoff properly treated to prevent any silly runoff? 6.02 S9.7 Are silt trap installed and well-maintained? 6.03 S9.7 Are stockpiles properly covered to avoid generating silty runoff? 6.04 S9.7 Are construction works restricted to works area which are clearly defined? S9.7 For slope mitigation works within the Clear Water Bay Country Park, are tree felling and 6.05 damages to trees, the exact locations of the flexible barrier foundation plates, soil nails and rock dowels adjusted during detailed design, and a setback distance from existing trees is recommended to be maintained as far as practical? 6.06 S9.7 Are pruning of tree canopies along the alignment of the flexible barriers limited to a 6.07 S9.7 Is the alignment of flexible barriers optimized to preserve all species of conservation interest and minimize the impact to the existing vegetation as far as practicable? Are the alignment of flexible barriers positioned at minimum 1.5 m in a radius away from these individuals? 6.08 S9.7 Is temporary fencing installed to fence off 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? Is a sign identifying the site attached to the fence and flagging tape shall be attached to the individuals to visualize their locations? 6.09 S9.7 Is a specification for fencing and demarcating individuals of Marsdenai lachnostoma (or other flora species of conservation interest, if found) adjacent to the proposed alignment of the flexible barriers prepared to protect the species? 6.10 S9.7 Is any induction training provided to all site personnel in order to brief them on this flora of conservation interest including the locations and their importance? 6.11 S9.7 Is the resident site supervisory staff closely monitor the conditions of concerned individuals during construction of flexible barriers in the close proximity? 6.12 S9.7 Are fences erected along the boundary of the works area before the commencement of works to prevent vehicle movements and encroachment of personnel onto adjacent





Item	EIA ref.		N/A	Yes	No	Photo/Remarks
No.						
6.13	S9.7	Is regular check of the work site boundaries performed to ensure that they are not				
		breached and that damage does not occur to surrounding areas?		$\checkmark$		
6.14	S9 7	Is any damage and disturbance avoided, particularly those caused by filling and illegal				
0.1	57.7	dumping, to the surrounding habitats through proper management of waste disposal?		✓		
6.15	S9 7	Are temporarily affected areas reinstated, particularly the habitats of plantation and				
0.13	57.7	shrubland-grassland immediately after completion of construction works, through on-site	✓			
		tree/shrub planting?				
6.16	S9.7	Are affected habitats within the Clear Water Bay Country Bay reinstated by hydro-				
		seeding and planting of climbers and native shrub seedlings where practical upon				
		completion of the slope mitigation works?	<b>V</b>			
7.00		Landfill Gas Hazard				
7.01	S12.7	Are the safety procedures implemented to minimise the risks of fires and explosions,				
		asphyxiation of works and toxicity effects during all works?		<b>V</b>		
7.02	S12.7	Are the gas detection equipment and precautions being used during trenching and				
7.02	512.7	excavation as well as creation of confined spaces?		✓		
7.03	S12.7	Are the training with regard to the awareness of potential hazards of working in confined				
		spaces provided from the Contractor to the workers?		<b>4</b>		
7.04	S12.7	Are the safety officers trained with regard to landfill gas and leachate related hazards and				<del>-</del>
7.04	512.7	presented on the site throughout the works undertaken below grade?		<b>√</b>		
7.05	S12.7	Are the all personnel working on site and all visitor made aware of the possibility of				
,	512.7	ignition of gas, the possible presence of contaminated water and the need to avoid				
		physical contact?		<b>V</b>		-
7.06	S12.7	Is the monitoring of landfill gas being undertaken in all excavations, manholes,				
		chambers and any confined spaces?		✓		
7.07	S12.7	Are the monitoring frequency and areas being specified by the safety officers or				
		appropriately qualified person? Are the all measurements being recorded and		<b>✓</b>		
		documented?				-
7.08	S12.7	Is the drilling proceeded with adequate care and precautions against the potential				
		hazards?		✓		
7.09	S12.7	Is the method statement covering all normal and emergency procedures provided by				
		the drilling contractor prior to the commencement of the site works?	<b>√</b>			
7.10	S12.7	Are the below ground services entries being sealed to prevent gas entry? Are the				·
		grilled metal covers being used for below grade cable trenches?	<b>√</b>			
7.11	S12.7	Is each manhole or utility pit monitored with two measurements (at mid-depth and				-
, , , , ,	512.7	base) for minimum of 10 minutes? Is the steady reading and peak reading recorded				
		at each manhole or utility pit?	<b>V</b>			
7.12	S12.7	Are the warning signs of the hazards of landfill gas and its possible presence on site				
1.12	D12./	posted in prominent places?		<b>√</b>		
0 00			_ <del></del>	_ <del></del>	_ <del></del>	
8.00		Overall Is the EM® A preparly implemented in general?		<b>√</b>		
8.01	1	Is the EM&A properly implemented in general?			ш	



# aurecon

1 (7)								· · · · · · · · · · · · · · · · · · ·
Kemark / Fol	llow up of Obse	rvation(s) and Non-comp	oliance(s) of	Last Weekly Site Ins	spection:			
Site	Inspection	on Date: 5	Nov 2	Ysa				
100	major	observation	was	faml	durn	g site	inspect.	1n-,
Signat	ures:					<del></del>		
ET Repres	Intative	Contractor's Representative		pervising Officer's presentative		s esentative	WSD's Represe	ntative
(Name	Toby Wan	) (Name: A-	<b>ر</b> ) (Na	ame:	), (Nar	ne:	) (Name:	)





### WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST

Inspection	on Date: _	14 November 2024	Inspected by:	ET:	Toby Wan  Andy Leung	SO:De	erek Lai	WSD:	
Inspectio	on Time: _	14:30							
Weathe									
Conditi	ion	Sunny	Overcast	Drizzle	Rain	Storm	Ha	zy	
Temper	rature	24.8 °C Humidity ✓ High Moderate							
Wind		Calm	Breeze	Strong					
		<u>_</u>							
Item	EIA ref.					N/A	Yes	No	Photo/Remarks
No.									
0.00		General				l			
0.01		Is the current Environmental Per	mit displayed co	nspicuously a	t all vehicle site		✓		
		entrances/exits for public's informa-	ation at any time?						
0.02		Is ET Leader's log-book kept readi	ily available for in	spections?			<b>/</b>		
		Construction Dust						<u> </u>	
1.00	S4.8.1	Are dusty materials, such as exca-	vated materials, b	uilding debris	and construction				
1.01		materials, and exposed earth surfac		•			<b>✓</b>		
1.02	S4.8.1	Are screenings, enclosures, water s	spraying, or vacuu	ım cleaning de	vices provided to				
		dusty construction works for dust s	suppression?				$\checkmark$		
1.03	S4.8.1	Are fumes or smoke emitting plant	s or construction a	activities shiel	ded by a screen?	<b>√</b>			
1.04	S4.8.1	Are wheel-washing facilities with	high-pressure water	er jets provide	d at all site exits?	<b>√</b>			
1.05	S4.8.1	Is wheel-washing provided to all v	ehicles leaving the	e site?		<b>√</b>			
1.06	S4.8.1	Are road section near the site exit f	free from dusty ma	aterial?					
1.07	S4.8.1	Are all main haul roads inside the	e site paved or si	prayed with w	rater to minimize				
		dust emission during vehicle move	_			✓			
1.08	S4.8.1	Are water spraying provided imm	ediately prior to a	any loading or	transfer of dusty				
		materials?				✓			
1.09	S4.8.1	Are covers provided to all dump to	rucks carrying dus	sty materials w	hen entering and				
		leaving the site?				✓			
1.10	S4.8.1	Are the working areas for uprooting	ng of trees, shrub	s, or vegetation	on or the removal				
		of boulders, poles, pillars sprayed	with water to mair	ntain the entire	surface wet?	<b>√</b>			
1.11	S4.8.1	Is exposed earth properly treated	l within six mon	ths after the	last construction				
		activity on site?				✓		Ш	
1.12	S4.8.1	Does the operation of plants on site	e free form dark si	moke emission	1?	1			
1.13	S4.8.1		, 11 4 = 1	д заз	0		$\overline{}$		
		Are vehicles travelling at speed no	t exceeding 15km	/nr within the	site?		✓		
1.14	S4.8.1	Are stock of more than 20 bags of	f cement or day P	FA covered or	r sheltered on top	<b>/</b>			





	EIA ref.		N/A	Yes	No	Photo/Remarks
No.		and 3 sides?				
1.15	S4.8.1	Are de-bagging, batching and mixing processes of bagged cement carried out in				
1.13	54.6.1	sheltered areas?	✓			
1.16	S4.8.1	Are hoarding of at least 2.4m high provided along the site boundary adjoining areas				
		accessible by the public?	✓			
1.17	S4.8.1	Is open burning prohibited?				
				✓		
2.00		Construction Noise (Airborne)				
2.01	S5.7	Are quiet plants adopted on site?		✓		
2.02	S5.7	Are the PMEs operating on site well-maintained to minimize the generation of				
		excessive noise?		✓		
2.03	S5.7	Are plants throttled down or turned off when not in use?				
			<b>~</b>			
2.04	S5.7	Are the plants known to emit noise strongly in one direction oriented to face away	1			
2.05	0.5.5	from NSRs?				
2.05	S5.7	Are moveable barriers provided to screen NSRs from plant or noisy operations?	<b>4</b>			
2.06	S5.7					
2.00	33.7	Are silencers, mufflers and enclosures provided to plants?		✓		
2.07	S5.7	Are the hoods, cover panels and inspection hatches of PMEs closed during				
		operation?		<b>✓</b>		
2.08	S5.7	Are purposely-built site hoarding construction with appropriate materials provided				
		along the site boundary?	>			
2.09	S5.7	Are noisy operation properly scheduled to minimize exposure and cumulative	1			
		impacts to nearby sensitive receivers?				-
2.10	S5.7	Are valid noise emission label(s) affixed to all hand-held breakers operating on	1			
		site?				
2.11	S5.7	Are valid noise emission label(s) affixed to all air compressors operating on site?		<b>✓</b>		
2.12	S5.7	Are all construction noise permit(s) applied for percussive piling work?				
			✓			
2.13	S5.7	Are construction noise permit(s) applied for general construction works during				
		restricted hours?		<b>V</b>		
2.14	S5.7	Are valid construction noise permit(s) displayed at all vehicular exits?		<b>√</b>		
3.00		Water Quality				
	S6.9	Is effluent discharge license obtained for wastewater discharge from site?		<b>√</b>		
3.02		Is effluent discharged according to the effluent discharge license?				
5.02	50.7	as errident disentinged according to the errident disentinge needs:		✓		
3.03	S6.9	Is wastewater discharge from site properly treated prior to discharge?				_
					Ш	
3.04	S6.9	Are perimeter channels provided to intercept storm runoff from outside the site?	<b>√</b>			
3.05	S6.9	Are sand/silt removal facilities such as sand/silt traps and sediment basins provided				





Item	EIA ref.		N/A	Yes	No	Photo/Remarks
No.						
		to remove sand/silt particles from runoff?	<b>√</b>			
3.06	S6.9	Is surface runoff diverted to sedimentation facilities?	<b>√</b>			
3.07	S6.9	Is the drainage system properly maintained?				
3.08	S6.9	Are construction works carefully programmed to minimize soil excavation works		<u> </u>		
3.00	50.7	during rainy seasons?	✓			
3.09	S6.9	Are exposed soil surface protected by paving as soon as possible to reduce the				
		potential of soil erosion?	✓			-
3.10	S6.9	Are temporary access roads protected by crushed gravel?				
2.11	000		V			,
3.11	\$6.9	Are exposed slope surface properly protected?	<b>√</b>			
3.12	S6.9	Is trench excavation avoided in the wet season as far as practicable, or if necessary,				
		backfilled in short sections after excavation?	<b>✓</b>			
3.13	S6.9	Are open stockpiles of construction materials on site covered by tarpaulin or similar				
		fabric during construction?	<b>✓</b>			
3.14	S6.9	Is runoff from wheel-washing facilities avoided?	<b>√</b>			
3.15	S6.9	Is oil leakage or spillage prevented?		<b></b>		
3.16	S6.9	Are there any measures to prevent the release of oil and grease into the storm		$\overline{}$	$\equiv$	
		drainage system?		✓		
3.17	S6.9	Are the oil interceptors/ grease traps properly maintained?		<b>√</b>		
3.18	S6.9	Are debris and rubbish generated on site collected, handled and disposed of				
		properly to avoid them entering the streams?		✓		
3.19	S6.9	Are all fuel tanks and storage areas provided with locks and be sited on sealed				
		areas, within bunds of capacity equal to 110% of the storage capacity of the largest	✓			
		tank?				
3.20	S6.9	Are tanks, containers, storage area bunded and the locations locked as far as				
		possible from the sensitive watercourse and stormwater drains?		<b>√</b>		-
3.21	S6.9	Are sufficient chemical toilets provided on site to handle sewage from construction				
		work force?		V		
3.22	S6.9	Are sewage disposal and toilet maintenance of the portable chemical toilets		<b></b>		
		provided by the licensed contractors?		Ľ		(
3.23	S6.9	Is concrete washing water properly collected and treated prior to discharge?		<b>√</b>		
3.24	S6.9	Is suitable type of silt curtains deployed during dredging to reduce the elevation of				
		suspended solids to nearby sensitive receivers?		✓		
3.25	S6.9	Is closed grab dredger used to reduce the potential leakage of sediments?	<b>✓</b>			
3.26	S6.9	Is closed grab dredger of 3 to 6 m <sup>3</sup> used for dredging at seawater intake?	<b>√</b>			
3.27	S6.9	Is specific work staff assigned the responsibility for monitoring the number of grab				
		1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2				



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4.02 S8.5



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Item No.	EIA ref.		N/A	Yes	No	Photo/Remarks
110.		breached and that damage does not occur to surrounding areas?		<b>T / T</b>		
6.14	S9.7	Is any damage and disturbance avoided, particularly those caused by filling and illegal		1		
		dumping, to the surrounding habitats through proper management of waste disposal?		<u> </u>		
6.15	S9.7	Are temporarily affected areas reinstated, particularly the habitats of plantation and	1			
		shrubland-grassland immediately after completion of construction works, through on-site tree/shrub planting?	ب			
6.16	SQ 7	Are affected habitats within the Clear Water Bay Country Bay reinstated by hydro-				
0.10	57.7	seeding and planting of climbers and native shrub seedlings where practical upon				
		completion of the slope mitigation works?	<b>✓</b>	Ш		
7.00		Landfill Gas Hazard				
7.01	S12.7	Are the safety procedures implemented to minimise the risks of fires and explosions,		1		
		asphyxiation of works and toxicity effects during all works?		Ľ		
7.02	S12.7	Are the gas detection equipment and precautions being used during trenching and				
		excavation as well as creation of confined spaces?		✓		
7.03	S12.7	Are the training with regard to the awareness of potential hazards of working in confined				
		spaces provided from the Contractor to the workers?		✓		
7.04	S12.7	Are the safety officers trained with regard to landfill gas and leachate related hazards and				
		presented on the site throughout the works undertaken below grade?		<b>V</b>		
7.05	S12.7	Are the all personnel working on site and all visitor made aware of the possibility of				
		ignition of gas, the possible presence of contaminated water and the need to avoid		✓		
7.06	S12.7	physical contact?  Is the monitoring of landfill gas being undertaken in all excavations, manholes,				
7.00	512.7	chambers and any confined spaces?		<b>√</b>		
7.07	S12.7	Are the monitoring frequency and areas being specified by the safety officers or	·	<u> </u>		
7.07	512.7	appropriately qualified person? Are the all measurements being recorded and		<b>√</b>		
		documented?				
7.08	S12.7	Is the drilling proceeded with adequate care and precautions against the potential				
		hazards?		✓		
7.09	S12.7	Is the method statement covering all normal and emergency procedures provided by				
		the drilling contractor prior to the commencement of the site works?	✓			
7.10	S12.7	Are the below ground services entries being sealed to prevent gas entry? Are the				
		grilled metal covers being used for below grade cable trenches?	✓			_
7.11	S12.7	Is each manhole or utility pit monitored with two measurements (at mid-depth and				
		base) for minimum of 10 minutes? Is the steady reading and peak reading recorded	✓			
		at each manhole or utility pit?	<u> </u>			
7.12	S12.7	Are the warning signs of the hazards of landfill gas and its possible presence on site				
		posted in prominent places?				
8.00		Overall				
8.01		Is the EM&A properly implemented in general?				



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]	Remark / Follow up of Observe	ation(s) and Non-compliance(	s) of Last Weekly Site Inspect	ion:		
	Site Inspecti	Ion Date i 14	- Nov zozlf.			
	No major o	bservation was	famed durn	y site ins	geethen	
	·			J	,	
	Signatures:					
	ET	Contractor's	Supervising Officer's	IEC's	WCDI-	
	Representative	Representative	Representative	Representative	WSD's Representative	
	(Name: Toky Wan)	(Name: Andylang)	(Name: Ordela)	(Name:	) (Name:	)





### WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST

Inspection	on Date: _	18 November 2024	Inspected by:	ET:	Toby Wan  Andy Leung	SO:D6	erek Lai	WSD:	
Inchactic	on Time: _	9:30			, ,				
Weathe									
Conditi		Sunny	Overcast	Drizzle	Rain	Storm	Ha	zy	
Temper	rature	24.2 °C	Humidity	High	Moderate	Low			
Wind		Calm \( \sqrt{\text{Light}}	Breeze	Strong					
Item 1	EIA ref.					N/A	Yes	No	Photo/Remarks
No.									
0.00		General				<b> </b>			
0.01		Is the current Environmental Per	mit displayed co	nspicuously a	t all vehicle site		<b>√</b>		
		entrances/exits for public's informa	ation at any time?						
0.02		Is ET Leader's log-book kept readi	ly available for in	spections?			<b>√</b>		
		Construction Dust							
1.00	S4.8.1	Are dusty materials, such as excav	vated materials, b	uilding debris	and construction				
1.01		materials, and exposed earth surfac		•			<b>✓</b>		-
1.02	S4.8.1	Are screenings, enclosures, water s	spraying, or vacuu	ım cleaning de	vices provided to				
		dusty construction works for dust s	suppression?				✓		
1.03	S4.8.1	Are fumes or smoke emitting plant	s or construction	activities shiel	ded by a screen?	<b>V</b>			
1.04	S4.8.1	Are wheel-washing facilities with h	high-pressure wat	er jets provide	d at all site exits?				
1.05	S4.8.1								•
		Is wheel-washing provided to all vo	ehicles leaving the	e site?		✓			
1.06	S4.8.1	Are road section near the site exit f	ree from dusty m	aterial?		<b>✓</b>			
1.07	S4.8.1	Are all main haul roads inside the	e site paved or sp	prayed with w	ater to minimize				
		dust emission during vehicle move	ment?			<b>√</b>			
1.08	S4.8.1	Are water spraying provided imme materials?	ediately prior to a	any loading or	transfer of dusty	<b>V</b>			
1.09	C 1 O 1	Are covers provided to all dump tr	males sometime due	otry motoriolo v	than antaring and				
1.09	34.0.1	leaving the site?	ucks carrying dus	sty materials w	men emering and	<b>√</b>			
1.10	C 1 O 1	Are the working areas for uprooting	u a af tua aa ah uu h						
1.10	34.0.1	of boulders, poles, pillars sprayed v				<b>√</b>			
1 11 (	04.0.1								
1.11	\$4.8.1	Is exposed earth properly treated activity on site?	i within six mon	iths after the	last construction	✓			
1.12	S4.8.1	Does the operation of plants on site	e free form dark si	moke emissior	?	<b>4</b>			
1.13	S4.8.1	Are vehicles travelling at speed not	t exceeding 15km	/hr within the	site?		<b>/</b>		
1.14	S4.8.1	Are stock of more than 20 bags of	cement or day P	PFA covered or	sheltered on top				





	EIA ref.		N/A	Yes	No	Photo/Remarks
No.		and 3 sides?				
1.15	S4.8.1	Are de-bagging, batching and mixing processes of bagged cement carried out in				
1.13	54.6.1	sheltered areas?	✓			
1.16	S4.8.1	Are hoarding of at least 2.4m high provided along the site boundary adjoining areas				
		accessible by the public?	✓			
1.17	S4.8.1	Is open burning prohibited?				
				✓		
2.00		Construction Noise (Airborne)				
2.01	S5.7	Are quiet plants adopted on site?		✓		
2.02	S5.7	Are the PMEs operating on site well-maintained to minimize the generation of				
		excessive noise?		✓		
2.03	S5.7	Are plants throttled down or turned off when not in use?				
			<b>~</b>			
2.04	S5.7	Are the plants known to emit noise strongly in one direction oriented to face away	1			
2.05	0.5.5	from NSRs?				
2.05	S5.7	Are moveable barriers provided to screen NSRs from plant or noisy operations?	<b>4</b>			
2.06	S5.7					
2.00	33.7	Are silencers, mufflers and enclosures provided to plants?		✓		
2.07	S5.7	Are the hoods, cover panels and inspection hatches of PMEs closed during				
		operation?		<b>✓</b>		
2.08	S5.7	Are purposely-built site hoarding construction with appropriate materials provided				
		along the site boundary?	>			
2.09	S5.7	Are noisy operation properly scheduled to minimize exposure and cumulative	1			
		impacts to nearby sensitive receivers?				-
2.10	S5.7	Are valid noise emission label(s) affixed to all hand-held breakers operating on	1			
		site?				
2.11	S5.7	Are valid noise emission label(s) affixed to all air compressors operating on site?		<b>✓</b>		
2.12	S5.7	Are all construction noise permit(s) applied for percussive piling work?				
			✓			
2.13	S5.7	Are construction noise permit(s) applied for general construction works during				
		restricted hours?		<b>V</b>		
2.14	S5.7	Are valid construction noise permit(s) displayed at all vehicular exits?		<b>√</b>		
3.00		Water Quality				
	S6.9	Is effluent discharge license obtained for wastewater discharge from site?		<b>√</b>		
3.02		Is effluent discharged according to the effluent discharge license?				
5.02	50.7	as errident disentinged according to the errident disentinge needs:		✓		
3.03	S6.9	Is wastewater discharge from site properly treated prior to discharge?				_
					Ш	
3.04	S6.9	Are perimeter channels provided to intercept storm runoff from outside the site?	<b>√</b>			
3.05	S6.9	Are sand/silt removal facilities such as sand/silt traps and sediment basins provided				





Item	EIA ref.		N/A	Yes	No	Photo/Remarks
No.						
		to remove sand/silt particles from runoff?	<b>√</b>			
3.06	S6.9	Is surface runoff diverted to sedimentation facilities?	<b>√</b>			
3.07	S6.9	Is the drainage system properly maintained?				
3.08	S6.9	Are construction works carefully programmed to minimize soil excavation works		<u> </u>		
3.00	50.7	during rainy seasons?	✓			
3.09	S6.9	Are exposed soil surface protected by paving as soon as possible to reduce the				
		potential of soil erosion?	✓			-
3.10	S6.9	Are temporary access roads protected by crushed gravel?				
2.11	000		V			,
3.11	\$6.9	Are exposed slope surface properly protected?	<b>√</b>			
3.12	S6.9	Is trench excavation avoided in the wet season as far as practicable, or if necessary,				
		backfilled in short sections after excavation?	<b>✓</b>			
3.13	S6.9	Are open stockpiles of construction materials on site covered by tarpaulin or similar				
		fabric during construction?	<b>✓</b>			
3.14	S6.9	Is runoff from wheel-washing facilities avoided?	<b>√</b>			
3.15	S6.9	Is oil leakage or spillage prevented?		<b></b>		
3.16	S6.9	Are there any measures to prevent the release of oil and grease into the storm		$\overline{}$	$\equiv$	
		drainage system?		✓		
3.17	S6.9	Are the oil interceptors/ grease traps properly maintained?		<b>√</b>		
3.18	S6.9	Are debris and rubbish generated on site collected, handled and disposed of				
		properly to avoid them entering the streams?		✓		
3.19	S6.9	Are all fuel tanks and storage areas provided with locks and be sited on sealed				
		areas, within bunds of capacity equal to 110% of the storage capacity of the largest	✓			
		tank?				
3.20	S6.9	Are tanks, containers, storage area bunded and the locations locked as far as				
		possible from the sensitive watercourse and stormwater drains?		<b>√</b>		-
3.21	S6.9	Are sufficient chemical toilets provided on site to handle sewage from construction				
		work force?		V		
3.22	S6.9	Are sewage disposal and toilet maintenance of the portable chemical toilets		<b></b>		
		provided by the licensed contractors?		Ľ		(
3.23	S6.9	Is concrete washing water properly collected and treated prior to discharge?		<b>√</b>		
3.24	S6.9	Is suitable type of silt curtains deployed during dredging to reduce the elevation of				
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3.25	S6.9	Is closed grab dredger used to reduce the potential leakage of sediments?	<b>✓</b>			
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Item No.	EIA ref.		N/A	Yes	No	Photo/Remarks
110.		breached and that damage does not occur to surrounding areas?		<b>T / T</b>		
6.14	S9.7	Is any damage and disturbance avoided, particularly those caused by filling and illegal		1		
		dumping, to the surrounding habitats through proper management of waste disposal?		<u> </u>		
6.15	S9.7	Are temporarily affected areas reinstated, particularly the habitats of plantation and	1			
		shrubland-grassland immediately after completion of construction works, through on-site tree/shrub planting?	ب			
6.16	SQ 7	Are affected habitats within the Clear Water Bay Country Bay reinstated by hydro-				
0.10	57.7	seeding and planting of climbers and native shrub seedlings where practical upon				
		completion of the slope mitigation works?	<b>✓</b>	Ш		
7.00		Landfill Gas Hazard				
7.01	S12.7	Are the safety procedures implemented to minimise the risks of fires and explosions,		1		
		asphyxiation of works and toxicity effects during all works?				
7.02	S12.7	Are the gas detection equipment and precautions being used during trenching and				
		excavation as well as creation of confined spaces?		✓		
7.03	S12.7	Are the training with regard to the awareness of potential hazards of working in confined				
		spaces provided from the Contractor to the workers?		✓		
7.04	S12.7	Are the safety officers trained with regard to landfill gas and leachate related hazards and				
		presented on the site throughout the works undertaken below grade?		<b>V</b>		
7.05	S12.7	Are the all personnel working on site and all visitor made aware of the possibility of				
		ignition of gas, the possible presence of contaminated water and the need to avoid		✓		
7.06	S12.7	physical contact?  Is the monitoring of landfill gas being undertaken in all excavations, manholes,				
7.00	512.7	chambers and any confined spaces?		<b>√</b>		
7.07	S12.7	Are the monitoring frequency and areas being specified by the safety officers or	·	<u> </u>		
7.07	512.7	appropriately qualified person? Are the all measurements being recorded and		<b>√</b>		
		documented?				
7.08	S12.7	Is the drilling proceeded with adequate care and precautions against the potential				
		hazards?		✓		
7.09	S12.7	Is the method statement covering all normal and emergency procedures provided by				
		the drilling contractor prior to the commencement of the site works?	✓			
7.10	S12.7	Are the below ground services entries being sealed to prevent gas entry? Are the				
		grilled metal covers being used for below grade cable trenches?	✓			_
7.11	S12.7	Is each manhole or utility pit monitored with two measurements (at mid-depth and				
		base) for minimum of 10 minutes? Is the steady reading and peak reading recorded	✓			
		at each manhole or utility pit?	<u> </u>			
7.12	S12.7	Are the warning signs of the hazards of landfill gas and its possible presence on site				
		posted in prominent places?				
8.00		Overall				
8.01		Is the EM&A properly implemented in general?				



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_						_				
Rei	mark / Follow up o	of Observation	on(s) and Non-compl	iance(s)	of Last Weekly Sit	e Inspection:				
	Site Insp	ection	Date: 18	Nou	2024					
	No v	naj-r	observation	Was	found	dur-	site	inspe	cflan.	
									,	
	Signatures:	·								
	ET Representative		Contractor's Representative		Supervising Office Representative		C's epresentative		WSD's Representative	
	(Name: 7.hy	(O). (Vom) (	(Name: Ary lam	.1 <sup>)</sup>	(Name Rrel	! [ai] (	Jame:	)	(Name:	)





### WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST

Inspection Date:		26 November 2024							
Inquastian T	·	9:15			Andy Leung				
Inspection T Weather	ime: _								
Condition		<b>√</b> Sunny Fine	Overcast	Drizzle	Rain	Storm	На	azy	
Temperatui	re	20.8 °C	Humidity	✓ High	Moderate	Low			
Wind		Calm	Breeze	Strong					
Item EIA	ref.					N/A	Yes	No	Photo/Remarks
No.									
0.00		General							
0.01		Is the current Environmental Pe	ermit displayed co	onspicuously a	t all vehicle site		1		
		entrances/exits for public's inform	nation at any time?	•					
0.02		T DEEL 1 2 1 1 1 1 1 1							
		Is ET Leader's log-book kept read	illy available for it	ispections?			✓		
		Construction Dust							
1.00 S4.8	8.1	Are dusty materials, such as exca	avated materials, b	ouilding debris	and construction		./		
1.01		materials, and exposed earth surfa	ace properly covere	ed to prevent d	ust emission?		ت ا		
1.02 S4.8	8.1	Are screenings, enclosures, water	spraying, or vacuu	um cleaning de	evices provided to				
		dusty construction works for dust	suppression?				✓		
1.03 S4.8	8.1								
		Are fumes or smoke emitting plan	nts or construction	activities shiel	ded by a screen?	✓			
1.04 S4.8	8.1	Are wheel-washing facilities with	high-pressure wat	ter jets provide	d at all site exits?	<b>/</b>			
1.05 S4.8	8.1	Is wheel-washing provided to all	vehicles leaving th	e site?		<b>√</b>			
1.06 S4.8	8.1	Are road section near the site exit	free from dusty m	aterial?		<b>√</b>			
1.07 S4.8	8.1	Are all main haul roads inside the	he site paved or s	prayed with w	vater to minimize				
		dust emission during vehicle mov	ement?			✓			
1.08 S4.8	8.1	Are water spraying provided imn	nediately prior to	any loading or	transfer of dusty				
		materials?				✓			
1.09 S4.8	8.1	Are covers provided to all dump	trucks carrying du	sty materials v	when entering and				
		leaving the site?				✓			
1.10 S4.8	8.1	Are the working areas for uproot	ing of trees, shrub	os, or vegetation	on or the removal				
		of boulders, poles, pillars sprayed	with water to mai	ntain the entire	e surface wet?	✓			
1.11 S4.8	8.1	Is exposed earth properly treate	ed within six mor	nths after the	last construction				
		activity on site?				✓			
1.12 S4.8	8.1	Danida aranti 6 1 :	4 - C 1 - 1	1	- 9				
		Does the operation of plants on sit	te free form dark s	moke emissior	1?	✓			
1.13 S4.8	8.1	Are vehicles travelling at speed no	ot exceeding 15km	h/hr within the	site?		<b></b>		
1.14 046	0 1	And ato all of many them 20.1	.f	DEA	n alaaltana 3 t				
1.14 S4.8	0.1	Are stock of more than 20 bags of	or cement or day F	TA COVERED O	snenered on top	<b>√</b>			





	EIA ref.		N/A	Yes	No	Photo/Remarks
No.		and 3 sides?				
1.15	S4.8.1	Are de-bagging, batching and mixing processes of bagged cement carried out in				
1.13	54.6.1	sheltered areas?	✓			
1.16	S4.8.1	Are hoarding of at least 2.4m high provided along the site boundary adjoining areas				
		accessible by the public?	✓			
1.17	S4.8.1	Is open burning prohibited?				
				✓		
2.00		Construction Noise (Airborne)				
2.01	S5.7	Are quiet plants adopted on site?		✓		
2.02	S5.7	Are the PMEs operating on site well-maintained to minimize the generation of				
		excessive noise?		✓		
2.03	S5.7	Are plants throttled down or turned off when not in use?				
			<b>~</b>			
2.04	S5.7	Are the plants known to emit noise strongly in one direction oriented to face away	1			
2.05	0.5.5	from NSRs?				
2.05	S5.7	Are moveable barriers provided to screen NSRs from plant or noisy operations?	<b>4</b>			
2.06	S5.7					
2.00	33.7	Are silencers, mufflers and enclosures provided to plants?		✓		
2.07	S5.7	Are the hoods, cover panels and inspection hatches of PMEs closed during				
		operation?		<b>✓</b>		
2.08	S5.7	Are purposely-built site hoarding construction with appropriate materials provided				
		along the site boundary?	>			
2.09	S5.7	Are noisy operation properly scheduled to minimize exposure and cumulative	1			
		impacts to nearby sensitive receivers?				-
2.10	S5.7	Are valid noise emission label(s) affixed to all hand-held breakers operating on	1			
		site?				
2.11	S5.7	Are valid noise emission label(s) affixed to all air compressors operating on site?		<b>✓</b>		
2.12	S5.7	Are all construction noise permit(s) applied for percussive piling work?				
			✓			
2.13	S5.7	Are construction noise permit(s) applied for general construction works during				
		restricted hours?		<b>V</b>		
2.14	S5.7	Are valid construction noise permit(s) displayed at all vehicular exits?		<b>√</b>		
3.00		Water Quality				
	S6.9	Is effluent discharge license obtained for wastewater discharge from site?		<b>√</b>		
3.02		Is effluent discharged according to the effluent discharge license?				
5.02	50.7	as errident disentinged according to the errident disentinge needs:		✓		
3.03	S6.9	Is wastewater discharge from site properly treated prior to discharge?				_
					Ш	
3.04	S6.9	Are perimeter channels provided to intercept storm runoff from outside the site?	<b>√</b>			
3.05	S6.9	Are sand/silt removal facilities such as sand/silt traps and sediment basins provided				





Item	EIA ref.		N/A	Yes	No	Photo/Remarks
No.						
		to remove sand/silt particles from runoff?	<b>√</b>			
3.06	S6.9	Is surface runoff diverted to sedimentation facilities?	<b>√</b>			
3.07	S6.9	Is the drainage system properly maintained?				
3.08	S6.9	Are construction works carefully programmed to minimize soil excavation works		<u> </u>		
3.00	50.7	during rainy seasons?	✓			
3.09	S6.9	Are exposed soil surface protected by paving as soon as possible to reduce the				
		potential of soil erosion?	✓			-
3.10	S6.9	Are temporary access roads protected by crushed gravel?				
2.11	000		V			,
3.11	\$6.9	Are exposed slope surface properly protected?	<b>√</b>			
3.12	S6.9	Is trench excavation avoided in the wet season as far as practicable, or if necessary,				
		backfilled in short sections after excavation?	<b>✓</b>			
3.13	S6.9	Are open stockpiles of construction materials on site covered by tarpaulin or similar				
		fabric during construction?	<b>✓</b>			
3.14	S6.9	Is runoff from wheel-washing facilities avoided?	<b>√</b>			
3.15	S6.9	Is oil leakage or spillage prevented?		<b></b>		
3.16	S6.9	Are there any measures to prevent the release of oil and grease into the storm		$\overline{}$	$\equiv$	
		drainage system?		✓		
3.17	S6.9	Are the oil interceptors/ grease traps properly maintained?		<b>√</b>		
3.18	S6.9	Are debris and rubbish generated on site collected, handled and disposed of				
		properly to avoid them entering the streams?		✓		
3.19	S6.9	Are all fuel tanks and storage areas provided with locks and be sited on sealed				
		areas, within bunds of capacity equal to 110% of the storage capacity of the largest	✓			
		tank?				
3.20	S6.9	Are tanks, containers, storage area bunded and the locations locked as far as				
		possible from the sensitive watercourse and stormwater drains?		<b>√</b>		-
3.21	S6.9	Are sufficient chemical toilets provided on site to handle sewage from construction				
		work force?		V		
3.22	S6.9	Are sewage disposal and toilet maintenance of the portable chemical toilets		<b></b>		
		provided by the licensed contractors?		Ľ		(
3.23	S6.9	Is concrete washing water properly collected and treated prior to discharge?		<b>√</b>		
3.24	S6.9	Is suitable type of silt curtains deployed during dredging to reduce the elevation of				
		suspended solids to nearby sensitive receivers?		✓		
3.25	S6.9	Is closed grab dredger used to reduce the potential leakage of sediments?	<b>✓</b>			
3.26	S6.9	Is closed grab dredger of 3 to 6 m <sup>3</sup> used for dredging at seawater intake?	<b>√</b>			
3.27	S6.9	Is specific work staff assigned the responsibility for monitoring the number of grab				
		1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2				



wastes at public filling facilities and landfills?

To also Comence and internal on a shame and an analysis of another mandardano

recycled and disposed of?

Is a recording system implemented to record the amount of wastes generated,

4.02 S8.5



Member of the Aurecon Group Contract no. 13/WSD/17 Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant Photo/Remarks Item No. dredged per hour? Is number of cycle limited to 20-21 grab per hour for 3m<sup>3</sup> closed grab, 10-11 grab per hour for 6m3 closed grab? 3.28 S6.9 Is the grab operated in slow and controlled manner such that the impact to seabed by the grab when being lowered could be minimized? Is the operator ensured the grab be properly closed before lifting the grab? 3.29 S6.9 Is the maximum allowed dredging rate at the seawater intake limited to 750 m3/day while the maximum allowed dredging rate at the submarine outfall is 3,500 m3/day? 3.30 S6.9 Is dredged marine sediment disposed of in a gazetted marine disposal area in accordance with marine dumping permit conditions of the Dumping at Sea Ordinance (DASO)? 3.31 S6.9 Are disposal vessels fitted with tight bottom seals in order to prevent leakage of material during transport? 3.32 Are barges filled to a level which ensures that material does not spill over during S6.9 transport to the disposal site and that adequate freeboard is maintained to ensure that the decks are not washed by wave action? Are excess materials cleaned from decks and exposed fittings before the vessel is 3.33 S6.9 moved from the dredging area after dredging? S6.9 3 34 Are the contractor(s) confirmed that the works cause no visible foam, oil, grease, litter or other objectionable matter to be present in the water within and adjacent to the dredging site? When the dredged material has been unloaded at the disposal areas, is any material 3 35 S6 9 accumulated on the deck or other exposed parts of the vessel removed and placed in the hold or a hopper? 3.36 S6.9 Is dredger maintained adequate clearance between vessels and the seabed at all states of the tide and reduce operations speed to ensure that excessive turbidity is not generated by turbulence from vessel movement or propeller wash? 3.37 S6.9 Is the contractor shall regularly inspect the silt curtains and check that they are moored and marked to avoid danger to marine traffic? Is regular inspection on the integrity of the silt curtain carried out by the contractor and any damage to the silt curtain shall be repaired by the contractor promptly? 3.38 S6.9 Are all vessels have a clean ballast system? 3.39 S6.9 Are all vessels well maintained and inspected before use to limit any potential discharges to the marine environment? 3.40 S6.9 Is any discharge of sewage/grey wastewater? Is wastewater from potentially contaminated area on working vessels should be minimized and collected? 3.41 S6.9 Is any soil waste disposed overboard? 4.00 Waste Management 4.01 S8.5 Is a trip-ticket system implemented to monitor the disposal of C&D and solid





Member of the Aurecon Group Contract no. 13/WSD/17 Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant Photo/Remarks Item No 4.04 S8.5 Is chemical waste separated from other waste and collected by a licensed chemical waste collector? 4.05 S8.5 Are trip tickets for chemical waste disposal available for inspection? 4.06 S8.5 Is drip tray provided for chemical storage? S8.5 4.07 Are all containers for chemical waste properly labelled? S8.5 4.08 Is chemical waste storage area used solely for storage of chemical waste and properly labelled? 4.09 S8.5 Are incompatible chemical wastes stored in different areas? 4.10 S8.5 Is the chemical waste storage area enclosed on at least 3 sides and adequately ventilated? 4.11 S8.5 Is an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or of 20% by volume of the chemical waste stored in that area, whichever is the greatest, provide? 4.12 S8.5 Are a routine cleaning and maintenance programme implemented for drainage systems, sump pits, and oil interceptors? 4.13 S8.5 Are sufficient general refuse disposal/collection points provided on site? 4.14 S8.5 Is general refuse disposed of properly and regularly? S8.5 4.15 Are appropriate measures adopted to minimize windblown litter and dust during transportation of waste? 4.16 S8.5 Are individual collectors for aluminum cans, plastic bottles and packaging material and office paper provided to encourage waste segregation? 4.17 S8.5 Are C&D wastes sorted on site? 4.18 S8.5 Are C&D waste disposed of properly? 4.19 S8.5 Are unused C&D materials or chemicals recycled or reused to reduce the quantity 4.20 S8.5 Are public fill and C&D waste reuse on site as far as practicable to avoid disposal 4.21 S8.5 Are the construction materials stored properly to minimize the potential for damage or contamination? 4.22 S8.5 Is a dumping license obtained to deliver public fill to public filling areas? 5.00 S11.10 Landscape and Visual 5.01 & 11.11 Are Is site hoarding provided? 5.02 S11.10 &

Are vegetation disturbance minimized or soil protected to reduce potential soil erosion?





Contract no. 13/WSD/17 Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant Photo/Remarks Item Yes No. 11.11 5.03 S11.10 & Is construction light oriented away from the sensitive receivers? 11.11 5.04 S11.10 Is grass hydroseeding provided to slopes as soon as the completion of works? & 11.11 5.05 S11.10 & Are damages to trees outside site boundary due construction works avoided? 11.11 5.06 \$11.10 & Is excavation works carried out manually instead of machinery operation within 2.5m 11.11 vicinity of any preserved trees? 5.07 S11.10 & Are the retained and transplanted tree(s) properly protected and in good conditions? 11.11 5.08 S11.10 & Are surgery works carried out for damaged trees? 11.11 S9.7 6.00 Ecology 6.01 Is site runoff properly treated to prevent any silly runoff? 6.02 S9.7 Are silt trap installed and well-maintained? 6.03 S9.7 Are stockpiles properly covered to avoid generating silty runoff? 6.04 S9.7 Are construction works restricted to works area which are clearly defined? S9.7 For slope mitigation works within the Clear Water Bay Country Park, are tree felling and 6.05 damages to trees, the exact locations of the flexible barrier foundation plates, soil nails and rock dowels adjusted during detailed design, and a setback distance from existing trees is recommended to be maintained as far as practical? 6.06 S9.7 Are pruning of tree canopies along the alignment of the flexible barriers limited to a 6.07 S9.7 Is the alignment of flexible barriers optimized to preserve all species of conservation interest and minimize the impact to the existing vegetation as far as practicable? Are the alignment of flexible barriers positioned at minimum 1.5 m in a radius away from these individuals? 6.08 S9.7 Is temporary fencing installed to fence off 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? Is a sign identifying the site attached to the fence and flagging tape shall be attached to the individuals to visualize their locations? 6.09 S9.7 Is a specification for fencing and demarcating individuals of Marsdenai lachnostoma (or other flora species of conservation interest, if found) adjacent to the proposed alignment of the flexible barriers prepared to protect the species? 6.10 S9.7 Is any induction training provided to all site personnel in order to brief them on this flora of conservation interest including the locations and their importance? 6.11 S9.7 Is the resident site supervisory staff closely monitor the conditions of concerned individuals during construction of flexible barriers in the close proximity? 6.12 S9.7 Are fences erected along the boundary of the works area before the commencement of works to prevent vehicle movements and encroachment of personnel onto adjacent To mornion about of the recourt site boundaries manfamed to ansume that there are





•	- O 11 C1 CC	et not 10, (182,17 2 coign) Bana and operate 1 not stage of	bears in		- Courie	ution i ittiit
Item No.	EIA ref.		N/A	Yes	No	Photo/Remarks
110.		breached and that damage does not occur to surrounding areas?		<b>T / T</b>		
6.14	S9.7	Is any damage and disturbance avoided, particularly those caused by filling and illegal		1		
		dumping, to the surrounding habitats through proper management of waste disposal?		<u> </u>		
6.15	S9.7	Are temporarily affected areas reinstated, particularly the habitats of plantation and	1			
		shrubland-grassland immediately after completion of construction works, through on-site tree/shrub planting?	ب			
6.16	SQ 7	Are affected habitats within the Clear Water Bay Country Bay reinstated by hydro-				
0.10	57.7	seeding and planting of climbers and native shrub seedlings where practical upon				
		completion of the slope mitigation works?	<b>✓</b>	Ш		
7.00		Landfill Gas Hazard				
7.01	S12.7	Are the safety procedures implemented to minimise the risks of fires and explosions,		1		
		asphyxiation of works and toxicity effects during all works?				
7.02	S12.7	Are the gas detection equipment and precautions being used during trenching and				
		excavation as well as creation of confined spaces?		✓		
7.03	S12.7	Are the training with regard to the awareness of potential hazards of working in confined				
		spaces provided from the Contractor to the workers?		✓		
7.04	S12.7	Are the safety officers trained with regard to landfill gas and leachate related hazards and				
		presented on the site throughout the works undertaken below grade?		<b>V</b>		
7.05	S12.7	Are the all personnel working on site and all visitor made aware of the possibility of				
		ignition of gas, the possible presence of contaminated water and the need to avoid		✓		
7.06	S12.7	physical contact?  Is the monitoring of landfill gas being undertaken in all excavations, manholes,				
7.00	512.7	chambers and any confined spaces?		<b>√</b>		
7.07	S12.7	Are the monitoring frequency and areas being specified by the safety officers or	·	<u> </u>		
7.07	512.7	appropriately qualified person? Are the all measurements being recorded and		<b>√</b>		
		documented?				
7.08	S12.7	Is the drilling proceeded with adequate care and precautions against the potential				
		hazards?		✓		
7.09	S12.7	Is the method statement covering all normal and emergency procedures provided by				
		the drilling contractor prior to the commencement of the site works?	✓			
7.10	S12.7	Are the below ground services entries being sealed to prevent gas entry? Are the				
		grilled metal covers being used for below grade cable trenches?	✓			_
7.11	S12.7	Is each manhole or utility pit monitored with two measurements (at mid-depth and				
		base) for minimum of 10 minutes? Is the steady reading and peak reading recorded	✓			
		at each manhole or utility pit?	<u> </u>			
7.12	S12.7	Are the warning signs of the hazards of landfill gas and its possible presence on site				
		posted in prominent places?				
8.00		Overall				
8.01		Is the EM&A properly implemented in general?				



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Rem	ark / Follo	w up of Ob	servation(	s) and Non	-complian	ice(s) of	Last W	eekly Site I	nspectio	n:		<u>-</u>	-	•
	Site	Inspec	tion I	Date:	26	No	1 202	4						
	No	mayor	observ	atton	Was	fon	nl	duras	sit	le in:	spectio	٠,		
										•				
	•													
								•						,
	Signatu	res:		••								_		
	ET Represe	,		ntractor's presentati	ve			ing Office	r's	IEC's Represe	entative		'SD's epresentati	ve
	(Name:	100	, ) (Ni		)	) <u>(</u>	Jama: ~	$\mathcal{X}$		(Name or	Zth		ر المراب	الحدد الم





## Appendix G

## Complaint Log





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

	Environmental Complaint Statistics							
Reporting Period	Frequency	Cumulative	Complaint Nature					
1 - 30 Nov 2024	0	2	N/A					

### **Statistical Summary of Environmental Summons**

Reporting Period	Environmental Summons Statistics						
	Frequency	Cumulative	Details				
1 – 30 Nov 2024	0	0	N/A				

### Statistical Summary of Environmental Prosecution

Reporting Period	Environmental Prosecution Statistics		
	Frequency	Cumulative	Details
1 - 30 Nov 2024	0	0	N/A