

東業德勤測試顧問有限公司 ETS-TESTCONSULT LTD.

8/F Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Fo Tan, Hong Kong

T: +852 2695 8318 F: +852 2695 3944 E: etl@ets-testconsult.com W: www.ets-testconsult.com



ATAL-DEGREMONT-CHINA HARBOUR JOINT VENTURE

CONTRACT NO. DC/2013/10 - DESIGN, BUILD AND OPERATE SAN WAI SEWAGE TREATMENT WORKS – PHASE 1

> MONTHLY EM&A REPORT NO. 36

(01 APRIL - 30 APRIL 2020)

Prepared by:

LO, Ting Yi

Certified by:

LAU, Chi Leung

Environmental Team Leader

Issued Date: 11 May 2020

Report No.: ENA03764

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Drainage Services Department Sewage Services Branch Harbour Area Treatment Scheme 5/F, Western Magistracy 2A Po Fu Lam Road

Hong Kong

Your reference:

Our reference:

HKDSD203/50/106528

Date:

12 May 2020

Attention: Mr Albert Wong

BY EMAIL & POST (email: awong@dsd.gov.hk)

Dear Sirs

Agreement No. HATS 02/2016
Services for Independent Environmental Checker (IEC) for
Contract No. DC/2013/10 – Design, Build and Operate San Wai Sewage Treatment Works – Phase 1
Monthly Environmental Monitoring and Audit Report No.36 (April 2020)

We refer to emails of 11 and 12 May 2020 from ETS-Testconsult Limited attaching the Monthly Environmental Monitoring and Audit Report No.36 (April 2020).

We have no further comments and hereby verify the Monthly Environmental Monitoring and Audit Report No.36 (April 2020) in accordance with Clause 5.4 of the Environmental Permit no. EP-464/2013.

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

Yours faithfully ANEWR CONSULTING LIMITED

Independent Environmental Checker

LYMA/LHYF/csym

cc AECOM – Mr Patrick Leung (email: patrick.leung@swstw-aecom.com) ETS-Testconsult Limited – Mr C L Lau (email: env@ets-testconsult.com)

ANewR Consulting Limited

Unit 517, 5/F, Tower A, Regent Centre 63 Wo Yi Hop Road, Kwai Chung, Hong Kong Tel: (852) 2618 2831 Fax: (852) 3007 8648

Email: info@anewr.com Web: www.anewr.com





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EXECUTIVE SUMMARY

This Monthly Environmental Monitoring and Audit (EM&A) Report is prepared for Contract No. DC/2013/10 - Design, Build and Operate San Wai Sewage Treatment Works – Stage 1 (the Project) (hereafter referred to as "the Contract"). The Contract was awarded to ATAL-DEGREMONT-CHINA HARBOUR JOINT VENTURE (ADCJV) by the Drainage Services Department (DSD) and ETS-Testconsult Limited was appointed as the Environmental Team (ET) by ADCJV to implement the EM&A program in compliance with the EP and the EM&A Manuals.

According to the Section 25 of the Particular Specification (PS) and the Environmental Permit No. EP-464/2013, an EM&A programme should be implemented in accordance with the procedures and requirements in the EM&A Manual of the approved EIA report (Registration No. AEIAR-072/2003). The scope of monitoring works includes air quality, construction noise, water quality and environmental site audit.

Baseline monitoring was completed in April 2017. Action and Limit Levels were established for air quality, noise and water quality parameters based on the baseline monitoring results.

This is the thirty-sixth Monthly Environmental Monitoring and Audit (EM&A) Report for the Contract which summaries findings of the EM&A works conducted during the reporting period from 01 April to 30 April 2020.

Site Activities

As informed by the Contractor, site activities were carried out in this reporting month:

- Water Tightness Test;
- Internal ABWF;
- Coating;
- Substructure (RC Structure);
- Superstructure (RC);
- Remaining Works on the Roof;
- Slopes and Retaining Wall;
- Retaining Wall, U-Channel & Stormwater Pipe;
- Underground Utilities Along EVA

Environmental Monitoring and Audit Progress

The monthly EM&A programme was undertaken in accordance with the EM&A Manual for this Contract. The summary of the monitoring activities in this reporting month is listed below:

- 24-hour TSP Monitoring: 5 Occasions at 2 designated locations
- 1-hour TSP Monitoring: 15 Occasions at 2 designated locations
- Noise Monitoring (Day-time): 5 Occasions at 2 designated locations
- Water Quality Monitoring: 13 Occasions at 1 designated location
- Weekly Site inspection: 5 Occasions

Air Quality Monitoring

No exceedance of Action and Limit levels was recorded for 1-hr and 24-hr TSP monitoring in the reporting month.

Noise Monitoring

No exceedance of Action and Limit levels for noise monitoring was recorded in the reporting month.



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Water Quality Monitoring

According to the summary of water monitoring results, there was one limit level exceedance of suspended solid at station R1b on 28 April 2020. After investigation, there was concluded that the exceedance was not relevant to this Contract since the results of effluent water sample sampled on 28 April 2020 at both P1 and P8 complied with the discharge license requirement and thus the effluent discharged from the construction site was unlikely to deteriorate the water quality of Tin Shui Wai nullah and resulted in suspended solids exceedance at R1b. Besides, the surface runoff and wastewater generated from the construction activities in different sections of the construction sites was collected and stored in the temporary storage pool and then transferred to the Wetsep for proper treatment prior to discharge. Therefore, the exceedance of water samples taken from 13:20 to 13:34pm on 28 April 2020 was considered as non-Project related. The Investigation Reports No. 004 (including the causes of exceedance, action taken and recommendation for mitigation) for Action or Limit Level Non-compliance were provided in **Appendix O**. Other than the above exceedance, no exceedance of Action and Limit level was recorded in the reporting month.

Weekly Site Inspections

In general, performance on environmental mitigation measures implemented was found to be satisfactory in this reporting month. The major findings observed during site inspections are presented in the **Section 5.0**.

Complaint Log

There was no complaint received in relation to the environmental impact during the reporting period.

Notifications of Summons and Successful Prosecutions

There were no notifications of summons or prosecutions received during the reporting period.

Reporting Change

There were no reporting changes during the reporting period.

Future Key Issues

The future key issues to be undertaken in the upcoming month are as follows:

- Chemical and waste management;
- Treatment of runoff and wastewater prior to discharge; and
- Dust and Noise generated from construction activities



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1. INTRODUCTION

1.1. Basic Project Information

- 1.1.1. This Monthly Environmental Monitoring and Audit (EM&A) Report is prepared for Contract No. DC/2013/10 Design, Build and Operate San Wai Sewage Treatment Works Stage 1 (the Project) (hereafter referred to as "the Contract"). The Contract was awarded to ATAL-DEGREMONT-CHINA HARBOUR JOINT VENTURE (ADCJV) by the Drainage Services Department (DSD) and ETS-Testconsult Limited was appointed as the Environmental Team (ET) by ADCJV to implement the EM&A program in compliance with the EP and the EM&A Manuals.
- **1.1.2.** The project involves expansion of the preliminary treatment works at San Wai STW from 164,000 m³/d to 200,000 m³/d Average Dry Weather Flow, upgrading the preliminary treatment level to CEPT and adding centralized disinfection. The site layout plan is shown in **Appendix A**.
- 1.1.3. According to the Section 25 of the Particular Specification (PS) and the Environmental Permit No. EP-464/2013, an EM&A programme should be implemented by an independent Environmental Team (ET) in accordance with the procedures and requirements in the EM&A Manual of the approved EIA report (Registration No. AEIAR-072/2003). These documents are available through the EIA Ordinance Register. The construction works of the Contract commenced on 16 May 2017.
- **1.1.4.** The scope of monitoring works includes air quality, construction noise, water quality and environmental site audit. The EM&A requirements for each parameter described in the following sections include:
 - All monitoring parameters;
 - Monitoring schedules for the reporting month and forthcoming months;
 - Action and Limit levels for all environmental parameters:
 - Event/Action Plans;
 - Environmental mitigation measures, as recommended in the Project EIA study final report; and
 - Environmental requirements in contract documents.
- **1.1.5.** As part of the project EM&A program, baseline monitoring was conducted from 21 March 2017 to 15 April 2017 to determine the ambient environmental conditions before the project commence any major construction works and it had been verified by IEC and endorsed by EPD.
- **1.1.6.** This is the thirty-sixth Monthly Environmental Monitoring and Audit (EM&A) Report for the Contract which summaries the audit findings of the EM&A programme during the reporting period from 01 April to 30 April 2020.

1.2. Project Organization

1.2.1. The project organization structure and lines of communication with respect to the on-site environmental management structure is shown in **Appendix B**. The key personnel contact names and numbers are summarized in **Table 1.1**.

Table 1.1 Contact Information of Key Personnel

Party	Position	Name of Key Staff	Tel. No.	E-mail
Supervising Officer (AECOM Asia Co. Ltd.)	Resident Engineer	Mr. Patrick Leung	5222 6561	patrick.leung@swstw- aecom.com
Independent Environmental Checker (ANewR Consulting Limited)	Technical Director	Mr. Adi Lee	2618 2836	aymlee@anewr.com
Contractor (ATAL-DEGREMONT- CHINA HARBOUR JOINT VENTURE)	Environmental Officer	Mr. Johnny So	9513 8899	johnny.so@c302.chechk.com
Environmental Team (ETS-Testconsult Ltd.)	Environmental Team Leader	Mr. C. L. Lau	2946 7791	env@ets-testconsult.com

1.3. Construction Programme

1.3.1. A copy of the Contractor's construction programme is provided in **Appendix C**.

1.4. Construction Works Undertaken During the Reporting Period

- **1.4.1.** A summary of the construction activities undertaken during this reporting period is shown below:
 - Water Tightness Test;
 - Internal ABWF;
 - Coating;
 - Substructure (RC Structure);
 - Superstructure (RC);
 - Remaining Works on the Roof;
 - Slopes and Retaining Wall;
 - Retaining Wall, U-Channel & Stormwater Pipe;
 - Underground Utilities Along EVA

2. AIR QUALITY MONITORING

2.1. Monitoring Requirements

2.1.1. 1-hr and 24-hr TSP levels were monitored in the reporting month in accordance with the EM&A Manual. Two air monitoring locations were selected which was shown in **Figure 1**.

2.2. Monitoring Equipment

1-hour TSP Monitoring

1-hour TSP levels were measured by using dust meter which are capable of producing comparable results as the by high volume sampling method, to indicate short event impacts. The dust meter is compliant to the clause 1.2.5 of "General Technical Requirement of Environmental Monitoring" and clause 2.2 of "Generic Environmental Monitoring and Audit Manual".

Table 2.1 summarized the dust meter model used during the baseline monitoring. Copies of calibration certificates for dust meters were attached in **Appendix D1**.

Table 2.1 Air Quality Monitoring Equipment



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Equipment	Model
Dust Meter	SIBATA LD-3B / SIBATA LD-5
High volume sampler (HVS)	Greasby GMW (GS2310)
Calibrator	Tisch TE-5025A

1-hr air quality monitoring (Dust Meter)

Measuring Procedures

The measuring procedures of the dust meter are in accordance with the Manufacturer's instruction Manual as follows:

- Press POWER to ON, check the battery indicator to ensure whether the power supply is enough to conduct the TSP monitoring;
- Press TIMER SET to Manual;
- Press START/STOP SWITCH to start the TSP monitoring;
- Press START/STOP SWITCH to stop the TSP monitoring after monitoring complete;
- Record measured COUNT directly from the dust meter and calculate the TSP level by using the
 equation of the certificate.

Maintenance & Calibration (QA/QC)

• Dust meter should be checked at 3-month intervals and calibrated at half-year intervals throughout all stages of air quality monitoring.

24-hr air quality monitoring (HVS)

Instrumentation

High volume sampler, as HVS, (Greasby GMWS2310) complete with appropriate sampling inlets were employed for both 1-hour and 24-hour TSP monitoring. The sampler is composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complies with that required by USEPA standard Title 40, Code of Federation Regulations Chapter 1 (Part 50).

Installation

The installation of HVS refers to the requirement stated in EM&A Manual.

Operation/Analytical Procedures

Operating/analytical procedures for the operation of HVS are as below:

- Prior to the commencement of the dust sampling, the flow rate of the high volume sampler was properly set (between 0.6m³/min and 1.7m³/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50. The flow rate was indicated on the flow rate chart.
- For TSP sampling, fiberglass filters (Whatman G653) were used.
- The power supply was checked to ensure the sampler worked properly.
- On sampling, the sampler was operated 5 minutes to establish thermal equilibrium before placing any filter media at designated air monitoring station.
- The filter holding frame was then removed by loosening the four nuts and carefully a weighted and conditioned filter was centered with the stamped number upwards, on a supporting screen.
- The filter was aligned on the screen so that the gasket formed an air-tight seal on the outer edges of the filter. Then the filter holder frame was tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges.
- The programmable timer will be set for a sampling month of 1 hour or 24 hours. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number.).
- After sampling, the filter was transferred from the filter holder of the HVS to a sealed plastic bag and sent to the laboratory for weighting. The elapsed time was also recoded.
- Before weighting, all filters were equilibrated in desiccators for 24 hour with the temperature of 25°C ± 3°C and the relative humidity (RH) <50% ±5%.

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Maintenance & Calibration (QA/QC)

- HVS and their accessories should be maintained in good working condition, such as replacing motor brushes routinely and checking electrical wiring to ensure a continuous power supply.
- HVS should be calibrated at bi-monthly intervals.

Wind Data Monitoring

Wind data (wind speed and wind direction) were directly extracted from Hong Kong Observatory. All wind data during this reporting month are shown in **Appendix G**.

2.3. Monitoring Parameters, Frequency and Duration

2.3.1. Table 2.2 summarizes the monitoring parameters, monitoring duration and frequencies of impact air quality monitoring.

Table 2.2 Monitoring Parameters, Duration and Frequencies of Impact Air Quality Monitoring

Parameter	Duration	Frequency
1-hr TSP	1 hr (0800-1900)	Three times per 6 days
24-hr TSP	24 hr	Once per 6 days

2.3.2. In this reporting period, a total of 15 occasions of 1-hour TSP monitoring and 5 events of 24-hour TSP monitoring were undertaken and the schedule was shown in **Table 2.3**

Table 2.3 Time Schedule of Impact Air Quality Monitoring

	April 2020						
Sunday	Sunday Monday Tuesday Wednesday Thursday Friday Saturday						
			1	2	3	4	
5	6	7	8	9	10	11	
12	13	14	15 ▼	16	17	18	
19	20	21	22	23	24	25	
26	27	28	29	30			

Remark: (▼) = Air quality monitoring carried out by ET

2.4. Action and Limit Levels

The criteria for Action and Limit levels have been set out in the contract document of the Project as follows:

Table 2.4 The criteria of Action and Limit Levels for Air Quality

Parameters	Action		
1-hour TSP Level	For baseline level ≤ 384μg/m³, Action level = (baseline level plus*1.3 + Limit Level) / 2	500a/m ³	
(μg/m³)	For baseline level >384µg/m³, Action level = Limit Level	500 μg/m ³	
24-hour TSP	For baseline level < 200µg/m³, Action level = (baseline level plus*1.3 + Limit Level) / 2	200 - 2/22 3	
Level (μg/m³)	For baseline level ≥ 200µg/m³, Action level = Limit Level	260 μg/m ³	



Following the criteria shown in **Table 2.4**, the Action and Limit levels for 1-hour TSP derived as illustrated in **Table 2.5**.

Table 2.5 Action and Limit Levels for 1-hour TSP and 24-hour TSP

Air Quality	1-hr TSP (μg/m³)		24-hr TSP (μg/m³)	
Monitoring Station	Action Level	Limit Level	Action Level	Limit Level
ASR1a	309	500	260	260
ASR2b	292	500	228	260

2.5. Results and Observations

2.5.1. 1-hour and 24-hour TSP Monitoring Results

Monitoring data of both 1-hour and 24-hour TSP monitoring carried out in this reporting month are summarized in **Appendix D2**. Graphical presentation of 1-hour and 24-hour TSP monitoring results for the reporting month is shown in **Appendix D3**. Wind data included wind speed and wind direction was extracted from Hong Kong Observatory during this reporting month and is presented in **Appendix G**.

No exceedance of Action and Limit Level of 1-hr TSP and 24-hour TSP monitoring results was recorded during the reporting month.

2.5.2. Observation

Generally, 1-hour TSP and 24-hour TSP monitoring results fluctuated well below the Action Level in this reporting period. The major dust source observed near the monitoring stations was mainly from vehicles passing by the container yards and general earth works. It can be concluded that the contractor implemented sufficient dust mitigation measures during this reporting month.

2.6. Event and Action Plan

If the impact monitoring results exceed the Action and Limit Levels, the actions specified in **Table 2.6** shall be carried out.

Table 2.6 Event and Action Plan for Air Quality (Dust) during Construction Phase

EVENT	ACTION						
EVENI	ET	IEC	ER	CONTRACTOR			
Action Level being exceeded for one sample	Identify source; Inform IEC and ER; Repeat measuremen t to confirm finding; Increase monitoring frequency to daily.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method.	1. Notify Contractor.	Rectify any unacceptable practice; Amend working methods if appropriate.			
Action Level being exceeded for two or more consecutive samples	Identify source; Inform IEC and ER; Repeat measuremen ts to confirm findings; Increase	Check monitoring data submitted by ET; Check Contractor's working method;	Confirm receipt of notification of failure in writing; Notify Contractor; Ensure remedial	Submit proposals for remedial actions to IEC within 3 working days of notification; Implement the agreed			

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EVENT	ACTION			
EVENT	ET	IEC	ER	CONTRACTOR
	monitoring frequency to daily; 5. Discuss with IEC and Contractor on remedial	3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ER	measures are properly implemented.	proposals; 3. Amend proposal if appropriate.
	actions required; 6. If exceedance continues, arrange	on the effectiveness of the proposed remedial measures;		
	meeting with IEC and ER; 7. If exceedance stops, cease additional monitoring.	5. Supervise implementatio n of remedial measures.		
Limit Level being exceeded for one sample	1. Identify source; 2. Inform IEC, ER and EPD; 3. Repeat measuremen t to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions; 8. Keep EPD and ER informed of the results.	1. Check monitoring data submitted by ET and Contractor's working method; 2. Discuss with Contractor on the possible mitigation measures; 6. Review the proposed mitigation measures submitted by Contractor and advise the ER accordingly.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Check monitoring data and Contractor's working methods; 4. Discuss with IEC and Contractor on potential remedial actions; 4. Ensure remedial actions properly	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to ER within 3 working days of notification; 3. Implement the agreed proposals; 4. Amend proposal if appropriate.

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3. NOISE MONITORING

3.1. Monitoring Requirements

3.1.1. Noise levels $(L_{eq}, L_{10} \text{ and } L_{90})$ were monitored in the reporting month in accordance with the EM&A Manual.

3.2. Monitoring Equipment

Sound level meters used for impact noise monitoring were Type 1 sound level meters capable of giving a continuous readout of the noise level reading including equivalent continuous sound pressure

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level ($L_{\rm eq}$) and percentile sound pressure level (Lx). They complied with International Electro technical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1). **Table 3.1** summarized the noise monitoring equipment model used during the baseline monitoring. Copies of calibration certificates for noise meters and calibrators were attached in **Appendix E1**.

Table 3.1 Noise Monitoring Equipment

Noise Monitoring Equipment	Model
Sound Level Meter	Rion NL-52
Sound Level Calibrator	Rion NC-73 / Castle GA607

3.3. Monitoring Duration and Frequency

- **3.3.1.** Impact noise monitoring for the A-weighted levels L_{eq}, L₁₀ and L₉₀ in 30-minute interval was recorded once per 6 days.
- **3.3.2.** In this reporting period, a total of 5 occasions of noise monitoring were undertaken and the schedule was shown in **Table 3.2**

Table 3.2 Time Schedule of Impact Noise Monitoring

April 2020						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3 ▼	4
5	6	7	8	9	10	11
12	13	14	15 ▼	16	17	18
19	20	21	22	23	24	25
26	27 ▼	28	29	30		

Remark: (▼) = Noise monitoring carried out by ET

3.4. Monitoring Locations

Two noise monitoring stations, NSR1a (晉榮貨櫃服務有限公司) and NSR2b (永康貨櫃服務有限公司) which shown in **Figure 1**, were required to perform impact noise monitoring during this reporting period.

The impact noise monitoring programme was summarized in Table 3.3.

Table 3.3 Noise Monitoring Stations

Noise monitoring station	Type of Measurement
NSR1a	Façade
NSR2b	Façade

3.5. Monitoring Methodology

Instrumentation

Integrating Sound Level Meters were employed for noise monitoring.

Operation/Analysis Procedures

- The Sound Level Meter was set on a tripod at a height of 1.2m above the ground.
- For free field measurement, the meter was positioned away from any nearby reflective surfaces.
- The battery condition was checked to ensure the correct functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:

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Frequency weighting: ATime weighting: FastTime measurement: 30 mins

- Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94 dB at 1000HZ. If the difference in the calibration level before and after measurement was more than 1 dB(A), the measurement would be considered invalid and repeat measurement would be required after re-calibration or repair of the equipment.
- During the monitoring period, the L_{eq}, L₁₀ and L₉₀ were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.
- 3dB(A) correction had been added to the results if noise measurements were free-field.
- Noise monitoring would be cancelled in the presence of fog, rain, storm, wind with a steady speed exceeding 5m/s, or wind gusts exceeding 10m/s.

Maintenance and Calibration (QA/QC)

- The microphone head of the sound level meter and calibrator are cleaned with soft cloth at quarterly intervals.
- The meters are sent to the HOKLAS accredited laboratory or equivalent to check and calibrated at yearly intervals.

3.6. Actions and Limit Level

The Action and Limit Levels were established in **Table 3.4** for noise monitoring.

Table 3.4 Action and Limit Levels for Noise Monitoring

Time Period	Action	Limit	
0700 –1900 hrs normal weekdays	When one documented complaint is received	75 dB(A)*	

Remark: (*)70dB(A) for schools and 65dB(A) for schools during school examination period

3.7. Results and Observations

3.7.1. Results

Monitoring data of noise monitoring carried out in this reporting month are summarized in **Appendix E2**. Graphical presentation of noise monitoring results for the reporting month is shown in **Appendix E3**.

No exceedance of Action and Limit Level of noise monitoring results was recorded during the reporting month.

3.7.2. Observation

The noise monitoring data were found to be lower than the limit level. The major noise source during the monitoring event was the vehicles passing through the container yard entrance and the general earth works inside the construction site.

3.8. Event and Action Plan

If the impact monitoring results exceed the Action and Limit Levels, the actions specified in **Table 3.5** shall be carried out.

Table 3.5 Event/Action Plan for Construction Noise

F\/F\IT		ACTION										
EVENT		ET			IEC			ER		С	ONTRAC	TOR
Action level	1.	Notify and Contrac Carry	IEC tor; out	1.	Review analyzed results submitted		1.	Confirm receipt notification writing;	of in	1.	Submit mitigatio proposal IEC;	
	3.	investiga Report		2.	the ET; Review	the	2.	Notify Contractor;		2.	Impleme noise	ent

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	results of investigation to the IEC and Contractor; 4. Discuss with the Contractor and formulate remedial measures; 5. Increase monitoring frequency to check the effectiveness of mitigation measures.	proposed remedial measures by the Contractor and advise the ER accordingly; 3. Supervise the implementati on of remedial measures.	3. Require Contractor to propose remedial measures for the analyzed noise problem; 4. Ensure mitigation measures are properly implemented.	mitigation proposals.
Limit level	1. Notify IEC, ER, EPD & Contractor; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Inform IEC, ER and EPD the causes and actions taken for the exceedances; 7. Assess the effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 3. Supervise the implementatio n of remedial measures.	1. Confirm receipt of notification in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analyzed noise problem; 4. Ensure mitigation measures are properly implemented; 5. If exceedances continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Undertake immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by ER, until the exceedance is abated.

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additional monitoring.		

4. WATER QUALITY MONITORING

4.1. Monitoring Requirements

4.1.1. Water quality was monitored in the reporting month in accordance with the EM&A Manual at one alternative water quality monitoring station, R1b (at Tin Shui Wai Nullah) which shown in **Figure 2**.

4.2. Monitoring Methodology and Equipment

For In-situ Water Quality Measurement

Dissolved Oxygen (DO) measuring equipment

A portable, weatherproof DO-measuring meter with built-in salinity compensation (e.g. YSI 85, YSI Pro 2030 or equivalent) was used in the baseline monitoring. It can be capable for measuring dissolved oxygen level in the range of 0-20 mg/L and 0-200 % saturation.

For Water Sampling and Sample Analysis

Water Sampler

A water sampler comprising a metal bucket was lowered into the water body.

Water Container

The sample container, made by high-density polythene, was rinsed with a portion of the water sample. The water sample was then transferred to the container, labelled with a unique sample ID and sealed with a screw cap. The water samples were stored in a cool box maintained at 4°C. The water samples will then be delivered to Environmental Laboratory of ETS-Testconsult Ltd (HOKLAS Registration No. 022) on the same day for analysis according to the Standard Method APHA 19ed.

The summary of testing methods of testing parameters required was shown in **Table 4.1**.

Table 4.1 Summary of Testing Procedures for water samples

Parameters	Testing Procedure	Detection Limit
Turbidity	Dissolved Oxygen Meter Measurement	0.1 NTU
Dissolved Oxygen	In house method refer to APHA 19 th ed 2130 B	0.01 mg/L
Total suspended solids	In house method refer to APHA 19 th ed 2540D	0.1 mg/L

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4.3. Monitoring Frequency

4.3.1. Water samples were collected 3 times per week in 1 monitoring station. Three parameters including turbidity, dissolved oxygen and total suspended solids would be tested.

Table 4.2 Monitoring Frequency of Water Quality Monitoring

Parameters	Frequency	No. of sampling stations
Turbidity		
Dissolved Oxygen	3 times per week	1 station
Total suspended solids		

4.3.2. In this reporting period, a total of 13 occasions of water quality monitoring were undertaken and the schedule was shown in **Table 4.3**

Table 4.3 Time Schedule of Impact Water Quality Monitoring

and the state of t							
April 2020							
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
			1 🔻	2	3	4	
5	6	7	8	9	10	11	
12	13	14 ▼	15	16 ▼	17	18 ▼	
19	20	21	22	23	24	25 ▼	
26	27	28 ▼	29	30 ▼			

Remark: (▼) = Water quality monitoring carried out by ET

4.4. Quality Assurance (QA) / Quality Control (QC)

For in-situ measurements, at each measurement / sampling, two consecutive measurements of turbidity and dissolved oxygen (DO) were taken. The probes were retrieved out of the water after the first measurement and then re-deployed for the second measurement. If the difference between the first and second measurement is greater than 25% the reading will be discarded and the measurements will be repeated.

For laboratory analysis of water, test method of all test parameters and the QA/QC samples were carried out in accordance with the requirements of HOKLAS.

For our QA/QC procedure, one QC sample, one duplicate sample and one sample spike of every batch of 20 samples were analyzed.

The calibration certifications of water quality monitoring equipments were shown in **Appendix F1**.

4.5. Actions and Limit Levels

The criteria for Action and Limit Levels have been set out as follows:

Table 4.4 The criteria of Action and Limit Levels for Water Quality

Parameters	Unit	Action Level	Limit Level
Turbidity	NTU	95%ile of baseline data	99%ile of baseline data
Dissolved Oxygen	mg/L	5%ile of baseline data	1%ile of baseline data
Suspended solids	mg/L	95%ile of baseline data	99%ile of baseline data

Following the criteria shown in **Table 4.4**, the Action and Limit Levels for monitoring parameters derived as illustrated in **Table 4.5**.



Table 4.5 Action and Limit Levels for Water Quality

Parameters	Unit	Action	Limit
Turbidity	NTU	19.8	20.5
Dissolved Oxygen	mg/L	1.84	1.81
Suspended Solid	mg/L	17.0	17.8

4.6. Result and Observation

4.6.1. Result

Monitoring data of water quality monitoring carried out in this reporting month are summarized in **Appendix F2**. Graphical presentation of the monitoring results for the reporting month is shown in **Appendix F3**.

According to the summary of water monitoring results, there was one limit level exceedance of suspended solid at station R1b on 28 April 2020. After investigation, there was concluded that the exceedance was not relevant to this Contract since the results of effluent water sample sampled on 28 April 2020 at both P1 and P8 complied with the discharge license requirement and thus the effluent discharged from the construction site was unlikely to deteriorate the water quality of Tin Shui Wai nullah and resulted in suspended solids exceedance at R1b. Besides, the surface runoff and wastewater generated from the construction activities in different sections of the construction sites was collected and stored in the temporary storage pool and then transferred to the Wetsep for proper treatment prior to discharge. Therefore, the exceedance of water samples taken from 13:20 to 13:34pm on 28 April 2020 was considered as non-Project related. The Investigation Reports No. 004 (including the causes of exceedance, action taken and recommendation for mitigation) for Action or Limit Level Non-compliance were provided in **Appendix O**. Other than the above exceedance, no exceedance of Action and Limit level was recorded in the reporting month.

4.6.2. Observation

Generally, the turbidity and suspended solids were found to be lower than the action level. Besides, all results of dissolved oxygen measured in this reporting month were higher than the action level.

4.7. Event and Action Plan

If the impact monitoring results of the individual parameters exceed the Action and Limit Levels, the actions specified in **Table 4.6** shall be carried out.

Table 4.6 Event and Action Plan for Water Quality

Table 4.0 E	vent and Action Pla	n for water Quality						
Event		Action						
Event	ET Leader	IEC	ER	Contractor				
Action Level being exceeded by one sampling day	Repeat in-situ measurement to confirm findings; Identify reasons for non-compliance and sources of impact;	Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by	Discuss with IEC on the proposed mitigation measures; make agreement on the mitigation measures to be implemented;	Inform the ER and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant				
	Inform IEC and Contractor; Check monitoring	Contractor and advise the ER accordingly; 3. Assess the effectiveness of	3. Assess the effectiveness of the implemented mitigation	and equipment 4. Consider changes of working methods;				
	data, all plant,	the		5. Discuss with				

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Front		Act	ion	
Event	ET Leader	IEC	ER	Contractor
	equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC and Contractor; 6. Repeat measurement on next day of exceedance.	implemented mitigation measures.	measures.	ET and IEC and propose mitigation measures to IEC and ER; 6. Implement the agreed mitigation measures.
Action Level being exceeded by more than two consecutive sampling days	1. Repeat in-situ measurement to confirm findings; 2. Identify reasons for non-compliance and sources of impact; 3. Inform IEC and Contractor; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC and Contractor; 6. Ensure mitigation measures are implemented; 7. Prepare to increase the monitoring frequency to daily; 8. Repeat measurement on next day of exceedance.	Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; Assess the effectiveness of the implemented mitigation measures.	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.	1. Inform the ER and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with ET and IEC and propose mitigation measures to IEC and ER within 3 working days; 6. Implement the agreed mitigation measures.
Limit Level	1. Repeat in-situ	1. Discuss with	1. Discuss with	Inform the ER



Front		Act	ion	
Event	ET Leader	IEC	ER	Contractor
being exceeded by one sampling day	measurement to confirm findings; 2. Identify reasons for non-compliance and sources of impact; 3. Inform IEC, Contract or and EPD; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, ER and Contractor; 6. Ensure mitigation measures are implemented; 7. Increase the monitoring frequency to daily until no exceedance of Limit Level.	ET and Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; 3. Assess the effectiveness of the implemented mitigation measures.	IEC, ET and Contractor on the proposed mitigation measures; 2. Request Contractor to critically review the working methods; 3. Make agreement on the mitigation measures to be implemented; 4. Assess the effectiveness of the implemented mitigation measures.	and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER within 3 working days; 6. Implement the agreed mitigation measures.
Limit Level being exceeded by more than two consecutive sampling days	1. Repeat in-situ measurement to confirm findings; 2. Identify reasons for non-compliance and sources of impact; 3. Inform IEC, Contractor and EPD; 4. Check monitoring data, all plant, equipment and Contractor's	Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; Assess the effectiveness of the implemented mitigation	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	 Inform the ER 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 ER and

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Event	Action							
Event	ET Leader	ET Leader IEC ER						
	working methods; 5. Discuss mitigation measures with IEC, ER and Contractor; 6. Ensure mitigation measures are implemented; 7. Increase the monitoring frequency to daily until no exceedance of Limit Level for two consecutive days.	measures.	effectiveness of the implemented mitigation measures; 5. 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.	propose mitigation measures to IEC and ER within 3 working days; 6. Implement the agreed mitigation measures; 7. As directed by the ER, to slow down or to stop all or part of the marine work or construction activities.				

5. ENVIRONMENTAL SITE INSPECTION AND AUDIT

5.1. Site Inspection

- **5.1.1.** Site Inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control mitigation measures for the project. During the reporting period, site inspections were carried out on 03, 09, 17, 24 and 29 April 2020.
- **5.1.2.** Observations for the site inspections within this reporting period are summarized in **Table 5.1** and inspection checklists are attached in **Appendix H**.

Table 5.1 Summary of observation of site inspections

Table 6.1 Gaillina	y or observation or site inspections					
Date	Observations/ Reminders	Follow-up Action	Closed Date			
03 April 2020	General refuse were observed near the north of SSSB.	General refuse were collected properly.	09 April 2020			
09 April 2020	 C&D materials were observed discard improperly near ICW/DG. 	C&D materials were collected.	17 April 2020			
17 April 2020	Stagnant water were observed near CEPT.	 Larvicidal oil was added at the trench of CEPT. 	24 April 2020			
24 April 2020	Oil container was observed without drip tray.	Oil container was removed.	29 April 2020			
29 April 2020		-				

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5.2. Landscape and Visual Audit

- **5.2.1.** Landscape and visual audits were undertaken at least once every two weeks throughout the construction period by a competent landscape architect. During the reporting period, audits were carried out on 03, 17 and 29 April 2020.
- **5.2.2.** Observations and reminders were summarized in the landscape and visual impact assessment checklists which are attached in **Appendix I**.
- 5.3. Advice on the Solid and Liquid Waste Management Status
- **5.3.1.** All types of waste arising from the construction work are classified into the following:
 - Construction & Demolition (C&D) Material;
 - Chemical Waste;
 - General Refuse; and
 - Excavated Soil
- 5.3.2. The quantities of waste for disposal in this Reporting Period are summarized in Table 5.2 and Table 5.3 and the Monthly Summary Waste Flow Table is shown in Appendix J. Whenever possible, materials were reused on-site as far as practicable.

Table 5.2 Summary of Quantities of Inert C&D Materials

Type of Waste	Quantity	Disposal Location
Reused in this Contract (Inert) (m ³)	0	
Reused in other Projects (Inert) (m ³)	0	
Disposed as Public Fill (Inert) (m ³)	1,222	Tuen Mun 38 Fill Bank

Table 5.3 Summary of Quantities of C&D Materials

Type of Waste	Quantity	Disposal Location
Recycled Metal (kg)	0	
Recycled Paper / Cardboard Packing (kg)	0	
Recycled Plastic (kg)	0	
Chemical Wastes (kg)	0	
General Refuses (m³)	66,690	North East New Territories (NENT) Landfill

5.3.3. To control over the site performance on waste management, the Contractor shall ensure that all solid and liquid waste management works are in full compliance with the relevant license/permit requirements, such as the effluent discharge license and the chemical waste producer registration. The Contractor is also reminded to implement the recommended environmental mitigation measures according to the EM&A Manual based on actual site conditions.

5.4. Discharge License and Results of Effluent Monitoring

- 5.4.1. Effluent quality was monitored in the reporting month in accordance with the EM&A Manual at the discharge point. A discharge license under Water Pollution Control Ordinance was obtained by the Contractor upon commencement of the Project. Self-monitoring would be performed as per the requirement under the discharge license. According to the EM&A Manual, pH, chemical oxygen demand and total suspended solid are required to be analysed at least once every two week.
- **5.4.2.** Effluent water samples were scheduled to be collected on 14 and 28 April 2020. As both Wetsep at P1 and P8 were operated on April 2020, the effluent water samples were sampled at P1 and P8 on 14 and 28 April 2020. The required testing parameter including pH, chemical oxygen demand and total suspended solid were carried out in a HOKLAS laboratory. The methods of chemical oxygen



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demand and total suspended solid determination follow APHA 19ed 5220 B and APHA 19ed 2540 D respectively. The laboratory reports for the discharge water are presented in **Appendix N**.

5.4.3. For effluent quality monitoring as per the discharge license requirement, the results complied with the discharge license requirement.

5.5. Environmental Licenses and Permits

5.5.1. The valid environmental licenses and permits during the reporting period are summarized in **Appendix K**.

5.6. Implementation Status of Environmental Mitigation Measures

5.6.1. The environmental mitigation measures that recommended in the Environmental Monitoring and Audit Manual covered the issues of dust, noise, water and waste and they are summarized as following:

Dust Mitigation Measures

- a. The working area for the uprooting of trees, shrubs, or vegetation or for the removal of boulders, poles, pillars or temporary or permanent structures should be sprayed with water or a dust suppression chemical immediately before, during and immediately after the operation so as to maintain the entire surface wet;
- b. All demolished items (including trees, shrubs, vegetation, boulders, poles, pillars, structures, debris, rubbish and other items arising from site clearance) that may dislodge dust particles should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides within a day of demolition;
- Vehicle washing facilities including a high pressure water jet should be provided at every discernible or designated vehicle exit point;
- The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores;
- e. Where a site boundary adjoins a road, street, service and or other area accessible to the public, hoarding of not less than 2.4m from ground level should be provided along the entire length of that portion of the site boundary except for a site entrance or exit;
- f. Every main haul road (i.e. any course inside a construction site having a vehicle passing rate of higher than 4 in any 30 minutes) should be paved with concrete, bituminous materials, hardcores or metal plates, and kept clear of dusty materials; or sprayed with water or a dust suppression chemical so as to maintain the entire road surface wet;
- g. The portion of any road leading only to a construction site that is within 30m of a discernible or designated vehicle entrance or exit should be kept clear of dusty materials;
- h. Immediately before leaving a construction site, every vehicle should be washed to remove any dusty materials from its body and wheels;
- Where a vehicle leaving a construction site is carrying a load of dusty materials, the load should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle;
- j. The working area of any excavation or earth moving operation should be sprayed with water or a dusty suppression chemical immediately before, during and immediately after the operation so as to maintain the entire surface wet;
- k. Exposed earth shall be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shotcrete or other suitable surface stabilizer within 6 months after the last construction activity on the construction site or part of the construction site where the exposed earth lies;
- I. Any stockpile of dusty material should be either covered entirely by impervious sheeting; placed in an area sheltered on the top and the 3 sides; or sprayed with water or a dust suppression chemical so as to maintain the entire surface wet.

Noise Mitigation Measures

- Quiet plants should be used in order to reduce the noise impacts to protect the nearby NSRs.
- b. Temporary and Movable Noise Barriers should be used in order to reduce the noise impact to the surrounding sensitive receivers



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- c. The contractor should site noisy equipment and activities as far from sensitive receivers as practical.
- d. Idle equipment should be turned off or throttled down.
- e. Construction activities should be planned so that parallel operation of several sets of equipment close to a given receiver is avoided
- f. Construction plant should be properly maintained and operated.

Water Quality Mitigation Measures

- Exposed stockpiles should be covered with tarpaulin or impervious sheets before a rainstorm occurs:
- b. The exposed soil surfaces should also be properly protected to minimize dust emission;
- c. The stockpiles of materials should be placed in the locations away from the drainage channel so as to avoid releasing materials into the channel;
- d. Wheel washing facilities should be provided at site exits to ensure that earth, mud and debris would not be carried out of the works areas by vehicles;
- e. Provision of site drainage systems and treatment facilities would be required to minimize the water pollution:
- f. A discharge license needs to be applied from EPD for discharging effluent from the construction site:
- g. The treated effluent quality is required to meet the requirements specified in the discharge license;
- h. Provision of chemical toilets is required to collect sewage from workforce. The chemical toilets should be cleaned on a regular basis;
- A licensed waste collector should be employed to clean the chemical toilets and temporary storage tank on a regular basis;
- j. Illegal disposal of chemicals should be strictly prohibited;
- k. Registration as a chemical waste producer is required if chemical wastes are generated and need to be disposed of. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes;
- I. Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance should be used as a guideline for handing chemical wastes;
- The impact from accidental spillage of chemicals can be effectively controlled through good management practices.

Waste Management Mitigation Measures

- Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal;
- b. To encourage collection of aluminium cans by individual collectors, separate bins should be provided to segregate this waste from other general refuse generated by the workforce;
- c. Any unused chemicals or those with remaining functional capacity should be recycled;
- d. Prior to disposal of C&D waste, it is recommended that wood, steel and other metals be separated for re-use and/or recycling and inert waste as fill material to minimize the quantity of waste to be disposed of to landfill;
- e. Proper storage and site practices to minimize the potential for damage or contamination of construction materials; and
- f. Plan and stock construction materials carefully to minimize amount of waste generated and avoid unnecessary generation of waste.
- **5.6.2.** An updated summary of the Environmental Mitigation Implementation Schedule (EMIS) is presented in **Appendix L**. Most of the necessary mitigation measures were implemented properly. Any deficiencies were noted in the remarks of the schedule.

5.7. Summary of Exceedance of the Environmental Quality Performance Limit

5.7.1. There was no Action and Limit level exceedance of 1-hour and 24-hr TSP monitoring was recorded at station ASR1a and ASR2b during this reporting month.

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- **5.7.2.** There was no Action and Limit Level exceedance for noise recorded at station NSR1a and NSR2b during the reporting period.
- 5.7.3. There was one limit level exceedance of suspended solid at station R1b on 28 April 2020. After investigation, there was concluded that the exceedance was not relevant to this Contract since the results of effluent water sample sampled on 28 April 2020 at both P1 and P8 complied with the discharge license requirement and thus the effluent discharged from the construction site was unlikely to deteriorate the water quality of Tin Shui Wai nullah and resulted in suspended solids exceedance at R1b. Besides, the surface runoff and wastewater generated from the construction activities in different sections of the construction sites was collected and stored in the temporary storage pool and then transferred to the Wetsep for proper treatment prior to discharge. Therefore, the exceedance of water samples taken from 13:20 to 13:34pm on 28 April 2020 was considered as non-Project related. The Investigation Reports No. 004 (including the causes of exceedance, action taken and recommendation for mitigation) for Action or Limit Level Non-compliance were provided in Appendix O. Other than the above exceedance, no exceedance of Action and Limit level was recorded in the reporting month.

5.8. Summary of Complaints, Notification of Summons and Successful Prosecution

- **5.8.1.** There were no complaints received during the reporting period.
- **5.8.2.** There were no notifications of summons or prosecutions received during the reporting period.
- **5.8.3.** A summary of environmental complaints, notifications of summons and successful prosecutions was given in **Table 5.4**.

Table 5.4 Summary of Environmental Complaints Notification of Summons and Successful Prosecution

	Cumulative Statistic					
Reporting Period	Complaints	Notifications of summons	Successful prosecutions			
The reporting period	0	0	0			
From commencement date of construction to end of reporting month	0	0	0			

6. FUTURE KEY ISSUES

6.1. Construction Programme for the Coming Months

- 6.1.1. As informed by the Contractor, the major construction activities for May 2020 are included:
 - Water Tightness Test;
 - Internal ABWF;
 - External ABWF;
 - Internal Coating;
 - Coating;
 - Substructure (RC Structure);
 - Superstructure (RC);
 - External Structural Works;
 - Remaining Works on the Roof;
 - Slopes and Retaining Wall;
 - Retaining Wall, U-Channel & Stormwater Pipe;
 - Underground Utilities Along EVA;
 - Sitewide Watermains

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6.2. Key Issues for the Coming Month

Key issues to be considered in the coming month include:

- Chemical and waste management:
- Treatment of runoff and wastewater prior to discharge; and
- Dust and Noise generated from construction activities;

Mitigation measures to be required in the coming month:

Air Quality Impact

- To provide adequate water spraying in the worksite:
- To operate and maintain automatic wheel washing facilities properly:
- To provide road sweeping site entrance and public roads outside site entrance;
- To ensure implementation of the dust mitigation measures for the site activities;
- To maintain proper operation of the mist spraying system:
- To provide proper maintenance for vehicles and machines on site; and
 To investigate any other dust sources around the air sensitive receivers

Noise

- To switch off equipment if not in use;
- To operate silent equipment;
- To identify the noise sources inside and outside of the site; and
- To follow up any exceedance caused by the construction work inside the worksite

Water Quality Impact

- To ensure the drainage system was maintained properly;
- To maintain the existing silt trap to ensure good efficiency of wheel wash facilities;
- To avoid stagnant water in the drip trays due to rainfall;
- To avoid any stagnant water or provide insecticide to avoid mosquito breeding

Chemical and Waste Management

- To remove waste from the site regularly;
- To properly store and handle chemical wastes on site;
- To implement trip ticket system for all the imported public fill and general refuse disposal;
- To maintain proper housekeeping;
- To identify C&D material by packaging, labelling, storage, transportation and disposal in accordance with statutory regulations.

6.3. Environmental Monitoring and Site Inspection Schedule for the Coming Month

6.3.1. The tentative schedule for environmental monitoring and site inspection schedule for May 2020 is provided in **Appendix M**.

7. CONCLUSION

7.1. Conclusions

- **7.1.1.** There was no Action and Limit level exceedance of 1-hour and 24-hr TSP monitoring was recorded at station ASR1a and ASR2b during this reporting month.
- **7.1.2.** There was no Action and Limit Level exceedance for noise recorded at station NSR1a and NSR2b during the reporting period.
- **7.1.3.** There was no Action and Limit Level exceedance for water quality monitoring recorded at station R1b during the reporting period. According to the summary of water monitoring results, there was one limit level exceedance of suspended solid at station R1b on 28 April 2020. After investigation, there was concluded that the exceedance was not relevant to this Contract since the results of effluent water sample sampled on 28 April 2020 at both P1 and P8 complied with the discharge license requirement and thus the effluent discharged from the construction site was unlikely to



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deteriorate the water quality of Tin Shui Wai nullah and resulted in suspended solids exceedance at R1b. Besides, the surface runoff and wastewater generated from the construction activities in different sections of the construction sites was collected and stored in the temporary storage pool and then transferred to the Wetsep for proper treatment prior to discharge. Therefore, the exceedance of water samples taken from 13:20 to 13:34pm on 28 April 2020 was considered as non-Project related. The Investigation Reports No. 004 (including the causes of exceedance, action taken and recommendation for mitigation) for Action or Limit Level Non-compliance were provided in **Appendix O**. Other than the above exceedance, no exceedance of Action and Limit level was recorded in the reporting month.

- **7.1.4.** There were no complaints received during the reporting period.
- **7.1.5.** There were no notifications of summons or prosecutions received during the reporting period.

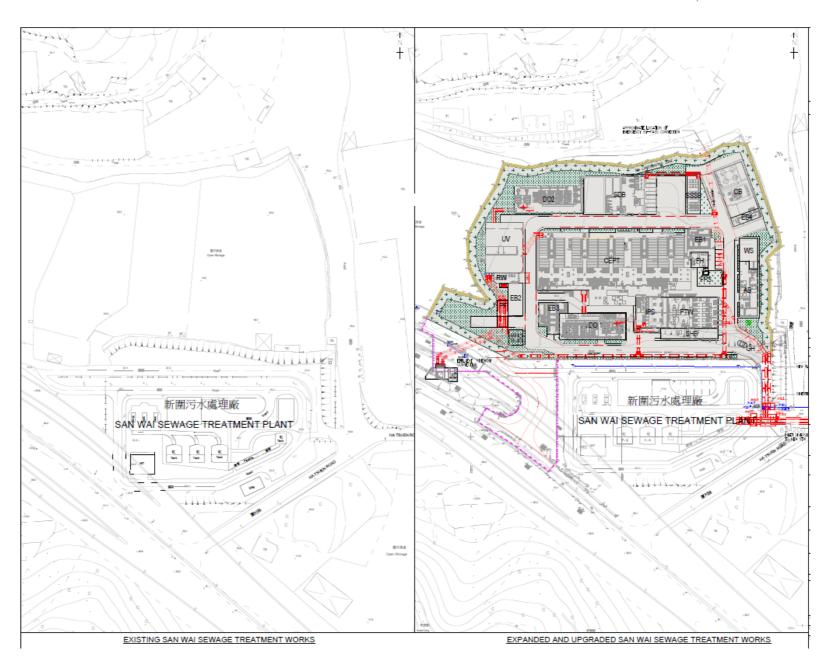
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Appendix A

Location of Works Areas



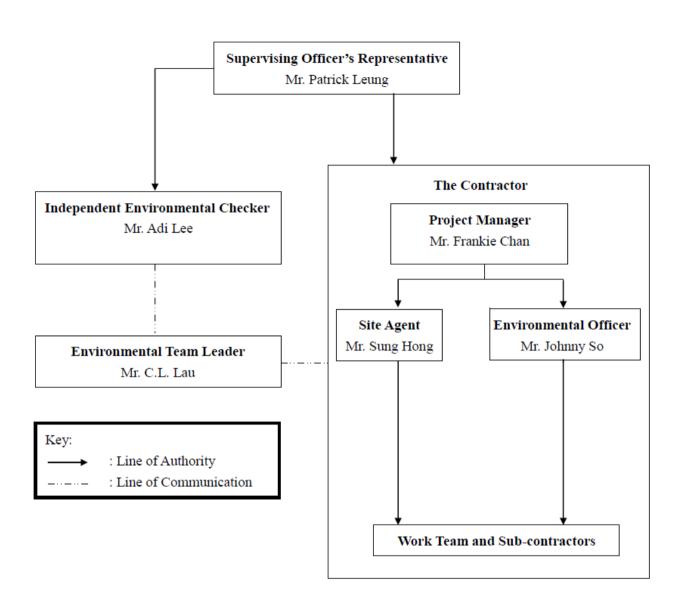




Appendix B

Project Organization Chart







Appendix C

Construction Programme



DATA DATE: 30-Apr-20 LA	YOUT: SW Project PHase 1 TP	5 (3M30Apr20)0	CODE						PAGE 1 OF 4
Activity ID Activity Name	At Completion Duration	Start	Finish				2020		
SWSTW Phase 1 - 3 Month Rolling Programme (May to Jul 2020)		21-Jan-19 A	18-Oct-20	Apr	May		Jun	Jul	Aug
	50	30-Apr-20	28-Jun-20					Key Date	
Key Date						į		Key Date	
Key Date		30-Apr-20	28-Jun-20		Admini	testion B	uikling & Maintenance		
Administration Building & Maintenance Workshop		21-Jan-19 A	094May-20			- 1	•	·	
Internal ABWF (Subject to H/O back to C&S for outstanding ABWF)		21-Jan-19 A	094May-20		interna	ADWF	Subject to H/O back to	C&5 for outstanding ABN	yr) Preliminary Treatment Ui
Inlet Works, Preliminary Treatment Units & Inlet Pumping Station		05-Feb-20 A						· · · · · ·	i ' I
Water Tightness Test (Commence after Penstock Installation)		06-May-20	27-Jun-20					Water Tightness Test (C	mmence after Penstock
Coating		05-Feb-20 A	22-May-20			Coati	19		<u> </u>
External ABWF		28-Jun-20	12-Jul-20			İ		External ABV	!
Solid Handling Building(DO Duct Screen Wall)	143	21-Jan-20 A	11-Jun-20					g Building(DO Duct Scre	en Wall)
Superstructure (RC)	133	21-Jan-20 A	01-Jun-20				Superstructure (RC)		
ABWF	10	02-Jun-20	11-Jun-20				ABWF		
System Control Flowmeter Chamber	30	02-Jul-20	31-Jul-20			i			System Control Flown
Superstructure (RC) (After Pipe Installation DN1200 by ATAL)	30	02-Jul-20	31-Jul-20						Superstructure (RC) (/
Chemically Enhanced Primary Treatment	40	05-May-20	13-Jun-20					Enhanced Primary Trea	: 1
Water Tightness Test (Commence after Penstock Installation)	24	05-May-20	28-May-20			· V	Vater Tightness Test (C	ommence after Penstoci	Installation)
External ABWF	32	13-May-20	13-Jun-20		_	_	External AE	WF	
Deodorization Facilities No.1	91	21-May-20	19-Aug-20		'				Deodor
External Structural Works (Commence after E&M Installation works)	91	21-May-20	19-Aug-20		'	+			Externa
Deodorization Facilities No.2	91	24-May-20	22-Aug-20			-			Deox
External Structural Works (Commence after E&M Installation works)	91	24-May-20	22-Aug-20						Exte
Sludge Dewatering Building	135	02-Jan-20 A	15-May-20		Sit	dge De	atering Building		
Internal Coating	135	02-Jan-20 A	15-May-20		Int	emal Co	ating		
UV Disinfection Facilities	229	22-Oct-19 A	06-Jun-20			-	UV Disinfection F	lacilities	
Water Tightness Test (Commence after Penstock Installation)	208	22-Oct-19 A	16-May-20		W	ater Tigh	tness Test (Commence	after Penstock Installati	on)
Coating		17-May-20	06-Jun-20				Coating		
Existing Junction Chamber		01-Jul-20	30-Jul-20						Existing Junction Cham
Bar Screen Installation	30	01-Jul-20	30-Jul-20						Bar Screen Installation
DG Store and Chemical Waste Storage Building and Irrigation & Cleansing Water Pump Room		08-May-20	03-Jun-20			÷	DG Store and Cher	nical Waste Storage Buil	ding and Irrigation & Clea
Internal ABWF		08-May-20	21-May-20			Interna	I ABWF		
External ABWF		21-May-20	03-Jun-20				External ABWF		
Street Fire Hydrant Pump Room & GENSET Room		02-Mar-20 A					Street Fire Hy	Irant Pump Room & GEI	SET Room
Remaining Works on the Roof		02-Mar-20 A	09-Jun-20				Remaining Wo	rks on the Roof	
Gatehouse		04-May-20	09-May-20		Gateho	use			
Internal ABWF		04-May-20	09-May-20		- Internal	ABWF			
INGINAL ADM		Owning 20	031mg-20						
Adual Work	TASK filter: 3 Months Rolling	Programme 00	3 Works		ı	Date	Re	vision	Checked Approved
	CONTRACT NO			N BUILD & OPE	RATE	30-Apr-2	Three (3) Months	Rolling Programme	
Remaining Work Critical Remaining Work Ortical Remaining Work				NORKS - PHAS			+		-+
▼ Inicatile	THREE (3) MON				I				
ATAL-Degremont-China Harbour Joint Venture	TINCE (3) MON		S WORKS	anne (so Apr	20201			L	
	l .	UCK	CAMON						



ATA DATE: 30-Ap	r-20	LAYOUT: SW Project Phase 1 TP							PAGE 2 OF
tivity ID	Activity Name	At Completion Duration	Start	Finish			2020		
					Apr	May External ABWF	Jun	Jul	Aug
External ABV			04-May-20	094May-20		- Calernal ADWr			
Water Meter	Cabinet	37	29-Apr-20 A	04-Jun-20	· '	!	Water Meter Cabin	e.	
Substructure	e (RC Structure)	11	29-Apr-20 A	09-May-20	'	Substructure (R	C Structure)		
Superstructu	ıre (RC)	19	10-May-20	28-May-20			Superstructure (RC)		
ABWF		7	29-May-20	04-Jun-20		-	ABWF		
Foul Water P	hump Room	8	15-May-20	22-May-20		Foul	Water Pump Room		
			15-May-20	22-May-20		Supe	structure (RC)		
Superstructu			14-Dec-19 A	15-Aug-20			()		Slopes
	Retaining Wall								
Section Com	pletion Date	53	05-Jun-20	28-Jul-20					Section Completion (
Section Con	mpletion Date	53	05-Jun-20	28-Jul-20					Section Completion
Section 1		175	14-Dec-19 A	05-Jun-20			Section 1		
North of DO	2	175	14-Dec-19 A	05-Jun-20		i !	North of DC2		
Section 2		235	16-Dec-19 A	06-Aug-20					Section 2
North of SS	SB	45	15-May-20	28-Jun-20				North of SSSB	
	, EB4 and SDB		16-Dec-19 A	06-Aug-20		i			North of CB,
Section 3	, LD4 and 300		30-Mar-20 A	02-Aug-20					Section 3
East of CB a	and EDA			02-Aug-20					East of CB and I
			01-May-20	28-Jul-20					East of AB and W5
East of AB a	and WS		30-Mar-20 A				East of GH		and the time the
East of GH			14-May-20	12-Jun-20			Eastor Gn		
Slope		91	17-May-20	15-Aug-20					Siope
West Side of	f the Project	91	17-May-20	15-Aug-20					West
Underground	d Utilities Along EVA	317	16-Aug-19 A	27-Jun-20		!		Underground Utilities Alo	ng EVA
Zone Comple	etion Dates	46	04-May-20	19-Jun-20			Zone C	completion Dates	
Zone Compl		46	04-May-20	19-Jun-20			Zone C	ompletion Dates	
P8UU	Underground Utilities Along EVA (Portion 8 Area)	0	-	22-May-20		◆ Unde	rground Utilities Along B	VA (Portion 8 Area)	
Z2UU	Zone 2 Underground Utilities Along EVA	0		08-Jun-20			_	ound Utilities Along EVA	
Z3UU	Zone 3 Underground Utilities Along EVA	0		04-May-20		◆ Zone 3 Undergroun	!		
Z4BUU	Zone 48 Underground Utilities Along EVA	0		15-Jun-20	1		◆ Zone 48 t	Inderground Utilities Alor	g EVA
Z5UU	Zone 5 Underground Utilities Along EVA	0		19-Jun-20	1			Underground Utilities Al	i
2 6UU	Zone 6 Underground Utilities Along EVA	0		11-Jun-20			◆ Zone 6 Unde	ground Utilities Along EV	A
P8 Area		204	07-Dec-19 A	27-Jun-20		!		98 Area	
	/all, U-Channel & Stormwater Pipe	168	07-Dec-19 A	22-May-20		Retai	ning Wall, U-Channel &	Stormwater Pipe	
UUP8-1050	Construction of 900 U-Channel (East Side of Retaining Wall)		25-Mar-20 A	13-May-20		Construction	of 900 U-Channel (Eas	t Side of Retaining Wall)	
UUP8-1055	Dia. 1050 mm Stormwater Pipe Installation including Manhole S1.07-S1.08		07-Dec-19 A	22-May-20		li		pe Installation including N	tanhole 51.07-51.08
UUP8-1060	Dia. 1050 mm stormwater drains downstream of CP8.02-51.07 incl. EL5 for Rising Mains and Manho		06-Apr-20 A	13-May-20		:	n stomwater drains do	wnstream of CP8.02-51.0	7 ind. ELS for Risin
	atermains (WSD Scope)		14-May-20	27-Jun-20				itewide Watermains (W	D Scope)
UUP8-1095	Bedding and Compaction		14-May-20	20-May-20		Beddin	g and Compaction		
UUP8-1100	Watermain Pipe Laying / Testing		19-May-20	08-Jun-20			Watermain Pipe	Laying / Testing	
UUP8-1105	WSD Inspection		09-Jun-20	22-Jun-20) Inspection	
UUP8-1110	Backfiling		23-Jun-20	27-Jun-20			:	Backfilling	
ZONE 2			30-Apr-20	13-Jun-20	·····	i	ZONE 2		·
	nd Utilities Along EVA		30-Apr-20	13-Jun-20		<u> </u>	Undergroun	d Utilities Along EVA	
UUZ2015						RED //	_	/ SHP (Pipe Installation	by ATAL)
0022015	REP / IRP / CLWP / FR(P) / HP / SHP (Pipe Installation by ATAL)	21	30-Apr-20	20-May-20	I	: NEP/I	- rocheringejin	, or in (ripe instandon	-June)



DATA DATE: 30-Ap	x-20	LAYOUT: SW Project PH	ase 1 TP 5 (3M30Apr20	CODE					PAGE 3 OF 4
tivity ID	Activity Name		ompletion Start	Finish			2020		
			Duration		Apr	May	Jun	Jul	Aug
UUZ2016	Watermains Pipes (Z2) - Thrust Block Installation		7 21-May-20	27-May-20		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		Thrust Block Installation	
UUZ2017	Watermains Pipes (Z2) - Testing & Inspection (By ATAL / WSD)		10 28-May-20	06-Jun-20	ļ			s (Z2) - Testing & Inspec	
UUZ2020	Backfill to Sub-base level of CLP Portion		7 07-Jun-20	13-Jun-20	_			ub-base level of CLP Po	!
UUZ2040	Backfilling from Elevation +19.0 Mpd up to Sub-base Level of By-Pass Portion		18 27-May-20	13-Jun-20			-	rom Elevation +19.0 Mpd	up to Sub-base Leve
ZONE 3			281 16-Aug-19 A	22-May-20		ZON	3		
Undergroun	nd Utilities Along EVA		281 16-Aug-19 A	22-May-20		Unde	rground Utilities Along E	VA	
UUZ3030	8x150 ELV / 21x150 LV / 8x20081x100 CLP / 2x107 TELECOM / 225DIA. Storn	nwater Pipe	278 16-Aug-19 A	19-May-20		8x150 E		81x100 CLP / 2x107 TE	ECOM / 225DIA. Sto
UUZ3035	Backfill from +19.0 Mpd		235 01-Oct-19 A	22-May-20		Back	fil from +19.0 Mpd		
UUZ3042	Watermains Pipes (23) - Testing & Inspection (By ATAL / WSD)		9 29-Apr-20 A	07-May-20	ļ —	Watermains Pipe	(Z3) - Testing & Inspe	tion (By ATAL / WSD)	
UUZ3045	Backfilling to Sub-base Level		19 16-Apr-20 A	04-May-20	B	ackfilling to Sub-b	ise Level		
ZONE 4B			243 17-Oct-19 A	15-Jun-20			ZONE 4B		
	nd Utilities Along EVA		243 17-Oct-19 A	15-Jun-20			Undergro	ind Utilities Along EVA	
UUZ6040	225DIA. Foulwater / 300DIA. Stormwater / 2x107 Telecom (Remaining is the Po	dion East Side of EVA Road)	206 17-Oct-19 A			225DIA. Foulwa	ter / 300DIA. Stormwat	er / 2x107 Telecom (Rem	aining is the Portion E
UUZ6045	Backfill from +19.5 ~ +20.0 Mpd	nion Last one or EVA roady	7 10-May-20	16-May-20	-		m +19.5 ~ +20.0 Mpd		
UUZ6050	FR(P) / REP / IRP / CLWP / HP / SHP (Pipe Installation by ATAL)		14 10-May-20	23-May-20	-			HP / SHP (Pipe Installati	on by ATAL)
UUZ6051	Waternains Pipes (24B) - Thrust Block Installation			30-May-20	-			B) - Thrust Block Installat	
UUZ6052			7 24-May-20	09-Jun-20	-			pes (Z48) - Testing & Ins	!
	Watermains Pipes (Z4B) - Testing & Inspection (By ATAL / WSD)		10 31-May-20		ļ			to Sub-base Level	peach (b) rurer ii
UUZ6055	Backfilling to Sub-base Level		6 10-Jun-20	15-Jun-20			ZONE		
ZONE 5			265 29-Sep-19 A						
	nd Utilities Along EVA		265 29-Sep-19 A					round Utilities Along EV	
UUZ5030	8x150 ELV / 14x150 LV / 2x107 Telecom / Remaining Foutwater/Stormwater Pip	DE .	235 29-Sep-19 A	20-May-20				Telecom / Remaining F	butwater/Stormwater
UUZ5035	Backfilling up to Elevation +20.2 Mpd		7 21-May-20	27-May-20			ackfilling up to Elevation		
UUZ5040	SHP / CLWP / FSP / IRP / PWP / LAB / FLP (Pipe Installation by ATAL)		14 14-May-20	27-May-20				/ PWP / LAB / FLP (Pipe	
UUZ5041	Watermains Pipes (Z5) - Thrust Block Installation		7 28-May-20	03-Jun-20				Z5) - Thrust Block Install	:
UUZ5042	Watermains Pipes (25) - Testing & Inspection (By ATAL / WSD)		10 04-Jun-20	13-Jun-20			Watemain	Pipes (25) - Testing & I	spection (By ATAL /
UUZ5045	Backfilling to Sub-base Level		6 14-Jun-20	19-Jun-20				ing to Sub-base Level	
ZONE 6			255 01-Oct-19 A	11-Jun-20			ZONE 6		
Undergroun	nd Utilities Along EVA		255 01-Oct-19 A	11-Jun-20			Underground	Utilities Along EVA	
UUZ5047	ELV/LV		225 01-Oct-19 A	12-May-20		ELV/LV			
UUZ5048	Backfil from +19.5 ~ +20.2 Mpd		5 13-May-20	17-May-20		Backfill fi	om +19.5 ~ +20.2 Mpd		
UUZ6005	900 DIA. Stormwater Pipe		8 10-May-20	17-May-20		900 DIA.	Stormwater Pipe		
UUZ6010	Backfilling up to Elevation +19.5 Mpd		7 18-May-20	24-May-20		Bac	kfilling up to Elevation +	19.5 Mpd	
UUZ6025	REP / IRP / CLWP / FR(P) / HP / SHP (Pipe Installation by ATAL)		15 05-May-20	19-May-20		REP/I	P/CLWP/FR(P)/HP	/ SHP (Pipe Installation)	y ATAL)
UUZ6026	Watermains Pipes (26) - Thrust Block Installation		7 20-May-20	26-May-20		W	atermains Pipes (26) - 1	hrust Block Installation	
UUZ6027	Watermains Pipes (26) - Testing & Inspection (By ATAL / WSD)		10 27-May-20	05-Jun-20	1		Watermains Pipes	(Z6) - Testing & Inspect	on (By ATAL / WSD)
UUZ6030	Backfilling to Sub-base Level		6 06-Jun-20	11-Jun-20			Backfilling to	Sub-base Level	
Emergency \	Vehicle Access Road		171 06-Mar-20 A	23-Aug-20	i i				E
	_		48 05-Jun-20	23-Jul-20				Zone	Completion Dates
Zone Comple									Completion Dates
Zone Comp	letion Dates		48 05-Jun-20	23-Jul-20					conpetiti cates
ZONE 1			71 30-Apr-20	09-Jul-20				ZONE 1	
Carriageway	y & Footway		71 30-Apr-20	09-Jul-20	<u> </u>			Carriageway &	Footway
Pipe Trench	1		10 30-May-20	08-Jun-20		-	Pipe Trench		
ZONE 2			65 14-Jun-20	17-Aug-20	 				ZONE
	y & Footuny		65 14-Jun-20	17-Aug-20					Сапіа
	y & Footway								
ZONE 3			97 12-May-20	16-Aug-20	!				ZONE



PAGE 4 C				CODE	5 (3M30Apr20)0	roject PHase 1 TP 8	LAYOUT: SW Pro	20	DATA DATE: 30-Apr-2
	2020			Finish	Start	At Completion		Activity Name	tivity ID
Jul Aug	Jun	May	Apr			Duration			
Ca				16-Aug-20	12-May-20	97		& Footway	Carriageway
Pipe Trench				17-Jul-20	03-Jun-20	45			Pipe Trench
ZONE 4					06-Mar-20 A	135			ZONE 4
	- +			23-Aug-20	20-Jun-20	65			ZONE 5
				23-Aug-20	20-Jun-20	65		& Footway	Carriageway
Pipe Trend				14-Jul-20	20-Jun-20	25			Pipe Trench
ZONE 6				05-Aug-20	12-Jun-20	55			ZONE 6
Carriageway				05-Aug-20	12-Jun-20	55		& Footway	Carriageway
	-			18-Oct-20	20-Jun-20	121		orks	Landscape Wo
	- +			18-Oct-20	20-Jun-20	121		orks	Landscape Wo
-	- +			18-Oct-20	20-Jun-20	121			Green Roof



Appendix D1

Calibration Certificates for Impact Air Quality Monitoring Equipment



Summary of Calibration Certificates for TSP Monitoring Equipment used in this reporting month

Equip No.	Model	Serial No.	Calib Date	Due Date
ET/EA/001/06	Sibata LD-3B	014746	16/04/2020	15/10/2020
ET/EA/001/08	Sibata LD-3B	135261	18/03/2020	17/09/2020
ET/EA/001/10	Sibata LD-3B	1Z5635	02/04/2020	01/10/2020
ET/EA/001/11	Sibata LD-3B	255863	15/11/2019	14/05/2020
ET/EA/001/13	Sibata LD-5	4Y1613	19/12/2019	18/06/2020
ET/EA/001/14	Sibata LD-3B	597340	02/03/2020	01/09/2020
ET/EA/003/12	Greasby GMW (GS2310)	9998	11/03/2020	10/05/2020
ET/EA/003/25	Greasby GMW (GS2310)	1934	11/03/2020	10/05/2020



Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Fo Tan, Hong Kong

T: +852 2695 8318 F: +852 2695 3944 E: etl@ets-testconsult.com W: www.ets-testconsult.com

Internal Calibration Report Dust Monitor

Manufacturer :

SIBATA (LD-3B)

Date of Calibration

16 April 2020

Serial No.

014746 (ET/EA/001/06)

Calibration Due Date:

15 October 2020

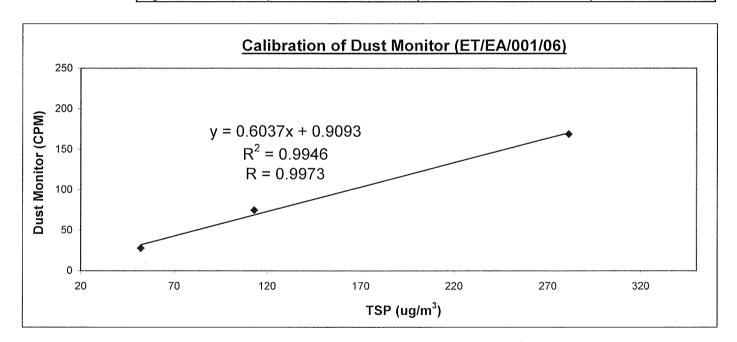
Method

Parallel measurement (Three-point calibration) by placing the Dust Monitor

and High Volume Air Samper together under the same environmental condition

Results

Dust Monitor (CPM)		28	75	169
TSP (ug/m³)		52	113	281
High Volume Air Sampler Serail No : 1177		Calibration	n Due Date: 29 May	2020



Acceptance Criteria:

Correlation coefficient (r) of the calibration curve greater than 0.990 after

three-point calibration.

The Dust Trak Monitor complies * / does not comply * with the internal calibration procedures and is deemed acceptable */ unacceptable * for use.

Calibrated by:

(Technician)

LI, Lok Yin

Checked by

LAU, Chi Leung

(Environmental Team Leader)

- END OF REPORT -



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Internal Calibration Report

of Dust Monitor

Manufacturer :

SIBATA (LD-3B)

Date of Calibration

18 March 2020

Serial No.

135261 (ET/EA/001/08)

Calibration Due Date

17 September 2020

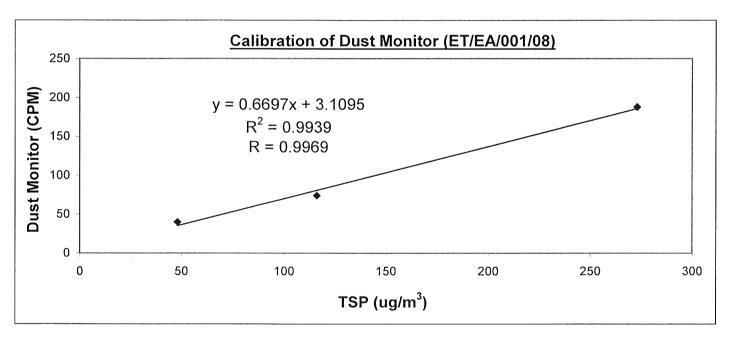
Method

Parallel measurement (Three-point calibration) by placing the Dust Monitor

and High Volume Air Samper together under the same environmental condition

Results

Dust Monitor (CPM)	40	74	188
TSP (ug/m³)	48	116	273
High Volume Air Campler Caroll No :15	177 Colibratio	n Dua Data: 20 Mar	-ah 2020



Acceptance Criteria:

Correlation coefficient (r) of the calibration curve greater than 0.990

after three-pointcalibration

The Dust Trak Monitor complies * / does not comply * with the internal calibration procedures and is deemed acceptable */ unacceptable * for use.

Calibrated by:

R

Checked by

LAU, Chi Leung

Li Lok Yin (Technician)

(Environmental Team Leader)



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T: +852 2695 8318 F: +852 2695 3944 E: etl@ets-testconsult.com W: www.ets-testconsult.com

Internal Calibration Report

of <u>Dust Monitor</u>

Manufacturer

SIBATA (LD-3B)

Date of Calibration

2 April 2020

Serial No.

1Z5635 (ET/EA/001/10)

Calibration Due Date

1 October 2020

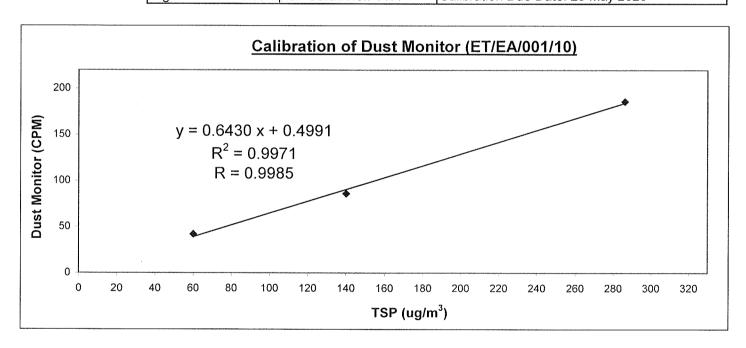
Method

Parallel measurement (Three-point calibration) by placing the Dust Monitor

and High Volume Air Samper together under the same environmental condition

Results

Dust Monitor (CPM)	42	86	186
TSP (ug/m³)	60	140	286
High Volume Air Sampler, Serail No	1177 Calibratio	on Due Date: 20 May	, 2020



Acceptance Criteria:

Correlation coefficient (r) of the calibration curve greater than 0.990 after a three-point calibration

The Dust Trak Monitor complies * / does not comply * with the internal calibration procedures and is deemed acceptable */ unacceptable * for use.

Calibrated by:

2

LI, Lok Yin

(Technician)

Checked by

LAU, Chi Leung

(Environmental Team Leader)

- END OF REPORT -



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Internal Calibration Report of **Dust Monitor**

Manufacturer: SIBATA (LD-3B)

Date of Calibration

15 November 2019

Serial No.

255863 (ET/EA/001/11)

Calibration Due Date:

14 May 2020

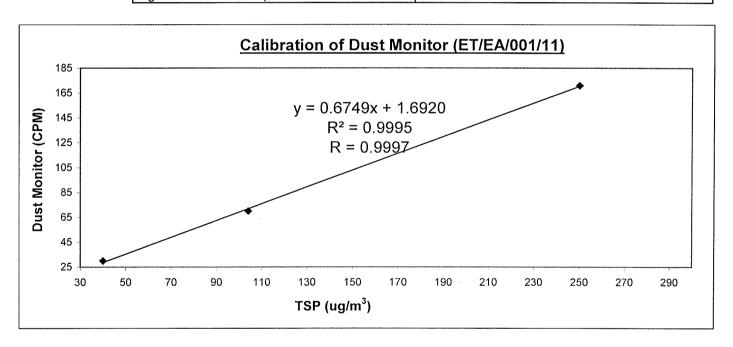
Method

: Parallel measurement (Three-point calibration) by placing the Dust Monitor

and High Volume Air Samper together under the same environmental condition

Results

Dust Monitor (CPM)	30	70	171
TSP (ug/m³)	40	104	250
High Volume Air Sampler Serail No.:1177	Calibratio	n Due Date: 29 Nov	ember 2019



Acceptance Criteria:

Correlation coefficient (r) of the calibration curve greater than 0.990 after a three-point calibration

The Dust Trak Monitor complies * / does not comply * with the internal calibration procedures and is deemed acceptable */ unacceptable * for use.

Calibrated by:

Checked by

LAU, Chi Leung

LI, Lok Yin (Technician)

(Environmental Team Leader)



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Internal Calibration Report of Dust Monitor

Manufacturer

SIBATA (LD-5)

Date of Calibration

19 December 2019

Serial No.

4Y1613 (ET/EA/001/13)

Calibration Due Date

18 June 2020

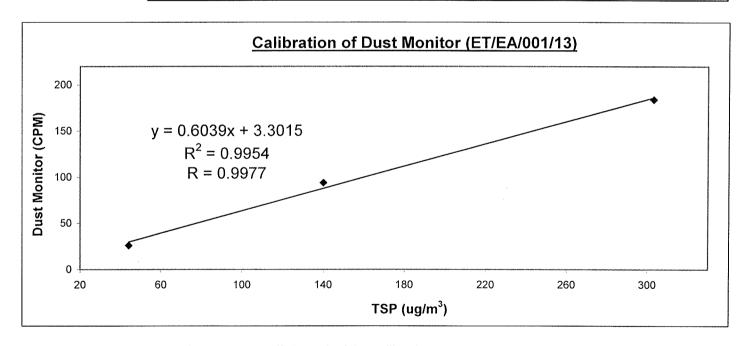
Method

Parallel measurement (Three-point calibration) by placing the Dust Monitor

and High Volume Air Samper together under the same environmental condition

Results

Dust Monitor (CPM)	26	94	184
TSP (ug/m³)	44	140	303
High Volume Air Sampler Serail No.: 1177	Calibration	Due Date: 29 Jan	nuary 2020



Acceptance Criteria:

Correlation coefficient (r) of the calibration curve greater than 0.990 after a three-point calibration

The Dust Trak Monitor complies * / does not comply * with the internal calibration procedures and is deemed acceptable */ unacceptable * for use.

Calibrated by:

LI, Lok Yin (Technician) Checked by

LAU, Chi Leung

(Environmental Team Leader)

- END OF REPORT -



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T: +852 2695 8318 F: +852 2695 3944 E: eti@ets-testconsult.com W: www.ets-testconsult.com

Internal Calibration Report

of **Dust Monitor**

Manufacturer : SIBATA (LD-3B)

Date of Calibration

02 Mar 2020

Serial No.

597340 (ET/EA/001/14)

Calibration Due Date:

01 Sep 2020

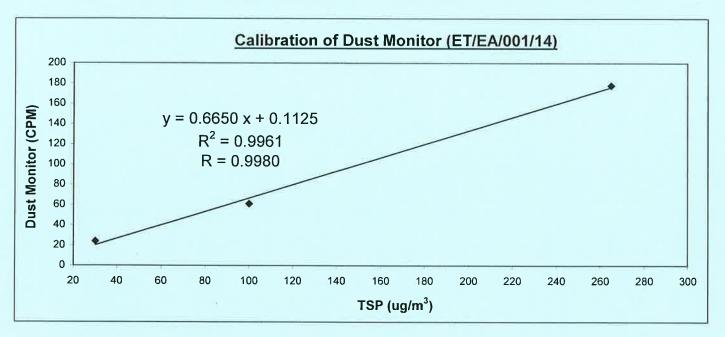
Method

Parallel measurement (Three-point calibration) by placing the Dust Monitor

and High Volume Air Samper together under the same environmental condition

Results

Dust Monitor (CPM)	24	61	178
TSP (ug/m³)	30	100	265
High Volume Air Sampler Serail No.: 1	177 Calibrati	on Due Date: 29 Mar	ch 2020



Acceptance Criteria

Correlation coefficient (r) of the calibration curve greater than 0.990 after a three-point

calibration

The Dust Trak Monitor complies * / does not comply * with the internal calibration procedures and is deemed acceptable */ unacceptable * for use.

Calibrated by

200

Checked by

LAU, Chi Leung

Ll. Lok Yin (Technician)

(Environmental Team Leader)

- END OF REPORT -



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T: +852 2695 8318 F: +852 2695 3944 E: etl@ets-testconsult.com W: www.ets-testconsult.com

Calibration Report of High Volume Air Sampler

Manufacturer

Graseby (Model No. GS2310)

Date of Calibration

11 March 2020

Serial No.

1934 (ET/EA/003/25)

Calibration Due Date:

10 May 2020

Method

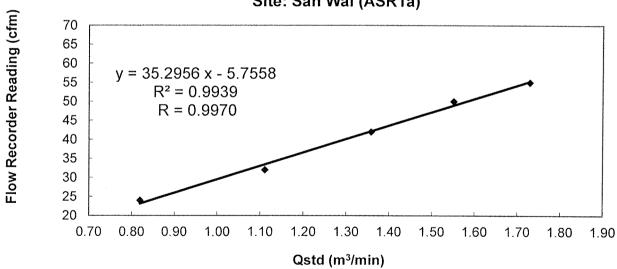
Five-point calibration by using standard calibration kit Tisch TE-5025A refer to the Operations

Manual

Results

Flow recorder reading	g (cfm)	55	50	42	32	24
Qstd (Actual flow rate	e, m³/min)	1.73	1.55	1.36	1.11	0.82
Pressure :	767.31	mm Hg	Temp. :		292	K

Sampler 1934 Calibration Curve Site: San Wai (ASR1a)



Acceptance Criteria: Correlation coefficient (r) of the calibration curve greater than 0.990 after a 5-point calibration.

The high volume sampler complies* / does not comply* with the specified requirements and is deemed acceptable* / unacceptable* for use.

Calibrated by:

LIAO, Yun Chao (Technician) Approved by:

LAU, Chi Leung

(Environmental Team Leader)



8/F Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Fo Tan, Hong Kong

T: +852 2695 8318 F: +852 2695 3944 E: etl@ets-testconsult.com W: www.ets-testconsult.com

Calibration Report of High Volume Air Sampler

Manufacturer

Graseby (Model No. GS2310)

Date of Calibration

11 March 2020

Serial No.

9998 (ET/EA/003/12)

Calibration Due Date :

10 May 2020

Method

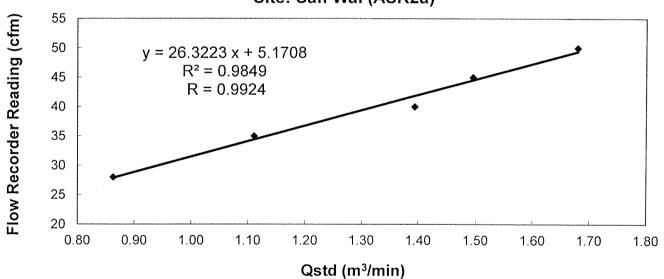
Five-point calibration by using standard calibration kit Tisch TE-5025A refer to the Operations

Manual

Results

Flow recorder reading (cfm)		50	45	40	35	28
Qstd (Actual flow rate, m³/min)		1.68	1.49	1.39	1.11	0.86
Pressure:	767.31 mm Hg		Temp. :	292	K	

Sampler 9998 Calibration Curve Site: San Wai (ASR2a)



Acceptance Criteria: Correlation coefficient (r) of the calibration curve greater than 0.990 after a 5-point calibration.

The high volume sampler complies* / does not comply* with the specified requirements and is deemed acceptable* / unacceptable* for use.

Calibrated by:

LIAO, Yun Chao (Technician) Checked by

LĂU, Chi Leung

(Environmental Team Leader)

- END OF REPORT -



Appendix D2

Impact Air Quality Monitoring Results



Summary of Impact 1-hour TSP Monitoring Results

Air Quality Monitoring Station : ASR1a

Doto	\\/aathar	Temperature (°C)	Monitorir	ng Period	1-hr TSP
Date	Weather	Temperature (°C)	Start	Finish	(μg/m³)
03/04/2020	Cloudy	22	09:26	10:26	60
03/04/2020	Cloudy	23	10:26	11:26	60
03/04/2020	Cloudy	23	13:00	14:00	54
09/04/2020	Fine	24	08:51	09:51	97
09/04/2020	Fine	24	09:51	10:51	100
09/04/2020	Fine	24	10:51	11:51	104
15/04/2020	Fine	26	13:00	14:00	82
15/04/2020	Fine	25	14:00	15:00	86
15/04/2020	Fine	25	15:00	16:00	83
21/04/2020	Fine	26	08:57	09:57	128
21/04/2020	Fine	26	09:57	10:57	131
21/04/2020	Fine	26	10:57	11:57	130
27/04/2020	Cloudy	27	13:00	14:00	72
27/04/2020	Cloudy	28	14:00	15:00	70
27/04/2020	Cloudy	28	15:00	16:00	66
				Min	54
				Max	131
				Average	88

Air Quality Monitoring Station: ASR2b

Doto	\\/aatha	Temperature (°C)	Monitor	ing Period	1-hr TSP
Date	Weather	remperature (C)	Start	Finish	(µg/m³)
03/04/2020	Cloudy	22	09:32	10:32	58
03/04/2020	Cloudy	23	10:32	11:32	54
03/04/2020	Cloudy	23	13:00	14:00	46
09/04/2020	Fine	24	08:57	09:57	108
09/04/2020	Fine	24	09:57	10:57	113
09/04/2020	Fine	24	10:57	11:57	114
15/04/2020	Fine	26	13:04	14:04	77
15/04/2020	Fine	25	14:04	15:04	74
15/04/2020	Fine	25	15:04	16:04	71
21/04/2020	Fine	26	08:50	09:50	134
21/04/2020	Fine	26	09:50	10:50	139
21/04/2020	Fine	26	10:50	11:50	139
27/04/2020	Cloudy	27	13:06	14:06	78
27/04/2020	Cloudy	28	14:06	15:06	75
27/04/2020	Cloudy	28	15:06	16:06	80
				Min	46
				Max	139
				Average	91



Summary of Impact 24-hour TSP Monitoring Results

Air Quality Monitoring Station : ASR1a

Sta	art	Fini	sh	Elapse	e Time	Sampling	Flow Rate	(m³/min.)	Average	Filter Paper	Weight (g)	Conc.	Weather
Date	Time	Date	Time	Initial	Final	Time (hrs)	Initial	Final	(m³/min.)	Initial	Final	(μ g /m³)	Condition
03/04/2020	09:26	04/04/2020	09:26	27221.64	27245.64	24	1.1264	1.1264	1.1264	2.6945	2.8299	83	Cloudy
09/04/2020	08:51	10/04/2020	08:51	27245.64	27269.64	24	1.1264	1.1264	1.1264	2.7205	2.8670	90	Fine
15/04/2020	13:00	16/04/2020	13:00	27269.64	27293.64	24	1.1264	1.1264	1.1264	2.6840	2.8099	78	Fine
21/04/2020	08:57	22/04/2020	08:57	27293.64	27317.64	24	1.1264	1.1264	1.1264	2.7148	2.8549	86	Fine
27/04/2020	13:00	28/04/2020	13:00	27317.64	27341.64	24	1.1264	1.1264	1.1264	2.6688	2.8359	103	Cloudy

 Min
 78

 Max
 103

 Average
 88

Air Quality Monitoring Station: ASR2b

Sta	art	Fini	sh	Elapse	e Time	Sampling	Flow Rate	(m³/min.)	Average	Filter Paper	Weight (g)	Conc.	Weather
Date	Time	Date	Time	Initial	Final	Time (hrs)	Initial	Final	(m ³ /min.)	Initial	Final	(μ g /m ³)	Condition
03/04/2020	09:32	04/04/2020	09:32	23966.45	23990.45	24	1.1332	1.1332	1.1332	2.7031	2.8686	101	Cloudy
09/04/2020	08:57	10/04/2020	08:57	23990.45	24014.45	24	1.1332	1.1332	1.1332	2.7901	2.9488	97	Fine
15/04/2020	13:04	16/04/2020	13:04	24014.45	24038.45	24	1.1332	1.1332	1.1332	2.7031	2.8419	85	Fine
21/04/2020	08:50	22/04/2020	08:50	24038.45	24062.45	24	1.1332	1.1332	1.1332	2.7660	2.9249	97	Fine
27/04/2020	13:06	28/04/2020	13:06	24062.45	24086.45	24	1.1332	1.1332	1.1332	2.6942	2.8787	113	Cloudy

 Min
 85

 Max
 113

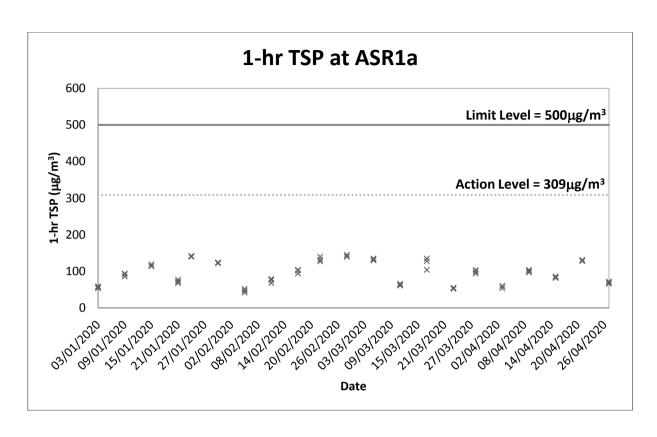
 Average
 99

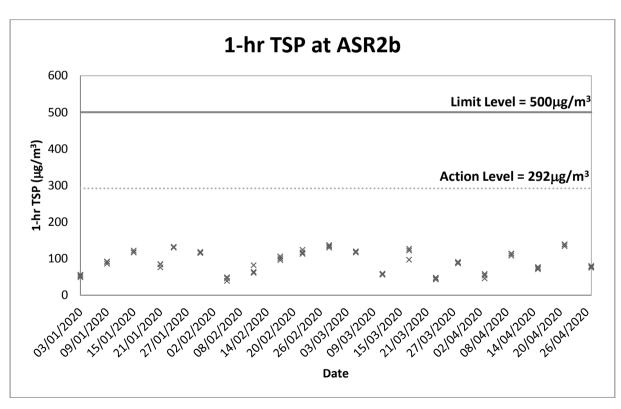


Appendix D3

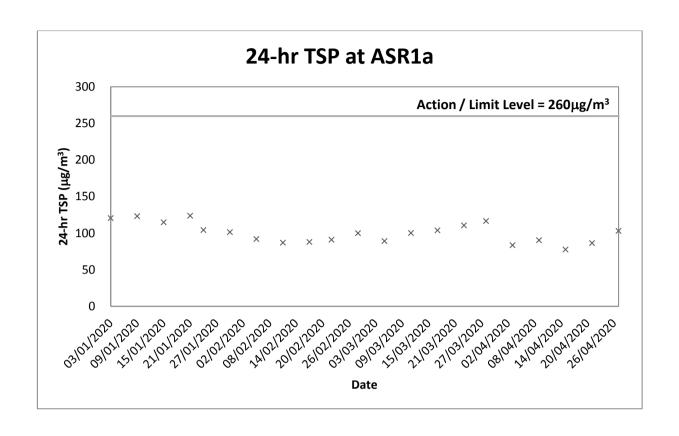
Graphical Plots of Impact Air Quality Monitoring Results

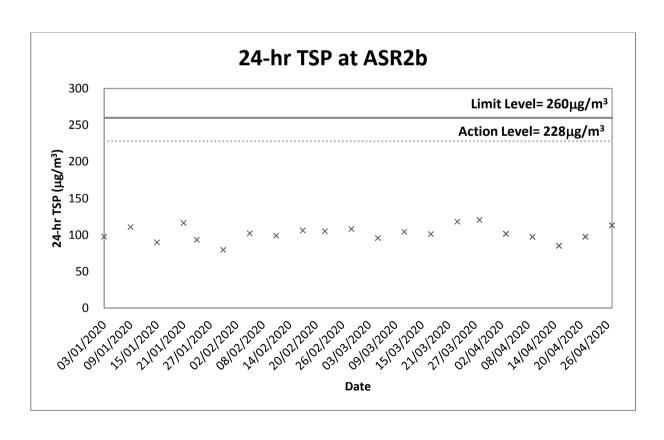














Appendix E1

Calibration Certificates for Impact Noise Monitoring Equipment



Summary of Calibration Certificates for Noise Monitoring Equipment used in this reporting month

Equipment	Equip No.	Serial No.	Calib. Date	Due Date
Sound Level Calibrator (Rion NC-73)	ET/EN/002/01	10196943	18/10/2019	17/10/2020
Sound Level Meter (Rion NL-52)	ET/EN/003/17	00264519		10/04/2020 05/04/2020
Sound Level Meter (Rion NL-52)	ET/EN/003/18	00264520	03/03/2020	02/03/2021
Thermo-Anemometer (AZ 8908)	ET/EN/001/05	1064869	28/02/2020	27/02/2021



Certificate No. 910146

2 Pages 1 of Page

Customer: ETS-Testconsult Limited

Address: 8/F., Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan St., Fotan, Hong Kong.

Order No.: Q94052

Date of receipt

11-Oct-19

Item Tested

Model

Description: Sound Level Calibrator

: NC-73

Manufacturer: Rion

I.D.

: ET/EN/002/01

Serial No.

: 10196943

Test Conditions

Date of Test: 18-Oct-19 Supply Voltage

Ambient Temperature:

 $(23 \pm 3)^{\circ}C$

Relative Humidity: (50 ± 25) %

Test Specifications

Calibration check.

Ref. Document/Procedure: F21, Z02.

Test Results

All results were within the manufacturer's specification.

The results are shown in the attached page(s).

Main Test equipment used:

Equipment No.	Description	Cert. No.	Traceable to
S014	Spectrum Analyzer	906710	NIM-PRC & SCL-HKSAR
S240	Sound Level Calibrator	904042	NIM-PRC & SCL-HKSAR
S041	Universal Counter	902477	SCL-HKSAR
S206	Sound Level Meter	904050	SCL-HKSAR

The values given in this Calibration Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Hong Kong Calibration Ltd. shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to International System of Units (SI), or by reference to a natural constant. The test results apply to the above Unit-Under-Test only

Calibrated by :

18-Oct-19

Date:

This Certificate is issued by:

Hong Kong Calibration Ltd.

Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street, Kwai Chung, NT, Hong Kong.



Certificate No. 910146

Page 2 of 2 Pages

Results:

1. Level Accuracy (at 1 kHz)

UUT Nominal Value	Measured Value	Mfr's Spec.
94 dB	93.8 dB	± 1 dB

Uncertainty: ± 0.2 dB

2. Frequency Accuracy

UUT Nominal Value	Measured Value	Mfr's Spec.
1 kHz	0.983 kHz	± 2 %

Uncertainty: ± 0.1 %

3. Level Stability: 0.0 dB Uncertainty: ± 0.01 dB

4. Total Harmonic Distortion : < 0.3 %

Mfr's Spec. : < 3 %

Uncertainty: ± 2.3 % of reading

Remark: 1. UUT: Unit-Under-Test

2. The uncertainty claimed is for a confidence probability of not less than 95%.

3. Atmospheric Pressure: 1 004 hPa.

----- END -----



Certificate No. 903391

Page 1 of 3 Pages

Customer: ETS-Testconsult Limited

Address: 8/F., Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan St., Fotan, Hong Kong.

Order No.: Q91324

Date of receipt

4-Apr-19

Item Tested

Description: Sound Level Meter

Manufacturer: Rion

: ---

Model

: NL-52

Serial No.

I.D.

: 00264519

Test Conditions

Date of Test: 11-Apr-19

Supply Voltage : --

Relative Humidity: (50 ± 25) %

: --

Ambient Temperature: (23 ±

 $(23 \pm 3)^{\circ}$ C

Test Specifications

Calibration check.

Ref. Document/Procedure: Z01, IEC 61672.

Test Results

All results were within the IEC 61672 Type 1 or manufacturer's specification.

The results are shown in the attached page(s).

Main Test equipment used:

Equipment No. Description

Cert. No.

Traceable to

S017

Multi-Function Generator

C190926

SCL-HKSAR

S240

Sound Level Calibrator

803357

NIM-PRC & SCL-HKSAR

The values given in this Calibration Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Hong Kong Calibration Ltd. shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to International System of Units (SI), or by reference to a natural constant.

The test results apply to the above Unit-Under-Test only

Calibrated by

Elva Chong

Approved by:

11-Apr-19

Date:

Kin Wong

This Certificate is issued by:

Hong Kong Calibration Ltd.

Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street, Kwai Chung, NT, Hong Kong.

Tel: 2425 8801 Fax: 2425 8646

Certificate No. 903391

Page 2 of 3 Pages

Results:

Acoustical signal test

1. Self-generated noise: 16.7 dBA (Mfr's Spec ≤ 17 dBA)

2. Reference Sound Pressure Level

	UUT S				
	Frequency	Time	Octave	Applied	UUT
Range (dB)	Weighting	Weighting	Filter	Value (dB)	Reading (dB)
20 ~ 130	A	F	OFF	94.0	94.1
		S	OFF		94.0
	C	F	OFF		94.0
	Z	F	OFF		94.0
	A	F	OFF	114.0	114.1
		S	OFF		114.0
	С	F	OFF		114.0
	Z	F	OFF		114.1

IEC 61672 Type 1 Spec. : \pm 1.1 dB

Uncertainty: $\pm 0.1 \text{ dB}$

Electrical signal tests

3. Electrical signal tests of frequency weightings (A weighting)

Frequency	Attenuation (dB)	IEC 61672 Type 1 Spec.
31.5 Hz	-39.7	- 39.4 dB, ± 2 dB
63 Hz	-26.2	$-26.2 \text{ dB}, \pm 1.5 \text{ dB}$
125 Hz	-16.1	- 16.1 dB, ± 1.5 dB
250 Hz	-8.6	- 8.6 dB, ± 1 dB
500 Hz	-3.2	- 3.2 dB, ± 1.4 dB
1 kHz	0.0 (Ref)	$0 \text{ dB}, \pm 1.1 \text{ dB}$
2 kHz	+1.2	+ 1.2 dB, \pm 1.6 dB
4 kHz	+1.0	+ 1.0 dB, \pm 1.6 dB
8 kHz	-1.0	- 1.1 dB , + $2.1 \text{ dB} \sim -3.1 \text{ dB}$
16 kHz	-8.0	$-6.6 \text{ dB}, +3.5 \text{ dB} \sim -17.0 \text{ dB}$

Uncertainty: ± 0.1 dB



Certificate No. 903391

Page 3 of 3 Pages

4. Frequency & Time weightings at 1 kHz

4.1 Frequency Weighting (Fast)

UUT	Applied	UUT	Difference	IEC 61672
Setting	Value (dB)	Reading (dB)	(dB)	Type 1 Spec.
A	94.0	94.0 (Ref.)		± 0.4 dB
С	94.0	94.0	0.0	
Z	94.0	94.0	0.0	

4.2 Time Weighting (A-weighted)

UUT	Applied	UUT	Difference	IEC 61672
Setting	Value (dB)	Reading (dB)	(dB)	Type 1 Spec.
Fast	94.0	94.0 (Ref.)		± 0.3 dB
Slow	94.0	94.0	0.0]
Time-averaging	94.0	94.0	0.0	

Uncertainty: ± 0.1 dB

Remarks: 1. UUT: Unit-Under-Test

2. The uncertainty claimed is for a confidence probability of not less than 95%.

3. Atmospheric Pressure: 995 hPa.

4. Microphone model: UC-59, S/N: 03558 5. Preamplifier model: NH-25, S/N: 64644

6. Firmware Version: 1.7

7. Power Supply Check: OK

8. The UUT was adjusted with the laboratory's sound calibrator at the reference sound pressure level before the calibration.

----END ----



Certificate No. 002951

3 Pages Page

Customer: ETS-Testconsult Limited

Address: 8/F., Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan St., Fotan, Hong Kong.

Order No.: Q01189

Date of receipt

31-Mar-20

Item Tested

Description: Sound Level Meter

Manufacturer: Rion

I.D.

: ET/EN/003/17

Model

: NL-52

Serial No.

: 00264519

Test Conditions

Date of Test:

6-Apr-20

Supply Voltage

Relative Humidity: (50 ± 25) %

Test Specifications

Ambient Temperature:

Calibration check.

Ref. Document/Procedure: Z01, IEC 61672.

 $(23 \pm 3)^{\circ}C$

Test Results

All results were within the IEC 61672 Type 1 or manufacturer's specification.

The results are shown in the attached page(s).

Main Test equipment used:

Equipment No. Description

Cert. No.

Traceable to

S017A

Multi-Function Generator

906713

SCL-HKSAR

S240

Sound Level Calibrator

904042

NIM-PRC & SCL-HKSAR

The values given in this Calibration Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Hong Kong Calibration Ltd. shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to International System of Units (SI), or by reference to a natural constant.

The test results apply to the above Unit-Under-Test only

Calibrated by :

Elva Chong

Approved by:

6-Apr-20

Date:

Kin Wong

This Certificate is issued by:

Hong Kong Calibration Ltd.

Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street, Kwai Chung, NT, Hong Kong.

Tel: 2425 8801 Fax: 2425 8646

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002951 Certificate No.

Page 3 of 3 Pages

4. Frequency & Time weightings at 1 kHz

4.1 Frequency Weighting (Fast)

(1/7)
61672
1 Spec.
).4 dB
,

4.2 Time Weighting (A-weighted)

4.2 Time weighting	(A-weighted)			
UUT	Applied	UUT	Difference	IEC 61672
Setting	Value (dB)	Reading (dB)	(dB)	Type 1 Spec.
Fast	94.0	94.0 (Ref.)		± 0.3 dB
	94.0	94.0	0.0	
Slow	94.0	94.0	0.0	
Time-averaging	74.0	71.0		l

Uncertainty: $\pm 0.1 \text{ dB}$

Remarks: 1. UUT: Unit-Under-Test

- 2. The uncertainty claimed is for a confidence probability of not less than 95%.
- 3. Atmospheric Pressure: 1 008 hPa.
- 4. Microphone model: UC-59, S/N: 03558
- 5. Preamplifier model: NH-25, S/N: 64644
- 6. Firmware Version: 1.7
- 7. Power Supply Check: OK
- 8. The UUT was adjusted with the laboratory's sound calibrator at the reference sound pressure level before the calibration.

----- END -----



Certificate No. 002951

Page 2 of 3 Pages

Results:

Acoustical signal test

1. Self-generated noise: 16.8dBA (Mfr's Spec ≤ 17 dBA)

2. Reference Sound Pressure Level

	UUT S	etting			
Range (dB)	Frequency Weighting	Time Weighting	Octave Filter	Applied Value (dB)	UUT Reading (dB)
20 ~ 130	A	F	OFF	94.0	94.0
		S	OFF		94.0
	С	F	OFF		94.0
	Z	F	OFF		94.0
	A	F	OFF	114.0	114.0
		S	OFF		114.0
	С	F	OFF		114.0
	Z	F	OFF		114.0

IEC 61672 Type 1 Spec. : \pm 1.1 dB

Uncertainty: $\pm 0.1 \text{ dB}$

Electrical signal tests

3. Electrical signal tests of frequency weightings (A weighting)

Frequency	Attenuation (dB)	IEC 61672 Type 1 Spec.
31.5 Hz	-39.6	- 39.4 dB, ± 2 dB
63 Hz	-26.3	- 26.2 dB, ± 1.5 dB
125 Hz	-16.3	- 16.1 dB, ± 1.5 dB
250 Hz	-8.7	- 8.6 dB, ± 1 dB
500 Hz	-3.3	- 3.2 dB, \pm 1.4 dB
1 kHz	0.0 (Ref)	$0 \text{ dB}, \pm 1.1 \text{ dB}$
2 kHz	+1.3	+ 1.2 dB, ± 1.6 dB
4 kHz	+1.1	+ 1.0 dB, ± 1.6 dB
8 kHz	-1.0	$-1.1 \text{ dB}, +2.1 \text{ dB} \sim -3.1 \text{ dB}$
16 kHz	-8.0	$-6.6 \text{ dB}, +3.5 \text{ dB} \sim -17.0 \text{ dB}$

Uncertainty: ± 0.1 dB

Certificate No. 001363

1 of 3 Pages Page

Customer: ETS-Testconsult Limited

Address: 8/F., Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan St., Fotan, Hong Kong.

Order No.: 000572

Date of receipt

20-Feb-20

Item Tested

Description: Sound Level Meter

Manufacturer: Rion

I.D.

: ET/EN/003/18

Model

: NL-52

Serial No.

: 00264520

Test Conditions

Date of Test: 3-Mar-20

Supply Voltage : --

Ambient Temperature:

 $(23 \pm 3)^{\circ}C$

Relative Humidity: $(50 \pm 25) \%$

Test Specifications

Calibration check.

Ref. Document/Procedure: Z01, IEC 61672.

Test Results

All results were within the IEC 61672 Type 1 specification. (where applicable)

The results are shown in the attached page(s).

Main Test equipment used:

Equipment No. Description

Cert. No.

Traceable to

S017A

Multi-Function Generator

906713

SCL-HKSAR

S240

Sound Level Calibrator

904042

NIM-PRC & SCL-HKSAR

The values given in this Calibration Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Hong Kong Calibration Ltd. shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to International System of Units (SI), or by reference to a natural constant. The test results apply to the above Unit-Under-Test only

Calibrated by:

Approved by:

This Certificate is issued by:

Hong Kong Calibration Ltd.

3-Mar-20

Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street, Kwai Chung, NT, Hong Kong Tel: 2425 8801 Fax: 2425 8646

Certificate No. 001363 Pages 2 of 3 Pages

Results:

Acoustical signal test

1. Self-generated noise: 17.3 dBA

2. Reference Sound Pressure Level

	UUT S				
	Frequency	Time	Octave	Applied	UUT
Range (dB)	Weighting	Weighting	Filter	Value (dB)	Reading (dB)
20 ~ 130	A	F	OFF	94.0	93.8
		S	OFF		93.8
	C	F	OFF		93.8
	Z	F	OFF		93.9
	A	F	OFF	114.0	113.8
		S	OFF		113.8
	C	F	OFF		113.8
	Z	F	OFF		113.9

IEC 61672 Type 1 Spec. : ± 1.1 dB

Uncertainty: $\pm 0.1 \text{ dB}$

Electrical signal tests

3. Electrical signal tests of frequency weightings (A weighting)

Frequency	Attenuation (dB)	IEC 61672 Type 1 Spec.
31.5 Hz	-39.7	- 39.4 dB, ± 2 dB
63 Hz	-26.3	- 26.2 dB, ± 1.5 dB
125 Hz	-16.2	- 16.1 dB, ± 1.5 dB
250 Hz	-8.7	- 8.6 dB, ± 1 dB
500 Hz	-3.3	- 3.2 dB, ± 1.4 dB
1 kHz	0.0 (Ref)	$0 \text{ dB}, \pm 1.1 \text{ dB}$
2 kHz	+1.2	+ 1.2 dB, ± 1.6 dB
4 kHz	+1.0	+ 1.0 dB, ± 1.6 dB
8 kHz	-1.1	- 1.1 dB, $+ 2.1$ dB ~ -3.1 dB
16 kHz	-8.0	- 6.6 dB , + $3.5 \text{ dB} \sim -17.0 \text{ dB}$

Uncertainty: ± 0.1 dB

Certificate No. 001363

Page 3 of 3 Pages

4. Frequency & Time weightings at 1 kHz

4.1 Frequency Weighting (Fast)

				
UUT	Applied	UUT	Difference	IEC 61672
Setting	Value (dB)	Reading (dB)	(dB)	Type 1 Spec.
A	94.0	94.0 (Ref.)		± 0.4 dB
С	94.0	94.0	0.0	
Z	94.0	94.0	0.0	

4.2 Time Weighting (A-weighted)

UUT	Applied	UUT	Difference	IEC 61672
Setting	Value (dB)	Reading (dB)	(dB)	Type 1 Spec.
Fast	94.0	94.0 (Ref.)		± 0.3 dB
Slow	94.0	94.0	0.0	
Time-averaging	94.0	94.0	0.0	

Uncertainty: $\pm 0.1 \text{ dB}$

Remarks: 1. UUT: Unit-Under-Test

- 2. The uncertainty claimed is for a confidence probability of not less than 95%.
- 3. Atmospheric Pressure: 1 008 hPa.
- 4. Preamplifier model: NH-25, S/N: 64646.
- 5. Firmware Version: 1.7
- 6. Power Supply Check: OK
- 7. The UUT was adjusted with the supplied sound calibrator at the reference sound pressure level before the calibration.

----- END -----



Certificate No. 001362

Page of 2 Pages

Customer: ETS-Testconsult Limited

Address: 8/F., Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan St., Fotan, Hong Kong.

Order No.: Q00572

Date of receipt

20-Feb-20

Item Tested

Description: Thermo-Anemometer

Manufacturer: AZ Instrument

I.D.

ET/EN/001/05

Model

: AZ 8908

Serial No.

: 1064869

Test Conditions

Date of Test: 28-Feb-20

Ambient Temperature:

Supply Voltage

Relative Humidity : $(50 \pm 25) \%$

Test Specifications

Calibration check.

Calibration procedure:

T03, Z04.

 $(23 \pm 3)^{\circ}C$

Test Results

A correction factor of x 1.1 is required to bring the meter reading to within the manufacturer's specification. The results are shown in the attached page(s).

Main Test equipment used:

Equipment No. Description

Cert. No.

Traceable to

S155

Std. Anemometer

910732

NIM-PRC

S223C

Std. Thermometer

905216

NIM-PRC

The values given in this Calibration Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Hong Kong Calibration Ltd. shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to International System of Units (SI), or by reference to a natural constant. The test results apply to the above Unit-Under-Test only

Calibrated by:

James Yau

This Certificate is issued by:

Hong Kong Calibration Ltd.

Date:

28-Feb-20

Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street, Kwai Chung, NT, Hong Kong Tel: 2425 8801 Fax: 2425 8646



Certificate No. 001362

Page 2 of 2 Pages

Results:

1. Velocity

	UUT Reading	Corrected Reading	
Applied Value (m/s)	(m/s)	(UUT Rdg. × 1.1)	Mfr's Spec.
0.00	0.0	0.0	
2.50	2.4	2.6	
5.00	4.8	5.3	
10.00	* 9.3	10.2	$\pm (3 \% \text{ of reading} + 0.2 \text{ m/s})$
15.00	* 13.8	15.2	
19.00	* 17.5	19.3	

2. Temperature

Applied Value (°C)	UUT Reading (°C)	Mfr's Spec.
23.22	23.0	± 1 °C

Remark: 1. UUT: Unit-Under-Test

- 2. Uncertainty : \pm (0.9 % + 0.16 m/s) for Velocity, \pm 0.1 °C for Temperature, for a confidence probability of not less than 95 %.
- 3. Atmospheric Pressure: 1 003 hPa
- 4. * Out of Specification.

----- END -----



Appendix E2

Impact Noise Monitoring Results



Day-time Noise Monitoring

Monitoring Station: NSR1a

Date	Weather	Weather Temperature	Start Time	End Time	Noise Level at NSR1a, dB (A)			Wind Speed
Date	vveatriei	(℃)	(hh:mm)	(hh:mm)	Leq (30min)	L10 (30min)	L90 (30min)	(m/s)
03/04/20	Cloudy	22	09:22	09:52	62.9	64.5	53.7	0.1
09/04/20	Fine	24	08:55	09:25	71.5	74.2	69.7	0.3
15/04/20	Fine	26	13:01	13:31	67.7	69.8	62.4	0.2
21/04/20	Fine	26	08:57	09:27	67.5	71.4	64.2	0.7
27/04/20	Cloudy	27	13:02	13:32	60.2	64.8	57.3	0.1
			М	in	60.2	64.5	53.7	
			Max		71.5	74.2	69.7	
Logarithmic Average for normal		67.6	70.5	64.6				

Monitoring Station: NSR2b

Weather	Temperature	Start Time	End Time	Noise Level at NSR2b, dB (A)			Wind Speed
Weather	(℃)	(hh:mm)	(hh:mm)	Leq (30min)	L10 (30min)	L90 (30min)	(m/s)
Cloudy	22	09:55	10:25	63.3	64.6	60.7	0.1
Fine	24	09:35	10:05	69.7	73.0	66.2	0.4
Fine	26	13:40	14:10	65.3	68.8	60.1	0.1
Fine	26	09:45	10:15	68.7	73.0	66.1	0.3
Cloudy	28	15:15	15:45	59.4	63.1	56.8	0.1
	Fine Fine Fine	Weather (°C) Cloudy 22 Fine 24 Fine 26 Fine 26	Weather (°C) (hh:mm) Cloudy 22 09:55 Fine 24 09:35 Fine 26 13:40 Fine 26 09:45	Weather (°C) (hh:mm) (hh:mm) Cloudy 22 09:55 10:25 Fine 24 09:35 10:05 Fine 26 13:40 14:10 Fine 26 09:45 10:15	Weather Temperature (°C) Start Time (hh:mm) End Time (hh:mm) Leq (30min) Cloudy 22 09:55 10:25 63.3 Fine 24 09:35 10:05 69.7 Fine 26 13:40 14:10 65.3 Fine 26 09:45 10:15 68.7		Weather Temperature (°C) Start Time (hh:mm) End Time (hh:mm) Leq (30min) L10 (30min) L90 (30min) Cloudy 22 09:55 10:25 63.3 64.6 60.7 Fine 24 09:35 10:05 69.7 73.0 66.2 Fine 26 13:40 14:10 65.3 68.8 60.1 Fine 26 09:45 10:15 68.7 73.0 66.1

(*) : 3dB(A) correction was added to the results during the free-field noise measurements

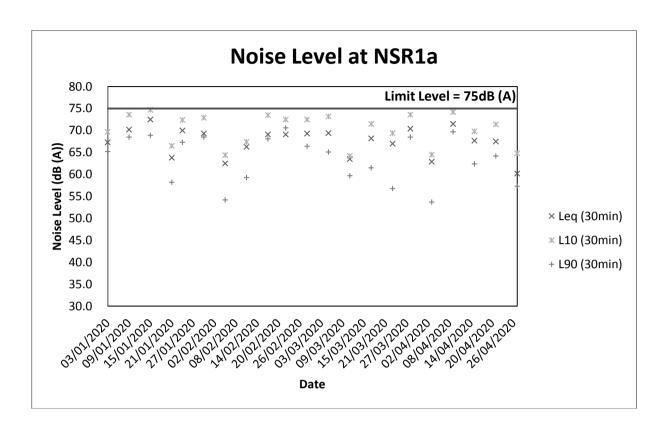
)	Min	59.4	63.1	56.8
	Max	69.7	73.0	66.2
	Logarithmic Average for normal weekdays	66.7	70.2	63.4

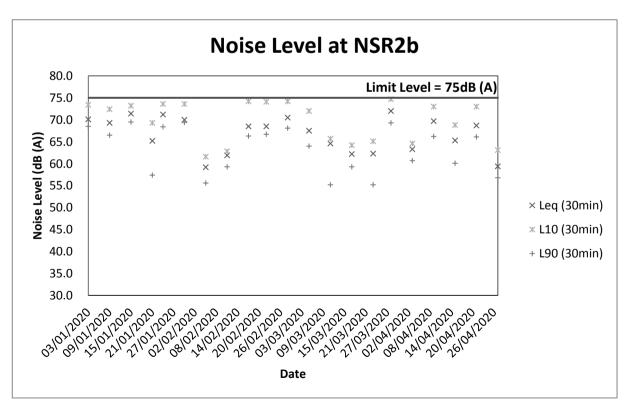


Appendix E3

Graphical Plots of Impact Noise Monitoring Data









Appendix F1

Calibration Certificates for Impact Water Quality Monitoring Equipments



Form E/CE/R/24 Issue 1 (1/1) [01/18]

<u>Calib</u>	ration Report of Dissolv	ed Oxygen N	Meter (<i>In situ</i> Me	easurement)
Equipment Ref. No.	: ET/EW/008/009		Manufacturer :	YSI
Model No.	: Pro 2030		Serial No. :	16LL100372
Calibration Date	: 3/3/2020		Calibration Due Date :	2/6/2020
Temperature Verific	cation by Reference Thermometer ((ET/0521/028)		
	Temperature Reading (°C)	Correction (°C)	Corrected Temperature ((°C) Difference (°C)
Reference Thermom	eter 20.1	0.0	20.1	0.1
DO Meter	20.2	0.0	20.2	0.1
Criteria: Difference	between corrected temperature from	n DO meter and re	eference thermometer : <	± 0.5 °C
Zero Point Checking	g			
I	OO meter reading (mg/L)		0.01	
Criteria: Zero check	ing: 0.0 mg/L			
Linearity Checking	of Dissolved Oxygen Content by A	PHA 19ed 4500-0) G	
Purging time, min	Expected DO value (mg/L) (ET/0510/012)	DO met	er reading (mg/L)	Difference of DO Content (mg/L)
2	5.71		5.87	0.16
5	3.66		3.79	0.13
10	1.52		1.62	0.10
Criteria: Difference	between DO meter reading and exp	ected DO value: <	$\leq \pm 0.30 \text{ mg/L}$	
Salinity Checking by) APHA 19ed 2520 B			
	•	Expect	ed Salinity (ppt)	DO meter reading (ppt)
Reagent No. of NaCl	(10 ppt): CPE/012/4.7/005/12		10	9.4
Reagent No. of NaCl	(30 ppt): CPE/012/4.8/005/12		30	28.5
Criteria: Difference	between DO meter reading and exp	ected Salinity: ± 1	0.0 %	
The equipment comp / unacceptable # for u # Delete as appropria		pecified requireme	ents and is deemed accept	able #
Calibrated by	<u> 2</u>		Approved by:	

CPE/024/W



Performance	Check	of 7	Furbidity	Meter
-------------	-------	------	------------------	-------

Performance C	neck of Turbialty	Meter
Equipment Ref. No. : ET/0505	5/020 Manufacturer	: HACH
Model No. : 21000	Q Serial No.	:16100C053195
Date of Calibration : 25/01/2	020 Due Date	: 24/4/2020
Theoretical Value of Turbidity Standard (NTU)	Measured Value (NTU)	Difference % *
20	20.3	1.5%
100	102	2.0%
800	832	4.0%
(*) Difference = (Measured Value	e – Theoretical Value) / The	oretical Value x 100
Acceptance Criteria Diffe	erence : -5 % to 5 %	
The turbidity meter complies * / dand is deemed acceptable * / unac national standards.		·
Prepared by:	Checked by :	



Appendix F2

Impact Water Quality Monitoring Results



Impact Water Quality Monitoring

Monitoring Station: R1b

Date	Sampling	Weather	Sampling	T	urbidity (NTL	J)	Dissolved	d Oxygen (E	O) (mg/L)	Suspend	ded Solid (S	SS) (mg/L)
Date	Duration	Condition	Level	1	2	Ave.	1	2	Ave.	1	2	Ave.
01/04/20	11:25-11:48	Cloudy	Mid-Depth	14.7	14.6	14.7	2.09	2.11	2.10	7	7	7
03/04/20	12:20-12:32	Cloudy	Mid-Depth	12.3	12.2	12.3	2.06	2.09	2.08	<5	<5	<5
07/04/20	13:05-13:10	Cloudy	Mid-Depth	13.1	13.3	13.2	2.07	2.09	2.08	7	8	8
09/04/20	10:15-10:26	Fine	Mid-Depth	15.2	15.1	15.2	1.93	1.96	1.95	8	8	8
11/04/20	12:00-13:00	Cloudy	Mid-Depth	13.2	13.5	13.4	2.12	2.15	2.14	7	7	7
14/04/20	13:32-13:44	Cloudy	Mid-Depth	11.6	11.7	11.7	1.98	2.00	1.99	12	12	12
16/04/20	14:15-14:20	Fine	Mid-Depth	14.0	14.1	14.1	3.43	3.40	3.42	16	15	15
18/04/20	08:48-08:59	Cloudy	Mid-Depth	15.6	15.7	15.7	2.11	2.14	2.13	13	13	13
21/04/20	10:50-11:02	Fine	Mid-Depth	15.4	15.3	15.4	2.25	2.22	2.24	6	6	6
23/04/20	12:45-12:57	Cloudy	Mid-Depth	15.4	15.5	15.5	2.08	2.04	2.06	<5	<5	<5
25/04/20	15:32-15:42	Cloudy	Mid-Depth	7.8	7.8	7.8	2.19	2.16	2.18	6	7	6
28/04/20	13:20-13:34	Fine	Mid-Depth	17.3	17.2	17.3	2.15	2.19	2.17	22	22	22
30/04/20	13:00-14:00	Cloudy	Mid-Depth	14.9	15.0	15.0	2.11	2.15	2.13	12	12	12
				N	lin	7.8	М	in	1.93	М	in	<5
				M	ax	17.3	Ma	ax	3.43	M	ax	22
				Ave	rage	13.9	Avei	rage	2.20	Ave	rage	9

Remark(s):

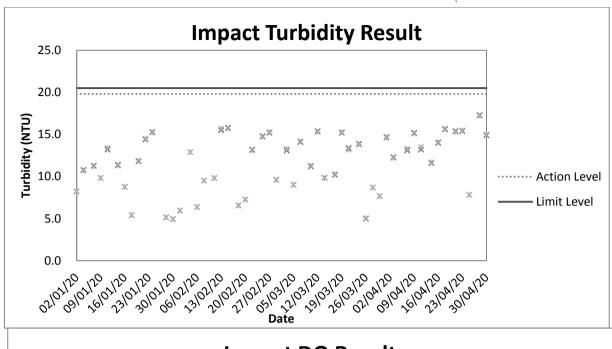
^{1. (#) 200}ml sample was used for Suspended Solids analysis. Practical Quantitation Limit of Suspended Solids reported less than 5 mg/L. The results reported as <5 would be counted as zero for average measurement.

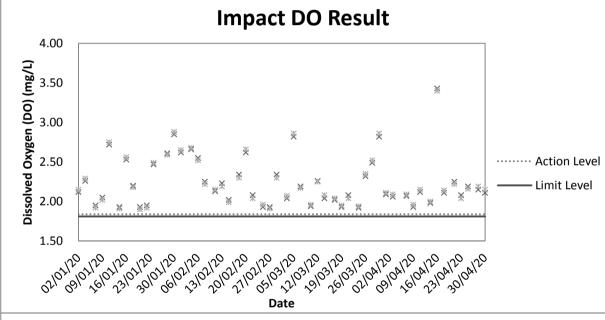


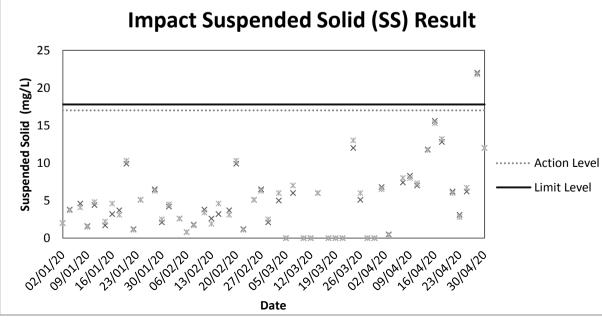
Appendix F3

Graphical Plots of Impact Water Quality Monitoring Data











Appendix G

Weather Condition



Daily Extract of Meteorological Observations, April 2020

Day	Mean	Air	Temperat	ure	Mean Dew	Mean	Total
	Pressure	Absolute	Mean	Absolute	Point (deg. C)	Relative	Rainfall
	(hPa)	Daily	(deg. C)	Daily Min		Humidity	(mm)
		Max		(deg. C)		(%)	
		(deg. C)					
1	1015.0	21.3	19.7	18.9	18.2	91	0.2
2	1017.0	20.7	19.9	19.3	17.5	86	0.4
3	1017.2	21.3	20.4	19.4	18.2	88	0.6
4	1018.0	24.1	20.8	19.7	18.9	89	1.1
5	1019.0	19.9	18.2	16.9	16.2	88	4.6
6	1016.8	17.9	17.1	16.1	15.7	92	21.5
7	1015.5	21.1	19.1	17.2	16.5	86	Trace
8	1016.5	24.0	20.6	18.7	14.8	71	0
9	1017.5	25.6	21.6	18.8	15.4	69	0
10	1018.1	24.6	21.7	19.9	16.5	73	0
11	1015.0	24.3	22.5	20.5	20.4	88	20.5
12	1017.3	25.6	20.8	18.1	12.0	59	0.4
13	1019.2	25.4	20.2	16.4	7.5	44	0
14	1017.5	24.1	21.1	19.6	14.2	65	0
15	1015.4	25.9	22.2	19.0	15.4	66	0
16	1014.5	28.3	23.3	20.0	18.8	77	0
17	1014.8	28.3	24.1	22.0	20.1	79	0
18	1013.9	27.8	24.4	22.4	20.9	81	Trace
19	1012.6	30.0	25.9	23.7	22.1	80	0
20	1012.5	29.4	26.4	24.6	22.7	81	0
21	1012.4	30.0	26.7	24.9	23.2	82	0
22	1014.9	25.7	22.1	19.4	21.1	94	25.8
23	1017.2	21.7	20.6	19.4	18.8	89	1.3
24	1019.0	21.4	19.4	18.1	16.6	84	0.6
25	1018.1	22.7	20.5	18.4	17.4	83	0.1
26	1017.0	27.8	23.1	19.9	18.3	75	0.7
27	1017.1	28.5	24.4	21.6	16.8	65	0
28	1017.5	27.9	24.3	22.4	17.0	64	0
29	1017.0	28.5	24.2	21.7	18.9	72	0
30	1015.3	30.3	25.3	22.2	20.0	74	0
Mean/Total	1012.9	25.0	22.6	20.8	19.4	83	77.8

Remark(s):

Trace means rainfall less than 0.05 mm § 1981-2010 Climatological Normal

The meteorological observations extracted from Hong Kong Observatory only shown the daily average and may be varied from the weather condition recorded during monitoring.



Appendix H

Environmental Site Inspection Checklist



Envi	ronmental Site Ii	nspection Checklist	– San Wai			
Inspe	ction Date:	3.4.20	Inspected By:		Francie 7	and
Time	:	1400	Weather Condition	n:	Cloudy	
Partie	cipants:	Potrale Lana J	Johns, Co. Joseph Le	sure,	Tomy knote	
				· · · · · · · ·	1	
I	Permits/Licenses			N/A	Yes No	Remarks
1.1	Are Environmental I exit and vehicle acce	Permit, license/ other permess?	nit displayed at major site			
1.2	Are Construction No	oise Permits available for i	nspection?			
1.3		rge license available for in				
1.4	Are trip tickets for available for inspect	chemical waste and con ion?	struction waste disposal			
1.5		e/permits for disposal o available for inspection?	f construction waste or		<i></i>	
2	Air Quality			N/A	Yes No	Remarks
2.1	Is open burning avoi	ded?			<u> </u>	
2.2	Are speed controlled	at 10 km/h on unpaved si	te areas?			
2.3	Are plant and equipulation from powered plant)	oment well maintained (i. ?	e. without black smoke			1 100 100 100 100 100 100 100 100 100 1
2.4	Observed dust source	,				
		<u> </u>	pment Movements			
			ading of materials			
			operer			
2.5		etted with water twice a da				
2.6		oulders, poles, pillars or t entire surface sprayed I immediately?	•	<u>u</u>		
2.7	sheeting or placed in	demolished items covered an area sheltered on the to			Ø O	
2.0	a day of demolition?	Callitian with high manner	un vuotan ist musuidad st		M Π	
2.8	all site exits if practic	facilities with high pressucable?	re water jet provided at			
2.9		shing facilities and the ro d the exit point paved wi es?			Ц U _	
2.10	Are hoarding ≥ 2.4 access?	m tall provided beside ro	eads or area with public			
2.11	hardcores or metal p	nd paved with concrete, lates, and kept clear of dus suppression chemical?				
2.12		that is within 30m of a d			4 0 -	
2.13		plant cleaned before they			4 0 –	
2.14		cks covered by imperviou	s sheeting appropriately			



	hafara laquing the site?				
2.15	before leaving the site? Are working areas of any excavation or earth moving operation	\Box		\cap $-$	
2.13	sprayed with water or a dusty suppression chemical immediately?			L	
2.16	Is exposed earth properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, concrete or other suitable surface stabilizer within 6 months after the last construction activity?				Antonia et la
2.17	Are stockpile of dusty material covered entirely by impervious sheeting; placed in an area sheltered on the top and the 3 sides; or sprayed with water or dust suppression chemical?	D			getting.
2.18	Are unpaved areas / designated roads watered regularly to avoid dust generation?		d		
2.19	Are dusty materials covered entirely by impervious sheeting or sprayed with water?				***************************************
2.20	Is every stock of more than 20 bags of cement or dry pulverized fuel ash (PFA) covered entirely by impervious sheeting or placed in an area sheltered on the top and 3 sides?	d			
2.21	Are the approval or exempted NRMM labels painted or securely fixed on site machines or vehicles and displayed at a conspicuous position according to the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation?		Ø		
3	Noise	N/A	Yes	No	Remarks
3.1	Are idle plant/equipments turned off or throttled down?	П	$\Box V$		
			L.A	<u></u>	
3.2	Are silenced equipments or quiet plants utilized?				
3.2 3.3	·				
	Are silenced equipments or quiet plants utilized? Are the silencers or mufflers properly fitted on construction				
3.3	Are silenced equipments or quiet plants utilized? Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between				
3.3	Are silenced equipments or quiet plants utilized? Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and				
3.3 3.4 3.5	Are silenced equipments or quiet plants utilized? Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs?				
3.33.43.53.6	Are silenced equipments or quiet plants utilized? Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs? Do air compressors have valid noise labels?				
3.3 3.4 3.5 3.6 3.7	Are silenced equipments or quiet plants utilized? Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs? Do air compressors have valid noise labels? Are compressor operated with doors closed?				
3.3 3.4 3.5 3.6 3.7 3.8	Are silenced equipments or quiet plants utilized? Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs? Do air compressors have valid noise labels? Are compressor operated with doors closed? QPME used with valid noise labels? Are construction activities planned so that parallel operation of several				
3.3 3.4 3.5 3.6 3.7 3.8 3.9	Are silenced equipments or quiet plants utilized? Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs? Do air compressors have valid noise labels? Are compressor operated with doors closed? QPME used with valid noise labels? Are construction activities planned so that parallel operation of several sets of equipment close to a given receiver is avoided? Major noise source(s): Traffic Construction activities inside of site		Yes		Remarks
3.3 3.4 3.5 3.6 3.7 3.8 3.9 3.10	Are silenced equipments or quiet plants utilized? Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs? Do air compressors have valid noise labels? Are compressor operated with doors closed? QPME used with valid noise labels? Are construction activities planned so that parallel operation of several sets of equipment close to a given receiver is avoided? Major noise source(s):				Remarks
3.3 3.4 3.5 3.6 3.7 3.8 3.9 3.10	Are silenced equipments or quiet plants utilized? Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs? Do air compressors have valid noise labels? Are compressor operated with doors closed? QPME used with valid noise labels? Are construction activities planned so that parallel operation of several sets of equipment close to a given receiver is avoided? Major noise source(s):			No	Remarks



4.3	Are site drainage systems and treatment facilities provided to minimize the water pollution?				
4.4	Is the treated effluent quality met the requirements specified in the discharge license?				and a second
4.5	Is the sewage generated from toilets collected using a temporary storage system?				
4.6	Are sewage effluent and discharges from on-site kitchen facilities directed to public foul sewers or collected in a temporary storage tank if connection to public foul sewers is not feasible?				
4.7	Is a licensed waste collector employed to clean the chemical toilets and temporary storage tank on a regular basis?	Ø			
4.8	Is the storm drainage directed to storm drains via adequately designed sand/ silt removal facilities e.g. sand traps, silt traps and sediment basins?		2		
4.9	Are measures taken to prevent the washout of construction materials, soil, silt or debris into any drainage system?		Ø		
4.10	Are manholes adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and prevent storm run-off getting into foul sewers?	Q [′]			
4.11	Is a wheel washing bay provided at every site exit?				
4.12	Is the wheel wash overflow directed to silt removal facilities before being discharged to the storm drain?				
4.13	Is the section of construction road between the wheel washing bay and the public road surfaced with crushed stone or coarse gravel?		₫		
4.14	Does the surface runoff from bunded areas pass through oil/grease traps prior to discharge to the storm water system?				
4.15	Are sedimentation tanks or package treatment systems provided to treat the large amount of sediment-laden wastewater generated from wheel washing, site runoff and construction works?		Ø		
5	Waste / Chemical Management	N/A	Yes	No	Remarks
	General Waste				
5.1	Are sufficient waste disposal points provided?			\Box	
5.2	Is waste disposed regularly?				1 1
5.3	Is the general waste generated on-site stored in enclosed bins or compaction units separately from the construction and chemical wastes?				1 1
5.4	Are separated labeled containers/ areas provided for facilitating recycling and waste segregation?				- Southern -
	Construction Waste		_		
5.5	Are the temporary stockpiles maintained regularly?				
5.6	Are the C&D materials sorted and recycled on-site?				
5.7	Are the public fill and C&D waste segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal?		J.		
5.8	Is the segregation and storage of C&D wastes undertaken in designated area?				



5.9	Are waste storage area properly cleaned and do not cause windblown litter and dust nuisance?		Ø		
5.10	Are surplus insert C&D materials only consist of earth, building debris and broken rock and concrete and free from marine mud, household refuse, plastic, metals, industrial and chemical waste, animal and vegetable matter, and other material considered unsuitable by the public filling supervisor?	Ø			
	Chemical / Fuel Storage Area	/			
5.11	Are the fuel tanks and chemical storage areas provided with locks and sited on sealed areas?	Ø			
5.12	Are the storage areas labeled and separated (if needed)?		Z/		
5.13	Do the storage areas have adequate ventilation and be covered to prevent rainfall entering?				
5.14	Are the containers used for the storage of chemical wastes suitable for the substance that are holding, resist to corrosion, maintained in a good condition, and securely closed?				
5.15	Are proper measures to control oil spillage during maintenance or to control other chemicals spillage? (e.g. provide drip trays)		Ø		
	Chemical Waste / Waste Oil		- /		
5.16	Is chemical waste or waste oil stored and labeled in English and Chinese properly in designated area?		LJV		
5.17	Are chemicals and waste oil collected and stored for recycling or proper disposal?		7		
	Records				
5.18	Is a licensed waste hauler used for waste collection?				
5.19	Are the records of quantities of wastes generated, recycled and disposed properly kept?				
5.20	For the demolition material/ waste, is the number of loads for each day recorded as appropriate?				
6	Landscape and Visual Impacts	N/A	Yes	No	Remarks
6.1	Is the work site confined within site boundaries?				
6.2	Is damage to surrounding areas avoided?		Ø		
7	Environmental Complaint	N/A	Yes	No	Remarks
7.1	Number of Environmental Complaint received from dd/mm/yyyy to dd/mm/yyyy?	(Z			
8	General Housekeeping	N/A	Yes	No	Remarks
8.1	Are potential stagnant pools cleared and mosquito breeding prevented?		Ø,	_ 🗌	
8.2	Are the defined boundaries of working areas identified to prevent loss of vegetation?				
9	Others	N/A	Yes	No	Remarks
9.1	Are the portable toilets maintained in a state, which will not deter the workers from utilizing these portable toilets?		ⅎ		



Follow up actions for pervious Site Audit: Follow up action to item on 27.3.20, all item were

Observations Item I: General refuse warners observed near the north of SSSB.

Corrective Actions - Mitigation Measures Implemented or Proposed (if any):

To clean the general reliae property.

Signature:

ET's representative

Date:

Signature:

ET Leader

Name: C.L. Lan

Date: 06/04/2020

Signature:

Contractor's representative

Name: -

Date:

Signature:

SO's representative

Date:

Name: e / WONIN



Summary of the Weekly Environmental Site Inspection

Item	Details of observations	Follow Up Action	Photo Ref.	Further Action Required (Yes/No)	Proposed Follow up Date
1	General refuse were observed near the north of SSSB.	To collect general refuse properly	200403_001	Yes	03/04/2020



Envi	ronmental Site L	nspection Checklist – S	San Wai			
Inspe	ection Date:	9.4.20	Inspected By:		Frankie 7	ch of
Time	:	(4100	Weather Condition	n:	Cloud	1
Parti	cipants:	Patrak Lewy, Darren	Lai , Idny So	, Ja	son lang!	Tony Kust
1	Permits/Licenses			N/A	Yes No	Remarks
1.1	Are Environmental exit and vehicle acco	Permit, license/ other permit dess?	isplayed at major site			
1.2	Are Construction No	oise Permits available for inspe	ection?			
1.3	Is wastewater discha	arge license available for inspe	ction?			
1.4	Are trip tickets for available for inspect	chemical waste and construion?	ction waste disposal			
1.5		e/permits for disposal of coavailable for inspection?	onstruction waste or		Ø 0 -	
2	Air Quality			N/A	Yes No	Remarks
2.1	Is open burning avoi	ded?				
2.2	Are speed controlled	l at 10 km/h on unpaved site a	reas?			
2.3	Are plant and equip	oment well maintained (i.e. v?	without black smoke			
2.4	Observed dust sourc	e(s):			A-A-A	
		☐ Vehicle/ Equipme				
		Loading/unloadir Others: Not obser	- 1			
2.5	Are the work sites w	etted with water twice a day?				
2.6	i i	oulders, poles, pillars or tempe entire surface sprayed wit I immediately?				
2.7	Is the area involved sheeting or placed in	demolished items covered en an area sheltered on the top a				
2.8	a day of demolition? Are wheel washing all site exits if practic	facilities with high pressure v	water jet provided at		<u> </u>	
2.9	Are the areas of wa	shing facilities and the road and the exit point paved with o				
2.10	Are hoarding ≥ 2.4 access?	m tall provided beside roads	or area with public			
2.11	hardcores or metal p	nd paved with concrete, bit lates, and kept clear of dusty r suppression chemical?				
2.12	Are construction site	that is within 30m of a disce xit kept clear of dusty material				
2.13		plant cleaned before they lea				
2.14		cks covered by impervious sh	eeting appropriately			



	before leaving the site?		,		
2.15	Are working areas of any excavation or earth moving operation sprayed with water or a dusty suppression chemical immediately?		Ø		
2.16	Is exposed earth properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, concrete or other suitable surface stabilizer within 6 months after the last construction activity?	Ø			
2.17	Are stockpile of dusty material covered entirely by impervious sheeting; placed in an area sheltered on the top and the 3 sides; or sprayed with water or dust suppression chemical?	Ø			
2.18	Are unpaved areas / designated roads watered regularly to avoid dust generation?				
2.19	Are dusty materials covered entirely by impervious sheeting or sprayed with water?				
2.20	Is every stock of more than 20 bags of cement or dry pulverized fuel ash (PFA) covered entirely by impervious sheeting or placed in an area sheltered on the top and 3 sides?	d			
2.21	Are the approval or exempted NRMM labels painted or securely fixed on site machines or vehicles and displayed at a conspicuous position according to the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation?				
3	Noise	N/A	Yes	No	Remarks
3.1	Are idle plant/equipments turned off or throttled down?		Ø		
	· · · ·				
3.2	Are silenced equipments or quiet plants utilized?		\Box		
3.2 3.3	Are the silencers or mufflers properly fitted on construction equipments and maintained regularly?				
	Are the silencers or mufflers properly fitted on construction				
3.3	Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between				
3.3	Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and				
3.3 3.4 3.5	Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs?				
3.33.43.53.6	Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs? Do air compressors have valid noise labels?				
3.3 3.4 3.5 3.6 3.7	Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs? Do air compressors have valid noise labels? Are compressor operated with doors closed?				
3.3 3.4 3.5 3.6 3.7 3.8	Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs? Do air compressors have valid noise labels? Are compressor operated with doors closed? QPME used with valid noise labels? Are construction activities planned so that parallel operation of several				
3.3 3.4 3.5 3.6 3.7 3.8 3.9	Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs? Do air compressors have valid noise labels? Are compressor operated with doors closed? QPME used with valid noise labels? Are construction activities planned so that parallel operation of several sets of equipment close to a given receiver is avoided? Major noise source(s):		Yes		Remarks
3.3 3.4 3.5 3.6 3.7 3.8 3.9 3.10	Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs? Do air compressors have valid noise labels? Are compressor operated with doors closed? QPME used with valid noise labels? Are construction activities planned so that parallel operation of several sets of equipment close to a given receiver is avoided? Major noise source(s): Traffic Construction activities inside of site Construction activities outside of site Others:				Remarks
3.3 3.4 3.5 3.6 3.7 3.8 3.9 3.10	Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs? Do air compressors have valid noise labels? Are compressor operated with doors closed? QPME used with valid noise labels? Are construction activities planned so that parallel operation of several sets of equipment close to a given receiver is avoided? Major noise source(s):			No	Remarks



4.3	Are site drainage systems and treatment facilities provided to minimize the water pollution?			
4.4	Is the treated effluent quality met the requirements specified in the discharge license?			
4.5	Is the sewage generated from toilets collected using a temporary storage system?			
4.6	Are sewage effluent and discharges from on-site kitchen facilities directed to public foul sewers or collected in a temporary storage tank if connection to public foul sewers is not feasible?	Ø		
4.7	Is a licensed waste collector employed to clean the chemical toilets and temporary storage tank on a regular basis?	Ø		
4.8	Is the storm drainage directed to storm drains via adequately designed sand/ silt removal facilities e.g. sand traps, silt traps and sediment basins?			
4.9	Are measures taken to prevent the washout of construction materials, soil, silt or debris into any drainage system?			
4.10	Are manholes adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and prevent storm run-off getting into foul sewers?	Ø		
4.11	Is a wheel washing bay provided at every site exit?			
4.12	Is the wheel wash overflow directed to silt removal facilities before being discharged to the storm drain?			
4.13	Is the section of construction road between the wheel washing bay and the public road surfaced with crushed stone or coarse gravel?		ď o ⁻	
4.14	Does the surface runoff from bunded areas pass through oil/grease traps prior to discharge to the storm water system?			
4.15	Are sedimentation tanks or package treatment systems provided to treat the large amount of sediment-laden wastewater generated from wheel washing, site runoff and construction works?		Ø 0 -	
5	Waste / Chemical Management	N/A	Yes No	Remarks
	General Waste			
5.1	Are sufficient waste disposal points provided?			
5.2	Is waste disposed regularly?			
5.3	Is the general waste generated on-site stored in enclosed bins or compaction units separately from the construction and chemical wastes?			
5.4	Are separated labeled containers/ areas provided for facilitating recycling and waste segregation?		Ø 0 -	
	Construction Waste			
5.5	Are the temporary stockpiles maintained regularly?			_
5.6	Are the C&D materials sorted and recycled on-site?			Hart
5.7	Are the public fill and C&D waste segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal?			A Control of the Cont
5.8	Is the segregation and storage of C&D wastes undertaken in designated area?			



5.9	Are waste storage area properly cleaned and do not cause windblown litter and dust nuisance?		d o	
5.10	Are surplus insert C&D materials only consist of earth, building debris and broken rock and concrete and free from marine mud, household refuse, plastic, metals, industrial and chemical waste, animal and vegetable matter, and other material considered unsuitable by the public filling supervisor?	Ç ∕		
	Chemical / Fuel Storage Area	/		
5.11	Are the fuel tanks and chemical storage areas provided with locks and sited on sealed areas?	Ø		
5.12	Are the storage areas labeled and separated (if needed)?		70_	
5.13	Do the storage areas have adequate ventilation and be covered to prevent rainfall entering?			
5.14	Are the containers used for the storage of chemical wastes suitable for the substance that are holding, resist to corrosion, maintained in a good condition, and securely closed?		7 0	
5.15	Are proper measures to control oil spillage during maintenance or to control other chemicals spillage? (e.g. provide drip trays)		4 -	
5.16	Chemical Waste / Waste Oil		ПП	
5.16	Is chemical waste or waste oil stored and labeled in English and Chinese properly in designated area?			
5.17	Are chemicals and waste oil collected and stored for recycling or proper disposal?			
	Records			
5.18	Is a licensed waste hauler used for waste collection?			
5.19	Are the records of quantities of wastes generated, recycled and disposed properly kept?			
5.20	For the demolition material/ waste, is the number of loads for each day recorded as appropriate?		0 0 —	
6	Landscape and Visual Impacts	N/A	Yes No	Remarks
6.1	Is the work site confined within site boundaries?		$Q_{\mathcal{L}}$	
6.2	Is damage to surrounding areas avoided?			
7	Environmental Complaint	N/A	Yes No	Remarks
7.1	Number of Environmental Complaint received from dd/mm/yyyy to dd/mm/yyyy?	ഥ		
8	General Housekeeping	N/A	Yes No	Remarks
8.1	Are potential stagnant pools cleared and mosquito breeding prevented?		\Box	
8.2	Are the defined boundaries of working areas identified to prevent loss of vegetation?		Ø ==	
9	Others	N/A	Yes No	Remarks
9.1	Are the portable toilets maintained in a state, which will not deter the workers from utilizing these portable toilets?		∅ □	



Follow up actions for pervious Site Audit:	Fdlow	up	action	to	item	on	9-4.20	all	iten
	were						·		

Observations Henl. CDD materials were observed discard improperly near 16W/DG.

Corrective Actions - Mitigation Measures Implemented or Proposed (if any):

Item I: To chewn and seg segregate the CSD motorial property.

Signature:

ET's representative

Date:

Signature:

ET Leader

Name: C.L.Lan

Date: 14/04/2020

Signature:

Contractor's representative

Name:

Date:

Signature:

SO's representative

Name: Of Corner

Date:



Summary of the Weekly Environmental Site Inspection

Item	Details of observations	Follow Up Action	Photo Ref.	Further Action Required (Yes/No)	Proposed Follow up Date
1	Follow up action to item 1 on 09/04/2020, general refuse were collected properly.		200409_001	No	
1	C&D materials were observed discard improperly near ICW/DG.	To collect and store the C&D materials properly	200409_002	Yes	17/04/2020



Envii	ronmental Site It	nspection Checklist	– San Wai			
Inspection Date:		17.4.20	Inspected By:	_	Frankie	Tony
Time:		91,00	Weather Condition	n:	Clouds	
Partic	ipants:	Patrile Lernay, Dura	en Lai, Johny So,	, Jag	on Legy,	Tony kuok
1	Permits/Licenses		,	N/A	Yes No	Remarks
1.1	Are Environmental lexit and vehicle acce	Permit, license/ other permess?	nit displayed at major site			
1.2	Are Construction No	oise Permits available for i	nspection?			
1.3	Is wastewater discha	arge license available for in	spection?			
1.4	Are trip tickets for available for inspect	chemical waste and con ion?	struction waste disposal			
1.5		e/permits for disposal of available for inspection?	f construction waste or			
2	Air Quality			N/A	Yes No	Remarks
2.1	Is open burning avoi	ded?				and the second s
2.2	Are speed controlled	at 10 km/h on unpaved si	te areas?			
2.3	Are plant and equip from powered plant)	oment well maintained (i.?	e. without black smoke			
2.4	Observed dust source	e(s):				
		☐ Vehicle/ Equip	oment Movements			
		/ -	ading of materials			
		Others: Not o	bones			
2.5		etted with water twice a da				
2.6		oulders, poles, pillars or t entire surface sprayed l immediately?				
2.7	sheeting or placed in	demolished items covered an area sheltered on the to				
2.8	a day of demolition? Are wheel washing all site exits if practic	facilities with high pressu	re water jet provided at		6 0-	
2.9	Are the areas of wa	shing facilities and the road the exit point paved wi				
2.10	Are hoarding ≥ 2.4 access?	m tall provided beside ro	ads or area with public			
2.11	hardcores or metal p	nd paved with concrete, lates, and kept clear of dus suppression chemical?				
2.12		that is within 30m of a d xit kept clear of dusty mate				
2.13		plant cleaned before they			<u> </u>	
2.14		cks covered by impervious	s sheeting appropriately		d = _	



	before leaving the site?				
2.15	Are working areas of any excavation or earth moving operation sprayed with water or a dusty suppression chemical immediately?				<u> </u>
2.16	Is exposed earth properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, concrete or other suitable surface stabilizer within 6 months after the last construction activity?				
2.17	Are stockpile of dusty material covered entirely by impervious sheeting; placed in an area sheltered on the top and the 3 sides; or sprayed with water or dust suppression chemical?	ď			
2.18	Are unpaved areas / designated roads watered regularly to avoid dust generation?		d		
2.19	Are dusty materials covered entirely by impervious sheeting or sprayed with water?				
2.20	Is every stock of more than 20 bags of cement or dry pulverized fuel ash (PFA) covered entirely by impervious sheeting or placed in an area sheltered on the top and 3 sides?	卤			
2.21	Are the approval or exempted NRMM labels painted or securely fixed on site machines or vehicles and displayed at a conspicuous position according to the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation?		d		
3	Noise	N/A	Yes	No	Remarks
3.1	Are idle plant/equipments turned off or throttled down?	П		П	
			1_2	L3	
3.2	Are silenced equipments or quiet plants utilized?				
3.2 3.3					
	Are silenced equipments or quiet plants utilized? Are the silencers or mufflers properly fitted on construction				
3.3	Are silenced equipments or quiet plants utilized? Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between				
3.3	Are silenced equipments or quiet plants utilized? Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and	Ø			
3.3 3.4 3.5	Are silenced equipments or quiet plants utilized? Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs?				
3.33.43.53.6	Are silenced equipments or quiet plants utilized? Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs? Do air compressors have valid noise labels?				
3.3 3.4 3.5 3.6 3.7	Are silenced equipments or quiet plants utilized? Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs? Do air compressors have valid noise labels? Are compressor operated with doors closed?				
3.3 3.4 3.5 3.6 3.7 3.8	Are silenced equipments or quiet plants utilized? Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs? Do air compressors have valid noise labels? Are compressor operated with doors closed? QPME used with valid noise labels? Are construction activities planned so that parallel operation of several				
3.3 3.4 3.5 3.6 3.7 3.8 3.9	Are silenced equipments or quiet plants utilized? Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs? Do air compressors have valid noise labels? Are compressor operated with doors closed? QPME used with valid noise labels? Are construction activities planned so that parallel operation of several sets of equipment close to a given receiver is avoided? Major noise source(s): Traffic Construction activities inside of site Construction activities outside of site		Yes	No	Remarks
3.3 3.4 3.5 3.6 3.7 3.8 3.9 3.10	Are silenced equipments or quiet plants utilized? Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs? Do air compressors have valid noise labels? Are compressor operated with doors closed? QPME used with valid noise labels? Are construction activities planned so that parallel operation of several sets of equipment close to a given receiver is avoided? Major noise source(s):		Yes	No	Remarks
3.3 3.4 3.5 3.6 3.7 3.8 3.9 3.10	Are silenced equipments or quiet plants utilized? Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs? Do air compressors have valid noise labels? Are compressor operated with doors closed? QPME used with valid noise labels? Are construction activities planned so that parallel operation of several sets of equipment close to a given receiver is avoided? Major noise source(s): Traffic Construction activities inside of site Construction activities outside of site Others:		Yes	No	Remarks



4.3	Are site drainage systems and treatment facilities provided to minimize the water pollution?			
4.4	Is the treated effluent quality met the requirements specified in the discharge license?			
4.5	Is the sewage generated from toilets collected using a temporary storage system?			
4.6	Are sewage effluent and discharges from on-site kitchen facilities directed to public foul sewers or collected in a temporary storage tank if connection to public foul sewers is not feasible?	ď		
4.7	Is a licensed waste collector employed to clean the chemical toilets and temporary storage tank on a regular basis?			
4.8	Is the storm drainage directed to storm drains via adequately designed sand/ silt removal facilities e.g. sand traps, silt traps and sediment basins?			
4.9	Are measures taken to prevent the washout of construction materials, soil, silt or debris into any drainage system?			
4.10	Are manholes adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and prevent storm run-off getting into foul sewers?	Ø		
4.11	Is a wheel washing bay provided at every site exit?			-
4.12	Is the wheel wash overflow directed to silt removal facilities before being discharged to the storm drain?			
4.13	Is the section of construction road between the wheel washing bay and the public road surfaced with crushed stone or coarse gravel?			
4.14	Does the surface runoff from bunded areas pass through oil/grease traps prior to discharge to the storm water system?			
4.15	Are sedimentation tanks or package treatment systems provided to treat the large amount of sediment-laden wastewater generated from wheel washing, site runoff and construction works?		Ø 0 ⁻	
5	Waste / Chemical Management	N/A	Yes No	Remarks
	General Waste			
5.1	Are sufficient waste disposal points provided?			
5.2	Is waste disposed regularly?		ひ , ロー	
5.3	Is the general waste generated on-site stored in enclosed bins or compaction units separately from the construction and chemical wastes?		d	
5.4	Are separated labeled containers/ areas provided for facilitating recycling and waste segregation?			
	Construction Waste		Korkerkonin	
5.5	Are the temporary stockpiles maintained regularly?			
5.6	Are the C&D materials sorted and recycled on-site?			
5.7	Are the public fill and C&D waste segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal?			
5.8	Is the segregation and storage of C&D wastes undertaken in designated area?			



5.9	Are waste storage area properly cleaned and do not cause windblown litter and dust nuisance?				
5.10	Are surplus insert C&D materials only consist of earth, building debris and broken rock and concrete and free from marine mud, household refuse, plastic, metals, industrial and chemical waste, animal and vegetable matter, and other material considered unsuitable by the public filling supervisor?	□ /			
	Chemical / Fuel Storage Area				
5.11	Are the fuel tanks and chemical storage areas provided with locks and sited on sealed areas?	山			
5.12	Are the storage areas labeled and separated (if needed)?				
5.13	Do the storage areas have adequate ventilation and be covered to prevent rainfall entering?				
5.14	Are the containers used for the storage of chemical wastes suitable for the substance that are holding, resist to corrosion, maintained in a good condition, and securely closed?				
5.15	Are proper measures to control oil spillage during maintenance or to control other chemicals spillage? (e.g. provide drip trays)		Image: Control of the		
	Chemical Waste / Waste Oil				
5.16	Is chemical waste or waste oil stored and labeled in English and Chinese properly in designated area?				
5.17	Are chemicals and waste oil collected and stored for recycling or proper disposal?		Ø		
	Records		1		
5.18	Is a licensed waste hauler used for waste collection?				
5.19	Are the records of quantities of wastes generated, recycled and disposed properly kept?				
5.20	For the demolition material/ waste, is the number of loads for each day recorded as appropriate?				
6	Landscape and Visual Impacts	N/A	Yes	No	Remarks
6.1	Is the work site confined within site boundaries?		Q.		
6.2	Is damage to surrounding areas avoided?				
7	Environmental Complaint	N/A	Yes	No	Remarks
7.1	Number of Environmental Complaint received from dd/mm/yyyy to dd/mm/yyyy?	D /			
8	General Housekeeping	N/A	Yes	No	Remarks
8.1	Are potential stagnant pools cleared and mosquito breeding prevented?				itaI
8.2	Are the defined boundaries of working areas identified to prevent loss of vegetation?				VV V
9	Others	N/A	Yeş	No	Remarks
9.1	Are the portable toilets maintained in a state, which will not deter the workers from utilizing these portable toilets?		d		



Follow up actions for pervious	Site Audit: Follow Improve	up action	to item on	9.4.20, all item	were
	· •	142			

Observations ItaI: Stagnant water were observed new CEPT.

Corrective Actions – Mitigation Measures Implemented or Proposed (if any):

Ital: To clean the stagnart water or provide larvicidal oil to prevent moscinito breeding.

Signature:

ET's representative

Name: Tay Chung Hay

Date: 17.4.

Signature:

ET Leader

Name: C.L.Lan

Date: 18/04/2020

Signature:

Contractor's representative

Name: Lasa Ceny

Date: 17.4.23.

Signature:

SO's representative

Name:

C

ate:



Summary of the Weekly Environmental Site Inspection

Item	Details of observations	Follow Up Action	Photo Ref.	Further Action Required (Yes/No)	Proposed Follow up Date
	Follow up action to item 1 on 09/04/2020, the C&D materials were collected.		200417_001	No	



1	Stagnant water were observed near CEPT.	To clear the stagnant water or provide lavicidal oil	200417_002	Yes	24/04/2020	
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Envi	ronmental Site	Inspection Checklist	– San Wai			
Inspe	ction Date:	74.4.20	74.4.70 Inspected By:			Tany
Time	:	9,00	Weather Condition	n:	Fire	
Parti	cipants:	Potrde Leny, Downen	Lai, Johny So	, Jas	on Levey,	Tony Lins 6
1	Permits/Licenses	•	•	N/A	Yes No	Remarks
1.1	Are Environmenta exit and vehicle ac	I Permit, license/ other perm cess?	it displayed at major site			
1.2	Are Construction N	loise Permits available for in	rspection?			
1.3	Is wastewater discl	narge license available for in	spection?			
1.4	Are trip tickets for available for inspec	or chemical waste and constitution?	struction waste disposal		[] [] -	
1.5		nse/permits for disposal of s available for inspection?	construction waste or			
2	Air Quality			N/A	Yes No	Remarks
2.1	Is open burning av	oided?				
2.2	Are speed controlle	ed at 10 km/h on unpaved sit	e areas?		Ø 🗆 –	
2.3	Are plant and equalifrom powered plan	ipment well maintained (i.t)?	e. without black smoke			
2.4	Observed dust sour	☐ Vehicle/ Equip☐ Loading/ unloa	oment Movements ading of materials			
		Others: Not	observed		,	
2.5		wetted with water twice a da			9/ 🛚 –	
2.6		boulders, poles, pillars or to e entire surface sprayed cal immediately?				
2.7	sheeting or placed	d demolished items covered in an area sheltered on the to				
2.8	a day of demolition Are wheel washing all site exits if prac	g facilities with high pressur	re water jet provided at		<u> </u>	
2.9	Are the areas of v	vashing facilities and the ro and the exit point paved with			<u> </u>	
2.10	Are hoarding ≥ 2 access?	.4m tall provided beside roa	ads or area with public			
2.11	hardcores or metal	oad paved with concrete, plates, and kept clear of dus t suppression chemical?				
2.12		te that is within 30m of a di exit kept clear of dusty mate				
2.13	Are all vehicles an site?	d plant cleaned before they	leave the construction			
2.14	Are loaded dump to	ucks covered by impervious	sheeting appropriately			



	hafara lagging the site?				
2.15	before leaving the site?	П	ſΖĺ	\neg	
2.13	Are working areas of any excavation or earth moving operation sprayed with water or a dusty suppression chemical immediately?				
2.16	Is exposed earth properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, concrete or other suitable surface stabilizer within 6 months after the last construction activity?	4			
2.17	Are stockpile of dusty material covered entirely by impervious sheeting; placed in an area sheltered on the top and the 3 sides; or sprayed with water or dust suppression chemical?	Ø			
2.18	Are unpaved areas / designated roads watered regularly to avoid dust generation?		Q		
2.19	Are dusty materials covered entirely by impervious sheeting or sprayed with water?	4			
2.20	Is every stock of more than 20 bags of cement or dry pulverized fuel ash (PFA) covered entirely by impervious sheeting or placed in an area sheltered on the top and 3 sides?	Ø			
2.21	Are the approval or exempted NRMM labels painted or securely fixed on site machines or vehicles and displayed at a conspicuous position according to the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation?		q		
3	Noise	N/A	Yes	No	Remarks
3.1	Are idle plant/equipments turned off or throttled down?	П	П	П	
3.2	Are silenced equipments or quiet plants utilized?				
J.Z	The shelled equipments of quice plants utilized:	11	-1.4		
3.3	Are the silencers or mufflers properly fitted on construction equipments and maintained regularly?				
	Are the silencers or mufflers properly fitted on construction				
3.3	Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between				
3.3	Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and				
3.3 3.4 3.5	Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs?				
3.33.43.53.6	Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs? Do air compressors have valid noise labels?				
3.3 3.4 3.5 3.6 3.7	Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs? Do air compressors have valid noise labels? Are compressor operated with doors closed?				
3.3 3.4 3.5 3.6 3.7 3.8	Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs? Do air compressors have valid noise labels? Are compressor operated with doors closed? QPME used with valid noise labels? Are construction activities planned so that parallel operation of several				
3.3 3.4 3.5 3.6 3.7 3.8 3.9	Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs? Do air compressors have valid noise labels? Are compressor operated with doors closed? QPME used with valid noise labels? Are construction activities planned so that parallel operation of several sets of equipment close to a given receiver is avoided? Major noise source(s):		Yes	No	Remarks
3.3 3.4 3.5 3.6 3.7 3.8 3.9 3.10	Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs? Do air compressors have valid noise labels? Are compressor operated with doors closed? QPME used with valid noise labels? Are construction activities planned so that parallel operation of several sets of equipment close to a given receiver is avoided? Major noise source(s):		Yes	No	Remarks
3.3 3.4 3.5 3.6 3.7 3.8 3.9 3.10	Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs? Do air compressors have valid noise labels? Are compressor operated with doors closed? QPME used with valid noise labels? Are construction activities planned so that parallel operation of several sets of equipment close to a given receiver is avoided? Major noise source(s):		Yes	No	Remarks



4.3	Are site drainage systems and treatment facilities provided to minimize the water pollution?				
4.4	Is the treated effluent quality met the requirements specified in the discharge license?		Ø		
4.5	Is the sewage generated from toilets collected using a temporary storage system?				
4.6	Are sewage effluent and discharges from on-site kitchen facilities directed to public foul sewers or collected in a temporary storage tank if connection to public foul sewers is not feasible?	Ø			
4.7	Is a licensed waste collector employed to clean the chemical toilets and temporary storage tank on a regular basis?	ď			
4.8	Is the storm drainage directed to storm drains via adequately designed sand/ silt removal facilities e.g. sand traps, silt traps and sediment basins?				
4.9	Are measures taken to prevent the washout of construction materials, soil, silt or debris into any drainage system?		Ø		
4.10	Are manholes adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and prevent storm run-off getting into foul sewers?				
4.11	Is a wheel washing bay provided at every site exit?			\Box	
4.12	Is the wheel wash overflow directed to silt removal facilities before being discharged to the storm drain?		á l		
4.13	Is the section of construction road between the wheel washing bay and the public road surfaced with crushed stone or coarse gravel?				
4.14	Does the surface runoff from bunded areas pass through oil/grease traps prior to discharge to the storm water system?				
4.15	Are sedimentation tanks or package treatment systems provided to treat the large amount of sediment-laden wastewater generated from wheel washing, site runoff and construction works?				
5	Waste / Chemical Management	N/A	Yes	No	Remarks
	General Waste				
5.1	Are sufficient waste disposal points provided?		Q [
5.2	Is waste disposed regularly?]	
5.3	Is the general waste generated on-site stored in enclosed bins or compaction units separately from the construction and chemical wastes?			J	14.04.07.00
5.4	Are separated labeled containers/ areas provided for facilitating recycling and waste segregation?]	
	Construction Waste				
5.5	Are the temporary stockpiles maintained regularly?		Q (
5.6	Are the C&D materials sorted and recycled on-site?]	
5.7	Are the public fill and C&D waste segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal?		F C]	
5.8	Is the segregation and storage of C&D wastes undertaken in designated area?		d c]	



5.9	Are waste storage area properly cleaned and do not cause windblown litter and dust nuisance?		d o
5.10	Are surplus insert C&D materials only consist of earth, building debris and broken rock and concrete and free from marine mud, household refuse, plastic, metals, industrial and chemical waste, animal and vegetable matter, and other material considered unsuitable by the public filling supervisor?	(Z)	
	Chemical / Fuel Storage Area		
5.11	Are the fuel tanks and chemical storage areas provided with locks and sited on sealed areas?		
5.12	Are the storage areas labeled and separated (if needed)?		0,0
5.13	Do the storage areas have adequate ventilation and be covered to prevent rainfall entering?		
5.14	Are the containers used for the storage of chemical wastes suitable for the substance that are holding, resist to corrosion, maintained in a good condition, and securely closed?		
5.15	Are proper measures to control oil spillage during maintenance or to control other chemicals spillage? (e.g. provide drip trays)		<u> </u>
	Chemical Waste / Waste Oil		/
5.16	Is chemical waste or waste oil stored and labeled in English and Chinese properly in designated area?		
5.17	Are chemicals and waste oil collected and stored for recycling or proper disposal?		1 du I
	Records		
5.18	Is a licensed waste hauler used for waste collection?		
5.19	Are the records of quantities of wastes generated, recycled and disposed properly kept?		
5.20	For the demolition material/ waste, is the number of loads for each day recorded as appropriate?		Ø 0 ————————————————————————————————————
6	Landscape and Visual Impacts	N/A	Yes No Remarks
6.1	Is the work site confined within site boundaries?		
6.2	Is damage to surrounding areas avoided?		
7	Environmental Complaint	N/A	Yes No Remarks
7.1	Number of Environmental Complaint received from dd/mm/yyyy to dd/mm/yyyy?		
8	General Housekeeping	N/A	Yes No Remarks
8.1	Are potential stagnant pools cleared and mosquito breeding prevented?		中 口
8.2	Are the defined boundaries of working areas identified to prevent loss of vegetation?		<u> </u>
9	Others	N/A	Yes No Remarks
9.1	Are the portable toilets maintained in a state, which will not deter the workers from utilizing these portable toilets?		4



Follow up actions for pervious Site Audit: Follow up actions for per	,	Ten	on 11.4.20,	all	;tu
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Observations ItuI: O: 1 container was observed without top thip tray.

Corrective Actions - Mitigation Measures Implemented or Proposed (if any):

Ital: Provide the hip tray for oil container properly.

Signature:

ET's representative

Signature:

Contractor's representative

Date:

Date:

Signature:

ET Leader

Signature:

SO's representative

Name: C.L.Lan

Date: 2/04/2020

Name: C7 BWG

Date: W/4/WW



Summary of the Weekly Environmental Site Inspection

Item	Details of observations	Follow Up Action	Photo Ref.	Further Action Required (Yes/No)	Proposed Follow up Date
	Follow up action to item 1 on 17/04/2020, larvicidal oil was added at the trench of CEPT.		200424_001	No	
1	Oil container was observed without drip tray.	To provide drip tray for oil container properly	200424_002	Yes	29/04/2020



Environmental Site Inspection Checklist – San Wai								
Inspection Date: 20 Inspected By:				Ivy Lo				
Time:		14:30	Weather Condit		n: Fine			
Partic	ipants:	Patrick Lang	, Darren Lai, Jas	ion Len	J,	Tony	Knok	
1	Permits/Licenses			N/A	Yes	No	Remarks	
1.1	Are Environmental Pe		rmit displayed at major site		V			
1.2	Are Construction Nois	se Permits available fo	r inspection?		\checkmark			
1.3	Is wastewater discharg	ge license available for	inspection?					
1.4	Are trip tickets for cavailable for inspection		onstruction waste disposal		\subseteq			
1.5	Are relevant license/ excavated materials av	-	of construction waste or		Ø			
2	Air Quality			N/A	Yes	No	Remarks	
2.1	Is open burning avoide	ed?			Q			
2.2	Are speed controlled a	at 10 km/h on unpaved	site areas?		V			
2.3	Are plant and equipn from powered plant)?	nent well maintained	(i.e. without black smoke		V			
2.4	Observed dust source(s): U Wind erosion	n					
		☐ Vehicle/ Eq	uipment Movements				,	
		•	loading of materials					
		Others: No	tobserved					
2.5	Are the work sites wet		•		N	Ц_		
2.6		entire surface sprayed	r temporary or permanent d with water or a dust	Ц				
2.7	sheeting or placed in a		red entirely by impervious top and the 3 sides within		Ø			
2.8	a day of demolition? Are wheel washing fa all site exits if practica		sure water jet provided at					
2.9	Are the areas of wash	ning facilities and the the exit point paved	road section between the with concrete, bituminous		Ø			
2.10			roads or area with public					
2.11	Are main haul road	tes, and kept clear of d	e, bituminous materials, lusty materials; or sprayed		I		A	
2.12	Are construction site to vehicle entrance or exist		discernible or designated aterials?		Q			
2.13			ey leave the construction					
2.14		ks covered by impervio	ous sheeting appropriately					



	hafter land and the O				
2.15	before leaving the site?		P		
2.13	Are working areas of any excavation or earth moving operation sprayed with water or a dusty suppression chemical immediately?	لسا	(Z)	LI	
2.16	Is exposed earth properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, concrete or other suitable surface stabilizer within 6 months after the last construction activity?	Ø			
2.17	Are stockpile of dusty material covered entirely by impervious sheeting; placed in an area sheltered on the top and the 3 sides; or sprayed with water or dust suppression chemical?	Ø			
2.18	Are unpaved areas / designated roads watered regularly to avoid dust generation?		V		
2.19	Are dusty materials covered entirely by impervious sheeting or sprayed with water?				
2.20	Is every stock of more than 20 bags of cement or dry pulverized fuel ash (PFA) covered entirely by impervious sheeting or placed in an area sheltered on the top and 3 sides?	Ø			
2.21	Are the approval or exempted NRMM labels painted or securely fixed on site machines or vehicles and displayed at a conspicuous position according to the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation?		\square		
3	Noise	N/A	Yes	No	Remarks
3.1	Are idle plant/equipments turned off or throttled down?	П	Ø		
		LJ	[7]	ـــا	
3.2	Are silenced equipments or quiet plants utilized?		Ø.		
3.2	Are silenced equipments or quiet plants utilized? Are the silencers or mufflers properly fitted on construction		V		
3.2 3.3	Are silenced equipments or quiet plants utilized? Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between		V		
3.2 3.3 3.4	Are silenced equipments or quiet plants utilized? Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and				
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3.23.33.43.53.6	Are silenced equipments or quiet plants utilized? Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs? Do air compressors have valid noise labels?				
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3.2 3.3 3.4 3.5 3.6 3.7 3.8 3.9	Are silenced equipments or quiet plants utilized? Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs? Do air compressors have valid noise labels? Are compressor operated with doors closed? QPME used with valid noise labels? Are construction activities planned so that parallel operation of several sets of equipment close to a given receiver is avoided? Major noise source(s):			No	Remarks
3.2 3.3 3.4 3.5 3.6 3.7 3.8 3.9 3.10	Are silenced equipments or quiet plants utilized? Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs? Do air compressors have valid noise labels? Are compressor operated with doors closed? QPME used with valid noise labels? Are construction activities planned so that parallel operation of several sets of equipment close to a given receiver is avoided? Major noise source(s):			No	Remarks
3.2 3.3 3.4 3.5 3.6 3.7 3.8 3.9 3.10	Are silenced equipments or quiet plants utilized? Are the silencers or mufflers properly fitted on construction equipments and maintained regularly? Is temporary hoarding installed located on the site boundaries between noisy construction activities and NSRs? Are noise barriers (typically density @14kg/m²) acoustic mat or full enclosure close to noise plants including air compressor, generators and saw etc. provided to protect NSRs? Do air compressors have valid noise labels? Are compressor operated with doors closed? QPME used with valid noise labels? Are construction activities planned so that parallel operation of several sets of equipment close to a given receiver is avoided? Major noise source(s):			No	Remarks



4.3	Are site drainage systems and treatment facilities provided to minimize the water pollution?		Ø		
4.4	Is the treated effluent quality met the requirements specified in the discharge license?		abla		
4.5	Is the sewage generated from toilets collected using a temporary storage system?	\square			
4.6	Are sewage effluent and discharges from on-site kitchen facilities directed to public foul sewers or collected in a temporary storage tank if connection to public foul sewers is not feasible?				
4.7	Is a licensed waste collector employed to clean the chemical toilets and temporary storage tank on a regular basis?	\square			
4.8	Is the storm drainage directed to storm drains via adequately designed sand/ silt removal facilities e.g. sand traps, silt traps and sediment basins?		abla		
4.9	Are measures taken to prevent the washout of construction materials, soil, silt or debris into any drainage system?		Ø		
4.10	Are manholes adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and prevent storm run-off getting into foul sewers?	V			
4.11	Is a wheel washing bay provided at every site exit?				
4.12	Is the wheel wash overflow directed to silt removal facilities before being discharged to the storm drain?		Ø		
4.13	Is the section of construction road between the wheel washing bay and the public road surfaced with crushed stone or coarse gravel?				
4.14	Does the surface runoff from bunded areas pass through oil/grease traps prior to discharge to the storm water system?				
4.15	Are sedimentation tanks or package treatment systems provided to treat the large amount of sediment-laden wastewater generated from wheel washing, site runoff and construction works?		Ø		
5	Waste / Chemical Management	N/A	Yes	No	Remarks
	General Waste				
5.1	Are sufficient waste disposal points provided?				
5.2	Is waste disposed regularly?		$\overline{\mathcal{A}}$		
5.3	Is the general waste generated on-site stored in enclosed bins or compaction units separately from the construction and chemical wastes?		Ø		
5.4	Are separated labeled containers/ areas provided for facilitating recycling and waste segregation?		Ø		
	Construction Waste				
5.5	Are the temporary stockpiles maintained regularly?		V		
5.6	Are the C&D materials sorted and recycled on-site?		\checkmark		
5.7	Are the public fill and C&D waste segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal?		Z		
8.8	Is the segregation and storage of C&D wastes undertaken in designated area?		d		



5.9	Are waste storage area properly cleaned and do not cause windblown litter and dust nuisance?		V		
5.10	Are surplus insert C&D materials only consist of earth, building debris and broken rock and concrete and free from marine mud, household refuse, plastic, metals, industrial and chemical waste, animal and vegetable matter, and other material considered unsuitable by the public filling supervisor?				
	Chemical / Fuel Storage Area				
5.11	Are the fuel tanks and chemical storage areas provided with locks and sited on sealed areas?	\square			
5.12	Are the storage areas labeled and separated (if needed)?		\subseteq		
5.13	Do the storage areas have adequate ventilation and be covered to prevent rainfall entering?		V		
5.14	Are the containers used for the storage of chemical wastes suitable for the substance that are holding, resist to corrosion, maintained in a good condition, and securely closed?		V		
5.15	Are proper measures to control oil spillage during maintenance or to control other chemicals spillage? (e.g. provide drip trays)				
	Chemical Waste / Waste Oil				
5.16	Is chemical waste or waste oil stored and labeled in English and Chinese properly in designated area?			⊔ 	
5.17	Are chemicals and waste oil collected and stored for recycling or proper disposal?		Ø	L.J _	
	Records	_	_		
5.18	Is a licensed waste hauler used for waste collection?			\sqcup _	
5.19	Are the records of quantities of wastes generated, recycled and disposed properly kept?		M	⊔ 	
5.20	For the demolition material/ waste, is the number of loads for each day recorded as appropriate?		Ø		
6	Landscape and Visual Impacts	N/A	Yes	No	Remarks
6.1	Is the work site confined within site boundaries?		Ø		
6.2	Is damage to surrounding areas avoided?				
7	Environmental Complaint	N/A	Yes	No	Remarks
7.1	Number of Environmental Complaint received from dd/mm/yyyy to dd/mm/yyyy?	Ø			
8	General Housekeeping	N/A	Yes	No	Remarks
8.1	Are potential stagnant pools cleared and mosquito breeding prevented?		Ø,		
8.2	Are the defined boundaries of working areas identified to prevent loss of vegetation?		Ø		
9	Others	N/A	Yes	No	Remarks
9.1	Are the portable toilets maintained in a state, which will not deter the workers from utilizing these portable toilets?		Ø		



Follow up actions for pervious Site Audit:	Follow upaction to it	em on 24/4/2020

all item was improved.

Observations

NA.

Corrective Actions - Mitigation Measures Implemented or Proposed (if any):

NA

Signature:

ET's representative

Name:

Date:

Signature:

ET Leader

Name: C.L. Lan

Date: 02/0f/2020

Signature:

Contractor's representative

Name: Jaser Leny

Date:

Signature:

SO's representative

Name: Cf books

Date: A/4/2000



Summary of the Weekly Environmental Site Inspection

Item	Details of observations	Follow Up Action	Photo Ref.	Further Action Required (Yes/No)	Proposed Follow up Date
	Follow up action to item 1 on 24/04/2020, the oil container was removed.		200429_001	No	



Appendix I

Landscape and Visual Impact Assessment Checklist



Landscape and Visual Impact Assessment Checklist for Site Audit

Inspection Date:3 April 2020Weather:Sunny/ Fine/ Cloudy / RainyTime:10:45 a.m.Wind:Strong/ Breeze/ Light/ Calm

Item	Description	YES	NO	N/A	Actions/ Remarks
1	Construction Phase				
1.1	Is the detailed tree survey completed prior to construction work?	√			
1.2	Are trees to be transplanted removed to their final positions?		1		
1.3	Are the transplants and existing trees to be retained properly protected from damage by stout hoarding positioned as directed by a qualified Landscape Architect?	√			Eastern side trees: Protective fence has been provided at lot. A few nos. of trees are protected near the site entrance
1.4	Is regular inspection of the retained and transplanted trees made to ensure the effectiveness of the hoarding?	✓			
1.5	Are the TPZ clearly demarcated on site and surrounded by strong fences sturdy enough to withstand impacts from the construction activities?	✓			
1.6	Are warning signs and notices installed at the fences denoting the "tree protection zone" to prohibit the entry of equipment or construction activities?	1			
1.7	Are tree labels with clear indication of tree no. and status (e.g. "R", "T" or "F") provided for all the trees on site?	√			
1.8	If protective fencings are not practicable, are the tree root systems adequately protected from soil compaction due to passage of vehicles, equipment or machinery?	✓			
1.9	Are vehicular/foot paths and storage areas designated away from TPZ?	1			
1.10	Are the trees properly irrigated and sprayed with water to remove the accumulated construction dust during dry season in order to lessen the chances of decline and to maintain the vigour of trees?			/	
1.11	Are the trees free from any sign of distress, such as dieback, leaf loss, or general decline in tree health or			/	

	annaguanas ou tuas damaga vvith				
	appearance or tree damage with				
1.10	symptoms of construction injury?				
1.12	Are the trees free from wire or nail				
	and prohibited to be used as anchor	✓			
	for any site activities?				
1.13	Are cutting, trenching, excavating or				
	raising of soil level within the TPZ	✓			
	prohibited?				
1.14	Is improper pruning of the tree	,			
	branches/roots prohibited?	1			
1.15	Are the trees free from any tree root	,			
	damage?	1			
1.16	Are construction works or operation				
	of machines within the TPZ	1			
	prohibited?				
1.17	Is the TPZ free from pollution from				
1.17	effluent water, machine petroleum	/			
	or chemical spillage?	ľ			
1.18	Is the excavated topsoil stored and				The site has
1.10	protected on site for reuse for				
	1 =				previously been reclaimed from
	restoration of screen planting				
	works?				ponds. Most of the
					excavated topsoil is
					not desirable for
					reuse due to its
				1	inferior quality.
					Contractor's
					submitted
					referencing
					documents are
					attached in the
					checklist dated 4
					May, 2018 for
					information.
1.19	Is the progress of the above				
1.17	activities reported in the monthly	1			
	EM&A report?				
2	Operational Phase (12 months period	d from	rommiss	ioning of	the expanded and
	upgraded works)	Ju II OIII V	COMMISS	ioning o	the expanded and
2.1	Is a planting reserve, where locates				
2.1	1 0				
	around the site perimeter of			,	
	approximately 5m wide, provided to			V	
	allow a continuous belt of trees to be				
2.2	planted as a visual screen?				
2.2	Is the planting reserve				
	complemented the boundary			1	
	planting to the existing San Wai				
	STW?				
2.3	Is all new planting maintained for 12				
	months to ensure proper			✓	
	establishment?				
2.4	Are the trees free from sign of				
	deterioration of tree health and/or			1	
		0			



	structure?			
2.5	Are the trees free from insect pests and disease pathogens?		1	
2.6	Are the irrigation systems functioning properly and well maintained?		1	
2.7	Are the tree root systems adequately protected from soil compaction due to storage of materials or operation of machinery?		1	



Summary/Remarks:

Follow up actions taken by Contractor for previous comments:

1. Trees at eastern boundary – most of the trees has been removed in accordance with the approved tree removal application. The few remaining trees existed are protected by the boundary fence.

The contractor was reminded to rectify the following:

1. Generally, contractor was reminded to keep on the tree protection and maintenance.

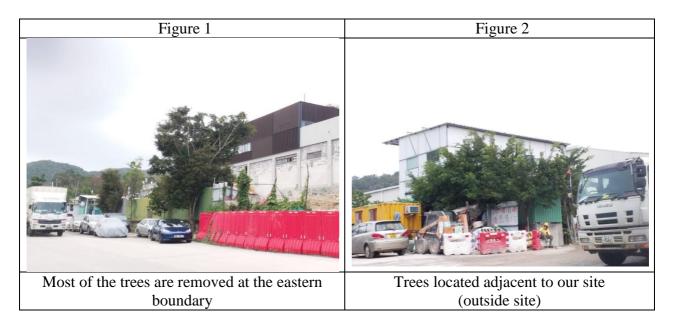
New Observation:

1. Grade change and construction activities are noted on site. Contractor was reminded not to disturb the TPZ.

Reminders:

- 1. Contractor was reminded to provide TPZ with robust fence, whenever possible, at the drip line of all retained trees unless the trees are well beyond the extend of construction activities
- 2. Contractor was reminded not to disturb trees outside site along the boundary.

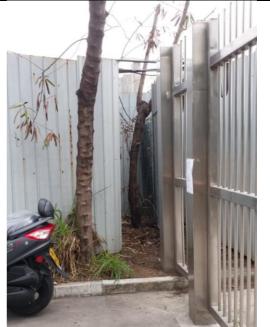
Photo Record:







Existing trees at the site entrance near the hoarding fence



Clearance of stored piles is noted in tree protection area



Signature:

		Signature	Date
Inspected & Recorded by	Registered Landscape Architect	Xylem Leung	



Landscape and Visual Impact Assessment Checklist for Site Audit

Inspection Date:17 April 2020Weather:Sunny/ Fine/ Cloudy / RainyTime:15:45 a.m.Wind:Strong/ Breeze/ Light/ Calm

Item	Description	YES	NO	N/A	Actions/ Remarks
1	Construction Phase				
1.1	Is the detailed tree survey completed prior to construction work?	1			
1.2	Are trees to be transplanted removed to their final positions?		1		
1.3	Are the transplants and existing trees to be retained properly protected from damage by stout hoarding positioned as directed by a qualified Landscape Architect?	V			Eastern side trees: Protective fence has been provided at lot. A few nos. of trees are protected near the site entrance
1.4	Is regular inspection of the retained and transplanted trees made to ensure the effectiveness of the hoarding?	√			
1.5	Are the TPZ clearly demarcated on site and surrounded by strong fences sturdy enough to withstand impacts from the construction activities?	1			
1.6	Are warning signs and notices installed at the fences denoting the "tree protection zone" to prohibit the entry of equipment or construction activities?	√ .			
1.7	Are tree labels with clear indication of tree no. and status (e.g. "R", "T" or "F") provided for all the trees on site?	1			
1.8	If protective fencings are not practicable, are the tree root systems adequately protected from soil compaction due to passage of vehicles, equipment or machinery?	1			
1.9	Are vehicular/foot paths and storage areas designated away from TPZ?	1			
1.10	Are the trees properly irrigated and sprayed with water to remove the accumulated construction dust during dry season in order to lessen the chances of decline and to maintain the vigour of trees?			/	
1.11	Are the trees free from any sign of distress, such as dieback, leaf loss, or general decline in tree health or			✓	

	annonana an tura dansa aa waidh				
	appearance or tree damage with				
1.10	symptoms of construction injury?				
1.12	Are the trees free from wire or nail				
	and prohibited to be used as anchor	✓			
	for any site activities?				
1.13	Are cutting, trenching, excavating or				
	raising of soil level within the TPZ	✓			
	prohibited?				
1.14	Is improper pruning of the tree	,			
	branches/roots prohibited?	1			
1.15	Are the trees free from any tree root				
	damage?	1			
1.16	Are construction works or operation				
	of machines within the TPZ	1			
	prohibited?				
1.17	Is the TPZ free from pollution from				
1.17	effluent water, machine petroleum	/			
	or chemical spillage?	ľ			
1.18	Is the excavated topsoil stored and				The site has
1.10	protected on site for reuse for				previously been
	1 =				reclaimed from
	restoration of screen planting				
	works?				ponds. Most of the
					excavated topsoil is
					not desirable for
					reuse due to its
				1	inferior quality.
					Contractor's
					submitted
					referencing
					documents are
					attached in the
					checklist dated 4
					May, 2018 for
					information.
1.19	Is the progress of the above				
	activities reported in the monthly	1			
	EM&A report?				
2	Operational Phase (12 months period	d from	commiss	ioning of	f the expanded and
_	upgraded works)	, , , , , , , , , , , , , , , , , , , ,			
2.1	Is a planting reserve, where locates				
	around the site perimeter of				
	approximately 5m wide, provided to			1	
	allow a continuous belt of trees to be				
	planted as a visual screen?				
2.2	1				
2.2	Is the planting reserve				
	complemented the boundary			1	
	planting to the existing San Wai				
2.2	STW?				
2.3	Is all new planting maintained for 12				
	months to ensure proper			1	
	establishment?				
2.4	Are the trees free from sign of			/	
	deterioration of tree health and/or			•	



	structure?			
2.5	Are the trees free from insect pests and disease pathogens?		1	
2.6	Are the irrigation systems functioning properly and well maintained?		1	
2.7	Are the tree root systems adequately protected from soil compaction due to storage of materials or operation of machinery?		1	



Summary/Remarks:

Follow up actions taken by Contractor for previous comments:

1. Trees at eastern boundary – most of the trees has been removed in accordance with the approved tree removal application. The few remaining trees existed are protected by the boundary fence.

The contractor was reminded to rectify the following:

1. Generally, contractor was reminded to keep on the tree protection and maintenance.

New Observation:

1. Grade change and construction activities are noted on site. Contractor was reminded not to disturb the TPZ.

Reminders:

- 1. Contractor was reminded to provide TPZ with robust fence, whenever possible, at the drip line of all retained trees unless the trees are well beyond the extend of construction activities.
- 2. Contractor was reminded not to disturb trees outside site along the boundary.

Photo Record:

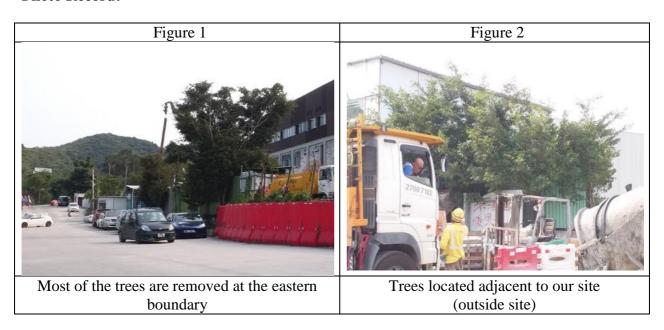


Figure 3

Figure 4



Condition of trees at the entrance of the existing treatment plant

Existing trees at the site entrance

Figure 5





Existing trees at the site entrance near the hoarding fence



The tree in the tree protection area is drying and has peeling bark. It is in poor health condition. There is high risk of tree felling.



Signature:

		Signature	Date
Inspected & Recorded by	Registered Landscape Architect	Xylem Leung	



bLandscape and Visual Impact Assessment Checklist for Site Audit

Inspection Date:	29 April 2020	Weather:	Sunny/ Fine/ Cloudy / Rainy
Time:	15:30 a.m.	Wind:	Strong/ Breeze/ Light/ Calm

Item	Description	YES	NO	N/A	Actions/ Remarks
1	Construction Phase				
1.1	Is the detailed tree survey completed prior to construction work?	√			
1.2	Are trees to be transplanted removed to their final positions?		1		
1.3	Are the transplants and existing trees to be retained properly protected from damage by stout hoarding positioned as directed by a qualified Landscape Architect?	√			Eastern side trees: Protective fence has been provided at lot. A few nos. of trees are protected near the site entrance
1.4	Is regular inspection of the retained and transplanted trees made to ensure the effectiveness of the hoarding?	✓			
1.5	Are the TPZ clearly demarcated on site and surrounded by strong fences sturdy enough to withstand impacts from the construction activities?	✓			
1.6	Are warning signs and notices installed at the fences denoting the "tree protection zone" to prohibit the entry of equipment or construction activities?	1			
1.7	Are tree labels with clear indication of tree no. and status (e.g. "R", "T" or "F") provided for all the trees on site?	J			
1.8	If protective fencings are not practicable, are the tree root systems adequately protected from soil compaction due to passage of vehicles, equipment or machinery?	✓			
1.9	Are vehicular/foot paths and storage areas designated away from TPZ?	1			
1.10	Are the trees properly irrigated and sprayed with water to remove the accumulated construction dust during dry season in order to lessen the chances of decline and to maintain the vigour of trees?			/	
1.11	Are the trees free from any sign of distress, such as dieback, leaf loss, or general decline in tree health or			/	

	1		1		
	appearance or tree damage with				
	symptoms of construction injury?				
1.12	Are the trees free from wire or nail				
	and prohibited to be used as anchor	✓			
	for any site activities?				
1.13	Are cutting, trenching, excavating or				
	raising of soil level within the TPZ	1			
	prohibited?				
1.14	Is improper pruning of the tree				
1.1.1	branches/roots prohibited?	✓			
1.15	Are the trees free from any tree root				
1.13	·	✓			
1.16	damage?				
1.16	Are construction works or operation				
	of machines within the TPZ	✓			
	prohibited?				
1.17	Is the TPZ free from pollution from				
	effluent water, machine petroleum	✓			
	or chemical spillage?				
1.18	Is the excavated topsoil stored and				The site has
	protected on site for reuse for				previously been
	restoration of screen planting				reclaimed from
	works?				ponds. Most of the
	WOIRS.				excavated topsoil is
					not desirable for
					reuse due to its
				✓	inferior quality.
					Contractor's
					submitted
					referencing
					documents are
					attached in the
					checklist dated 4
					May, 2018 for
					information.
1.19	Is the progress of the above				
	activities reported in the monthly	/			
	EM&A report?				
2	Operational Phase (12 months period	d from	rommissi	ioning of	the evnanded and
	upgraded works)	ou ii oiii v		ioning of	the expanded and
2.1	Is a planting reserve, where locates				
2.1					
	around the site perimeter of			,	
	approximately 5m wide, provided to			V	
	allow a continuous belt of trees to be				
	planted as a visual screen?				
2.2	Is the planting reserve				
	complemented the boundary			/	
	planting to the existing San Wai			•	
	STW?				
2.3	Is all new planting maintained for 12				
	months to ensure proper			1	
	establishment?				
2.4	Are the trees free from sign of				
2.7	deterioration of tree health and/or			✓	
	actorioration of the health allu/of	l			



	structure?			
2.5	Are the trees free from insect pests		/	
	and disease pathogens?			
2.6	Are the irrigation systems			
	functioning properly and well		✓	
	maintained?			
2.7	Are the tree root systems adequately			
	protected from soil compaction due		,	
	to storage of materials or operation		V	
	of machinery?			



Summary/Remarks:

Follow up actions taken by Contractor for previous comments:

1. Trees at eastern boundary – most of the trees has been removed in accordance with the approved tree removal application. The few remaining trees existed are protected by the boundary fence.

The contractor was reminded to rectify the following:

1. Generally, contractor was reminded to keep on the tree protection and maintenance.

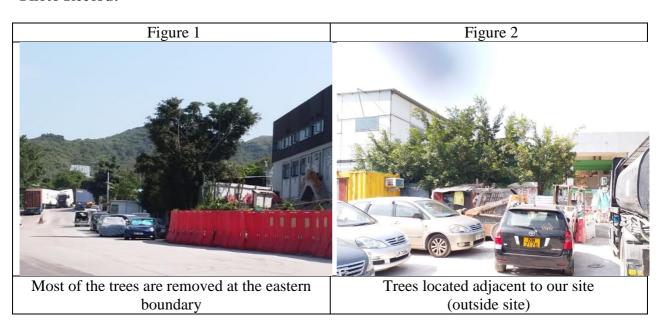
New Observation:

1. Grade change and construction activities are noted on site. Contractor was reminded not to disturb the TPZ.

Reminders:

- 1. Contractor was reminded to provide TPZ with robust fence, whenever possible, at the drip line of all retained trees unless the trees are well beyond the extend of construction activities.
- 2. Contractor was reminded not to disturb trees outside site along the boundary.

Photo Record:







Condition of trees at the entrance of the existing treatment plant

Existing trees at the site entrance

Figure 5 Figure 6



Existing trees at the site entrance near the hoarding fence



The tree in the tree protection area is drying and has peeling bark. It is in poor health condition. There is high risk of tree felling.



Signature:

		Signature	Date
Inspected & Recorded by	Registered Landscape Architect	Xylem Leung	



Appendix J

Waste Flow Table



DSD Contract: DC/2013/10 Design, Build and Operate

San Wai Sewage Treatment Works Phase 1



Contract No.: DC/2013/10

Name of Department: DSD Year: 2020

Project: Design, Build and Operate San Wai Sewage Treatment Works - Phase 1

Waste Flow Table

		Actual Quantiti	es of Inert C&I) Materials Gen	erated Monthly	T	Actual Quantities of C&D Wastes Generated Monthly				
Month	Total Quantity Generated	Broken Concrete (see Note ³)	Reused in the Contract (see Note)	Reused in other Projects	Disposed as Public Fill (see Note ⁴)	Imported Fill (see Note ⁴)	Metals	Paper/ cardboard packaging	Plastics (see Note ²)	Chemical Waste	Others, e.g. general refuse
	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000 kg)
Jan	0.808	0.000	0.000	0.000	0.808	0.623	0.000	0.000	0.000	0.000	51.560
Feb	1.340	0.000	0.000	0.000	1.340	0.175	0.000	0.050	0.000	0.000	52.280
Mar	0.360	0.000	0.000	0.000	0.360	1.781	0.000	0.000	0.000	0.000	75.750
Apr	1.222	0.000	0.000	0.000	1.222	1.479	0.000	0.000	0.000	0.000	66.690
May											
Jun											
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
Tota1	3.730	0.000	0.000	0.000	3.730	4.058	0.000	0.050	0.000	0.000	246.28

Notes: (1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.

- (2) Plastics refer to plastic bottles/ containers, plastic sheets/ foam from packaging materials.
- (3) Broken concrete for recycling into aggregates.
- (4) Assumption: The densities of subbase, Type A, Type B, Rockfill, Soil, Mix Rock and Soil, Reclaimed Asphalt Pave, Slurry are 2.0 ton/m³; the densities of Building debris and special fill materials are 2.1 ton/m³; the densities of Broken Concrete is 2.4 ton/m³.



Appendix K

Environmental Licenses and Permits



Item No.	Nature of Permit / License / Notification	Permit / License/ Notification No.	Date of Issue / Effective of Permit / License	Date of Expiry of Permit / License	Remark (Validity for reporting period only)
1	Environmental Permit	EP-464/2013	18/10/2013	NA	Valid
2	Billing Account for Disposal of Construction Waste	7025330	07/07/2016	NA	Valid
3	Form NA notification (for APCO)	405489	26/07/2016	25/09/2020	Valid
4	Chemical Waste Producer Registration (for Site)	5218-511-A2823-01	23/01/2017	NA	Valid
5	Wastewater Discharge License (for WPCO)	WT00026754-2017	28/04/2017	31/01/2022	Valid
6	Construction Noise Permit (for Site)	GW-RN0944-19	03/01/2020	02/07/2020	Valid



Appendix L

Implementation Schedule for Environmental Mitigation Measures (EMIS)



				Implementa	ntion Status	
	Environmental Mitigation Measures	Location	Implemented	Partially implemented	Not implemented	Not Applicable
	Air Quality					
•	The working area for the uprooting of trees, shrubs, or vegetation or for the removal of boulders, poles, pillars or temporary or permanent structures should be sprayed with water or a dust suppression chemical immediately before, during and immediately after the operation so as to maintain the entire surface wet;	Site Area	V			
•	All demolished items (including trees, shrubs, vegetation, boulders, poles, pillars, structures, debris, rubbish and other items arising from site clearance) that may dislodge dust particles should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides within a day of demolition;	Site Area	V			
•	Vehicle washing facilities including a high pressure water jet should be provided at every discernible or designated vehicle exit point;	Site Entrance	~			
•	The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores;	Site Exit	V			
•	Where a site boundary adjoins a road, street, service and or other area accessible to the public, hoarding of not less than 2.4m from ground level should be provided along the entire length of that portion of the site boundary except for a site entrance or exit;	Site Area	V			
•	Every main haul road (i.e. any course inside a construction site having a vehicle passing rate of higher than 4 in any 30 minutes) should be paved with concrete, bituminous materials, hardcores or metal plates, and kept clear of dusty materials; or sprayed with water or a dust suppression chemical so as to maintain the entire road surface wet;	Main Haul Road	V			
•	The portion of any road leading only to a construction site that is within 30m of a discernible or designated vehicle entrance or exit should be kept clear of dusty materials;	Site Entrance and Exit	V			
•	Immediately before leaving a construction site, every vehicle should be washed to remove any dusty materials from its body and wheels;	Site Exit	~			
•	Where a vehicle leaving a construction site is carrying a load of dusty materials, the load should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle;		V			
•	The working area of any excavation or earth moving operation should be sprayed with water or a dusty suppression chemical immediately before, during and immediately after the operation so as to maintain the entire surface wet;	Site Area	V			
•	Exposed earth shall be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shotcrete or other suitable	Site Area	√			



				\	
	surface stabilizer within 6 months after the last construction activity on the construction site or part of the construction site where the exposed earth lies;				
•	Any stockpile of dusty material should be either covered entirely by impervious sheeting; placed in an area sheltered on the top and the 3 sides; or sprayed with water or a dust suppression chemical so as to maintain the entire surface wet.	Site Area	V		
	Noise				
•	Quiet plants should be used in order to reduce the noise impacts to protect the nearby NSRs.	Site Area	√		
•	Temporary and Movable Noise Barriers should be used in order to reduce the noise impact to the surrounding sensitive receivers	Site Area	V		
•	Intermittent noisy activities should be scheduled to minimize exposure of nearby NSRs to high levels of construction noise.	Site Area	V		
•	Idle equipment should be turned off or throttled down.	Site Area	V		
•	Construction activities should be planned so that parallel operation of several sets of equipment close to a given receiver is avoided	Site Area	V		
•	Construction plant should be properly maintained and operated.	Site Area	√		
	Water Quality				
•	Exposed stockpiles should be covered with tarpaulin or impervious sheets before a rainstorm occurs;	Site Area	√		
•	The exposed soil surfaces should also be properly protected to minimize dust emission;	Site Area	√		
•	The stockpiles of materials should be placed in the locations away from the drainage channel so as to avoid releasing materials into the channel;	Site Area	√		
•	Wheel washing facilities should be provided at site exits to ensure that earth, mud and debris would not be carried out of the works areas by vehicles;	Site Exit	√		
•	Provision of site drainage systems and treatment facilities would be required to minimize the water pollution;	Site Area	√		
•	A discharge license needs to be applied from EPD for discharging effluent from the construction site;		√		
•	The treated effluent quality is required to meet the requirements specified in the discharge license;		√		
•	Provision of chemical toilets is required to collect sewage from workforce. The chemical toilets should be cleaned on a regular basis;	Chemical Toilet	√		



				1		
•	A licensed waste collector should be employed to clean the chemical toilets and temporary storage tank on a regular basis;		V			
•	Illegal disposal of chemicals should be strictly prohibited;	Site Area	\checkmark			
•	Registration as a chemical waste producer is required if chemical wastes are generated and need to be disposed of. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes;	Site Area	V			
•	Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance should be used as a guideline for handing chemical wastes;	Site Area		V		
•	The impact from accidental spillage of chemicals can be effectively controlled through good management practices.	Site Area	\checkmark			
	Waste Management					
•	Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal;	Site Area	√			
•	To encourage collection of aluminium cans by individual collectors, separate bins should be provided to segregate this waste from other general refuse generated by the workforce;	Site Area	V			
•	Any unused chemicals or those with remaining functional capacity should be recycled;	Site Area	\checkmark			
•	Prior to disposal of C&D waste, it is recommended that wood, steel and other metals be separated for re-use and/or recycling and inert waste as fill material to minimize the quantity of waste to be disposed of to landfill;	Site Area	V			
•	Proper storage and site practices to minimize the potential for damage or contamination of construction materials; and	Site Area		√		
•	Plan and stock construction materials carefully to minimize amount of waste generated and avoid unnecessary generation of waste.	Site Area	$\sqrt{}$			
	Landscape and Visual					
•	Detailed tree survey should have been completed	Site Area	\checkmark			
•	Trees should be transplanted to their final positions clear of the construction site				V	
•	Erect site hoarding to protect adjacent vegetation from damage	Site Area	$\sqrt{}$			



•	Regular inspections of the transplanted trees should be made to ensure the effectiveness of the hoarding	Site Area	V		
•	Any topsoil excavated during the course of the works should be stored and protected on site for reuse for the restoration and screen planting works	Site Area		V	



Appendix M

Environmental Site Inspection Schedule



Contract No. DC/2013/10 Design, Build and Operate San Wai Sewage Treatment Works – Stage 1 Schedule for Environmental Monitoring and Site Inspection April 2020

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1 WQM	2	24hr-TSP 1hr-TSP x 3 NM WQM	4
5	6	7 WQM	8	9 24hr-TSP 1hr-TSP x 3 NM WQM SI	10	11 WQM
12	13	Effluent Sampling WQM	24hr-TSP 1hr-TSP x 3 NM	WQM	17 SI	WQM
19	20	24hr-TSP 1hr-TSP x 3 NM	22	23 WQM	24 SI	WQM
26	24hr-TSP 1hr-TSP x 3 NM	Effluent Sampling WQM	29 SI	30 WQM		



Contract No. DC/2013/10 Design, Build and Operate San Wai Sewage Treatment Works – Stage 1 Schedule for Environmental Monitoring and Site Inspection May 2020

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2 24hr-TSP 1hr-TSP x 3 NM
3	4	5	6	7	8 24hr-TSP 1hr-TSP x 3 NM	9
		WQM		WQM	SI	WQM
10	11	12 Effluent Sampling	13	24hr-TSP 1hr-TSP x 3 NM	15	16
		WQM		WQM	SI	WQM
17	18	19	24hr-TSP 1hr-TSP x 3 NM	21	22	23
		WQM		WQM	SI	WQM
24	25	24hr-TSP 1hr-TSP x 3 NM Effluent	27	28	29	30
		Sampling WQM		WQM	SI	WQM
31		***************************************				



Appendix N

Laboratory Report for Discharge Water



東業德勤測試顧問有限公司 ETS-TESTCONSULT LTD.

TEST REPORT

8/F Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Fo Tan, Hong Kong

T: +852 2695 8318 F: +852 2695 3944 E: etl@ets-testconsult.com W: www.ets-testconsult.com



Form E/EN/R/01/Issue 6 (1/2) [02/1

Testing of Water and Wastewater

Report No. Date of Issue : ENA03654 : 28 April 2020

Page No.

: 1 of 1

Information Provided by Customer

Customer Name

ATAL-Degremont-China Harbour Joint Venture

Customer Address

19/F, China Harbour Building, 370-374 King's Road, North Point, Hong Kong

Sample Source

Contract No. DC/2013/10 - Design, Build and Operate San Wai Sewage Treatment Works - Stage 1

Sample Type
Date of Sampling

Wastewater 14 April 2020

Sample Description

Sample was stored in 1L plastic bottle (for pH and Total Suspended Solids).

Sample was stored in 500ml plastic bottle (for Chemical Oxygen Demand).

Sample for Chemical Oxygen Demand was preserved by adding conc. H₂SO₄ to pH <2. Sample was collected by the customer and refrigerated after received.

Laboratory Information

Date of Received

14 April 2020

14 to 15 April 2020

Date of Testing Period: Lab Ref. No. :

W46554

Result

Sample ID	Sample No.	Test	Method Used	Result	Unit
		рН	In house method TPE/003/W	8.6	(at 25°C)
P1	01	Total Suspended Solids	In house method TPE/006/W	<5*	mg/L
	03	Chemical Oxygen Demand	In house method TPE/002/W	<10	mgO₂/L

Remark(s):

- 1. The results relate only to the tested sample as received,
- 2. *200ml sample was used for Total Suspended Solids analysis. PQL of Total Suspended Solids reported less than 5 mg/L.

Approved Signatory

LAU, Chi Leung



東業德勤測試顧問有限公司 ETS-TESTCONSULT LTD

8/F Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Fo Tan, Hong Kong

T: +852 2695 8318 F: +852 2695 3944 E: etl@ets-testconsult.com W: www.ets-testconsult.com



Form E/EN/R/01/Issue 6 (1/2) [

TEST REPORT

Testing of Water and Wastewater

Report No. Date of Issue : ENA03655 : 28 April 2020

Page No.

: 1 of 1

Information Provided by Customer

Customer Name

ATAL-Degremont-China Harbour Joint Venture

Customer Address

19/F, China Harbour Building, 370-374 King's Road, North Point, Hong Kong

Sample Source

Contract No. DC/2013/10 - Design, Build and Operate San Wai Sewage Treatment Works - Stage 1

Sample Type
Date of Sampling

Wastewater 14 April 2020

Sample Description

Sample was stored in 1L plastic bottle (for pH and Total Suspended Solids). Sample was stored in 500ml plastic bottle (for Chemical Oxygen Demand).

Sample for Chemical Oxygen Demand was preserved by adding conc. H₂SO₄ to pH <2.

Sample was collected by the customer and refrigerated after received.

Laboratory Information

Date of Received : Date of Testing Period :

14 April 2020 14 to 15 April 2020

Lab Ref. No.

W46554

Result

Sample ID	Sample No.	Test	Method Used	Result	Unit
		рН	In house method TPE/003/W	8.5	(at 25°C)
P8	02	Total Suspended Solids	In house method TPE/006/W	<5*	mg/L
	04	Chemical Oxygen Demand	In house method TPE/002/W	<10	mgO₂/L

Remark(s):

- 1. The results relate only to the tested sample as received.
- 2. *200ml sample was used for Total Suspended Solids analysis. PQL of Total Suspended Solids reported less than 5 mg/L.

Approved Signatory:

LAU, Chi Leung



東業德勤測試顧問有限公司 **ETS-TESTCONSULT LTD.**

TEST REPORT

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Testing of Water and Wastewater

Report No. Date of Issue : ENA03831 07 May 2020

Page No.

Information Provided by Customer

Customer Name

ATAL-Degremont-China Harbour Joint Venture

Customer Address

19/F, China Harbour Building, 370-374 King's Road, North Point, Hong Kong

Sample Source

Contract No. DC/2013/10 - Design, Build and Operate San Wai Sewage Treatment Works - Stage 1

Sample Type Date of Sampling Wastewater 28 April 2020

Sample Description

Sample was stored in 1L plastic bottle (for pH and Total Suspended Solids).

Sample was stored in 500ml plastic bottle (for Chemical Oxygen Demand).

Sample for Chemical Oxygen Demand was preserved by adding conc. H₂SO₄ to pH <2.

Sample was collected by the customer and refrigerated after received.

Laboratory Information

Date of Received

28 April 2020

Date of Testing Period: Lab Ref. No.

28 to 29 April 2020 W46667

į	₹	е	S	u	1	į

Sample ID	Sample No.	Test	Method Used	Result	Unit
		рН	In house method TPE/003/W	8.4	(at 25°C)
P1	01	Total Suspended Solids	In house method TPE/006/W	<5*	mg/L
	03	Chemical Oxygen Demand	In house method TPE/002/W	<10	mgO ₂ /L

1. The results relate only to the tested sample as received.

*200ml sample was used for Total Suspended Solids analysis. PQL of Total Suspended Solids reported less than 5 mg/L.

Approved Signatory:

LAU, Chi Leung

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TEST REPORT

Testing of Water and Wastewater

Report No.

: ENA03832

Date of Issue

07 May 2020

Page No.

Information Provided by Customer

Customer Name

ATAL-Degremont-China Harbour Joint Venture

Customer Address

19/F, China Harbour Building, 370-374 King's Road, North Point, Hong Kong

Sample Source

Contract No. DC/2013/10 - Design, Build and Operate San Wai Sewage Treatment Works - Stage 1

Sample Type Date of Sampling Wastewater 28 April 2020

Sample Description

Sample was stored in 1L plastic bottle (for pH and Total Suspended Solids).

Sample was stored in 500ml plastic bottle (for Chemical Oxygen Demand).

Sample for Chemical Oxygen Demand was preserved by adding conc. H₂SO₄ to pH <2.

Sample was collected by the customer and refrigerated after received.

Laboratory Information

Date of Received

28 April 2020

Date of Testing Period: Lab Ref. No.

28 to 29 April 2020 W46667

Result

Sample ID	Sample No.	Test	Method Used	Result	Unit
		рН	In house method TPE/003/W	8.4	(at 25°C)
P8	02	Total Suspended Solids	In house method TPE/006/W	<5*	mg/L
	04	Chemical Oxygen Demand	In house method TPE/002/W	<10	mgO₂/L

Remark(s):

The results relate only to the tested sample as received.

*200ml sample was used for Total Suspended Solids analysis. PQL of Total Suspended Solids reported less than 5 mg/L.

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Appendix O

Investigation Reports on Action Level or Limit Level Non-compliance



Design, Build and Operate San Wai Sewage Treatment Works - Phase 1



Investigation Report on Action Level or Limit Level Non-compliance

Report No.

004

Monitoring Date

28 April 2020

The Action and Limit Levels of suspended solids (SS) determined from baseline monitoring data are reproduced below:

Monitoring Parameter	Action Level (AL)	Limit Level (LL)
Suspended Solid (mg/L)	17.0	17.8

Suspended Solid (in mg/L)

Monitoring	Monitoring		Result		Level
Station	Duration	Trial 1	Trial 2	Average	Exceedance
R1b	13:20 to 13:34	22	22	22	Limit

Investigation Results:

a) Causes of exceedances

Exceedance was not due to construction works under Contract No. DC/2013/10 because:

- The surface runoff and wastewater generated from the construction activities in different sections of the construction sites was collected and stored in the temporary storage pool and then transferred to the Wetsep for proper treatment prior to discharge as shown in **Appendix A**. The effluent was thus brought into an acceptable minimum level and also complied with the requirements specified in the discharge license before discharge.
- According to the monthly checklist of Wetsep provided by the contractor as shown in **Appendix B**, during 27 to 28 April 2020, there were no malpractice or abnormal performance recorded. Samples at effluent were compared with standard solution as shown in the following photos:





Investigation Report on Action Level or Limit Level Non-compliance

- Besides, effluent water sample was scheduled to be collected on 28 April 2020 at P1 and P8. As per the discharge license requirement, the results complied with the discharge license requirement. The effluent quality report was shown in Appendix C. Thus, the effluent discharged from the construction site was unlikely to deteriorate the water quality of Tin Shui Wai nullah and resulted in suspended solids exceedance at R1b.
- Thus, the exceedance of water samples taken from 13:20 to 13:34pm on 28 April 2020 was considered as non-Project related.
- b) Action required under the action plan
 Refer to Table 4.4 of the EM&A Manual.
- c) Action taken under the action plan
 - 1. Not applicable as suspended solids was not measured in-situ;
 - 2. After considered the above mentioned investigation results, it appears that it was unlikely that the suspended solids exceedance was attributed to the work site of this Contract;
 - 3. The exceedance was informed to IEC, Contractors and EPD;
 - 4. Monitoring data, all plant, equipment and Contractor's working methods were checked;
 - 5. Mitigation measures and recommendations were provided in item d).
 - 6. The water quality monitoring results of 30 April 2020 was shown below:

Test Parameters	Trial 1	Trial 2	Average	Action Level	Limit Level
Turbidity (NTU)	14.9	15.0	15.0	19.8	20.5
Dissolved Oxygen (mg/L)	2.11	2.15	2.13	1.84	1.81
Suspended Solid (mg/L)	12	12	12	17.0	17.8

The results of suspended solid of the water samples collected on 30 April 2020 were under the action limit.

d) ET's conclusions and recommendations for mitigation

All relevant water quality mitigation measures were checked to be fully implemented including provision of site drainage systems and treatment facilities, maintaining the existing silt trap to ensure good efficiency of wheel wash facilities, transferring the runoffs and wastewater to the Wetsep for removal of the suspended solids and other pollutants in order to ensure the treated effluent complied with the requirements specified in the discharge license.



Investigation Report on Action Level or Limit Level Non-compliance



- The Contractor was reminded to ensure all construction activities that generate wastewater with high concentrations of suspended solids (SS) should be collected to sedimentation tanks or package treatment systems for proper treatment prior to discharge.
- e) Contractor's actions to implement the mitigation
 - All construction activities that generate wastewater with high concentrations of suspended solids (SS) like wheel washing etc. was collected to sedimentation tanks or package treatment systems for proper treatment prior to discharge.
 - All silt removal facilities, channels and manholes was maintained and any deposited silt and grit was removed regularly.

Prepared by:

LO, Ting Yi

Certified by:

LAU, Chi Leung

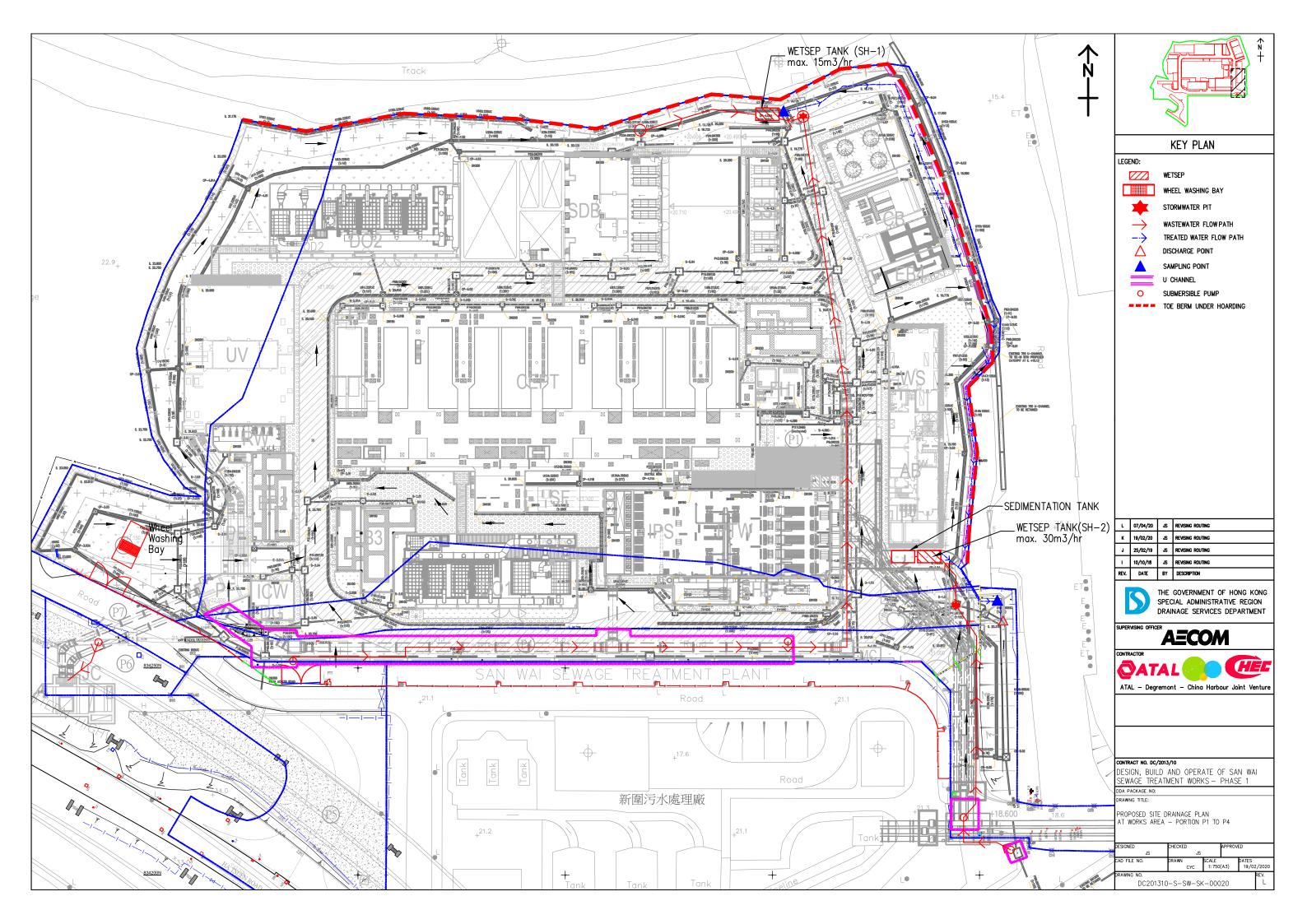
Environmental Team Leader

Contract No. : DC/2013/10
Design, Build and Operate San Wai Sewage Treatment Works – Phase 1



Investigation Report on Action Level or Limit Level Non-compliance

Appendix A



Contract No. : DC/2013/10
Design, Build and Operate San Wai Sewage Treatment Works – Phase 1



Investigation Report on Action Level or Limit Level Non-compliance

Appendix B

San Wai Sewage Treatment Works Phase 1



ATAL-Degremont-China Harbour Joint Venture

Checklist for Using Wetsep Treatment Tank

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	A. Condition Check 現況檢測	檢測												İ	Ī							- 1	-			,	-		-			- 1
Item 項目	Requirement 要求	Frequency 檢查密度																														
A1	No leakage found in	Every 7 days		_	-	-	-																_		_		-					
	connections 喉通接駁良好,無漏水情況	每7天	<					<		(1					<						-						(
A2	Good condition of tank,	Every 7 days																		_	_	_		-		-			_			
	platform and secure ground	每7天		_																								0				
	condition nearby 缸身,鐵台情況良好及附近環		_ <					<		(7					-	(-	1				
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A3	Chemicals stored with cover to	Every 3 days		-	\dashv		\dashv						\exists							\dashv	\dashv	\dashv		4	\dashv	\dashv	\dashv	\dashv	\dashv			
	prevent getting wet 化學物品存放在有蓋範圍以免	每3天	((7					<			<		-	1			5				_	1			
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A4	Chemicals sufficient for at least	Every 3 days		_				•		9	-								_	_	1	-		/			-					
	7 days use 化學物品足夠應付7日所需	每3天	(1	_		((<			<						- /	_			· Pr	_			
A5	Good condition of discharge	Every 7 days																		_				-	_	-						
	排水點暢通無阻,排水良好	每7天	(<		(<						_				_						

** 註 Note . 檢查結果 Inspection Result V - 良好批况 Satisfactory * - 需改善及更换 Need Improvement & Replacement

San Wai Sewage Treatment Works Phase 1



ATAL-Degremont-China Harbour Joint Venture

A6		A7	A8	A9		Item 項目	В1	B2
日期 Good condition of discharge	point 排水點暢通無阻,排水良好	Sludge ready to be disposed off 泥漿池已曬乾並可準備處理	No loosen object/material left in tank may result in blockage 沒有大件的物件/物料留在缸內造成阻塞	Sample at effluent and compare with standard solution 抽取水辦和樣辦比較	B. Tank Operation 基本運作	Requirement 要求	Water level of dosage tanks more than 20% 白药,黄药,酸桶水量不少於 20%	Stirrer functioning properly 白药,黄药內攪拌器運作正常
Every 7 days	每7天	Every 3 days 每 3 天	Every 3 days 每3天	Every day 每天	重作	Frequency 檢查密度	Every day 每天	Every day 每天
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** 註 Note : 檢查結果 Inspection Result V - 良好狀況 Satisfactory * - 需改善及更換 Need Improvement & Replacement

DC/2013/10

Design, Build and operate

San Wai Sewage Treatment Works Phase 1



ATAL-Degremont-China Harbour Joint Venture

		В7	В6	B5	В4	В3	
Signature 簽署	Inspected by 巡查人員	Remove sludge in sedimentation tank 清理沉澱缸泥漿	No leakage found in sedimentation tank 沉澱缸無漏水情況	Washing Wetsep tank 清洗環保缸	Release sludge from Wetsep to sludge pool 排放環保缸泥漿至泥漿池	pH value maintain between 6-10 錶板上酸鹼度維持在 6-10pH 值	Date 日期
		Every 3 days 每3天	Every 3 days 每3天	Every 3 days 每3天	Every day 每天	Every day 每天	
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** 註 Note : 檢查結果 Inspection Result V - 良好狀況 Satisfactory * - 需改善及更換 Need Improvement & Replacement

San Wai Sewage Treatment Works Phase 1



ATAL-Degremont-China Harbour Joint Venture

Checklist for Using Wetsep Treatment Tank

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	A5		A4				A3					A2			A1	項目	Item				
point	Good condition of discharge	7 days use 化學物品足夠應付7日所需	Chemicals sufficient for at least		化學物品存放在有蓋範圍以免	prevent getting wet	Chemicals stored with cover to	境穩固	缸身,鐵台情況良好及附近環	condition nearby	platform and secure ground	Good condition of tank,	喉通接駁良好,無漏水情況	connections	No leakage found in	米	Requirement	A. Condition Check 現況檢測	日期	Date	
每7天	Every 7 days	每3天	Every 3 days			每3天	Every 3 days				每7天	Every 7 days		每7天	Every 7 days	檢查密度	Frequency	鐱 測			
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** 註 Note : 檢查結果 Inspection Result / - 良好狀況 Satisfa

良好状况 Satisfactory 需改善及更换 Need Improvement & Replacement

San Wai Sewage Treatment Works Phase 1



B2	ві	Item 項目		A9	A8	A7	A6	
Stirrer functioning properly 白药,黃药內攪拌器運作正常	Water level of dosage tanks more than 20% 白药,黄药,酸桶水量不少於 20%	Requirement 要求	B. Tank Operation 基本運作	Sample at effluent and compare with standard solution 抽取水辦和樣辦比較	No loosen object/material left in tank may result in blockage 沒有大件的物件/物料留在缸內造成阻塞	Sludge ready to be disposed off 泥漿池已曬亁並可準備處理	Good condition of discharge point 排水點暢通無阻,排水良好	Date 日期
Every day 每天	Every day 每天	Frequency 檢查密度	重作	Every day 每天	Every 3 days 每3天	Every 3 days 每3天	Every 7 days 每7天	
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** 註 Note : 檢查結果 Inspection Result / - 良好狀況 Satisfact

良好狀況 Satisfactory 需改善及更換 Need Improvement & Replacement

San Wai Sewage Treatment Works Phase 1



ATAL-Degremont-China Harbour Joint Venture

		В7	В6	В5	В4	ВЗ	
Signature 簽署	Inspected by 巡查人員	Remove sludge in sedimentation tank 青理沉澱缸泥漿	No leakage found in sedimentation tank 沉澱缸無漏水情況	Washing Wetsep tank 清洗環保缸	Release sludge from Wetsep to sludge pool 排放環保缸泥漿至泥漿池	pH value maintain between 6-10 錶板上酸鹼度維持在 6-10pH 值	Date 日期
		Every 3 days 每 3 天	Every 3 days 每3天	Every 3 days 每3天	Every day 每天	Every day 每天	
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** 註 Note : 檢查結果 Inspection Result V - 良好狀況 Satisfactory * - 需改善及更换 Need Improvement & Replacement

Contract No. : DC/2013/10
Design, Build and Operate San Wai Sewage Treatment Works – Phase 1



Investigation Report on Action Level or Limit Level Non-compliance

Appendix C



東業德勤測試顧問有限公司 **ETS-TESTCONSULT LTD.**

TEST REPORT

8/F Block B Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Fo Tan, Hong Kong

T: +852 2695 8318 F: +852 2695 3944 E: etl@ets-testconsult.com W: www.ets-testconsult.com





Testing of Water and Wastewater

Report No. Date of Issue : ENA03831 07 May 2020

Page No.

Information Provided by Customer

Customer Name

ATAL-Degremont-China Harbour Joint Venture

Customer Address

19/F, China Harbour Building, 370-374 King's Road, North Point, Hong Kong

Sample Source

Contract No. DC/2013/10 - Design, Build and Operate San Wai Sewage Treatment Works - Stage 1

Sample Type Date of Sampling Wastewater 28 April 2020

Sample Description

Sample was stored in 1L plastic bottle (for pH and Total Suspended Solids).

Sample was stored in 500ml plastic bottle (for Chemical Oxygen Demand).

Sample for Chemical Oxygen Demand was preserved by adding conc. H₂SO₄ to pH <2.

Sample was collected by the customer and refrigerated after received.

Laboratory Information

Date of Received

28 April 2020

Date of Testing Period: Lab Ref. No.

28 to 29 April 2020 W46667

R	е	S	u	1	į

Sample ID	Sample No.	Test	Method Used	Result	Unit
		рН	In house method TPE/003/W	8.4	(at 25°C)
P1	01	Total Suspended Solids	In house method TPE/006/W	<5*	mg/L
	03	Chemical Oxygen Demand	In house method TPE/002/W	<10	mgO ₂ /L

1. The results relate only to the tested sample as received.

*200ml sample was used for Total Suspended Solids analysis. PQL of Total Suspended Solids reported less than 5 mg/L.

Approved Signatory:

LAU, Chi Leung

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TEST REPORT

Testing of Water and Wastewater

Report No.

: ENA03832

Date of Issue

07 May 2020

Page No.

Information Provided by Customer

Customer Name

ATAL-Degremont-China Harbour Joint Venture

Customer Address

19/F, China Harbour Building, 370-374 King's Road, North Point, Hong Kong

Sample Source

Contract No. DC/2013/10 - Design, Build and Operate San Wai Sewage Treatment Works - Stage 1

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Sample was stored in 1L plastic bottle (for pH and Total Suspended Solids).

Sample was stored in 500ml plastic bottle (for Chemical Oxygen Demand).

Sample for Chemical Oxygen Demand was preserved by adding conc. H₂SO₄ to pH <2.

Sample was collected by the customer and refrigerated after received.

Laboratory Information

Date of Received

28 April 2020

Date of Testing Period: Lab Ref. No.

28 to 29 April 2020 W46667

Result

Sample ID	Sample No.	Test	Method Used	Result	Unit
		рН	In house method TPE/003/W	8.4	(at 25°C)
P8	02	Total Suspended Solids	In house method TPE/006/W	<5*	mg/L
	04	Chemical Oxygen Demand	In house method TPE/002/W	<10	mgO₂/L

Remark(s):

The results relate only to the tested sample as received.

*200ml sample was used for Total Suspended Solids analysis. PQL of Total Suspended Solids reported less than 5 mg/L.

Approved Signatory:

LAU, Chi Leung

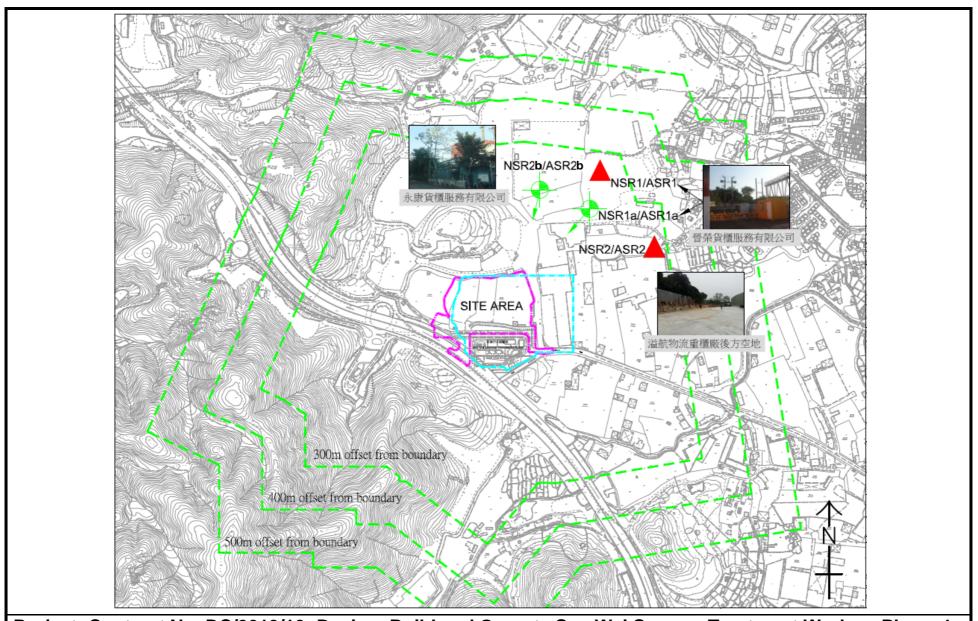
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Figure 1

Locations of Air Quality and Noise Monitoring Stations



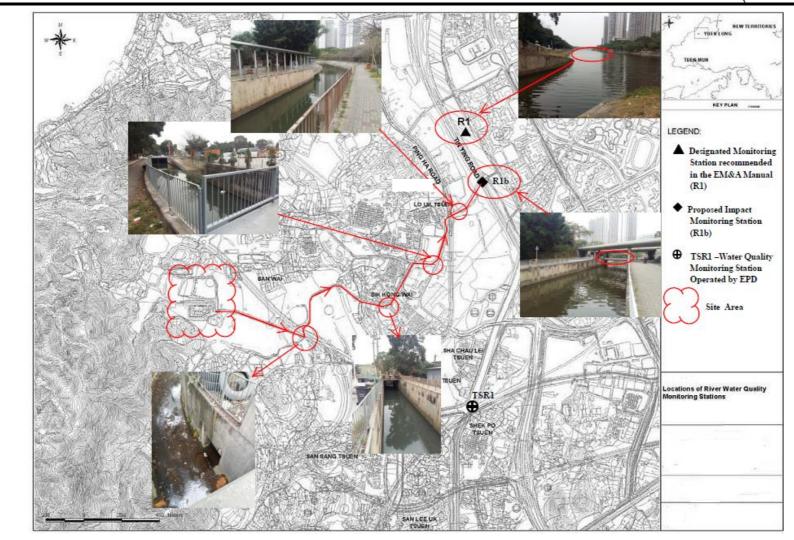


Project: Contract No. DC/2013/10 -Design, Build and Operate San Wai Sewage Treatment Works – Phase 1 Figure 1 Locations of Air Quality and Noise Monitoring Stations



Figure 2 Locations of Water Quality Monitoring Station



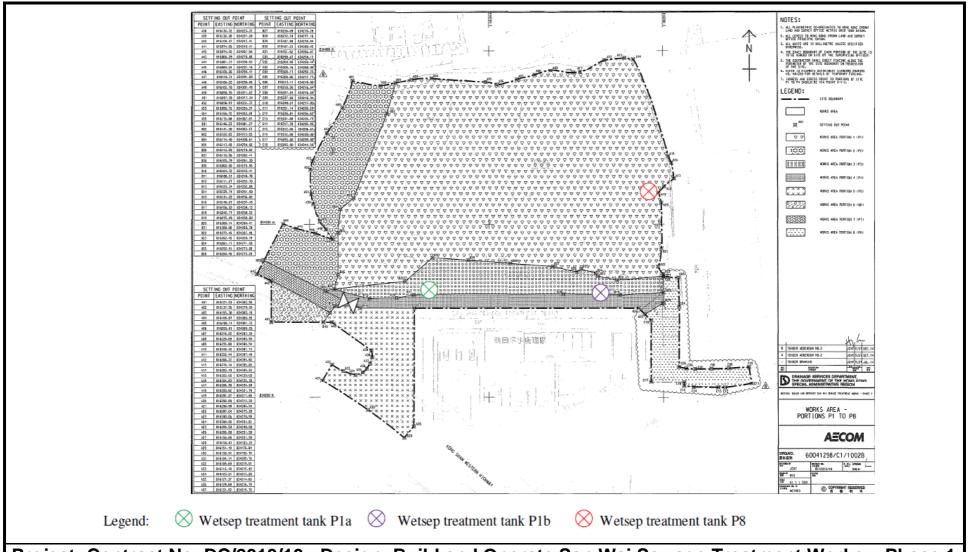


Project: Contract No. DC/2013/10 - Design, Build and Operate San Wai Sewage Treatment Works – Phase 1 Figure 2 Locations of Water Quality Monitoring Station



Figure 3 Location Plan for the Wetsep Treatment Tank





Project: Contract No. DC/2013/10 - Design, Build and Operate San Wai Sewage Treatment Works – Phase 1 Figure 3 Location Plan for the Wetsep Treatment Tank