ANEWR

Water Supplies Department
New Works Branch
Consultants Management Division
6/F Sha Tin Government Offices
1 Sheung Wo Che Road
Sha Tin
New Territories

Your reference:

Our reference: HKWSD202/50/106501

Date: 8 May 2020

Attention: Mr W K Lau

BY EMAIL & POST
(email: simon_wk_lau@wsd.gov.hk)

Dear Sirs

Agreement No. CE 5/2019 (EP)
Independent Environmental Checker for First Stage of
Tseung Kwan O Desalination Plant– Investigation
Verification of Monthly EM&A Report No.2 (April 2020)

We refer to emails of 7 and 8 May 2020 attaching Monthly EM&A Report No.2 for the captioned project prepared by the ET.

We have no further comments and hereby verify the Monthly EM&A Report No.2 in accordance with Clause 3.5 of the Environmental Permit no. EP-503/2015/A and Further Environmental Permit no. FEP-01/503/2015/A.

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

Yours faithfully
ANEWR CONSULTING LIMITED

Adi Lee
Independent Environmental Checker

LYMA/LHYF/lhmh

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水務署
Water Supplies Department

Contract No. 13/WSD/17

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

Monthly EM&A Report No.2
(Period from 1 April to 30 April 2020)

Document No.

ASCL	/	200168078	/	MEMAR2	/	A
Publisher		Project Code		Sequential No.		Revision Index

	Prepared by:	Reviewed by:	Certified by:
Name	Polar CHAN	Nelson TSUI	Jacky LEUNG
Position	Environmental Team Member	Environmental Team Member	Environmental Team Leader
Signature			
Date:	8 May 2020	8 May 2020	8 May 2020

REVISION HISTORY

REV.	DESCRIPTION OF MODIFICATION	DATE
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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/A) for the construction and operation of the Project.

A2. In accordance with the Updated Environmental Monitoring and Audit (EM&A) Manual for the Project, 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 Project.

A3. This is the 2nd Monthly EM&A Report, prepared by ASCL, for the Project summarizing the monitoring results and audit findings of the EM&A programme at and around Tseung Kwan O Area 137 (TKO 137) during the reporting period from 1 April 2020 to 30 April 2020.

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 Project included the following:

- Plate Load Test;
- Land Survey;
- Ground Levelling;
- Ground Investigation;
- Access Road Construction;
- Site office formation work and footing;
- Earth mat installation at 132kV substation;
- Construction of 132kV substation footing;
- Construction of Temp 11kV substation;
- Ducts laying for temp 11kV substation;
- Excavation for combined shaft.

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

- Construction dust and noise generation from the ground investigation works, access road construction and site office formation;
- Waste generation from the construction activities

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

- Dust suppression by regular wetting and water spraying for construction works
- Reduction of noise from equipment and machinery on-site
- Sorting and storage of general refuse and construction waste

SUMMARY OF EXCEEDANCE & INVESTIGATION & FOLLOW-UP

A8. No noise monitoring was conducted during the reporting period since there are no project-related construction activities undertaken within a radius of 300m from the monitoring locations. No project-related exceedance of the Action Level was recorded during the reporting period.

A9. No water quality monitoring was conducted in the reporting month since the commencement of marine construction and dredging activities for the Project are scheduled in November 2020 the earliest. No project-related exceedance of the Action Level was recorded during the reporting period.

A10. Weekly site inspections of the construction work by ET were carried out on 7, 14, 21 & 29 April 2020 to audit the mitigation measures implementation status. Monthly joint site inspection was carried out on 29 April 2020 by ET and IEC. Observations were recorded in the site inspection checklists and provided to the contractors together with the appropriate follow-up actions where necessary.

COMPLAINT HANDLING AND PROSECUTION

A11. No project-related environmental complaint was received during the reporting period.

A12. Neither notifications of summons nor prosecution was received for the Project.

REPORTING CHANGE

A13. There was no change to be reported that may affect the on-going EM&A programme.

SUMMARY OF UPCOMING KEY ISSUES AND KEY MITIGATION MEASURES

A14. Key activities anticipated in the next reporting period for the Project will include the following:

- Land Survey;
- Ground Levelling;
- Access road construction;
- Site office erection and assembling;
- Construction of 132kV substation footing / backfilling;
- Construction of Temp 11kV substation;

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- Ducts laying for temp 11kV substation;
- Excavation for ActiDaff;
- Preboring for ELS installation at combine shaft;
- Site Investigation in Sea;
- Installation of temporary watermain.

A15.The major environmental impacts brought by the above construction works will include:

- Construction dust and noise generation from GI works, access road construction and site office formation work;
- Waste generation from construction activities

A16. The key environmental mitigation measures for the Project in the coming reporting period associated with the above construction works will include:

- Dust suppression by regular wetting and water spraying for construction works
- Reduction of noise from equipment and machinery on-site
- Sorting and storage of general refuse and construction waste

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1. BASIC PROJECT INFORMATION

1.1. BACKGROUND

The Jardine Engineering Corporation, Limited, China State Construction Engineering (Hong Kong) Limited and Acciona Agua, S.A. Trading 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 Project).

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 Project; 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.

Pursuant to the Environmental Impact Assessment Ordinance (EIAO), the Director of Environmental Protection granted the Environmental Permit (No. EP-01/503/2015) and Variation of Environmental Permit (No. EP-01/503/2015/A) to Water Supplies Department (WSD); and granted the Further Environmental Permit (No. FEP-01/503/2015/A) to AJCJV for the Project.

1.2. THE REPORTING SCOPE

This is the 2nd Monthly EM&A Report for the Project which summarizes the key findings of the EM&A programme during the reporting period from 1 April to 30 April 2020.

1.3. PROJECT ORGANIZATION

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

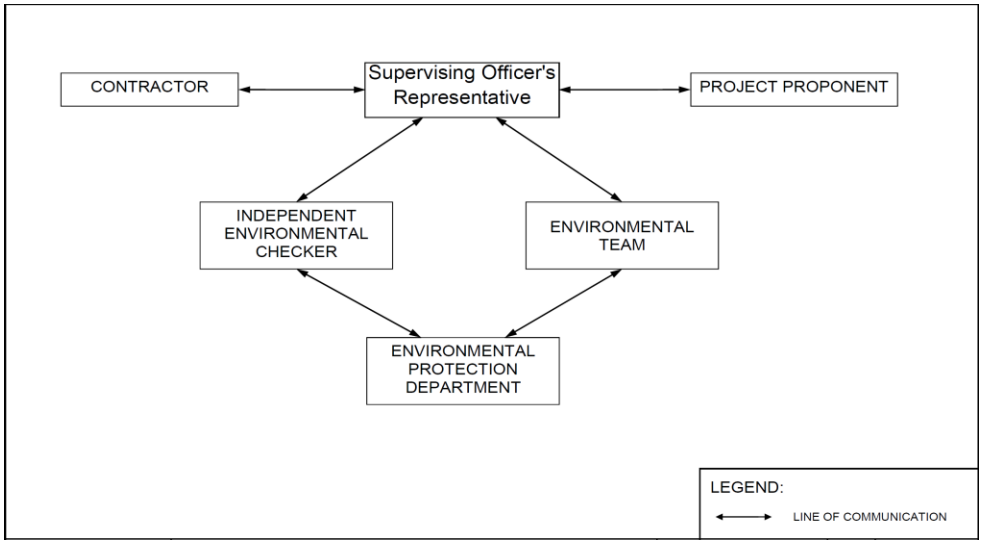

Figure 1.1 Project Organization Chart

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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.
Project Proponent	SE/CM2	Benny Lam	2634-3573
Supervising Officer (Black & Veatch)	Project Manager	Christina Ko	2608-7302
	Chief Resident Engineer	Roger Wu	6343-1002
The Jardine Engineering Corporation, Limited, China State Construction Engineering (Hong Kong) Limited and Acciona Agua, S.A. Trading	Project Manager	Stephen Yeung	2807-4665
	Environmental Monitoring Manager	Brian Kam	9456-9541
Acuity Sustainability Consulting Limited	Environmental Team Leader	Jacky Leung	2698-6833
ANewR Consulting Limited	Independent Environmental Checker (IEC)	Adi Lee	2618-2831

1.4. Summary of Construction Works

Details of the major construction activities undertaken in this reporting period are shown in below. The construction programme is presented in **Appendix A**.

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Key activities carried out in this reporting period for the Project included the following:

- Plate Load Test;
- Land Survey;
- Ground Levelling;
- Ground Investigation;
- Access Road Construction;
- Site office formation work and footing;
- Excavation for foundation of 132kV substation;
- Earth mat installation at 132kV substation;
- Temp 11kV substation excavation.

1.5. Summary of Environmental Status

A summary of the valid permits, licences, and /or notifications on environmental protection for this Project is presented in **Table 1.2**.

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

Permit/ Licenses/ Notification	Reference	Validity Period	Remarks
Environmental Permit	FEP – 01/503/2015/A	Throughout the Contract	
Notification of Construction Works under the Air Pollution Control (Construction Dust) Regulation (Form NA)	Ref. No.: 451539	30/12/2019 – 30/03/2023	
Wastewater Discharge Licence	-	-	Under Application
Chemical Waste Producer Registration	5213-839-A2987-01	Throughout the Contract	
Construction Noise Permit (24 hours)	GW-RE0024-20	14/01/2020 – 06/07/2020	CNP (GW-RE0024-20) was superseded by CNP (GW-RE0249-20) on 9 Apr 2020.
	GW-RE0249-20	09/04/2020 – 08/10/2020	
Billing Account for Disposal of Construction Waste	7036276	Throughout the Contract	

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

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

Parameters	Status
Water Quality	
Baseline Monitoring under EM&A Manual	The baseline water quality monitoring has been scheduled before the commencement of marine construction works
Impact Monitoring	The impact water quality monitoring has been scheduled after the commencement of marine construction works
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	On-going
Waste Management	
Mitigation Measures in Waste Monitoring Plan	On-going
Environmental Audit	
Site Inspection covering Measures of Air Quality, Noise Impact, Water Quality, Waste, Ecological Quality, Fisheries, Landscape and Visual	On-going

The impact monitoring schedule for the reporting month to be shown at **Appendix D** is intentionally left blank since no impact monitoring was conducted in the reporting month.

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.

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

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2. NOISE

2.1. MONITORING REQUIREMENTS

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

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

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

No impact monitoring for noise impact was conducted in the reporting month due to the overly distant monitoring station from the works location, where they were farther than 1 km from the closet monitoring station NSR4 to the works location.

Impact noise monitoring will be conducted weekly in the reporting period between 0700-1900 hours on normal weekdays. No construction works were carried out during 1900-0700 hours in all days or any time on Sundays or general holidays during the reporting period.

Construction noise level measured in terms of the A-weighted equivalent continuous sound pressure level (LAeq). Leq_{30min} was used as the monitoring parameter for the time period between 0700 and 1900 hours on normal weekdays. **Table 2.1** summarizes the monitoring parameters, frequency and duration of the impact noise monitoring.

Table 2.1 Noise Monitoring Parameters, Time, Frequency and Duration

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

2.2. MONITORING LOCATIONS

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

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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

The monitoring locations should normally be made at a point 1m from the exterior of the NSRs building façade and be at a position 1.2m above the ground. A correction of +3dB(A) should be made to the free-field measurements. Three noise monitoring locations for impact monitoring at the nearby sensitive receivers are shown in **Figure 2.1-2.3**.

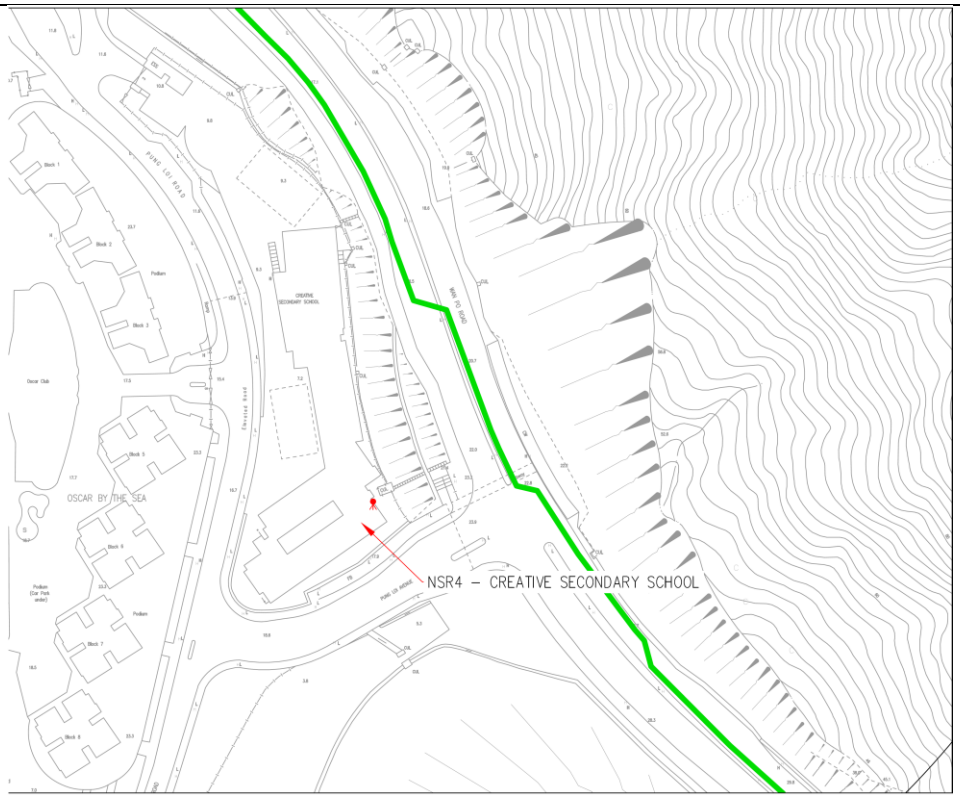

Figure 2.1 NSR4 Creative Secondary School

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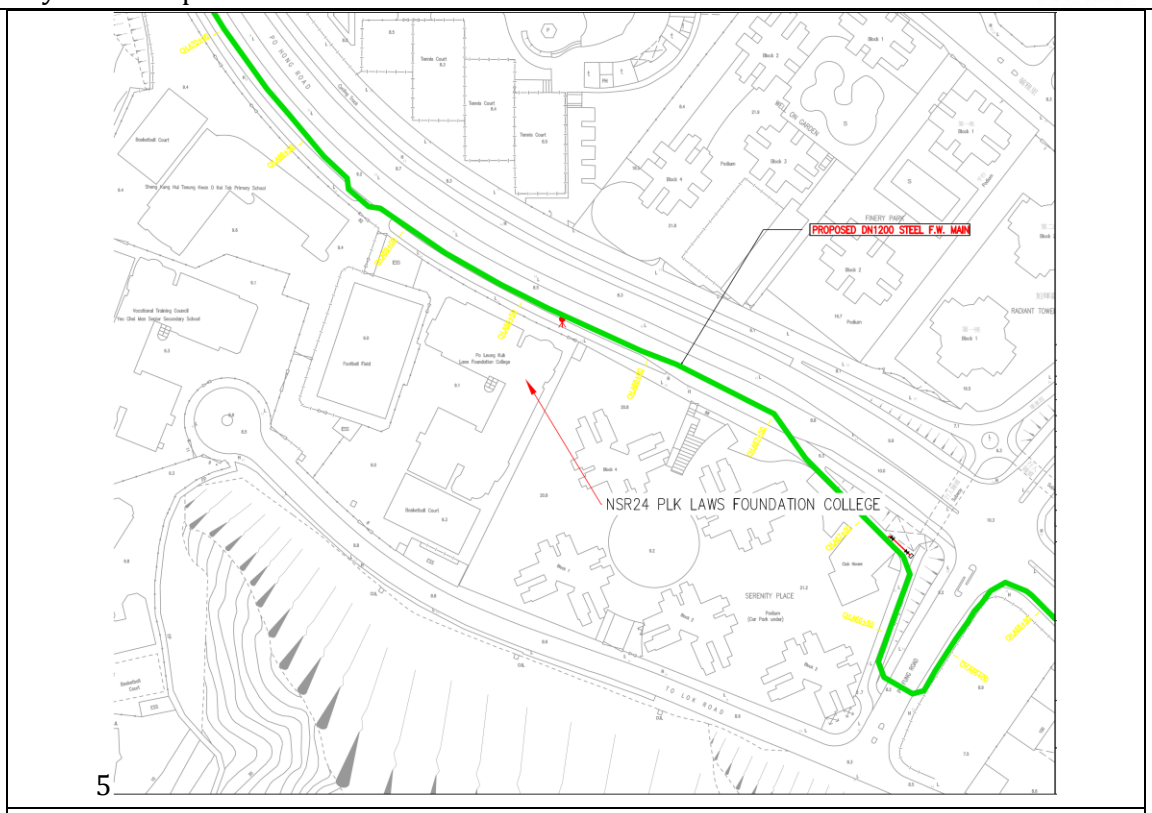

Figure 2.2 NSR24 PLK Laws Foundation College

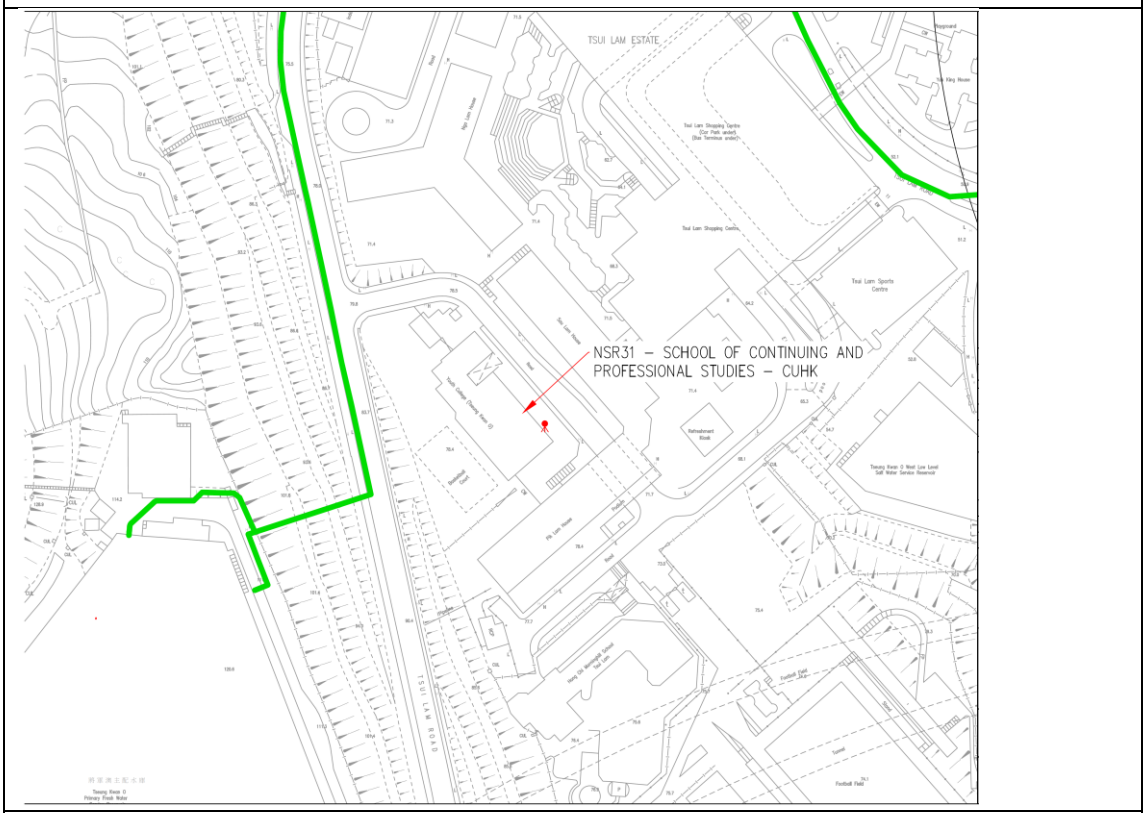

Figure 2.3 NSR31 School of Continuing and Professional Studies - CUHK

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2.3. IMPACT MONITORING METHODOLOGY

2.4.1 Integrated sound level meter shall be used for the noise monitoring. The meter shall be in compliance with the International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications. Immediately prior to and following each noise measurement the accuracy of the sound level meter shall be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements may be accepted as valid only if the calibration level before and after the noise measurements agree to within 1.0 dB(A). Calibration certificates of the instruments used to be shown at **Appendix F** is intentionally left blank since no impact monitoring equipment was used in the reporting month.

Noise measurements shall not be made in the presence of fog, rain, wind with a steady speed exceeding 5 m/s or wind with gusts exceeding 10 m/s. The wind speed shall be checked with a portable wind speed meter capable of measuring the wind speed in m/s.

Table 2.3 Impact Noise Monitoring Equipment

Equipment	Brand and Model	Detection Limit
Sound Level Meter	Nti XL2	30-130 dB(A)
Sound Level Meter Calibrator	Rion NC-74	Nil
Pocket Wind Meter Anemometer	Kestrel 1000 Wind Meter	Nil

2.4. ACTION AND LIMIT LEVELS

The Action/Limit Levels in line with the criteria of Practice Note for Professional Persons (ProPECC PN 2/93) "Noise from Construction Activities – Non-statutory Controls" and Technical Memorandum on Environmental Impact Assessment Process issued by HKSAR Environmental Protection Department ["EPD"] under the Environmental Impact Assessment Ordinance, Cap 499, S.16 are presented in **Table 2.4**.

Table 3.4 Action and Limit Levels for Noise per Updated EM&A Manual

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

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

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

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2.5. Monitoring Results and Observations

Referring to EM&A manual Section 4.1.2, the impact noise monitoring should be carried out when there are project-related construction activities undertaken within a radius of 300m from the monitoring stations. No monitoring station was located within a radius of 300m of the Project site as shown in **Figure 2.4**, no impact monitoring for noise impact was conducted in the reporting period.

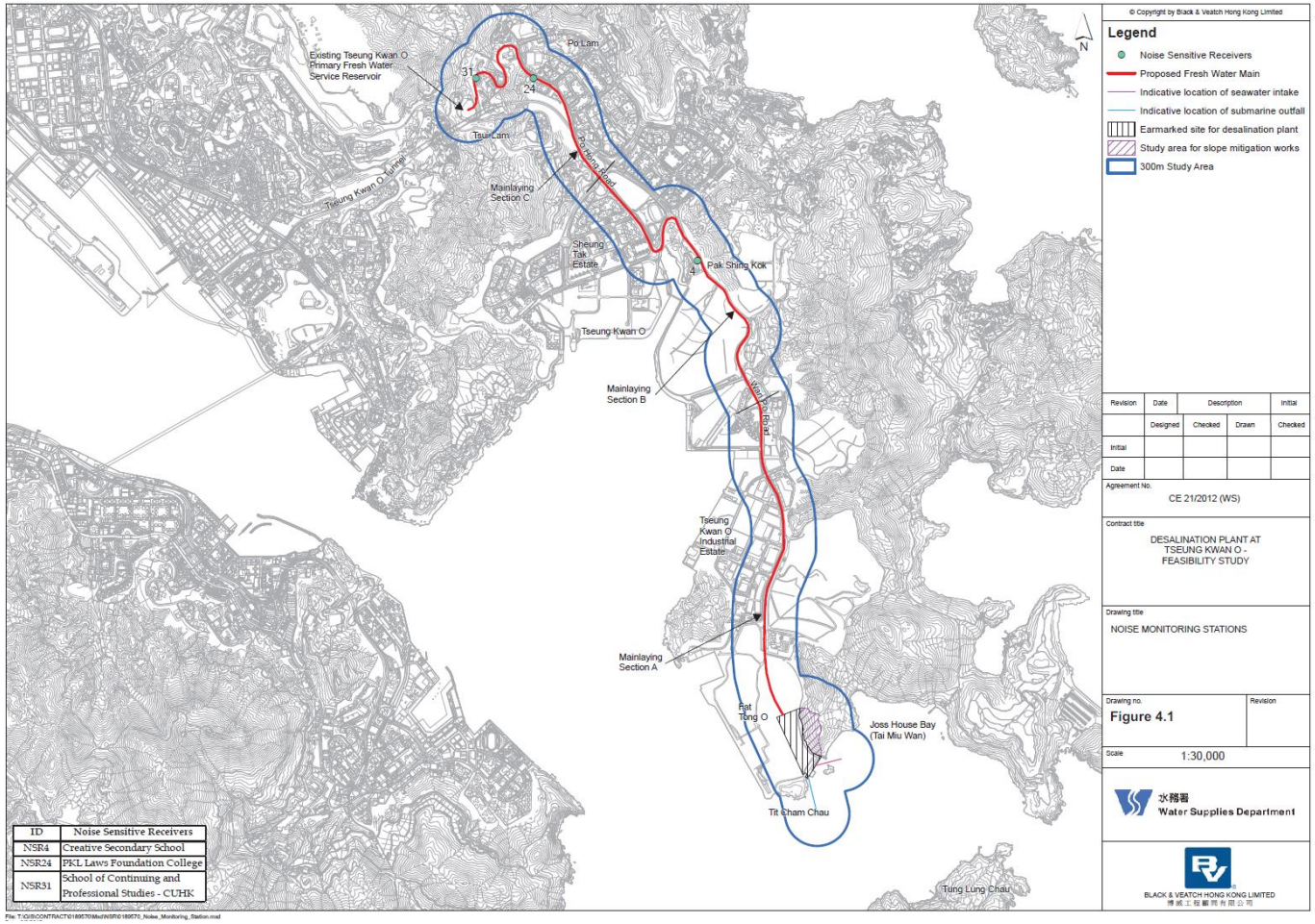

Figure 2.4 Site Layout Plan with Noise Sensitive Receivers and Desalination Plant

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3. WATER QUALITY

In accordance with the recommendations of the EIA, water quality EM&A is required during dredging for the submarine pipelines and, during operation phase. In addition, baseline water quality monitoring will be required prior to the commencement of marine construction activities. 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. The water quality monitoring programme will be carried out to allow any deteriorating water quality to be readily detected and timely action taken to rectify the situation. The status and locations of water quality sensitive receivers and the marine works location may change after issuing this Document. If required, the ET in consultation with IEC will propose updated monitoring locations and seek approval from EPD.

Water quality monitoring for the Project can be divided into the following stages:

- Dredging activities during construction phase;
- Discharge of effluent from main disinfection during construction phase;
- Operation phase – first year upon commissioning; and,
- Continuous monitoring of effluent quality.

In addition, the marine works contractor is required to complete a silt curtain efficiency test for the combined use of floating silt curtain type and cage type silt curtain for dredging at seawater intake to confirm the silt curtain reduction efficiency assumptions of the assessment. The details of testing plan together with the silt curtain deployment plan updated testing plan shall be submitted by the ET to seek approval from the IEC and EPD.

3.1. IMPACT MONITORING METHODOLOGY

3.1.1. WATER QUALITY PARAMETERS

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 baseline monitoring are listed in **Table 3.1**.

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Table 3.1 Parameters measured in the baseline marine water quality monitoring

Parameters	Unit	Abbreviation
In-situ measurements		
Dissolved oxygen	mg/L	DO
Temperature	^{o}C	-
pH	-	-
Turbidity	NTU	-
Salinity	$^{0}/_{00}$	-
Total Residual Chlorine NOTE1	mg/L	TRC
Laboratory measurements		
Suspended Solids	mg/L	SS
Iron-Soluble NOTE2	mg/L	Fe
Anti-scalant as Reactive Phosphorus NOTE2	mg/L	PO_4 as P-

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

NOTE 2: The testing methods shall be submitted to EPD for approval prior to the commencement of monitoring programme

In addition to the water quality parameters, other relevant data will also be 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.

3.1.2. MONITORING EQUIPMENT

For water quality monitoring, the following equipment will be used:

Dissolved Oxygen and Temperature Measuring Equipment - The instrument will be a portable, weatherproof dissolved oxygen measuring instrument complete with cable, sensor, comprehensive operation manuals, and will be operable from a DC power source. It will be 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 shall have 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

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cables shall be 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 will be a portable, weatherproof turbidity-measuring unit complete with cable, sensor and comprehensive operation manuals. The equipment will be operated from a DC power source, it will have a photoelectric sensor capable of measuring turbidity between 0 - 1000 NTU and will be 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 will be 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) will be 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 should be suitably calibrated. The ET shall seek approval for their proposed equipment with the client prior to deployment.

Current Velocity and Direction – No specific equipment is recommended for measuring the current velocity and direction. The environmental contractor shall seek approval of their proposed equipment with the client prior to deployment.

Positioning Device – A Global Positioning System (GPS) shall be used during monitoring to allow accurate recording of the position of the monitoring vessel before taking measurements. The Differential GPS, or equivalent instrument, should be 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, will be used (e.g. Kahlsico Water Sampler 13SWB203 or an approved similar instrument). The water sampler will have 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 for Discharge of Sterilization Water - Total residual chlorine (TRC) shall be measured in-situ using a handheld colorimeter with its testing toolkits.

3.1.3. SAMPLING / TESTING PROTOCOLS

All in situ monitoring instruments will be 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 will be checked with certified standard solutions before each use.

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

3.1.4. LABORATORY MEASUREMENT AND ANALYSIS

All laboratory work shall be carried out in a HOKLAS accredited laboratory. Sufficient volume of each water sample shall be collected at the monitoring stations for carrying out the laboratory analyses. Using chain of custody forms, collected water samples will be transferred to an HOKLAS accredited laboratory for immediate processing. The determination work shall start within the next working day after collection of the water samples. The laboratory measurements shall be provided to the client within 5 working days of the sampling event. Analytical methodology and sample preservation of other parameters will be 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 submitted information should include pre-treatment procedures, instrument use, Quality Assurance/Quality Control (QA/QC) details (such as blank, spike recovery, number of duplicate samples per-batch etc), detection limits and accuracy. The QA/QC details shall be in accordance with requirements of HOKLAS or another internationally accredited scheme.

Parameters for laboratory measurements, their standard methods and their detection limits are presented in **Table 3.2**.

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

Parameters	Standard Methods	Detection Limit	Reporting Limit	Precision
Dissolved oxygen (mg/L)	Instrumental, CTD	0.1	-	±25%
Temperature (^{o}C)	Instrumental, CTD	0.1	-	±25%
pH	Instrumental, CTD	0.1	-	±25%
Turbidity (NTU)	Instrumental, CTD	0.1	-	±25%
Salinity ($^{0}/_{00}$)	Instrumental, CTD	0.1	-	±25%
Suspended Solids (mg/L)	APHA 17th Ed 2540D	1.0	2.0	±17%
Total Residual Chlorine (mg/L)	APHA 21st Ed 4500 – Cl G NOTE1	0.1NOTE1	0.2NOTE1	±10% NOTE1
Iron-soluble	USEPA 6010C NOTE 1	0.2NOTE1	0.2NOTE1	±25%NOTE1

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Parameters	Standard Methods	Detection Limit	Reporting Limit	Precision
Anti-scalant as Reactive phosphorus	APHA 4500P: B&F NOTE1	0.01NOTE1	0.01NOTE1	±25%NOTE1

NOTE1: The testing methods, Quality Assurance/Quality Control (QA/QC) details, detection limits and accuracy shall be submitted to EPD for approval prior to the commencement of monitoring programme.

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

3.1.5. MONITORING LOCATION

The water quality monitoring locations for baseline in accordance to the EM&A Manual and Contract Specification are shown in Figure 3.1 and Figure 4.1 respectively, and detailed in Table 3.3 below. A schedule for water quality monitoring shall be prepared by the ET and approved by IEC and EPD prior to the commencement of the monitoring.

Table 3.3 Location of Baseline Water Quality Monitoring Station

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, ~ 200m east of outfall diffuser
NF3	846742	813414	Edge of mixing zone, ~ 200m south of outfall diffuser

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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.

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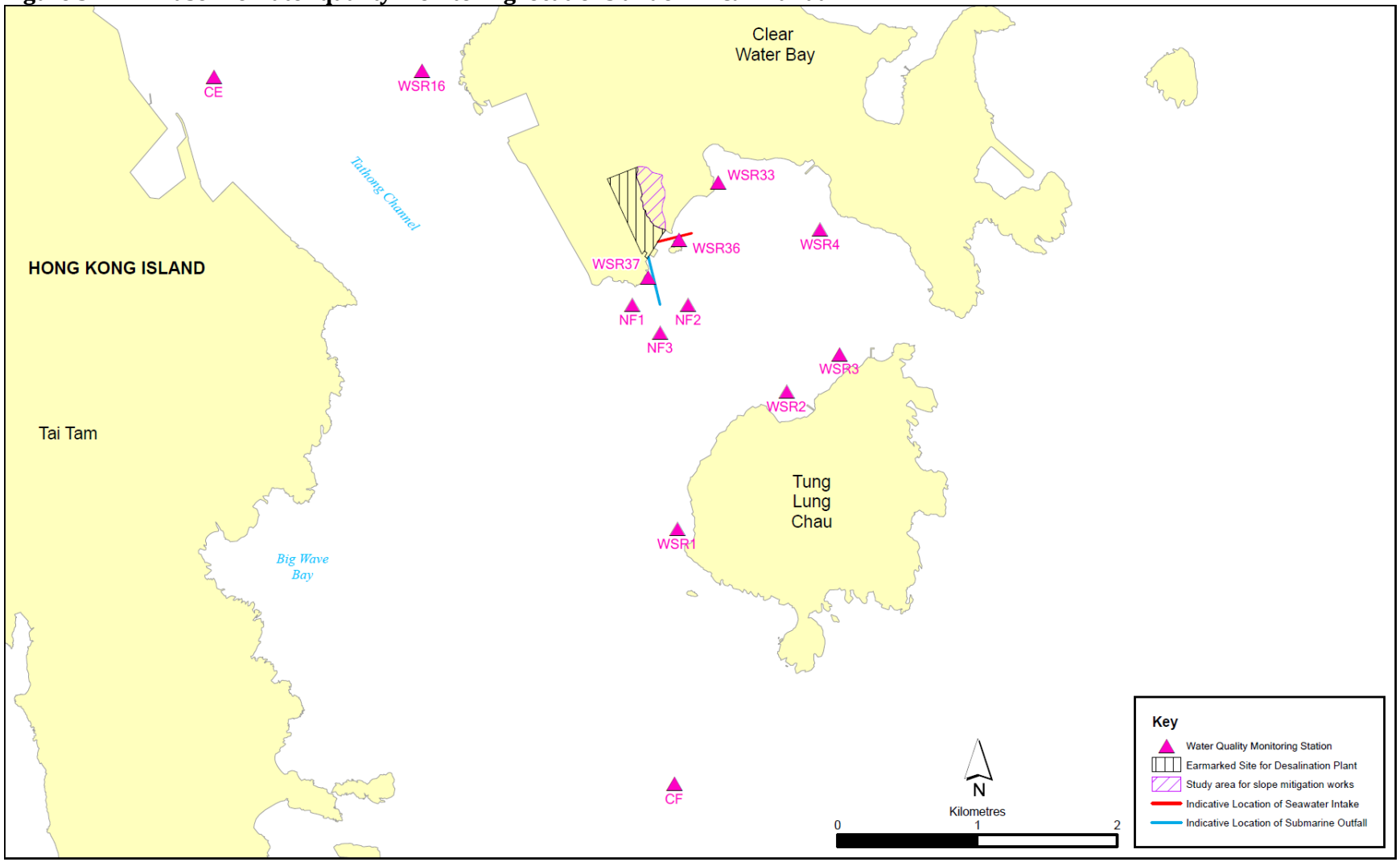
Figure 3.1 Baseline water quality monitoring locations under EM&A Manual



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3.1.6. SAMPLING FREQUENCY

During periods when there are dredging works, impact monitoring should be undertaken at the monitoring stations as shown in **Figure 3.1** and **Table 3.3** three days per week during the construction phase after the commencement of marine construction works and dredging activities. Monitoring at each station would be undertaken at both mid-ebb and mid-flood tides on the same day. The tidal range selected for the baseline monitoring will be at least 0.5 m for both flood and ebb tides as far as practicable. The interval between two sets of monitoring would not be 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.

The monitoring location/position, time, water depth, water temperature, salinity, weather conditions, sea conditions, tidal stage, special phenomena and work underway at the marine works site will be recorded.

3.1.7. SAMPLING DEPTHS & REPLICATION

For baseline monitoring, each station will be sampled and measurements/ water samples will be taken at three depths, 1 m below the sea surface, mid-depth and 1 m above the seabed. For stations that are less than 3 m in depth, only the mid depth sample shall be taken. For stations that are less than 6 m in depth, only the surface and seabed sample shall be taken. For in situ measurements, duplicate readings shall be made at each water depth at each station. Duplicate water samples shall be collected at each water depth at each station.

3.2. MONITORING PROGRAMME

The commencement of marine construction and dredging activities for the Project are scheduled in November 2020 the earliest. The ET of the Project will conduct the baseline water monitoring before the commencement of marine construction and dredging activities at the thirteen designated monitoring stations and the six designated monitoring at waters near TKO in accordance with the EM&A Manual and Contract Specification respectively. The impact water monitoring shall be scheduled after the commencement of marine construction and dredging activities. Hence, no water monitoring was conducted during the reporting month.

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4. WASTE

The waste generated from this Project includes inert construction and demolition (C&D) materials, and non-inert C&D materials. Non-inert C&D materials are made up of general refuse, vegetative wastes and recyclable wastes such as plastics and paper/cardboard packaging waste. Steel materials generated from the project are also grouped into non-inert C&D materials as the materials were not disposed of with other inert C&D materials. With reference to relevant handling records and trip tickets of this Project, the quantities of different types of waste generated in the reporting month are summarised in **Table 4.1**. Details of cumulative waste management data are presented as a waste flow table in **Appendix H.**

Table 4.1 Quantities of Waste Generated from the Project during April 2020

Reporting Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	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)	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)
April 2020	0	0	0	0	0	0	0	0	0	0	2.4

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

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5. LANDFILL GAS MONITORING

5.1. MONITORING REQUIREMENT

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

5.2. MONITORING LOCATION

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

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

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

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

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

5.3. MONITORING PROGRAMME

For the part of the desalination plant and the indicative area of natural slope mitigation works fall within the SENT Landfill Extension Consultation Zone in this contract. Since the SENT Landfill Extension is still under construction, the Landfill gas monitoring shall be conducted after the commencement of operation of the SENT Landfill Extension which will be 2021 Quarter 3 according to the latest construction programme shown in the monthly EM&A Report of SENT Landfill Extension. The Contractor's safety officer shall keep review the necessity of landfill gas monitoring during the construction stage. No landfill gas monitoring was conducted in the reporting period.

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6. SUMMARY OF MONITORING EXCEEDANCE, COMPLAINTS, NOTIFICATION OF SUMMONS AND PROSECUTIONS

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

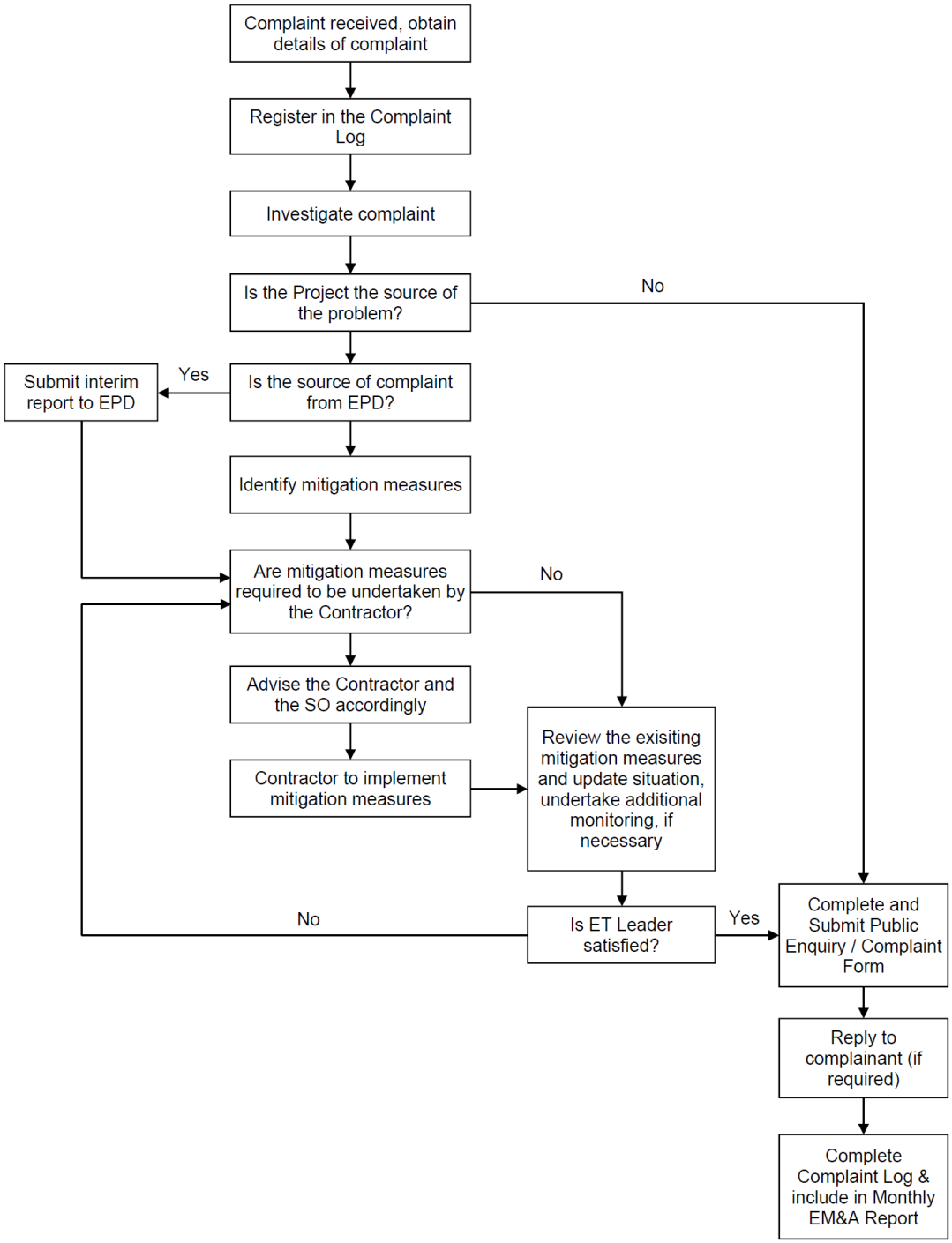

Figure 8.1 Environmental Complaint Handling Procedures

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No noise monitoring was conducted during the reporting period since there are no project-related construction activities undertaken within a radius of 300m from the monitoring locations.

No water quality monitoring was conducted in the reporting month since the commencement of marine construction and dredging activities for the Project are scheduled in November 2020 the earliest.

No project-related exceedance of the Action Level was recorded during the reporting period.

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

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

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7. EM&A SITE INSPECTION

Site inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures under the Contract. In the reporting period, site inspections were carried out on 7, 14, 21 & 29 April 2020 at the site portions list in **Table 6.1** below.

Table 7.1 Summaries of Site Inspection Reccord

Date	Inspected Site Portion	Time
7 April 2020	TKO 137	09:40 – 11:00 AM
14 April 2020	TKO 137	09:45 – 11:40 AM
21 April 2020	TKO 137	10:01 – 11:45 AM
29 April 2020	TKO 137	09:45 – 11:30 AM

One joint site inspection with IEC was carried out on 29 April 2020.

Environmental deficiencies were observed during weekly site inspection. Key observations during the site inspections and during the reporting period are summarized in **Table 6.2**.

Table 7.2 Site Observations

Date	Environmental Observations	Follow-up Status
7 April 2020 (Site inspection)	Observation(s) and Recommendation(s) 1. No major observation was observed.	Nil.
14 April 2020 (Site inspection)	Observation(s) and Recommendation(s) 1. No major observation was observed.	Nil.
21 April 2020 (Site inspection)	Observation(s) and Recommendation(s) 1. No major observation was observed.	Nil.
29 April 2020 (Site inspection)	Observation(s) and Recommendation(s) 1. The chemical (i.e. bleach) should be placed in the proper storage area.	1. The chemical was removed and stored in proper storage area.

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

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

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8. FUTURE KEY ISSUES

Works to be undertaken in the next reporting month are:

- Land Survey;
- Ground Levelling;
- Access road construction;
- Site office erection and assembling;
- Construction of 132kV substation footing / backfilling;
- Construction of Temp 11kV substation;
- Ducts laying for temp 11kV substation;
- Excavation for ActiDaff;
- Preboring for ELS installation at combine shaft;
- Site Investigation in Sea;
- Installation of temporary watermain.

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

- Construction dust and noise generation from GI works, access road construction and site office formation work;
- Waste generation from construction activities

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

- Dust suppression by regular wetting and water spraying for construction works
- Reduction of noise from equipment and machinery on-site
- Sorting and storage of general refuse and construction waste

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

The impact monitoring schedule for the next reporting month to be shown at **Appendix K** is intentionally left blank since no impact monitoring will be conducted in the next reporting month.

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9. CONCLUSIONS AND RECOMMENDATIONS

This is the 2nd Monthly EM&A Report for the Project which summarizes the key findings of the EM&A programme during the reporting period from 1 April to 30 April 2020., in accordance with the EM&A Manual and the requirement under FEP-01/503/2015/A.

No noise monitoring was conducted in the reporting period due to the over distant monitoring station from the works location.

No water monitoring was conducted in the reporting period due to no marine construction works and dredging activities were conducted in the reporting period.

No project-related exceedance of the Action / Limit Level was recorded during the reporting period.

Weekly environmental site inspection was conducted during the reporting period. Minor deficiency was observed during site inspection and was rectified. The environmental performance of the project was therefore considered satisfactory.

According to the environmental site inspections performed in the reporting month, the Contractor is reminded to pay attention on maintaining proper materials storage.

No environmental complaint was received in the reporting period.

No notification of summons or prosecution was received since commencement of the Contract.

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

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Appendix A

Master Programme

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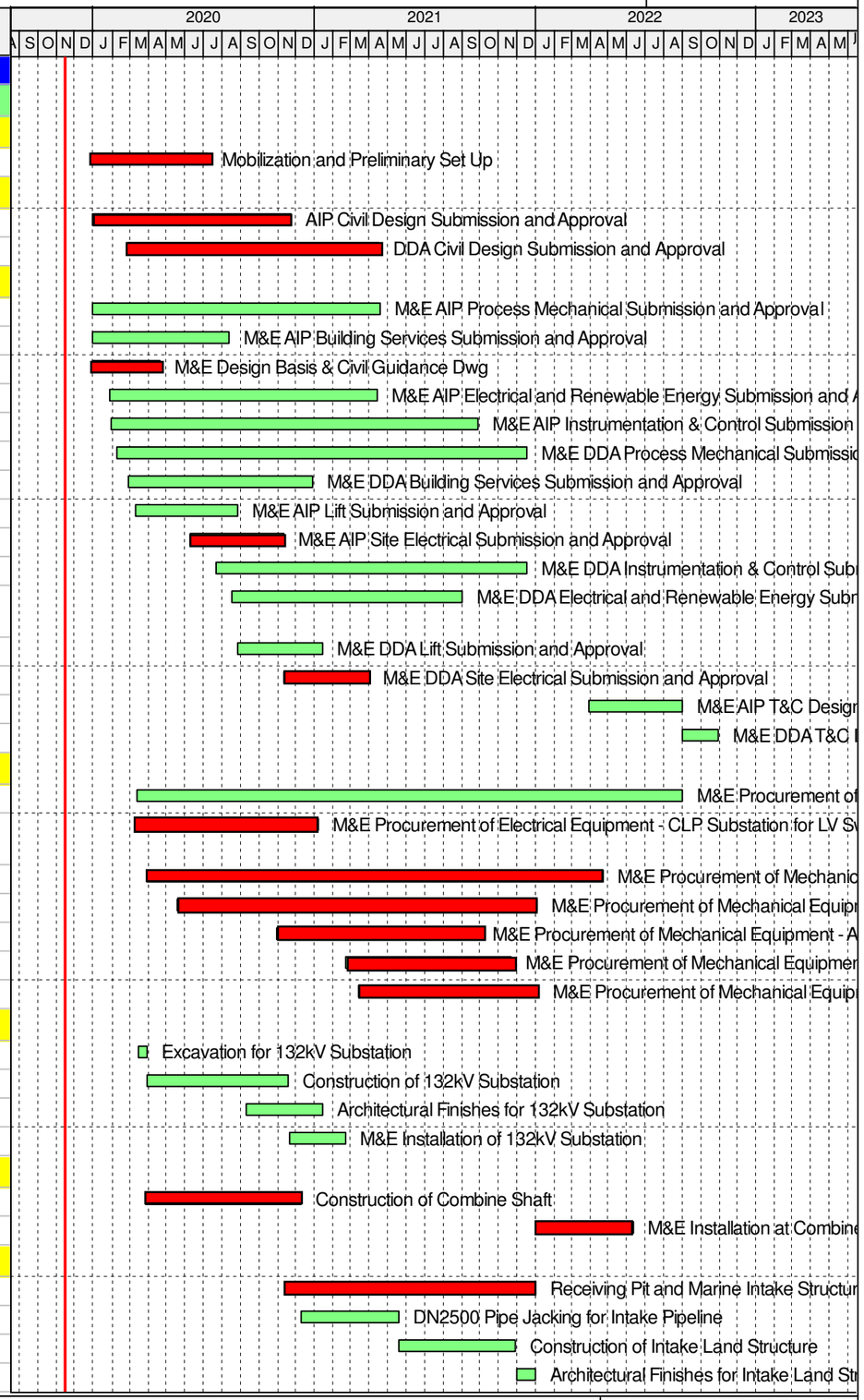
Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish
TKO Desalination Plant - Stage 1		1170	30-Dec-19	13-Mar-23	30-Dec-19	13-Mar-23
Executive Summaries		1170	30-Dec-19	13-Mar-23	30-Dec-19	13-Mar-23
Preliminary Setup		191	30-Dec-19	07-Jul-20	30-Dec-19	07-Jul-20
ES0001000	Mobilization and Preliminary Set Up	191	30-Dec-19	07-Jul-20	30-Dec-19	07-Jul-20
Civil Design AIP and DDA		474	30-Dec-19	16-Apr-21	30-Dec-19	03-Jul-21
ES0001010	AIP Civil Design Submission and Approval	330	30-Dec-19	23-Nov-20	30-Dec-19	09-Feb-21
ES0001020	DDA Civil Design Submission and Approval	414	28-Feb-20	16-Apr-21	28-Feb-20	03-Jul-21
M&E Design AIP and DDA		1035	30-Dec-19	29-Oct-22	30-Dec-19	13-Mar-23
ES0002000	M&E AIP Process Mechanical Submission and Approval	477	30-Dec-19	19-Apr-21	01-Jan-20	04-Apr-22
ES0002060	M&E AIP Building Services Submission and Approval	226	30-Dec-19	11-Aug-20	16-Feb-20	26-Nov-20
ES0002065	M&E Design Basis & Civil Guidance Dwg	112	30-Dec-19	19-Apr-20	30-Dec-19	06-May-20
ES0002040	M&E AIP Electrical and Renewable Energy Submission and Approval	442	29-Jan-20	14-Apr-21	14-Jun-20	25-Jun-21
ES0002020	M&E AIP Instrumentation & Control Submission and Approval	607	31-Jan-20	28-Sep-21	12-Feb-22	12-Feb-22
ES0002010	M&E DDA Process Mechanical Submission and Approval	679	08-Feb-20	17-Dec-21	25-Jul-20	13-Mar-23
ES0002070	M&E DDA Building Services Submission and Approval	306	28-Feb-20	29-Dec-20	16-Apr-20	14-May-21
ES0002080	M&E AIP Lift Submission and Approval	170	10-Mar-20	26-Aug-20	08-Nov-20	26-Apr-21
ES0002085	M&E AIP Site Electrical Submission and Approval	155	09-Jun-20	10-Nov-20	14-Jun-20	15-Nov-20
ES0002030	M&E DDA Instrumentation & Control Submission and Approval	514	22-Jul-20	17-Dec-21	24-Nov-20	03-May-22
ES0002050	M&E DDA Electrical and Renewable Energy Submission and Approval	382	16-Aug-20	01-Sep-21	19-Jan-21	22-Dec-21
ES0002090	M&E DDA Lift Submission and Approval	140	27-Aug-20	13-Jan-21	27-Apr-21	13-Sep-21
ES0002095	M&E DDA Site Electrical Submission and Approval	140	11-Nov-20	30-Mar-21	16-Nov-20	04-Apr-21
ES0002100	M&E AIP T&C Design Submission and Approval	155	29-Mar-22	30-Aug-22	23-Apr-22	24-Sep-22
ES0002110	M&E DDA T&C Design Submission and Approval	60	31-Aug-22	29-Oct-22	25-Sep-22	23-Nov-22
Procurement of Major Plant & Equipment Schedule		901	14-Mar-20	31-Aug-22	14-Mar-20	13-Mar-23
ES0002320	M&E Procurement of Major Plant, Equipment, Material and Delivery	901	14-Mar-20	31-Aug-22	14-Mar-20	13-Mar-23
ES2470	M&E Procurement of Electrical Equipment - CLP Substation for LV Switchboard / Genset / Building Services	300	14-Mar-20	07-Jan-21	14-Mar-20	07-Jan-21
ES2460	M&E Procurement of Mechanical Equipment - RO Membrane	755	29-Mar-20	22-Apr-22	30-Mar-20	22-Apr-22
ES2420	M&E Procurement of Mechanical Equipment - Intake Pumps	595	18-May-20	02-Jan-22	18-May-20	02-Jan-22
ES2430	M&E Procurement of Mechanical Equipment - ActiDAFF Underdrain	333	30-Oct-20	27-Sep-21	30-Oct-20	27-Sep-21
ES2450	M&E Procurement of Mechanical Equipment - RO and ERD Rack	274	22-Feb-21	22-Nov-21	22-Feb-21	22-Nov-21
ES2440	M&E Procurement of Mechanical Equipment - ActiDAFF Media	298	15-Mar-21	06-Jan-22	15-Mar-21	06-Jan-22
132kV Substation		342	16-Mar-20	20-Feb-21	16-Mar-20	20-Feb-21
ES0001460	Excavation for 132kV Substation	15	16-Mar-20	30-Mar-20	16-Mar-20	30-Mar-20
ES0001470	Construction of 132kV Substation	233	31-Mar-20	18-Nov-20	31-Mar-20	18-Nov-20
ES0001480	Architectural Finishes for 132kV Substation	126	11-Sep-20	14-Jan-21	11-Sep-20	14-Jan-21
ES0002240	M&E Installation of 132kV Substation	93	20-Nov-20	20-Feb-21	20-Nov-20	20-Feb-21
Combine Shaft		807	27-Mar-20	11-Jun-22	03-Apr-20	11-Jun-22
ES0001060	Construction of Combine Shaft	258	27-Mar-20	09-Dec-20	03-Apr-20	09-Dec-20
ES0002120	M&E Installation at Combined Shaft	160	03-Jan-22	11-Jun-22	03-Jan-22	11-Jun-22
Intake		415	12-Nov-20	31-Dec-21	13-Nov-20	09-Jul-22
ES0001080	Receiving Pit and Marine Intake Structure	415	12-Nov-20	31-Dec-21	13-Nov-20	09-Jul-22
ES0001070	DN2500 Pipe Jacking for Intake Pipeline	162	10-Dec-20	20-May-21	10-Dec-20	20-May-21
ES0001110	Construction of Intake Land Structure	193	21-May-21	29-Nov-21	21-May-21	29-Nov-21
ES0001120	Architectural Finishes for Intake Land Structure	32	30-Nov-21	31-Dec-21	30-Nov-21	31-Dec-21

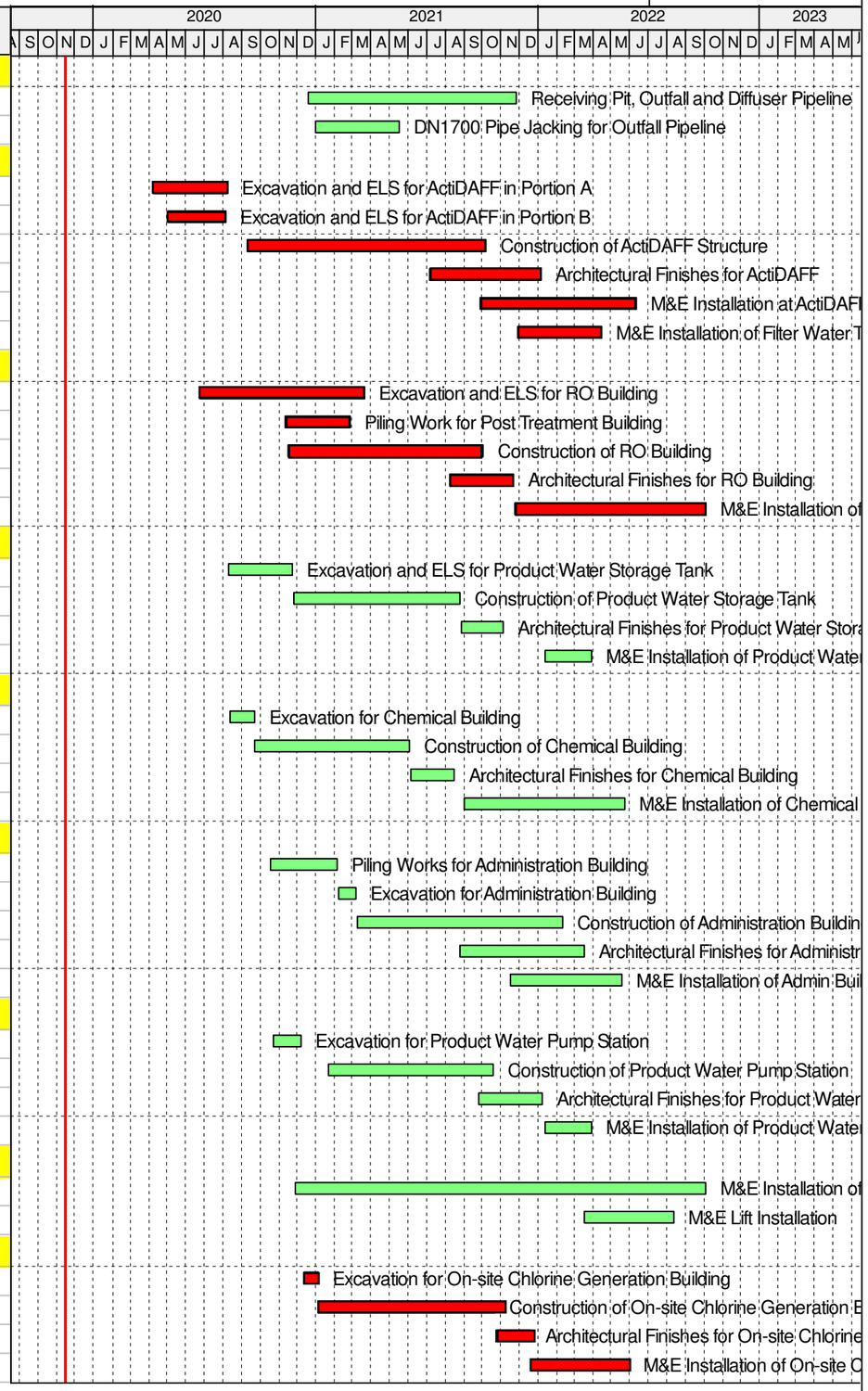


Summary Bar | Early Bar | Actual Summary | Critical Bar | Actual Work | Milestone

Executive Summary

acciona JEC CSCEC AJC JOINT VENTURE

Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish
OutFall		342	19-Dec-20	25-Nov-21	21-Dec-20	17-May-22
ES0001100	Receiving Pit, Outfall and Diffuser Pipeline	342	19-Dec-20	25-Nov-21	21-Dec-20	17-May-22
ES0001090	DN1700 Pipe Jacking for Outfall Pipeline	140	30-Dec-20	18-May-21	02-Jan-21	20-May-21
ActiDAFF		794	09-Apr-20	11-Jun-22	15-May-20	24-Aug-22
ES0001130	Excavation and ELS for ActiDAFF in Portion A	121	09-Apr-20	07-Aug-20	19-Jun-20	10-Sep-20
ES0001140	Excavation and ELS for ActiDAFF in Portion B	97	02-May-20	06-Aug-20	15-May-20	26-Oct-20
ES0001150	Construction of ActiDAFF Structure	393	11-Sep-20	08-Oct-21	11-Sep-20	06-Nov-21
ES0001160	Architectural Finishes for ActiDAFF	183	07-Jul-21	05-Jan-22	07-Jul-21	08-Feb-22
ES0002130	M&E Installation at ActiDAFF	257	28-Sep-21	11-Jun-22	28-Sep-21	11-Jun-22
ES0002140	M&E Installation of Filter Water Tank and Pumping Station	137	29-Nov-21	14-Apr-22	15-Mar-22	24-Aug-22
Reverse Osmosis Building		832	24-Jun-20	03-Oct-22	09-Jul-20	03-Oct-22
ES0001170	Excavation and ELS for RO Building	270	24-Jun-20	20-Mar-21	09-Jul-20	20-Mar-21
ES0001200	Piling Work for Post Treatment Building	107	11-Nov-20	25-Feb-21	03-Dec-20	19-Mar-21
ES0001180	Construction of RO Building	321	16-Nov-20	02-Oct-21	28-Nov-20	09-Oct-21
ES0001190	Architectural Finishes for RO Building	106	09-Aug-21	22-Nov-21	06-Sep-21	22-Nov-21
ES0002150	M&E Installation of RO Building	315	23-Nov-21	03-Oct-22	23-Nov-21	03-Oct-22
Product Water Storage Tank		598	10-Aug-20	30-Mar-22	11-Sep-20	11-Jun-22
ES0001240	Excavation and ELS for Product Water Storage Tank	106	10-Aug-20	23-Nov-20	11-Sep-20	30-Jan-21
ES0001250	Construction of Product Water Storage Tank	276	24-Nov-20	26-Aug-21	01-Feb-21	16-Oct-21
ES0001260	Architectural Finishes for Product Water Storage Tank	70	27-Aug-21	04-Nov-21	01-Nov-21	08-Jan-22
ES0002210	M&E Installation of Product Water Tank	78	12-Jan-22	30-Mar-22	30-Mar-22	11-Jun-22
Chemical Building		650	12-Aug-20	23-May-22	18-Jan-21	22-Jul-22
ES0001300	Excavation for Chemical Building	42	12-Aug-20	22-Sep-20	18-Jan-21	05-Mar-21
ES0001310	Construction of Chemical Building	255	23-Sep-20	04-Jun-21	06-Mar-21	27-Oct-21
ES0001320	Architectural Finishes for Chemical Building	73	05-Jun-21	16-Aug-21	28-Oct-21	08-Jan-22
ES0002220	M&E Installation of Chemical Building	264	02-Sep-21	23-May-22	17-Feb-22	22-Jul-22
Administration Building		577	19-Oct-20	18-May-22	19-Oct-20	02-Jul-22
ES0001330	Piling Works for Administration Building	110	19-Oct-20	05-Feb-21	19-Oct-20	20-Feb-21
ES0001340	Excavation for Administration Building	31	06-Feb-21	08-Mar-21	22-Feb-21	17-Mar-21
ES0001350	Construction of Administration Building	339	09-Mar-21	10-Feb-22	18-Mar-21	19-Feb-22
ES0001360	Architectural Finishes for Administration Building	204	26-Aug-21	17-Mar-22	04-Sep-21	26-Mar-22
ES0002230	M&E Installation of Admin Building	184	16-Nov-21	18-May-22	11-Feb-22	02-Jul-22
Product Water Pumping Station		525	22-Oct-20	30-Mar-22	24-Nov-20	11-Jun-22
ES0001270	Excavation for Product Water Pump Station	47	22-Oct-20	07-Dec-20	24-Nov-20	16-Mar-21
ES0001280	Construction of Product Water Pump Station	270	22-Jan-21	18-Oct-21	06-Mar-21	13-Nov-21
ES0001290	Architectural Finishes for Product Water Pumping Station	106	25-Sep-21	08-Jan-22	17-Dec-21	08-Feb-22
ES0002215	M&E Installation of Product Water Pump Station	78	12-Jan-22	30-Mar-22	30-Mar-22	11-Jun-22
Building Services & Lift Installation		676	27-Nov-20	03-Oct-22	27-Nov-20	03-Dec-22
ES0002280	M&E Installation of Building Services	676	27-Nov-20	03-Oct-22	27-Nov-20	03-Nov-22
ES0002270	M&E Lift Installation	147	18-Mar-22	11-Aug-22	29-Apr-22	03-Dec-22
OSCG Building		537	11-Dec-20	31-May-22	06-Jan-21	03-Dec-22
ES0001400	Excavation for On-site Chlorine Generation Building	25	11-Dec-20	04-Jan-21	06-Jan-21	26-Jan-21
ES0001410	Construction of On-site Chlorine Generation Building	291	05-Jan-21	22-Oct-21	27-Jan-21	13-Nov-21
ES0001420	Architectural Finishes for On-site Chlorine Generation Building	59	23-Oct-21	20-Dec-21	17-Dec-21	22-Feb-22
ES0002200	M&E Installation of On-site Chlorine Generation Building	162	21-Dec-21	31-May-22	23-Feb-22	03-Dec-22

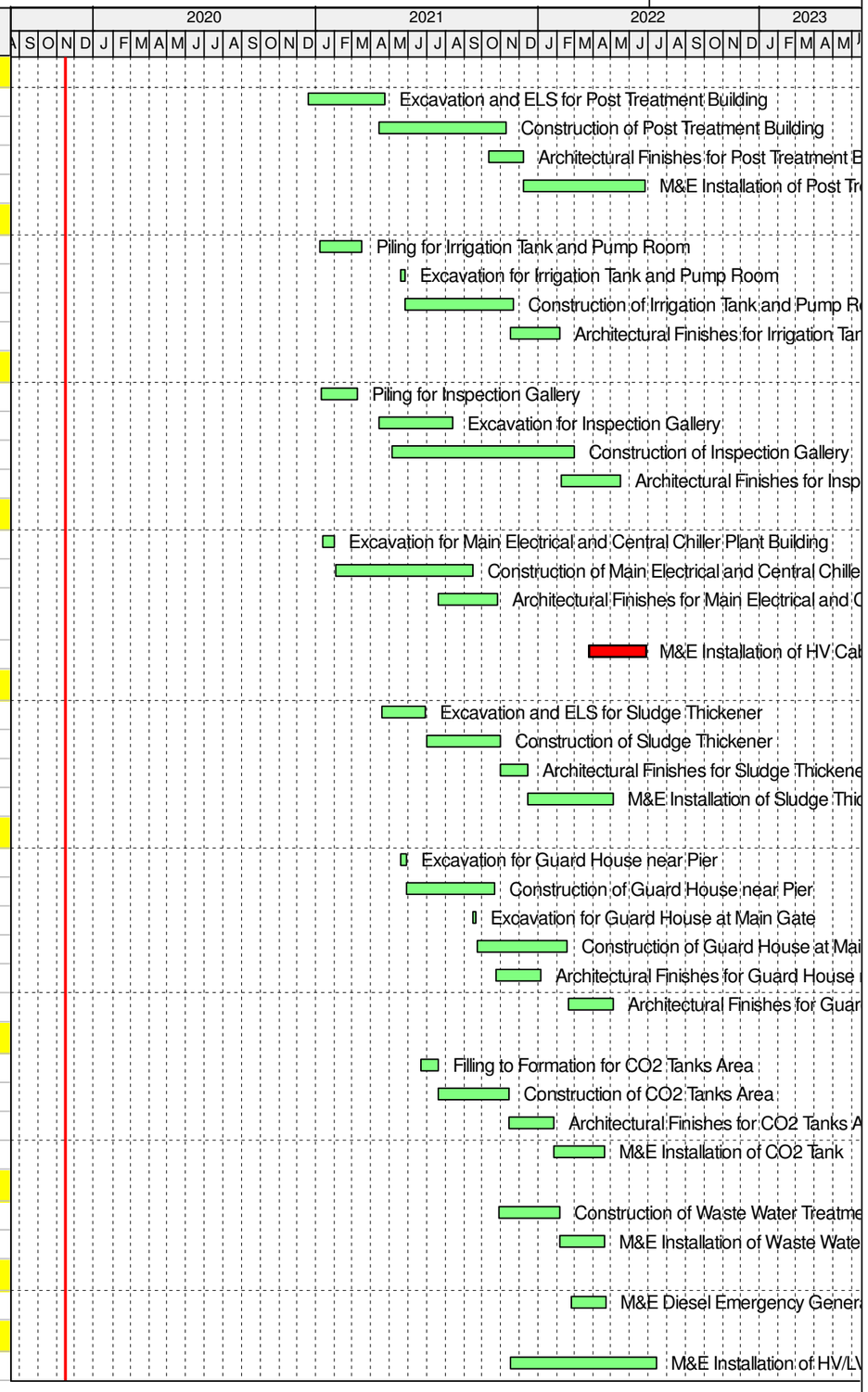


Summary Bar | Early Bar
Actual Summary | Critical Bar
Actual Work | Milestone

Executive Summary

AJC JOINT VENTURE

Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish
Post Treatment Building		554	19-Dec-20	25-Jun-22	06-Feb-21	09-Aug-22
ES0001210	Excavation and ELS for Post Treatment Building	126	19-Dec-20	23-Apr-21	06-Feb-21	08-Jun-21
ES0001220	Construction of Post Treatment Building	209	14-Apr-21	08-Nov-21	29-May-21	21-Dec-21
ES0001230	Architectural Finishes for Post Treatment Building	59	11-Oct-21	08-Dec-21	24-Nov-21	24-Jan-22
ES0002180	M&E Installation of Post Treatment System	199	09-Dec-21	25-Jun-22	25-Jan-22	09-Aug-22
Irrigation Tank & Pump Room		395	07-Jan-21	05-Feb-22	07-Jan-21	22-Apr-22
ES0001550	Piling for Irrigation Tank and Pump Room	69	07-Jan-21	16-Mar-21	07-Jan-21	16-Mar-21
ES0001560	Excavation for Irrigation Tank and Pump Room	7	21-May-21	27-May-21	31-Jul-21	06-Aug-21
ES0001570	Construction of Irrigation Tank and Pump Room	179	28-May-21	22-Nov-21	07-Aug-21	12-Feb-22
ES0001580	Architectural Finishes for Irrigation Tank and Pump Room	81	17-Nov-21	05-Feb-22	08-Feb-22	22-Apr-22
Inspection Gallery		494	09-Jan-21	17-May-22	26-Feb-21	28-May-22
ES0001590	Piling for Inspection Gallery	60	09-Jan-21	09-Mar-21	26-Feb-21	24-Apr-21
ES0001600	Excavation for Inspection Gallery	121	14-Apr-21	12-Aug-21	26-Apr-21	24-Aug-21
ES0001610	Construction of Inspection Gallery	299	06-May-21	28-Feb-22	18-May-21	11-Mar-22
ES0001620	Architectural Finishes for Inspection Gallery	99	08-Feb-22	17-May-22	19-Feb-22	28-May-22
Main Electrical and Central Chiller Plant Building		531	11-Jan-21	25-Jun-22	21-Jan-21	09-Aug-22
ES0001430	Excavation for Main Electrical and Central Chiller Plant Building	20	11-Jan-21	30-Jan-21	21-Jan-21	10-Feb-21
ES0001440	Construction of Main Electrical and Central Chiller Plant Building	227	01-Feb-21	15-Sep-21	17-Feb-21	27-Sep-21
ES0001450	Architectural Finishes for Main Electrical and Central Chiller Plant Building	99	20-Jul-21	26-Oct-21	30-Jul-21	05-Nov-21
ES0002260	M&E Installation of HV Cabling and Field Panels	92	26-Mar-22	25-Jun-22	09-Aug-22	09-Aug-22
Sludge Thickener		381	19-Apr-21	04-May-22	22-Jul-21	09-Aug-22
ES0001680	Excavation and ELS for Sludge Thickener	73	19-Apr-21	30-Jun-21	22-Jul-21	01-Nov-21
ES0001690	Construction of Sludge Thickener	121	02-Jul-21	30-Oct-21	02-Nov-21	07-Feb-22
ES0001700	Architectural Finishes for Sludge Thickener	44	01-Nov-21	14-Dec-21	08-Feb-22	27-Mar-22
ES0002190	M&E Installation of Sludge Thickener	141	15-Dec-21	04-May-22	28-Mar-22	09-Aug-22
Guard House		350	21-May-21	05-May-22	16-Jul-21	13-Mar-23
ES0001520	Excavation for Guard House near Pier	8	21-May-21	28-May-21	16-Jul-21	23-Jul-21
ES0001530	Construction of Guard House near Pier	147	29-May-21	22-Oct-21	24-Jul-21	15-Dec-21
ES0001490	Excavation for Guard House at Main Gate	7	15-Sep-21	21-Sep-21	11-Nov-21	17-Nov-21
ES0001500	Construction of Guard House at Main Gate	149	23-Sep-21	18-Feb-22	18-Nov-21	14-Apr-22
ES0001540	Architectural Finishes for Guard House near Pier	74	23-Oct-21	04-Jan-22	16-Dec-21	11-Mar-22
ES0001510	Architectural Finishes for Guard House at Main Gate	76	19-Feb-22	05-May-22	19-Apr-22	13-Mar-23
CO2 Tank		303	22-Jun-21	20-Apr-22	14-Aug-21	03-Dec-22
ES0001370	Filling to Formation for CO2 Tanks Area	29	22-Jun-21	20-Jul-21	14-Aug-21	10-Sep-21
ES0001380	Construction of CO2 Tanks Area	116	21-Jul-21	13-Nov-21	11-Sep-21	08-Jan-22
ES0001390	Architectural Finishes for CO2 Tanks Area	73	15-Nov-21	26-Jan-22	10-Jan-22	25-Mar-22
ES0002170	M&E Installation of CO2 Tank	84	27-Jan-22	20-Apr-22	20-Sep-22	03-Dec-22
Waste Water Treatment Plant		175	28-Oct-21	20-Apr-22	31-Dec-21	02-Jul-22
ES0001710	Construction of Waste Water Treatment Plant	100	28-Oct-21	04-Feb-22	31-Dec-21	19-Apr-22
ES0002340	M&E Installation of Waste Water Treatment Plant	75	05-Feb-22	20-Apr-22	20-Apr-22	02-Jul-22
Diesel Emergency Generator		57	25-Feb-22	22-Apr-22	08-May-22	03-Jul-22
ES0002250	M&E Diesel Emergency Generator	57	25-Feb-22	22-Apr-22	08-May-22	03-Jul-22
Switch Room and Transformer Installation		242	16-Nov-21	15-Jul-22	18-Feb-22	09-Jan-23
ES0002300	M&E Installation of HV/LV Switchroom and Transformer	242	16-Nov-21	15-Jul-22	18-Feb-22	09-Jan-23

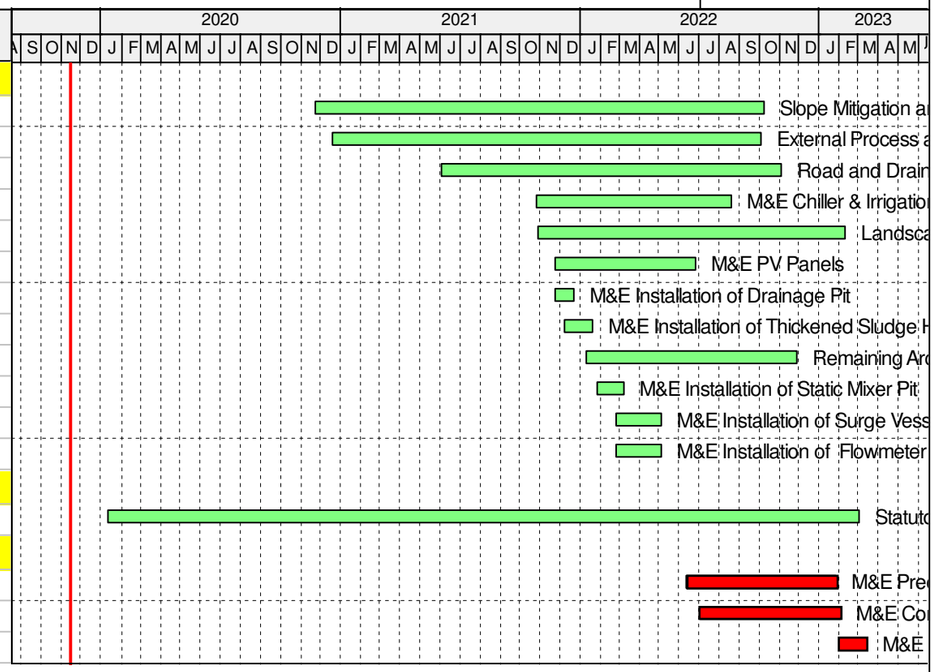


Summary Bar | Early Bar | Actual Summary | Critical Bar | Actual Work | Milestone

Executive Summary

acciona JEC CTCE AJC JOINT VENTURE

Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish
Miscellaneous		808	23-Nov-20	08-Feb-23	28-Nov-20	27-Feb-23
ES0001660	Slope Mitigation and Maintenance Access	684	23-Nov-20	07-Oct-22	28-Nov-20	23-Dec-22
ES0001640	External Process and Non-Process Pipe	655	18-Dec-20	03-Oct-22	31-Dec-20	18-Nov-22
ES0001650	Road and Drainage	518	04-Jun-21	03-Nov-22	23-Jun-21	29-Nov-22
ES0002310	M&E Chiller & Irrigation System Installation	298	27-Oct-21	20-Aug-22	06-Nov-21	11-Feb-23
ES0001670	Landscaping Works	469	28-Oct-21	08-Feb-23	28-Jan-22	27-Feb-23
ES0002290	M&E PV Panels	215	23-Nov-21	25-Jun-22	23-Dec-21	27-Jul-22
ES0002380	M&E Installation of Drainage Pit	30	23-Nov-21	22-Dec-21	01-Jun-22	02-Jul-22
ES0002390	M&E Installation of Thickened Sludge Holding Tank	42	09-Dec-21	19-Jan-22	27-Oct-22	03-Dec-22
ES0001630	Remaining Architectural Finishes for All Buildings	322	11-Jan-22	28-Nov-22	14-Jun-22	06-Feb-23
ES0002370	M&E Installation of Static Mixer Pit	42	27-Jan-22	09-Mar-22	26-May-22	02-Jul-22
ES0002350	M&E Installation of Surge Vessel	70	24-Feb-22	04-May-22	07-Dec-22	09-Jan-23
ES0002360	M&E Installation of Flowmeter Pit	70	24-Feb-22	04-May-22	26-Apr-22	02-Jul-22
Statutory Submission & Inspection		1148	11-Jan-20	03-Mar-23	08-Feb-20	13-Mar-23
ES0002330	Statutory Submission & Inspection	1148	11-Jan-20	03-Mar-23	08-Feb-20	13-Mar-23
Testing and Commissioning		275	12-Jun-22	13-Mar-23	12-Jun-22	13-Mar-23
ES0002400	M&E Precomissioning	229	12-Jun-22	26-Jan-23	12-Jun-22	26-Jan-23
ES0002410	M&E Commissioning	213	04-Jul-22	01-Feb-23	04-Jul-22	01-Feb-23
ES0002420	M&E Performance Test	40	02-Feb-23	13-Mar-23	02-Feb-23	13-Mar-23



Appendix B

Overview of Desalination Plant in Tseung Kwan O

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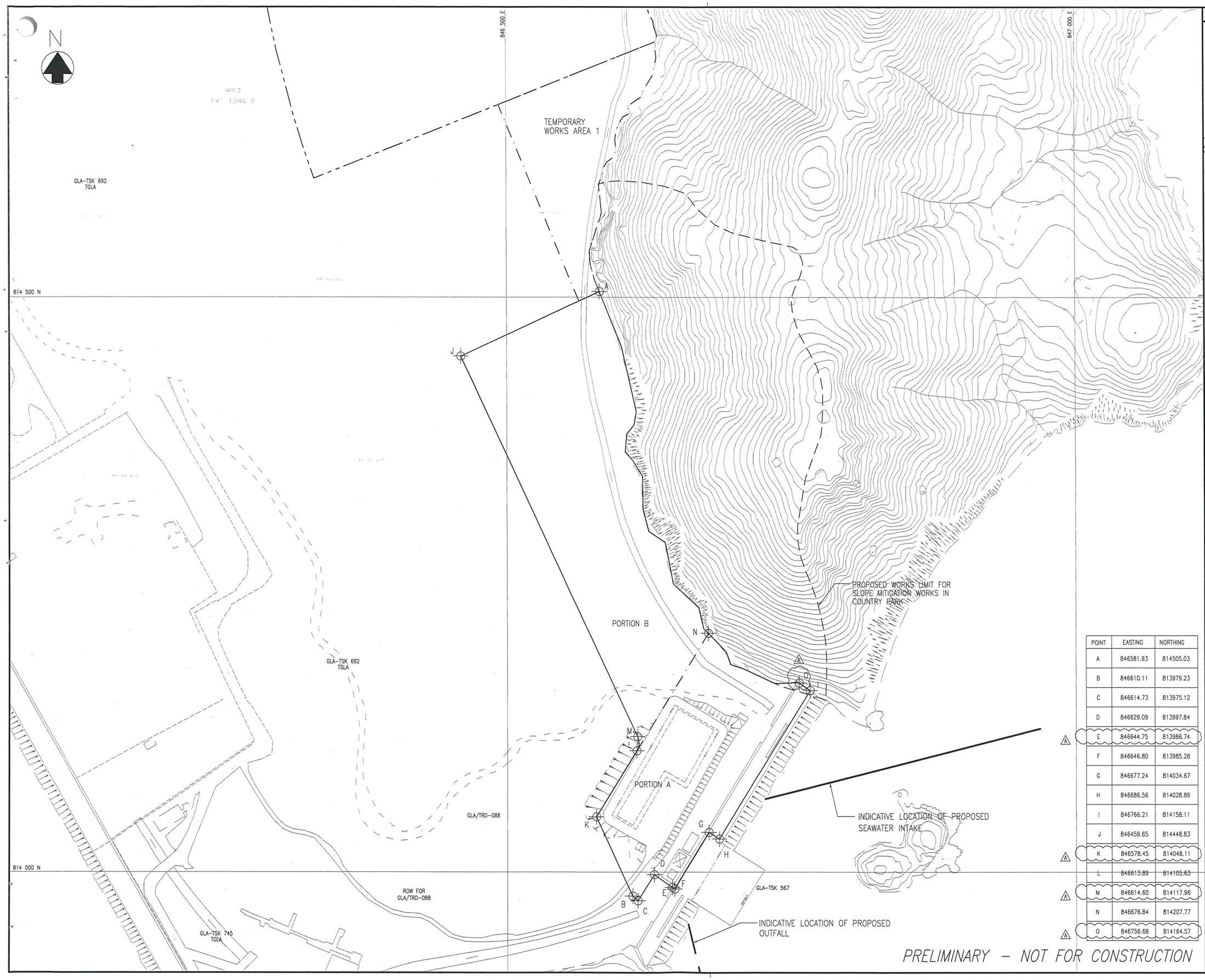

POINT	EASTING	NORTHING
A	846581.93	814505.03
B	846610.11	813979.23
C	846614.73	813975.12
D	846629.09	813997.84
E	846644.75	813986.74
F	846646.80	813985.28
G	846677.24	814034.67
H	846686.56	814028.89
I	846766.21	814158.11
J	846459.65	814448.83
K	846578.45	814048.11
L	846613.89	814105.63
M	846614.60	814117.96
N	846676.84	814207.77
O	846756.68	814164.57

PRELIMINARY – NOT FOR CONSTRUCTION

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LEGEND:

- BOUNDARY OF SENT LANDFILL EXTENSION
- BOUNDARY OF WORKS AREA FOR TKO DESALINATION PLANT
- SITE PHASING
- GLA-TSK 692 TGLA — ALLOCATED LAND BOUNDARIES

NOTE: TEMPORARY WORKS AREA 1 WILL BE HANDED OVER AT +6 MPD WITH A TOLERANCE OF ±500mm.

Revision	Date	Description	Initial
B	10/03	UPDATE NOTES	YLC
A	07/18	UPDATE COORDINATES	YLC

	Designed	Checked	Drawn	Checked
Initial	YLC	CKH	SZ	WLS
Date	02/18	02/18	02/18	02/18

Approved

Agreement No.
CE 8/2015 (WS)

Contract No.
13/WSD/17

Contract Title
DESIGN, BUILD AND OPERATE FIRST STAGE OF TSEUNG KWAN O DESALINATION PLANT

Drawing Title
SITE HANDOVER WORKS AREAS

Drawing No.
190495/K/TEND/10/0003

Revision
B

Scale
A1 1 : 1500
A3 1 : 3000

水務署
Water Supplies Department

BLACK & VEATCH HONG KONG LIMITED
博威工程顧問有限公司

BUILDINGS IN FIRST STAGE

CODE	NAME OF BUILDING	TOTAL G.F.A. (m^2)	SITE COVERAGE (m^2)
B	COMBINE SHAFT	759,876	759,876
C	ACTIDAFF	10027,547	5455,346
G	REVERSE OSMOSIS BUILDING AND ELECTRICAL BUILDING	4511,455	5367,935
H	CO2 TANKS AREA	-	-
J	PRODUCT WATER STORAGE TANK, PUMP STATION AND ELECTRICAL BUILDING	1974,610	2833,980
K	SLUDGE TREATMENT BUILDING, TANK AND PUMP ROOM	2531,044	1228,361
M	ADMINISTRATION BUILDING & ELECTRICAL BUILDING C	2459,713	1114,062
N	MAIN ELECTRICAL AND CENTRAL CHILLER PLANT BUILDING	-	459,893
R1	ELECTROCHLORINATION BUILDING & ELECTRICAL BUILDING A	657,992	825,776
S	132 kV SUBSTATION	-	943,560
T	IRRIGATION WATER TANK AND PUMP ROOM	-	156,148
R2	CHEMICAL BUILDING	813,056	813,056
V	VISITOR GALLERY	1330,410	1330,410
X1	GUARD HOUSE AND FS CONTROL ROOM	39,585	39,585
X2	GUARD HOUSE	22,035	22,035
Y	R + D OUTDOOR	-	-
Z	WASTE WATER TREATMENT PLANT	48,000	48,000
	TOTAL =	25175,323	21496,023

LEGEND / ABBREVIATION

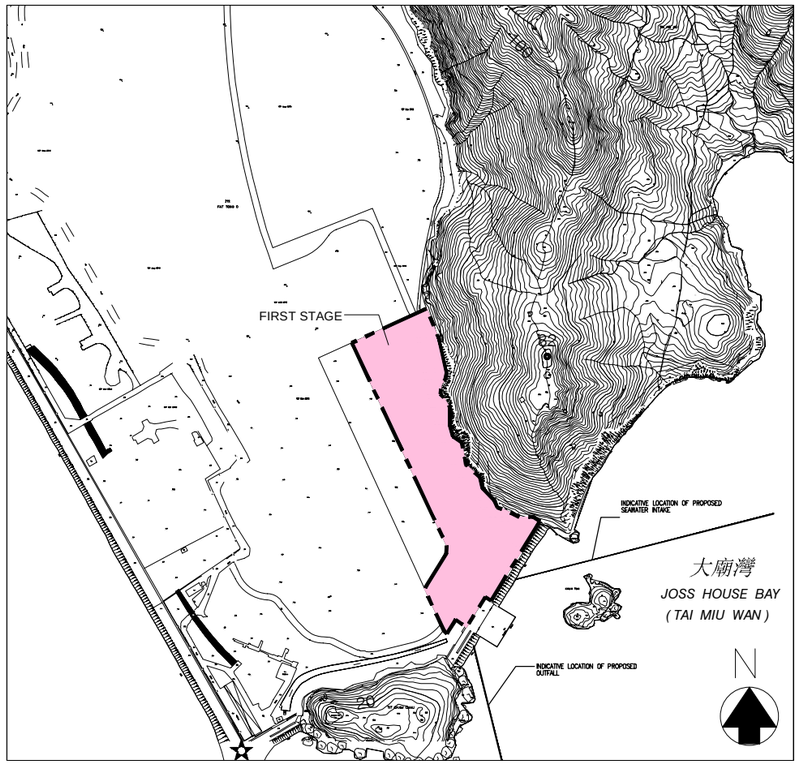
H/L WINDOW	HIGH LEVEL WINDOW
M.L.	METAL LOUVRES
C.L.	CAT LADDER
A.U.T.	ACCESSIBLE UNISEX TOILET
◆	PROPOSED FINISH FLOOR LEVEL IN METER ABOVE P.D.
◆	STRUCTURAL FLOOR LEVEL IN METER ABOVE P.D.
MV/AL	MECHANNICAL VENTILATION & ARTIFICIAL LIGHTING
F.E.	4.5kg CO^2 FIRE EXTINGUISHER
H.R.	HOSE REEL
Ⓐ	FIREMAN'S LIFT
Ⓓ	LIFT FOR THE BARRIER FREE ACCESS
P.D.	PIPE DUCT

PLOT RATIO & SITE COVERAGE CALCULATION:

SITE AREA OF THE FIRST STAGE	=	56108 m²
TOTAL G.F.A.	=	25092.141 m²
TOTAL SITE COVERAGE	=	21414.841 m²
PLOT RATIO	=	25092.141 / 56108
	=	0.447 < PERMITTED
SITE COVERAGE	=	21414.841 / 56108 x 100
	=	38.167%

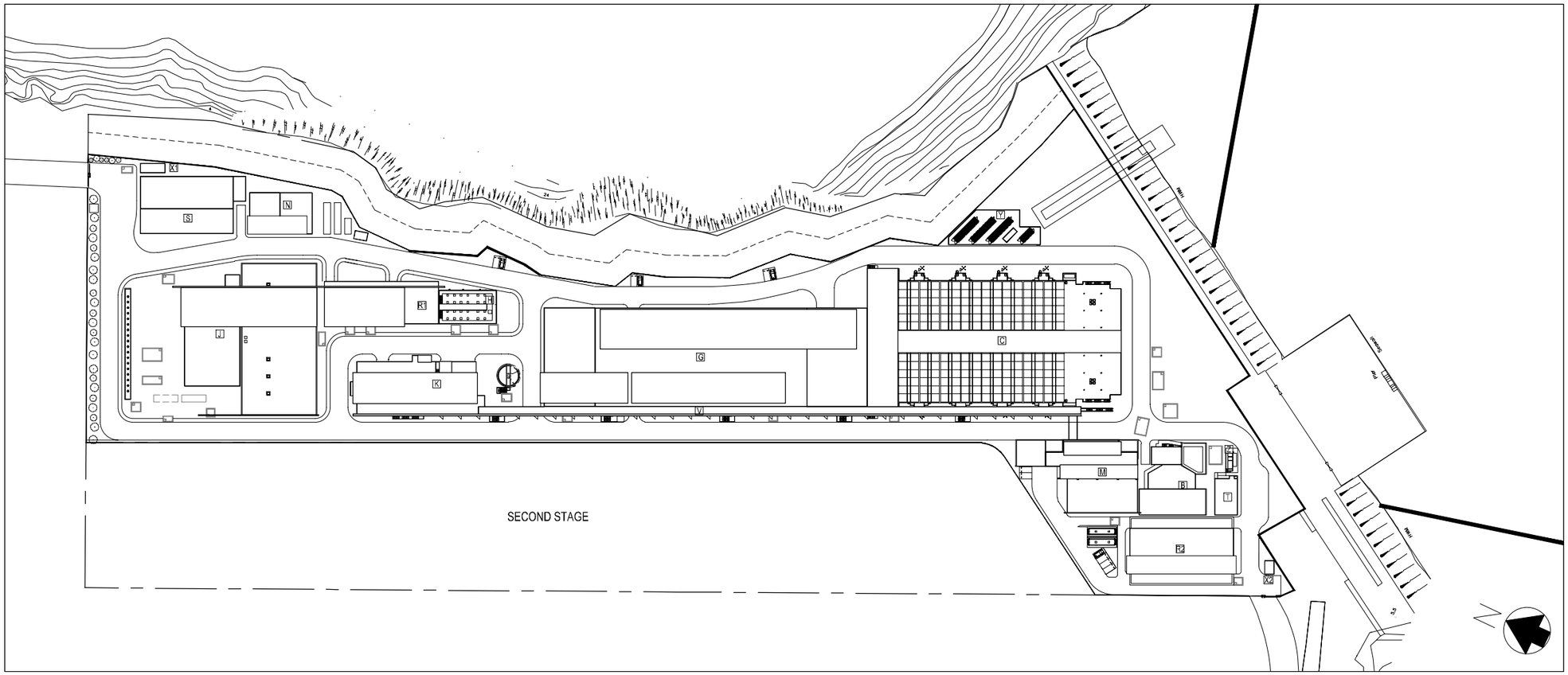
SITE LOCATION PLAN

1 : 5000



FIRST STAGE OF TSEUNG KWAN O DESALINATION PLANT

1 : 1000



Rev	Description	By	Date
0	TENDER SUBMISSION	CAD	JAN 19

Employer: 水務署 Water Supplies Department

Employer's Consultant: BLACK & VEATCH

Tenderer: acciona Agua, JEC, CSCEC — AJC JOINT VENTURE

Designer: wsp

Project title:
CONTRACT NO. 13/WSD/17

DESIGN, BUILD AND OPERATE
FIRST STAGE OF TSEUNG KWAN O
DESALINATION PLANT

Drawing title:
ARCHITECTURAL –
PLOT RATIO AND SITE COVERAGE
CALCULATION, LEGEND
ABBREVIATION

Drawing no.	Rev.
TKO/AJC/W/A000/AR/001	0

Drawn	Date	Checked	Approved
CKAL	JAN 19	S.C.	T.C.

Scale	Status
N.T.S.	–

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Appendix C

Summary of Implementation Status of Environmental Mitigation

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

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
S4.8.1	Road sections between vehicle-wash areas and vehicular entrance will be paved.	Land site/ During Construction	Contractor(s)		✓		Implemented	
S4.8.1	Hoarding of not less than 2.4m high from ground level will be provided along the length of the Project Site boundary.	Land site/ During construction	Contractor(s)	✓	✓		N/A	
S4.8.1	Haul roads will be kept clear of dusty materials and will be sprayed with water so as to maintain the entire road surface wet at all times.	Land site/ During construction	Contractor(s)		✓		Implemented	
S4.8.1	Temporary stockpiles of dusty materials will be either covered entirely by impervious sheets or sprayed with water to maintain the entire surface wet all the time.	Land site/ During construction	Contractor(s)		✓		Implemented	
S4.8.1	Stockpiles of more than 20 bags of cement, dry pulverised fuel ash and dusty construction materials will be covered entirely by impervious sheeting sheltered on top and 3-sides.	Land site/ During construction	Contractor(s)		✓		N/A	
S4.8.1	All exposed areas will be kept wet always to minimise dust emission.	Land site/ During construction	Contractor(s)		✓		Implemented	
S4.8.1	Ultra-low-sulphur diesel (ULSD) will be used for all construction plant on-site, as defined as diesel fuel containing not more than 0.005% sulphur by weight) as stipulated in Environment, Transport and Works Bureau Technical Circular (ETWB-TC(W)) No 19/2005 on Environmental Management on Construction Sites.	Land site/ During construction/ During Operation	Contractor(s)		✓	✓	Implemented	Environment, Transport and Works Bureau Technical Circular (ETWB-TC(W)) No 19/2005 on Environmental Management on Construction Sites

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
S4.8.1	The engine of the construction equipment during idling will be switched off.	Land site/ During construction	Contractor(s)		✓		Implemented	
S4.8.1	Concrete batching plant will be required on site. control measures recommended in the Guidance Note on a Best Practicable Means for Cement Works (Concrete Batching Plant) (BPM 3/2 (93)) will be implemented. The control measures recommended in the Guidance Note on a Best Practicable Means for Cement Works (Concrete Batching Plant) (BPM 3/2 (93)) will be	Land site/ During construction	Contractor(s)		✓		N/A	Guidance Note on a Best
S4.8.1	Regular maintenance of construction equipment deployed on-site will be conducted to prevent black smoke emission.	Land site/ During construction	Contractor(s)		✓		Implemented	
S4.10	To ensure proper implementation of the recommended dust mitigation measures and good construction site practices during the construction phase, environmental site audits on weekly basis is recommended throughout the construction period.	Land site/ During construction	Contractor(s)/ Environmental Team (ET) & Independent Environmental Checker (IEC)		✓		Implemented	

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

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
Noise								
S5.7	Only well-maintained plant will be operated on-site and plant will be serviced regularly during the construction phase.	All area/ During construction	Contractor(s)		✓		Implemented	A Practical Guide for the Reduction of Noise from Construction Works,
S5.7	Silencers or mufflers on construction equipment will be utilised and will be properly maintained during the construction phase.	Noise control/ During construction	Contractor(s)		✓		N/A	A Practical Guide for the Reduction of Noise from Construction Works,
S5.7	Mobile plant, if any, will be sited as far away from NSRs as possible.	Noise control/ During construction	Contractor(s)		✓		Implemented	A Practical Guide for the Reduction of Noise from Construction Works,
S5.7	Machines and plant (such as trucks) that may be in intermittent use will be shut down between work periods or will be throttled down to a minimum.	Noise control/ During construction	Contractor(s)		✓		Implemented	A Practical Guide for the Reduction of Noise from Construction Works,
S5.7	Plants known to emit noise strongly in one direction will, wherever possible, be orientated so that the noise is directed away from the nearby NSRs.	Noise control/ During construction	Contractor(s)		✓		N/A	A Practical Guide for the Reduction of Noise from Construction Works,
S5.7	Material stockpiles and other structures will be effectively utilised, wherever practicable, in screening noise from on-site construction activities.	Noise control/ During construction	Contractor(s)		✓		N/A	A Practical Guide for the Reduction of Noise from Construction Works,
S5.7	Use of Quite Powered Mechanical Equipment (QPME).	Noise control/ During construction	Contractor(s)		✓		Implemented	A Practical Guide for the Reduction of Noise from Construction Works,
S5.7	Movable noise barriers of 3m in height with skid footing should be used and located within a few metres of stationary plant and mobile plant such that the line of sight to the NSR is blocked by the barriers. The length of the barrier should be at least five times greater than its height. The noise barrier material should have a superficial	Noise control/ During construction	Contractor(s)		✓		N/A	A Practical Guide for the Reduction of Noise from Construction Works,

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

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
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)	✓	✓		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 (ET)		✓		Implemented	
S5.10	The effectiveness of on-site control measures could also be evaluated through the regular site audits.	All facilities/ During construction	Contractor(s)/ Environmental Team (ET) & Independent Environmental Checker (IEC)		✓		Implemented	-

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

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

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommende measures & main concerns to address	Implementatio n Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
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	-
S6.9	Appropriate surface drainage will be designed and provided where necessary.	Land site & drainage/ During construction	Contractor(s)		✓		N/A	-
S6.9	The precautions to be taken at any time of year when rainstorms are likely together with the actions to be taken when a rainstorm is imminent or forecasted and actions to be taken during or after rainstorms are summarised in Appendix A2 of ProPECC PN 1/94.	Land site & drainage/ During construction	Contractor(s)		✓		Implemented	ProPECC PN 1/94
S6.9	Oil interceptors will be provided in the drainage system where necessary and regularly emptied to prevent the release of oil and grease into the storm water drainage system after accidental spillages.	Land site & drainage/ During construction	Contractor(s)		✓		Implemented	-
S6.9	Temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge, if any, will be adequately designed for the controlled release of storm flows.	Land site & drainage/ During construction	Contractor(s)		✓		N/A	-

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommende measures & main concerns to address	Implementatio n Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
S6.9	The temporary diverted drainage, if any, will be reinstated to the original condition when the construction work has finished or when the temporary diversion is no longer required.	Land site & drainage/ During construction	Contractor(s)		✓		N/A	-
S6.9	Appropriate numbers of portable toilets shall be provided by a licensed contractor to serve the construction workers over the construction site to prevent direct disposal of sewage into the water environment.	Land site & drainage/ During construction	Contractor(s)		✓		Implemented	-
S6.9 and S6.12	The sterilization water should be dechlorinated with total residual chlorine (TRC) level below 1 mg/L before discharge to public sewer. In situ testing of TRC should also be conducted for the discharge of chlorinated water for pipeline disinfection to ensure sufficient dechlorination before discharge to public sewer.	Sterilization of water mains prior to commissioning	Contractor(s)		✓	✓	N/A	Technical Memorandum for Effluents Discharged into Drainage and Sewerage Systems Inland and Coastal Waters
S6.9	The cleaning and flushing water should also be treated and desilted to the relevant discharge requirement stipulated in TM-DSS before discharging.	Sterilization of water mains prior to commissioning	Contractor(s)		✓	✓	N/A	Technical Memorandum for Effluents Discharged into Drainage and Sewerage Systems Inland and Coastal Waters
S6.9	Site drainage should be well maintained and good construction practices should be observed to ensure that oil, fuels, solvents and other chemicals are managed, stored and handled properly and do not enter the nearby water streams.	Land site & drainage/ During construction/ During operation	Contractor(s)		✓	✓	Implemented	-

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommende measures & main concerns to address	Implementatio n Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
S6.12	Regular site inspections will be carried out in order to confirm that regulatory requirements are being met and that contractors are implementing the standard site practice and mitigation measures as proposed to reduce potential impacts to water quality.	During construction	Contractor(s)/ Environmental Team (ET) & Independent Environmental Checker (IEC)		✓		Implemented	-

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

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

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
								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)
S8.5	A recording system for the amount of wastes generated/ recycled and disposal sites. The trip- ticket system will be included as one of the contractual requirements and implemented by the contractor(s).	Land site/ During construction	Contractor(s)		✓		Implemented	DEVB TC(W) No. 6/2010, Trip Ticket System for Disposal of Construction & Demolition Materials
S8.5	Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of material and their proper disposal.	Land site/ During construction/ During operation	Contractor(s)		✓		Implemented	WBTC 32/92, The Use of Tropical Hard Wood on Construction Site
S8.5	Encourage collection of aluminium cans and waste paper by individual collectors during construction with separate labelled bins provided to segregate these wastes from other general refuse by the workforce.	Land site/ During construction	Contractor(s)		✓		Implemented	ETWB TCW No. 33/2002, Management of Construction and Demolition Material Including Rock
S8.5	Any unused chemicals and those with remaining functional capacity will be recycled as far as possible.	Land site/ During construction	Contractor(s)		✓		N/A	-
S8.5	Use of reusable non-timber formwork to reduce the amount of C&D materials.	All areas/ During construction	Contractor(s)		✓		N/A	WBTC 32/92, The Use of Tropical Hard Wood on Construction Site
S8.5	Prior to disposal of construction waste, wood, steel and other metals will be separated to the extent practical, for re-use and/or recycling to reduce the quantity of waste to be disposed of to landfill.	All areas/ During construction	Contractor(s)		✓		Implemented	DEVB TC(W) No. 6/2010, Trip Ticket System for Disposal of Construction & Demolition Materials
S8.5	Proper storage and site practices to reduce the potential for damage or contamination of construction materials.	All areas/ During construction	Contractor(s)		✓		Implemented, rectified after observation	-
S8.5	Plan and stock construction materials	All areas/ During construction	Contractor(s)		✓		Implemented	-

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
	carefully to reduce amount of waste generated and avoid unnecessary generation of waste.							
S8.5	A Sediment Quality Report (SQR) for sampling and chemical testing of the sediment will be prepared and submitted to the EPD for approval. The approved detailed sampling and chemical testing will be carried out prior to the commencement of the dredging activities to confirm the sediment disposal method.	Marine works/ During construction	Contractor(s)		✓		N/A	ETWB TC(W) No. 34/2002 and Dumping at Sea Ordinance (DASO)
S8.5	The management of dredged/ excavated sediment management requirement from *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 mobilisation/ During construction	Contractor(s)		✓		Implemented	Cap 354N Waste Disposal (Charges for Disposal of Construction Waste) Regulation
S8.5	A trip-ticket system will be established in accordance with DEVB TC(W) No. 6/2010 to monitor the reuse of surplus excavated materials off-site and disposal of construction waste and general refuse at transfer facilities/ landfills, and to control fly-tipping.	Contract mobilisation/ During construction	Contractor(s)		✓		Implemented	DEVB TC(W) No. 6/2010, Trip Ticket System for Disposal of Construction & Demolition Materials
S8.5	The project proponent will also conduct regular inspection of the waste management measures implemented on site as described in the Waste Management Plan.	All area/ During construction	Contractor(s)/ Environmental Team (ET) & Independent 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	All area/ During construction	Contractor(s)		✓		Implemented	Annex 5 and Annex 6 of Appendix G of

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
	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.							ETWB TC(W) No. 19/2005
S8.5	Inert C&D materials (public fill) will be reused within the Project as far as practicable.	All area/ During construction	Contractor(s)		✓		N/A	-
S8.5	Public fill and construction waste shall be segregated and stored in different containers or skips to facilitate reuse or recycling of materials and their proper disposal.	All area/ During construction	Contractor(s)		✓		N/A	-
S8.5	Specific areas of the work site will be designated for such segregation and storage if immediate use is not practicable.	All area/ During construction	Contractor(s)		✓		N/A	-
S8.5	To reduce the potential dust and water quality impacts of site formation works, C&D materials will be wetted as quickly as possible to the extent practice after filling.	All area/ During construction	Contractor(s)		✓		Implemented	Air Pollution Control (Construction Dust) Regulation (Cap 311R); WPCO (Cap 358)
S8.5	Open stockpiles of excavated/ fill materials or construction wastes on-site should be covered with tarpaulin or similar fabric.	Land site/ During Construction, particularly dry season	Contractor(s)		✓		Implemented	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		✓	✓	NA	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
S8.5	Chemical waste container shall have a capacity of less than 450 L unless the specifications have been approved by the EPD.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	NA	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
S8.5	A label in English and Chinese shall be displayed on the chemical container in accordance with	All area/ During construction/ During	Contractor(s)/ WSD		✓	✓	NA	Waste Disposal (Chemical Waste)

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
	instructions prescribed in Schedule 2 of the Regulations.	operation						(General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
S8.5	Storage areas for chemical waste shall be enclosed on at least 3 sides.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
S8.5	Storage areas for chemical waste shall have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
S8.5	Storage areas for chemical waste shall have adequate ventilation.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
S8.5	Storage areas for chemical waste shall be covered to prevent rainfall entering (water collected within the bund must be tested and disposed of as chemical waste, if necessary).	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
S8.5	Storage areas for chemical waste shall be arranged so that incompatible materials are appropriately separated.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	Waste Disposal (Chemical Waste) (General) Regulation;

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
								Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
S8.5	General refuse will be stored in enclosed bins or compaction units separately from construction and chemical wastes.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
S8.5	Adequate number of waste containers will be provided to avoid over-spillage of waste.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	DEVB TC(W) No. 8/2010 Enhanced Specification for Site Cleanliness and Tidiness.
S8.5	A reputable waste collector will be employed by the Contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimise odour, pest and litter impacts.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	N/A	-
S8.5	Recycling bins will be provided at strategic locations within the Site to facilitate recovery of recyclable materials (including aluminium can, waste paper, glass bottles and plastic bottles) from the Site. Materials recovered will be sold for recycling.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	-
S8.5	To avoid any odour and litter impact, accurate number of portable toilets will be provided for workers on-site.	All area/ During construction	Contractor(s)		✓		Implemented	-
S8.5	The burning of refuse on construction sites is prohibited by law.	All area/ During construction	Contractor(s)		✓		Implemented	Air Pollution Control Ordinance (Cap 311)
S8.7	To facilitate monitoring and control over the contractors' performance on waste management, a waste inspection and audit programme will be implemented throughout the construction phase.	All facilities/ During construction	ET/ IEC		✓		Implemented	-

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

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

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
	the concerned species either in groups of individually within the works area and in the close proximity to prevent from being damaged and disturbed during construction. A sign identifying the site shall be attached to the fence and flagging tape shall be attached to the individuals to visualize their locations.	area/ During construction						
S9.7 and S9.10	A specification for fencing and demarcating individuals of *Marsdenai lachnostoma* (or other flora species of conservation interest, if found) adjacent to the proposed alignment of the flexible barriers will be prepared to protect the species.	Slope mitigation works area/ During construction	Contractor(s)		✓		N/A	-
S9.7	Induction training shall also be provided to all site personnel in order to brief them on this flora of conservation interest including the locations and their importance.	Slope mitigation works area/ During construction	Contractor(s)		✓		N/A	-
S9.7	The resident site supervisory staff will closely monitor the conditions of concerned individuals during construction of flexible barriers in the close proximity.	Slope mitigation works area/ During construction	Contractor(s)		✓		N/A	-
S9.7	Erect fences along the boundary of the works area before the commencement of works to prevent vehicle movements and encroachment of personnel onto adjacent areas.	All area/ During construction	Contractor(s)		✓		Implemented	-
S9.7	Regularly check the work site boundaries to ensure that they are not breached and that damage does not occur to surrounding areas.	All area/ During construction	Contractor(s)/ Environmental Team (ET)		✓		Implemented	-
S9.7	Avoid any damage and disturbance, particularly those caused by filling and illegal dumping, to the surrounding habitats through proper management of waste disposal.	All area/ During construction	Contractor(s)		✓		Implemented	-

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
S9.7	Reinstate temporarily affected areas, particularly the habitats of plantation and shrubland-grassland immediately after completion of construction works, through on-site tree/shrub planting. The tree/shrub species will be chosen with reference to those in the surrounding area.	All area/ During construction	Contractor(s)		✓		N/A	-
S9.7	Affected habitats within the Clear Water Bay Country Bay shall be reinstated by hydro-seeding and planting of climbers and native shrub seedlings where practical upon completion of the slope mitigation works.	All area/ During construction	Contractor(s)		✓		N/A	-

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

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

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
	A compensatory tree planting proposal including locations of tree compensation will be submitted to seek relevant government department's approval, in accordance with DEVB TC(W) No. 10/2013. (MM5)							
S11.10 & 11.11	Any slope mitigation works necessary to address natural terrain hazards, will be minimized to minimize any potential environmental impact to the Country Park e.g. soil nailing and rock stabilization will aim to avoid existing trees e.g. should any restoration of vegetation be necessary, the best planting matrix with native species will be established, with the aim of resembling the existing vegetation. (MM6)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	N/A	
S11.10 & 11.11	Dredging works for the installation of intake structures and outfall diffusers should be minimized to avoid or reduce any potential environmental impacts to as low as reasonably practicable (ALARP). The intake and outfall structures (e.g. intake openings and diffuser heads) will be prefabricated and transferred to site for installation. (MM7)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	N/A	
S11.10 & 11.11	All night-time lighting will be reduced to a practical minimum both in terms of number of level and will be hooded and directional. (MM8)units and lux level and will be hooded and directional. (MM8)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	Implemented	-

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

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

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
S12.7	Monitoring for landfill gas should be undertaken in all excavations, manholes, chambers (particularly during pipe jacking) and any confined spaces through the use of an intrinsically safe portable instrument, appropriately calibrated and capable of measuring the concentrations of methane. carbon dioxide and oxygen.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	
S12.7	Monitoring frequency and areas to be monitored should be specified prior to commencement of groundwork, either by the Safety Officer, or by an appropriately qualified person. All measurements should be recorded and documented.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	
S12.7	Proceed drilling with adequate care and precautions against the potential hazards which may be encountered.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	
S12.7	Prior to the commencement of the site works, the drilling contractor should devise a 'method-of- working' statement covering all normal and emergency procedures (including but not limited to number of operatives, experience and special skills of operatives, normal method of operations, emergency procedures, supervisors responsibilities, storage and use of safety equipment, safety procedures and signs, barriers and guarding). The site supervisor and all operatives must be familiar with this statement.	All area/ During construction/ During operation	Contractor(s)	✓	✓	✓	N/A	
S12.7	Where below ground service entries are necessary to the Incoming Switchgear Room, 132 kV Substation and Chlorine Store (I) and (II), the entry point should be sealed to prevent gas entry. In addition, any below grade cable trenches entering the Incoming Switchgear Room and 132 kV Substation can become the pathway for landfill gas and hence grilled metal covers should	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	N/A	

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
	be used.							
S12.7	It is recommended regular landfill gas monitoring should be carried out at the Incoming Switchgear Room, 132 kV Substation and Chlorine Store (I) and (II). The monitoring frequency will be monthly for the first year of operation. If the monitoring results show no sign of landfill gas migration, reduce the monitoring frequency to once every six months.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	N/A	
S12.7	The manholes and utility pits within the Project Site and along the fresh water mains. Each manhole/ utility pit should be monitored with two measurements (at mid depth and base). Each measurement should be monitored for a minimum of 10 minutes. A steady reading and peak reading should be recorded at each manhole/ utility pit and for each measurement. The need for venting the manhole/ utility pit and further monitoring will be reviewed after the initial monitoring.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Impllemented	
S12.7	All construction, operation and maintenance personnel working on-site as well as visitors should be made aware of the hazards of landfill gas and its possible presence on-site. This should be achieved through a combination of posting warning signs in prominent places and also by access to detailed information on landfill gas hazards and the designs and procedural means by which these hazards are being minimised on-site.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	

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

Appendix D

Impact Monitoring Schedule of the Reporting Month (BLANK)

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Appendix E

Event/Action Plan for Noise Exceedance

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Event and Action Plan for Construction Noise Monitoring

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

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Appendix F

Noise Monitoring Equipment Calibration Certificate (BLANK)

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Appendix G

Event/Action Plan for Water Quality Exceedance

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Event	Action			
	ET	IEC	SO	Contractor
Action level being exceeded by one sampling day	Repeat in-situ measurement to confirm findings; Identify source(s) of impact; Inform IEC and Contractor; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC and Contractor; Repeat measurement on next day of exceedance. (The above actions should be taken within 1 working day after the exceedance is identified)	Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the SO accordingly; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)	Discuss with IEC on the proposed mitigation measures; Make agreement on the mitigation measures to be implemented. (The above actions should be taken within 1 working day after the exceedance is identified)	Inform the SO and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with ET and IEC and propose mitigation measures to IEC and SO within 3 working days; Implement the agreed mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)
Action level being exceeded by more than one consecutive sampling days	Identify source(s) of impact; Inform IEC and Contractor; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC and Contractor; Ensure mitigation measures are implemented; Prepare to increase the monitoring frequency to daily; Repeat measurement on next working day of exceedance. (The above actions should be taken within 1 working day after Action Level being exceeded by two consecutive sampling days)	Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the SO accordingly; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after Action Level being exceeded by two consecutive sampling days)	Discuss with IEC on the proposed mitigation measures; Make agreement on the mitigation measures to be implemented. Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after Action Level being exceeded by two consecutive sampling days)	Inform the SO and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with ET and IEC and propose mitigation measures to IEC and SO within 3 working days; Implement the agreed mitigation measures. (The above actions should be taken within 1 working day after Action Level being exceeded by two consecutive sampling days)

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Event	Action			
	ET	IEC	SO	Contractor
Limit level being exceeded by one sampling day	Inform the SO and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with Contractor, IEC and SO and propose mitigation measures to IEC and SO within 3 working days; Implement the agreed mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)	Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the SO accordingly; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)	Discuss with IEC, ET and Contractor on the proposed mitigation measures; Request Contractor to critically review the working methods; Make agreement on the mitigation measures to be implemented. Assess the effectiveness of the implemented measures. (The above actions should be taken within 1 working day after the exceedance is identified)	Inform the SO and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with ET, IEC and SO and propose mitigation measures to IEC and SO within 3 working days; Implement the agreed mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)

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Event	Action			
	ET	IEC	SO	Contractor
Limit level being exceeded by more than one consecutive sampling days	Identify source(s) of impact; Inform IEC, Contractor and EPD; Check monitoring data, all plant, equipment and Contractor's working methods. Discuss mitigation measures with IEC, SO and Contractor. Ensure mitigation measures are implemented; Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days. (The above actions should be taken within 1 working day after Limit Level being exceeded by two consecutive sampling days)	Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the SO accordingly; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after Limit Level being exceeded by two consecutive sampling days)	Discuss with IEC, ET and Contractor on the proposed mitigation measures; Request Contractor to critically review the working methods; Make agreement on the mitigation measures to be implemented. Assess the effectiveness of the implemented measures. Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the marine work until no exceedance of Limit level. (The above actions should be taken within 1 working day after Limit Level being exceeded by two consecutive sampling days)	Inform the SO and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with ET, IEC and SO and propose mitigation measures to IEC and SO within 3 working days; Implement the agreed mitigation measures; As directed by the SOR, to slow down or to stop all or part of the marine work or construction activities. (The above actions should be taken within 1 working day after Limit Level being exceeded by two consecutive sampling days)

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Appendix H

Waste Flow Table

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Name of Department: WSD

Contract No.: 13/ESD/17

Monthly Summary Waste Flow Table for 2020 (year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract (see Note 6)	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	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Feb	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Mar	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.420
Apr	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.400
May											
Jun											
Sub-total	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.820
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
Total	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.820

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 I

Site Inspection Proforma

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

WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST

Inspection Date: 07/04/2020 **Inspected by:** ET: Charlene Lai SO: K. K. Poon WSD: N/A
Inspection Time: 09:40 - 11:00 + meeting Contractor: Tiffany Tang IEC: N/A

Weather							
Condition	☐ Sunny	☐ Fine	☑ Overcast	☐ Drizzle	☐ Rain	☐ Storm	☐ Hazy
Temperature	18 °C		**Humidity**	☑ High	☐ Moderate	☐ Low	
Wind	☐ Calm	☑ Light	☐ Breeze	☐ Strong			

		N/A	Yes	No	Photo/Remarks
0.00	**General**				
0.01	Is the current Environmental Permit displayed conspicuously at all vehicle site entrances/exits for public's information at any time?	☐	☑	☐	
0.02	Is ET Leader's log-book kept readily available for inspections?	☐	☑	☐	
1.00	**Construction Dust**				
1.01	Are dusty materials, such as excavated materials, building debris and construction materials, and exposed earth surface properly covered to prevent dust emission?	☐	☑	☐	
1.02	Are screenings, enclosures, water spraying or vacuum cleaning devices provided to dusty construction works for dust suppression?	☐	☑	☐	✓water spraying
1.03	Are fumes or smoke emitting plants or construction activities shielded by a screen?	☐	☑	☐	
1.04	Are wheel-washing facilities with high-pressure water jets provided at all site exits?	☐	☑	☐	
1.05	Is wheel-washing provided to all vehicles leaving the site?	☐	☑	☐	
1.06	Are road section near the site exit free from dusty material?	☐	☑	☐	
1.07	Are all main haul roads inside the site paved or sprayed with water to minimize dust emission during vehicle movement?	☐	☑	☐	✓sprayed with water
1.08	Are water spraying provided immediately prior to any loading or transfer of dusty materials?	☐	☑	☐	
1.09	Are covers provided to all dump trucks carrying dusty materials when entering and leaving the site?	☑	☐	☐	No dump trucks observed during the site-walk
1.10	Are the working areas for uprooting of trees, shrubs, or vegetation or the removal of boulders, poles, pillars sprayed with water to maintain the entire surface wet?	☑	☐	☐	
1.11	Is exposed earth properly treated within six months after the last construction activity on site?	☐	☑	☐	
1.12	Does the operation of plants on site free form dark smoke emission?	☐	☑	☐	

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

		N/A	Yes	No	Photo/Remarks
1.13	Are vehicles travelling at speed not exceeding 15km/hr within the site?		✓		
1.14	Are stock of more than 20 bags of cement or day PFA covered or sheltered on top and 3 sides?	✓			
1.15	Are de-bagging, batching and mixing processes of bagged cement carried out in sheltered areas?	✓			
1.16	Are hoarding of at least 2.4m high provided along the site boundary adjoining areas accessible by the public?	✓			
1.17	Is open burning prohibited?		✓		
2.00	**Construction Noise (Airborne)**				
2.01	Are quiet plants adopted on site?		✓		
2.02	Are the PMEs operating on site well-maintained to minimize the generation of excessive niose?		✓		
2.03	Are plants throttled down or turned off when not in use?		✓		
2.04	Are the plants known to emit noise strongly in one direction oriented to face away from NSRs?	✓			No NSR Nearby to construction site
2.05	Are moveable barriers provided to screen NSRs from plant or noisy operations?	✓			
2.06	Are silencers, mufflers and enclosures provided to plants?	✓	✓		
2.07	Are the hoods, cover panels and inspection hatches of PMEs closed during operation?	✓	✓		
2.08	Are purposely-built site hoarding construction with appropriate materials provided along the site boundary?	✓			
2.09	Are noisy operation properly scheduled to minimize exposure and cumulative impacts to nearby sensitive receivers?	✓			No noisy operation
2.10	Are valid noise emission label(s) affixed to all hand-held breakers operating on site?	✓			
2.11	Are valid noise emission label(s) affixed to all air compressors operating on site?	✓			
2.12	Are all construction noise permit(s) applied for percussive piling work?	✓			No percussive piling work.
2.13	Are construction noise permit(s) applied for general construction works during restricted hours?	✓	✓		
2.14	Are valid construction noise permit(s) displayed at all vehicular exits?	✓	✓		
3.00	**Water Quality**				
3.01	Is effluent discharge license obtained for wastewater discharge from site?	✓			No water discharge.
3.02	Is effluent discharged according to the effluent discharge license?	✓			
3.03	Is wastewater discharge from site properly treated prior to discharge?	✓			

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

		N/A	Yes	No	Photo/Remarks
3.04	Are perimeter channels provided to intercept storm runoff from outside the site?	✓			
3.05	Are sand/silt removal facilities such as sand/silt traps and sediment basins provided to remove sand/silt particles from runoff?		✓		
3.06	Is surface runoff diverted to sedimentation facilities?	✓			
3.07	Is the drainage system properly maintained?	✓			M drainage system nearby.
3.08	Are construction works carefully programmed to minimize soil excavation works during rainy seasons?		✓		
3.09	Are exposed soil surface protected by paving as soon as possible to reduce the potential of soil erosion?		✓		
3.10	Are temporary access roads protected by crushed gravel?		✓		
3.11	Are exposed slope surface properly protected?	✓			
3.12	Is trench excavation avoided in the wet season as far as practicable, or if necessary, backfilled in short sections after excavation?		✓		
3.13	Are open stockpiles of construction materials on site covered by tarpaulin or similar fabric during construction?		✓		
3.14	Is runoff from wheel-washing facilities avoided?		✓		
3.15	Is oil leakage or spillage prevented?		✓		
3.16	Are there any measures to prevent the release of oil and grease into the storm drainage system?		✓		
3.17	Are the oil interceptors/ grease traps properly maintained?		✓		Reminder (2)
3.18	Are debris and rubbish generated on site collected, handled and disposed of properly to avoid them entering the streams?		✓		Reminder (1)
3.19	Are all fuel tanks and storage areas provided with locks and be sited on sealed areas, within bunds of capacity equal to 110% of the storage capacity of the largest tank?	✓	✓		
3.20	Are tanks, containers, storage area bunded and the locations locked as far as possible from the sensitive watercourse and stormwater drains?		✓		
3.21	Are sufficient chemical toilets provided on site to handle sewage from construction work force?		✓		
3.22	Are sewage disposal and toilet maintenance of the portable chemical toilets provided by the licensed contractors?		✓		
3.23	Is concrete washing water properly collected and treated prior to discharge?	✓	✓		
4.00	**Waste Management**				
4.01	Is a trip-ticket system implemented to monitor the disposal of C&D and solid wastes at public filling facilities and landfills?		✓		

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		N/A	Yes	No	Photo/Remarks
4.02	Is a recording system implemented to record the amount of wastes generated, recycled and disposed of?		✓		
4.03	IS the Contractor registered as a chemical waste producer?	✓			No chemical wastes
4.04	Are chemical waste separated from other waste and collected by a licensed chemical waste collector?	✓			
4.05	Are trip tickets for chemical waste disposal available for inspection?	✓			
4.06	Is chemical waste reused and recycled on site as far as practicable?	✓			
4.07	Are all containers for chemical waste properly labelled?	✓			
4.08	Is chemical waste storage area used solely for storage of chemical waste and properly labelled?	✓			
4.09	Are incompatible chemical wastes stored in different areas?	✓			
4.10	Is the chemical waste storage area enclosed on at least 3 sides and adequately ventilated?	✓			
4.11	Is an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or of 20% by volume of the chemical waste stored in that area, whichever is the greatest, provide?	✓			
4.12	Are a routine cleaning and maintenance programme implemented for drainage systems, sump pits, and oil interceptors?		✓		
4.13	Are sufficient general refuse disposal/collection points provided on site?		✓		
4.14	Is general refuse disposed of properly and regularly?		✓		
4.15	Are appropriate measures adopted to minimize windblown litter and dust during transportation of waste?		✓		
4.16	Are individual collectors for aluminum cans, plastic bottles and packaging material and office paper provided to encourage waste segregation?		✓		
4.17	Are C&D wastes sorted on site?		✓		
4.18	Are C&D waste disposed of properly?		✓		
4.19	Are unused C&D materials or chemicals recycled or reused to reduce the quantity of waste?		✓		
4.20	Are public fill and C&D waste reuse on site as far as practicable to avoid disposal off-site?		✓		
4.21	Are the construction materials stored properly to minimize the potential for damage or contamination?		✓		
4.22	Is a dumping license obtained to deliver public fill to public filling areas?		✓		

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

		N/A	Yes	No	Photo/Remarks
5.00	**Landscape and Visual**				
5.01	Are Is site hoarding provided?	✓			
5.02	Are vegetation disturbance minimized or soil protected to reduce potential soil erosion?		✓		
5.03	Is construction light oriented away from the sensitive receivers?	✓			
5.04	Is grass hydroseeding provided to slopes as soon as the completion of works?	✓			
5.05	Are damages to trees outside site boundary due construction works avoided?		✓		
5.06	Is excavation works carried out manually instead of machinery operation within 2.5m vicinity of any preserved trees?		✓		
5.07	Are the retained and transplanted tree(s) properly protected and in good conditions?		✓		
5.08	Are surgery works carried out for damaged trees?	✓			
6.00	**Ecology**				
6.01	Is site runoff properly treated to prevent any silly runoff?		✓		
6.02	Are silt trap installed and well-maintained?		✓		
6.03	Are stockpiles properly covered to avoid generating silty runoff?		✓		
6.04	Are construction works restricted to works area which are clearly defined?		✓		
7.00	**Overall**				
7.01	Is the EM&A properly implemented in general?		✓		

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

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

Reminder (s)

1. Housekeeping was reminded.
2. Stagnant water in the drip tray should be treated regularly to prevent the overflow of contaminated water / untreated water.

Signatures:

ET Representative	Contractor's Representative	Supervising Officer's Representative	IEC's Representative	WSD's Representative
(Name: Charlene Lui)	(Name: Tiffany Tsui)	(Name: Y.K. Poon)	(Name: N/A)	(Name: N/A)

07/04

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Contract no. 13/WSD/~~16~~ 17 Mainlaying in Tseung Kwan O

WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST

Inspection Date: 14/04/2020 **Inspected by:** ET: Charlene Lai Contractor: Tiffany Tsang WSD: N/A IEC: Francis Lau SO: T.K. Poon

Inspection Time: 09:45 – 11:40

Weather							
Condition	☑ Sunny	☐ Fine	☐ Overcast	☐ Drizzle	☐ Rain	☐ Storm	☐ Hazy
Temperature	22 °C		**Humidity**	☐ High	☑ Moderate	☐ Low	
Wind	☑ Calm	☐ Light	☐ Breeze	☐ Strong			

		N/A	Yes	No	Photo/Remarks
0.00	**General**				
0.01	Is the current Environmental Permit displayed conspicuously at all vehicle site entrances/exits for public's information at any time?	☐	☑	☐	
0.02	Is ET Leader's log-book kept readily available for inspections?	☐	☑	☐	
1.00	**Construction Dust**				
1.01	Are dusty materials, such as excavated materials, building debris and construction materials, and exposed earth surface properly covered to prevent dust emission?	☐	☑	☐	covered with crushed gravel
1.02	Are screenings, enclosures, water spraying or vacuum cleaning devices provided to dusty construction works for dust suppression?	☐	☑	☐	water spraying
1.03	Are fumes or smoke emitting plants or construction activities shielded by a screen?	☐	☑	☐	
1.04	Are wheel-washing facilities with high-pressure water jets provided at all site exits?	☐	☑	☐	
1.05	Is wheel-washing provided to all vehicles leaving the site?	☐	☑	☐	
1.06 *	Are road section near the site exit free from dusty material?	☐	☑	☐	
1.07	Are all main haul roads inside the site paved or sprayed with water to minimize dust emission during vehicle movement?	☐	☑	☐	
1.08	Are water spraying provided immediately prior to any loading or transfer of dusty materials?	☐	☑	☐	
1.09	Are covers provided to all dump trucks carrying dusty materials when entering and leaving the site?	☑	☐	☐	No dump trucks observed during sitewalk
1.10	Are the working areas for uprooting of trees, shrubs, or vegetation or the removal of boulders, poles, pillars sprayed with water to maintain the entire surface wet?	☑	☐	☐	
1.11	Is exposed earth properly treated within six months after the last construction activity on site?	☐	☑	☐	
1.12	Does the operation of plants on site free form dark smoke emission?	☐	☑	☐	

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Acuity Sustainability

Acuity Sustainability Consulting Limited

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Contract no. 13/WSD/~~16~~ 17 Mainlaying in Tseung Kwan O

		N/A	Yes	No	Photo/Remarks
1.13	Are vehicles travelling at speed not exceeding 15km/hr within the site?		✓		
1.14	Are stock of more than 20 bags of cement or day PFA covered or sheltered on top and 3 sides?	✓			
1.15	Are de-bagging, batching and mixing processes of bagged cement carried out in sheltered areas?	✓			
1.16	Are hoarding of at least 2.4m high provided along the site boundary adjoining areas accessible by the public?	✓			
1.17	Is open burning prohibited?		✓		
2.00	**Construction Noise (Airborne)**				
2.01	Are quiet plants adopted on site?		✓		
2.02	Are the PMEs operating on site well-maintained to minimize the generation of excessive niose?		✓		
2.03	Are plants throttled down or turned off when not in use?		✓		
2.04	Are the plants known to emit noise strongly in one direction oriented to face away from NSRs?	✓			No nearby NSR.
2.05	Are moveable barriers provided to screen NSRs from plant or noisy operations?	✓			
2.06	Are silencers, mufflers and enclosures provided to plants?	✓			
2.07	Are the hoods, cover panels and inspection hatches of PMEs closed during operation?		✓		
2.08	Are purposely-built site hoarding construction with appropriate materials provided along the site boundary?	✓			
2.09	Are noisy operation properly scheduled to minimize exposure and cumulative impacts to nearby sensitive receivers?		✓		
2.10	Are valid noise emission label(s) affixed to all hand-held breakers operating on site?	✓			
2.11	Are valid noise emission label(s) affixed to all air compressors operating on site?	✓			
2.12	Are all construction noise permit(s) applied for percussive piling work?	✓			
2.13	Are construction noise permit(s) applied for general construction works during restricted hours?		✓		
2.14	Are valid construction noise permit(s) displayed at all vehicular exits?		✓		
3.00	**Water Quality**				
3.01	Is effluent discharge license obtained for wastewater discharge from site?	✓			No water discharge
3.02	Is effluent discharged according to the effluent discharge license?	✓			
3.03	Is wastewater discharge from site properly treated prior to discharge?	✓			

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		N/A	Yes	No	Photo/Remarks
3.04	Are perimeter channels provided to intercept storm runoff from outside the site?	✓			
3.05	Are sand/silt removal facilities such as sand/silt traps and sediment basins provided to remove sand/silt particles from runoff?		✓		silt curtain
3.06	Is surface runoff diverted to sedimentation facilities?	✓	✓		
3.07	Is the drainage system properly maintained?		✓		
3.08	Are construction works carefully programmed to minimize soil excavation works during rainy seasons?		✓		
3.09	Are exposed soil surface protected by paving as soon as possible to reduce the potential of soil erosion?		✓		
3.10	Are temporary access roads protected by crushed gravel?		✓		
3.11	Are exposed slope surface properly protected?	✓			
3.12	Is trench excavation avoided in the wet season as far as practicable, or if necessary, backfilled in short sections after excavation?		✓		
3.13	Are open stockpiles of construction materials on site covered by tarpaulin or similar fabric during construction?		✓		
3.14	Is runoff from wheel-washing facilities avoided?		✓		
3.15	Is oil leakage or spillage prevented?		✓		
3.16	Are there any measures to prevent the release of oil and grease into the storm drainage system?		✓		
3.17	Are the oil interceptors/ grease traps properly maintained?		✓		
3.18	Are debris and rubbish generated on site collected, handled and disposed of properly to avoid them entering the streams?		✓		
3.19	Are all fuel tanks and storage areas provided with locks and be sited on sealed areas, within bunds of capacity equal to 110% of the storage capacity of the largest tank?		✓		
3.20	Are tanks, containers, storage area bunded and the locations locked as far as possible from the sensitive watercourse and stormwater drains?		✓		
3.21	Are sufficient chemical toilets provided on site to handle sewage from construction work force?		✓		
3.22	Are sewage disposal and toilet maintenance of the portable chemical toilets provided by the licensed contractors?		✓		
3.23	Is concrete washing water properly collected and treated prior to discharge?	✓			
4.00	**Waste Management**				
4.01	Is a trip-ticket system implemented to monitor the disposal of C&D and solid wastes at public filling facilities and landfills?		✓		

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		N/A	Yes	No	Photo/Remarks
4.02	Is a recording system implemented to record the amount of wastes generated, recycled and disposed of?		✓		
4.03	Is the Contractor registered as a chemical waste producer?	✓			
4.04	Are chemical waste separated from other waste and collected by a licensed chemical waste collector?	✓			No chemical waste.
4.05	Are trip tickets for chemical waste disposal available for inspection?	✓			
4.06	Is chemical waste reused and recycled on site as far as practicable?	✓			
4.07	Are all containers for chemical waste properly labelled?	✓			
4.08	Is chemical waste storage area used solely for storage of chemical waste and properly labelled?	✓			
4.09	Are incompatible chemical wastes stored in different areas?	✓			
4.10	Is the chemical waste storage area enclosed on at least 3 sides and adequately ventilated?	✓			
4.11	Is an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or of 20% by volume of the chemical waste stored in that area, whichever is the greatest, provide?				
4.12	Are a routine cleaning and maintenance programme implemented for drainage systems, sump pits, and oil interceptors?		✓		
4.13	Are sufficient general refuse disposal/collection points provided on site?		✓		
4.14	Is general refuse disposed of properly and regularly?		✓		
4.15	Are appropriate measures adopted to minimize windblown litter and dust during transportation of waste?		✓		
4.16	Are individual collectors for aluminum cans, plastic bottles and packaging material and office paper provided to encourage waste segregation?		✓		
4.17	Are C&D wastes sorted on site?		✓		
4.18	Are C&D waste disposed of properly?		✓		
4.19	Are unused C&D materials or chemicals recycled or reused to reduce the quantity of waste?	✓			
4.20	Are public fill and C&D waste reuse on site as far as practicable to avoid disposal off-site?		✓		
4.21	Are the construction materials stored properly to minimize the potential for damage or contamination?		✓		
4.22	Is a dumping license obtained to deliver public fill to public filling areas?		✓		

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Contract no. 13/WSD/~~16~~ 17 Mainlaying in Tseung Kwan O

		N/A	Yes	No	Photo/Remarks
5.00	**Landscape and Visual**				
5.01	Are Is site hoarding provided?	✓			
5.02	Are vegetation disturbance minimized or soil protected to reduce potential soil erosion?		✓		
5.03	Is construction light oriented away from the sensitive receivers?	✓			
5.04	Is grass hydroseeding provided to slopes as soon as the completion of works?	✓			
5.05	Are damages to trees outside site boundary due construction works avoided?		✓		
5.06	Is excavation works carried out manually instead of machinery operation within 2.5m vicinity of any preserved trees?	✓			
5.07	Are the retained and transplanted tree(s) properly protected and in good conditions?		✓		
5.08	Are surgery works carried out for damaged trees?	✓			
6.00	**Ecology**				
6.01	Is site runoff properly treated to prevent any silly runoff?		✓		
6.02	Are silt trap installed and well-maintained?		✓		
6.03	Are stockpiles properly covered to avoid generating silty runoff?		✓		
6.04	Are construction works restricted to works area which are clearly defined?		✓		
7.00	**Overall**				
7.01	Is the EM&A properly implemented in general?		✓		

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Contract no. 13/WSD/~~16~~ 17 Mainlaying in Tseung Kwan O

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

Reminder(s)

(1) Housekeeping is reminded.

(2) Dust mitigation measures should be implemented regularly to prevent dust emission.

(3) NRMM label should ~~be~~ be printed as a size of at least 200 mm in width and 130 mm in height on the NRMM.

Signatures:

ET Representative	Contractor's Representative	WSD's Representative	IEC's Representative	SO's Representative
(Name: Charlene Lau)	(Name: Tiffany Tsang)	(Name: N/A)	(Name: Francis Lau)	(Name: Y. Lam. RE(S/E))

14/04.

Acuity Sustainability Consulting Limited
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Contract no. 13/WSD/17 Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant

WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST

Inspection Date: 21/04/2020 **Inspected by:** ET: Charlene Lai SO: Y. K. Poon WSD: N/A
Contractor: Tiffany Tsang IEC: N/A
Inspection Time: 10:01 – 11:45

Weather							
Condition	☐ Sunny	☐ Fine	☑ Overcast	☐ Drizzle	☐ Rain	☐ Storm	☐ Hazy
Temperature	26 °C		**Humidity**	☑ High	☐ Moderate	☐ Low	
Wind	☐ Calm	☑ Light	☐ Breeze	☐ Strong			

		N/A	Yes	No	Photo/Remarks
0.00	**General**				
0.01	Is the current Environmental Permit displayed conspicuously at all vehicle site entrances/exits for public's information at any time?	☐	☑	☐	
0.02	Is ET Leader's log-book kept readily available for inspections?	☐	☑	☐	
1.00	**Construction Dust**				
1.01	Are dusty materials, such as excavated materials, building debris and construction materials, and exposed earth surface properly covered to prevent dust emission?	☐	☑	☐	By rocks
1.02	Are screenings, enclosures, water spraying or vacuum cleaning devices provided to dusty construction works for dust suppression?	☐	☑	☐	Reminder (2)
1.03	Are fumes or smoke emitting plants or construction activities shielded by a screen?	☑	☐	☐	
1.04	Are wheel-washing facilities with high-pressure water jets provided at all site exits?	☐	☑	☐	
1.05	Is wheel-washing provided to all vehicles leaving the site?	☐	☑	☐	
1.06	Are road section near the site exit free from dusty material?	☐	☑	☐	
1.07	Are all main haul roads inside the site paved or sprayed with water to minimize dust emission during vehicle movement?	☐	☑	☐	
1.08	Are water spraying provided immediately prior to any loading or transfer of dusty materials?	☐	☑	☐	
1.09	Are covers provided to all dump trucks carrying dusty materials when entering and leaving the site?	☐	☑	☐	
1.10	Are the working areas for uprooting of trees, shrubs, or vegetation or the removal of boulders, poles, pillars sprayed with water to maintain the entire surface wet?	☑	☐	☐	
1.11	Is exposed earth properly treated within six months after the last construction activity on site?	☐	☑	☐	
1.12	Does the operation of plants on site free form dark smoke emission?	☑	☑	☐	

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		N/A	Yes	No	Photo/Remarks
1.13	Are vehicles travelling at speed not exceeding 15km/hr within the site?		✓		
1.14	Are stock of more than 20 bags of cement or day PFA covered or sheltered on top and 3 sides?	✓			
1.15	Are de-bagging, batching and mixing processes of bagged cement carried out in sheltered areas?	✓			
1.16	Are hoarding of at least 2.4m high provided along the site boundary adjoining areas accessible by the public?	✓			
1.17	Is open burning prohibited?		✓		
2.00	**Construction Noise (Airborne)**				
2.01	Are quiet plants adopted on site?		✓		
2.02	Are the PMEs operating on site well-maintained to minimize the generation of excessive niose?		✓		
2.03	Are plants throttled down or turned off when not in use?		✓		
2.04	Are the plants known to emit noise strongly in one direction oriented to face away from NSRs?	✓			
2.05	Are moveable barriers provided to screen NSRs from plant or noisy operations?	✓			
2.06	Are silencers, mufflers and enclosures provided to plants?	✓			
2.07	Are the hoods, cover panels and inspection hatches of PMEs closed during operation?		✓		
2.08	Are purposely-built site hoarding construction with appropriate materials provided along the site boundary?	✓			
2.09	Are noisy operation properly scheduled to minimize exposure and cumulative impacts to nearby sensitive receivers?		✓		
2.10	Are valid noise emission label(s) affixed to all hand-held breakers operating on site?	✓			
2.11	Are valid noise emission label(s) affixed to all air compressors operating on site?	✓			
2.12	Are all construction noise permit(s) applied for percussive piling work?	✓			
2.13	Are construction noise permit(s) applied for general construction works during restricted hours?		✓		
2.14	Are valid construction noise permit(s) displayed at all vehicular exits?		✓		
3.00	**Water Quality**				
3.01	Is effluent discharge license obtained for wastewater discharge from site?	✓	✓		no water discharge
3.02	Is effluent discharged according to the effluent discharge license?	✓			
3.03	Is wastewater discharge from site properly treated prior to discharge?	✓			

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

		N/A	Yes	No	Photo/Remarks
3.04	Are perimeter channels provided to intercept storm runoff from outside the site?	✓			
3.05	Are sand/silt removal facilities such as sand/silt traps and sediment basins provided to remove sand/silt particles from runoff?		✓		
3.06	Is surface runoff diverted to sedimentation facilities?		✓		
3.07	Is the drainage system properly maintained?		✓		
3.08	Are construction works carefully programmed to minimize soil excavation works during rainy seasons?		✓		
3.09	Are exposed soil surface protected by paving as soon as possible to reduce the potential of soil erosion?	✓			
3.10	Are temporary access roads protected by crushed gravel?		✓		
3.11	Are exposed slope surface properly protected?	✓			
3.12	Is trench excavation avoided in the wet season as far as practicable, or if necessary, backfilled in short sections after excavation?	✓			No trench excavation
3.13	Are open stockpiles of construction materials on site covered by tarpaulin or similar fabric during construction?		✓		
3.14	Is runoff from wheel-washing facilities avoided?		✓		
3.15	Is oil leakage or spillage prevented?		✓		
3.16	Are there any measures to prevent the release of oil and grease into the storm drainage system?		✓		
3.17	Are the oil interceptors/ grease traps properly maintained?		✓		
3.18	Are debris and rubbish generated on site collected, handled and disposed of properly to avoid them entering the streams?		✓		
3.19	Are all fuel tanks and storage areas provided with locks and be sited on sealed areas, within bunds of capacity equal to 110% of the storage capacity of the largest tank?		✓		
3.20	Are tanks, containers, storage area bunded and the locations locked as far as possible from the sensitive watercourse and stormwater drains?		✓		
3.21	Are sufficient chemical toilets provided on site to handle sewage from construction work force?		✓		
3.22	Are sewage disposal and toilet maintenance of the portable chemical toilets provided by the licensed contractors?		✓		
3.23	Is concrete washing water properly collected and treated prior to discharge?	✓			
4.00	**Waste Management**				
4.01	Is a trip-ticket system implemented to monitor the disposal of C&D and solid wastes at public filling facilities and landfills?		✓		

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		N/A	Yes	No	Photo/Remarks
4.02	Is a recording system implemented to record the amount of wastes generated, recycled and disposed of?		✓		
4.03	IS the Contractor registered as a chemical waste producer?	✓			
4.04	Are chemical waste separated from other waste and collected by a licensed chemical waste collector?	✓			
4.05	Are trip tickets for chemical waste disposal available for inspection?	✓			
4.06	Is chemical waste reused and recycled on site as far as practicable?	✓			
4.07	Are all containers for chemical waste properly labelled?	✓			
4.08	Is chemical waste storage area used solely for storage of chemical waste and properly labelled?	✓			
4.09	Are incompatible chemical wastes stored in different areas?	✓			
4.10	Is the chemical waste storage area enclosed on at least 3 sides and adequately ventilated?	✓			
4.11	Is an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or of 20% by volume of the chemical waste stored in that area, whichever is the greatest, provide?	✓			
4.12	Are a routine cleaning and maintenance programme implemented for drainage systems, sump pits, and oil interceptors?		✓		
4.13	Are sufficient general refuse disposal/collection points provided on site?		✓		
4.14	Is general refuse disposed of properly and regularly?		✓		
4.15	Are appropriate measures adopted to minimize windblown litter and dust during transportation of waste?		✓		
4.16	Are individual collectors for aluminum cans, plastic bottles and packaging material and office paper provided to encourage waste segregation?		✓		
4.17	Are C&D wastes sorted on site?		✓		
4.18	Are C&D waste disposed of properly?		✓		
4.19	Are unused C&D materials or chemicals recycled or reused to reduce the quantity of waste?	✓			
4.20	Are public fill and C&D waste reuse on site as far as practicable to avoid disposal off-site?		✓		
4.21	Are the construction materials stored properly to minimize the potential for damage or contamination?		✓		
4.22	Is a dumping license obtained to deliver public fill to public filling areas?		✓		

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

		N/A	Yes	No	Photo/Remarks
5.00	**Landscape and Visual**				
5.01	Are Is site hoarding provided?	✓			
5.02	Are vegetation disturbance minimized or soil protected to reduce potential soil erosion?		✓		
5.03	Is construction light oriented away from the sensitive receivers?	✓			
5.04	Is grass hydroseeding provided to slopes as soon as the completion of works?	✓			
5.05	Are damages to trees outside site boundary due construction works avoided?		✓		
5.06	Is excavation works carried out manually instead of machinery operation within 2.5m vicinity of any preserved trees?	✓			
5.07	Are the retained and transplanted tree(s) properly protected and in good conditions?		✓		
5.08	Are surgery works carried out for damaged trees?	✓			
6.00	**Ecology**				
6.01	Is site runoff properly treated to prevent any silly runoff?		✓		
6.02	Are silt trap installed and well-maintained?		✓		
6.03	Are stockpiles properly covered to avoid generating silty runoff?		✓		
6.04	Are construction works restricted to works area which are clearly defined?		✓		
7.00	**Overall**				
7.01	Is the EM&A properly implemented in general?		✓		

21/04/2020

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

Reminder(s)

(1) Regular housekeeping was reminded.

(2) Regular dust suppression mitigations are reminded (water-spraying)

Observation(s)

No major observations were recorded.

Signatures:

ET Representative	Contractor's Representative	Supervising Officer's Representative	IEC's Representative	WSD's Representative
(Name: Charlene Lai)	(Name: Tiffany Tsang)	(Name: Yk Lam)	N/A (Name: N/A)	N/A (Name: N/A)

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

WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST

Inspection Date: ~~[illegible]~~ 29/4/2020 **Inspected by:** ET: Peter Chan SO: Poon YK. WSD: Wong KK
Inspection Time: 9:45 Contractor: Tiffany Tsang, Brian Kam IEC: Francis Lam

Weather							
Condition	☑ Sunny	☐ Fine	☐ Overcast	☐ Drizzle	☐ Rain	☐ Storm	☐ Hazy
Temperature	27 °C		**Humidity**	☐ High	☐ Moderate	☐ Low	
Wind	☐ Calm	☐ Light	☑ Breeze	☐ Strong			

		N/A	Yes	No	Photo/Remarks
0.00	**General**				
0.01	Is the current Environmental Permit displayed conspicuously at all vehicle site entrances/exits for public's information at any time?	☐	☑	☐	
0.02	Is ET Leader's log-book kept readily available for inspections?	☐	☑	☐	
1.00	**Construction Dust**				
1.01	Are dusty materials, such as excavated materials, building debris and construction materials, and exposed earth surface properly covered to prevent dust emission?	☐	☑	☐	Reminder ①
1.02	Are screenings, enclosures, water spraying or vacuum cleaning devices provided to dusty construction works for dust suppression?	☐	☑	☐	
1.03	Are fumes or smoke emitting plants or construction activities shielded by a screen?	☐	☑	☐	
1.04	Are wheel-washing facilities with high-pressure water jets provided at all site exits?	☐	☑	☐	
1.05	Is wheel-washing provided to all vehicles leaving the site?	☐	☑	☐	
1.06	Are road section near the site exit free from dusty material?	☐	☑	☐	
1.07	Are all main haul roads inside the site paved or sprayed with water to minimize dust emission during vehicle movement?	☐	☑	☐	
1.08	Are water spraying provided immediately prior to any loading or transfer of dusty materials?	☐	☑	☐	
1.09	Are covers provided to all dump trucks carrying dusty materials when entering and leaving the site?	☐	☑	☐	
1.10	Are the working areas for uprooting of trees, shrubs, or vegetation or the removal of boulders, poles, pillars sprayed with water to maintain the entire surface wet?	☐	☑	☐	
1.11	Is exposed earth properly treated within six months after the last construction activity on site?	☑	☑	☐	
1.12	Does the operation of plants on site free form dark smoke emission?	☐	☑	☐	

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		N/A	Yes	No	Photo/Remarks
1.13	Are vehicles travelling at speed not exceeding 15km/hr within the site?		✓		
1.14	Are stock of more than 20 bags of cement or day PFA covered or sheltered on top and 3 sides?	✓			
1.15	Are de-bagging, batching and mixing processes of bagged cement carried out in sheltered areas?	✓			
1.16	Are hoarding of at least 2.4m high provided along the site boundary adjoining areas accessible by the public?	✓			
1.17	Is open burning prohibited?		✓		
2.00	**Construction Noise (Airborne)**				
2.01	Are quiet plants adopted on site?		✓		
2.02	Are the PMEs operating on site well-maintained to minimize the generation of excessive niose?		✓		
2.03	Are plants throttled down or turned off when not in use?		✓		
2.04	Are the plants known to emit noise strongly in one direction oriented to face away from NSRs?		✓		
2.05	Are moveable barriers provided to screen NSRs from plant or noisy operations?	✓			
2.06	Are silencers, mufflers and enclosures provided to plants?	✓			
2.07	Are the hoods, cover panels and inspection hatches of PMEs closed during operation?	✓			
2.08	Are purposely-built site hoarding construction with appropriate materials provided along the site boundary?	✓			
2.09	Are noisy operation properly scheduled to minimize exposure and cumulative impacts to nearby sensitive receivers?	✓			
2.10	Are valid noise emission label(s) affixed to all hand-held breakers operating on site?	✓			
2.11	Are valid noise emission label(s) affixed to all air compressors operating on site?	✓			
2.12	Are all construction noise permit(s) applied for percussive piling work?	✓			
2.13	Are construction noise permit(s) applied for general construction works during restricted hours?	✓			
2.14	Are valid construction noise permit(s) displayed at all vehicular exits?	✓			
3.00	**Water Quality**				
3.01	Is effluent discharge license obtained for wastewater discharge from site?	✓			
3.02	Is effluent discharged according to the effluent discharge license?	✓			
3.03	Is wastewater discharge from site properly treated prior to discharge?	✓			

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

		N/A	Yes	No	Photo/Remarks
3.04	Are perimeter channels provided to intercept storm runoff from outside the site?	✓			
3.05	Are sand/silt removal facilities such as sand/silt traps and sediment basins provided to remove sand/silt particles from runoff?		✓		
3.06	Is surface runoff diverted to sedimentation facilities?	✓			
3.07	Is the drainage system properly maintained?	✓			
3.08	Are construction works carefully programmed to minimize soil excavation works during rainy seasons?		✓		
3.09	Are exposed soil surface protected by paving as soon as possible to reduce the potential of soil erosion?		✓		
3.10	Are temporary access roads protected by crushed gravel?	✓			
3.11	Are exposed slope surface properly protected?		✓		
3.12	Is trench excavation avoided in the wet season as far as practicable, or if necessary, backfilled in short sections after excavation?		✓		
3.13	Are open stockpiles of construction materials on site covered by tarpaulin or similar fabric during construction?		✓		
3.14	Is runoff from wheel-washing facilities avoided?		✓		
3.15	Is oil leakage or spillage prevented?		✓		
3.16	Are there any measures to prevent the release of oil and grease into the storm drainage system?		✓		
3.17	Are the oil interceptors/ grease traps properly maintained?		✓		
3.18	Are debris and rubbish generated on site collected, handled and disposed of properly to avoid them entering the streams?		✓		
3.19	Are all fuel tanks and storage areas provided with locks and be sited on sealed areas, within bunds of capacity equal to 110% of the storage capacity of the largest tank?		✓		
3.20	Are tanks, containers, storage area bunded and the locations locked as far as possible from the sensitive watercourse and stormwater drains?		✓		
3.21	Are sufficient chemical toilets provided on site to handle sewage from construction work force?		✓		
3.22	Are sewage disposal and toilet maintenance of the portable chemical toilets provided by the licensed contractors?		✓		
3.23	Is concrete washing water properly collected and treated prior to discharge?	✓			
4.00	**Waste Management**				
4.01	Is a trip-ticket system implemented to monitor the disposal of C&D and solid wastes at public filling facilities and landfills?		✓		

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		N/A	Yes	No	Photo/Remarks
4.02	Is a recording system implemented to record the amount of wastes generated, recycled and disposed of?		✓		
4.03	IS the Contractor registered as a chemical waste producer?	✓			
4.04	Are chemical waste separated from other waste and collected by a licensed chemical waste collector?	✓			
4.05	Are trip tickets for chemical waste disposal available for inspection?	✓			
4.06	Is chemical waste reused and recycled on site as far as practicable?	✓			
4.07	Are all containers for chemical waste properly labelled?	✓			1
4.08	Is chemical waste storage area used solely for storage of chemical waste and properly labelled?	✓			
4.09	Are incompatible chemical wastes stored in different areas?	✓			Observation ①
4.10	Is the chemical waste storage area enclosed on at least 3 sides and adequately ventilated?	✓			
4.11	Is an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or of 20% by volume of the chemical waste stored in that area, whichever is the greatest, provide?	✓			
4.12	Are a routine cleaning and maintenance programme implemented for drainage systems, sump pits, and oil interceptors?		✓		
4.13	Are sufficient general refuse disposal/collection points provided on site?		✓		
4.14	Is general refuse disposed of properly and regularly?		✓		
4.15	Are appropriate measures adopted to minimize windblown litter and dust during transportation of waste?		✓		Reminder ②
4.16	Are individual collectors for aluminum cans, plastic bottles and packaging material and office paper provided to encourage waste segregation?		✓		
4.17	Are C&D wastes sorted on site?		✓		
4.18	Are C&D waste disposed of properly?		✓		
4.19	Are unused C&D materials or chemicals recycled or reused to reduce the quantity of waste?		✓		
4.20	Are public fill and C&D waste reuse on site as far as practicable to avoid disposal off-site?		✓		
4.21	Are the construction materials stored properly to minimize the potential for damage or contamination?		✓		
4.22	Is a dumping license obtained to deliver public fill to public filling areas?		✓		

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		N/A	Yes	No	Photo/Remarks
5.00	**Landscape and Visual**				
5.01	Are Is site hoarding provided?	✓			
5.02	Are vegetation disturbance minimized or soil protected to reduce potential soil erosion?		✓		
5.03	Is construction light oriented away from the sensitive receivers?		✓		
5.04	Is grass hydroseeding provided to slopes as soon as the completion of works?	✓			
5.05	Are damages to trees outside site boundary due construction works avoided?		✓		
5.06	Is excavation works carried out manually instead of machinery operation within 2.5m vicinity of any preserved trees?		✓		
5.07	Are the retained and transplanted tree(s) properly protected and in good conditions?		✓		
5.08	Are surgery works carried out for damaged trees?	✓			
6.00	**Ecology**				
6.01	Is site runoff properly treated to prevent any silly runoff?		✓		
6.02	Are silt trap installed and well-maintained?		✓		
6.03	Are stockpiles properly covered to avoid generating silty runoff?		✓		
6.04	Are construction works restricted to works area which are clearly defined?		✓		
7.00	**Overall**				
7.01	Is the EM&A properly implemented in general?		✓		

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

Observation

1.) The chemicals should be placed in the ~~drip tray~~ proper storage area. (i.e. bleach)

Reminder

1.) The Contractor was reminded to perform water spray for prevention of dust.

2.) The contractor was reminded to cover the dump trucks during transportation.

Signatures:

ET Representative	Contractor's Representative	Supervising Officer's Representative	IEC's Representative	WSD's Representative
(Name: Peter Chan)	(Name: Brian Kan)	(Name: YK Pom REISE)	(Name: Francis Lam)	(Name: Wong Ka Kin Geo/Safety)

Appendix J

Complaint Log

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Statistical Summary of Environmental Complaints

Reporting Period	Environmental Complaint Statistics		
	Frequency	**Cumulative**	**Complaint Nature**
01 Apr 2020 - 30 Apr 2020	0	0	N/A

Statistical Summary of Environmental Summons

Reporting Period	Environmental Summons Statistics		
	Frequency	**Cumulative**	**Details**
01 Apr 2020 - 30 Apr 2020	0	0	N/A

Statistical Summary of Environmental Prosecution

Reporting Period	Environmental Prosecution Statistics		
	Frequency	**Cumulative**	**Details**
01 Apr 2020 - 30 Apr 2020	0	0	N/A

Appendix K

Impact Monitoring Schedule of Next Reporting Month (BLANK)

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