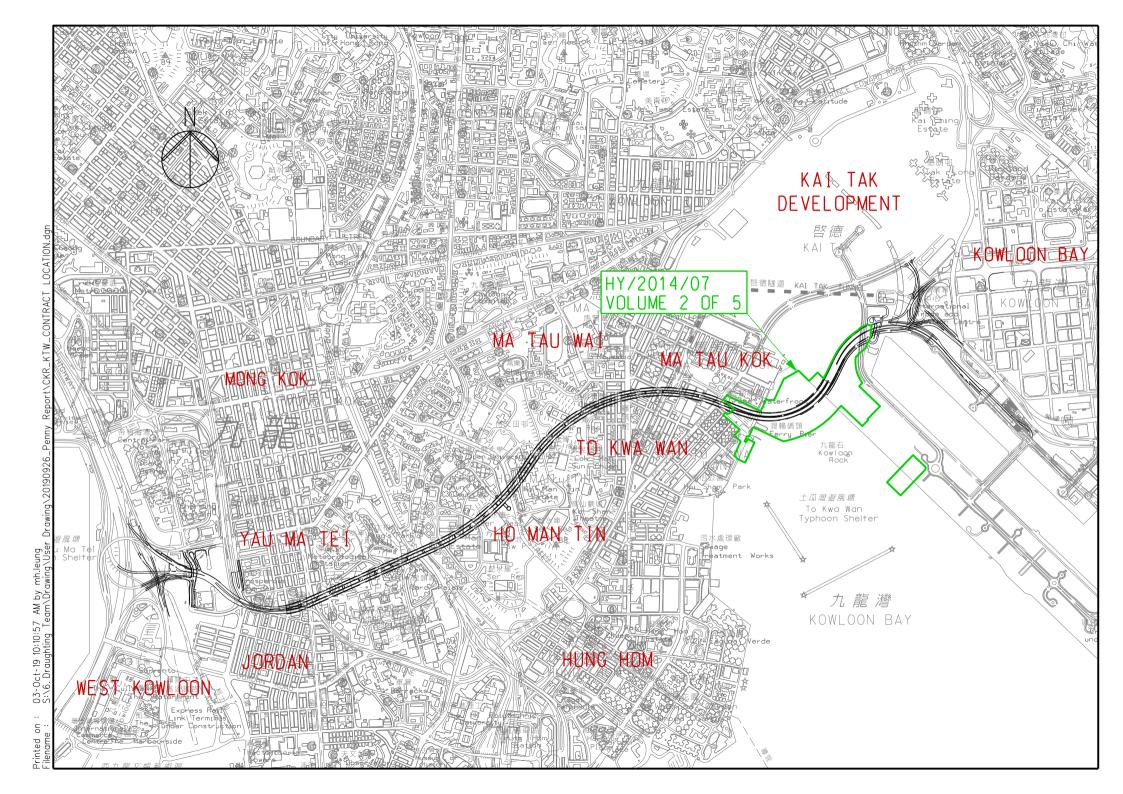
Vol. 2 of 5 FEP-01/457/2013/C Central Kowloon Route Kai Tak West Contract No. HY/2014/07 September 2020







Environmental Permit No. EP-457/2013/C

Central Kowloon Route

Independent Environmental Checker Verification

Works Contract:	Kai Tak West (HY/2014/07)		
Reference Document/Plan			
Document/Plan to be Certified/ Verified:	Monthly EM&A Report No.30 (September 2020)		
Date of Report:	October 2020 (Rev. 0)		
Date received by IEC:	13 October 2020		

Reference EP Condition

Environmental Permit Condition: 3.4

Submission of Monthly EM&A Report of the Project

3.4 Four hard copies and one electronic copy of monthly EM&A Report shall be submitted to the Director within 2 weeks after the end of each reporting month throughout the entire construction period. The EM&A Reports shall include a summary of all non-compliance. The submissions shall be certified by the ET Leader and verified by the IEC as complying with the requirements as set out in the EM&A Manual before submission to the Director. Additional copies of the submission shall be provided to the Director upon request by the Director.

IEC Verification

Alandy 20.

I hereby verify that the above referenced document/ $\frac{1}{plan}$ complies with the above referenced condition of EP-457/2013/C and FEP-01/457/2013/C.

Ms Mandy To Date: 13 October 2020

Independent Environmental Checker

Our ref: 0436942_IEC Verification Cert_KTW_Monthly EM&A Rpt No.30.docx



Gammon Construction Limited

Central Kowloon Route

Works Contract HY/2014/07 – Central Kowloon Route – Kai Tak West

Monthly EM&A Report for September 2020

[October 2020]

	Name	Signature
Prepared & Checked:	Ray Cheng	4
Reviewed, Approved & Certified:	Y T Tang	aftiling

Version: 0	Date:	13 October 2020	

Disclaimer

This Environmental Monitoring and Audit Report is prepared for Gammon Construction Limited and is given for its sole benefit in relation to and pursuant to Contract HY/2014/07 and may not be disclosed to, quoted to or relied upon by any person other than Gammon Construction Limited without our prior written consent. No person (other than Gammon Construction Limited into whose possession a copy of this report comes may rely on this plan without our express written consent and Gammon Construction Limited may not rely on it for any purpose other than as described above.

AECOM Asia Co. Ltd.

15/F, Grand Central Plaza, Tower 1, 138 Shatin Rural Committee Road, Shatin, NT, Hong Kong Tel: (852) 3922 9000 Fax: (852) 2317 7609 www.aecom.com

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EXECUTIVE SUMMARY

Central Kowloon Route – Kai Tak West (CKR-KTW; Contract No. HY/2014/07) (hereafter called "the Project") covers part of the construction of the Central Kowloon Route (CKR).

The Project comprises the follow works:

- 50x30m access shaft with noise enclosure at Ma Tau Kok (MTK);
- 100m long cut-and-cover (C&C) tunnel at MTK;
- Demolition and re-provisioning of MTK Public Pier;
- 160m long underwater tunnel (UWT) (Stage 1):
- 210m long UWT (Stage 2);
- 60m long C&C tunnel at Kai Tak;
- 130m long depressed road and 200m long underpass at Kai Tak;
- 390m long underground tunnel ventilation adit at Kai Tak;
- · Seawall demolition and construction of new landing steps; and
- · Barging Point enclosure and conveyor system.

The EM&A programme commenced on 4 April 2018. The impact EM&A for the Project includes air quality, noise and water quality monitoring.

This is the thirtieth monthly EM&A Report presenting the EM&A works carried out during the period between 1 and 30 September 2020. As informed by the Contractor, major activities in the reporting period were:

Locations	Site Activities
Kai Tak	 Casting tunnel wall at underpass and ventilation adit; Base slab and wall, roof slab construction at underpass and depressed road; Backfilling at Underpass Removal of ELS at underpass and depressed road; Falsework erection at underpass
Ma Tau Kok	 TTM implementation; Pipe piling works for cut and cover tunnel; Rock Excavation; Shotcreting at the Access Shaft; Fresh water pipe installation works; Backfilling at Covered Walkway
Kowloon Bay	 Excavation for Stage 1 underwater tunnel; S6 Truss fabrication and installation; Concrete packing between wailing and CPP Wall; Roof slab and base slab construction Waterproofing application; Removal of gas pipe line
Barging Point	Barging point operation (Spoil Disposal)

Breaches of Action and Limit Levels for Air Quality

All 24-hour TSP result was below the Action and Limit Levels at all monitoring locations in the reporting month.

All 1-hour TSP result was below the Action and Limit Levels at all monitoring locations in the reporting month.

Breaches of Action and Limit Levels for Noise

Regular Noise Monitoring

Four (4) noise-related complaints were received in the reporting month. However, one complaint received from the Environmental Protection Department on 23 September 2020 was considered as additional information for detail of complaint about the closed cases in August 2020 due to a similar

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investigation for complaint had already been conducted. The investigation report was updated on 29 September 2020. Based on the investigation result from other finalized investigation reports, proper implementation of mitigation measures during the non-restricted hours and comply with the condition of valid Construction Noise Permit during the restricted hours. Also, there is no non-compliance recorded based on the result of daily noise monitoring. Therefore, three action levels of construction noise were triggered, and the investigation reports were finalized on 18 September, 7 and 8 October 2020.

No Limit Level exceedance of noise was recorded at the monitoring station in the reporting month.

Breaches of Action and Limit Levels for Water

No Action level and Limit level exceedance were recorded at measured DO in the reporting month and Total PAHs until 23 September 2020.

Four (4) Action Level and eight (8) Limit level exceedances were recorded at measured turbidity level in the reporting month.

Eight (8) Action Level and four (4) Limit Level exceedances were recorded at measured SS level in the reporting month.

Five (5) Action Level and (1) Limit Level exceedances were recorded at measured Copper Level until 23 September 2020.

Some of laboratory results of Copper and Total PAHs in September 2020 were in progress, the summary for those parameters will be reported in next reporting period.

Based on the findings from the completed IRs on 11, 14 and 18 September 2020, the exceedances were unrelated to the Project.

Except for the exceedances on 21, 23, 25 and 28 September 2020, where the investigation is undergoing and the investigation results will be presented in the next monthly EM&A report. Nevertheless, the Contractor was reminded to ensure provision of ongoing maintenance to the silt curtains.

Complaint, Notification of Summons and Successful Prosecution

Four (4) complaints were received in the reporting month. However, one complaint in noise (received by Environmental Protection Department on 23 September 2020) was considered as additional information for detail of complaint about the closed cases in August 2020 due to a similar investigation for complaint had already been conducted. The closed investigation report was updated on 29 September 2020. Two of the complaints in noise (received by the Highway Department on 3 September 2020 and Gammon Construction Limited on 24 September 2020) were referred by the Contractor on 4 September 2020 and 26 September 2020. Those investigation reports were finalized on 18 September 2020 and 7 October 2020. One of the complaint in air, odor nuisance, and noise (received by 1823 Government Hotline, Gammon Construction Limited, and Environmental Protection Department on 17, 23, 24, and 25 September 2020) was referred by the Contractor on 26 September and 7 October 2020, the investigation report was finalized on 8 October 2020.

No environmental related notification of summons and successful prosecution were received in the reporting month.

Reporting Changes

No report changes in the reporting period.

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Future Key Issues

Key issues to be considered in the next three months included:

Locations	Site Activities			
Kai Tak	 Base slab and wall,roof slab construction at cut & cover, underpass and depressed road; Backfilling works and ELS removal at cut & cover, underpass and depressed road; 			
Ma Tau Kak	Dismantle of working platform TTM in a least a state of the stat			
Ma Tau Kok	TTM implementation;			
	Rock excavation;			
	Pipe piling works for cut and cover tunnel;			
	Fresh water pipe installation works;			
	Constrcution of MTK east wall;			
	Constrcution of traffic deck;			
	Covered walkway construction			
	Relocation of MTK public pier			
Kowloon Bay	Backfilling and ELS removal works;			
	Roof slab, base slab and wall construction;			
	Removal of gas pipe line;			
	Waterproofing application			
Barging Point	Barging point operation (Spoil Disposal)			

Potential environmental impacts arising from the above construction activities are mainly associated with construction dust, construction noise, water pollution control, and waste management.

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1 INTRODUCTION

Gammon Construction Limited was commissioned by the Highways Department as the Civil Contractor for Works Contract HY/2014/07. AECOM Asia Company Limited (AECOM) was appointed by Gammon Construction Limited as the Environmental Team (ET) to undertake the Environmental Monitoring and Audit (EM&A) programme during construction phase of the Project.

1.1 Purpose of the Report

1.1.1 This is the thirtieth monthly EM&A Report which summaries the impact monitoring results and audit findings for the Project during the reporting period between 1 and 30 September 2020.

1.2 Report Structure

- 1.2.1 This monthly EM&A Report is organized as follows:
 - Section 1: Introduction
 - Section 2: Project Information
 - Section 3: Environmental Monitoring Requirement
 - Section 4: Implementation Status of Environmental Mitigation Measures
 - Section 5: Monitoring Results
 - Section 6: Environmental Site Inspection and Audit
 - Section 7: Environmental Non-conformance
 - Section 8: Future Key Issues
 - Section 9: Conclusions and Recommendations

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2 PROJECT INFORMATION

2.1 Background

- 2.1.1 CKR is a dual 3-lane trunk road across central Kowloon linking the West Kowloon in the west and the Kai Tak Development (KTD) in the east. The CKR will be about 4.7 km long with an underground tunnel section of about 3.9 km long, in particular, there will be an underwater tunnel of about 370 m long in Kowloon Bay to the north of the To Kwa Wan Typhoon Shelter. It will connect the West Kowloon Highway at Yau Ma Tei Interchange with the road network at Kowloon Bay and the future Trunk Road T2 at KTD which will connect to the future Tseung Kwan O Lam Tin Tunnel (TKO-LTT) and Cross Bay Link (CBL). CKR, Trunk Road T2 and TKO-LTT will form a strategic highway link, namely Route 6, connecting West Kowloon and Tseung Kwan O. In addition, 3 ventilation buildings, which will be located in Ya Ma Tei, Ho Man Tin and ex-Kai Tak airport area, are proposed to ensure acceptable air quality within the tunnel.
- 2.1.2 The Environmental Impact Assessment (EIA) Report for Central Kowloon Route (Register No.: AEIAR-171/2013) was approved on 11 July 2013 under the Environmental Impact Assessment Ordinance (EIAO). Following the approval of the EIA Report, an Environmental Permit (EP) for CKR was granted on 9 August 2013 (EP No.: EP- 457/2013) for the construction and operation. Variation of EP (VEP) was subsequently applied and the latest EP (EP No. EP-457/2013/C) was issued by the Director of Environmental Protection (DEP) on 16 January 2017. Further Environmental Permit (EP No. FEP-01/457/2013/C) for CKR Kai Tak West was issued on 28 February 2018.
- 2.1.3 The construction of the CKR had been divided into different sections. This Work Contract HY/2014/07 Kai Tak West (KTW) ("The Project") will include a road which is a trunk road, including new roads, and major extensions or improvements to existing roads; a road fully enclosed by decking above and by structure on the sides for more than 100 m; and reclamation works (including associated dredging works) more than 1 ha in size and a boundary of which is less than 100 m from an existing residential area.
- 2.1.4 The site layout plan of the Project is shown in **Figure 1.1**.

2.2 Site Description

- 2.2.1 The major construction activities under this Project include:
 - (a) construction of approximately 160m long cut-and-cover tunnel and 370m long underwater tunnel between the tunnel section at Ma Tau Kok and the depressed road of the CKR within Kai Tak Development;
 - (b) reconstruction of the seawall at Ma Tau Kok public pier, and the sloping seawall at the Former Kai Tak Airport Runway;
 - (c) construction of approximately 125m long depressed road and 200m long underpass of the CKR within Kai Tak Development;
 - (d) construction of approximately 360m long underground tunnel ventilation adit of the CKR;
 - (e) reconstruction of Kowloon City Ferry Pier Public Transport Interchange; and
 - (f) other associated works.

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2.3 Construction Programme and Activities

2.3.1 The major construction activities undertaken in the reporting month are summarized in **Table 2.1**.

Table 2.1 Construction Activities in the reporting month

Locations	Site Activities			
Kai Tak	Casting tunnel wall at underpass and ventilation adit;			
	Base slab and wall, roof slab construction at underpass and depressed road;			
	Backfilling at Underpass			
	Removal of ELS at underpass and depressed road;			
	Falsework erection at underpass			
Ma Tau Kok	TTM implementation;			
	Pipe piling works for cut and cover tunnel;			
	Rock Excavation;			
	Shotcreting at the Access Shaft;			
	Fresh water pipe installation works;			
	Backfilling at Covered Walkway			
Kowloon Bay	Excavation for Stage 1 underwater tunnel;			
	S6 Truss fabrication and installation;			
	Concrete packing between wailing and CPP Wall;			
	Roof slab and base slab construction			
	Waterproofing application;			
	Removal of gas pipe line			
Barging Point	Barging point operation (Spoil Disposal)			

2.3.2 The construction programme is presented in **Appendix A**.

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2.4 Project Organization

2.4.1 The project organization structure is shown in **Appendix B**. The key personnel contact names and numbers for the Project are summarized in **Table 2.2.**

Table 2.2 Contact Information of Key Personnel

Party	Role	Position	Name	Telephon e	Fax
Arup-Mott MacDonald Joint Venture	Residential Engineer (ER)	Engineer's Representative	Mr. Jeffrey Lau	2268 3640	2268 3954
ERM	Independent Environmental Checker (IEC)	Independent Environmental Checker	Ms. Mandy To	2271 3313	2723 5660
Common	Contractor	Contracts Manager	Mr. Alan Yan	2516 8823	2516 6260
Gammon	Contractor	Environmental Manager	Ms Michelle Tang	9267 8866	2516 6260
AECOM	Contractor's Environmental Team (ET)	ET Leader	Mr. Y T Tang	3922 9392	2317 7609

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2.5 Status of Environmental Licences, Notification and Permits

2.5.1 Relevant environmental licenses, permits and/or notifications on environmental protection for this Project and valid in the reporting month are summarized in **Table 2.3**.

Table 2.3 Status of Environmental Licenses, Notifications and Permits

Permit / License No.	Valid	Period	2		
/ Notification/ Reference No.	From	То	Status	Remarks	
Further Environmenta	l Permit				
FEP-01/457/2013/C	28 Feb 2018	End of Project	Valid		
Wastewater Discharge	License				
WT00030290-2018	22 Mar 2018	31 May 2023	Valid	Ma Tau Kok	
WT00030668-2018	27 Apr 2018	30 Apr 2023	Valid	Site Office at Kai Tak West	
WT00030358-2018	27 Apr 2018	30 Apr 2023	Valid	Kai Tak West	
WT00030333-2018	27 Apr 2018	30 Apr 2023	Valid	Barging Point at Portions 4B & 4C	
WT00030330-2018	27 Apr 2018	30 Apr 2023	Valid	Kowloon Bay	
Construction Noise Po	ermit				
GW-RE0709-20	27 Aug 2020	26 Feb 2021	Valid	Barging Point Operation at Kai Tak Barging Point	
GW-RE0603-20	4 Aug 2020	3 Nov 2020	Valid	Rock Breaking at Ma Tau Kok	
GW-RE0534-20	23 Jun 2020	21 Dec 2020	Valid	General Works at Kai Tak	
GW-RE0478-20	13 Jun 2020	12 Dec 2020	Valid	ELS Installation and Excavation at Stage 1 Underwater Tunnel	
GW-RE0254-20	9 Apr 2020	30 Sep 2020	Valid	Kai Tak Haul Road	
Chemical Waste Prod	ucer Registratio	n			
5118-247-G2347-47	30 Jan 2018	End of Project	Valid		
5118-247-G2347-48	30 Jan 2018	End of Project	Valid		
Marine Dumping Perm	nit				
EP/MD/21-025	12 Aug 2020	11 Sep 2020	Valid until 11 Sep 2020	Sediments requiring Type 1 (Dedicated Site) and Type 2	
EP/MD/21-049	24 Sep 2020	23 Oct 2020	Valid on 24 Sep 2020	Confined Marine Disposal	
EP/MD/21-030	31 Aug 2020	30 Sep 2020	Superseded by 20 Sep 2020	Sediments requiring Type 3	
EP/MD/21-056	20 Sep 2020	19 Oct 2020	Valid on 20 Sep 2020	disposal (Filled up by 70%)	
Billing Account for Construction Waste Disposal					
7029909	22 Jan 2018	End of Project	Account Active		
7031949	27 Aug 2020	26 Nov 2020	Account Active	Billing Account for Disposal of Construction Waste (by vessels)	
Notification Under Air	Pollution Contr	ol (Construction	n Dust) Regulation	·	
429442	5 Jan 2018	5 Jul 2025	Notified		

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3 ENVIRONMENTAL MONITORING REQUIREMENTS

3.1 Construction Dust Monitoring

Monitoring Requirements

3.1.1 In accordance with the approved EM&A Manual, measurement of 24-hour and 1-hour Total Suspended Particulates (TSP) level at the designated air quality monitoring station is required. Impact 24-hour TSP monitoring should be carried out for at least once every 6 days, and 1-hour TSP monitoring should be done at least 3 times every 6 days while the highest dust impact is expected. The Action and Limit Levels of the air quality monitoring is provided in **Appendix D**.

Monitoring Equipment

- 3.1.2 24-hour TSP air quality monitoring was performed using High Volume Sampler (HVS) located at the designated monitoring station. The HVS meets all the requirements of the EM&A Manual.
- 3.1.3 A portable direct reading dust meter was used to carry out the 1-hour TSP monitoring.
- 3.1.4 Brand and model of the equipment is given in **Table 3.1**.

Table 3.1 Air Quality Monitoring Equipment

Equipment	Brand and Model
High Volume Sampler (24-hour TSP)	Tisch Total Suspended Particulate Mass Flow Controlled High Volume Air Sampler (Model No. TE-5170)
Calibration Kit (24-hour TSP)	TISCH Environmental Orifice (Model TE-5025A)
Portable direct reading dust meter (1-hour TSP)	Sibata Digital Dust Monitor (Model No. LD-3)

Monitoring Locations

3.1.5 The monitoring station for construction dust monitoring pertinent to the Project has been identified based on the approved EM&A Manual for the Project. The location of the construction dust monitoring station is summarized in **Table 3.2** and shown in **Figure 3.1**.

Table 3.2 Location of Construction Dust Monitoring Station

Location Monitoring Station		Description	
E-A14a ^[1]	Block B of Merit Industrial Centre	Rooftop (13/F)	

Note:

Monitoring Methodology

- 3.1.6 24-hour TSP Monitoring
 - (a) The HVS was installed in the vicinity of the air sensitive receivers. The following criteria were considered in the installation of the HVS as far as practicable: -
 - (i) A horizontal platform with appropriate support to secure the sampler against gusty wind was provided.
 - (ii) Two samplers should not be placed less than 2m apart from each other;
 - (iii) The distance between the HVS and any obstacles, such as buildings, was at least twice the height that the obstacle protrudes above the HVS.
 - (iv) A minimum of 2 meters separation from walls, parapets and penthouse for rooftop sampler.

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^[1] The air monitoring station proposed in the EM&A Manual (i.e. Wyler Gardens with ID: E-A14) was not available for impact dust monitoring, therefore impact monitoring was conducted at E-A14a as an alternative which was agreed by the ER, IEC and EPD.

- (v) A minimum of 2 meters separation from any supporting structure, measured horizontally is required.
- (vi) No furnace or incinerator flues nearby.
- (vii) Airflow around the sampler was unrestricted.
- (viii) The sampler was located more than 20 meters from any dripline.
- (ix) Any wire fence and gate, required to protect the sampler, did not obstruct the monitoring process.
- (x) Permission was obtained to set up the samplers and access to the monitoring station.
- (xi) A secured supply of electricity was obtained to operate the sampler.

(b) Preparation of Filter Papers

- (i) Glass fibre filters, G810 were labelled and sufficient filters that were clean and without pinholes were selected.
- (ii) All filters were equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature was around 25 °C and not variable by more than ±3 °C; the relative humidity (RH) was < 50% and not variable by more than ±5%. A convenient working RH was 40%.
- (iii) All filter papers were prepared and analysed by ALS Technichem (HK) Pty Ltd., which is a HOKLAS accredited laboratory and has comprehensive quality assurance and quality control programmes.

(c) Field Monitoring

- (i) The power supply was checked to ensure the HVS works properly.
- (ii) The filter holder and the area surrounding the filter were cleaned.
- (iii) The filter holder was removed by loosening the four bolts and a new filter, with stamped number upward, on a supporting screen was aligned carefully.
- (iv) The filter was properly aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter.
- (v) The swing bolts were fastened to hold the filter holder down to the frame. The pressure applied was sufficient to avoid air leakage at the edges.
- (vi) Then the shelter lid was closed and was secured with the aluminium strip.
- (vii) The HVS was warmed-up for about 5 minutes to establish run-temperature conditions.
- (viii) A new flow rate record sheet was set into the flow recorder.
- On site temperature and atmospheric pressure readings were taken and the flow rate of the HVS was checked and adjusted at around 1.3 m³/min, and complied with the range specified in the EM&A Manual (i.e. 0.6-1.7 m³/min).
- (x) The programmable digital timer was set for a sampling period of 24 hrs, and the starting time, weather condition and the filter number were recorded.
- (xi) The initial elapsed time was recorded.
- (xii) At the end of sampling, on site temperature and atmospheric pressure readings were taken and the final flow rate of the HVS was checked and recorded.
- (xiii) The final elapsed time was recorded.
- (xiv) The sampled filter was removed carefully and folded in half length so that only surfaces with collected particulate matter were in contact.
- (xv) It was then placed in a clean envelope and sealed.
- (xvi) All monitoring information was recorded on a standard data sheet.
- (xvii) Filters were then sent to ALS Technichem (HK) Pty Ltd. for analysis.

(d) Maintenance and Calibration

- (i) The HVS and its accessories were maintained in good working condition, such as replacing motor brushes routinely and checking electrical wiring to ensure a continuous power supply.
- (ii) HVSs were calibrated using TE-5025A Calibration Kit upon installation and thereafter at bi-monthly intervals.
- (iii) Calibration certificate of the TE-5025A Calibration Kit and the HVSs are provided in **Appendix E**.

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3.1.7 1-hour TSP Monitoring

(a) Measuring Procedures

The measuring procedures of the 1-hour dust meter are in accordance with the Manufacturer's Instruction Manual as follows:

- (i) Turn the power on.
- (ii) Close the air collecting opening cover.
- (iii) Push the "TIME SETTING" switch to [BG]
- (iv) Push "START/STOP" switch to perform background measurement for 6 seconds.
- (v) Turn the knob at SENSI ADJ position to insert the light scattering plate.
- (vi) Leave the equipment for 1 minute upon "SPAN CHECK" is indicated in the display.
- (vii) Push "START/STOP" switch to perform automatic sensitivity adjustment. This measurement takes 1 minute.
- (viii) Pull out the knob and return it to MEASURE position.
- (ix) Push the "TIME SETTING" switch the time set in the display to 3 hours.
- (x) Lower down the air collection opening cover.
- (xi) Push "START/STOP" switch to start measurement.

(b) Maintenance and Calibration

(i) The 1-hour TSP meter was calibrated at 1-year intervals against a continuous particulate TEOM Monitor, Series 1400ab. Calibration certificates of the Laser Dust Monitors are provided in **Appendix E**.

Monitoring Schedule for the Reporting Month

3.1.8 The schedule for environmental monitoring in September 2020 is provided in Appendix F.

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3.2 Construction Noise Monitoring

Monitoring Requirements

3.2.1 In accordance with the EM&A Manual, impact noise monitoring should be conducted for at least once a week during the construction phase of the Project. **Table 3.3** summarizes the monitoring parameters, frequency and duration of impact noise monitoring. The Action and Limit Levels of the noise monitoring is provided in **Appendix D**.

Table 3.3 Noise Monitoring Parameters, Frequency and Duration

Parameter and Duration	Frequency	
30-mins measurement at each monitoring station between 0700 and 1900 on normal weekdays. Leq, L10 and L90 would be recorded.	At least once per week	

Monitoring Equipment

3.2.2 Noise monitoring was performed using sound level meter at each designated monitoring station. The sound level meters deployed comply with the International Electrotechnical Commission Publications (IEC) 651:1979 (Type 1) and 804:1985 (Type 1) specifications. Acoustic calibrator was deployed to check the sound level meters at a known sound pressure level. Brand and model of the equipment is given in **Table 3.4**.

Table 3.4 Noise Monitoring Equipment for Regular Noise Monitoring

Equipment	Brand and Model
Integrated Sound Level Meter	B&K (Model No. 2250-L & 2238)
Acoustic Calibrator	B&K (Model No. CAL21)

Monitoring Locations

3.2.3 The monitoring stations for construction noise monitoring pertinent to the Project have been identified based on the approved EM&A Manual for the Project. Locations of the noise monitoring stations are summarized in **Table 3.5** and shown in **Figure 3.2**.

Table 3.5 Noise Monitoring Stations during Construction Phase

Location Monitoring Station		Description	Measurement
E-N12a [1]	19 Hing Yan Street	Rooftop (9/F)	Façade
E-N21a [1]	Block B of Merit Industrial Centre	Rooftop (13/F)	Free field ^[2]

Notes:

 The noise monitoring stations proposed in the EM&A Manual (i.e. Grand Waterfront Tower 3 with ID: E-N12 and Hang Chien Court Block J with ID: E-N21) were not available for impact noise monitoring, therefore impact monitoring was conducted at E-N12a and E-N21a as an alternative which was agreed by the ER, IEC and EPD.
 A correction of +3 dB(A) was made to the free field measurements.

Monitoring Parameters, Frequency and Duration

3.2.4 **Table 3.6** summarizes the monitoring parameters, frequency and duration of impact noise monitoring.

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Table 3.6 Noise Monitoring Parameters, Frequency and Duration

Location	Parameter and Duration	Frequency
E-N12a and E-N21a 30-mins measurement at each monitoring station between 0700 and 1900 on normal weekdays. Leq, L ₁₀ and L ₉₀ would be recorded.	At least once per week	

Monitoring Methodology

3.2.5 Monitoring Procedure

- (a) The sound level meter was set on a tripod at a height of 1.2 m above the ground.
- (b) Façade measurement was made at E-N12a.
- (c) Free field measurements was made at monitoring location E-N21a. A correction of +3 dB(A) shall be made to the free field measurements.
- (d) The battery condition was checked to ensure the correct functioning of the meter.
- (e) Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
 - (i) frequency weighting
 - (ii) time weighting: Fast
 - (iii) time measurement: L_{eq(30-minutes)} during non-restricted hours i.e. 0700 1900 on normal weekdays.
- (f) Prior to and after each noise measurement, the meter was calibrated using the acoustic calibrator for 94 dB(A) at 1000 Hz. 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 of noise measurement would be required after re-calibration or repair of the equipment.
- (g) During the monitoring period, the L_{eq} , L_{10} and L_{90} were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.
- (h) Noise measurement was paused during periods of high intrusive noise (e.g. dog barking, helicopter noise) if possible. Observations were recorded when intrusive noise was unavoidable.
- (i) Noise monitoring was cancelled in the presence of fog, rain, wind with a steady speed exceeding 5m/s, or wind with gusts exceeding 10m/s.

3.2.6 Maintenance and Calibration

- (a) The microphone head of the sound level meter was cleaned with soft cloth at regular intervals.
- (b) The meter and calibrator were sent to the supplier or HOKLAS laboratory to check and calibrate at yearly intervals.
- (c) Calibration certificates of the sound level meters and acoustic calibrators are provided in **Appendix E**.

Monitoring Schedule for the Reporting Month

3.2.7 The schedule for environmental monitoring in September 2020 is provided in **Appendix F**.

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3.3 Construction Water Monitoring

Monitoring Requirements

- 3.3.1 According to the Contractor information, intermittent dredging activity will be carried out from 10 September 2020.
- 3.3.2 In accordance with the approval EM&A Manual, the impact monitoring shall be conducted during dredging period. The monitoring shall normally be established by measuring the Dissolved Oxygen (DO), temperature, turbidity, pH, salinity, Suspended Solids (SS), Copper level and total PAHs at all designated locations. The Action and Limit Levels of the water quality monitoring is provided in **Appendix D**.
- 3.3.3 The measurement shall be taken at all designated monitoring stations including control stations, 3 days per week, at mid-flood and mid-ebb tides. Tidal range of individual flood and ebb tides should be not less than 0.5m. The interval between two sets of monitoring shall not be less than 36 hours.
- 3.3.4 All the monitoring shall be taken at 3 water depths, namely 1m below water surface, mid-depth station and 1m above sea bed, except where the water depth less than 6m, the mid-depth station may be omitted. Should the water depth be less than 3m, only the mid-depth station will be monitored.

Monitoring Equipment

3.3.5 The brand and model of water quality monitoring equipment is given in **Table 3.7.**

Table 3.7 Water Quality Monitoring Equipment

Equipment	Brand and Model	Detection Limit
Dissolved Oxygen Meter	ygen Meter	0 – 20 mg/L and 0-200% saturation
Water Temperature Meter	YSI 6820 V2	0-45 degree Celsius
Salinity Meter		0-40 parts per thousand (ppt)
Turbiditimeter		0-1000 NTU
pH meter		pH 0.0 to 14.0
Water Sampler	Kahlsico Water Sampler	N.A
Echo Sounder	Eagle Cuda-168	N.A
Global Positioning System	JRC DGPS 224 Model JLR-4341 with J-NAV 500 Model NWZ4551	N.A

Monitoring Locations

3.3.6 In accordance with the Updated EM&A Manual, the water monitoring stations for baseline water quality monitoring is presented in **Table 3.8** and shown in **Figure 3.3**.

Table 3.8 Impact Water Quality Monitoring Stations

Type of Station	pe of Station		Easting	Northing
Water Quality	IS1	Planned Kai Tak Cooling Water Intake (subject to its implementation)	839050	819377
Monitoring Station	IS2	To Kwa Wan Typhoon Shelter	838450	819399
	IS3	Tai Wan Salt Water Intake	837948	818202
	C1	Control Station 1	837787	817712
Control Station	C2	Control Station 2	838237	818804
	C3	Control Station 3	839105	819019

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Monitoring Parameters, Frequency and Duration

3.3.7 The monitoring parameters, frequency and duration of water quality monitoring are summarized in Table 3.9.

Table 3.9 Water Quality Monitoring Parameters, Frequency and Duration

Parameter	Frequency and Duration
Dissolved Oxygen, Temperature, Turbidity, pH value, Salinity, Suspended Solids, Copper and Total PAHs	Three days per week, at mid-flood and mid-ebb tides

Monitoring Methodology

- 3.3.8 The water quality monitoring procedures are presented in the following:
 - All monitoring equipment were checked and calibrated before use. Responses of sensors and electrodes were also checked with certified standard solutions before each use.
 - The interval between 2 sets of monitoring was not less than 36 hours.
 - Individual flood and ebb tides not less than 0.5m.
 - At least 3 replicate in-situ measurements and water sampling were carried out in each sampling event.
 - Measurements were taken at 3 water depths, namely 1m below water surface, mid-depth and 1m above sea bed, except where the water depth less than 6m, the mid-depth station may be omitted. Should the water depth be less than 3m, only the mid-depth station was monitored.
 - Analysis of suspended solids was carried out by ALS Technichem (HK) Pty Ltd. Sufficient
 water samples were collected at the monitoring stations for carrying out the laboratory
 analysis. The analysis followed the standard methods as described in APHA Standard
 Methods for the Examination of Water and Wastewater, 19th Edition (APHA 2540D for SS).
 - Analysis of copper was carried out by ALS Technichem (HK) Pty Ltd. Sufficient water samples were collected at the monitoring stations for carrying out the laboratory analysis. The analysis followed the standard methods as described in USEPA Method for inductively coupled plasma-mass spectrometry (ICP-MS), Revision 1 (ICP-MS USEPA 6020A for copper).
 - Analysis of total polycyclic aromatic hydrocarbon (PAHs) was carried out by ALS Technichem (HK) Pty Ltd. Sufficient water samples were collected at the monitoring stations for carrying out the laboratory analysis. The analysis followed the standard methods as described in USEPA Methods for Gas Chromatography-Mass Spectrometry Detector, Revision 3, (GC-MSD USEPA 3510C,USEPA 3630C,USEPA 8270C for total PAHs).
 - Water samples for suspended solids measurements were collected in high density polythene bottles, packed in ice (cooled to 4°C without being frozen), and delivered to a HOKLAS laboratory as soon as possible after collection.
- 3.3.9 All monitoring equipment were certified by a laboratory accredited under HOKLAS. Calibration certificates of all monitoring equipment are provided in **Appendix E**.

Monitoring Schedule for the Reporting Month

3.3.10 The schedule for environmental monitoring in September 2020 is provided in Appendix F.

3.4 Landscape and Visual

3.4.1 As per the EM&A Manuals, the landscape and visual mitigation measures shall be implemented and site inspections should be undertaken once every two weeks during the construction period. A summary of the implementation status is presented in **Section 6.**

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4 IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES

4.1.1 The Contractor has implemented environmental mitigation measures and requirements as stated in the EIA Reports, the EP and EM&A Manuals. The implementation status of the environmental mitigation measures during the reporting period is summarized in **Appendix C.** Status of required submissions under the EP during the reporting period is summarised in **Table 4.1**.

Table 4.1 Status of Required Submission under Environmental Permit

EP Condition	Submission	Submission Date
Condition 3.4 of EP- 457/2013/C and Condition 3.4 of FEP-01/457/2013/C	Monthly EM&A Report for August 2020	14 September 2020

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5 MONITORING RESULTS

5.1 Construction Dust Monitoring

5.1.1 The monitoring results for 24-hour TSP and 1-hour TSP are summarized in **Table 5.1** and **Table 5.2** respectively. Detailed air quality monitoring results and daily extract of meteorological observations are presented in **Appendix G**.

Table 5.1 Summary of 24-hour TSP Monitoring Result in the Reporting Period

ID	Average (μg/m³)	Range (μg/m³)	Action Level (μg/m³)	Limit Level (μg/m³)
E-A14a	36.9	22.3 – 54.1	197.3	260

Table 5.2 Summary of 1-hour TSP Monitoring Result in the Reporting Period

ID	Average (μg/m³)	Range (μg/m³)	Action Level (μg/m³)	Limit Level (µg/m³)
E-A14a	61.0	57.4 – 63.2	302.4	500

- 5.1.2 No Action and Limit Level exceedance was recorded for 24-hour TSP monitoring at the monitoring location in the reporting month.
- 5.1.3 No Action and Limit Level exceedance was recorded for 1-hour TSP monitoring at the monitoring location in the reporting month.
- 5.1.4 The event and action plan is annexed in **Appendix K**.
- 5.1.5 Major dust sources during the monitoring included construction dust and nearby traffic emission.

5.2 Regular Construction Noise Monitoring

5.2.1 The monitoring results for noise are summarized in **Table 5.3** and the monitoring data is provided in **Appendix H**.

Table 5.3 Summary of Construction Noise Monitoring Results in the Reporting Period

ID	Range, dB(A), L _{eq (30 mins)}	Limit Level, dB(A), L _{eq (30 mins)}				
E-N12a	65.8 – 68.1	75				
E-N21a	65.0 – 68.3	75				

- 5.2.2 Four (4) noise-related complaints were received in the reporting month. However, one complaint received from the Environmental Protection Department on 23 September 2020 was considered as additional information for detail of complaint about the closed cases in August 2020 due to a similar investigation for complaint had already been conducted. The investigation report was updated on 29 September 2020. Based on the investigation result from other finalized investigation reports, proper implementation of mitigation measures during the non-restricted hours and comply with the condition of valid Construction Noise Permit during the restricted hours. Also, there is no non-compliance recorded based on the result of daily noise monitoring. Therefore, three action levels of construction noise were triggered, and the investigation reports were finalized on 18 September, 7 and 8 October 2020.
- 5.2.3 No Limit Level exceedance of noise was recorded at the monitoring station in the reporting month.
- 5.2.4 The event and action plan is annexed in **Appendix K**.

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5.2.5 Major noise sources during the monitoring included construction noise from the Project site and nearby traffic noise.

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5.3 Construction Water Monitoring

- 5.3.1 The impact water quality monitoring for 6 locations were carried out 3 days per week in September 2020. The impact monitoring data are presented in **Appendix I**.
- 5.3.2 The weather condition during the monitoring period were mainly sunny and fine and occasionally cloudy and rainy. No major pollution source and extreme weather, which might affect the results, was observed during the impact monitoring period.
- 5.3.3 The impact water quality monitoring results are summarized in **Table 5.4**.

Table 5.4 Summary of Impact Water Quality Monitoring Results

Parameters										
Locations		Temperature (°C)	pH value	Dissolved Oxygen (mg/L)		Turbidity	Salinity	Suspended Solids ¹	Copper ¹	Total
				Surface & Middle	Bottom	(NTU)	(ppt)	(mg/L)	(µg/L)	PAHs¹ (μg/L)
	Avg.	28.06	8.14	5.62	5.46	3.18	31.59	3.69	-	-
CS1	Min.	24.42	7.90	4.70	4.59	2.04	29.87	2.30	-	-
	Max.	29.29	8.34	6.54	6.20	4.60	34.46	7.20	-	-
	Avg.	28.09	8.15	5.57	5.49	3.25	31.50	3.89	-	-
CS2	Min.	24.66	7.87	4.64	4.62	1.81	29.91	2.27	-	-
	Max.	29.29	8.36	6.21	6.14	5.51	34.04	8.61	-	-
	Avg.	28.10	8.14	5.67	5.61	3.41	31.46	3.73	-	-
CS3	Min.	24.72	7.88	4.63	4.63	1.81	30.05	2.29	-	-
	Max.	29.29	8.37	6.35	6.23	5.80	33.88	8.32	-	-
	Avg.	28.11	8.15	5.65	5.60	3.58	31.44	3.82	-	-
IS1	Min.	24.77	7.89	4.64	4.64	1.69	29.94	2.28	-	-
	Max.	29.29	8.38	6.31	6.24	6.51	33.73	7.97	-	-
	Avg.	28.11	8.15	5.67	5.62	3.37	31.43	3.85	-	_
IS2	Min.	24.79	7.89	4.63	4.61	1.80	29.91	2.06	-	-
	Max.	29.30	8.38	6.23	6.16	6.54	33.67	10.06	-	-
	Avg.	28.07	8.15	5.55	5.42	3.40	31.56	3.94	-	-
IS3	Min.	24.55	7.87	4.62	4.60	2.20	29.94	1.76	-	-
,	Max.	29.29	8.36	6.23	6.10	5.12	34.26	9.52	-	-

Note:

5.3.4 Exceedances were recorded for turbidity, suspended solids and copper in the reporting month. Number of exceedances recorded in the reporting month at each impact station are summarised in **Table 5.5** and **Appendix J**.

Table 5.5 Summary of Water Quality Exceedances

Station	Exceedance Level	DO (S&M)		DO (Bottom)		Turbidity		Suspended Solids		Copper ¹		Total PAHs (μg/L)¹	
		Action	Limit	Action	Limit	Action	Limit	Action	Limit	Action	Limit	Action	Limit
IS1	Ebb	0	0	0	0	0	3	2	0	1	0	0	0
151	Flood	0	0	0	0	1	1	1	2	1	0	0	0
IS2	Ebb	0	0	0	0	0	1	1	0	1	0	0	0
	Flood	0	0	0	0	1	1	1	1	0	1	0	0
100	Ebb	0	0	0	0	0	1	2	0	1	0	0	0
IS3	Flood	0	0	0	0	2	1	1	1	1	0	0	0
	Total	0	0	0	0	4	8	8	4	5	1	0	0

Note:

5.3.5 The event and action plan is annexed in **Appendix K**.

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^{1.} Some of laboratory results of Copper and Total PAHs in September 2020 were in progress, the summary for those parameters will be reported in next reporting period.

^{1.} Some of laboratory results of Copper and Total PAHs in September 2020 were in progress, the summary for those parameters will be reported in next reporting period.

5.4 Waste Management

- 5.4.1 C&D materials and wastes sorting were carried out on site. Receptacles were available for C&D wastes and general refuse collection.
- 5.4.2 As advised by the Contractor, Total 19,290 m³ of inert C&D material was generated, 13,592 m³ were disposed of as public fill, 3,953 m³ were reused in other projects and 1,746 m³ were reused in the Contract in the reporting month. 67,380 kg general refuse was generated and sent to NENT Landfill in the reporting month. 283,970 kg of metals, no plastics and paper/cardboard packaging were collected by recycle contractor in the reporting month. No chemical waste was collected by licensed contractor in the reporting period. No Type 1, 2,319 m³ of Type 2 and 1,097 m³ of Type 3 Marine sediment were disposed at Confined Marine Disposal Facility to the East of Sha Chau. The waste flow table is annexed in **Appendix M**.
- 5.4.3 The Contractor is advised to properly maintain on site C&D materials and wastes collection, sorting and recording system and maximize reuse / recycle of C&D materials and wastes. The Contractor is reminded to properly maintain the site tidiness and dispose of the wastes accumulated on site regularly and properly.
- 5.4.4 The Contractor is reminded that chemical waste containers should be properly treated and stored temporarily in designated chemical waste storage area on site in accordance with the Code of Practise on the Packaging, Labelling and Storage of Chemical Wastes.

5.5 Landscape and Visual

5.5.1 Bi-weekly inspection of the implementation of landscape and visual mitigation measures was conducted on 9 and 23 September 2020. A summary of the site inspection is provided in **Appendix C**. The observations and recommendations made during the site inspections are presented in **Table 6.1**.

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6 ENVIRONMENTAL SITE INSPECTION AND AUDIT

- 6.1.1 Site inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures for the Project. A summary of the mitigation measures implementation schedule is provided in **Appendix C**.
- 6.1.2 In the reporting month, 5 site inspections were carried out on 2, 9, 16, 23 and 30 September 2020. Joint inspections with the IEC, ER, the Contractor and the ET were conducted on 16 September 2020. No non-compliance was recorded during the site inspection. Details of observations recorded during the site inspections are presented in **Table 6.1.**

Table 6.1 Observations and Recommendations of Site Audit

Table 6.1	Observations and	Recommendations of Site Audit			
Parameters	Date	Observations and Recommendations	Follow-up		
	9 September 2020	Reminder: • The Contractor was reminded to replace the improper NRMM label on the excavator at Ma Tau Kok and Covered Walkway to comply the requirement of APCO.	The item was rectified by the Contractor on 11 September 2020.		
Air Quality	16 September 2020	Reminder: The Contractor was reminded to replace the decolored NRMM label on the excavator at Kai Tak.	The item was rectified by the Contractor on 17 September 2020.		
	30 September 2020	NRMM label was not observed on the excavator at Covered Walkway. The Contractor was reminded to affix the NRMM label on the excavator.	The item was rectified by the Contractor on 5 October 2020.		
Noise	2 September 2020	 Noise emission label (NEL) was not observed on the hand-held breaker at C&C tunnel area. The Contractor was reminded to affix the NEL on the hand-held breaker. 	The item was rectified by the Contractor on 4 September 2020.		
Water Quality	2 September 2020	Muddy trail was observed outside the site entrance of Covered Walkway. The Contractor was reminded to provide adequate wheel washing facility for vehicle at the site entrance.	The item was rectified by the Contractor on 4 September 2020.		
	30 September 2020	Oil drums were observed stored without secondary containment at Kai Tak. The Contractor was reminded to provide a secondary containment for oil drums.	The item was rectified by the Contractor on 5 October 2020.		
	2 September 2020	Some of chemicals was observed stored without drip tray at Ma Tau Kok and Kai Tak Barging Point. The Contractor was reminded to provide a secondary containment for chemical storage.	The item was rectified by the Contractor on 4 September 2020.		
Waste/ Chemical Manageme nt	9 September 2020	Chemicals were stored without a drip tray at Ma Tau Kok and Depressed road. The Contractor was reminded to provide a drip tray for chemical storage.	The item was rectified by the Contractor on 11 September 2020.		
	23 September 2020	Chemicals were observed stored without secondary containment at Ma Tau Kok. The Contractor was reminded to provide a secondary containment for chemical to prevent accidental spillage.	The item was rectified by the Contractor on 25 September 2020.		
Landscape & Visual	Nil	Nil	Nil		
Permits/	Nil	Nil	Nil		
Licenses					

6.1.3 All follow-up actions requested by Contractor's ET during the site inspection were undertaken as reported by the Contractor and confirmed in the following weekly site inspection conducted

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during the reporting period. No follow-up action requested by EPD during the site inspection in the reporting month.

7 ENVIRONMENTAL NON-CONFORMANCE

7.1 Summary of Monitoring Exceedances

- 7.1.1 All 24-hour TSP result was below the Action and Limit Levels at all monitoring locations in the reporting month.
- 7.1.2 All 1-hour TSP result was below the Action and Limit Levels at all monitoring locations in the reporting month
- 7.1.3 Four (4) noise-related complaints were received in the reporting month. However, one complaint received from the Environmental Protection Department on 23 September 2020 was considered as additional information for detail of complaint about the closed cases in August 2020 due to a similar investigation for complaint had already been conducted. The investigation report was updated on 29 September 2020. Based on the investigation result from other finalized investigation reports, proper implementation of mitigation measures during the non-restricted hours and comply with the condition of valid Construction Noise Permit during the restricted hours. Also, there is no non-compliance recorded based on the result of daily noise monitoring. Therefore, three action level of construction noise was triggered, and the investigation reports were finalized on 18 September, 7 and 8 October 2020
- 7.1.4 No Limit Level exceedance for noise was recorded at all monitoring stations in the reporting month.
- 7.1.5 No Action level and Limit level exceedance were recorded at measured DO in the reporting month and Total PAHs until 23 September 2020.
- 7.1.6 Four (4) Action Level and eight (8) Limit level exceedances were recorded at measured turbidity level in the reporting month.
- 7.1.7 Eight (8) Action Level and four (4) Limit Level exceedances were recorded at measured SS level in the reporting month.
- 7.1.8 Five (5) Action Level and (1) Limit Level exceedances were recorded at measured Copper Level until 23 September 2020.
- 7.1.9 Some of laboratory results of Copper and Total PAHs in September 2020 were in progress, the summary for those parameters will be reported in next reporting period.
- 7.1.10 Based on the findings from the completed IRs on 11, 14 and 18 September 2020, the exceedances were unrelated to the Project.
- 7.1.11 Except for the exceedances on 21, 23, 25 and 28 September 2020, where the investigation is undergoing and the investigation results will be presented in the next monthly EM&A report. Nevertheless, the Contractor was reminded to ensure provision of ongoing maintenance to the silt curtains.

7.2 Summary of Environmental Non-Compliance

7.2.1 No environmental non-compliance was recorded in the reporting month.

7.3 Summary of Environmental Complaints

7.3.1 Four (4) complaints were received in the reporting month. However, one complaint in noise (received by Environmental Protection Department on 23 September 2020) was considered as additional information for detail of complaint about the closed cases in August 2020 due to a similar investigation for complaint had already been conducted. The closed investigation report was updated on 29 September 2020. Two of the complaints in noise (received by the Highway Department on 3 September 2020 and Gammon Construction Limited on 24 September 2020) were referred by the Contractor on 4 September 2020 and 26 September 2020. Those investigation reports were finalized on 18 September 2020 and 7 October 2020. One of the

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complaint in air, odor nuisance, and noise (received by 1823 Government Hotline, Gammon Construction Limited, and Environmental Protection Department on 17, 23, 24, and 25 September 2020) was referred by the Contractor on 26 September and 7 October 2020, the investigation report was finalized on 8 October 2020.

7.3.2 No environmental related notification of summons and successful prosecution were received in the reporting month.

7.4 Summary of Environmental Summon and Successful Prosecutions

7.4.1 No environmental related prosecution or notification of summons was received in the reporting month. Cumulative statistics on notification of summons and successful prosecutions is provided in **Appendix L**.

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8 FUTURE KEY ISSUES

8.1 Construction Programme for the Next Three Months

8.1.1 The major construction works between October and December 2020 are provided in **Table 8.1**.

Table 8.1 Construction Activities in the coming three months

Locations	Site Activities
Kai Tak	 Base slab and wall,roof slab construction at cut & cover, underpass and depressed road; Backfilling works and ELS removal at cut & cover, underpass and depressed road; Dismantle of working platform
Ma Tau Kok	 TTM implementation; Rock excavation; Pipe piling works for cut and cover tunnel; Fresh water pipe installation works; Constrcution of MTK east wall; Constrcution of traffic deck; Covered walkway construction Relocation of MTK public pier
Kowloon Bay	 Backfilling and ELS removal works; Roof slab, base slab and wall construction; Removal of gas pipe line; Waterproofing application
Barging Point	Barging point operation (Spoil Disposal)

8.2 Key Issues for the Coming Month

8.2.1 Potential environmental impacts arising from the above construction activities are mainly associated with construction dust, construction noise, and waste management.

8.3 Monitoring Schedule for the Coming Month

8.3.1 The tentative schedule for environmental monitoring in October 2020 is provided in **Appendix F**.

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9 CONCLUSIONS AND RECOMMENDATIONS

9.1 Conclusions

- 9.1.1 24-hour TSP and noise monitoring were carried out in the reporting month.
- 9.1.2 All 24-hour TSP monitoring results complied with the Action / Limit Level at in the reporting month.
- 9.1.3 All 1-hour TSP result was below the Action and Limit Levels at all monitoring locations in the reporting month.
- 9.1.4 Four (4) noise-related complaints were received in the reporting month. However, one complaint received from the Environmental Protection Department on 23 September 2020 was considered as additional information for detail of complaint about the closed cases in August 2020 due to a similar investigation for complaint had already been conducted. The investigation report was updated on 29 September 2020. Based on the investigation result from other finalized investigation reports, proper implementation of mitigation measures during the non-restricted hours and comply with the condition of valid Construction Noise Permit during the restricted hours. Also, there is no non-compliance recorded based on the result of daily noise monitoring. Therefore, three action levels of construction noise were triggered, and the investigation reports were finalized on 18 September, 7 and 8 October 2020.
- 9.1.5 No Limit Level exceedance for noise was recorded at all monitoring stations in the reporting month.
- 9.1.6 No Action level and Limit level exceedance were recorded at measured DO in the reporting month and Total PAHs until 23 September 2020.
- 9.1.7 Four (4) Action Level and eight (8) Limit level exceedances were recorded at measured turbidity level in the reporting month.
- 9.1.8 Eight (8) Action Level and four (4) Limit Level exceedances were recorded at measured SS level in the reporting month.
- 9.1.9 Five (5) Action Level and (1) Limit Level exceedances were recorded at measured Copper Level until 23 September 2020.
- 9.1.10 Some of laboratory results of Copper and Total PAHs in September 2020 were in progress, the summary for those parameters will be reported in next reporting period.
- 9.1.11 Based on the findings from the completed IRs on 11, 14 and 18 September 2020, the exceedances were unrelated to the Project.
- 9.1.12 Except for the exceedances on 21, 23, 25 and 28 September 2020, where the investigation is undergoing and the investigation results will be presented in the next monthly EM&A report. Nevertheless, the Contractor was reminded to ensure provision of ongoing maintenance to the silt curtains.
- 9.1.13 5 nos. of environmental site inspections were carried out in September 2020. Recommendations on remedial actions were given by ET and IEC to the Contractor for the deficiencies identified during the site audit. No non-compliance was recorded during the EPD site inspection.
- 9.1.14 Four (4) complaints were received in the reporting month. However, one complaint in noise (received by Environmental Protection Department on 23 September 2020) was considered as additional information for detail of complaint about the closed cases in August 2020 due to a similar investigation for complaint had already been conducted. The closed investigation report was updated on 29 September 2020. Two of the complaints in noise (received by the Highway Department on 3 September 2020 and Gammon Construction Limited on 24 September 2020) were referred by the Contractor on 4 September 2020 and 26 September 2020. Those investigation reports were finalized on 18 September 2020 and 7 October 2020. One of the complaint in air, odor nuisance, and noise (received by 1823 Government Hotline, Gammon

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Construction Limited, and Environmental Protection Department on 17, 23, 24, and 25 September 2020) was referred by the Contractor on 26 September and 7 October 2020, the investigation report was finalized on 8 October 2020.

9.1.15 No environmental related notification of summons and successful prosecution were received in the reporting month.

9.2 Recommendations

9.2.1 According to the environmental site inspections performed in the reporting month, the following recommendations were provided: -

Air Quality Impact

 The Contractor was reminded to affix proper NRMM label on the excavator to comply the requirement of APCO.

Construction Noise Impact

• The Contractor was reminded to affix the NEL on the hand-held breaker.

Water Quality Impact

- The Contractor was reminded to provide adequate wheel washing facility for vehicle at the site entrance; and
- The Contractor was reminded to provide a secondary containment for oil drums.

Chemical and Waste Management

 The Contractor was reminded to provide a secondary containment for chemical to prevent accidental spillage.

Landscape & Visual Impact

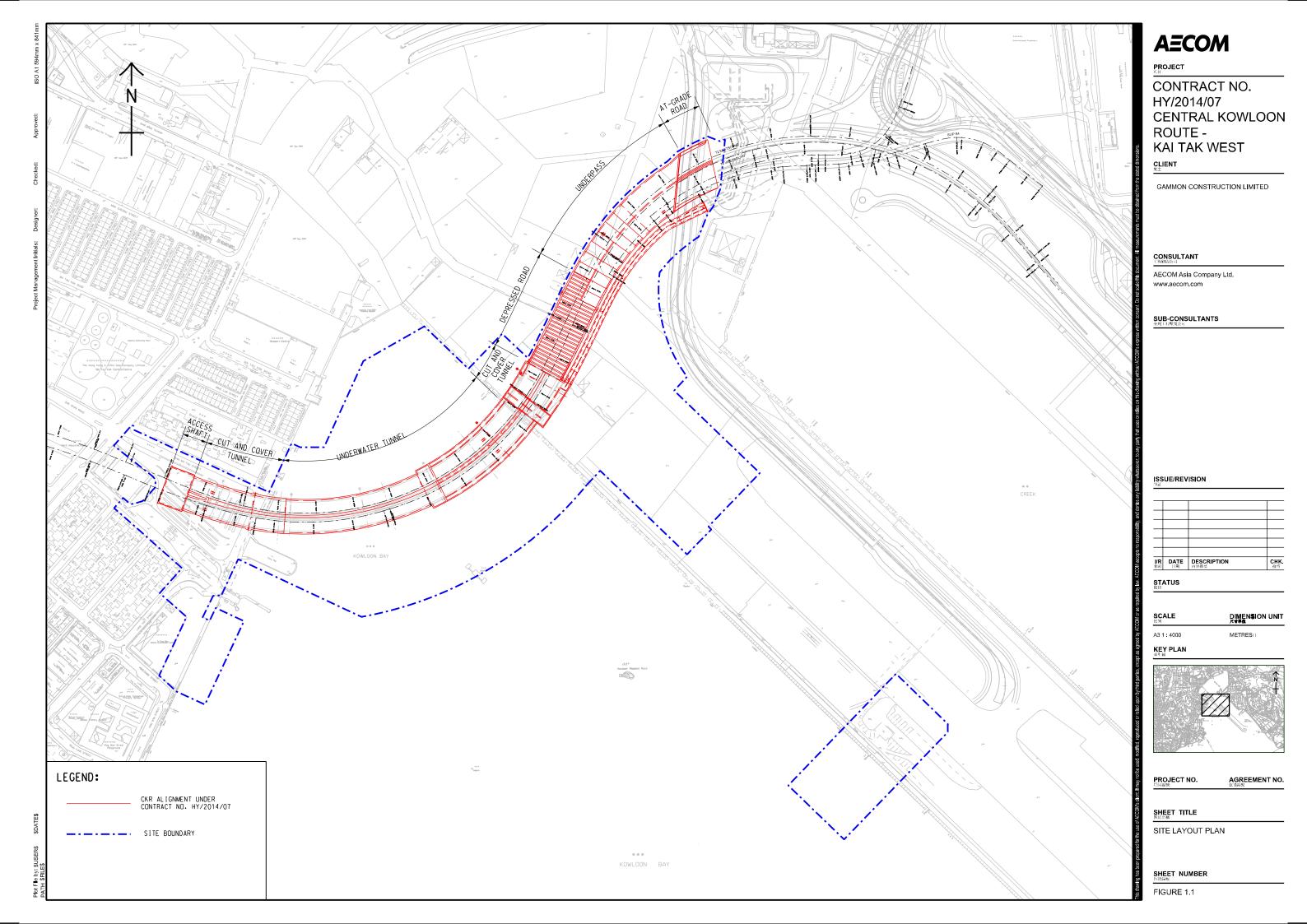
• No specific observation was identified in the reporting month.

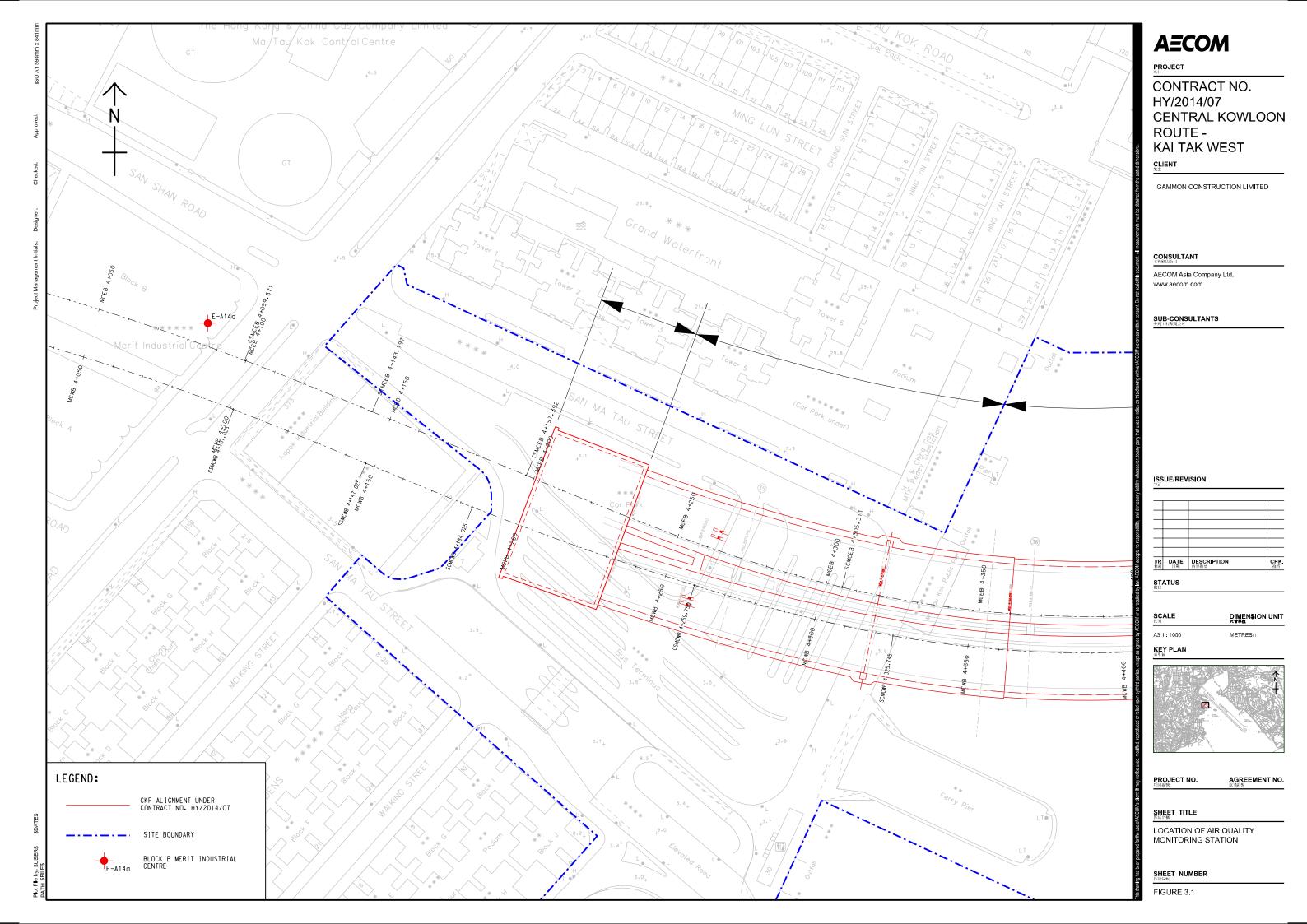
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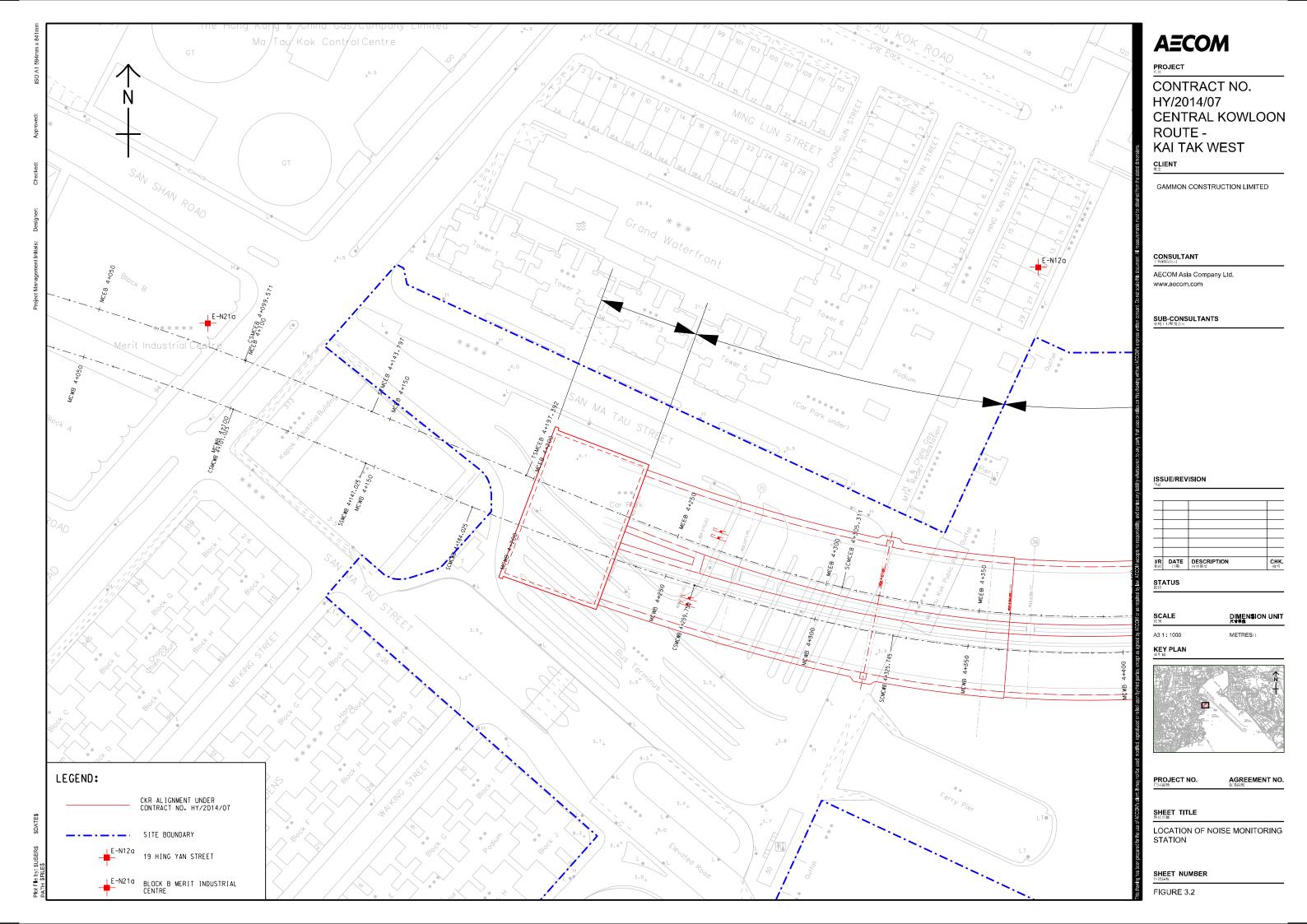
· No specific observation was identified in the reporting month.

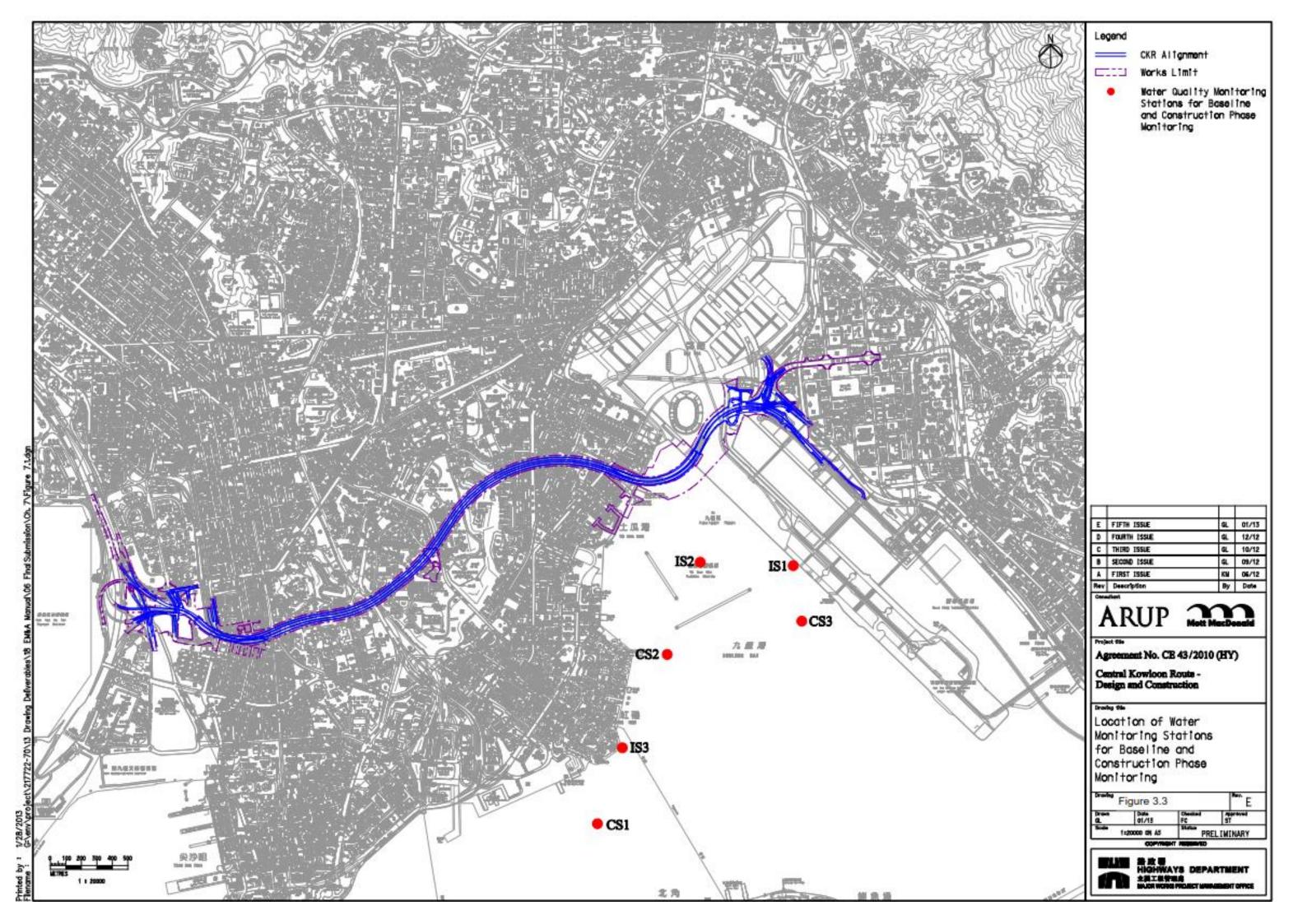
AECOM Asia Co. Ltd. 28 October 2020





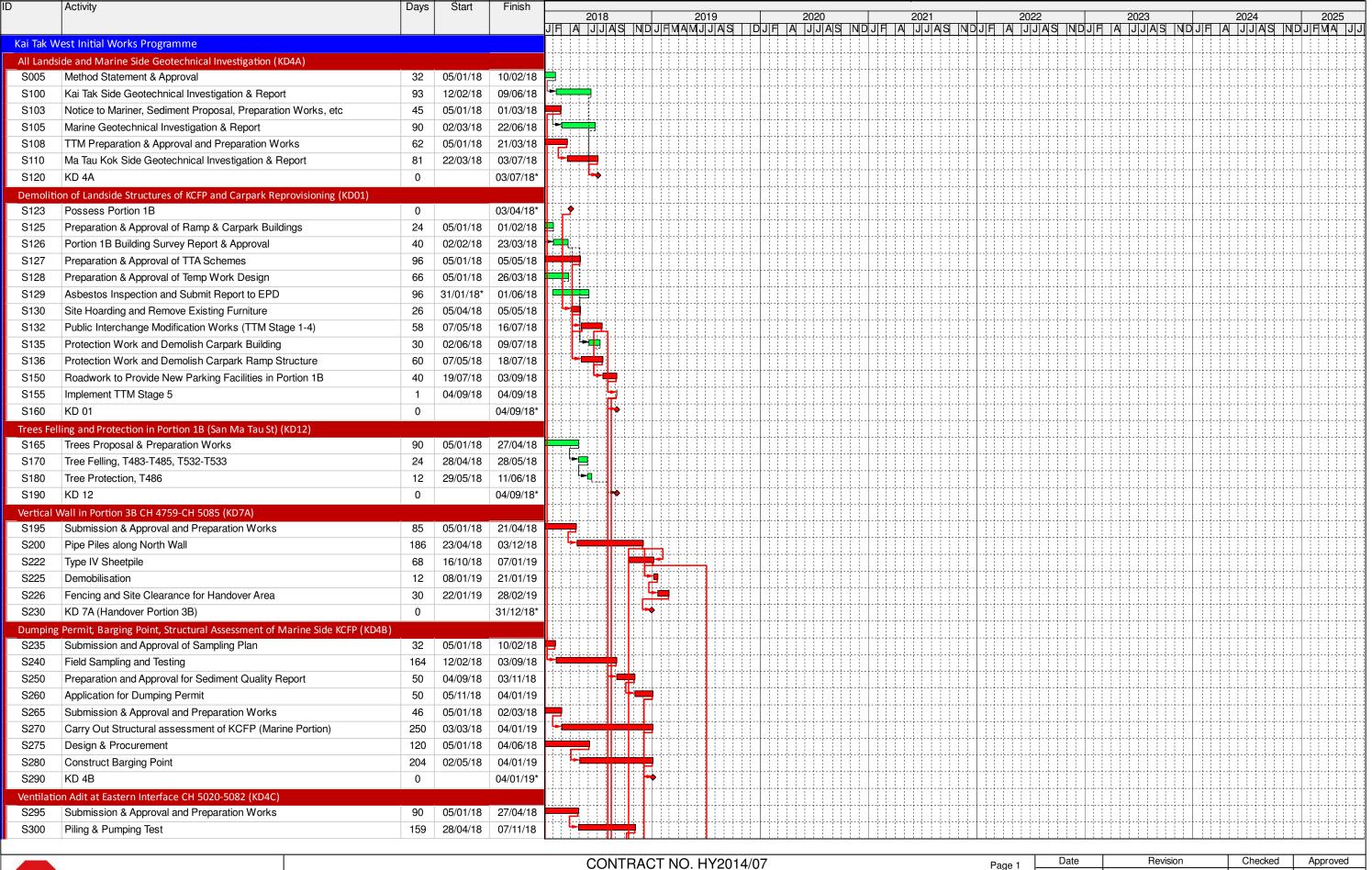






APPENDIX A

Construction Programme

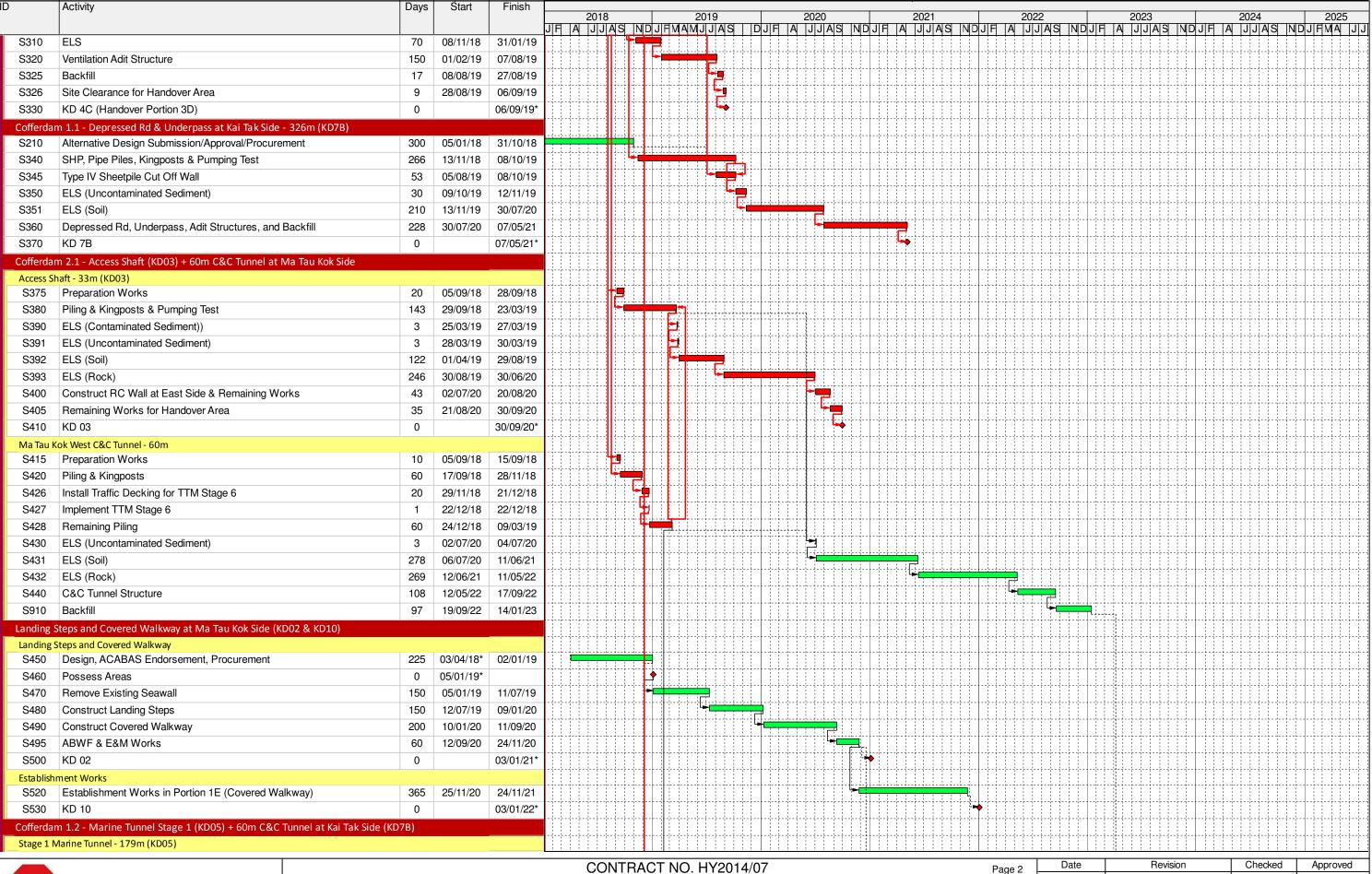




CENTRAL KOWLOON ROUTE - KAI TAK WEST

INITIAL WORKS PROGRAMME (IWP)

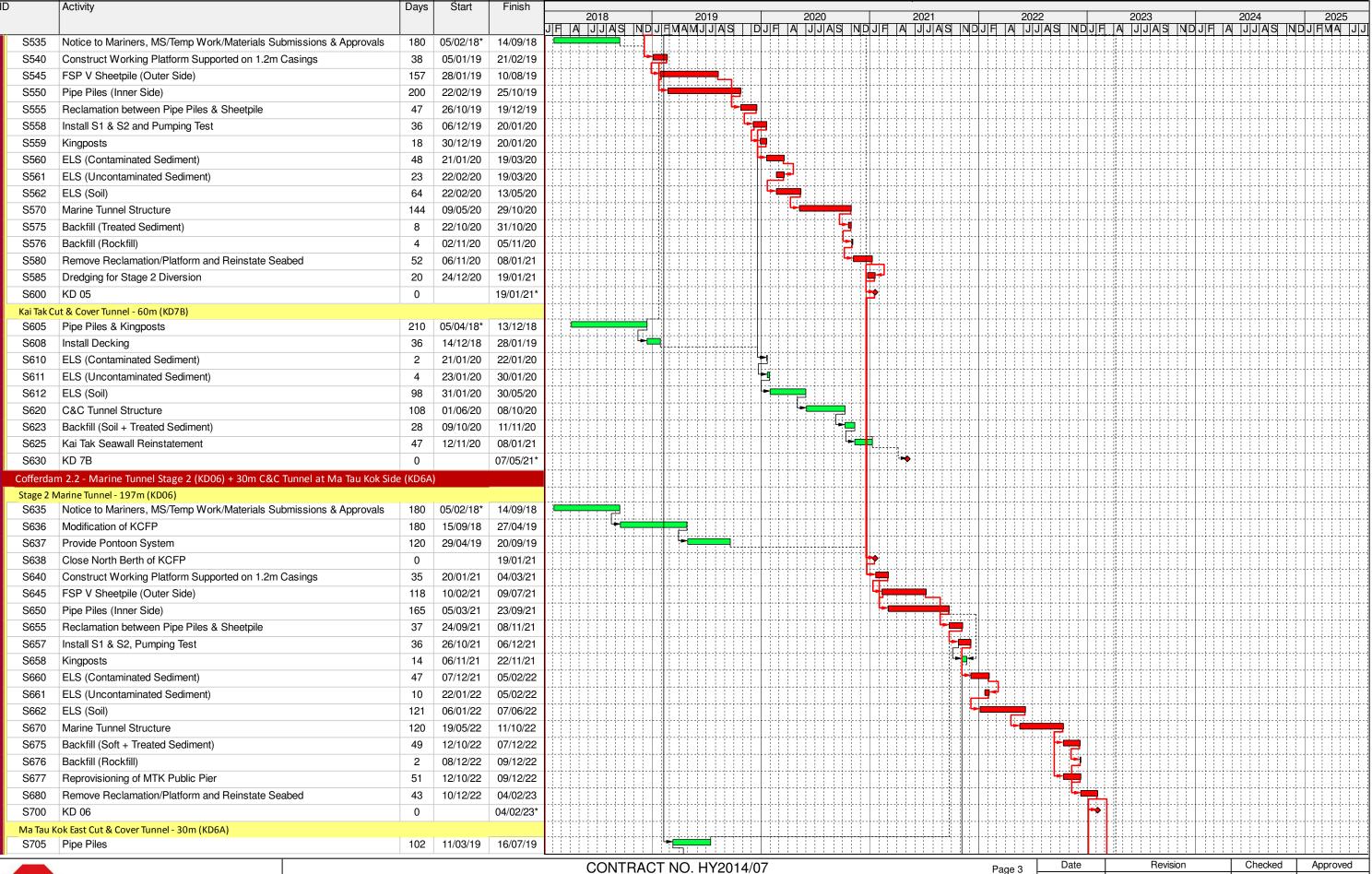
Date	Revision	Checked	Approved
05 Jan 18	IWP		





CENTRAL KOWLOON ROUTE - KAI TAK WEST
INITIAL WORKS PROGRAMME (IWP)

Date	Revision	Checked	Approved
05 Jan 18	IWP		





CENTRAL KOWLOON ROUTE - KAI TAK WEST
INITIAL WORKS PROGRAMME (IWP)

Date	Revision	Checked	Approved
05 Jan 18	IWP		

)	Activity	Days	Start	Finish		0010		0040		0000		0004		0000			2000			0004		0005
						2018		2019 J F <u>M</u> AMJ J AS	DUE	2020	AISL IND LIE	2021 - IAI J.I.IIAIS	NDJE	2022	SUNDUL	2 FI ALT	.023 .11.11AIS	IND.		2024 . . A S		2025 MAL.
S706	Kingposts	16	16/05/19	03/06/19			O IND		10011 1	1 00	AIS INDIO		INDUIT	14 101014	S INDOI		د امامان	IND	רו ויוי	10101719	INDOIT	VI 7
S710	ELS (Contaminated Sediment)	2	07/12/21	08/12/21		1-1-1-		+					9	<u> </u>		- - - -						
S711	ELS (Uncontaminated Sediment)	2	09/12/21	10/12/21									-1									
S712	ELS (Soil)	139	11/12/21	06/06/22		1111																
S713	ELS (Rock)	8	07/06/22	15/06/22		1111								<u>-</u>								
S720	C&C Tunnel Structure	72	16/06/22	08/09/22			{ } {}	+				.+		t-]							
S722	Backfill	49	09/09/22	08/11/22			{} { {	+				+		;;;;;;; <u>;</u>		- - - - -				-		
S725	Ma Tau Kok Seawall Reinstatement	53	29/11/22	04/02/23											-	# 11						
S730	KD 6A	0		06/05/23*												-						
U Trougl	n Structures and At-Grade Road Area (KD07)	,		,																		
S740	Repossess Portion 3D	0	05/10/21*											· · · · · · · · · · · · · · · · · · ·								
S745	Sheetpile & Pumping Test	68	05/10/21	23/12/21								-										
S750	ELS (Soil)	143	24/12/21	23/06/22									-									
S760	Construct Trough Structure	120	24/06/22	15/11/22																		
S770	Backfill & Remove Sheetpile	120	03/09/22	31/01/23										-								
S775	Roadwork for At-Grade Road	77	01/02/23	06/05/23											-							
S780	KD 07	0		06/05/23*												-						
Kowloon	City Ferry Pier Public Transport Interchange Reinstatement (KD09)																					
S790	All works Completed at Ma Tau Kok Side	0		06/05/23												 						
S800	Remove Decking, Roads and Drains (TTM Stages 7-10)	344	08/05/23	04/07/24																		
S810	KD 09	0		05/07/24*		<u> </u>																
_	ation and Protection of Trees (KD13)																					
S820	Trees Survey, Proposal, and Approval	90	05/01/18																			
S830	Implement measures for Trees Protection/Preservation	365	28/04/18		<u> </u>															1		
S840	KD 13	0		05/07/24*													-41					
_	aining Works and Roadwork for Opening to the Public (KD08)					ļ. ļ. ļ																
S850	All works Completed at both Kai Tak & Ma Tau Kok Sides	0		04/07/24																. 🟲		
S860	Reinstate Affected Road Areas & Traffic Diversions	120	05/07/24	25/11/24	 			ļ <u> </u>						ļ. ļ								
S870	Reinstate Affected Areas	30	26/11/24	02/01/25		ļ. ļ. ļ															7	
S880	KD 08	0		02/01/25*	.	ļ. ļ. ļ	 	 				.+		; ;		4-4-4-4						
_	ment Works (KD11)				 	ļ. ļ. ļ												- - - -		<u>. </u>		
S890	Establishment Works (Except in Portion 1E) Period	365	06/07/24		.																	
S900	KD 11	0		05/07/25*																		



CONTRACT NO. HY2014/07

CENTRAL KOWLOON ROUTE - KAI TAK WEST

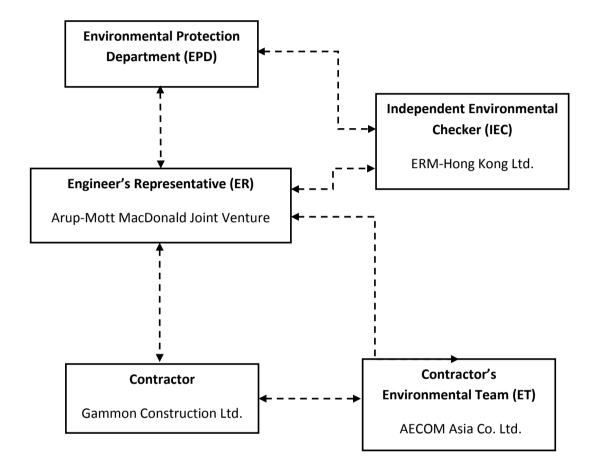
INITIAL WORKS PROGRAMME (IWP)

Page 4	Date	Revision	Checked	Approved
3 -	05 Jan 18	IWP		

APPENDIX B

Project Organization Structure

Appendix B Project Organization Structure



Appendix B AECOM

APPENDIX C

Implementation Schedule of Environmental Mitigation Measures

Appendix C – Environmental Mitigation Implementation Schedule

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	Implementation Status
Air Quality	(Construction	on Phase)					
S4.3.10	D1	The contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction stage	@
S4.3.10	D2	• Mitigation measures in form of regular watering under a good site practice should be adopted. Watering once per hour on exposed worksites and haul road should be conducted to achieve dust removal efficiencies of 91.7%. While the above watering frequencies are to be followed, the extent of watering may vary depending on actual site conditions but should be sufficient to maintain an equivalent intensity of no less than 1.3 L/m² to achieve the dust removal efficiency.	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction stage	V
S4.3.10	D3	 Proper watering of exposed spoil should be undertaken throughout the construction phase: Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading; Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads; A stockpile of dusty material should not be extend beyond the pedestrian barriers, fencing or traffic cones. 	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction stage	V V V
		 The load of dusty materials on a vehicle leaving a construction site should be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle; Where practicable, vehicle washing facilities with high pressure water jet should be provided at every discernible or designated vehicle exit point. The area where vehicle washing takes place and the road section between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores; 					V
		 When there are open excavation and reinstatement works, hoarding of not less than 2.4m high should be provided and properly maintained as far as practicable along the site boundary with provision for public crossing; Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction period; 					V

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EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	Implementation Status
		The portion of any road leading only to construction site that is within 30m of a vehicle entrance or exit should be kept clear of dusty materials;					V
		 Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation takes place should be sprayed with water or a dust suppression chemical continuously; 					V
		 Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet: 					V
		Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided					V
		 from the first floor level up to the highest level of the scaffolding; Any skip hoist for material transport should be totally enclosed by impervious sheeting; Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides; 					V V
		 Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed; 					V
		 Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system; and 					V
		 Exposed earth should be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shotcrete or other suitable surface stabiliser within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies. 					V
S4.3.10	D5	Implement regular dust monitoring under EM&A programme during the construction stage.	Monitoring of dust impact	Contractor	Selected representative dust monitoring station	Construction stage	V
Constructio	n Noise (Airb	orne)					
S5.4.1	N1	Implement the following good site practices: only well-maintained plant should be operated on-site and plant should be serviced	Control construction airborne noise	Contractor	All construction	Construction stage	@

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	Implementation Status
		regularly during the construction programme; machines and plant (such as trucks, cranes) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; plant known to emit noise strongly in one direction, where possible, be orientated so			sites		V
		that the noise is directed away from nearby NSRs; silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works;					V
		 mobile plant should be sited as far away from NSRs as possible and practicable; material stockpiles, mobile container site office and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities. 					V
\$5.4.1	N2	Install temporary hoarding located on the site boundaries between noisy construction activities and NSRs. The conditions of the hoardings shall be properly maintained throughout the construction period.	Reduce the construction noise levels at low-level zone of NSRs through partial screening.	Contractor	All construction sites	Construction stage	V
S5.4.1	N3	Install movable noise barriers (typical design is wooden framed barrier with a small-cantilevered on a skid footing with 25mm thick internal sound absorptive lining), acoustic mat or full enclosure, screen the noisy plants including air compressors, generators and handheld breakers etc	Screen the noisy plant items to be used at all construction sites	Contractor	All construction sites where practicable	Construction stage	V
S5.4.1	N4	Use "Quiet plants"	Reduce the noise levels of plant items	Contractor	All construction sites where practicable	Construction stage	V
S5.4.1	N5	Loading/unloading activities should be carried out inside the full enclosure of mucking out points	Reduce the noise levels of loading/unloading activities	Contractor	Mucking out locations	Construction stage	V
S5.4.1	N6	Sequencing operation of construction plants where practicable.	Operate sequentially within the same work site to reduce the	Contractor	All construction sites where practicable	Construction stage	V

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended	Who to implement the	Location of the measure	When to implement the	Implementation Status
			Measures & Main	measures?		measures?	
			Concern to Address				
			construction				
			airborne noise				
S5.4.1	N7	Implement a noise monitoring under EM&A programme.	Monitor the	Contractor	Selected	Construction	V
			construction		representative	stage	
			noise levels at the		noise		
			selected		monitoring		
			representative		station		
			locations				
S5.5.2	N8	Install temporary noise barriers along the works area at temporary Kowloon City Ferry Pier	Reduce temporary	Contractor	Kowloon City	Different	N/A
		Public Transport Interchange	PTI noise		Ferry Pier	construction	
						stages	

-	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	Implementation Status
Water Quality	(Construc	ction Phase)					
S6.9.1.1	,	 In accordance with the Practice Note for Professional Persons on Construction Site Drainage, Environmental Protection Department, 1994 (ProPECC PN1/94), construction phase mitigation measures shall include the following: Construction Runoff At the start of site establishment (including the barging facilities), perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided on site to direct stormwater to silt removal facilities. The design of the temporary on-site drainage system will be undertaken by the contractor prior to the commencement of construction. The dikes or embankments for flood protection should be implemented around the boundaries of earthwork areas. Temporary ditches should be provided to facilitate the runoff discharge into an appropriate watercourse, through a site/sediment trap. The sediment/silt traps should be incorporated in the permanent drainage channels to enhance deposition rates. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94, which states that the retention time for silt/sand traps should be 5 minutes under maximum flow conditions. Sizes may vary depending upon the flow rate, but for a flow rate of 0.1 m³/s a sedimentation basin of 30m³ would be required and for a flow rate of 0.1 m³/s the basin would be 150 m³. The detailed design of the sand/silt traps shall be undertaken by the contractor prior to the commencement of construction. All exposed earth areas should be completed and vegetated as soon as possible after earthworks have been completed, or alternatively, within 14 days of the cessation of earthworks where practicable. Exposed slope surfaces should be covered by tarpaulin or other means.	quality impact from construction site runoff and general construction activities	Contractor	All construction sites where practicable	Construction stage	v v v

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	Implementation Status
		 and the reduction of surface sheet flows. All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rainstorms. Deposited silt and grit should be 					٧
		removed regularly and disposed of by spreading evenly over stable, vegetated areas. • Measures should be taken to minimize the ingress of site drainage into excavations. If the excavation of trenches in wet periods is necessary, they should be dug and backfilled in short sections wherever practicable. Water pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal					V
		 facilities. Open stockpiles of construction materials (for example, aggregates, sand and fill material) of more than 50m³ should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction 					V
		 materials, soil, silt or debris into any drainage system. Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed into foul 					V
		 Precautions be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecasted, and actions to be taken during or after rainstorms are funneling in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events, 					V
		 especially for areas located near steep slopes. All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing facilities should be provided at every construction site exit where practicable. Wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-wash bay to the 					@
		public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains.					

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	Implementation Status
		 Oil interceptors should be provided in the drainage system downstream of any oil/fuel pollution sources. The oil interceptors should be emptied and cleaned regularly to prevent the release of oil and grease into the storm water drainage system after accidental spillage. A bypass should be provided for the oil interceptors to prevent flushing during heavy rain. 					V
		 Construction solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid water quality impacts. 					V
		 All fuel tanks and storage areas should be provided with locks and sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching water sensitive receivers nearby. 					@
		 Adopt best management practices All the earth works involving should be conducted sequentially to limit the amount of construction runoff generated from exposed areas during the wet season (April to September) as far as practicable. 					V V
\$6.9.1.2	W2	 Tunnelling Works and Underground Works Cut-&-cover tunneling work should be conducted sequentially to limit the amount of construction runoff generated from exposed areas during the wet season (April to September) as far as practicable. Uncontaminated discharge should pass through sedimentation tanks prior to off-site discharge The wastewater with a high concentration of SS should be treated (e.g. by sedimentation tanks with sufficient retention time) before discharge. Oil interceptors would also be required to remove the oil, lubricants and grease from the wastewater. 	water quality impact from tunneling works	Contractor	All tunneling portion	Construction stage	N/A
		Direct discharge of the bentonite slurry (as a result of D-wall and bored tunneling construction) is not allowed. It should be reconditioned and reused wherever practicable. Temporary storage locations (typically a properly closed warehouse) should be provided on site for any unused bentonite that needs to be transported away after all the related construction activities are completed. The requirements in ProPECC PN 1/94 should be adhered to in the handling and disposal of bentonite slurries.					
S6.9.1.3	W3	<u>Sewage Effluent</u> ■ Portable chemical toilets and sewage holding tanks are recommended for handling	To minimize water quality	Contractor	All construction sites	Construction stage	V

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	Implementation Status
		the construction sewage generated by the workforce. A licensed contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance.	from sewage effluent		where practicable		
S6.9.1.5	W4	 and be responsible for appropriate disposal and maintenance. Groundwater from Potential Contaminated Area: No direct discharge of groundwater from contaminated areas should be adopted. A discharge license under the WPCO through the Regional Office of EPD for groundwater results indicated that the groundwater to be generated from the excavation discharge should be applied. Prior to the excavation works within these potentially contaminated areas, the groundwater quality should be reviewed during the process of discharge license application. The compliance to the Technical Memorandum on Standards for Effluents Discharged into Drainage on Sewerage Systems, Inland and Coastal Waters (TM-DSS) and the existence of prohibited substance should be confirmed. If the review works would be contaminated, the contaminated groundwater should be either properly treated in compliance with the requirements of the TM-DSS or properly recharged into the ground. If wastewater treatment is deployed, the wastewater treatment unit shall deploy suitable treatment process (e.g. oil interceptor / activated carbon) to reduce the pollution level to an acceptable standard and remove any prohibited substances (e.g. TPH) to undetectable range. All treated effluent from wastewater treatment plant shall meet the requirements as stated in TM-DSS and should be discharged into the foul sewers. If groundwater recharging wells are deployed, recharging wells should be installed as appropriate for recharging the contaminated groundwater back into the ground. The recharging wells should be selected at places where the groundwater quality will not be affected by the recharge operation as indicated in the Section 2.3 of TM-DSS. The baseline groundwater quality shall be determined prior to the selection of the recharge wells, and submit a working plan (including the laboratory analytical results showing the quality of groundwater to be recharged) to EPD for agreement. Pollution l	from contaminated area	Contractor	Excavation areas where contamination is found.	Construction stage	V V V
		levels of ambient groundwater at the recharge well. Prior to recharge, any prohibited substances such as TPH products should be removed as necessary by installing					

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	Implementation Status
CC 7 0 1	W5	the petrol interceptor.	To minimize	Contractor	Tomporoni	Construction	
S6.7.2.1	VV5	 Temporary Reclamation During temporary reclamation, regular litter / rubbish clearance and avoidance of illegal discharges within the embayed marine water should be undertaken. During temporary reclamation, the perimeter silt curtain should be deployed. 		Contractor	Temporary Reclamation	Construction stage	V
			reclamation				
S6.9.1.6	W6	Accidental spillage In order to prevent accidental spillage of chemicals, the following is recommended: • All the tanks, containers, storage area should be bunded and the locations should		Contractor	All construction sites where practicable	Construction stage	V
		 be locked as far as possible from the sensitive watercourse and stormwater drains. The Contractor should register as a chemical waste producer if chemical wastes would be generated. Storage of chemical waste arising from the construction activities should be stored with suitable labels and warnings. 	spillage				V
		 Disposal of chemical wastes should be conducted in compliance with the requirements as stated in the Waste disposal (Chemical Waste) (General) Regulation. 					V
S6.9.2.2	W7	Dredging Works	To minimize	Contractor	Kai Tak Barging	Dredging period	
		The following good practice shall apply for the dredging works:	sediment suspension		Point during		
		 Install efficient silt curtains, i.e. at least 75% SS reduction, at the point of seawall dredging to control the dispersion of SS; 	during dredging		dredging works		N/A
		 Implement water quality monitoring to ensure effective control of water pollution and recommend additional mitigation measures required; 					N/A
		 The decent speed of grabs should be controlled to minimize the seabed impact and to reduce the volume of over-dredging; 					N/A
		 All vessels should be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to ensure that undue turbidity is not 					N/A
		 generated by turbulence from vessel movement or propeller wash; The dredging rates by closed grab dredgers for temporary marine channel outside pipepile wall shall be less than 1,500 m³/day and 125 m³/hour (without concurrent dredging with T2 in dry season only) or 750 m³/day and 62.5 m³/hour for other conditions respectively. 					N/A
		 Dredging works shall be only for the provision marine channel. No dredging work is 					N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	Implementation Status
		required for temporary reclamation; and The workfront of temporary reclamation shall be surrounded by cofferdams and the associated excavation and backfilling works for temporary reclamation shall have no contact with seawater.					N/A
\$6.9.2.2	W8	 In dry season, the dredging rate shall be less than 1500m³/day if no concurrent projects. 	sediment suspension during dredging if the District Cooling System for Kai Tak Development would be operated in the same period	Contractor	Kai Tak Barging Point during dredging works	Dredging period	N/A V V V N/A
S6.9.2	W9	shall be provided for WSR2. Handling of Dredged Sediment / Barging Operation: • All barges should be fitted with tight bottom seals to prevent leakage of materials	_	Contractor	All land- based site and proposed	Construction stage	N/A
		Barges or hoppers should not be filled to a level that will cause overflow of materials	disturbance during dredged sediment handling/barging		Kwai Chung barging point		V
		 All vessels should be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to ensure that undue turbidity is not 	operation				V
		 generated by turbulence from vessel movement or propeller wash; and Loading of barges and hoppers should be controlled to prevent splashing of material into the surrounding water. 					V
		Mitigation measures for land-based activities as outlined above should be applied to minimise water quality impacts from site runoff and open stockpile spoils at the					N/A

EIA Ref.	EM&A	Recommended Mitigation Measures	Objectives of the	Who to	Location of the	When to	Implementation
	Log Ref		Recommended	implement the	measure	implement the	Status
			Measures & Main	measures?		measures?	
			Concern to				
			Address				
		proposed barging facilities where appropriate.					
S6.9	W10	Implement a marine water quality monitoring programme	Monitor marine	Contractor	At identified	Prior to and	N/A
			water quality prior		monitoring	during dredging	
			to and during		location	period	
			dredging period				

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	Implementation Status
	T .	Construction Waste)	1	T		1	
S7.4.1	WM1	 On-site sorting of C&D material Geological assessment should be carried out by competent persons on site during excavation to identify materials which are not suitable to use as aggregate in structural concrete (e.g. volcanic rock, Aplite dyke rock, etc). Volcanic rock and Aplite dyke rock should be separated at the source sites as far as practicable and stored at designated stockpile areas preventing them from delivering to crushing facilities. The crushing plant operator should also be reminded to set up measures to prevent unsuitable rock from ended up at concrete batching plants and be turned into concrete for structural use. Details regarding control measures at source site and crushing facilities should be submitted by the Contractors for the Engineer to review and agree. In addition, site records should also be kept for the types of rock materials excavated and the traceability of delivery will be ensured with the implementation of Trip Ticket System and enforced by site supervisory staff as stipulated under DEVB TC(W) No. 6/2010 for tracking of the correct delivery to the rock crushing facilities for processing into aggregates. Alternative disposal option for the reuse of volcanic rock and Aplite Dyke rock, etc should also be explored. 	concrete batching plants and be turned into concrete for structural use	Contractor	All construction sites	Construction stage	V
\$7.5.1	WM2	 Construction and Demolition Material Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement; Carry out on-site sorting; Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate; Adopt 'Selective Demolition' technique to demolish the existing structures and facilities with a view to recovering broken concrete effectively for recycling purpose, where possible; Implement a trip-ticket system for each works contract to ensure that the disposal of C&D materials are properly documented and verified; and Implement an enhanced Waste Management Plan similar to ETWBTC (Works) No. 19/2005 – "Environmental Management on Construction Sites" to encourage on-site sorting of C&D materials and to minimize their generation during the course of construction. 	generation and recycle the C&D materials as far as practicable so as to reduce the amount for final disposal	Contractor	All construction sites	Construction stage	V V V V
S7.5.1	WM3	C&D Waste Standard formwork or pre-fabrication should be used as far as practicable in order to	Good site practice to minimize the waste	Contractor	All construction	Construction stage	V

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	Implementation Status
		 minimise the arising of C&D materials. The use of more durable formwork or plastic facing for the construction works should be considered. Use of wooden hoardings should not be used, as in other projects. Metal hoarding should be used to enhance the possibility of recycling. The purchasing of construction materials will be carefully planned in order to avoid over ordering and wastage. The Contractor should recycle as much of the C&D materials as possible on-site. Public fill and C&D waste should be segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal. Where practicable, concrete and masonry can be crushed and used as fill. Steel reinforcement bar can be used by scrap steel mills. Different areas of the sites should be considered for such segregation and storage. 	the C&D materials as far as practicable so as to reduce the amount for final disposal		sites		V
S7.5.1	WM5	 Land-based and Marine-based Sediment All construction plant and equipment shall be designed and maintained to minimize the risk of silt, sediments, contaminants or other pollutants being released into the water column or deposited in the locations other than designated location; All vessels shall be sized such that adequate draft is maintained between vessels and the sea bed at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash; Before moving the vessels which are used for transporting dredged material, excess material shall be cleaned from the decks and exposed fittings of vessels and the excess materials shall never be dumped into the sea except at the approved locations; Adequate freeboard shall be maintained on barges to ensure that decks are not washed by wave action. The Contractors shall monitor all vessels transporting material to ensure that no dumping outside the approved location takes place. The Contractor shall keep and produce logs and other records to demonstrate compliance and that journeys are consistent with designated locations and copies of such records shall be submitted to the engineers; The Contractors shall comply with the conditions in the dumping licence. All bottom dumping vessels (Hopper barges) shall be fitted with tight fittings seals to their bottom openings to prevent leakage of material; The material shall be placed into the disposal pit by bottom dumping; Contaminated marine mud shall be transported by spit barge of not less than 750m³ capacity and capable of rapid opening and discharge at the disposal site; 		Contractor	Along CKR alignment	Construction Stage	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	Implementation Status
		 Discharge shall be undertaken rapidly and the hoppers shall be closed immediately. Material adhering to the sides of the hopper shall not be washed out of the hopper and the hopper shall remain closed until the barge returns to the disposal site. For Type 3 special disposal treatment, sealing of contaminant with geosynthetic containment before dropping into designated mud pit would be a possible arrangement. A geosynthetic containment method is a method whereby the sediments are sealed in geosynthetic containers and, the containers would be dropped into the designated contaminated mud pit where they would be covered by further mud disposal and later by the mud pit capping at the disposal site, thereby fulfilling the requirements for fully confined mud disposal. 					
S7.5.1	WM6	 Chemical Waste Chemical Waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, should be handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Containers used for the storage of chemical wastes should be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; have a capacity of less than 450 liters unless the specification has been approved by the EPD; and display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the regulation. 	proper storage, handling and disposal.	Contractor	All construction sites	Construction stage	V @
		 The storage area for chemical wastes should be clearly labelled and used solely for the storage of chemical waste; enclosed on at least 3 sides; have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20 % of the total volume of waste stored in that area, whichever is the greatest; have adequate ventilation; covered to prevent rainfall entering; and arranged so that incompatible materials are adequately separated. Disposal of chemical waste should be via a licensed waste collector; be to a facility 					V
		licensed to receive chemical waste, such as the Chemical Waste Treatment Centre which also offers a chemical waste collection service and can supply the necessary storage containers; or be to a reuser of the waste, under approval from the EPD.					

EIA Ref.	EM&A	Recommended Mitigation Measures	Objectives of the	Who to	Location of	When to	Implementation
	Log Ref		Recommended	implement	the measure	implement the	Status
			Measures & Main	the		measures?	
			Concern to Address	measures?			
S7.5.1	WM7	General Refuse	Minimize production of the	Contractor	All	Construction	
		General refuse generated on-site should be stored in enclosed bins or compaction units	general refuse and avoid		construction	stage	V
		separately from construction and chemical wastes.	odour, pest and litter		sites		
		A reputable waste collector should be employed by the Contractor to remove general	impacts				V
		refuse from the site, separately from construction and chemical wastes, on a daily basis					
		to minimize odour, pest and litter impacts. Burning of refuse on construction sites is					
		prohibited by law.					
		 Aluminium cans are often recovered from the waste stream by individual collectors if they 					V
		are segregated and made easily accessible. Separate labelled bins for their deposit should					
		be provided if feasible.					
		Office wastes can be reduced through the recycling of paper if volumes are large enough					V
		to warrant collection. Participation in a local collection scheme should be considered by					
		the Contractor.					

EIA Ref.	EM&A	Recommended Mitigation Measures	Objectives of the	Who to	Location of the	When to	Implementation
	Log Ref		Recommended	implement the	measure	implement the	Status
			Measures & Main	measures?		measures?	
			Concern to Address				
Land Conta	mination						
S8.10,	LC1	Land contamination investigation works (including field works and laboratory testing at the	Minimize the	Contractor	EBH1, EBH2	Commencement	
S8.12 &		Kowloon City Ferry Pier Public Transport Interchange (KCFP-PTI) and the To Kwa Wan	potentially adverse		and EBH3	of construction	
Appendi		Vehicle Examination Centre (TKW-VEC) were carried out from 14 April 2018 to 2 January	environmental			works at the	
x 8.4		2019. In order to minimise the potentially adverse environmental impacts arising from the	impacts arising from			Kowloon City	
		handling of potentially contaminated materials, the following environmental mitigation	the handling			Ferry Pier Public	
		measures are proposed during the course of soil excavation, stockpiling and backfilling works:	of potentially			Transport	
		Excavation profiles must be properly designed and executed.	contaminated			Interchange (PTI)	V
		Stockpiling site(s) shall be lined with impermeable sheeting and bunded. Stockpiles shall	materials			(for EBH1 &	V
		be fully covered by impermeable sheeting to reduce dust emission.				EBH2) and the	
		• Excavation and stockpiling should be carried out during dry season as far as possible to				works area	V
		minimise potentially contaminated runoffs from the Concerned Soil.				adjacent to the	
		The truck transferring Concerned Soil shall be covered entirely by impervious sheeting to				To Kwa Wan	V
		ensure that the dusty materials do not leak from the truck.				Vehicle	
		• Temporary fencing or warning ribbons will be provided to the boundary of excavation,				Examination	V
		slope crest and temporarily stockpiled areas. Where necessary, the exposed areas should				Centre (for	
		be temporarily covered with impermeable sheeting during heavy rainstorm.				EBH3)	

EIA Ref.	EM&A Log Ref		Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	Implementation Status
Landscape		_	Cond Cita Management	Minimina	Contractor	VA/:4h-i	Canatavetian	
S10.10.1 Table 10.11	LV3	•	Good Site Management Large temporary stockpiles of excavated material shall be covered with unobtrusive sheeting to prevent dust and dirt spreading to adjacent landscape areas and vegetation, and to create a neat and tidy visual appearance. Construction plant and building material shall be orderly and carefully stored in order to		Contractor	Within Project Site	Construction Phase	V
S10.10.1	LV4	•	create a neat and tidy visual appearance. Screen Hoarding	Minimize visual impact	Contractor	Within	Construction	V
Table 10.11			Decorative screen hoarding should be erected to screen the public from the construction area. It should be designed to be compatible with the existing urban context.	•		Project Site	Phase	
S10.10.1 Table 10.11	LV5	•	Lighting Control during Construction All lighting in the construction site shall be carefully controlled to minimize light pollution and night-time glare to nearby residencies and GIC. The contractor shall consider other security measures, which shall minimize the visual impacts.		Contractor	Within Project Site	Construction Phase	V
S10.10.1 Table 10.11	LV6	•	Erosion Control The potential for soil erosion shall be reduced by minimizing the extent of vegetation disturbance on site and by providing a protective cover over newly exposed soil.	Minimize landscape impact	Contractor	Within Project Site	Construction Phase	V
S10.10.1 Table 10.11	LV7	•	Tree Protection & Preservation Carefully protected during construction. Tree protection measures will be detailed at the Tree Removal Application stage and plans submitted to the relevant Government Department for approval in due course in accordance with ETWB TC no. 3/2006.	-	Contractor	Within Project Site	Design and Construction Phase	V
S10.10.1 Table 10.11	LV9	•	Compensatory Planting For trees unavoidably affected by the Project that have to be removed, where practical transplantation will be chosen as the top priority method of removal but if this is not possible or practical compensatory planting will be provided for trees unavoidably felled. All felled trees shall be compensated for by planting trees to the satisfaction of relevant Government departments. Required numbers and locations of compensatory trees shall be determined and agreed separately with Government during the Tree Felling Application process under ETWBTC 3/2006. Compensatory tree planting may be incorporated into public open spaces and along roadside amenity areas affected by the construction works and therefore be part of the bigger wider planting plans. Onsite compensation planting is preferred but if necessary,		Contractor	Within Project Site and designated off-site locations	Construction Phase	N/A

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EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	Implementation Status
		additional receptor sites outside the Works Area shall be agreed separately with Government during the Tree Felling Application process.					
S10.10.1 Table 10.11	LV10	Screen Planting Tall screen/buffer trees, shrubs and climbers should be planted, in so far as is possible, to soften and screen proposed structures such as roads and central strip, vertical edges and buildings and to enhance streetscape greening effect where appropriate. Indiscriminate use of trees for screening must be avoided and the principle of 'right tree for the right place' must be followed. This detail will be provided at the Detailed Design stage. This measure may additionally form part of the compensatory planting and will improve and create a pleasant pedestrian environment.	landscape.	Contractor	Within Project Site	Construction Phase	N/A
S10.10.1 Table 10.11	LV11	 Green Roof Roof greening will be established on ventilation and administration buildings to reduce exposure to untreated concrete surfaces and particularly mitigate visual impact to VSRs at high levels. 	· ·	Contractor	Within Project Site	Construction Phase	N/A
S10.10.1 Table 10.11	LV12	Reinstatement All works areas, excavated areas and disturbed areas for tunnel construction and temporary road diversion or any other proposed works shall be reinstated to former conditions or better, with reasonable landscape treatment and to the satisfaction of the relevant Government departments. (Specific mitigation for disturbance to public open space is detailed separately under LV14)	·	Contractor	Within Project Site	Construction Phase	N/A
S10.10.1 Table 10.11	LV14	 Landscape enhancement Implement a comprehensive landscape plan to maximize the greening opportunity and create a unique landscape for the project to blend in with the surrounding, including in reprovisioned areas. In particular: landscape enhancement of re-provisioned Public Transport Interchange; landscape deck on tunnel portals; viaduct planters for trailer planting; vertical greening of piers and walls with climbers or trailer planting; roadside planting i.e. planting along central dividers and on road islands e.g. in the middle of roundabouts. (Roadside planting i.e. at the road edge and not in the central divider or road island, and vertical greening may be considered part of Screen Planting). Purpose-built maintenance access without temporary traffic arrangement must be 		Contractor	Along tunnel alignment	Construction phase	N/A

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EIA Ref.	EM&A	Recommended Mitigation Measures	Objectives of the	Who to	Location of	When to	Implementation
	Log Ref		Recommended	implement the	the measure	implement the	Status
			Measures & Main	measures?		measures?	
			Concern to Address				
		provided and detailed design of landscape decks and planting, including details of					
		maintenance access locations, will be sent to maintenance and management parties for					
		endorsement and ensures these mitigation measures are feasible.					

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	Implementation Status
S11.4.4	ritage Impac CH1	The contractor should be alerted during the construction on the possibility of locating archaeological remains and as a precautionary measure, AMO shall be informed immediately in case of discovery of antiquities or supposed antiquities in the subject sites.	heritage items which may	Contractor	During construction works for cut and cover tunnels	During the construction phase	N/A
S11.6 para 3	CH2	 The dredging contractor should be alerted during the construction on the possibility of locating archaeological remains, such as cannon and AMO shall be informed immediately in case of discovery of antiquities or supposed antiquities in the subject areas. 	heritage items which may	Contractor	During construction of underwater tunnel (north of To Kwa Wan Typhoon Shelter)	During the construction phase	N/A
S12.6.1, Table 12.2	CH8	 A monitoring system for settlement, vibration and tilting will be determined and implemented pending determination of the future grading. A monitoring proposal will be submitted to AMO before commencement of work if a historic building grade is accorded. 	from damage from	Contractor	Kowloon City Ferry Pier (CKR-13)	During the construction phase	N/A
S12.6.1, Table 12.2	CH9	 No mitigation is required at present. If the public pier is granted Grade 1, Grade 2 or Grade 3 status, the mitigation will be revised to adhere to the requirements for protective measures for Graded Historic Buildings 		Contractor	Ma Tau Kok Public Pier (CKR-16)	During the construction phase	N/A
S12.6.1, Table 12.2	CH10	 A monitoring system for settlement, vibration and tilting will be determined and implemented pending determination of the future grading. A monitoring proposal will be submitted to AMO before commencement of work if a historic building grade is accorded. 	from damage from	Contractor	The Kowloon City Vehicular Ferry Pier (CKR-17)	During the construction phase	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	Implementation Status
EM&A Pro	ject						
S13.2	EM1	An Independent Environmental Checker needs to be employed as per the EM&A Manual.	Control EM&A Performance	Highways Department	All construction sites	Construction stage	V
S13.2 -13.4	EM2	 An Environmental Team needs to be employed as per the EM&A Manual. Prepare a systematic Environmental Management Plan to ensure effective implementation of the mitigation measures. 	Perform environmental monitoring & auditing	Highways Department / Contractor	All construction sites	Construction stage	V
		An environmental impact monitoring needs to be implementing by the Environmental Team to ensure all the requirements given in the EM&A Manual are fully complied with.					V

Legends:

V = implemented;

X = not implemented;

@ = partially implemented;

N/A = not applicable

APPENDIX D

Summary of Action and Limit Levels

Appendix D - Summary of Action and Limit Levels

Table 1 Action and Limit Levels for 24-hour TSP

ID	Location	Action Level	Limit Level
E-A14a	Block B of Merit Industrial Centre	197.3 μg/m³	260 μg/m³

Table 2 Action and Limit Levels for 1-hour TSP

ID	Location	Action Level	Limit Level
E-A14a	Block B of Merit Industrial Centre	302.4 μg/m³	500 μg/m³

Table 3 Action and Limit Levels for Construction Noise (0700 – 1900 hrs of normal weekdays)

ID	Location	Action Level	Limit Level
E-N12a	19 Hing Yan Street	When one documented complaint is received	75 dB(A)
E-N21a	Block B of Merit Industrial Centre	When one documented complaint is received	75 dB(A)

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Table 4 Derived Action and Limit Levels for Water Quality

Parameters	Action Level	Limit Level
Dissolved Oxygen (DO) in mg/L ⁽¹⁾	Surface & Middle: 4.03 (5th percentile of baseline data for surface and middle layer) Bottom: 3.94 (5th percentile of baseline data for bottom layer)	Surface & Middle: 3.88 (1st percentile of baseline data for surface and middle layer) Bottom: 2.00
Suspended Solids (SS) in mg/L ⁽²⁾	13.80 (95th percentile of baseline data) or 120% of upstream control station's SS at the same tide of the same day	18.70 (99th percentile of baseline data) or 130% of upstream control station's SS at the same tide of the same day
Turbidity in NTU ⁽²⁾	7.00 (95th percentile of baseline data) or 120% of upstream control station's Turbidity at the same tide of the same day	8.40 (99th percentile of baseline data or 130% of upstream control station's Turbidity at the same tide of the same day
Copper in μg/L ⁽²⁾	2.00 (95th percentile of baseline data) or 120% of upstream control station's nutrient level at the same tide of the same day	3.00 (99th percentile of baseline data) or 130% of upstream control station's nutrient level at the same tide of the same day or whichever is the less
Total PAH in μg/L ⁽²⁾	1.60 (95th percentile of baseline data) or 120% of upstream control station's nutrient level at the same tide of the same day	1.60 (99th percentile of baseline data) or 130% of upstream control station's nutrient level at the same tide of the same day or whichever is the less

Note: 1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.

Appendix D AECOM

^{2.} For turbidity, SS, Copper and Total PAH, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.

APPENDIX E

Calibration Certificates of Equipments



RECALIBRATION **DUE DATE:**

June 5, 2021

Pertificate o Calibration

Calibration Certification Information

Cal. Date: June 5, 2020

Rootsmeter S/N: 438320

Ta: 295

°K

Operator: Jim Tisch

Pa: 748.0

mm Hg

Calibration Model #: TE-5025A

Calibrator S/N: 0988

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.3610	3.2	2.00
2	3	4	1	0.9700	6.4	4.00
3	5	6	1	0.8630	7.9	5.00
4	7	8	1	0.8240	8.8	5.50
5	9	10	1	0.6800	12.9	8.00

		Data Tabula	tion		
Vstd	Qstd	$\sqrt{\Delta H \left(\frac{Pa}{Pstd} \right) \left(\frac{Tstd}{Ta} \right)}$		Qa	√∆H(Ta/Pa)
(m3)	(x-axis)	(y-axis)	Va	(x-axis)	(y-axis)
0.9900	0.7274	1.4101	0.9957	0.7316	0.8881
0.9858	1.0162	1.9943	0.9914	1.0221	1.2560
0.9838	1.1399	2.2296	0.9894	1.1465	1.4042
0.9826	1.1924	2.3385	0.9882	1.1993	1.4728
0.9771	1.4369	2.8203	0.9828	1.4452	1.7762
	m=	1.98556		m=	1.24332
QSTD	b=	-0.03069	QA	b=	-0.01933
	r=	0.99996	-	r=	0.99996

Calculation	is
Vstd= Δ Vol((Pa- Δ P)/Pstd)(Tstd/Ta)	Va= ΔVol((Pa-ΔP)/Pa)
Qstd= Vstd/∆Time	Qa= Va/ΔTime
For subsequent flow rat	e calculations:
Qstd= $1/m\left(\left(\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}\right)-b\right)$	$Qa = 1/m \left(\left(\sqrt{\Delta H \left(Ta/Pa \right)} \right) - b \right)$

	Standard Conditions	
Tstd:	298.15 °K	
Pstd:	760 mm Hg	
	Key	
ΔH: calibrator	manometer reading (in H2O)	
ΔP: rootsmete	er manometer reading (mm Hg)	
Ta: actual abs	olute temperature (°K)	
Pa: actual bar	ometric pressure (mm Hg)	
b: intercept		
m: slope		_

RECALIBRATION

US EPA recommends annual recalibration per 1998 40 Code of Federal Regulations Part 50 to 51, Appendix B to Part 50, Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere, 9.2.17, page 30

Tisch Environmental, Inc. 145 South Miami Avenue Village of Cleves, OH 45002

www.tisch-env.com

TOLL FREE: (877)263-7610

FAX: (513)467-9009

AECOM Asia Company Limited <u>Tisch TSP Mass Flow Controlled High Volume Air Sampler</u> <u>Field Calibration Report</u>

Next Due Date: 24//2020 Note Note: 10.380	
Ambient Condition Temperature, Ta (K) 305 Pressure, Pa (mmHg) 755.0	_
Ambient Condition Temperature, Ta (K) 305 Pressure, Pa (mmHg) 755.0	_
Temperature, Ta (K) 305 Pressure, Pa (mmHg) 755.0	_
Calibration Date: 5-Jun-20 mc x Qstd + bc = [H x (Pa/760) x (298/Ta)]^{1/2}	
Serial No: 988 Slope, mc 1,98556 Intercept, bc	61C-F-21F-8-7-12
Serial No: 988 Slope, mc 1,98556 Intercept, bc	
Last Calibration Date: 5-Jun-20	
Next Calibration Date: 5-Jun-21 mc x Qstd + bc = [H x (Pa/760) x (298/Ta)]^{1/2}	-0.0306
Calibration of TSP Sampler	3
DH (orifice)	
DH (orifice)	
Resistance Plate No. DH (orifice), in. of water [DH x (Pa/760) x (298/Ta)]^{1/2} Qstd (m³/min) x Flow Recorder Reading (CFM) Reading IC (CFM)	
No. DH (orifice), in. of water [DH x (Pa/760) x (298/Ta)] ^{1/2} Qstd (m ³ /min) X axis Flow Recorder Reading (CFM) Reading IC (CFM) 18	
13 6.0 2.41 1.23 40.0 39.41 10 5.1 2.22 1.14 35.0 34.48 7 4.0 1.97 1.01 29.0 28.57 5 3.0 1.71 0.87 22.0 21.67 By Linear Regression of Y on X Slope , mw = 49.7892 Intercept, bw = -21.8371 Correlation Coefficient* = 0.9996 Form the TSP Field Calibration Curve, take Qstd = 1.30m³/min From the Regression Equation, the "Y" value according to mw x Qstd + bw = IC x [(Pa/760) x (298/Ta)] ^{1/2}	
10 5.1 2.22 1.14 35.0 34.48 7 4.0 1.97 1.01 29.0 28.57 5 3.0 1.71 0.87 22.0 21.67 By Linear Regression of Y on X Slope , mw = 49.7892 Intercept, bw = -21.8371 Correlation Coefficient* = 0.9996 If Correlation Coefficient < 0.990, check and recalibrate. Set Point Calculation From the TSP Field Calibration Curve, take Qstd = 1.30m³/min From the Regression Equation, the "Y" value according to mw x Qstd + bw = IC x [(Pa/760) x (298/Ta)] 1/12	2
7	1
5 3.0 1.71 0.87 22.0 21.67 By Linear Regression of Y on X Slope , mw = 49.7892 Intercept, bw = -21.8371 Correlation Coefficient* = 0.9996 If Correlation Coefficient < 0.990, check and recalibrate. Set Point Calculation From the TSP Field Calibration Curve, take Qstd = 1.30m³/min From the Regression Equation, the "Y" value according to mw x Qstd + bw = IC x [(Pa/760) x (298/Ta)] ^{1/2}	8
By Linear Regression of Y on X Slope , mw =49.7892	7
Slope , mw = 49.7892 Intercept, bw = -21.8371 Correlation Coefficient* = 0.9996 If Correlation Coefficient < 0.990, check and recalibrate. Set Point Calculation From the TSP Field Calibration Curve, take Qstd = 1.30m³/min From the Regression Equation, the "Y" value according to mw x Qstd + bw = IC x [(Pa/760) x (298/Ta)] ^{1/2}	7
Set Point Calculation From the TSP Field Calibration Curve, take Qstd = 1.30m³/min From the Regression Equation, the "Y" value according to mw x Qstd + bw = IC x [(Pa/760) x (298/Ta)] ^{1/2}	_
From the TSP Field Calibration Curve, take Qstd = 1.30m³/min From the Regression Equation, the "Y" value according to mw x Qstd + bw = IC x [(Pa/760) x (298/Ta)] ^{1/2}	
From the TSP Field Calibration Curve, take Qstd = 1.30m³/min From the Regression Equation, the "Y" value according to mw x Qstd + bw = IC x [(Pa/760) x (298/Ta)] ^{1/2}	
mw x Qstd + bw = $ C \times [(Pa/760) \times (298/Ta)]^{1/2}$	THE STATE OF THE STATE OF
10	
10	
Therefore, Set Point; IC = (mw x Qstd + bw) x [(760 / Pa) x (Ta / 298)] ^{1/2} =	
Therefore, Set Point; IC = (mw x Qstd + bw) x [(760 / Pa) x (Ta / 298)] = 43.53	
	_
Remarks:	
winding.	
OC Reviewer: WS CHAN Signature: P7	2/2-2

AECOM Asia Company Limited Tisch TSP Mass Flow Controlled High Volume Air Sampler Field Calibration Report

Station	Block B, Merit Ind	dustrial Centre (E	E-A14a)	Operator:	Choi W	ing Ho	
Cal. Date:	22/9/2020	Next Due Date:			22/11/2020		
lodel No.:	TE-5170	- -		Serial No.	103	380	•
Equipment No.:	A-001-15T	_		-			-
			Ambient (Condition			
Temperature	e, Ta (K)	305	Pressure, I	Pa (mmHg)		754.4	
		CONTRACTOR OF THE SECOND	rifice Transfer Sta	andard Information			
Serial I		988	Slope, mc	1.98	3556	Intercept, bc	-0.0306
Last Calibrat		5-Jun-20		mc x Qstd + bc =	= (H x (Pa/760) x	$(298/Ta)1^{1/2}$	
Next Calibrat	tion Date:	5-Jun-21		me a Quia		(=> 0/ 2 W)]	
		·	Calibration of	TSP Sampler			
			Orfice	TOI Gamplei	HV	S Flow Recorder	
Resistance Plate No.	DH (orifice), in. of water		60) x (298/Ta)] ^{1/2}	Qstd (m³/min) X - axis	Flow Recorder Reading (CFM)	Continuous Flow Record Reading IC (CFM) Y-a	
18	7.1		2.62	1.34	45.0	44.32	2
13	6.0		2.41	1.23	40.0	39.39	
10	5.0		2.20	1.12	35.0	34.47	
7	4.0		1.97	1.01	29.0	28.56	3
5	2.9		1.68	0.86	22.0	21.67	7
By Linear Regress Blope , mw = Correlation Coeffic	47.7102	_ 0.	9998	Intercept, bw =	-19.	3681	-
If Correlation Coef	ficient < 0.990, ch	eck and recalibra	ate.				
			Set Point	Calculation			
rom the TSP Field	I Calibration Curv	e, take Qstd = 1.	30m³/min				
From the Regression	on Equation, the "	Y" value accordir	ng to				
		mw	x Qstd + bw = IC >	([(Pa/760) x (298/Ta	a)] ^{1/2}		
herefore, Set Poin	nt; IC = (mw x Qs	td + bw) x [(760) / Pa) x (Ta / 298)] ^{1/2} =		43.31	_
Remarks:					1.00		
		2				,	
OC Poviowor	WIS CAN	An	Signaturo:	Pr		Date: 2) /9	/2020

EQUIPMENT CALIBRATION RECORD

Model Equipr	acturer/Brand: No.: ment No.: ivity Adjustment	Scale Settir		Laser Du SIBATA LD-3 A.005.07 557 CPN	а	tor		
Opera	tor:		_1	Mike She	k (MSKN	1)		
Standa	rd Equipment	, , , , , , , , , , , , , , , , , , , ,						
	e: No.:	Series Contr Senso 1 May	or: 120 / 2020	/ing Seco 0AB21989 0C14365	ndary Sc 99803 99803	K₀: _12500		
Calibra	tion Result							
Sensit	tivity Adjustment tivity Adjustment					557 CP		
Hour	Date (dd-mm-yy)	Tin	ne	Amb Cond Temp (°C)		Concentration ¹ (mg/m ³) Y-axis	Total Count ²	Count/ Minute ³ X-axis
1	02-05-20	09:15 -	10:15	26.7	77	0.04836	1945	32.42
2	02-05-20	10:15 -	11:15	26.7	77	0.05134	2056	34.27
3	02-05-20 02-05-20	11:15 - 12:15 -	12:15	26.8 26.8	77 77	0.05331 0.05535	2130 2214	35.50 36.90
Note:	Monitoring of 2. Total Count Count/minut	data was me was logged te was calcu	easured by I by Laser I	Rupprec Dust Mon	ht & Pata itor	ashnick TEOM®	2217	7 00.00
Slope	ar Regression of (K-factor): lation coefficient:		0.0015 0.9976					
Validit	ty of Calibration I	Record:	2 May 202	21				
Remark	(S:	2-120 - 200 e 110 - 1						
		,					×	ř
QC R	eviewer: YW F	-ung	Signa	ture:	1/	Date	e: _04 Ma	y 2020

EQUIPMENT CALIBRATION RECORD

Model Equipr	acturer/Brand: No.: nent No.: ivity Adjustment	Scale Set	ting:	1	Laser Du SIBATA LD-3 A.005.09a 797 CPN	9	tor		
Operat	tor:				Mike She	k (MSKN	1)		
Standar	rd Equipment	98 - (0500001)						Transfer of the second	
Equipr Venue Model Serial	ment: : No.:	Cyb Ser Cor Ser		(Pui Y)0AB 140 120	ashnick Tring Secon	ndary So 19803	chool) K _o : _1250	00	
*Remarl	ks: Recommend	ed interva	l for ha	ırdwar	e calibrat	ion is 1 y	/ear		
Calibra	tion Result		- W						
Sensit	ivity Adjustment ivity Adjustment							CPM CPM	
Hour	Date (dd-mm-yy)	7	ime		Amb Cond Temp (°C)		Concentration (mg/m³) Y-axis	Total Count ²	Count/ Minute ³ X-axis
1	02-05-20	09:45	- 10	0:45	26.7	77	0.04884	1956	32.60
2	02-05-20	10:45		1:45	26.7	77	0.05157	2070	34.50
3	02-05-20	11:45		2:45	26.8	77	0.05355	2158	35.97
4	02-05-20	12:45		3:45	26.8	77	0.05593	2241	37.35
Slope Correl	1. Monitoring of 2. Total Count 3. Count/minut ar Regression of (K-factor): ation coefficient: y of Calibration I	was logg te was cal Y or X	0.00 0.99	aser [d by (T	Oust Mon Fotal Cou	itor	ashnick TEOM®		
Remark	SS:								
QC R	eviewer: _ <i>YW F</i>	ung		Signa	ture:	n	р	ate: _04 Ma	ay 2020



香港黄竹坑道37號利達中心12樓 12/F., Leader Centre, 37 Wong Chuk Hang Road, Aberdeen, Hong Kong. E-mail: smec@cigismec.com Website: www.cigismec.com

Tel: (852) 2873 6860 Fax: (852) 2555 7533



CERTIFICATE OF CALIBRATION

Certificate No.:

20CA0318 01

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Item tested

Description:

Sound Level Meter (Type 1)

Microphone **B&K**

Preamp

of

Manufacturer: Type/Model No.: **B&K** 2250-L

B&K 4950 ZC0032

Serial/Equipment No.:

2681366

2665582

17190

Adaptors used:

N.011.01

Item submitted by

Customer Name:

AECOM ASIA CO LTD

Address of Customer: Request No.

Date of receipt:

18-Mar-2020

Date of test:

19-Mar-2020

Reference equipment used in the calibration

Description:

Model:

Serial No.

Expiry Date:

Traceable to:

Multi function sound calibrator Signal generator

B&K 4226 DS 360

2288444 33873

23-Aug-2020

CIGISMEC

10-May-2020

CEPREI

Ambient conditions

Temperature:

22 ± 1 °C

Relative humidity:

55 ± 10 %

Air pressure:

1005 ± 5 hPa

Test specifications

- The Sound Level Meter has been calibrated in accordance with the requirements as specified in BS 7580: Part 1: 1997 and the lab calibration procedure SMTP004-CA-152
- The electrical tests were performed using an electrical signal substituted for the microphone which was removed and 2, replaced by an equivalent capacitance within a tolerance of ±20%
- The acoustic calibration was performed using an B&K 4226 sound calibrator and corrections was applied for the difference 3. between the free-field and pressure responsess of the Sound Level Meter.

Test results

This is to certify that the Sound Level Meter conforms to BS 7580: Part 1: 1997 for the conditions under which the test was performed.

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

Jungi

Actual Measurement data are documented on worksheets

Approved Signatory:

Date:

19-Mar-2020

Company Chop:

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

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Form No.CARP152-1/Issue 1/Rev C/01/02/2007



香港黄竹坑道37號利達中心12樓 12/F., Leader Centre, 37 Wong Chuk Hang Road, Aberdeen, Hong Kong. E-mail: smec@cigismec.com Website: www.cigismec.com

Tel: (852) 2873 6860 Fax: (852) 2555 7533



CERTIFICATE OF CALIBRATION

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20CA0318 01

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Electrical Tests 1,

> The electrical tests were performed using an equivalent capacitance substituted for the microphone. The results are given in below with test status and the estimated uncertainties. The "Pass" means the result of the test is inside the tolerances stated in the test specifications. The "-" means the result of test is outside these tolerances.

			Expanded	Coverage
Test:	Subtest:	Status:	Uncertanity (dB)	Factor
Self-generated noise	A	Pass	0.3	
Gen-generated noise	Ĉ	Pass	0.8	
	Lin	Pass	1.6	
Linearity range for Leq		Pass	0.3	
Lineality range for Leq	At reference range, Step 5 dB at 4 kHz	Delinena.en		
	Reference SPL on all other ranges	Pass	0.3	
	2 dB below upper limit of each range	Pass	0.3	
Linearity range for CDI	2 dB above lower limit of each range	Pass	0.3	
Linearity range for SPL	At reference range , Step 5 dB at 4 kHz	Pass	0.3	
Frequency weightings	A	Pass	0.3	
	С	Pass	0.3	
	Lin	Pass	0.3	
Time weightings	Single Burst Fast	Pass	0.3	
10000	Single Burst Slow	Pass	0.3	
Peak response	Single 100µs rectangular pulse	Pass	0.3	
R.M.S. accuracy	Crest factor of 3	Pass	0.3	
Time weighting I	Single burst 5 ms at 2000 Hz	Pass	0.3	
	Repeated at frequency of 100 Hz	Pass	0.3	
Time averaging	1 ms burst duty factor 1/10 ³ at 4kHz	Pass	0.3	
	1 ms burst duty factor 1/104 at 4kHz	Pass	0.3	
Pulse range	Single burst 10 ms at 4 kHz	Pass	0.4	
Sound exposure level	Single burst 10 ms at 4 kHz	Pass	0.4	
Overload indication	SPL	Pass	0.3	
	Leq	Pass	0.4	

2, Acoustic tests

The complete sound level meter was calibrated on the reference range using a B&K 4226 acoustic calibrator with 1000Hz and SPL 94 dB. The sensitivity of the sound level meter was adjusted. The test result at 125 Hz and 8000 Hz are given in below with test status and the estimated uncertainties.

Test:	Subtest	Status	Expanded Uncertanity (dB)	Coverage Factor
Acoustic response	Weighting A at 125 Hz	Pass	0.3	
	Weighting A at 8000 Hz	Pass	0.5	

3, Response to associated sound calibrator

N/A

The expanded uncertainties have been calculated in accordance with the ISO Publication "Guide to the expression of uncertainty in measurement", and gives an interval estimated to have a level of confidence of 95%. A coverage factor of 2 is assumed unless explicitly stated.

Calibrated by:

Date:

Fung Chi Yip 19-Mar-2020 End

Checked by:

Shek Kwong Tat 19-Mar-2020

Date:

The standard(s) and equipment used in the calibration are traceable to national or international recognised standards and are calibrated on a schedule to maintain the required accuracy level

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Form No.CARP152-2/Issue 1/Rev.C/01/02/2007



香港新界葵涌永基路22-24號好爸爸創科大廈 Good Ba Ba Hitech Building, Nos. 22-24 Wing Kei Road, Kwai Chung, New Territories, Hong Kong Tel: (852) 2873 6860 Fax: (852) 2555 7533 E-mail: smec@cigismec.com Website: www.cigismec.com



CERTIFICATE OF CALIBRATION

Certificate No.:

20CA0914 02

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of

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Item tested

Description: Manufacturer: Sound Level Meter (Type 1)

Microphone B&K

B & K

Type/Model No .:

2238

4188

Serial/Equipment No.: Adaptors used:

2800927

2250455

Item submitted by

Customer Name:

AECOM ASIA CO., LTD.

Address of Customer:

Request No.: Date of receipt:

14-Sep-2020

Date of test:

19-Sep-2020

Reference equipment used in the calibration

Description:

Model:

Serial No.

Expiry Date:

Traceable to:

Multi function sound calibrator

B&K 4226

2288444

23-Aug-2021

CIGISMEC

Signal generator

DS 360

61227

24-Dec-2020

CEPREI

Ambient conditions

Temperature:

22 ± 1 °C 55 ± 10 %

Relative humidity: Air pressure:

1000 ± 5 hPa

Test specifications

The Sound Level Meter has been calibrated in accordance with the requirements as specified in BS 7580: Part 1: 1997 and the lab calibration procedure SMTP004-CA-152.

The electrical tests were performed using an electrical signal substituted for the microphone which was removed and 2. replaced by an equivalent capacitance within a tolerance of ±20%.

The acoustic calibration was performed using an B&K 4226 sound calibrator and corrections was applied for the difference 3. between the free-field and pressure responsess of the Sound Level Meter.

Test results

This is to certify that the Sound Level Meter conforms to BS 7580: Part 1: 1997 for the conditions under which the test was performed.

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

Feng Junqi

Actual Measurement data are documented on worksheets.

Approved Signatory:

Date:

20-Sep-2020

Company Chop:

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

Soils & Materials Engineering Co., Ltd.

Form No.CARP152-1/Issue 1/Rev.C/01/02/2007



香港新界葵涌永基路22-24號好爸爸創科大廈 Good Ba Ba Hitech Building, Nos. 22-24 Wing Kei Road, Kwai Chung, New Territories, Hong Kong Tel: (852) 2873 6860 Fax: (852) 2555 7533 E-mail: smec@cigismec.com Website: www.cigismec.com



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CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.:

20CA0914 02

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of

1, Electrical Tests

The electrical tests were performed using an equivalent capacitance substituted for the microphone. The results are given in below with test status and the estimated uncertainties. The "Pass" means the result of the test is inside the tolerances stated in the test specifications. The "-" means the result of test is outside these tolerances.

Test:	Subtest:	Status:	Expanded Uncertanity (dB)	Coverage Factor
Self-generated noise	A	Pass	0.3	
3	C	Pass	1.0	2.1
	Lin	Pass	2.0	2.2
Linearity range for Leq	At reference range, Step 5 dB at 4 kHz	Pass	0.3	
	Reference SPL on all other ranges	Pass	0.3	
	2 dB below upper limit of each range	Pass	0.3	
	2 dB above lower limit of each range	Pass	0.3	
Linearity range for SPL	At reference range, Step 5 dB at 4 kHz	Pass	0.3	
Frequency weightings	Α	Pass	0.3	
	С	Pass	0.3	
	Lin	Pass	0.3	
Time weightings	Single Burst Fast	Pass	0.3	
	Single Burst Slow	Pass	0.3	
Peak response	Single 100µs rectangular pulse	Pass	0.3	
R.M.S. accuracy	Crest factor of 3	Pass	0.3	
Time weighting I	Single burst 5 ms at 2000 Hz	Pass	0.3	
	Repeated at frequency of 100 Hz	Pass	0.3	
Time averaging	1 ms burst duty factor 1/103 at 4kHz	Pass	0.3	
	1 ms burst duty factor 1/10 ⁴ at 4kHz	Pass	0.3	
Pulse range	Single burst 10 ms at 4 kHz	Pass	0.4	
Sound exposure level	Single burst 10 ms at 4 kHz	Pass	0.4	
Overload indication	SPL	Pass	0.3	
	Leq	Pass	0.4	

2, Acoustic tests

The complete sound level meter was calibrated on the reference range using a B&K 4226 acoustic calibrator with 1000Hz and SPL 94 dB. The sensitivity of the sound level meter was adjusted. The test result at 125 Hz and 8000 Hz are given in below with test status and the estimated uncertainties.

Subtest	Status	Expanded Uncertanity (dB)	Coverage Factor
Weighting A at 125 Hz	Pass	0.3	
Weighting A at 8000 Hz	Pass	0.5	
	Weighting A at 125 Hz	Weighting A at 125 Hz Pass	Weighting A at 125 Hz Pass 0.3

3, Response to associated sound calibrator

N/A

The expanded uncertainties have been calculated in accordance with the ISO Publication "Guide to the expression of uncertainty in measurement", and gives an interval estimated to have a level of confidence of 95%. A coverage factor of 2 is assumed unless explicitly stated.

Calibrated by:

Date:

~

Fung Chi Yip 19-Sep-2020 End

Checked by

Date:

20-Sep-2020

The standard(s) and equipment used in the calibration are traceable to national or international recognised standards and are calibrated on a schedule to maintain the required accuracy level.

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Form No.CARP152-2/Issue 1/Rev.C/01/02/2007



香港 黄 竹 坑 道 3 7 號 利 達 中 心 1 2 樓 12/F., Leader Centre, 37 Wong Chuk Hang Road, Aberdeen, Hong Kong. E-mail: smec@cigismec.com Website: www.cigismec.com Tel: (852) 2873 6860 Fax: (852) 2555 7533



CERTIFICATE OF CALIBRATION

Certificate No.:

20CA0324 01

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Item tested

Description:

Acoustical Calibrator (Class 1)

Manufacturer:

MVI

Type/Model No.:

CAL21

Serial/Equipment No.:

34113610(2011) / N.004.11

Adaptors used:

Yes (BAC21)

Item submitted by

Curstomer:

AECOM ASIA CO., LTD.

Address of Customer:

-

Request No.: Date of receipt:

24-Mar-2020

Date of test:

25-Mar-2020

Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Lab standard microphone	B&K 4180	2341427	03-May-2020	SCL
Preamplifier	B&K 2673	2239857	17-May-2020	CEPREI*
Measuring amplifier	B&K 2610	2346941	05-Jun-2020	CEPREI
Signal generator	DS 360	33873	10-May-2020	CEPREI
Digital multi-meter	34401A	US36087050	08-May-2020	CEPREI
Audio analyzer	8903B	GB41300350	13-May-2020	CEPREI
Universal counter	53132A	MY40003662	10-May-2020	CEPREI

Ambient conditions

Temperature:

22 ± 1 °C

Relative humidity:

55 ± 10 %

Air pressure:

1005 ± 5 hPa

Test specifications

- The Sound Calibrator has been calibrated in accordance with the requirements as specified in IEC 60942 1997 Annex B and the lab calibration procedure SMTP004-CA-156.
- 2, The calibrator was tested with its axis vertical facing downwards at the specific frequency using insert voltage technique.
- 3, The results are rounded to the nearest 0.01 dB and 0.1 Hz and have not been corrected for variations from a reference pressure of 1013.25 hectoPascals as the maker's information indicates that the instrument is insensitive to pressure changes.

Test results

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

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

Feng

Approved Signatory:

Date:

26-Mar-2020

Company Chop:

综合試驗 college and college and

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

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Form No CARP156-1/Issue 1/Rev.D/01/03/2007



香港 黄竹坑 道 3 7 號 利 達 中 心 1 2 樓 12/F., Leader Centre, 37 Wong Chuk Hang Road, Aberdeen, Hong Kong. E-mail: smec@cigismec.com Website: www.cigismec.com Tel: (852) 2873 6860 Fax: (852) 2555 7533



CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.:

20CA0324 01

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1, Measured Sound Pressure Level

The output Sound Pressure Level in the calibrator head was measured at the setting and frequency shown using a calibrated laboratory standard microphone and insert voltage technique. The results are given in below with the estimated uncertainties.

(Output level in dB re 20 µPa) Frequency Output Sound Pressure Measured Output Estimated Expanded Shown Level Setting Sound Pressure Level Uncertainty Hz dB dB dB 1000 94.00 94.14 0.10

2, Sound Pressure Level Stability - Short Term Fluctuations

The Short Term Fluctuations was determined by measuring the maximum and minimum of the fast weighted DC output of the B&K 2610 measuring amplifier over a 20 second time interval as required in the standard. The Short Term Fluctuation was found to be:

At 1000 Hz

STF = 0.014 dB

Estimated expanded uncertainty

0.005 dB

3, Actual Output Frequency

The determination of actual output frequency was made using a B&K 4180 microphone together with a B&K 2673 preamplifier connected to a B&K 2610 measuring amplifier. The AC output of the B&K 2610 was taken to an universal counter which was used to determine the frequency averaged over 20 second of operation as required by the standard. The actual output frequency at 1 KHz was:

At 1000 Hz

Actual Frequency = 1002.6 Hz

Estimated expanded uncertainty

0.1 Hz

Coverage factor k = 2.2

4, Total Noise and Distortion

For the Total Noise and Distortion measurement, the unfiltered AC output of the B&K 2610 measuring amplifier was connected to an Agilent Type 8903 B distortion analyser. The TND result at 1 KHz was:

At 1000 Hz

TND = 1.5 %

Estimated expanded uncertainty

0.7 %

The expanded uncertainties have been calculated in accordance with the ISO Publication "Guide to the expression of uncertainty in measurement", and gives an interval estimated to have a level of confidence of 95%. A coverage factor of 2 is assumed unless explicitly stated.

Calibrated by:

End

zanorated by

Fung Chi Yip Checked by

Date: 25-Mar-2020

Date:

Shek Kwong Tat 26-Mar-2020

The standard(s) and equipment used in the calibration are traceable to national or international recognised standards and are calibrated on a schedule to maintain the required accuracy level.

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Form No.CARP156-2/Issue 1/Rev.C/01/05/2005



ALS Technichem (HK) Pty Ltd

11/F, Chung Shun Knitting Centre 1-3 Wing Yip Street, Kwai Chung N.T., Hong Kong

T: +852 2610 1044 | F: +852 2610 2021

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:

MIKE SHEK

AECOM ASIA COMPANY LIMITED

CLIENT: ADDRESS:

13/F, TOWER 2. GRAND CENTRAL PLAZA.

138 SHATIN RURAL COMMITTEE ROAD,

SHATIN, HONG KONG

WORK ORDER:

HK2024831

SUB- BATCH:

0

LABORATORY:

HONG KONG

DATE RECEIVED:

06-Jul-2020

DATE OF ISSUE:

09-Jul-2020

SPECIFIC COMMENTS

Equipment information (Brand name, Model No., Serial No. and Equipment No.) is provided by client. The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.

The "Tolerance Limit" quoted is the acceptance criteria applicable for similar equipment used by the laboratory or quoted from relevant international standards.

The "Next Calibration Date" is recommended according to best practice principle as practised by the laboratory or quoted from relevant international standards.

The validity of equipment/ meter performance only applies to the result(s) stated in the report.

Equipment Type:

Multifunctional Meter

Service Nature:

Performance Check

Scope:

Conductivity, Dissolved Oxygen, pH Value, Turbidity, Salinity and Temperature

Brand Name/ Model No.:

YSI 6820 V2

Serial No./ Equipment No.:

12D100972 (W.026.36)

Date of Calibration:

06-July-2020

GENERAL COMMENTS

This is the Final Report and supersedes any preliminary report with this batch number.

Ms. Lin Wai Yu, Iris

Assistant Manager - Inorganic

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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER:

HK2024831

SUB- BATCH:

0

DATE OF ISSUE:

09-Jul-2020

CLIENT:

AECOM ASIA COMPANY LIMITED

Equipment Type:

Multifunctional Meter

Brand Name/ Model No.: YSI 6820 V2

Serial No./

12D100972 (W.026.36)

Equipment No.: Date of Calibration:

06-July-2020

Date of Next Calibration:

06-October-2020

PARAMETERS:

Conductivity

Method Ref: APHA (21st edition), 2510B

Expected Reading (µS/cm)	Displayed Reading (μS/cm)	Tolerance (%)
146.9	145.0	-1.3
6667	6670	+0.0
12890	12800	-0.7
58670	58350	-0.5
	Tolerance Limit (%)	±10.0

Dissolved Oxygen

Method Ref: APHA (21st edition), 45000: G

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
2.80	2.78	-0.02
5.55	5.53	-0.02
7.55	7.52	-0.03
	Tolerance Limit (mg/L)	±0.20

pH Value

Method Ref: APHA (21st edition), 4500H: B

Expected Reading (pH unit)	Displayed Reading (pH unit)	Tolerance (pH unit)
4.0	4.03	+0.03
7.0	7.04	+0.04
10.0	10.01	+0.01
	Tolerance Limit (pH unit)	±0.20

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

Ms. Lin Wai Yu, Iris

Assistant Manager - Inorganic

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER:

HK2024831

SUB- BATCH:

0

DATE OF ISSUE:

09-Jul-2020

CLIENT:

AECOM ASIA COMPANY LIMITED

Equipment Type: Brand Name/

Multifunctional Meter

Brand Name/ Model No.:

YSI 6820 V2

Serial No./

12D100972 (W.026.36)

Equipment No.: Date of Calibration:

06-July-2020

Date of Next Calibration:

06-October-2020

PARAMETERS:

Turbidity

Method Ref: APHA (21st edition), 2130B

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.0	
4	4.2	+5.0
10	10.1	+1.0
20	19.4	-3.0
50	49.6	-0.8
100	99.3	-0.7
	Tolerance Limit (%)	±10.0

Salinity

Method Ref: APHA (21st edition), 2520B

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.00	
10	10.04	+0.4
20	19.96	-0.2
30	29.92	-0.3
	Tolerance Limit (%)	+10.0

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

Ms. Lin Wai Yu, Iris

Assistant Manager - Inorganic

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER:

HK2024831

SUB- BATCH:

0

DATE OF ISSUE:

09-Jul-2020

CLIENT:

AECOM ASIA COMPANY LIMITED

Equipment Type:

Multifunctional Meter

Brand Name/ Model No.:

YSI 6820 V2

06-July-2020

Serial No./

Equipment No.: Date of Calibration: 12D100972 (W.026.36)

Date of Next Calibration:

06-October-2020

PARAMETERS:

Temperature

Method Ref: Section 6 of International Accreditation New Zealand Technical

Guide No. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

Expected Reading (°C)	Displayed Reading (°C)	Tolerance (°C)
10.5	10.52	+0.0
20.0	20.04	+0.0
39.5	39.46	-0.0
	Tolerance Limit (°C)	±2.0

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless

of equipment precision or significant figures.

/ : 5

Ms. Lin Wai Yu, Iris

Assistant Manager - Inorganic

APPENDIX F

EM&A Monitoring Schedules

Central Kowloon Route – Kai Tak West Impact Environmental Monitoring Schedule for September 2020

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1-Sep	2-Sep	3-Sep		5-Sep
					24-hour TSP	
					1-hour TSP	
					Noise	
6-Sep	7-Sep	8-Sep	9-Sep		11-Sep	12-Sep
				24-hour TSP		
				1-hour TSP		
				Noise		
13-Sep	14-Sep	15-Sep	16-Sep	17-Sep	18-Sep	19-Sep
			24-hour TSP			
			1-hour TSP			
			Noise			
20-Sep	21-Sep	22-Sep	23-Sep	24-Sep	25-Sep	26-Sep
		24-hour TSP				
		1-hour TSP				
		Noise				
27-Sep	28-Sep	29-Sep	30-Sep			
	24-hour TSP					
	1-hour TSP					
	Noise					

The schedule is subject to change due to unforeseeable circumstances (e.g. adverse weather, etc)

Air Quality Monitoring Station

E-A14a: Block B of Merit Industrial Centre

Noise Monitoring Stations

E-N12a: 19 Hing Yan Street

E-N21a: Block B of Merit Industrial Centre

Monitoring Frequency

24-hour TSP: Once every 6 days

1-hour TSP: 3 times every 6 days (as required in case of complaints)

Monitoring Frequency

Once per week

Central Kowloon Route – Kai Tak West Tentative Impact Environmental Monitoring Schedule for October 2020

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1-Oct	2-Oct	3-Oct
						24-hour TSP
						1-hour TSP
4-Oct	5-Oct	6-Oct	7-Oct	8-Oct	9-Oct	10-Oct
					24-hour TSP	
					1-hour TSP	
					Noise	
11-Oct	12-Oct	13-Oct	14-Oct		16-Oct	17-Oct
				24-hour TSP		
				1-hour TSP		
				Noise		
	_				_	
18-Oct	19-Oct	20-Oct	21-Oct	22-Oct	23-Oct	24-Oct
			24-hour TSP			
			1-hour TSP			
			Noise			
25-Oct	26-Oct	27-Oct	28-Oct	29-Oct	30-Oct	31-Oct
		24-hour TSP				
		1-hour TSP				
		Noise				
The schedule is subject to ch						

The schedule is subject to change due to unforeseeable circumstances (e.g. adverse weather, etc)

Air Quality Monitoring Station

E-A14a: Block B of Merit Industrial Centre

Noise Monitoring Stations

E-N12a: 19 Hing Yan Street

E-N21a: Block B of Merit Industrial Centre

Monitoring Frequency

24-hour TSP: Once every 6 days

1-hour TSP: 3 times every 6 days (as required in case of complaints)

Monitoring Frequency

Once per week

Central Kowloon Route - Kai Tak West Water Quality Monitoring Schedule September 2020

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	•	1-Sep-20	2-Sep-20	3-Sep-20	4-Sep-20	5-Sep-20
6-Sep-20	7-Sep-20	8-Sep-20	9-Sep-20	10-Sep-20	11-Sep-20	12-Sep-20
					Mid-Ebb 6:42 Mid-Flood 19:18	
					Mid-Flood 19.16	
13-Sep-20	14-Sep-20	15-Sep-20	16-Sep-20	17-Sep-20	18-Sep-20	19-Sep-20
	AR LELL		14.00		10.50	
	Mid-Ebb 9:52		Mid-Ebb 11:26		Mid-Ebb 12:56	
	Mid-Flood 17:28		Mid-Flood 18:16		Mid-Flood 19:16	
20-Sep-20	21-Sep-20	22-Sep-20	23-Sep-20	24-Sep-20	25-Sep-20	26-Sep-20
	MIN FLE		M:4 Ebb 4.40		Mid-Ebb 7:14	
	Mid-Ebb 2:37 Mid-Flood 9:05		Mid-Ebb 4:19 Mid-Flood 11:23		Mid-Ebb 7:14 Mid-Flood 19:55	
	Wild-Flood 9.05		WIIQ-F1000 11.23		Mid-Flood 19.55	
27-Sep-20	28-Sep-20	29-Sep-30	30-Sep-20			
	Mid Ekk 40.45		M:4 Ebb 44.00			
	Mid-Ebb 10:15 Mid-Flood 17:29		Mid-Ebb 11:33 Mid-Flood 18:17			
	IVIIU-F1000 17:29		IVIIU-F1000 18:17			

The tide prediction was based on the predicted tide data at Quarry Bay from Hong Kong Observatory. The schedule is subject to change due to unforeseeable circumstances (e.g. adverse weather, etc)

Central Kowloon Route - Kai Tak West **Tentative Water Quality Monitoring Schedule October 2020**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1-Oct-20	2-Oct-20	3-Oct-20
4-Oct-20	5-Oct-20	6-Oct-20	7-Oct-20	8-Oct-20	9-Oct-20	10-Oct-20
	Mid-Ebb 1:57 Mid-Flood 8:17		Mid-Ebb 2:27 Mid-Flood 9:45			Mid-Ebb 5:06 Mid-Flood 18:06
11-Oct-20	12-Oct-20	13-Oct-20	14-Oct-20	15-Oct-20	16-Oct-20	17-Oct-20
	Mid-Ebb 8:21 Mid-Flood 16:19		Mid-Ebb 10:11 Mid-Flood 17:03		Mid-Ebb 11:49 Mid-Flood 18:02	
18-Oct-20	19-Oct-20	20-Oct-20	21-Oct-20	22-Oct-20	23-Oct-20	24-Oct-20
	Mid-Ebb 1:30 Mid-Flood 8:08		Mid-Ebb 3:02 Mid-Flood 10:10		Mid-Ebb 5:10 Mid-Flood 17:40	
25-Oct-20	26-Oct-20	27-Oct-20	28-Oct-20	29-Oct-20	30-Oct-20	31-Oct-20
			Mid-Ebb 10:26 Mid-Flood 17:07		Mid-Ebb 11:38 Mid-Flood 17:49	

The tide prediction was based on the predicted tide data at Quarry Bay from Hong Kong Observatory.

The schedule is subject to change due to unforeseeable circumstances (e.g. adverse weather, etc)

APPENDIX G

Air Quality Monitoring Results and their Graphical Presentations

Appendix G Air Quality Monitoring Results

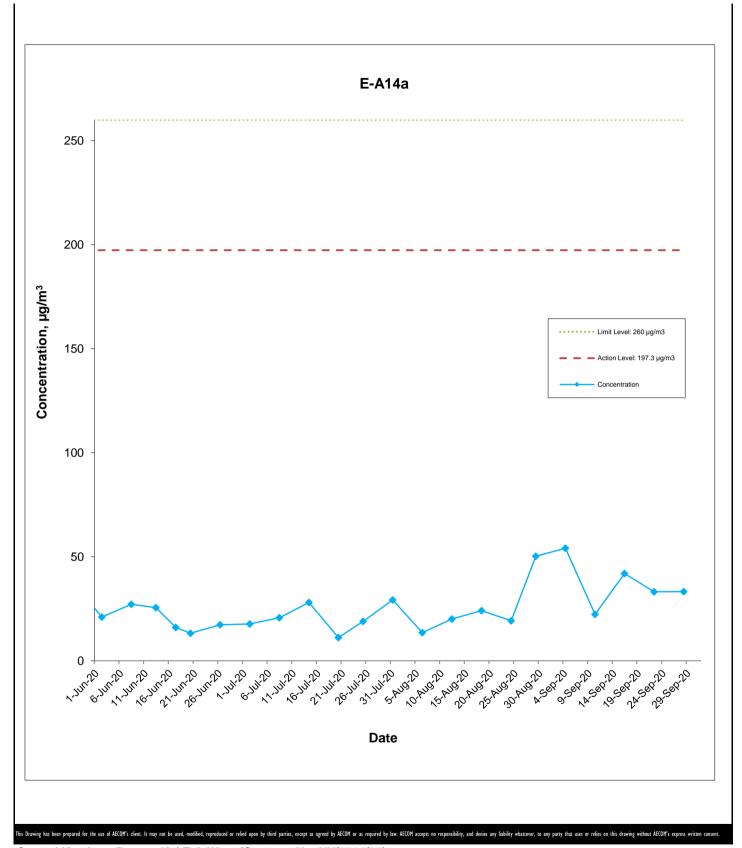
24-hour TSP Monitoring Results at Station E-A14a (Block B, Merit Industrial Centre)

	Weather	Air	Atmospheric	Flow R	Flow Rate (m³/min.)		Total vol.	Filter W	eight (g)	Particulate	Elaps	e Time	Sampling	Conc.
Date	Condition	Temp. (°C)	Pressure (hPa)	Initial	Initial Final ((m ³)	Initial	Final	weight(g)	Initial	Final	Time(hrs.)	(µg/m³)
4-Sep-20	Sunny	29.8	1008.9	1.33	1.33	1.33	1916.6	2.6914	2.7951	0.1037	10122.33	10146.33	24.00	54.1
10-Sep-20	Fine	28.5	1007.1	1.33	1.33	1.33	1916.6	2.6944	2.7371	0.0427	10146.33	10170.33	24.00	22.3
16-Sep-20	Sunny	29.5	1008.0	1.33	1.33	1.33	1916.6	2.6623	2.7426	0.0803	10170.33	10194.33	24.00	41.9
22-Sep-20	Sunny	28.6	1010.4	1.33	1.33	1.33	1916.6	2.6550	2.7186	0.0636	10194.33	10218.33	24.00	33.2
28-Sep-20	Cloudy	26.6	1010.5	1.34	1.34	1.34	1925.3	2.6560	2.7200	0.0640	10218.33	10242.33	24.00	33.2
													Average	36.9
											Minimum	22.3		
	To the state of th						Maximum	54.1						

Appendix G Air Quality Monitoring Results

1-hour TSP Monitoring Results at Station E-A14a (Block B, Merit Industrial Centre)

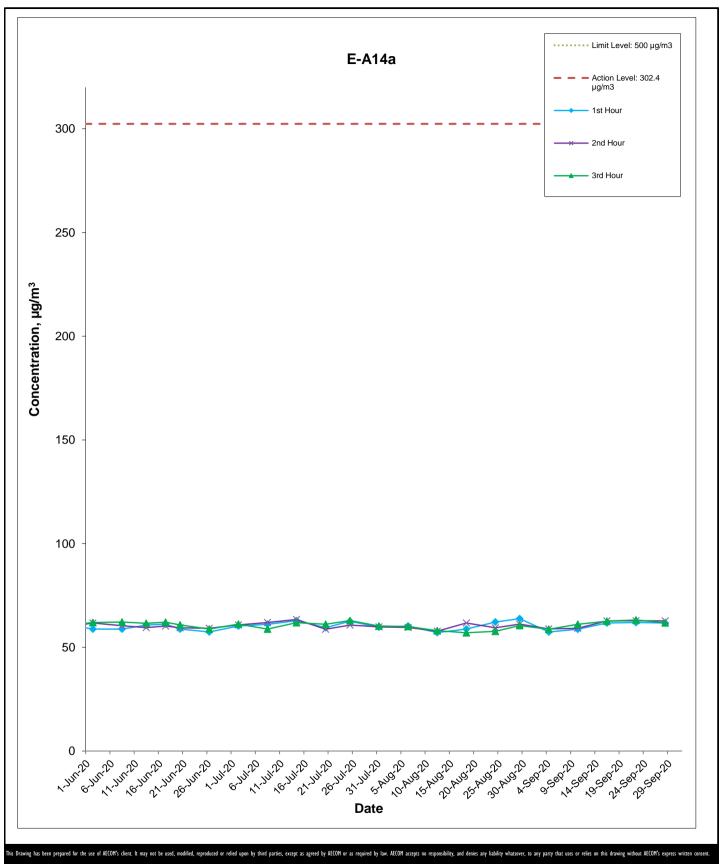
	Start		1st Hour	2nd Hour	3rd Hour
	Time	Weather	Conc.	Conc.	Conc.
Date	(hh:mm)	Condition	(µg/m³)	(µg/m³)	(µg/m ³)
4-Sep-20	9:00	Cloudy	57.4	58.9	58.7
10-Sep-20	10:35	Fine	58.7	59.2	61.1
16-Sep-20	9:00	Sunny	61.7	62.7	62.6
22-Sep-20	9:30	Sunny	62.0	62.8	63.2
28-Sep-20	13:49	Cloudy	61.7	62.7	61.8
				Average	61.0
				Min	57.4
				Max	63.2



Central Kowloon Route - Kai Tak West (Contract No. HY/2014/07)



Date: October 2020 Appendix G



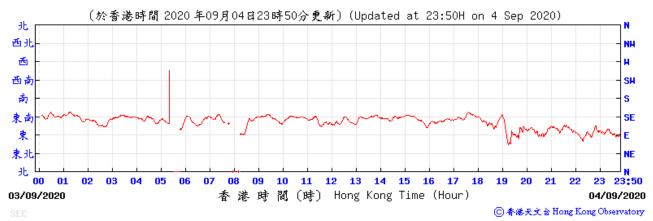
Central Kowloon Route - Kai Tak West (Contract No. HY/2014/07)

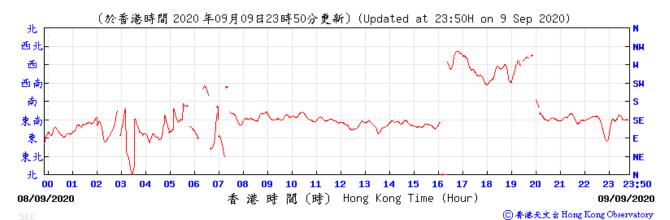


Date: October 2020 Appendix G

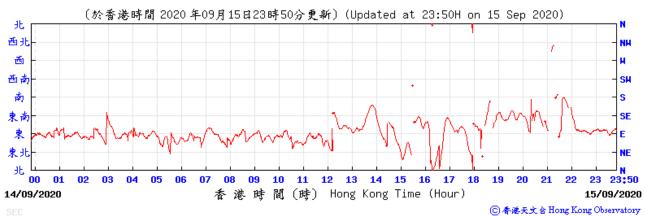
Data of Wind Direction Extracted from Kai Tak Wind Station of the Hong Kong Observatory

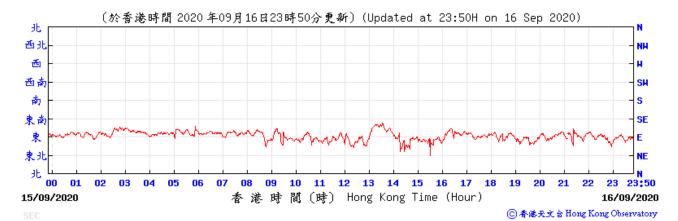


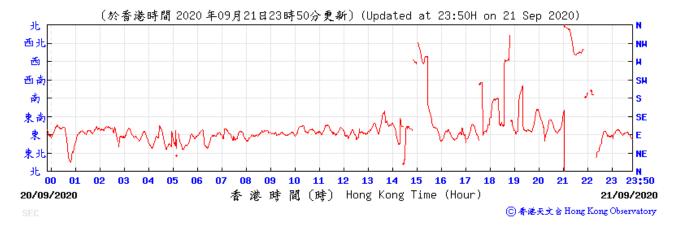






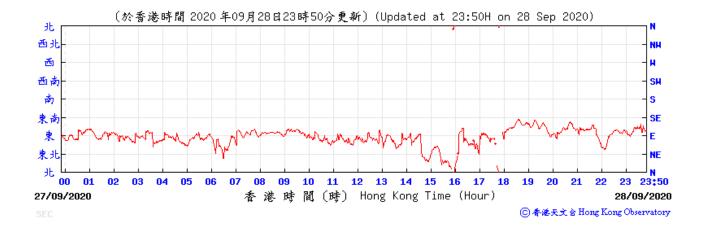






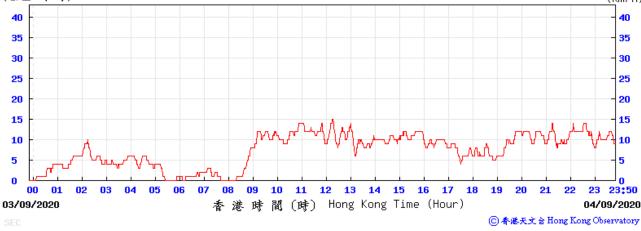






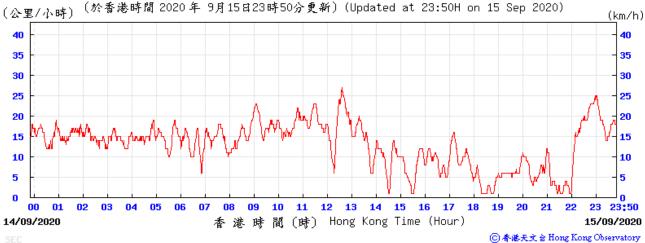
Data of Wind Speed Extracted from Kai Tak Wind Station of the Hong Kong Observatory



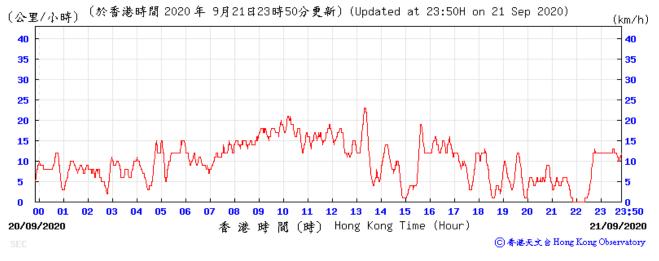


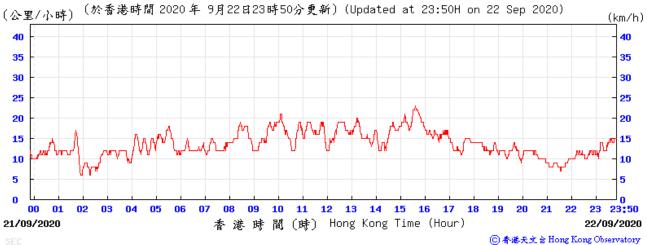


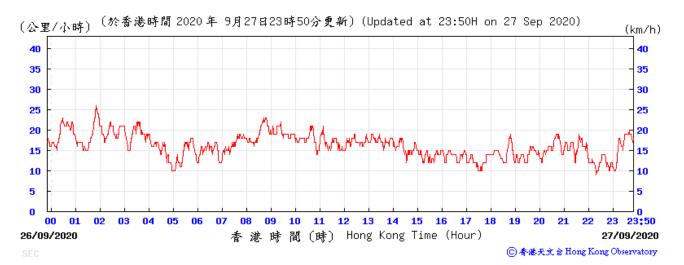














APPENDIX H

Noise Monitoring Results and their Graphical Presentations

Appendix H Regular Construction Noise Monitoring Results

Daytime Noise Monitoring Results at Station E-N12a (19 Hing Yan Street)

Date	Weather	Noise	e Level for	· 30-min, d	Limit Level,	Exceedance	
Date	Condition	Time	L90	L10	Leq	dB(A)	(Y/N)
4-Sep-20	Cloudy	Cloudy 13:50 65.1 67.0 66.3		75	N		
10-Sep-20	Fine	11:30	11:30 63.5 67.0		65.8	75	N
16-Sep-20	Sunny	10:30	67.3	69.1	68.0	75	N
22-Sep-20	Sunny	10:50	10:50 67.3 69.4 68.1		75	N	
28-Sep-20	Cloudy	13:29	64.3	68.1	66.2	75	N

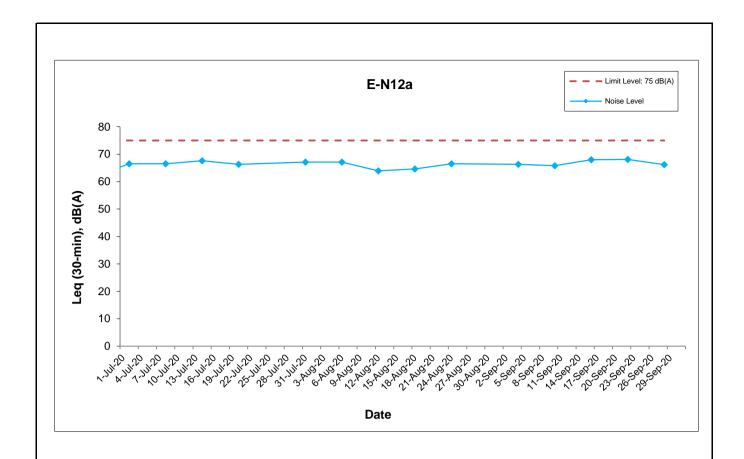
Daytime Noise Monitoring Results at Station E-N21a (Block B of Merit Industrial Centre)

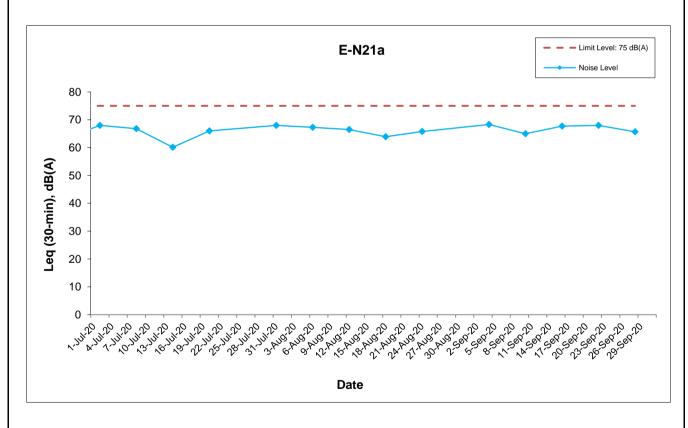
D (Weather	Noise	e Level for	· 30-min, d	B(A) #	Limit Level,	Exceedance
Date	Condition	Time	L90	L10	Leq	dB(A)	(Y/N)
4-Sep-20	Cloudy	13:05	67.5	68.9	68.3	75	N
10-Sep-20	Fine	10:40	63.0	66.5	65.0	75	N
16-Sep-20	Sunny	9:15	66.1	68.4	67.7	75	N
22-Sep-20	Sunny	9:50	67.1	69.2	68.0	75	N
28-Sep-20	Cloudy	14:59	63.2	67.3	65.7	75	N

⁺ - Façade measurement.

^{# -} A correction of +3dB(A) was made to the free field measurement.

^{* -} Limit Level of 70dB(A) applies to education institutes while 65dB(A) applies during school





Central Kowloon Route - Kai Tak West (Contract No. HY/2014/07)

AECOM

Graphical Presentation of Impact Noise Monitoring Results

Date: October 2020 Appendix H

APPENDIX I

Water Monitoring Results

Water Quality	Monitoring F	esults at CS	1 - Mid-Ebl	Tide																							
Date	Weather	Sampling	Sea	Depti	h (m)		rature(°C)		nity(ppt)		H	DO Satur		Dissolved Oxyger	_		bidity (NT	<u> </u>		nded Solid			oper (µg/L			PAH (µg	
	Condition	Time	Condition		T	Value 25.23	Average	Value 33.29	Average	8.05	Average	Value 101.70	Average	Value Average 6.97	DA	2.30	Average	DA	Value 1.70	Average	DA	1.00	Average	DA	Value .	Average	DA
				Surface	1.0	25.11	25.20	33.40	33.33	8.07	8.06	102.70	101.87	6.93 6.93		2.20	2.30		1.70	1.77		1.00	1.00	1	<1.6	<1.6	
						25.25		33.29		8.06		101.20		6.89	6.54	2.40			1.90			<1		1	<1.6		
44.0 00	F1	5.40	Mandanasa		40.4	24.46	04.40	34.34	04.04	8.08	0.07	88.90	00.00	6.18	0.0 .	2.30	0.07	0.40	2.30	0.00	0.04	<1	4.00	4.00	<1.6	4.0	
11-Sep-20	Fine	5:19	Moderate	Middle	10.4	24.47 24.52	24.48	34.35 34.23	34.31	8.05 8.08	8.07	87.70 90.50	89.03	5.98 6.15 6.30		2.30	2.37	2.43	2.20	2.30	2.34	1.00	1.00	1.00	<1.6	<1.6	<1.6
						24.32		34.23		8.07		85.30		5.85		2.80		1	2.70			1.00		1	<1.6 <1.6		t
				Bottom	19.8	24.40	24.42	34.51	34.46	8.04	8.07	83.80	84.93	5.68 5.80	5.80	2.50	2.63		3.00	2.97		<1	1.00	1	<1.6	<1.6	
						24.49		34.32		8.09		85.70	,	5.88		2.60			3.20			1.00		Ш_	<1.6		
				Curtosa		27.66	27.05	31.19	24.24	8.23	0.40	82.00	00.00	5.43		3.10	2.40		2.90	0.77		3.00	2.00	1	<1.6	.1.0	
				Surface	1.1	27.63 27.66	27.65	31.24 31.20	31.21	8.16 8.17	8.19	82.50 82.10	82.20	5.46 5.44 5.43		3.10	3.10		2.80	2.77		3.00	3.00	1	<1.6 <1.6	<1.6	
						26.66		32.59		8.19		77.10		5.15	5.28	3.20		1	3.10			3.00		1	<1.6		t
14-Sep-20	Cloudy	8:34	Moderate	Middle	10.0	26.62	26.64	32.64	32.63	8.20	8.23	75.80	76.67	5.07 5.12		3.30	3.27	3.20	3.40	3.23	3.28	2.00	2.67	2.67	<1.6	<1.6	<1.6
						26.63		32.65		8.29		77.10		5.15		3.30			3.20			3.00		1	<1.6		1
				Bottom	19.1	26.60	26.50	32.70	22.70	8.30	0 22	70.30	69.70	4.69 4.60 4.59	4 50	3.20	2 22		3.70	3.83		3.00	2.33	1	<1.6	<1.6	
				BOLLOITI	19.1	26.49 26.67	26.59	32.79 32.60	32.70	8.21 8.19	8.23	68.90 66.90	68.70	4.60 4.59 4.47	4.59	3.30	3.23		4.00 3.80	3.03		2.00	2.33	1	<1.6 <1.6	<1.0	
						27.73		31.15		8.17		81.10		5.69		3.20			3.00			1.00			<1.6		
				Surface	1.0	27.77	27.76	31.14	31.15	8.18	8.18	81.30	81.67	5.71 5.73		3.20	3.20		2.50	2.77		1.00	1.00	1	<1.6	<1.6	
						27.77		31.16		8.19		82.60		5.79	5.67	3.20			2.80			<1		1	<1.6		1
16-Sep-20	Sunny	10:05	Moderate	Middle	10.9	27.73 27.75	27.73	31.20 31.21	31.21	8.20 8.17	8.18	79.90 79.30	79.73	5.62 5.57 5.60		3.10	3.20	3.30	3.20	3.17	3.20	<1 <1	<1	1.00	<1.6 <1.6	<1.6	<1.6
10-Зер-20	Suring	10.03	Woderate	Wilddie	10.3	27.73	21.13	31.21	31.21	8.17	0.10	80.00	13.13	5.62		3.20	3.20	3.30	3.30	5.17	3.20	<1		1.00	<1.6	<1.0	(1.0
						27.71		31.21		8.17		80.10		5.63		3.40		1	3.50			1.00		1	<1.6		
				Bottom	20.6	27.73	27.73	31.20	31.21	8.18	8.17	79.30	79.47	5.57 5.59	5.59	3.50	3.50		3.70	3.67		<1	1.00	1	<1.6	<1.6	
						27.74		31.21		8.17 8.07		79.00 82.80		5.56	ļ	3.60			3.80			1.00			<1.6		
				Surface	1.0	28.02	28.03	30.70	30.71	8.05	8.05	82.30	82.53	5.76 5.73 5.74		2.50	2.60		2.70 3.10	3.00		1.00	1.00	1	<1.6 <1.6	<1.6	
						28.04		30.73		8.03	1	82.50		5.74	5.71	2.70			3.20			1.00		1	<1.6		
						28.05		30.84		8.06		80.90		5.63	3.71	2.90		1	3.40			1.00		1	<1.6		
18-Sep-20	Fine	11:37	Moderate	Middle	10.7	28.08	28.07	30.92	30.88	8.02	8.04	82.10	81.43	5.72 5.67		2.80	2.87	2.79	3.30	3.30	3.48	1.00	1.00	1.00	<1.6	<1.6	<1.6
						28.07 28.08		30.89		8.04 8.00		81.30 81.80		5.67 5.70		2.90		+	3.20 4.30			1.00		ł	<1.6 <1.6		ł
				Bottom	20.3	28.06	28.07	30.87	30.89	8.06	8.03	80.90	81.33	5.64 5.67	5.67	3.00	2.90		4.20	4.13		1.00	1.00	1	<1.6	<1.6	
						28.07		30.90		8.03		81.30	,	5.66		2.90			3.90			1.00		Ш_	<1.6		
				Surface		28.47	00.40	29.79	00.07	8.29	0.00	78.70	70.00	5.14		3.90	0.07		2.50	0.70		<1		1	<1.6	4.0	
		Sun	Surface	1.1	28.48 28.50	28.48	29.78 30.05	29.87	8.34 8.35	8.33	79.40 76.50	78.20	5.18 5.11 5.00		3.90	3.87		2.70	2.70		<1 <1	<1	1	<1.6 <1.6	<1.6		
						28.60		30.82		8.31		76.40		4.99	5.01	4.00		1	3.20			<1		1	<1.6		l
21-Sep-20	Cloudy	1:52	Moderate	Middle	9.2	28.60	28.60	30.79	30.82	8.33	8.30	74.20	75.17	4.85 4.91		3.90	3.93	3.92	3.30	3.23	3.06	<1	<1	<1	<1.6	<1.6	<1.6
						28.61		30.85		8.27		74.90		4.89		3.90			3.20			<1		1	<1.6		1
				Bottom	18.0	28.60	28.60	30.84	30.82	8.30	8.30	74.20	73.20	4.88 4.78 4.81	4.81	4.10	3.97		3.30	3.23		<1	-1	1	<1.6	<1.6	
				BOLLOITI	10.0	28.61 28.60	20.00	30.86	30.62	8.27 8.33	0.30	72.80 72.60	73.20	4.78 4.81 4.77	4.01	3.90	3.91		3.40	3.23		<1 <1	<1	1	<1.6 <1.6	<1.0	
						29.10		30.57		8.29		82.50		5.35		3.60			3.20			<1			<1.6		
				Surface	1.0	29.07	29.10	30.67	30.58	8.29	8.29	86.30	83.53	5.58 5.41		3.60	3.57		2.70	2.97		<1	<1	1	<1.6	<1.6	
						29.13 28.94		30.51		8.29		81.80 81.50		5.30	5.38	3.50		-	3.00 2.60			<1		ł	<1.6 <1.6		1
23-Sep-20	Fine	3:02	Moderate	Middle	9.5	28.94	28.94	31.22 31.36	31.33	8.29 8.28	8.29	82.40	82.70	5.28 5.34 5.36		3.40	3.53	3.56	2.80	2.70	3.08	<1 <1	<1	<1	<1.6	<1.6	<1.6
						28.95		31.41		8.30	1	84.20		5.45		3.60			2.70	-		<1		1	<1.6		
						28.97		31.17		8.29		81.30		5.27		3.50			3.70			<1		1	<1.6		ĺ
				Bottom	18.1	28.97 28.95	28.96	31.24 31.48	31.30	8.27 8.30	8.29	82.20 83.60	82.37	5.32 5.34 5.42	5.34	3.60	3.57		3.40	3.57		<1 <1	<1	1	<1.6	<1.6	
						29.26		31.46		8.00		97.70		6.28	1	3.50			1.80			<1	=		<1.0		_
				Surface	1.1	29.28	29.27	31.70	31.59	7.98	7.97	96.50	96.60	6.20 6.21		3.50	3.53		1.80	1.77				1			
						29.28		31.83		7.94		95.60		6.14	6.18	3.60		<u> </u>	1.70					1			1
25-Sep-20	Fine	5:58	Moderate	Middle	10.1	29.29 29.28	29.29	31.64 31.99	31.81	7.99 7.93	7.96	96.60 94.20	95.63	6.23 6.05 6.15		3.50	3.50	3.53	2.40	2.47	2.30	 		1	\vdash		
25-3ep-20	rille	5.56	Widderate	Middle	10.1	29.28	29.29	31.81	31.01	7.93	7.90	94.20	93.03	6.17		3.50	3.30	3.33	2.50	2.47	2.30			1	\vdash		
						29.28		31.88		7.95		95.60		6.14		3.50		1	2.70					1		-	l
				Bottom	19.1	29.29	29.27	31.64	31.86	7.98	7.94	96.60	95.40	6.21 6.13	6.13	3.70	3.57		2.70	2.67				1			
						29.25		32.06		7.90		94.00		6.03	1	3.50			2.60			├		Ь——	igspace		
				Surface	1.0	28.81	28.81	32.02 32.00	32.00	8.08 8.15	8.14	96.00 94.30	94.77	6.20 6.10 6.12		4.50 4.40	4.47		3.20 3.50	3.33				1	\vdash		
						28.80		31.99		8.19		94.00		6.07	0.40	4.50			3.30					1			
						28.92		32.19		8.12		94.00		6.06	6.12	4.50		1	4.10					1			
28-Sep-20	Cloudy	8:53	Moderate	Middle	10.6	28.93	28.92	32.19	32.18	8.16	8.11	93.60	94.93	6.03 6.12		4.40	4.43	4.47	4.40	4.27	4.74			1			
						28.90 28.91		32.17 32.22		8.05 8.02		97.20 100.40		6.27 6.47		4.40 4.50		1	4.30 6.50					ł			+
				Bottom	20.0	28.92	28.92	32.20	32.20	8.11	8.10	94.30	96.10	6.08 6.20	6.20	4.50	4.50		6.80	6.63				1	\vdash		
						28.92		32.19		8.16		93.60	•	6.04		4.50			6.60					<u> </u>			
						28.87		31.72		7.92		79.10		5.54		3.50			3.90								
				Surface	1.1	28.89	28.88	31.67	31.69	7.92	7.90	77.20	77.87	5.38 5.44		3.40	3.43		4.00	4.07		\vdash			\vdash		
					-	28.88 28.87		31.68 31.71		7.85 7.93		77.30 75.80		5.39 5.30	5.40	3.40		+	4.30 4.80						\vdash		t
30-Sep-20	Fine	10:27	Moderate	Middle	10.5	28.87	28.87	31.73	31.71	7.90	7.91	79.10	76.90	5.51 5.37		3.80	3.73	3.76	4.80	4.90	5.52			1	H		
1						28.87		31.70		7.89	Ī	75.80		5.30		3.70		1	5.10					1			1
1				Dotton:	20.4	28.87	20.07	31.74	24 70	7.90	7.04	77.40	77 47	5.40	E 40	4.20	4.40		7.70	7.00		$\vdash \vdash \vdash$		1	\vdash		
1				Bottom	20.1	28.87 28.87	28.87	31.70 31.71	31.72	7.91 7.92	7.91	76.90 77.20	77.17	5.39 5.40 5.41	5.40	4.10	4.10		7.50 7.60	7.60		\vdash		1	\vdash		
Note:			1	1		20.01	1	01.71		1.32	1	11.20		0.71	1	7.00		1	7.50								

^{1.} Some of laboratory results of Copper and Total PAH in September 2020 were in progress, the summary for those parameters will be reported in next reporting period.

Water Quality	Monitoring R	esults at CS	1 - Mid-Floo	d Tide																							_
Date	Weather	Sampling	Sea	Depth	n (m)	Temperature(°C)	Sanlir	nity(ppt)	pl	Н	DO Satu	ration (%)	Dissolve	ed Oxygen (mg/L)	Т	urbidity (NTU		Suspe	nded Solids			pper (µg/L)			l PAH (μg/L	
Date	Condition	Time	Condition	Вери	. ()	Value Average	Value	Average	Value	Average	Value	Average	Value	Average	DA	Value	Average	DA	Value	Average	DA		Average	DA		Average	DA
				Surface	1.0	25.13 25.12 25.13	33.31	33.31	8.13	8.13	89.10	90.53	6.08	6.18		1.80	1.80		3.90	3.73		<1	<1		<1.6	<1.6	
				Surface	1.0	25.12 25.13 25.13	33.31 33.30	33.31	8.13 8.13	0.13	90.60 91.90	30.33	6.19 6.27	0.10		1.80	1.00		3.70	5.75		<1 <1	\1		<1.6 <1.6	<1.0	
						25.07	33.36		8.13		87.30		5.96		6.06	2.00		1	3.00			<1			<1.6		
11-Sep-20	Fine	19:34	Moderate	Middle	10.3	25.07 25.07	33.36	33.36	8.12	8.12	85.30	87.00	5.82	5.94		2.10	2.03	2.04	2.90	2.97	3.01	<1	<1	1.00	<1.6	<1.6	<1.6
						25.07	33.36		8.12		88.40		6.04			2.00			3.00			<1			<1.6		
				Pottom	19.5	25.08 25.07 25.06	33.36	33.37	8.13	0.12	80.90	81.93	5.52	5.59	5.59	2.30	2.30		2.30	2.33		<1	<1		<1.6	<1.6	
				Bottom	13.5	25.07 25.06 25.04	33.36 33.40	33.37	8.13 8.12	8.13	82.40 82.50	01.33	5.62 5.63	5.55	3.33	2.40	2.50		2.40	2.55		<1 <1	\1		<1.6 <1.6	<1.0	
						27.70	31.16		8.11		86.70		5.75			3.10			2.20			3.00			<1.6		
				Surface	1.0	27.65 27.66	31.24	31.23	8.12	8.12	86.70	87.33	5.75	5.80		3.20	3.13		2.50	2.27		2.00	2.33		<1.6	<1.6	
						27.62	31.28		8.13		88.60		5.89		5.70	3.10			2.10			2.00			<1.6		
14 Can 20	Claudi	47.54	Madasata	Middle		27.25 27.30 27.24	31.93 31.89	31.94	8.14 8.13	0.40	83.60 84.40	84.60	5.53 5.59	5.60		3.20	2.20	3.20	3.20	3.37	3.31	3.00 2.00	2.67	2.33	<1.6 <1.6	.4.0	<1.6
14-Sep-20	Cloudy	17:51	Moderate	ivildale	9.9	27.30 27.24 27.18	32.01	31.94	8.13	8.13	85.80	04.00	5.68	5.00		3.10	3.20	3.20	3.40	3.31	3.31	3.00	2.07	2.33	<1.6	<1.6	<1.0
						27.30	31.87		8.12		79.00		5.25			3.30		-	4.00			2.00			<1.6		
				Bottom	18.6	27.12 27.24	32.04	31.92	8.14	8.13	80.00	79.83	5.31	5.30	5.30	3.20	3.27		4.50	4.30		2.00	2.00		<1.6	<1.6	
						27.31	31.86		8.13		80.50		5.34			3.30	-		4.40			2.00			<1.6	-	
						27.75	31.30		8.25		79.20		5.57			2.20			4.60			<1			<1.6		
				Surface	1.0	27.75 27.77	31.30	31.30	8.26	8.25	79.20	79.23	5.58	5.58		2.30	2.27		4.40	4.33		<1	<1		<1.6	<1.6	
						27.80 27.70	31.29 31.32		8.25 8.26		79.30 78.10		5.58 5.51		5.54	2.30		-	4.00 3.30			<1 <1			<1.6 <1.6		
16-Sep-20	Sunny	18:35	Moderate	Middle	10.7	27.69 27.70	31.32	31.32	8.26	8.26	78.00	78.07	5.50	5.51		2.30	2.33	2.54	3.20	3.37	3.46	<1	<1	<1	<1.6	<1.6	<1.6
	,					27.70	31.32		8.25		78.10		5.51			2.20			3.60			<1			<1.6	-	
						27.69	31.32		8.26		78.40		5.53			2.80			2.60			<1			<1.6		
				Bottom	20.3	27.70 27.70	31.32	31.32	8.26	8.26	78.20	78.27	5.52	5.52	5.52	3.20	3.03		2.80	2.67		<1	<1		<1.6	<1.6	
						27.70 28.05	31.32 30.74		8.26 8.14		78.20 80.30		5.52 5.61			3.10 2.10			2.60 3.40			<1 <1			<1.6 <1.6	\longrightarrow	
				Surface	1.0	28.07 28.06	30.74	30.75	8.14	8.14	80.50	80.47	5.61	5.61		2.10	2.10		3.10	3.37		<1	<1		<1.6	<1.6	
						28.07	30.75		8.14		80.60		5.62		5.60	2.00			3.60			<1			<1.6	-	
						28.09	30.80		8.14		80.00		5.58		5.00	2.00			4.20			<1			<1.6		
18-Sep-20	Fine	19:45	Moderate	Middle	10.5	28.07 28.08	30.78	30.79	8.13	8.14	79.70	79.83	5.57	5.58		2.20	2.17	2.28	4.20	4.07	4.11	<1	<1	<1	<1.6	<1.6	<1.6
						28.08 28.09	30.78 30.80		8.14 8.13		79.80 79.80		5.58 5.58			2.30			3.80 5.20			<1 <1			<1.6 <1.6		
				Bottom	19.9	28.08 28.09	30.79	30.80	8.13	8.13	79.90	79.90	5.58	5.58	5.58	2.50	2.57		4.90	4.90		<1	<1		<1.6	<1.6	
						28.10	30.81		8.14		80.00		5.58			2.60			4.60			<1			<1.6		
						28.47	29.94		8.34		70.40		4.63			3.20			3.50			<1			<1.6		
				Surface	1.0	28.47 28.47	29.91	29.92	8.34	8.34	70.50	72.13	4.64	4.74		3.10	3.17		3.10	3.37		<1	<1		<1.6	<1.6	
						28.46 28.57	29.91 30.66		8.34 8.33		75.50 73.10		4.94 4.79		4.70	3.20		-	3.50 2.70			<1 <1			<1.6 <1.6		
21-Sep-20	Cloudy	9:30	Moderate	Middle	9.6	28.56 28.56	30.62	30.64	8.33	8.33	70.30	71.20	4.60	4.66		3.30	3.23	3.21	2.90	2.83	2.81	<1	<1	<1	<1.6	<1.6	<1.6
						28.56	30.63		8.33		70.20		4.59			3.20			2.90			<1			<1.6		
				D	40.0	28.56	30.67	00.00	8.33	0.00	72.20	70.00	4.75	4.05	4.05	3.20	0.00		2.20	0.00		<1			<1.6	4.0	
				Bottom	18.2	28.55 28.54 28.54	30.61 30.60	30.63	8.33 8.33	8.33	70.20 70.30	70.90	4.59 4.60	4.65	4.65	3.20	3.23		2.10	2.23		<1 <1	<1		<1.6	<1.6	
						29.12	30.58		8.30		80.20		5.20			3.40			2.30			<1			<1.6	+	
				Surface	1.0	29.12 29.14	30.61	30.57	8.31	8.30	84.30	81.67	5.48	5.30		3.50	3.43		2.10	2.27		<1	<1		<1.6	<1.6	
						29.19	30.53		8.30		80.50		5.21		5.26	3.40			2.40			<1			<1.6		
22 Can 20	C	44.40	Madasata	Middle	0.0	28.95	30.77	20.74	8.31	0.24	79.90	00.00	5.18	F 04		3.50	2.50	2.40	2.50	0.47	2.52	<1	.4	.4	<1.6	.4.0	.4.0
23-Sep-20	Sunny	11:48	Moderate	Middle	9.6	29.08 28.98 28.90	30.54 30.90	30.74	8.31 8.31	8.31	80.20 80.90	80.33	5.20 5.26	5.21		3.50 3.50	3.50	3.49	2.50	2.47	2.52	<1 <1	<1	<1	<1.6	<1.6	<1.6
						28.99	30.80		8.30		79.40		5.16			3.60			2.60			<1			<1.6		
				Bottom	18.2	29.08 28.98	30.60	30.79	8.30	8.30	79.80	79.93	5.18	5.19	5.19	3.50	3.53		2.90	2.83		<1	<1		<1.6	<1.6	
						28.88	30.96		8.31		80.60		5.23			3.50			3.00			<1			<1.6		
				Surface	1.1	29.26 29.28 29.27	31.23 31.37	31.28	8.14 8.15	8.14	93.30 94.10	93.77	6.01 6.06	6.04		2.10	2.10		3.90	3.87							
				Surface	1.1	29.27	31.23	31.20	8.14	0.14	93.90	93.11	6.05	0.04		2.10	2.10		3.80	3.07							
						29.27	31.89		8.13		93.30		5.99		6.02	2.20		Ī	3.40								
25-Sep-20	Fine	20:07	Moderate	Middle	9.5	29.26 29.26	31.97	31.93	8.13	8.13	93.30	93.43	5.99	6.00		2.20	2.20	2.17	3.10	3.27	3.17						
						29.26	31.92		8.14		93.70		6.02			2.20			3.30								
				Bottom	18.1	29.27 29.27 29.27	31.88 31.91	31.90	8.13 8.14	8.14	92.80 92.30	92.70	5.96 5.92	5.95	5.95	2.20	2.20		2.40	2.37							
				Dottoill	13.1	29.27	31.90	01.30	8.14	0.14	93.00	32.10	5.92	0.30	0.33	2.20	2.20		2.40	2.51							
				1		28.83	31.91		8.10		91.80		5.93			4.60			6.20			1				$\overline{}$	_
				Surface	1.1	28.83 28.83	31.93	31.92	8.10	8.10	91.70	91.73	5.93	5.93		4.60	4.60		6.30	6.23							
						28.83	31.92		8.10		91.70		5.92		5.91	4.60		-	6.20						\square		
28-Sep-20	Fine	17:42	Moderate	Middle	10.2	28.84 28.84 28.84	31.96 32.05	32.01	8.09 8.10	8.10	91.10 91.20	91.13	5.89 5.89	5.89		4.60 4.50	4.57	4.60	7.10	6.93	7.20	-			\vdash		
20 Och-20	1 1/10	17.42	woodiate	wildule	10.2	28.84	32.03	52.01	8.11	0.10	91.10	51.10	5.89	0.00		4.60	7.01	7.00	7.10	0.33	1.20						
						28.84	32.13		8.10		91.30		5.90			4.70		1	8.60							$\overline{}$	
				Bottom	19.4	28.84 28.84	32.09	32.12	8.10	8.10	91.20	91.27	5.89	5.90	5.90	4.60	4.63		8.50	8.43							
				ļ		28.84	32.15		8.11		91.30		5.90			4.60			8.20			 			₩		
				Surface	1.0	28.99 29.00 29.00	31.20	31.21	7.93	7.94	73.80	74.30	5.16	5.19		2.30	2 17		5.00	4.97		1			\vdash		
				Juilace	1.0	29.00 29.00	31.21 31.22	31.21	7.94 7.94	1.54	74.70 74.40	14.30	5.22 5.20	5.18		2.10	2.17		4.80 5.10	4.31		1			\vdash		
						29.09	31.40		7.94		73.40		5.12		5.15	2.40		1	6.00							$\overline{}$	
30-Sep-20	Fine	18:49	Moderate	Middle	10.6	29.05 29.07	31.38	31.39	7.93	7.93	72.90	73.20	5.09	5.11		2.60	2.57	2.69	5.80	5.93	5.88						
						29.06	31.40		7.93		73.30		5.12			2.70		4	6.00			-			\vdash		
				Bottom	20.2	29.03 29.06 29.06	31.38 31.45	31.41	7.93 7.93	7.93	73.10 73.20	73.23	5.11 5.12	5.12	5.12	3.40	3.33		7.00	6.73		1			\vdash		
						29.09	31.40	1	7.94	1	73.40		5.14	1		3.20	2.00		6.60								
Note:																						н					

^{1.} Some of laboratory results of Copper and Total PAH in September 2020 were in progress, the summary for those parameters will be reported in next reporting period.

	Monitoring Row	Sampling	Sea			Tempera	ature(°C)	Sanlir	nity(ppt)		pH	DO Saturatio	on (%)	Dissolv	ved Oxygen (ma/L)	Tu	rbidity (NTU)	Suspende	ed Solids (n	na/L)	C	opper (µg/L)	\1	Tot	al PAH (µg/	() ¹
Date	Condition	Time	Condition	Depth	(m)	Value	Average	Value	Average	Value	Average		Average	Value	Average	DA	Value	Average	DA	Value	Average	DA	Value	Average	DA	Value	Average	DA
				Surface	1.0	25.00 24.96	24.97	33.47 33.51	33.49	8.09 8.09	8.09		93.23	6.36 6.33	6.38		1.80 1.70	1.77		2.60 2.70	2.77		<1 1.00	1.00		<1.6 <1.6	<1.6	
11-Sep-20	Fine	6:04	Moderate	Middle	5.5	24.96 24.81	24.74	33.50 33.65	33.79	8.09 8.10	8.10	94.40 83.50	83.67	6.46 5.72	5.73	6.06	1.80	1.63	1.81	2.30	2.30	2.27	<1	1.00	1.00	<1.6 <1.6	<1.6	<1.
11-оер-20	Tille	0.04	Woderate	Wilddie	5.5	24.74 24.66 24.70	24.74	33.79 33.94 33.98	35.79	8.10 8.10 8.10	0.10	84.30 83.20 80.80	03.07	5.78 5.70 5.67	5.75		1.60 1.80 2.20	1.03	1.01	2.40 2.20 1.60	2.30	2.21	1.00 1.00	1.00	1.00	<1.6 <1.6 <1.6	<1.0	×1.0
				Bottom	10.1	24.64 24.64	24.66	34.04 34.11	34.04	8.11 8.11	8.11		79.50	5.40 5.39	5.49	5.49	1.90	2.03		1.70 1.90	1.73		1.00	1.00		<1.6 <1.6	<1.6	
				Surface	1.0	27.73 27.71	27.72	31.29 31.31	31.30	8.06 8.07	8.06		86.67	5.63 5.80	5.73		3.30 3.20	3.27		3.70 4.00	3.83		2.00	2.00		<1.6 <1.6	<1.6	
14-Sep-20	Cloudy	9:15	Moderate	Middle	5.1	27.71 27.47 27.38	27.45	31.30 31.48 31.57	31.51	8.06 8.07 8.07	8.07	87.10 86.90 83.00	85.90	5.77 5.74 5.51	5.69	5.71	3.30 3.50 3.60	3.57	3.49	3.80 4.70 4.80	4.63	4.83	2.00 2.00 2.00	2.00	2.00	<1.6 <1.6 <1.6	<1.6	<1.
	•					27.49 27.47		31.47 31.51		8.08 8.07		87.80 85.40		5.81 5.66			3.60 3.80			4.40 6.10			2.00			<1.6 <1.6		
				Bottom	9.0	27.20 27.47	27.38	31.85 31.52	31.63	8.07 8.06	8.07	84.40	82.80	5.21 5.59	5.49	5.49	3.60 3.50	3.63		5.80 6.20	6.03		2.00	2.00		<1.6 <1.6	<1.6	
				Surface	1.0	27.97 27.93 27.93	27.94	31.12 31.13 31.14	31.13	8.24 8.20 8.22	8.22	79.70 79.60 79.40	79.57	5.58 5.58 5.57	5.58		2.40 2.70 2.50	2.53		3.40 3.10 3.80	3.43		<1 <1 <1	<1		<1.6 <1.6 <1.6	<1.6	
16-Sep-20	Sunny	10:47	Moderate	Middle	5.6	27.80 27.79	27.80	31.20 31.20	31.20	8.21 8.24	8.22	79.00 78.90	78.93	5.55 5.55	5.55	5.56	3.20 3.20	3.13	2.93	4.40 4.00	4.20	4.31	<1 <1	1.00	<1	<1.6 <1.6	<1.6	<1.
				Pottom	10.3	27.80 27.83	27.01	31.20 31.18	21.10	8.22 8.23	0 22	78.90 79.30	70.27	5.55 5.57	5.57	5.57	3.00	2 12		4.20 5.20	E 20		1.00	<1		<1.6 <1.6	-16	
				Bottom	10.3	27.81 27.80 28.03	27.81	31.19 31.19 30.68	31.19	8.21 8.21 8.09	8.22	79.20 79.60 81.10	79.37	5.56 5.59 5.65	5.57	5.57	3.20 3.20 2.10	3.13		5.10 5.60 6.60	5.30		<1 <1 1.00	<u> </u>		<1.6 <1.6	<1.6	
				Surface	1.0	28.04 28.03	28.03	30.69 30.69	30.69	8.08 8.09	8.09		81.07	5.65 5.64	5.65	5.63	2.20	2.13		6.20 6.30	6.37		1.00	1.00		<1.6 <1.6	<1.6	
18-Sep-20	Fine	12:24	Moderate	Middle	5.7	28.08 28.07 28.05	28.07	30.88 30.87 30.82	30.86	8.08 8.08 8.09	8.08	80.50 80.60 80.50	80.53	5.61 5.61 5.61	5.61	5.00	2.50 2.70 2.60	2.60	2.44	5.60 5.10 5.40	5.37	5.20	1.00 1.00	1.00	1.00	<1.6 <1.6 <1.6	<1.6	<1.
				Bottom	10.5	28.06 28.08	28.07	30.84 30.88	30.86	8.09 8.08	8.08	80.90	80.93	5.64 5.65	5.64	5.64	2.50	2.60		3.90 3.70	3.87		1.00	1.00		<1.6 <1.6	<1.6	
						28.08 28.51		30.87 30.10		8.08 8.36		80.80 71.10		5.62 4.67			2.60 5.50			4.00 3.10			1.00			<1.6 <1.6		
				Surface	1.1	28.51	28.50	29.76 29.86	29.91	8.36 8.36	8.36		71.43	4.66 4.76	4.70	4.00	5.60 5.50	5.53		3.40	3.10		<1 <1 <1	<1		<1.6 <1.6	<1.6	
21-Sep-20	Cloudy	2:31	Moderate	Middle	5.5	28.59 28.58	28.58	30.74 30.68	30.70	8.35 8.35	8.35		71.67	4.76 4.66	4.69	4.69	5.40 5.40	5.47	5.51	3.90 3.70	3.70	3.62	<1 <1	<1	<1	<1.6 <1.6	<1.6	<1.6
				Bottom	10.0	28.58 28.57 28.58	28.58	30.68 30.69 30.75	30.71	8.35 8.35 8.35	8.35	70.90 70.70 72.80	71.60	4.64 4.62 4.75	4.68	4.68	5.60 5.70 5.40	5.53		3.50 4.10 3.70	4.07		<1 <1 <1	<1	-	<1.6 <1.6 <1.6	<1.6	
						28.58 29.06		30.70 30.73		8.35 8.30		71.30 80.00		4.66 5.19			5.50 3.70			4.40 2.60			<1			<1.6 <1.6		
				Surface	1.0	29.06 29.10	29.07	30.73 30.68	30.71	8.30 8.29	8.30	80.10	80.07	5.20 5.19	5.19	5.18	3.80	3.77		2.80	2.77		<1	<1		<1.6 <1.6	<1.6	
23-Sep-20	Fine	3:45	Moderate	Middle	5.1	28.94 28.93 28.90	28.92	30.98 31.02 31.06	31.02	8.30 8.31 8.31	8.31	79.70 79.90 79.40	79.67	5.17 5.18 5.15	5.17		3.80 3.90 3.80	3.83	3.83	2.30 2.20 2.40	2.30	2.29	<1 <1 <1	<1	<1	<1.6 <1.6 <1.6	<1.6	<1.6
				Bottom	9.0	28.94 28.94	28.93	31.02 31.03	31.04	8.31 8.29	8.30	79.50 79.40	79.33	5.15 5.15	5.15	5.15	3.90 3.90	3.90		1.70 1.90	1.80		<1 <1	<1		<1.6 <1.6	<1.6	
				Surface	1.0	28.91 29.26 29.26	29.26	31.08 31.23 31.26	31.25	8.31 8.07 8.07	8.07	79.10 95.70 96.80	96.40	5.14 6.17 6.24	6.21		3.90 2.80 2.80	2.80		2.00 2.10	2.13		<1			<1.6		
			=	Juliace	1.0	29.25 29.28	29.20	31.26 31.42	31.23	8.08 8.08	0.07	96.70 96.50	30.40	6.22 6.22	0.21	6.20	2.80	2.00		2.30	2.13				-			
25-Sep-20	Fine	6:36	Moderate	Middle	5.0	29.28 29.29	29.28	31.44 31.50	31.45	8.07 8.07	8.07	96.50	96.13	6.14 6.21	6.19		2.90 2.80	2.80	2.80	2.50 2.30	2.33	2.52						
				Bottom	8.9	29.28 29.28 29.27	29.28	31.51 31.48 31.45	31.48	8.07 8.07	8.07	95.40 94.00 95.40	94.93	6.14 6.05 6.14	6.11	6.11	2.80 2.80	2.80		3.20 3.00	3.10							
				Surface	1.0	28.74 28.76	28.75	31.95 31.98	31.97	8.20 8.13	8.16	93.90	94.60	6.08	6.12		3.50 3.60	3.57		2.80 2.60	2.67							
20 5 20	Claudu	0.25	Madazata	Middle		28.75 28.81	20.02	31.97 32.04	22.05	8.16 8.15	0.45	94.50 94.30	04.02	6.12 6.10	C 44	6.12	3.60 3.70	2.62	2.50	2.60 3.60	2.77	2.50						
28-Sep-20	Cloudy	9:25	Moderate	Middle	5.5	28.85 28.81 28.88	28.82	32.07 32.03 32.14	32.05	8.12 8.19 8.14	8.15	95.80 93.80 94.50	94.63	6.18 6.06 6.10	6.11		3.60 3.60 3.50	3.63	3.59	3.90 3.80 4.30	3.77	3.58						
				Bottom	10.0	28.90 28.91	28.90	32.16 32.16	32.15	8.10 8.17	8.14		95.00	6.25	6.13	6.13	3.60 3.60	3.57		4.50 4.10	4.30							
				Surface	1.0	28.89 28.88	28.88	31.63 31.67	31.66	7.89 7.86	7.88	76.70 76.20	76.77	5.36 5.31	5.36		3.60 3.90	3.83		4.20 4.30	4.10							
						28.88 28.88		31.68 31.67		7.88 7.86		77.40 75.00		5.40 5.24		5.30	4.00			3.80 5.10								

5.24

5.31

5.24

5.25 5.23

5.33 5.30 5.31

5.31

4.20

3.90 4.10

4.40 4.70 4.70

75.03

76.07

75.00

75.20 74.90

76.30 75.80 76.10

4.07

4.60

4.17

5.10

5.20 5.30

5.40 5.70 5.80

5.20

5.63

4.98

30-Sep-20

Fine

11:09

Moderate

1. Some of laboratory results of Copper and Total PAH in September 2020 were in progress, the summary for those parameters will be reported in next reporting period.

28.88

28.88

31.67

31.67 31.68

31.68 31.68 31.68

31.67

31.68

7.87

7.87

7.87 7.89

7.86 7.89 7.86

28.88

28.88 28.88

28.88 28.88 28.88

Middle

Bottom

5.3

	Monitoring Re Weather	Sampling	Sea		- (m)	Temper	ature(°C)	Sanlir	ity(ppt)		pH	DO Satu	ration (%)	Dissolv	ed Oxygen	(mg/L)	Tu	rbidity (NTL	J)	Susper	nded Solids	(mg/L)	Co	pper (µg/L)) ¹	Total	PAH (µg/	L) ¹
Date	Condition	Time	Condition	Depth	n (m)	Value	Average	Value	Average		Average	Value	Average	Value	Average	DA	Value	Average		Value	Average	DA	Value	Average		Value	Average	
				Surface	1.0	25.10 25.10	25.11	33.32 33.32	33.31	8.12 8.12	8.12	89.50 89.40	89.83	6.11 6.10	6.13		1.50 1.70	1.60		2.30 2.40	2.30		1.00	1.00		<1.6 <1.6	<1.6	
11-Sep-20	Fine	19:01	Moderate	Middle	5.4	25.12 25.07 25.09	25.08	33.30 33.36 33.34	33.35	8.12 8.12 8.12	8.12	90.60 86.80 86.60	86.33	6.19 5.92 5.91	5.89	6.01	1.60 2.00 2.10	2.07	1.98	2.20 2.70 2.90	2.73	2.92	<1 <1 1.00	1.00	1.00	<1.6 <1.6 <1.6	<1.6	<1.
						25.09 25.05		33.34 33.38		8.12 8.12	4	85.60 86.60		5.84 5.91			2.10			2.60 3.60			<1 1.00			<1.6		
				Bottom	9.5	25.08 25.09	25.07	33.34 33.34	33.35	8.12 8.12	8.12	82.80 84.50	84.63	5.65 5.77	5.78	5.78	2.30 2.30	2.27		3.90 3.70	3.73		<1 <1	1.00		<1.6 <1.6	<1.6	
				Surface	1.1	27.66 27.61 27.62	27.63	31.23 31.28 31.27	31.26	8.13 8.14 8.14	8.14	86.10 85.90 86.80	86.27	5.69 5.70 5.76	5.72		2.70 2.80 2.80	2.77		2.40 2.30 2.20	2.30		3.00 2.00 2.00	2.33		<1.6 <1.6 <1.6	<1.6	
14-Sep-20	Cloudy	16:59	Moderate	Middle	5.2	27.31 27.28 27.31	27.30	31.75 31.77 31.77	31.76	8.15 8.15 8.14	8.15	85.20 81.60 85.00	83.93	5.64 5.42 5.62	5.56	5.64	2.80 2.80 2.90	2.83	2.80	2.60 2.70 3.00	2.77	2.89	2.00 2.00 2.00	2.00	2.11	<1.6 <1.6 <1.6	<1.6	<1.6
				Bottom	9.2	27.15 27.32 27.26	27.24	31.99 31.81 31.86	31.89	8.15 8.14 8.15	8.15	79.20 82.90 83.10	81.73	5.26 5.50 5.51	5.42	5.42	2.80 2.80 2.80	2.80		3.80 3.40 3.60	3.60		2.00 2.00 2.00	2.00		<1.6 <1.6 <1.6	<1.6	
				Surface	1.0	27.77 27.70 27.72	27.73	31.28 31.31 31.30	31.30	8.27 8.27 8.28	8.27	78.90 78.50 78.80	78.73	5.56 5.54 5.55	5.55		3.50 3.30	3.33		3.00 2.80 2.90	2.90		<1 <1 <1	<1		<1.6 <1.6 <1.6	<1.6	
16-Sep-20	Sunny	17:48	Moderate	Middle	5.5	27.67 27.65	27.66	31.31 31.32	31.32	8.28 8.27	8.27	78.20 77.90	78.07	5.52 5.50	5.51	5.53	3.20 3.30 3.40	3.37	3.41	3.80 3.50	3.63	3.86	<1 <1	<1	<1	<1.6 <1.6	<1.6	<1.6
				Bottom	10.1	27.66 27.67 27.66	27.66	31.32 31.32 31.32	31.32	8.27 8.27 8.28	8.28	78.10 78.40 78.30	78.40	5.51 5.53 5.52	5.53	5.53	3.40 3.60 3.50	3.53		3.60 5.20 4.90	5.03		<1 <1 <1	<1		<1.6 <1.6 <1.6	<1.6	
				Surface	1.0	27.66 28.02 28.02	28.02	31.32 30.66 30.67	30.67	8.28 8.13 8.13	8.13	78.50 79.50 79.60	79.60	5.54 5.56 5.56	5.56		3.50 2.70 2.70	2.77		5.00 4.20 4.10	4.13		1.00 1.00	1.00		<1.6 <1.6 <1.6	<1.6	
18-Sep-20	Fine	18:58	Moderate	Middle	5.7	28.02 28.02 28.02	28.02	30.67 30.68 30.69	30.69	8.13 8.13	8.13	79.70 79.10 79.20	79.17	5.56 5.53 5.54	5.53	5.55	2.90 2.80 2.90	2.93	2.89	4.10 3.90 3.50	3.73	3.68	1.00 <1 <1	<1	1.00	<1.6 <1.6 <1.6	<1.6	<1.6
				Bottom	10.3	28.02 28.02 28.02	28.02	30.69 30.70 30.69	30.70	8.13 8.13	8.13	79.20 79.30 79.50	79.37	5.53 5.55 5.56	5.55	5.55	3.10 2.90 3.00	2.97		3.80 3.20 2.90	3.17		<1 <1 <1	<1		<1.6 <1.6 <1.6	<1.6	
				Surface	1.0	28.49 28.49	28.49	30.70 29.94 30.05	29.97	8.13 8.36 8.36	8.36	79.30 70.90 70.70	70.73	5.54 4.66 4.64	4.65		3.00 2.70 2.70	2.77		3.40 2.40 2.30	2.40		<1 <1 <1	<1		<1.6 <1.6 <1.6	<1.6	
21-Sep-20	Cloudy	8:49	Moderate	Middle	5.6	28.48 28.57 28.53	28.54	29.92 30.56 30.40	30.46	8.36 8.35 8.36	8.36	70.60 70.80 70.40	70.77	4.64 4.63 4.60	4.63	4.64	2.90 2.80 2.80	2.80	2.79	2.50 2.90 3.20	3.00	2.80	<1 <1 <1	<1	<1	<1.6 <1.6 <1.6	<1.6	<1.6
				Bottom	10.0	28.52 28.58 28.59	28.58	30.43 30.68 30.72	30.68	8.36 8.35 8.35	8.35	71.10 71.20 70.20	70.70	4.66 4.65 4.59	4.62	4.62	2.80 2.80 2.80	2.80		2.90 3.10 2.90	3.00		<1 <1 <1	<1		<1.6 <1.6 <1.6	<1.6	_
				Surface	1.1	28.56 29.12 29.03	29.09	30.64 30.64 30.76	30.69	8.36 8.29 8.31	8.30	70.70 80.20 79.90	80.07	5.20 5.19	5.19		2.80 2.80 2.70	2.80		3.00 2.10 2.40	2.23		<1 <1 <1	<1		<1.6 <1.6 <1.6	<1.6	
23-Sep-20	Sunny	11:02	Moderate	Middle	5.1	29.11 28.89 28.91	28.90	30.66 31.05 31.04	31.03	8.29 8.31 8.30	8.31	80.10 79.60 79.80	79.50	5.19 5.17 5.17	5.16	5.18	2.90 3.80 3.80	3.80	3.48	2.20 3.30 3.10	3.30	3.07	<1 <1 <1	<1	<1	<1.6 <1.6 <1.6	<1.6	<1.6
				Bottom	9.1	28.90 28.92 28.94	28.93	31.01 31.04 30.96	31.00	8.31 8.30 8.30	8.30	79.10 79.00 78.70	78.80	5.13 5.13 5.11	5.12	5.12	3.80 3.80 3.90	3.83		3.50 3.50 3.90	3.67		<1 <1 <1	<1		<1.6 <1.6 <1.6	<1.6	
				Surface	1.1	28.93 29.29 29.29	29.29	30.99 31.28 31.24	31.26	8.29 8.14 8.15	8.14	78.70 97.30 97.40	97.07	5.11 6.25 6.27	6.25		3.80 2.40 2.40	2.40		3.60 2.70 2.70	2.63		<1			<1.6		-
25-Sep-20	Fine	19:24	Moderate	Middle	4.7	29.29 29.27 29.29	29.28	31.25 31.78 31.66	31.72	8.14 8.13 8.14		96.50 96.90 95.60	96.10	6.22 6.24 6.14	6.18	6.21	2.40 2.50 2.50	2.50	2.48	2.50 3.30 3.30	3.37	3.26						_
				Bottom	8.4	29.28 29.26 29.28	29.27	31.73 31.92 31.75	31.82	8.14 8.13 8.14		95.80 96.00 95.50	95.57	6.15 6.17 6.14	6.14	6.14	2.50 2.50 2.60	2.53		3.50 3.90 3.70	3.77							
				Surface	1.1	29.28 28.84 28.84	28.84	31.80 32.05 32.07	32.06	8.13 8.13 8.13		95.20 91.80 91.90	91.83	6.12 5.93 5.93	5.93		2.50 5.20 5.00	5.10		3.70 7.90 7.60	7.77							
28-Sep-20	Fine	17:07	Moderate	Middle	5.4	28.83 28.84 28.84	28.84	32.07 32.11 32.11	32.11	8.13 8.13 8.13		91.80 91.60 91.70	91.63	5.93 5.91 5.92	5.92	5.92	5.10 5.10 5.20	5.17	5.20	7.80 8.40 8.20	8.33	8.61						
•				Bottom	9.6	28.84 28.84 28.84	28.84	32.11 32.16 32.13	32.16	8.13 8.13 8.13		91.60 91.40 91.40	91.50	5.92 5.91 5.90	5.91	5.91	5.20 5.40 5.20	5.33		8.40 9.90 9.50	9.73							-
				Surface	1.0	28.84 29.00 29.00	29.00	32.19 31.23 31.23	31.23	8.13 7.97 7.96		91.70 74.40 74.40	74.13	5.92 5.19 5.20	5.18		5.40 2.40 2.30	2.47		9.80 6.60 6.20	6.40							
30-Sec 20	Fine	18:00	Modorata			29.00 29.01		31.23 31.32		7.97 7.97		73.60 72.90		5.14 5.09		5.13	2.70 2.90		207	6.40 5.00		5.29						
30-Sep-20	Fine	10:00	Moderate	Middle	5.3	29.02 29.04 29.01	29.02	31.35 31.39 31.37	31.35	7.97 7.97 7.97		72.70 73.00 73.20	72.87	5.08 5.10 5.12	5.09	E 40	3.00 2.90 3.00	2.93	2.87	5.30 5.10 4.30	5.13	5.29						
				Bottom	9.5	29.02 29.02	29.02	31.38 31.39	31.38	7.97 7.97		73.60 73.40	73.40	5.14 5.13	5.13	5.13	3.40 3.20	3.20		4.40 4.30	4.33							

^{1.} Some of laboratory results of Copper and Total PAH in September 2020 were in progress, the summary for those parameters will be reported in next reporting period.

Nater Quality	Weather	Sampling	Sea		L ()	Temner	ature(°C)	Sanlin	ity(ppt)	r	Н	DO Satu	uration (%)	Dissolv	ed Oxygen	(mg/L)	Turl	bidity (NTL	J)	Suspen	ded Solids	(mg/L)	Co	pper (µg/L	.)1	Tota	I PAH (μg/	/L) ¹
Date	Condition	Time	Condition	Depti	h (m)	Value	Average		Average		Average		Average	Value	Average		Value	Average	DA	Value	Average	DA		Average			Average	
				Surface	1.0	25.00 25.05	25.02	33.46 33.44	33.45	8.09 8.09	8.09	91.50 91.80	91.50	6.27 6.30	6.27		1.50 1.30	1.40		1.40 1.60	1.50		1.00	1.00		<1.6 <1.6	<1.6	
11-Sep-20	Fine	6:31	Moderate	Middle	3.9	25.02 24.87 24.83	24.85	33.44 33.57 33.63	33.59	8.09 8.10 8.10	8.10	91.20 87.10 87.60	87.80	6.23 5.96 6.00	6.01	6.14	1.40 2.20 2.20	2.17	1.98	1.50 2.40 2.10	2.33	2.34	<1 1.00 1.00	1.00	1.00	<1.6 <1.6 <1.6	<1.6	<1.6
						24.86 24.80		33.57 33.82		8.10 8.09		88.70 84.70		6.07 5.79		5.00	2.10 2.50			2.50 3.00			<1 <1			<1.6 <1.6		
				Bottom	6.7	24.68 24.69 27.63	24.72	33.89 33.94 31.37	33.88	8.11 8.10 8.09	8.10	86.40 87.00 91.90	86.03	5.92 5.95 6.09	5.89	5.89	2.30 2.30 3.30	2.37		3.40 3.20 1.60	3.20		1.00 <1 2.00	1.00		<1.6 <1.6	<1.6	<u> </u>
				Surface	1.1	27.65 27.63	27.64	31.35 31.35	31.36	8.09 8.09	8.09	90.80 90.20	90.97	6.01 5.97	6.02	5.98	3.70 3.60	3.53		1.60 1.90	1.70		3.00 2.00	2.33		<1.6 <1.6	<1.6	
14-Sep-20	Cloudy	9:36	Moderate	Middle	3.5	27.57 27.56 27.54	27.56	31.39 31.37 31.42	31.39	8.09 8.09 8.09	8.09	89.70 89.20 90.00	89.63	5.93 5.90 5.95	5.93		3.80 3.80 3.60	3.73	3.69	2.60 2.50 2.90	2.67	2.79	3.00 2.00 2.00	2.33	2.22	<1.6 <1.6 <1.6	<1.6	<1.6
				Bottom	6.0	27.57 27.55 27.54	27.55	31.39 31.37 31.42	31.39	8.09 8.09 8.08	8.09	89.40 88.90 89.80	89.37	5.92 5.89 5.95	5.92	5.92	3.80 3.80 3.80	3.80		4.20 3.90 3.90	4.00		2.00 2.00 2.00	2.00		<1.6 <1.6 <1.6	<1.6	
				Surface	1.0	28.01 27.98 27.96	27.98	31.11 31.14 31.14	31.13	8.25 8.26 8.25	8.25	80.00 80.20 79.70	79.97	5.61 5.62 5.58	5.60	5.50	2.70 2.60 2.60	2.63		2.80 3.00 2.40	2.73		<1 <1 <1	<1		<1.6 <1.6 <1.6	<1.6	
16-Sep-20	Sunny	11:06	Moderate	Middle	3.9	27.89 27.86 27.79	27.85	31.17 31.19 31.20	31.19	8.26 8.26 8.25	8.26	79.50 79.20 79.00	79.23	5.59 5.56 5.56	5.57	5.59	2.60 3.00 2.80	2.80	2.83	3.90 3.80 3.90	3.87	3.81	<1 <1 <1	<1	<1	<1.6 <1.6 <1.6	<1.6	<1.6
				Bottom	6.8	27.80 27.78 27.89	27.82	31.19 31.20 31.17	31.19	8.26 8.25 8.26	8.26	79.30 79.40 79.80	79.50	5.56 5.58 5.60	5.58	5.58	3.20 2.90 3.10	3.07		4.60 5.00 4.90	4.83		<1 <1 <1	<1		<1.6 <1.6 <1.6	<1.6	
				Surface	1.1	28.02 28.02	28.02	30.67 30.67	30.68	8.10 8.10	8.10	81.40 81.40	81.30	5.67 5.67	5.66		2.10	2.20		3.90 3.60	3.80		<1 <1	<1		<1.6 <1.6	<1.6	
18-Sep-20	Fine	12:46	Moderate	Middle	3.9	28.03 28.06 28.05	28.06	30.69 30.78 30.77	30.79	8.09 8.09 8.09	8.09	81.10 80.70 80.70	80.77	5.65 5.62 5.62	5.63	5.65	2.30 2.40 2.70	2.43	2.40	3.90 3.80 3.70	3.73	3.98	<1 <1 <1	<1	1.00	<1.6 <1.6 <1.6	<1.6	<1.6
				Bottom	6.8	28.06 28.07 28.08	28.07	30.82 30.85 30.86	30.86	8.09 8.09 8.09	8.09	80.90 80.80 80.90	80.97	5.64 5.63 5.64	5.64	5.64	2.20 2.60 2.50	2.57		3.70 4.20 4.40	4.40		1.00 1.00	1.00		<1.6 <1.6 <1.6	<1.6	
				Surface	1.0	28.07 28.61 28.62	28.62	30.86 30.59 30.63	30.63	8.09 8.37 8.37	8.37	76.30 74.80	77.23	5.65 4.98 4.89	5.04		5.80 5.60	5.77		4.60 3.90 4.20	4.10		1.00 <1 <1	<1		<1.6 <1.6 <1.6	<1.6	
21-Sep-20	Cloudy	2:53	Moderate	Middle	3.7	28.62 28.64 28.63	28.64	30.66 30.87 30.84	30.86	8.36 8.36 8.37	8.36	80.60 76.00 74.80	76.37	5.26 4.96 4.88	4.98	5.01	5.90 5.80 5.80	5.80	5.80	4.20 3.60 3.70	3.57	3.36	<1 <1 <1	<1	<1	<1.6 <1.6 <1.6	<1.6	<1.6
·				Bottom	6.3	28.64 28.63 28.63	28.63	30.87 30.84 30.82	30.85	8.35 8.36 8.37	8.36	78.30 75.40 74.80	75.90	5.10 4.93 4.88	4.96	4.96	5.80 5.90 5.80	5.83		3.40 2.20 2.60	2.40		<1 <1 <1	<1		<1.6 <1.6 <1.6	<1.6	
				Surface		28.64 28.92 28.94	28.93	30.88 30.48 30.32	30.38	8.34 8.02 8.02	8.02	77.50 87.20 82.00	83.20	5.06 5.66 5.32	5.40		5.80 4.70 4.80	4.77		2.40 2.10	2.07		<1 <1	<1		<1.6 <1.6 <1.6	<1.6	
00.0 00	El	4:40	Madagas			28.93 28.89		30.35 30.99		8.02 8.00		80.40 80.60		5.23 5.23		5.37	4.80 5.50			2.10 2.00 2.50			<1 <1 <1			<1.6 <1.6		4.0
23-Sep-20	Fine	4:19	Moderate	Middle	3.6	28.89 28.89 28.89	28.89	31.04 31.01 31.06	31.01	8.02 8.02 8.02	8.01	84.80 81.70 81.30	82.37	5.50 5.30 5.29	5.34		5.40 5.30 5.60	5.40	5.23	2.30 2.50 2.70	2.43	2.47	<1 <1 <1	<1	<1	<1.6 <1.6 <1.6	<1.6	<1.6
				Bottom	6.2	28.91 28.90 29.28	28.90	30.90 31.14 31.42	31.03	8.01 8.00 8.08	8.01	80.60 83.60 98.70	81.83	5.23 5.44 6.35	5.32	5.32	5.50 5.50 2.50	5.53		2.90 3.10 2.80	2.90		<1 <1	<1		<1.6 <1.6	<1.6	
				Surface	1.0	29.26 29.25 29.26	29.26	31.28 31.29 31.44	31.33	8.07 8.07 8.07	8.07	97.40 98.20 97.70	98.10	6.28 6.32 6.29	6.32	6.30	2.50 2.50 2.60	2.50		2.90 2.80 2.50	2.83							
25-Sep-20	Fine	6:59	Moderate	Middle	3.8	29.30 29.29 29.15	29.28	31.64 31.51 31.56	31.53	8.07 8.07 8.07	8.07	98.30 97.40 97.50	97.80	6.31 6.27 6.29	6.29		2.50 2.50 2.50	2.53	2.52	2.50 2.50 2.00	2.50	2.47						
				Bottom	6.4	29.28 29.27	29.23	31.53 31.48	31.52	8.07 8.07	8.07	96.50 96.50	96.83	6.20 6.21	6.23	6.23	2.60 2.50	2.53		2.10 2.10	2.07							
				Surface	1.0	28.86 28.85 28.86	28.86	32.06 32.06 32.06	32.06	8.16 8.14 8.12	8.14	93.20 93.30 95.10	93.87	6.02 6.02 6.14	6.06	6.07	4.30 4.30 4.30	4.30		6.70 6.90 6.40	6.67							
28-Sep-20	Cloudy	9:38	Moderate	Middle	3.8	28.87 28.88 28.87	28.87	32.05 32.07 32.06	32.06	8.15 8.11 8.13	8.13	93.10 95.50 93.80	94.13	6.01 6.16 6.05	6.07		4.50 4.50 4.40	4.47	4.41	5.30 5.60 5.60	5.50	5.57						
				Bottom	6.6	28.92 28.90 28.87	28.90	32.06 32.06 32.05	32.06	8.11 8.12 8.14	8.12	97.70 93.80 92.50	94.67	6.30 6.05 5.97	6.11	6.11	4.50 4.50 4.40	4.47		4.60 4.30 4.70	4.53							
				Surface	1.0	28.88 28.90 28.89	28.89	31.66 31.61 31.65	31.64	7.88 7.89 7.88	7.88	77.80 77.50 77.80	77.70	5.43 5.41 5.42	5.42		3.40 3.30 3.40	3.37		3.80 3.70 3.70	3.73							
30-Sep-20	Fine	11:31	Moderate	Middle	3.9	28.88 28.88 28.88	28.88	31.67 31.67 31.67	31.67	7.88 7.88 7.89	7.88	76.50 75.80 76.30	76.20	5.33 5.29 5.32	5.31	5.37	5.20 5.30 5.30	5.27	4.71	4.00 4.50 4.40	4.30	4.69						
				Bottom	6.5	28.88 28.88	28.88	31.67 31.68	31.67	7.89 7.88	7.88	75.90 77.40	76.73	5.30 5.40	5.36	5.36	5.40 5.50	5.50		6.00 6.00	6.03							
Note:				<u> </u>		28.88	<u> </u>	31.67		7.88	<u> </u>	76.90		5.37	1	<u> </u>	5.60		<u> </u>	6.10		1			<u> </u>			

^{1.} Some of laboratory results of Copper and Total PAH in September 2020 were in progress, the summary for those parameters will be reported in next reporting period.

Water Quality Monitoring Results at CS3 - Mid-Flood Tide Weather Sampling Sea Sanlinity(ppt) рН DO Saturation (%) Dissolved Oxygen (mg/L) Turbidity (NTU) Suspended Solids (mg/L) Temperature(°C) Copper (µg/L)1 Total PAH (µg/L) Date Depth (m) Condition Time Condition Value Average Value Average Value Average Value Average Value Average DA Value Average DA Value Average DA Value Average DA Value Average 25 12 33 30 8 12 96.20 6.58 2.30 2 70 <16 Surface 1.1 25.13 25.12 33.29 33.30 8.12 8.12 92.80 94.90 6 48 2.10 2 17 2.50 2.73 <1 <16 6.33 <1.6 25.11 33.31 8.12 95.70 6.53 2.10 3.00 <1 <1.6 6.35 25.06 2.50 1.00 33.36 8.12 90.70 6.20 2.40 <1.6 11-Sep-20 Fine 18:37 Moderate Middle 4.1 25.06 33.37 8.12 91.03 6.22 2.60 2.61 2.43 2.29 1.00 1.00 <1.6 <1.6 25.05 33.38 8.12 90.50 6.18 2.70 2.40 <1 <1.6 25.07 8.12 6.28 2.60 2.50 <1 <1.6 25.07 86.90 1.50 33 36 5.93 3.00 8.12 <1 <1.6 Bottom 7.1 25.05 25.06 33.38 33.37 8.12 8.12 88.90 88.83 6.07 6.06 6.06 3.20 3.07 1.80 1.70 <1 1.00 <1.6 < 1.6 25.07 33.36 8.12 90.70 6.19 3.00 1.80 1.00 <1.6 27.67 91.30 3.30 31.21 8.14 6.04 4.20 2.00 <1.6 Surface 1.1 27.67 31.19 8.14 91.60 6.06 4.20 3.47 2.00 <1.6 27.69 31.16 8.14 90.50 6.00 4.20 3.60 2.00 <1.6 27.66 31.20 8.14 93.00 6.15 4.20 3.50 2.00 <1.6 6.03 27.54 89.40 5.92 4.10 3.00 2.00 <1.6 14-Sep-20 Cloudy 16:34 Moderate Middle 3.7 27.52 31.43 8.14 90.57 5.99 4.13 4.13 3.00 2.91 2.00 2.00 <1.6 <1.6 31.52 27.45 8.14 90.50 5.99 4.20 2.90 2.00 <1.6 27.56 31 37 8 14 91.80 6.07 4 10 3.10 2.00 <1.6 27.58 31.44 8.13 91.30 6.04 4.10 2.40 2.00 <1.6 Bottom 6.3 27.47 27.50 31.59 31.54 8.14 8.14 87.60 88.73 5.80 5.88 5.88 4.10 4.07 2.20 2.27 2.00 2.00 <1.6 <1.6 27 45 31.58 87.30 5 79 8 14 2 20 4 00 2 00 < 16 31.25 27.78 8.29 79.50 5.60 3.00 4.20 <1 <1.6 Surface 1.0 27.74 27.77 31.28 31.26 8.28 8.28 79.20 79.30 5.58 5.59 2.90 2.93 4.00 4.20 <1 <1 <1.6 <1.6 27.78 31.25 8.28 79.20 5.58 2.90 4.40 <1 < 1.6 5.57 27.66 31.32 8 28 78.70 5 55 3 60 5.70 <1 <1.6 16-Sep-20 Sunny 17:28 Moderate Middle 3.9 27.65 31.32 8.29 78.67 5.55 3.60 3.43 5.67 5.47 1.00 <1 <1.6 <1.6 27.64 31.32 8.29 78.50 5.54 3.60 5.80 1.00 <1.6 27.64 31.33 8.29 78.80 5.56 3.60 5.50 <1 <1.6 27 66 31 31 8.28 79 10 5 58 3.80 6.40 <1 < 16 **Bottom** 6.5 27.64 27.65 31.33 31.32 8.30 8.29 79.30 79.07 5.60 5.58 5.58 3.80 3.77 6.80 6.53 <1 <1 <1.6 <1.6

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18-Sep-20

21-Sep-20

23-Sep-20

25-Sep-20

28-Sep-20

30-Sep-20

Fine

Cloudy

Sunny

Fine

Fine

18:35

8:22

10:35

18:59

16:49

17:35

Moderate

Moderate

Moderate

Moderate

Moderate

Moderate

27.65

28.02

28.01

28.03

28.01

28.02

28.01

28.02

28.01

28.05

28,47

28.47

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28 99

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28 84

29.01

29.00

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29.01

29.01

29.01

29.01

29.02

Surface

Middle

Bottom

Surface

Middle

Rottom

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3.8

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1.0

3.6

6.2

1.0

3.8

6.4

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74 10

74.30

74.50

74 20

74.50

74.00

91.90

^{31.43} 1. Some of laboratory results of Copper and Total PAH in September 2020 were in progress, the summary for those parameters will be reported in next reporting period.

Water Quality	Monitoring Weather	Results at I	S1 - Mid-Eb Sea			Tomper	ature(°C)	Sanlir	ity(ppt)		Н	DO Sati	ration (%)	Dissolve	ed Oxyger	(ma/L)	Turk	oidity (NTU)	Suspen	ded Solids (ma/L)	C0	or (ua/l \	1	Total	PAH (uc	a/L) ¹
Date	Condition	Time	Condition	Depth	(m)	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average		Value	Average		Value	Average	DA		er (µg/L) Average			Average	y ,
						25.12		33.40		8.09		94.50		6.45			1.50			1.60			<1			<1.6		t
				Surface	1.1	25.11 25.14	25.12	33.39 33.37	33.39	8.09 8.09	8.09	95.00 94.30	94.60	6.48	6.45		1.60 1.50	1.53		1.90 1.80	1.77		<1 <1	<1		<1.6 <1.6	<1.6	
						24.81		33.65		8.10		87.80		6.01		6.20	2.10			2.50		1	1.00			<1.6		1
11-Sep-20	Fine	6:50	Moderate	Middle	3.8	24.93	24.87	33.51	33.58	8.10	8.10	87.00	86.93	5.96	5.95		2.20	2.17	2.07	2.30	2.30	2.30	<1	1.33	1.11	<1.6	<1.6	<1.6
						24.86 24.78		33.58 33.77		8.10 8.10		86.00 86.40		5.89 5.91			2.20 2.60			2.10 3.10		1	2.00			<1.6 <1.6		1
				Bottom	6.5	24.67	24.77	33.76	33.73	8.11	8.10	82.40	84.50	5.64	5.78	5.78	2.40	2.50		2.60	2.83		<1	1.00		<1.6	<1.6	
						24.85 27.68		33.67 31.33		8.09 8.10		92.00		5.79 6.09			2.50 4.20			2.80			1.00 2.00			<1.6 <1.6		+
				Surface	1.1	27.66	27.67	31.33	31.33	8.11	8.11	91.80	91.73	6.07	6.07		4.20	4.20		2.40	2.27		2.00	2.00		<1.6	<1.6	
						27.67 27.61		31.33 31.34		8.11 8.11		91.40 91.30		6.05		6.06	4.20 4.10			2.30 3.90			2.00			<1.6 <1.6		-
14-Sep-20	Cloudy	9:53	Moderate	Middle	3.6	27.58	27.61	31.35	31.34	8.10	8.11	91.30	91.43	6.03	6.05		4.10	4.13	4.16	4.10	4.03	3.63	2.00	2.00	2.00	<1.6	<1.6	<1.6
						27.64		31.34		8.11		91.70		6.07			4.20			4.10			2.00			<1.6		-
				Bottom	6.2	27.59 27.61	27.62	31.34 31.33	31.33	8.10 8.11	8.11	90.70 91.00	91.10	6.00	6.03	6.03	4.10 4.10	4.13		4.60 4.70	4.60		2.00	2.00		<1.6 <1.6	<1.6	
						27.65		31.33		8.11		91.60		6.06			4.20			4.50			2.00			<1.6		
				Surface	1.0	28.03 28.04	28.03	31.14	31.13	8.27 8.26	8.27	80.20 80.10	80.23	5.61 5.61	5.62		3.30	3.30		2.90	2.87		<1 <1	<1		<1.6 <1.6	<1.6	
				Juliace	1.0	28.03	20.03	31.13	31.13	8.27	0.27	80.40	00.23	5.63	3.02	5.60	3.30	3.30		3.00	2.07		<1	` '		<1.6	<1.0	
10 0 20	Cummu	44.00	Madazata	Middle	2.0	27.93	27.00	31.17	24.47	8.27	0.07	79.80	70.47	5.60	F F0	5.00	3.10	2.20	2 22	3.60	2.50	2.42	<1	1.00	4.00	<1.6	.1.0	.4.0
16-Sep-20	Sunny	11:28	Moderate	Middle	3.9	27.83 27.91	27.89	31.18	31.17	8.27 8.27	8.27	79.20 79.40	79.47	5.56 5.58	5.58		3.20	3.20	3.33	3.40 3.50	3.50	3.43	1.00	1.00	1.00	<1.6 <1.6	<1.6	<1.6
						27.83		31.20		8.27		79.20		5.56			3.50			3.70		Ī	<1			<1.6		
				Bottom	6.6	27.91 27.81	27.85	31.16 31.19	31.18	8.27 8.27	8.27	79.80 79.40	79.47	5.60 5.58	5.58	5.58	3.40 3.60	3.50		4.00	3.93		1.00	1.00		<1.6 <1.6	<1.6	
						28.02		30.67		8.10		81.40		5.67			2.50			5.20			1.00			<1.6		t
				Surface	1.0	28.03 28.03	28.03	30.69 30.70	30.69	8.10 8.11	8.10	81.20 81.30	81.30	5.65 5.66	5.66		2.50 2.50	2.50		4.70 5.00	4.97		1.00	1.00		<1.6 <1.6	<1.6	
						28.05		30.79		8.10		80.70		5.62		5.65	2.60			4.60		-	1.00			<1.6		1
18-Sep-20	Fine	13:07	Moderate	Middle	3.8	28.05	28.05	30.79	30.78	8.10	8.10	80.90	80.80	5.64	5.63		2.50	2.60	2.64	4.30	4.43	4.44	1.00	1.00	1.00	<1.6	<1.6	<1.6
						28.04 28.08		30.77 30.87		8.10 8.09		80.80 80.80		5.63 5.62			2.70 2.80			4.40 3.90			1.00			<1.6 <1.6		-
				Bottom	6.3	28.04	28.05	30.79	30.81	8.10	8.10	80.90	80.90	5.64	5.63	5.63	3.10	2.83		4.20	3.93		1.00	1.00		<1.6	<1.6	
						28.04 28.61		30.78		8.10 8.38		81.00 73.80		5.64 4.82			2.60 4.20			3.70 2.80			1.00			<1.6 <1.6		╁
				Surface	1.0	28.61	28.61	30.62	30.63	8.37	8.38	74.10	73.93	4.84	4.83		4.20	4.20		2.60	2.77		<1	<1		<1.6	<1.6	
						28.61 28.63		30.63 30.75		8.38 8.37		73.90 74.10		4.83 4.84		4.83	4.20 4.20			2.90 3.10			<1 <1			<1.6 <1.6		_
21-Sep-20	Cloudy	3:10	Moderate	Middle	3.7	28.62	28.63	30.74	30.75	8.37	8.37	73.80	73.90	4.82	4.83		4.30	4.27	4.22	2.90	3.13	3.20	<1	<1	<1	<1.6	<1.6	<1.6
						28.63		30.77		8.38		73.80		4.82			4.30			3.40			<1			<1.6		
				Bottom	6.2	28.62 28.63	28.62	30.77	30.78	8.37 8.37	8.37	74.00 73.70	73.87	4.83	4.82	4.82	4.20 4.20	4.20		3.70 3.50	3.70		<1 <1	<1		<1.6 <1.6	<1.6	
						28.61		30.75		8.37		73.90		4.82			4.20			3.90			<1			<1.6		
				Surface	1.1	28.90 28.91	28.91	30.61 30.55	30.51	8.06 8.09	8.09	79.60 79.20	79.30	5.18 5.15	5.16		4.50 4.50	4.53		2.20 2.40	2.23		<1 <1	<1		<1.6 <1.6	<1.6	
						28.93		30.38		8.11		79.10		5.15		5.15	4.60			2.10			<1			<1.6		
23-Sep-20	Fine	4:34	Moderate	Middle	3.6	28.89 28.88	28.88	31.02 31.02	31.02	8.06 8.08	8.08	79.40 79.10	79.10	5.16 5.14	5.14		5.50 5.80	5.67	5.23	2.70 2.80	2.67	2.73	<1 <1	<1	<1	<1.6 <1.6	<1.6	<1.6
						28.88		31.02		8.10		78.80		5.12			5.70			2.50			<1			<1.6		
				Bottom	6.2	28.88 28.88	28.88	31.01 30.99	31.00	8.07 8.10	8.07	79.10 78.90	79.13	5.13 5.12	5.13	5.13	5.50 5.50	5.50		3.00 3.40	3.30		<1 <1	<1		<1.6 <1.6	<1.6	
				Dottom	0.2	28.89	20.00	31.00	01.00	8.05	0.07	79.40	73.10	5.15	0.10	0.10	5.50	0.00		3.50	0.00		<1	`'		<1.6	V1.0	
				Curtosa	1.0	29.25	20.26	31.30	24.25	8.10	0.00	97.20	07.77	6.26	6.20		1.80	4.00		2.30	2.20							
				Surface	1.0	29.27 29.26	29.26	31.40 31.35	31.35	8.08	8.09	98.10 98.00	97.77	6.32	6.30	6.00	1.90 1.80	1.83		2.40	2.30							
05.0 00	F	7.10	Mandanata	N 47 - 1 - 11 -	0.0	29.29	00.00	31.58	04.50	8.08	0.00	97.80	07.00	6.28	0.00	6.29	1.90	4.07	4.00	2.60	0.50	0.00						
25-Sep-20	Fine	7:16	Moderate	Middle	3.6	29.29 29.29	29.29	31.57 31.54	31.56	8.08	8.08	97.60 97.50	97.63	6.28	6.28		1.90 1.80	1.87	1.86	2.60	2.50	2.83						
						29.28		31.61		8.08		97.50		6.27			1.90			3.70								1
				Bottom	6.1	29.29 29.29	29.29	31.65 31.67	31.64	8.08	8.08	96.50 97.20	97.07	6.20	6.24	6.24	1.90	1.87		3.70 3.70	3.70							
						28.89		32.05		8.16		91.40		5.90			6.60			5.40								
				Surface	1.1	28.87 28.89	28.88	32.05	32.05	8.19	8.17	90.80	91.00	5.86	5.87		6.50	6.53		5.80	5.57							
						28.89		32.05 32.05		8.17 8.16		90.80		5.86 5.86		5.87	6.50 6.50			5.50 4.60		1						-
28-Sep-20	Cloudy	9:47	Moderate	Middle	3.5	28.91	28.89	32.05	32.05	8.15	8.16	91.60	90.90	5.91	5.87		6.50	6.50	6.51	4.70	4.53	4.67						
						28.88 28.89		32.04 32.05		8.18 8.16		90.30 91.30		5.83 5.89			6.50 6.60			4.30 3.80		-						-
				Bottom	6.0	28.89	28.91	32.04	32.05	8.17	8.16	90.70	91.60	5.85	5.91	5.91	6.40	6.50		3.90	3.90							
						28.95 28.89		32.05 31.64		8.15 7.89	1	92.80 78.20		5.98 5.46			6.50 3.40			4.00 3.90			 					+
				Surface	1.0	28.88	28.89	31.66	31.65	7.89	7.89	78.20	78.07	5.45	5.45		3.50	3.43		3.80	3.77							
						28.89 28.88		31.66 31.67		7.90 7.89	-	77.80 77.20		5.43 5.38		5.42	3.40 3.70			3.60 4.10								_
30-Sep-20	Fine	11:55	Moderate	Middle	3.6	28.88	28.88	31.67	31.67	7.89	7.89	77.20	77.30	5.38	5.39		3.70	3.73	3.71	3.90	4.07	4.38						
						28.88		31.67		7.90	-	77.40		5.40		1	3.70			4.20								1
				Bottom	6.2	28.88 28.88	28.88	31.67 31.67	31.67	7.90 7.89	7.89	78.00 77.20	77.57	5.44	5.41	5.41	4.10 4.00	3.97		5.30 5.40	5.30							
						28.88		31.67		7.89	<u> </u>	77.50		5.41			3.80			5.20								
Note:																												

^{1.} Some of laboratory results of Copper and Total PAH in September 2020 were in progress, the summary for those parameters will be reported in next reporting period.

Water Quality N	Monitoring R Weather	Sampling	- Mid-Flood			Т	atura (00)	Sanlinit	ty(nnt)	pł	н	DO Satu	ration (%)	Diecol	ved Oxygen	(ma/l \	т.	urbidity (NTU	n	Suenen	ded Solids (i	ma/l \			,1 I		al DALL	-/1.\1
Date	Condition	Time	Condition	Depti	h (m)	Value	ature(°C) Average		Average			Value	Average		Average	DA	Value	Average	- /	Value	Average	DA		pper (µg/L Average			al PAH (µg Average	
	Condition	Tillic	Condition			25.16	Avelage	33.28	rtverage	8.12	rtvelage	93.40	Average	6.38	7 W Clage	Dit	2.20	Average	Dit	2.20	Avelage	- DA	<1	Tiverage	D/K	<1.6	Tivelage	DA
				Surface	1.0	25.16	25.16	33.28	33.28	8.12	8.12	94.70	93.77	6.47	6.40		2.20	2.17		2.50	2.33		<1	<1		<1.6	<1.6	
						25.16 25.04		33.27 33.39		8.12 8.12		93.20 90.70		6.36 6.19		6.31	2.10			2.30			1.00		∤ ⊦	<1.6 <1.6		-
11-Sep-20	Fine	18:20	Moderate	Middle	3.8	25.05	25.04	33.37	33.38	8.12	8.12	90.20	90.90	6.16	6.21		2.40	2.27	2.26	2.70	2.67	2.83	1.00	1.00	1.00	<1.6	<1.6	<1.6
						25.04		33.38		8.12		91.80		6.27			2.30			2.60			<1			<1.6		
				D	0.7	25.05	05.00	33.38	00.44	8.12	0.40	87.70	00.00	5.99	5.00	5.00	2.30	0.00		3.50	0.50		<1	4.00		<1.6	4.0	
				Bottom	6.7	25.01 25.04	25.03	33.43 33.41	33.41	8.12 8.12	8.12	84.30 87.90	86.63	5.76 6.00	5.92	5.92	2.30	2.33		3.40	3.50		1.00	1.00		<1.6 <1.6	<1.6	
						27.68		31.17		8.13		93.40		6.18			4.20			2.70			2.00			<1.6		\vdash
				Surface	1.1	27.68	27.67	31.19	31.19	8.13	8.13	93.20	93.13	6.17	6.16		4.10	4.17		2.60	2.73		2.00	2.33		<1.6	<1.6	
						27.66		31.20		8.13		92.80		6.14		6.15	4.20			2.90			3.00		↓	<1.6		_
14-Sep-20	Cloudy	16:17	Moderate	Middle	3.7	27.65 27.66	27.66	31.21	31.20	8.13 8.13	8.13	92.80 92.90	92.83	6.14	6.14		4.50 4.40	4.43	4.34	3.40	3.23	3.30	3.00 2.00	2.67	2.56	<1.6 <1.6	<1.6	<1.6
	,	-				27.66		31.20		8.13		92.80		6.14			4.40	-		3.20			3.00			<1.6	-	
						27.67		31.20		8.13		92.80		6.14			4.40			3.90			2.00		1	<1.6		1
				Bottom	6.2	27.66 27.66	27.66	31.20	31.20	8.13	8.13	93.10 93.10	93.00	6.16	6.15	6.15	4.50 4.40	4.43		4.10 3.80	3.93		3.00	2.67		<1.6 <1.6	<1.6	
						27.72		31.26		8.13 8.30		79.40		6.16 5.59			3.80			3.30			3.00			<1.6		₩
				Surface	1.0	27.79	27.75	31.21	31.24	8.30	8.30	79.90	79.50	5.63	5.60		3.90	3.80		3.60	3.60		<1	<1	ŀ	<1.6	<1.6	
						27.75		31.26		8.30		79.20		5.58		5.58	3.70			3.90			<1] [<1.6		_
16-Sep-20	Sunny	17:03	Moderate	Middle	3.9	27.63	27.63	31.32	31.32	8.31	8.31	79.00 78.80	78.97	5.57	5.57		3.70	3.70	3.93	2.80	2.80	2.89	<1	<1	<1	<1.6	<1.6	<1.6
10-Зер-20	Suriny	17.03	Woderate	ivildale	5.5	27.64 27.63	27.03	31.32	31.32	8.30 8.32	0.51	79.10	10.51	5.55 5.58	5.57		3.70	3.70	3.33	3.00	2.00	2.03	<1 <1	~ 1	\'	<1.6 <1.6	<1.0	V1.0
						27.65		31.32		8.30		79.00		5.58			4.20			2.20			<1		1	<1.6		1
				Bottom	6.6	27.65	27.65	31.31	31.32	8.31	8.31	79.60	79.53	5.61	5.61	5.61	4.30	4.30		2.20	2.27		<1	<1		<1.6	<1.6	
						27.64 28.01		31.32		8.32 8.13		80.00 79.90		5.64 5.58			4.40 2.90			2.40 3.40			<1			<1.6 <1.6		+
				Surface	1.1	28.01	28.01	30.64	30.62	8.14	8.14	80.40	80.13	5.62	5.60		2.90	2.90		3.40	3.40		<1 <1	<1		<1.6	<1.6	
						28.01		30.62		8.14		80.10		5.60		5.59	2.90			3.60			<1			<1.6	-	
	_					28.00		30.65		8.13		79.60		5.56		5.59	2.90			3.80		1	1.00		1[<1.6		1
18-Sep-20	Fine	18:13	Moderate	Middle	3.7	28.00	28.00	30.64	30.65	8.13	8.13	79.90	79.77	5.59	5.57		3.00	2.93	3.01	3.70	3.67	3.78	1.00	1.00	1.00	<1.6	<1.6	<1.6
						28.00 28.02		30.66 30.71		8.13 8.13		79.80 80.50		5.57 5.62			2.90 3.30		-	3.50 4.40		-	1.00		+ +	<1.6 <1.6		1
				Bottom	6.4	28.00	28.01	30.65	30.67	8.13	8.13	80.20	80.17	5.60	5.60	5.60	3.20	3.20		4.20	4.27		<1	<1	l f	<1.6	<1.6	
						28.01		30.66		8.13		79.80		5.58			3.10			4.20			<1			<1.6		
				0	4.0	28.46	00.40	30.00	00.04	8.35	0.05	70.60	70.70	4.64	4.05		2.40	0.40		4.30	4.00		<1			<1.6	4.0	
				Surface	1.0	28.47 28.46	28.46	29.91	29.94	8.35 8.35	8.35	70.90 70.70	70.73	4.66 4.65	4.65		2.50	2.43		4.10 4.50	4.30		<1 <1	<1		<1.6 <1.6	<1.6	
						28.47		30.24		8.34		70.70		4.61		4.64	2.50			3.60		1	<1		1 1	<1.6		4
21-Sep-20	Cloudy	8:00	Moderate	Middle	3.6	28.46	28.47	30.25	30.25	8.34	8.34	70.50	70.40	4.63	4.62		2.50	2.50	2.48	3.90	3.83	3.87	<1	<1	<1	<1.6	<1.6	<1.6
						28.47		30.26		8.34		70.40		4.62			2.50			4.00			<1] [<1.6		_
				Bottom	6.1	28.46 28.48	28.47	30.21	30.29	8.34 8.34	8.34	70.70 70.40	70.60	4.65 4.62	4.64	4.64	2.50	2.50		3.40	3.47		<1 <1	<1		<1.6	<1.6	
				Dottom	0.1	28.47	20.47	30.28	00.20	8.34	0.04	70.70	70.00	4.64	4.04	4.04	2.50	2.00		3.50	0.41		<1	~1	ŀ	<1.6	<1.0	
						29.00		30.19		8.26		78.30		5.09			3.80			1.70			<1			<1.6		
				Surface	1.1	28.94	28.98	30.43	30.28	8.26	8.26	78.10	78.23	5.08	5.09		3.80	3.83		1.60	1.73		<1	<1		<1.6	<1.6	
						29.00 28.88		30.21 30.97		8.25 8.26		78.30 77.90		5.09 5.06		5.07	3.90 4.40			1.90 2.10		-	<1 <1			<1.6 <1.6		4
23-Sep-20	Sunny	10:19	Moderate	Middle	3.6	28.88	28.88	30.97	30.97	8.27	8.26	77.90	77.90	5.06	5.06		4.20	4.27	4.16	2.30	2.27	2.28	<1	<1	<1	<1.6	<1.6	<1.6
·	,					28.88		30.97		8.25		77.90		5.06			4.20			2.40			<1			<1.6		
				D		28.90	00.00	30.88	00.00	8.26	0.05	77.90	77.00	5.06	5.00	5.00	4.40	4.07		3.10	0.00		<1			<1.6	4.0	
				Bottom	6.2	28.88 28.90	28.89	30.99	30.93	8.26 8.24	8.25	77.90 77.90	77.90	5.06 5.06	5.06	5.06	4.30	4.37		2.80	2.83		<1 <1	<1	ŀ	<1.6 <1.6	<1.6	
						29.27		31.21		8.13		96.00		6.17			1.60		1	6.40			<1			<1.0		+-
				Surface	1.0	29.27	29.27	31.25	31.23	8.12	8.13	96.90	96.13	6.24	6.19		1.50	1.53		6.70	6.53						l	
						29.27		31.23		8.13		95.50		6.15		6.18	1.50			6.50					↓ ↓			_
25-Sep-20	Fine	18:44	Moderate	Middle	3.7	29.29 29.27	29.28	31.54 31.42	31.51	8.12 8.12	8.12	95.60 95.40	95.83	6.16 6.14	6.17		1.80	1.73	1.69	4.20 4.40	4.33	4.66						
20 Ocp 20	1 1110	10.44	Woderate	iviidaic	0.7	29.28	25.20	31.58	01.01	8.12	0.12	96.50	30.00	6.20	0.17		1.70	1.70	1.00	4.40	4.00	4.00			ŀ		l	
						29.29		31.55		8.12		93.80		6.03			1.80			3.20					1			1
				Bottom	6.3	29.21	29.26	31.71	31.62	8.12	8.12	95.30	94.87	6.13	6.10	6.10	1.80	1.80		3.10	3.10						l	
			-	-	1	29.28 28.84		31.60 32.07		8.12 8.16		95.50 92.20	-	6.14 5.96	-		1.80 6.20		1	3.00 8.40		<u> </u>	-					+
				Surface	1.0	28.83	28.83	32.07	32.07	8.18	8.17	92.20	92.30	5.96	5.96		6.10	6.17		8.10	8.23						l <u>l</u>	
						28.83		32.07		8.17		92.30		5.96		5.96	6.20		1	8.20] []
00 0 00	F:	40.07	Madees	N.C. C. C.	0.0	28.84	20.24	32.07	20.07	8.19	0.47	92.40	00.00	5.97	F 00	0.30	6.30	6.10	0.40	7.90	7.00	7.07	lacksquare					
28-Sep-20	Fine	16:37	Moderate	Middle	3.6	28.84 28.84	28.84	32.07 32.07	32.07	8.16 8.16	8.17	92.10 92.10	92.20	5.95 5.95	5.96		6.00	6.13	6.18	7.80 8.10	7.93	7.97						
						28.84		32.07		8.16		92.10		5.95			6.30		i	7.70		1			† †			1
				Bottom	6.2	28.84	28.84	32.07	32.07	8.17	8.17	92.00	92.13	5.94	5.95	5.95	6.10	6.23		7.90	7.73				[l <u>l</u>	
						28.84		32.07		8.19		92.30		5.96			6.30		1	7.60		ļ	 		ļļ			
				Surface	1.0	29.00 29.01	29.00	31.23 31.20	31.24	7.97 7.96	7.96	75.00 74.90	74.93	5.24 5.23	5.23		2.10	2.20		3.20	3.27						l	
				Juliace	1.0	28.99	23.00	31.28	31.24	7.96	1.30	74.90	, 4.33	5.23	0.20	F 04	2.30	2.20		3.40	0.21						l	
						28.99		31.34		7.96		74.10		5.18		5.21	2.70		1	5.50		1			1			1
30-Sep-20	Fine	17:14	Moderate	Middle	3.5	28.98	28.99	31.28	31.35	7.96	7.96	74.20	74.23	5.18	5.19		2.50	2.63	2.66		5.57	5.49	\blacksquare		[l	
					1	29.01 29.00		31.42 31.35		7.96 7.96		74.40 74.20		5.20 5.18			2.70 3.20		1	5.70 7.80		4	<u> </u>		∤ ∤			4
				Bottom	6.0	29.00	29.00	31.45	31.38	7.96	7.96	74.20	74.43	5.18	5.20	5.20	3.10	3.13		7.60	7.63						l	
						28.99	1	31.34		7.95		74.40	1	5.20	1		3.10			7.50							l	
Note:																												-

^{1.} Some of laboratory results of Copper and Total PAH in September 2020 were in progress, the summary for those parameters will be reported in next reporting period.

Water Quality N	Monitoring Res	sults at IS2 -	Mid-Ebb Tide	e																							
Date	Weather	Sampling	Sea	Depth	n (m)	Temperature(°C)		nity(ppt)		Н	DO Satu			ed Oxygen	,		rbidity (NTL			ded Solids (n			per (µg/L)		Total PA		
Bato	Condition	Time	Condition	Бори	. (,	Value Average		Average		Average	Value	Average	Value	Average	DA	Value	Average	DA	Value	Average	DA		Average	DA	+	erage	DA
				Surface	1.0	25.05 25.06 25.06	33.45	33.42	8.09	8.09	91.80	91.37	6.32	6.26		2.00	2.03		1.70	1.67		1.00	1.00		<1.6	<1.6	
				Surface	1.0	25.06 25.07 25.07	33.41 33.41	33.42	8.09	0.03	90.90 91.40	31.37	6.22	0.20		2.00	2.00		1.50 1.80	1.07		1.00	1.00		<1.6 < <1.6	.1.0	
						24.87	33.54		8.10		90.90		6.21		6.20	2.00			2.40			2.00			<1.6	_	
11-Sep-20	Fine	7:19	Moderate	Middle	3.9	24.89 24.88	33.52	33.53	8.10	8.10	88.50	89.70	6.06	6.13		2.20	2.10	2.14	2.30	2.27	2.26	1.00	1.33	1.11		<1.6	<1.6
						24.89	33.52		8.10		89.70		6.12			2.10			2.10			1.00			<1.6		
				D - 11	0.0	24.85	33.70	00.07	8.10	0.40	86.40	07.00	5.92	5.07	F 07	2.40	0.00		2.70	0.00		1.00	4.00		<1.6	4.0	
				Bottom	6.6	24.66 24.79 24.85	33.67 33.64	33.67	8.11 8.10	8.10	86.10 89.40	87.30	5.88 6.12	5.97	5.97	2.30	2.30		3.00 2.80	2.83		1.00	1.00		<1.6 < <1.6	<1.6	
						27.69	31.30		8.11		92.60		6.12			2.60			2.20			2.00			<1.6	\rightarrow	
				Surface	1.1	27.67 27.67	31.30	31.30	8.11	8.11	92.00	92.20	6.08	6.10		2.50	2.57		2.10	2.23		2.00	2.00			<1.6	
						27.64	31.31		8.11		92.00		6.09		6.07	2.60			2.40			2.00			<1.6		
44.0 00	Oleverte	40.00	Mandanata	N.C. J. II.	0.7	27.61	31.28	04.00	8.11	0.44	90.90	04.47	6.01	0.05		2.60	0.00	0.50	2.80	0.70	0.00	2.00	0.00	0.44	<1.6	4.0	4.0
14-Sep-20	Cloudy	10:20	Moderate	Middle	3.7	27.65 27.65	31.28 31.29	31.28	8.11 8.11	8.11	92.00 91.50	91.47	6.09	6.05		2.60	2.60	2.56	2.80	2.73	2.96	3.00	2.33	2.11	<1.6 < <1.6	<1.6	<1.6
						27.66	31.28		8.11		92.10		6.09			2.50			4.20			2.00			<1.6		
				Bottom	6.3	27.63 27.65	31.28	31.28	8.11	8.11	90.90	91.47	6.02	6.05	6.05	2.50	2.50		3.80	3.90		2.00	2.00			<1.6	
						27.65	31.27		8.11		91.40		6.05			2.50			3.70			2.00			<1.6		
						28.00	31.16		8.27		80.30		5.62			2.80			4.50			<1			<1.6		
				Surface	1.0	28.01 27.99	31.15	31.15	8.27	8.27	80.50	80.43	5.64	5.63		2.80	2.73		5.00	4.73		<1	<1			<1.6	
						27.97 27.89	31.14 31.17		8.27 8.28		80.50 79.80		5.64 5.60		5.62	2.60 3.30			4.70 3.70		+	<1 <1			<1.6 <1.6		
16-Sep-20	Sunny	11:57	Moderate	Middle	3.8	27.83 27.88	31.17	31.16	8.28	8.28	79.90	79.93	5.61	5.61		3.40	3.33	3.18	4.00	3.77	3.74	<1	<1	<1		<1.6	<1.6
,	*					27.91	31.15		8.28		80.10		5.61			3.30	•		3.60			<1			<1.6		
						27.86	31.15		8.28		80.10		5.62			3.40			2.50			<1			<1.6		
				Bottom	6.5	27.86 27.86	31.15	31.15	8.28	8.28	80.20	80.07	5.63	5.62	5.62	3.50	3.47		2.70	2.73		<1	<1			<1.6	
						27.86 28.05	31.15		8.28 8.12		79.90 81.30		5.61 5.65			3.50 2.30			3.00 2.90			1.00			<1.6 <1.6	\rightarrow	
				Surface	1.0	28.05 28.05	30.74	30.72	8.11	8.12	81.50	81.40	5.67	5.66		2.20	2.23		3.30	2.97		1.00	1.00			<1.6	
						28.04	30.72		8.12		81.40		5.67		5.65	2.20			2.70			1.00			<1.6		
						28.07	30.84		8.11		81.00		5.64		5.05	2.50			3.60			<1			<1.6		
18-Sep-20	Fine	13:31	Moderate	Middle	3.8	28.06 28.06	30.81	30.82	8.11	8.11	81.10	81.07	5.65	5.64		2.60	2.53	2.44	3.80	3.77	3.67	<1	<1	1.00		<1.6	<1.6
						28.06 28.07	30.81 30.84		8.10 8.11		81.10 81.30		5.64 5.66			2.50 2.70			3.90 4.30			1.00			<1.6 <1.6		
				Bottom	6.5	28.07 28.07	30.83	30.84	8.11	8.11	81.10	81.20	5.65	5.65	5.65	2.50	2.57		4.10	4.27		1.00	1.00			<1.6	
						28.07	30.84		8.10		81.20		5.65			2.50	•		4.40			1.00			<1.6		
						28.62	30.65		8.37		73.70		4.82			4.30			5.00			<1			<1.6		
				Surface	1.1	28.61 28.61	30.61	30.62	8.38	8.38	73.70	73.67	4.82	4.82		4.30	4.33		4.70	4.87		<1	<1			<1.6	
						28.61 28.63	30.59 30.75		8.38 8.37		73.60 73.50		4.81 4.80		4.81	4.40 4.30			4.90 4.20			<1 <1			<1.6 <1.6		
21-Sep-20	Cloudy	3:29	Moderate	Middle	3.7	28.64 28.63	30.73	30.79	8.37	8.37	73.60	73.57	4.80	4.80		4.30	4.33	4.37	4.20	4.10	3.91	<1	<1	<1		<1.6	<1.6
	,					28.63	30.79		8.37		73.60		4.81			4.40			3.80			<1			<1.6		
						28.62	30.77		8.37		73.40		4.79			4.50			2.90			<1			<1.6		
				Bottom	6.1	28.63 28.63	30.80	30.79	8.36	8.37	73.50	73.47	4.80	4.80	4.80	4.40	4.43		2.70	2.77		<1	<1			<1.6	
						28.63 28.91	30.81 30.56		8.37 8.16		73.50 78.70		4.80 5.12			4.40 3.90			2.70 2.20			<1 <1			<1.6 <1.6		
				Surface	1.1	28.92 28.92	30.92	30.64	8.15	8.15	78.60	78.67	5.10	5.11		4.10	3.97		2.30	2.27		<1	<1			<1.6	
						28.92	30.45		8.15		78.70		5.12		5.11	3.90			2.30			<1			<1.6		
						28.88	30.96		8.13		78.60		5.11		5.11	4.20			2.70			<1			<1.6		
23-Sep-20	Fine	4:51	Moderate	Middle	3.7	28.88 28.88	30.97	30.98	8.14	8.14	78.60	78.53	5.10	5.10		4.30	4.23	4.13	2.90	2.80	2.80	<1	<1	<1		<1.6	<1.6
						28.88 28.88	31.01 31.04		8.15 8.13		78.40 78.50		5.09 5.10			4.20 4.20			2.80 3.40		+	<1 <1			<1.6 <1.6		
				Bottom	6.3	28.89 28.89	30.97	30.98	8.15	8.13	78.50	78.53	5.09	5.10	5.10	4.20	4.20		3.20	3.33		<1	<1			<1.6	
						28.89	30.94		8.12		78.60		5.11			4.20	•		3.40			<1			<1.6		
						29.25	31.25		8.10		96.60		6.22			2.10			2.90								
				Surface	1.1	29.26 29.25	31.20	31.23	8.10	8.10	95.80	95.93	6.18	6.18		2.10	2.10		2.60	2.73							
						29.25 29.26	31.23 31.30		8.10 8.10		95.40 95.10		6.14 6.13		6.17	2.10 2.10			2.70 1.90		+						
25-Sep-20	Fine	7:29	Moderate	Middle	3.6	29.28 29.27	31.44	31.36	8.10	8.10	95.80	95.53	6.16	6.15		2.10	2.10	2.13	1.80	1.80	2.06						
		-				29.27	31.33		8.10		95.70		6.17			2.10			1.70								
						29.25	31.34		8.09		94.60		6.10			2.20			1.70								
				Bottom	6.0	29.27 29.27	31.45	31.43	8.10	8.09	95.40	94.87	6.14	6.11	6.11	2.20	2.20		1.70	1.63							
						29.28 28.82	31.50 32.04		8.09 8.14		94.60 92.00		6.09 5.95			2.20 6.20			1.50 2.60							\rightarrow	
				Surface	1.0	28.80 28.82	32.04	32.04	8.18	8.16	88.90	90.13	5.75	5.83		6.20	6.20		2.80	2.70							
					-	28.84	32.04	1	8.16		89.50		5.78		5.83	6.20			2.70								
		40				28.89	32.04		8.16		89.40		5.77		5.65	6.20			3.50								
28-Sep-20	Cloudy	10:20	Moderate	Middle	3.5	28.85 28.88	32.04	32.04	8.17	8.15	88.70	90.47	5.73	5.84		6.20	6.20	6.24	3.30	3.30	3.46						
						28.91 28.93	32.04 32.04		8.12 8.15		93.30 89.70		6.02 5.78			6.20 6.30			3.10 4.20		1				-		
				Bottom	6.1	28.89 28.91	32.04	32.04	8.17	8.14	88.80	91.57	5.73	5.90	5.90	6.50	6.33		4.60	4.37							
						28.92	32.04		8.11		96.20	<u> </u>	6.20			6.20			4.30								
				_		28.89	31.66		7.88		77.90		5.44			3.40			4.00								-
				Surface	1.0	28.88 28.88	31.66	31.66	7.90	7.89	77.50	77.83	5.41	5.43		3.30	3.27		4.10	4.17							
				 		28.88 28.89	31.66 31.66		7.90 7.88		78.10 77.50		5.45		5.41	3.10			4.40 5.50		1	 					
30-Sep-20	Fine	12:19	Moderate	Middle	3.7	28.88 28.88	31.66	31.66	7.88	7.89	76.80	77.07	5.40 5.36	5.38		3.40	3.37	3.50	5.50	5.40	5.49						
	-					28.88	31.67	1	7.90		76.90	1	5.37			3.40			5.30								
						28.89	31.66		7.89		78.00		5.43			3.80			6.90								
				Bottom	6.4	28.88 28.88	31.67	31.66	7.90	7.90	77.30	77.53	5.40	5.41	5.41	4.00	3.87		7.00	6.90		\vdash			\vdash		
						28.88	31.66	1	7.90		77.30	1	5.39			3.80			6.80								

^{1.} Some of laboratory results of Copper and Total PAH in September 2020 were in progress, the summary for those parameters will be reported in next reporting period.

DO Saturation (%) Dissolved Oxygen (mg/L) Turbidity (NTU) Suspended Solids (mg/L) Copper (ug/L)1 Total PAH (ug/L)1

Date	Weather	Sampling	Sea	Dept	th (m)		ature(°C)	L	ity(ppt)		ρΗ		ration (%)		d Oxygen		Turbidity	` '		nded Solids (m			pper (µg/L			I PAH (μο	
	Condition	Time	Condition		()	Value	Average	Value	Average	Value	Average	Value	Average	Value A	Average	DA	Value Aver	age DA		Average	DA	Value	Average	DA		Average	DA
						25.14		33.30		8.12		93.30		6.38			1.60	_	3.50			<1			<1.6		ŀ
				Surface	1.0	25.12	25.13	33.31	33.31	8.12	8.12	92.30	92.80	6.31	6.34		1.90 1.7	7	3.20	3.37		1.00	1.00		<1.6	<1.6	
						25.13		33.31		8.12		92.80		6.33		6.18	1.80		3.40			<1			<1.6		
						25.05		33.38		8.12		88.90		6.09		0.10	1.80		2.80			1.00			<1.6		
11-Sep-20	Fine	17:58	Moderate	Middle	3.9	25.05	25.04	33.38	33.38	8.12	8.12	86.40	88.20	5.89	6.03		1.80 1.8	3 1.92	2.50	2.77	2.59	1.00	1.00	1.00	<1.6	<1.6	<1.6
						25.03		33.39		8.12		89.30		6.10			1.90		3.00			<1			<1.6		
						25.01		33.42		8.12		82.80		5.65			2.00		1.50			<1			<1.6		
				Bottom	6.8	25.01	25.01	33.43	33.42	8.12	8.12	83.50	83.60	5.72	5.72	5.72	2.20 2.1	7	1.80	1.63		1.00	1.00		<1.6	<1.6	
						25.01		33.42		8.11		84.50		5.79			2.30		1.60			<1			<1.6		
						27.69		31.28		8.12		93.30		6.17			3.10		4.30			3.00			<1.6		
				Surface	1.0	27.68	27.68	31.29	31.28	8.12	8.12	95.80	94.03	6.34	6.22		3.20 3.1	7	4.50	4.37		4.00	3.33		<1.6	<1.6	
						27.68		31.27		8.12	İ	93.00		6.16			3.20		4.30			3.00			<1.6		
						27.65		31.23		8.12		93.20		6.16		6.20	3.40		3.20		†	3.00		i i	<1.6		
14-Sep-20	Cloudy	16:02	Moderate	Middle	3.7	27.66	27.65	31.25	31.23	8.12	8.12	93.80	93.30	6.20	6.17		3.50 3.4	3 3.36		3.40	3.44	3.00	3.00	2.78	<1.6	<1.6	<1.6
·	•					27.64		31.22		8.13		92.90		6.14			3.40		3.40			3.00			<1.6		
						27.67		31.24		8.12		93.00		6.15			3.40		2.70		Ì	2.00		i	<1.6		
				Bottom	6.5	27.66	27.65	31.22	31.25	8.12	8.12	92.70	93.10	6.13	6.16	6.16	3.50 3.4	7	2.40	2.57		2.00	2.00		<1.6	<1.6	
						27.63		31.30		8.12		93.60		6.19			3.50	•	2.60			2.00			<1.6		
						27.80		31.18		8.33		81.50	1	5.74			3.10		2.60			<1			<1.6		
				Surface	1.0	27.78	27.78	31.18	31.19	8.36	8.34	82.70	81.90	5.81	5.76		3.10 3.1	3	2.80	2.73		<1	1.00		<1.6	<1.6	
				Curiaco		27.76	21.10	31.21	01.10	8.33	0.01	81.50	01.00	5.74	0.70		3.20	_	2.80	20		1.00	1.00		<1.6	41.0	
						27.65		31.28		8.37		83.10		5.84		5.73	3.60		3.90		1	<1		1 h	<1.6		
16-Sep-20	Sunny	16:51	Moderate	Middle	3.9	27.63	27.64	31.31	31.30	8.36	8.36	80.30	81.00	5.66	5.70		3.80 3.6	0 3.46		3.73	3.47	<1	<1	1.00	<1.6	<1.6	<1.6
.5 55p 20	Carniy	. 5.51		aaie	5.5	27.63	204	31.31	000	8.34	5.00	79.60	57.00	5.61	55		3.40	5.40	3.80	5.70	5.47	<1	-1	50	<1.6		
					1	27.65		31.32		8.34		80.00		5.64			3.50	-	3.90		†	<1		∤ 	<1.6		
				Bottom	6.7	27.66	27.64	31.32	31.31	8.35	8.35	86.20	82.17	6.05	5.78	5.78	3.80 3.6	3	3.80	3.93		<1	<1	F	<1.6	<1.6	
				Dottoill	3.1	27.62	204	31.33	301	8.36	0.00	80.30	52.17	5.66	55	50	3.60	-	4.10	5.55		<1	-1	F	<1.6		
 		1		+	1										+						1			1		1	
				Surface	1.0	28.02	28.01	30.60	30.60	8.13	8.13	83.40	84.13	5.82	5.87		2.50 2.60 2.5	3	5.10	4.97		<1	<1		<1.6	<1.6	
				Juliace	1.0	28.01	20.01	30.59	30.60	8.14	0.13	86.30	04.13	6.01	3.07			~	4.80	7.31		<1	~1		<1.6	V1.0	
				-	1	28.00 28.00		30.60 30.59		8.13 8.13		82.70 81.50		5.77 5.69		5.77	2.50	-	5.00 4.70		+	<1		1 F	<1.6		
18-Sep-20	Fine	17:50	Moderate	Middle	3.6		20.00		30.62		8.13		81.07		5.66		2.70	0 2.73		4.47	4.24	<1	<1	<1	<1.6	-16	<1.6
16-Sep-20	rine	17:50	Moderate	ivildale	3.0	28.00	28.00	30.63	30.62	8.13	0.13	80.70	61.07	5.64	5.00			0 2.73		4.47	4.24	<1	<1	<1	<1.6	<1.6	<1.0
						28.00		30.63		8.13		81.00		5.66			2.80		4.50		1	<1		 	<1.6		
				Bottom	6.2	28.00	20.00	30.61	30.62	8.13	0.12	80.50	81.10	5.62	E 66	5.66	2.80 3.00 2.8	7	3.30	3.30		<1	<1		<1.6	<1.6	
				DOLLOITI	0.2	28.00	28.00	30.62	30.02	8.13	8.13	81.20	81.10	5.67	5.66	5.00		'	3.20	3.30		<1	< 1		<1.6	<1.0	
					<u> </u>	28.00		30.63		8.13		81.60		5.70			2.80		3.40			<1			<1.6		
				0	4.0	28.46	00.40	29.94	00.04	8.34	0.04	70.40	70.50	4.63	4.04		2.60		4.40	4.40		<1			<1.6	4.0	
				Surface	1.0	28.46	28.46	29.96	29.91	8.34	8.34	70.70	70.53	4.64	4.64		2.90 2.7	′	3.90	4.10		<1	<1		<1.6	<1.6	
						28.47		29.82		8.34		70.50		4.64		4.63	2.80		4.00			<1		 	<1.6		
24 Can 20	Claudi	7.40	Madazata	Middle	3.5	28.46	20.47	30.27	20.20	8.33	0.22	70.30	70.00	4.61	4.00		2.80 2.80 2.7	3 2.77	3.30	2.07	2.20	<1	.4		<1.6	.4.0	.4.0
21-Sep-20	Cloudy	7:46	Moderate	Middle	3.5	28.47	28.47	30.29	30.29	8.33	8.33	70.30	70.33	4.62	4.62			3 2.11		3.07	3.28	<1	<1	<1	<1.6	<1.6	<1.6
						28.47		30.32		8.33		70.40		4.62			2.60		2.90		1	<1		 	<1.6		
				Dattom	6.0	28.47	20.47	30.28	20.20	8.33	0.22	70.10	70.47	4.60	4.04	4.04	2.80		2.70	0.67		<1	.4		<1.6	.4.0	
				Bottom	6.0	28.47	28.47	30.29	30.29	8.33	8.33	70.20	70.17	4.61	4.61	4.61	2.80 2.8	U	2.80	2.67		<1	<1		<1.6	<1.6	
						28.47		30.31		8.33		70.20		4.61			2.80		2.50			<1			<1.6		
				0	4.0	28.95	00.04	30.43	00.40	8.25	0.05	78.50	70.07	5.11	5 40		3.80		4.00	4.47		<1			<1.6	4.0	
				Surface	1.0	28.90	28.94	30.67	30.48	8.25	8.25	79.70	78.87	5.18	5.13		3.90 3.8	3	4.20	4.17		<1	<1		<1.6	<1.6	
						28.98		30.34		8.26		78.40		5.10		5.11	3.80		4.30		-	<1		↓	<1.6		
00.0 00	0	40.00		N. C. alian	0.0	28.88	00.00	30.95	00.04	8.25	0.05	78.80	70.40	5.13	5.40		4.50		3.50	0.40	0.57	<1		_	<1.6	4.0	4.0
23-Sep-20	Sunny	10:02	Moderate	Middle	3.6	28.88	28.88	30.91	30.94	8.25	8.25	78.40	78.40	5.09	5.10		4.40 4.4	7 4.27		3.43	3.57	<1	<1	<1	<1.6	<1.6	<1.6
						28.88		30.95		8.25		78.00		5.07			4.50		3.40		1	<1		↓	<1.6		
				D . # .		28.89	00.00	30.92	00.00	8.25	0.05	78.10	70.4-	5.07	- 00	F 00	4.40		3.10	0.40		<1			<1.6	4.0	
				Bottom	6.0	28.89	28.89	30.94	30.96	8.25	8.25	78.40	78.47	5.09	5.09	5.09	4.60 4.5	U	3.00	3.10		<1	<1		<1.6	<1.6	
				1	1	28.88		31.01		8.25		78.90		5.12			4.50		3.20			<1		$oxed{oxed}$	<1.6		
				0		29.27	00.0=	31.23	04.00	8.11	0.10	96.90	07.10	6.24	0.05		1.80	.	3.40	0.00		\vdash		L			
				Surface	1.1	29.28	29.27	31.22	31.20	8.12	8.12	97.40	97.10	6.28	6.25		1.70 1.7	′	3.50	3.33		\vdash		L			
					1	29.26		31.15		8.13		97.00		6.24		6.23	1.80		3.10		1			4			
0F Cc - 00	En -	40.07	Maden	N. AC -1 -11	~ ~	29.30	20.22	31.63	24.50	8.11	0.40	96.70	00.00	6.22	0.04		1.90		2.50	2.50	2.07						
25-Sep-20	Fine	18:27	Moderate	Middle	3.6	29.29	29.30	31.55	31.58	8.13	8.12	96.40	96.63	6.19	6.21		1.80 1.8	3 1.80		2.50	2.67	\vdash					
					1	29.30		31.56		8.11		96.80		6.23			1.80	_	2.50		1	$\vdash \vdash \vdash$		4			
				D		29.29	00.00	31.70	04.05	8.10	0	95.30	05.00	6.12	0.40	0.40	1.80		2.10	0 :-		\vdash		L			
				Bottom	6.2	29.29	29.29	31.69	31.65	8.12	8.11	95.00	95.30	6.12	6.13	6.13	1.80 1.8	U	2.20	2.17							
				1	1	29.28		31.56		8.11		95.60		6.15			1.80		2.20			lacksquare		$oxed{oxed}$			
					1	28.83		32.07		8.19		92.90		6.00			6.50		9.40					<u> </u>			
				Surface	1.0	28.83	28.83	32.08	32.08	8.20	8.19	93.20	93.43	6.02	6.04		6.50 6.5	U	9.20	9.17				<u> </u>			
						28.83		32.08		8.17		94.20		6.09		6.04	6.50		8.90		1			ļ [
	-	40.71	l			28.83		32.08		8.18		93.40	05	6.03			6.60	_	10.20	40				<u> </u>			
28-Sep-20	Fine	16:21	Moderate	Middle	3.6	28.83	28.83	32.08	32.08	8.19	8.18	92.80	93.70	5.99	6.05		6.60 6.5	7 6.54		10.03	10.06			<u> </u>			
					1	28.83		32.08		8.16		94.90		6.13			6.50		10.10		1			4 L			
						28.83		32.08		8.18		93.70		6.05			6.60	_	11.30	40				<u> </u>			
				Bottom	6.0	28.83	28.83	32.10	32.09	8.12	8.17	97.50	94.70	6.30	6.12	6.12	6.50 6.5	1	10.90	10.97				<u> </u>			
						28.83		32.08		8.20		92.90		6.00			6.60		10.70								
						29.00		31.22		7.91		78.30		5.46	Т		2.90		3.90					1 I			
				Surface	1.0	29.01	29.00	31.20	31.21	7.93	7.92	76.60	77.03	5.35	5.38		2.90 2.8	7	3.90	3.93							
						29.00		31.20		7.93		76.20		5.32		5.31	2.80		4.00		1			1 L			
					1	28.99		31.31		7.94		74.80		5.22	7		3.10		5.80							٦	
30-Sep-20	Fine	16:52	Moderate	Middle	3.8	28.99	28.99	31.32	31.31	7.92	7.93	76.60	75.17	5.33	5.24		3.10 3.0	3 3.06		5.83	5.72			<u> </u>			
						28.98		31.30		7.93		74.10		5.17			2.90		5.90		1			. L			
				1_	1 .	29.00		31.38		7.95	_	74.00		5.17			3.30	_	7.30	_				<u> </u>			
				Bottom	6.4	28.99	29.00	31.41	31.40	7.92	7.93	76.90	75.27	5.35	5.25	5.25	3.30 3.2	7	7.50	7.40				<u> </u>			
					1	29.00		31.40		7.91		74.90		5.23			3.20		7.40								

^{1.} Some of laboratory results of Copper and Total PAH in September 2020 were in progress, the summary for those parameters will be reported in next reporting period.

ator	Quality	Monitoring	Regulte	at IS3.	Mid-Fhh	Tide

Water Quality	Monitoring Re			de													_			1					. 1			
Date	Weather	Sampling	Sea	Depth	h (m)	Temperat		Sanlin	, , ,		Н	DO Satu			ed Oxyger			rbidity (NT			ded Solids (pper (µg/L)		Total PA		
	Condition	Time	Condition		. ,		Average	Value	Average		Average	Value	Average		Average	DA	Value	Average	DA	Value	Average	DA	Value	Average	DA		erage [DA
						25.10		33.43		8.08		90.30		6.19			1.90			1.40			<1			<1.6		
				Surface	1.0	25.09	25.11	33.44	33.41	8.09	8.08	94.80	92.73	6.46	6.34		2.00	1.97		1.30	1.30		1.00	1.00		<1.6 <	1.6	
						25.15		33.37		8.08		93.10		6.38		6.19	2.00			1.20			<1			<1.6		
						24.57		34.27		8.12		88.50		6.05		0.10	2.40			1.70			<1			<1.6		
11-Sep-20	Fine	5:49	Moderate	Middle	8.6	24.53	24.56	34.29	34.22	8.11	8.11	89.30	88.13	6.12	6.03		2.40	2.37	2.29	1.80	1.77	1.76	1.00	1.00	1.00	<1.6 <	1.6 <	:1.6
						24.59		34.10		8.09		86.60		5.91			2.30			1.80			<1			<1.6		
						24.55		34.30		8.11		79.90		5.47			2.70			2.10			1.00			<1.6		
				Bottom	16.3	24.56	24.55	34.28	34.26	8.11	8.10	77.80	77.93	5.23	5.30	5.30	2.40	2.53		2.30	2.20		<1	1.00		<1.6 <	1.6	
						24.54		34.19		8.09		76.10		5.19			2.50			2.20			<1			<1.6		
						27.60		31.27		8.16		80.60		5.34			2.50			2.30			2.00			<1.6		
				Surface	1.0	27.59	27.61	31.28	31.26	8.16	8.16	77.50	79.63	5.17	5.29		2.60	2.53		2.50	2.33		3.00	2.33		<1.6 <	1.6	
						27.64		31.23		8.15		80.80		5.35		5.16	2.50			2.20			2.00			<1.6		
						26.74		32.49		8.19		75.10		5.01		5.10	2.60			2.80			2.00			<1.6		
14-Sep-20	Cloudy	8:56	Moderate	Middle	8.0	26.72	26.76	32.51	32.46	8.18	8.18	76.60	75.57	5.07	5.03		2.50	2.53	2.53	2.90	2.77	2.92	3.00	2.33	2.22	<1.6 <	1.6 <	<1.6
						26.82		32.39		8.17		75.00		5.00			2.50			2.60			2.00			<1.6		
						26.80		32.42		8.17		69.20		4.61			2.50			3.70			2.00			<1.6		
				Bottom	15.0	26.68	26.76	32.57	32.48	8.18	8.18	67.50	68.87	4.51	4.60	4.60	2.60	2.53		3.80	3.67		2.00	2.00		<1.6 <	1.6	
						26.79		32.44		8.18		69.90		4.67			2.50			3.50			2.00			<1.6		
						27.86		31.14		8.20		79.40		5.58			3.10			3.10			<1			<1.6		
				Surface	1.0	27.94	27.87	31.12	31.13	8.20	8.20	79.90	79.57	5.60	5.58		3.50	3.30		3.20	3.23		<1	<1		<1.6 <	1.6	
						27.80		31.14		8.20		79.40		5.57		F FC	3.30			3.40			<1			<1.6		
						27.78		31.20		8.20		78.80		5.54		5.56	3.10		1	3.70			<1		1	<1.6		
16-Sep-20	Sunny	10:25	Moderate	Middle	9.1	27.75	27.76	31.20	31.20	8.19	8.20	78.70	78.73	5.53	5.53		3.20	3.23	3.48	4.00	3.87	3.73	1.00	1.00	1.00		1.6 <	<1.6
	=				l	27.75		31.20		8.21		78.70	1	5.53			3.40	1	1	3.90			<1			<1.6		
						27.74		31.20		8.21		78.70		5.53			3.90		1	4.10		1	<1		1	<1.6		
				Bottom	17.1	27.77	27.75	31.20	31.20	8.20	8.20	79.10	78.87	5.55	5.54	5.54	4.00	3.90	1	4.30	4.10		<1	<1			1.6	
						27.75		31.21		8.19		78.80		5.54			3.80			3.90			<1			<1.6		
						28.03		30.69		8.08		81.30		5.66			2.60		Ì	3.60			<1			<1.6	\neg	\neg
				Surface	1.0	28.03	28.03	30.70	30.70	8.08	8.08	81.00	81.13	5.64	5.65		2.50	2.53		3.40	3.63		<1	<1			1.6	
						28.03		30.71		8.07		81.10		5.64		5.63	2.50			3.90			<1			<1.6		
						28.08		30.89		8.07		80.50		5.61		5.63	2.60		1	4.60			<1			<1.6		
18-Sep-20	Fine	11:58	Moderate	Middle	8.9	28.08	28.08	30.91	30.90	8.07	8.07	80.40	80.50	5.60	5.61		2.90	2.73	2.76	4.30	4.37	4.37	<1	<1	1.00		1.6 <	<1.6
-						28.08		30.90		8.06		80.60		5.61			2.70			4.20			<1			<1.6		
						28.08		30.88		8.07		80.50		5.61			3.00		1	5.10			1.00			<1.6		
				Bottom	16.8	28.07	28.08	30.88	30.88	8.08	8.07	80.90	80.77	5.63	5.62	5.62	3.00	3.00		4.90	5.10		1.00	1.00		<1.6 <	1.6	
						28.08		30.89		8.06		80.90		5.63			3.00			5.30			1.00			<1.6		
						28.50		30.10		8.36		71.40		4.69			5.30			3.20			<1			<1.6		
				Surface	1.1	28.50	28.50	30.24	30.09	8.35	8.35	71.70	71.40	4.71	4.69		5.00	5.07		3.40	3.17		<1	<1		<1.6 <	1.6	
						28.50		29.94		8.35		71.10		4.67		4.68	4.90			2.90			<1			<1.6		
						28.59		30.75		8.34		71.50		4.67		4.00	5.10			3.90			<1			<1.6		
21-Sep-20	Cloudy	2:12	Moderate	Middle	8.5	28.59	28.59	30.74	30.75	8.35	8.34	71.00	71.43	4.64	4.67		5.20	5.17	5.12	3.70	3.73	3.92	<1	<1	<1	<1.6 <	1.6 <	:1.6
						28.60		30.75		8.34		71.80		4.69			5.20		_	3.60			<1			<1.6		
						28.57		30.76		8.35		71.80		4.69			5.10			4.90			<1			<1.6		
				Bottom	16.0	28.58	28.58	30.72	30.73	8.35	8.35	70.90	71.40	4.63	4.66	4.66	5.20	5.13		4.60	4.87		<1	<1			1.6	
						28.58		30.72		8.34		71.50		4.67			5.10			5.10			<1			<1.6		
						29.05		30.69		8.31		80.10		5.20			3.50			2.70			<1			<1.6		
				Surface	1.0	29.08	29.04	30.62	30.71	8.31	8.31	80.50	80.20	5.22	5.20		3.50	3.53		2.50	2.67		<1	<1			1.6	
						28.99		30.83		8.31		80.00		5.19		5.20	3.60			2.80			<1			<1.6		
	_					28.93		31.11		8.32		80.30		5.21			4.20			2.80			<1			<1.6		
23-Sep-20	Fine	3:23	Moderate	Middle	8.4	28.92	28.93	31.07	31.08	8.31	8.31	79.60	79.93	5.17	5.19		4.20	4.17	4.03	2.90	2.77	2.91	<1	<1	<1		1.6 <	<1.6
						28.93		31.07		8.31		79.90		5.18			4.10		1	2.60			<1			<1.6		
				Datta	45.0	28.93	20.02	31.13	24.44	8.31	0.04	79.60	70.00	5.16	F 40	F 40	4.50	4.40		3.30	2.20		<1	.4		<1.6	4.0	
				Bottom	15.9	28.95	28.93	31.05	31.11	8.30	8.31	79.30	79.60	5.14	5.16	5.16	4.50	4.40		3.40	3.30		<1	<1			1.6	
						28.92		31.14		8.31		79.90		5.18			4.20			3.20			<1			<1.6	$-\!\!\!\!+\!\!\!\!-$	
				Surface	1 1	29.26	20.26	31.23	21.24	8.03	8 05	96.60	97.03	6.22	6 24		3.50	3 50	1	1.90	2.00		-					
				Surface	1.1	29.26 29.26	29.26	31.25 31.24	31.24	8.04 8.07	8.05	97.50 97.00	91.03	6.27	6.24		3.40	3.50		2.10	2.00					-		
				—		29.26		31.24		8.07		96.90		6.23 6.24		6.23	3.60		1	2.00		1	-				-	
25-Sep-20	Fine	6:16	Moderate	Middle	8.0	29.29	29.29	31.48	31.50	8.04	8.04	96.40	96.57	6.24	6.22		3.80	3.80	3.71	2.30	2.23	2.40				-		
20 Jop 20		5.10	cacrate	madic	5.0	29.29	20.20	31.54	000	8.05	5.04	96.40	55.51	6.21	J.22		3.80	5.00	0.71	2.20	2.20	2.70						
						29.28		31.52		8.04		95.30		6.13			3.80		1	2.80		†					\dashv	
				Bottom	15.0	29.28	29.28	31.52	31.52	8.02	8.03	93.70	94.77	6.03	6.10	6.10	3.90	3.83		2.90	2.97							
				Dottom	.5.0	29.28	20.20	31.52	01.02	8.03	3.00	95.30	0 2.11	6.13	5.10	0.10	3.80	5.00	1	3.20	2.01							
—			1			28.94		32.08		8.19		92.80		5.99			4.60		 	4.00						- 	$-\!$	\dashv
				Surface	1.0	28.95	28.93	32.06	32.08	8.13	8.13	93.20	93.73	6.01	6.05		4.60	4.67	1	4.40	4.23							
1				12250	1	28.90		32.10		8.06		95.20		6.14		0.00	4.80			4.30								
1						28.93		32.16		8.05		96.10		6.20		6.06	4.60		1	5.70		1					-	
28-Sep-20	Cloudy	9:10	Moderate	Middle	8.1	28.93	28.93	32.18	32.17	8.16	8.11	92.80	94.10	5.98	6.07		4.60	4.60	4.61	5.40	5.50	5.41				1		
1	,					28.93		32.17		8.11		93.40		6.02			4.60			5.40								
1						28.94		32.21		8.14		92.40		5.95			4.50		1	6.70		1			1		-	
1				Bottom	15.0	28.95	28.94	32.23	32.22	8.09	8.09	93.30	94.73	6.01	6.10	6.10	4.60	4.57		6.30	6.50					1		
						28.94		32.22		8.03		98.50		6.35			4.60			6.50						<u> </u>		
<u> </u>					1	28.89		31.63		7.87		76.50		5.34			3.50	İ	†	4.20		1					+	=
				Surface	1.0	28.89	28.89	31.66	31.65	7.87	7.87	76.50	76.37	5.34	5.33		3.50	3.47	1	4.00	4.13							
					1	28.89		31.65		7.86		76.10		5.31			3.40		1	4.20								
						28.88		31.68		7.86		75.40		5.28		5.30	3.50		1	5.30		1			1		\neg	
30-Sep-20	Fine	10:48	Moderate	Middle	8.4	28.88	28.88	31.68	31.68	7.88	7.87	75.00	75.20	5.24	5.26		3.70	3.57	3.79		5.40	5.50						
					l	28.88		31.68		7.88		75.20	1	5.26			3.50	1	1	5.60								
						28.88		31.68		7.87		76.10		5.32			4.40]	6.90]]			
				Bottom	15.8	28.88	28.88	31.67	31.68	7.87	7.88	76.90	76.20	5.38	5.33	5.33	4.40	4.33	1	6.90	6.97							
					1	28.87		31.69		7.90		75.60	Ì	5.30			4.20	Ì	1	7.10								
Noto:																												-

Note:

^{1.} Some of laboratory results of Copper and Total PAH in September 2020 were in progress, the summary for those parameters will be reported in next reporting period.

Water Quality I	Monitoring Res	sults at IS3 -	Mid-Flood T	ide																							
Date	Weather	Sampling	Sea	Depth	n (m)	Tempera	ture(°C)		ity(ppt)	pH		4	ration (%)		ed Oxyger			bidity (NT			ded Solids			pper (µg/L)		tal PAH (µ	
Duto	Condition	Time	Condition	Боры	. (,	Value	Average	Value	Average		Average		Average	Value	Average	DA	Value	Average	DA	Value	Average	DA		Average		Average	e DA
				Surface	1.0	25.10 25.12	25.11	33.32 33.31	33.31	8.12 8.12	8.12	87.40 89.70	89.03	5.97 6.12	6.08		1.90 2.00	1.97		1.60	1.77		<1 <1	1.00	<1.6 <1.6	<1.6	
				Oundoc	1.0	25.12	20.11	33.31	00.01	8.12	0.12	90.00	05.00	6.14	0.00	5.00	2.00	1.57		1.90	1.77		1.00	1.00	<1.6	~11.0	
						25.08		33.36		8.12		84.60		5.78		5.96	2.40		i	2.20			<1		<1.6		1
11-Sep-20	Fine	19:18	Moderate	Middle	8.5	25.08	25.08	33.35	33.36	8.12	8.12	85.50	85.27	5.88	5.84		2.20	2.30	2.20	2.50	2.33	2.34	1.00	1.00	1.00 <1.6	<1.6	<1.6
						25.08 25.07		33.36		8.12		85.70 80.80		5.85			2.30			2.30			1.00		<1.6		-
				Bottom	15.8	25.08	25.08	33.36 33.35	33.35	8.12 8.12	8.12	80.00	80.87	5.58 5.46	5.57	5.57	2.40	2.33		3.10 2.90	2.93		1.00	1.00	<1.6 <1.6	<1.6	
						25.08		33.35		8.12		81.80		5.68		0.0.	2.30			2.80			<1		<1.6		
						27.69		31.23		8.13		89.60		5.93			3.30			3.30			2.00		<1.6		
				Surface	1.1	27.65	27.68	31.26	31.23	8.14	8.13	91.40	90.87	6.06	6.02		3.30	3.30		3.20	3.33		2.00	2.00	<1.6	<1.6	
						27.69 27.50		31.21 31.50		8.13 8.14		91.60 88.30		6.06 5.86		5.96	3.30		-	3.50 2.70			2.00		<1.6 <1.6		-
14-Sep-20	Cloudy	17:22	Moderate	Middle	8.3	27.35	27.49	31.82	31.60	8.15	8.14	87.90	89.00	5.81	5.89		3.50	3.47	3.40	2.90	2.77	2.78	2.00	2.00	2.00 <1.6	<1.6	<1.6
						27.61		31.47		8.13		90.80		6.01			3.50			2.70			2.00		<1.6		
				Dattan	45.5	27.40 27.48	27.20	31.76	24.70	8.14	0.44	86.30 89.40	86.77	5.72	E 74	5.74	3.50	3.43		2.20	2.23		2.00	2.00	<1.6	<1.6	
				Bottom	15.5	27.29	27.39	31.68 31.89	31.78	8.13 8.14	8.14	84.60	00.77	5.91 5.60	5.74	5.74	3.30	3.43		2.10	2.23		2.00	2.00	<1.6 <1.6	<1.0	
						27.79		31.27		8.26		79.10		5.57			3.50			2.20			<1		<1.6		+
				Surface	1.0	27.83	27.81	31.26	31.27	8.26	8.26	79.50	79.23	5.59	5.58		3.30	3.43		2.30	2.37		<1	1.00	<1.6	<1.6	
						27.80		31.28		8.26		79.10		5.57		5.55	3.50			2.60			1.00		<1.6		_
16-Sep-20	Sunny	18:12	Moderate	Middle	8.8	27.67 27.67	27.67	31.32 31.32	31.32	8.27 8.27	8.27	78.20 78.10	78.23	5.52 5.51	5.52		3.40	3.53	3.49	3.10 2.70	2.90	3.02	<1 <1	<1	<1.6	<1.6	<1.6
						27.67		31.32		8.26		78.40		5.53			3.70			2.90			<1		<1.6		
				_		27.67		31.32		8.27		78.60		5.55			3.40			3.80			<1		<1.6]
				Bottom	16.6	27.69	27.68	31.31	31.32	8.26	8.27	79.10	78.73	5.58	5.56	5.56	3.50	3.50		3.60	3.80		<1	<1	<1.6	<1.6	
						27.67 28.03		31.32 30.67		8.27 8.14		78.50 79.90		5.54 5.58			3.60 2.80			4.00 3.40			<1 <1		<1.6 <1.6		+
				Surface	1.0	28.06	28.04	30.75	30.71	8.14	8.14	80.20	80.13	5.60	5.59		2.80	2.77		3.60	3.40		<1	<1	<1.6	<1.6	
						28.04		30.70		8.14		80.30		5.60		5.57	2.70			3.20			<1		<1.6		
10 Can 20	Fine	40.00	Madazata	Middle	0.0	28.05	20.00	30.75	20.77	8.14	0.44	79.30	70.50	5.54		0.01	2.80	0.77	0.77	3.80	2.77	2.02	<1	.4	<1.6	.1.0	.1.0
18-Sep-20	Fine	19:22	Moderate	Middle	8.8	28.06 28.07	28.06	30.78 30.78	30.77	8.14 8.14	8.14	79.50 79.70	79.50	5.55 5.57	5.55		2.70	2.77	2.77	3.80	3.77	3.82	<1 <1	<1	<1 <1.6 <1.6	<1.6	<1.6
						28.07		30.78		8.14		80.10		5.59			2.70			4.30			<1		<1.6		1
				Bottom	16.5	28.06	28.06	30.78	30.78	8.14	8.14	79.70	79.77	5.57	5.57	5.57	2.70	2.77		4.10	4.30		<1	<1	<1.6	<1.6	
						28.05		30.77		8.14		79.50		5.55			2.90			4.50			<1		<1.6		
				Surface	1.1	28.47 28.49	28.48	29.97 29.92	29.94	8.35 8.36	8.36	70.50 70.60	70.57	4.63 4.64	4.64		3.10	3.10		6.40 6.80	6.63		<1 <1	<1	<1.6 <1.6	<1.6	
						28.48		29.93		8.36		70.60		4.64		4.62	3.10			6.70			<1		<1.6		
						28.58		30.64		8.35		70.50		4.61		4.02	3.30			5.80			<1		<1.6		
21-Sep-20	Cloudy	9:10	Moderate	Middle	8.4	28.56 28.56	28.57	30.63 30.57	30.61	8.35 8.35	8.35	70.40 70.60	70.50	4.60 4.62	4.61		3.20	3.27	3.22	5.70 6.10	5.87	6.11	<1 <1	<1	<1 <1.6 <1.6	<1.6	<1.6
						28.54		30.61		8.35		70.30		4.60			3.30		ŧ	6.00		1	<1		<1.6		1
				Bottom	15.8	28.55	28.55	30.61	30.61	8.35	8.35	70.40	70.43	4.61	4.61	4.61	3.30	3.30		5.70	5.83		<1	<1	<1.6	<1.6	
						28.55		30.62		8.35		70.60		4.62			3.30			5.80			<1		<1.6		
				Surface	1.0	29.11 29.05	29.10	30.63 30.71	30.65	8.31 8.31	8.31	79.10 78.80	79.17	5.13 5.11	5.13		3.10	3.10		2.70 3.00	2.90		<1 <1	<1	<1.6 <1.6	<1.6	
				• • • • • • • • • • • • • • • • • • • •		29.13		30.60		8.30		79.60		5.16		5.13	3.00			3.00			<1		<1.6		
	_					28.88		30.99		8.31		78.90		5.13		3.13	3.80			2.40			<1		<1.6		1
23-Sep-20	Sunny	11:22	Moderate	Middle	8.2	28.89	28.89	30.97 31.01	30.99	8.32 8.31	8.31	78.70 79.30	78.97	5.11	5.13		3.80	3.80	3.59	2.50	2.37	2.30	<1	<1	<1 <1.6	<1.6	<1.6
						28.90		31.00		8.31		78.50		5.15 5.09			3.80		ŧ	1.50		1	<1 <1		<1.6 <1.6		1
				Bottom	15.4	28.90	28.90	30.96	30.97	8.31	8.31	78.00	78.20	5.06	5.07	5.07	3.90	3.87		1.60	1.63		<1	<1	<1.6	<1.6	
						28.91		30.95		8.32		78.10		5.07			3.90			1.80			<1		<1.6		
				Surface	1.1	29.25 29.28	29.26	31.21 31.40	31.28	8.15 8.15	8.15	95.00 93.40	94.40	6.13	6.08		2.70	2.70		1.60	1.63					_	
				Canaco		29.26	20.20	31.23	01.20	8.16	0.10	94.80	0 10	6.11	0.00	0.00	2.70	2		1.60	1.00						
						29.27		31.83		8.15		94.10		6.05		6.06	2.80			3.40							
25-Sep-20	Fine	19:46	Moderate	Middle	8.0	29.28	29.27	31.83	31.86	8.16	8.15	94.40	93.87	6.07	6.03		2.80	2.77	2.73	3.50	3.43	3.11					
						29.26 29.26		31.91 31.98		8.15 8.15		93.10 92.10		5.97 5.91			2.70 2.70			3.40 4.20							-
				Bottom	15.0	29.28	29.27	31.77	31.85	8.15	8.15	93.80	93.30	6.02	5.99	5.99	2.70	2.73		4.20	4.27						
						29.27		31.80		8.15		94.00		6.04			2.80			4.40							
				Surface	1.0	28.84	28.83	32.03 32.03	32.03	8.11	8.11	91.70	91.83	5.93	5.93		5.00	5.00		10.20	10.50						
				Surface	1.0	28.83	20.03	32.03	32.03	8.10 8.11	0.11	91.80 92.00	91.03	5.93 5.94	5.95		5.10 4.90	5.00		10.50	10.50					_	
						28.84		32.06		8.11		91.50		5.91		5.92	5.20		İ	9.70							1
28-Sep-20	Fine	17:22	Moderate	Middle	8.2	28.84	28.84	32.05	32.05	8.10	8.11	91.40	91.47	5.90	5.91		5.10	5.13	5.08	9.30	9.53	9.52					
						28.83 28.84		32.04 32.08		8.11 8.10		91.50 91.50		5.91 5.91			5.10 5.10			9.60 8.40							-
				Bottom	15.2	28.84	28.84	32.13	32.09	8.12	8.11	91.80	91.57	5.93	5.91	5.91	5.10	5.10		8.50	8.53						
						28.84		32.06		8.10		91.40		5.90			5.10			8.70							
				C	4.0	29.00	20.00	31.23	24.00	7.95	7.04	74.80	75.00	5.22	F 0.4		2.30	2.22		3.80	4.00		<u> </u>			_	
				Surface	1.0	28.99	29.00	31.23 31.24	31.23	7.94 7.94	7.94	75.00 75.20	75.00	5.25 5.25	5.24		2.30	2.30		4.00	4.03		-			+	
						29.04		31.38		7.95		73.70		5.15		5.20	2.40		1	5.00		+					1
30-Sep-20	Fine	18:23	Moderate	Middle	8.6	29.08	29.05	31.47	31.42	7.94	7.95	74.10	73.73	5.17	5.15		2.40	2.37	2.47	5.10	5.00	4.97					
						29.04 29.07		31.41 31.43		7.95 7.95		73.40 74.70		5.13			2.30		1	4.90 5.70		-	<u> </u>		<u> </u>		4
				Bottom	16.1	29.07	29.05	31.43	31.40	7.95	7.95	74.70	73.83	5.21 5.11	5.15	5.15	2.90	2.73		6.00	5.87					+	
		<u></u>	<u></u>			29.04		31.39		7.95		73.60		5.14			2.80		L	5.90							<u> </u>
Note:												_	_														_

^{1.} Some of laboratory results of Copper and Total PAH in September 2020 were in progress, the summary for those parameters will be reported in next reporting period.

APPENDIX J Details of Exceedances Recorded for Water Quality Monitoring

11 September 2020

				Action	n Level	Limit	Level	
Monitoring Location	Tide mode	Parameter	Depth Average	120% of Upstream Control Station	95th Percentile of Baseline Data	130% of Upstream Control Station	99th Percentile of Baseline Data	Remark
IS1	Mid-Flood	Suspended Solids	2.83	2.75	13.80	2.98	18.70	It is considered that the source for the relatively high Suspended Solid level was not originated from the construction site due to the proper mitigation measure for dredging was implemented and no muddy plume was observed at the designated discharge point. It might be caused by the daily variation of the surrounding water quality and elevation by marine movement.

Remark:

14 September 2020

			Donth	Action	n Level	Limit	Level	
Monitoring Location	Tide mode	Parameter	Parameter Depth Average	120% of Upstream Control Station	95th Percentile of Baseline Data	130% of Upstream Control Station	99th Percentile of Baseline Data	Remark
IS1	Mid-Ebb	Turbidity	4.16	3.84	7.00	4.16	8.40	It is considered that the source for the relatively high Turbidity and Copper levels were not originated from the construction site due to the proper mitigation measure for dredging was implemented and no muddy plume was observed at the designated discharge point. It might be caused by the daily variation of the surrounding water quality and elevation by marine movement.
IS1	Mid-Ebb	Copper	2.00	3.20	2.00	3.47	3.00	
IS2	Mid-Ebb	Copper	2.11	3.20	2.00	3.47	3.00	
IS3	Mid-Ebb	Copper	2.22	3.20	2.00	3.47	3.00	
IS1	Mid-Flood	Copper	2.56	2.40	2.00	2.60	3.00	
IS2	Mid-Flood	Copper	2.78	2.40	2.00	2.60	3.00	
IS3	Mid-Flood	Copper	2.00	2.40	2.00	2.60	3.00	

Remark:

18 September 2020

Monitoring Location		Parameter	Depth Average	Actio	n Level	Limit Level		
	Tide mode			120% of Upstream Control Station	95th Percentile of Baseline Data	130% of Upstream Control Station	99th Percentile of Baseline Data	Remark
IS1	Mid-Ebb	Suspended Solids	4.44	4.17	13.80	4.52	18.70	It is considered that the source for the relatively high Suspended Solid level was not originated from the construction site due to the proper mitigation measure for
IS3	Mid-Ebb	Suspended Solids	4.37	4.17	13.80	4.52	18.70	dredging was implemented and no muddy plume was observed at the designated discharge point. It might be caused by the daily variation of the surrounding water quality and elevation by marine movement.

Remark:

21 September 2020

				Action	n Level	Limit I	Level	
Monitoring Location	Tide mode	Parameter	Depth Average	120% of Upstream Control Station	95th Percentile of Baseline Data	130% of Upstream Control Station	99th Percentile of Baseline Data	Remark
IS3	Mid-Ebb	Turbidity	5.12	4.71	7.00	5.10	8.40	The investigation is undergoing, and the result will report in the next report.
IS3	Mid-Flood	Turbidity	3.22	3.15	7.00	3.41	8.40	report in the next report.
IS2	Mid-Ebb	Suspended Solids	3.91	3.67	13.80	3.97	18.70	
IS3	Mid-Ebb	Suspended Solids	3.92	3.67	13.80	3.97	18.70	
IS1	Mid-Flood	Suspended Solids	3.87	3.32	13.80	3.60	18.70	
IS3	Mid-Flood	Suspended Solids	6.11	3.32	13.80	3.60	18.70	

Remark:

23 September 2020

				Action Level		Limit Level		
•	Tide mode	Parameter	Parameter Depth Average	120% of Upstream Control Station	95th Percentile of Baseline Data	130% of Upstream Control Station	99th Percentile of Baseline Data	Remark
IS1	Mid-Ebb	Turbidity	5.23	4.27	7.00	4.62	8.40	The investigation is undergoing, and the result will report in the payt report
IS1	Mid-Flood	Turbidity	4.16	3.33	7.00	3.61	8.40	will report in the next report.
IS2	Mid-Flood	Turbidity	4.27	3.33	7.00	3.61	8.40	
IS3	Mid-Flood	Turbidity	3.59	3.33	7.00	3.61	8.40	
IS2	Mid-Flood	Suspended Solids	3.57	2.93	13.80	3.18	18.70	

Remark:

25 September 2020 (without Copper and Total PAH)

		Tide Parameter	Parameter Depth Average	Action	n Level	Limit Level		
U	Tide mode			120% of Upstream Control Station	95th Percentile of Baseline Data	130% of Upstream Control Station	99th Percentile of Baseline Data	Remark
IS3	Mid-Flood	Turbidity	2.73	2.17	7.00	2.35	8.40	The investigation is undergoing, and the result will report in the next report.
IS1	Mid-Ebb	Suspended Solids	2.83	2.76	13.80	2.99	18.70	wiii тероті ін іне нехі тероті.
IS1	Mid-Flood	Suspended Solids	4.66	3.04	13.80	3.29	18.70	
IS3	Mid-Flood	Suspended Solids	3.11	3.04	13.80	3.29	18.70	

Remark:

28 September 2020 (without Copper and Total PAH)

				Action	n Level	Limit	Level	
Monitoring Tide Location mode Param	Parameter	Parameter Depth Average	120% of Upstream Control Station	95th Percentile of Baseline Data	130% of Upstream Control Station	99th Percentile of Baseline Data	Remark	
IS1	Mid-Ebb	Turbidity	6.51	5.36	7.00	5.81	8.40	The investigation is undergoing, and the result will report in the next report.
IS2	Mid-Ebb	Turbidity	6.24	5.36	7.00	5.81	8.40	report in the flext report.
IS1	Mid-Flood	Turbidity	6.18	6.05	7.00	6.56	8.40	
IS2	Mid-Flood	Turbidity	6.54	6.05	7.00	6.56	8.40	
IS2	Mid-Flood	Suspended Solids	10.06	9.99	13.80	10.82	18.70	

Remark:

APPENDIX K

Event and Action Plan

Event / Action Plan for Construction Dust Monitoring

EVENT		AC	TION	
EVENT	ET	IEC	ER	Contractor
ACTION LEVEL				
Exceedance for one sample	 Inform the Contractor, IEC and ER; Discuss with the Contractor and IEC on the remedial measures required; Repeat measurement to confirm findings; Increase monitoring frequency 	Check monitoring data submitted by the ET; Check Contractor's working method; Review and advise the ET and ER on the effectiveness of the proposed remedial measures.	Confirm receipt of notification of exceedance in writing.	Identify source(s), investigate the causes of exceedance and propose remedial measures; Implement remedial measures; Amend working methods agreed with the ER as appropriate.
Exceedance for two or more consecutive samples	 Inform the Contractor, IEC and ER; Discuss with the ER, IEC and Contractor on the remedial measures required; Repeat measurements to confirm findings; Increase monitoring frequency to daily; If exceedance continues, arrange meeting with the IEC, ER and Contractor; If exceedance stops, cease additional monitoring. 	 Check monitoring data submitted by the ET; Check Contractor's working method; Review and advise the ET and ER on the effectiveness of the proposed remedial measures. 	 Confirm receipt of notification of exceedance in writing; Review and agree on the remedial measures proposed by the Contractor; Supervise Implementation of remedial measures. 	 Identify source and investigate the causes of exceedance; Submit proposals for remedial measures to the ER with a copy to ET and IEC within three working days of notification; Implement the agreed proposals; Amend proposal as appropriate.

Gammon Construction Limited Central Kowloon Route – Kai Tak West

Appendix K Event Action Plan

Appendix K	Event Action Plan			
EVENT		ACT	TION	
EVENT	ET	IEC	ER	Contractor
Exceedance for one sample	 Inform the Contractor, IEC, EPD and ER; Repeat measurement to confirm findings; Increase monitoring frequency to daily; Discuss with the ER, IEC and contractor on the remedial measures and assess the effectiveness. 	 Check monitoring data submitted by the ET; Check the Contractor's working method; Discuss with the ET, ER and Contractor on possible remedial measures; Review and advise the ER and ET on the effectiveness of Contractor's remedial measures. 	Confirm receipt of notification of exceedance in writing; Review and agree on the remedial measures proposed by the Contractor; Supervise implementation of remedial measures.	1. Identify source(s) and investigate the causes of exceedance; 2. Take immediate action to avoid further exceedance; 3. Submit proposals for remedial measures to ER with a copy to ET and IEC within three working days of notification; 4. Implement the agreed proposals; 5. Amend proposal if appropriate.
Exceedance for two or more consecutive samples	 Notify Contractor, IEC, EPD and ER; Repeat measurement to confirm findings; Increase monitoring frequency to daily; Carry out analysis of the Contractor's working procedures with the ER to determine possible mitigation to be implemented; Arrange meeting with the IEC and ER to discuss the remedial measures to be taken; Review the effectiveness of the Contractor's remedial measures and keep IEC, EPD and ER informed of the results; If exceedance stops, cease additional monitoring. 	 Check monitoring data submitted by the ET; Check the Contractor's working method; Discuss with ET, ER, and Contractor on the potential remedial measures; Review and advise the ER and ET on the effectiveness of Contractor's remedial measures. 	 Confirm receipt of notification of exceedance in writing; In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented; Supervise the implementation of remedial measures; If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated. 	 Identify source(s) and investigate the causes of exceedance; Take immediate action to avoid further exceedance; Submit proposals for remedial measures to the ER with a copy to the IEC and ET within three working days of notification; Implement the agreed proposals; Revise and resubmit proposals if problem still not under control; Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Event and Action Plan for Construction Noise Monitoring

EVENT		ACT	ΓΙΟΝ	
EVENT	ET	IEC	ER	Contractor
Exceedance of Action Level	 Notify the Contractor, IEC and ER; Discuss with the ER, IEC and Contractor on the remedial measures required; and Increase monitoring frequency to check mitigation effectiveness. 	Review the investigation results submitted by the contractor; and Review and advise the ET and ER on the effectiveness of the remedial measures proposed by the Contractor.	 Confirm receipt of notification of complaint in writing; Review and agree on the remedial measures proposed by the Contractor; and Supervise implementation of remedial measures. 	 Investigate the complaint and propose remedial measures; Report the results of investigation to the IEC, ET and ER; Submit noise mitigation proposals to the ER with copy to the IEC and ET within 3 working days of notification; and Implement noise mitigation proposals.
Exceedance of Limit Level	1. Notify the Contractor, IEC, EPD and ER; 2. Repeat measurement to confirm findings; 3. Increase monitoring frequency; 4. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 5. Arrange meeting with the IEC and ER to discuss the remedial measures to be taken; 6. Inform IEC, ER and EPD the causes and actions taken for the exceedances; 7. Review the effectiveness of Contractor's remedial measures and keep IEC, EPD and ER informed of the results; and 8. If exceedance stops, cease additional monitoring.	 Check monitoring data submitted by the ET; Check the Contractor's working method; Discuss with the ER, ET and Contractor on the potential remedial measures; and Review and advise the ET and ER on the effectiveness of the remedial measures proposed by the Contractor. 	 Confirm receipt of notification of exceedance in writing; In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented; Supervise the implementation of remedial measures; and If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated. 	 Identify source and investigate the causes of exceedance; Take immediate action to avoid further exceedance; Submit proposals for remedial measures to the ER with copy to the IEC and ET within 3 working days of notification; Implement the agreed proposals; Revise and resubmit proposals if problem still not under control; and Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Event and Action Plan for Continuous Noise Monitoring

		ACTI	ON	
EVENT	ET	IEC	ER	CONTRACTOR
Action/Limit Level	1. Identify source; 2. Repeat measurement. If two consecutive measurements exceed Action/Limit Level, the exceedance is then confirmed; 3. If exceedance is confirmed, notify IEC, ER and Contractor; 4. Investigate the cause of exceedance and ckeck Contractor's working procedures to determine possible mitigation to be implemented; 5. Discuss jointly with the IEC, ER and Contractor and formulate remedial measures; and 6. Assess effectiveness of Contractor's remedial actions and keep IEC and ER informed of the results.	 Check monitoring data submitted by the Works Contract 1123 ET; Check the Contractor's working method; Discuss with the ER, Works Contract 1123 ET and Contractor on the potential remedial measures; and Review and advise the Works Contract 1123 ET and ER on the effectiveness of the remedial measures proposed by the Contractor. 	1. Confirm receipt of notification of exceedance in writing; 2. In consultation with the Works Contract 1123 ET and IEC, agree with the Contractor on the remedial measures to be implemented; 3. Ensure the proper implementation of remedial measures; and 4. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	 Identify source with the Works Contract 1123 ET; If exceedance is confirmed, investigation the cause of exceedance and take immediate action to avoid further exceedance; Submit proposals for remedial measures to the ER with copy to the IEC and ET of notification; Implement the agreed proposals; Liaise with ER to optimize the effectiveness of the agreed mitigation; Revise and resubmit proposals if problem still not under control; and Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Event and Action Plan for Water Quality Monitoring

EVENT	ACTION								
EVENT	ET	IEC	ER	CONTRACTOR					
Action level being exceeded by one sampling day	Inform IEC, contractor and ER; Check monitoring data, all plant, equipment and Contractor's working methods; and Discuss remedial measures with IEC and Contractor and ER.	1. Discuss with ET, ER and Contractor on the implemented mitigation measures; 2. Review proposals on remedial measures submitted by Contractor and advise the ER accordingly; and 3. Review and advise the ET and ER on the effectiveness of the implemented mitigation measures.	Discuss with IEC, ET and Contractor on the implemented mitigation measures; Make agreement on the remedial measures to be implemented; Supervise the implementation of agreed remedial measures.	 Identify source(s) of impact; 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 ER, ET and IEC and purpose remedial measures to IEC and ER; and Implement the agreed mitigation measures. 					
Action level being exceeded by more than one consecutive sampling days	 Repeat in-situ measurement on next day of exceedance to confirm findings; Inform IEC, contractor and ER; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss remedial measures with IEC, contractor and ER; Ensure remedial measures are implemented. 	 Discuss with ER, Contractor and ER on the implemented mitigation measures; Review the proposed remedial measures submitted by Contractor and advise the ER accordingly; and Review and advise the ET and ER on the effectiveness of the implemented mitigation measures. 	1. Discuss with ER, IEC and Contractor on the proposed mitigation measures; 2. Make agreement on the remedial measures to be implemented; and 3. Discuss with ET, IEC and Contractor on the effectiveness of the implemented remedial measures.	 Identify source(s) of impact; Inform the ER and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment and consider changes of working methods; Discuss with ET, IEC and ER and submit proposal of remedial measures to ER and IEC within 3 working days of notification; and Implement the agreed mitigation measures. 					

Event and Action Plan for Water Quality Monitoring

EVENT	ACTION								
EVENT	ET	IEC	ER	CONTRACTOR					
Limit Level being exceed by one sampling day	 Repeat measurement on next day of exceedance to confirm findings; Inform IEC, contractor and ER; Rectify unacceptable practice; Check monitoring data, all plant, equipment and Contractor's working methods; Consider changes of working methods; Discuss mitigation measures with IEC, ER and Contractor; and Ensure the agreed remedial measures are implemented. 	 Discuss with ET, Contractor and ER on the implemented mitigation measures; Review the proposed remedial measures submitted by Contractor and advise the ER accordingly; and Review and advise the ET and ER on the effectiveness of the implemented mitigation measures. 	 Discuss with ET, IEC and Contractor on the implemented remedial measures; Request Contractor to critically review the working methods; Make agreement on the remedial measures to be implemented; and Discuss with ET, IEC and Contractor on the effectiveness of the implemented remedial measures. 	 Identify source(s) of impact; Inform the ER and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment and consider changes of working methods; Discuss with ET, IEC and ER and submit proposal of additional mitigation measures to ER and IEC within 3 working days of notification; and Implement the agreed remedial measures. 					
Limit Level being exceed by more than one consecutive sampling days	 Inform IEC, contractor and ER; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC, ER and Contractor; and Ensure mitigation measures are implemented; and Increase the monitoring frequency to daily until no exceedance of Limit Level for two consecutive days 	 Discuss with ET, Contractor and ER on the implemented mitigation measures; Review the proposed remedial measures submitted by Contractor and advise the ER accordingly; and Review and advise the ET and ER on the effectiveness of the implemented mitigation measures. 	 Discuss with ET, IEC and Contractor on the implemented remedial measures; Request Contractor to critically review the working methods; Make agreement on the remedial measures to be implemented; Discuss with ET and IEC on the effectiveness of the implemented mitigation measures; and Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the dredging activities 	 Identify source(s) of impact; Inform the ER and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment and consider changes of working methods; Discuss with ET, IEC and ER and submit proposal of additional mitigation measures to ER and IEC within 3 working days of notification; and Implement the agreed remedial measures. As directed by the ER, to slow down or stop all or part of the 					

Appendix K	Event Action Plan		
		until no exceedance of Limit level.	dredging activities until no exceedance of Limit level

APPENDIX L

Cumulative Statistics on Complaints, Notification of Summons and Successful Prosecutions

Appendix L

Cumulative Statistics on Complaints, Notification of Summons and Successful Prosecutions

	Date	Subject	Status	Total no.	Total no.
	received			received	received since
				in this	project
				month	commencement
Environmental		Environmental Complaint No: EC-032-CKRKTW20200903_01_C055			
complaints		Details of Complaint			
•		Complaint (ref.: CKRKTW20200903_01_C055) was received by Highway Department on 3 September 2020 and referred by Gammon Construction Limited on 4 September 2020.The complaint related to the noise concern was detailed as follows: - 就昨天晚上 11 時後,本苑居民再次受到工程「打石」的噪音嚴重影響,分別由 5/F 至 31/F 的住戶均被噪音騷擾,使到難以入睡。為免繼續影響本苑居民,及對本苑居民的健康造成進一步的傷害, 貴署必須立即停止在晚間 11 時後,於馬頭角豎井工地的任何「打石」工程。			
		Details of Investigation and findings			
		As the complaint was received on 3 September 2020 and claimed that the noise nuisance came from the nighttime works the night before the complaint received date, In the view of this, the investigation was considered to include the construction works during restricted hours at Ma Tau Kok on 2 September 2020.			
	3 September	As reported by the Contractor, the construction activities			
	2020	were conducted during the restricted hours on 2 September 2020, which were:			
	(Referred by	2 September 2020	Classed	2	34
	the Contractor	From 19:00 to 23:00	Closed	3	34
	on 4 September	Rock breaking below S6 layer (38m below ground)			
	2020)	Water pumping			
		From 23:00 to 07:00 on next day			
		Rock breaking below S6 layer (38m below ground) Weter pumping			
		Water pumping Valid Construction Noise Permit (CNP no.: GW-RE0603-20) had been granted from EPD to cover the operation time of powered mechanical equipment (hereinafter PME) from 19:00 to 23:00 and 23:00 to 07:00 on next day by different group and conditions.			
		As reported by the Contractor, except for ventilation fan with enclosure, Sound Power Level ≤ 85dB(A), electric submersible water pump (CNP 283), wastewater treatment plant, Sound Power Level ≤ 80dB(A), electric air blower and electric welding machine, all other PMEs were only operated inside the shaft with all openings covered by acoustic enclosure.			
		As reported by the Contractor, proper noise mitigation measures had conducted to comply with the listed condition in the granted CNP, such as all opening of access shaft had been covered by acoustic enclosure for noise screening, the door of a tally room at the Access Shaft had been closed during the nighttime works and specific ventilation fan had been connected to silencers which not less than 8.9m in length.			

Da	ate	Subject	Status	Total no.	Total no.
rece	eived			received	received since
				in this	project
				month	commencement
		From the results of the compliance check, no			
		non-compliance was found under the conditions in the granted CNP.			
		It is considered that the noise mitigation measures had			
		been implemented properly by the Contractor to comply with the terms and condition under the valid CNP during			
		the works conducted during the restricted hours. Besides, no non-compliance was found on the			
		compliance check with PME list based on the Contractor's information.			
		Environmental Complaint No: EC-033- CKRKTW20200923_01_C057 &			
		CKRKTW20200924_01_C058 &			
		CKRKTW20201007_01_C060 Details of Complaint			
		Similar Complaints (ref.: CKRKTW20200923_01_C057 &			
		CKRKTW20200924_01_C058) were received by Gammon Construction Limited on 23 and 24 September			
		2020 respectively and referred on 26 September 2020. In addition, one relative complaint (ICC ref.: 3-6477395523)			
		and two relative complaints (EPD ref.: EP3/K10/RE/00021704-20 and			
		EP3/K10/RE/00021838-20) were received by 1823 Government Hotline on 17 September 2020 and			
		Environmental Protection Department on 23 and 25 September 2020 respectively, and referred by Gammon			
		Construction Limited on 7 October 2020. The complaints			
		related to the smoke, odour and noise concern were detailed as follows:			
		17 Sep 2020 (ICC ref.: 3-6477395523):			
17, 23,	3, 24 and	- 投訴人投訴九龍城興仁街 27 號對出海域有 2 架船隻			
25 Sep	ptember	不斷挖掘垃圾發出惡臭,滋擾居民。投訴人指近來有 船隻每天 8:00-17:00 於此海域不斷挖掘垃圾,發出惡			
20	020	臭及噪音,亦令旁邊的舊式住宅感到搖晃,要求有關 部門跟進。			
(Refe	erred by	23 Sep 2020 (ref.: CKRKTW20200923 01 C057):			
the Co	ontractor	- 本處近日發現,翔龍灣對出海傍有一挖泥船進行挖泥	Closed		
on	n 26	工程,而該船隻排出的廢氣及挖泥帶起的海底泥均發出難聞的氣味,對本苑居民構成極大的影響,並且對			
Septem	mber and	環境造成污染。故此,本處特來此電郵,要求 貴署 進行跟進,停止挖泥船繼續發出難聞氣味影響本苑居			
7 00	ctober	R.			
20	020)	23 Sep 2020 (EPD ref.: EP3/K10/RE/00021704-20):			
		 Complaint of noise and odour generated from the construction works carried out by the grab dredger. 			
		 Please implement practicable measures to minimize the environmental nuisance affecting the nearby residents. 			
		24 Sep 2020 (ref: CKRKTW20200924_01_C058):			
		- 本處收到興仁樓 27 號居民求助,指該大廈對出海面			
		有兩艘寫上「合群」的躉船每天挖掘淤泥,並長達 8 小時。並在挖掘時產生噪音和臭味,若刮風時臭味情			
		況會更嚴重,導致求助人需要長期關閉窗戶以阻隔噪 音和臭味。而且求助人指出,兩艘躉船離興仁樓只約			
		20 米距離,擔心大風時船隻會撞向岸邊,危害近岸			
		居民安全。求助人希望 貴司減低該船隻所造成之臭味和噪音問題。			
		25 Sep 2020 (EPD ref.: EP3/K10/RE/00021838-20):			
		- Complaint of smoke and odour generated from the			
		dredging works at your construction site.			

Date	Subject	Status	Total no.	Total no.
received			received	received since
			in this	project
			month	commencement
	Please implement practicable measures to minimize the environmental nuisance affecting the nearby residents.			
	Details of Investigation and findings			
	According to the information provided by the Contractor, intermittent dredging was started on 10 September 2020.			
	To monitor the environmental impact from the intermittent dredging and construction works, regular EM&A monitoring and additional environmental monitoring at Grand Waterfront were conducted on 10, 16, and 22 September 2020. As reported by the Contractor, the intermittent dredging was also conducted on 10 and 16 September 2020.			
	No non-compliance was recorded based on the monitoring data at the EM&A station and additional monitoring station at Grand Waterfront.			
	As reported by the Contractor, odour removal agent was regularly sprayed at derrick lighter by the Contractor to minimize the odour emission from the dredging. Also, the acoustic sheet was erected on the exposed part of the engine at derrick lighter and filter replacement to improve the performance of noise screening and avoid the dark smoke emission as an additional measure for dredging.			
	Regular site inspection was conducted on 23 and 30 September 2020 by ET, no adverse observation against air and noise during the site inspection. The intermittent dredging was also conducted with cage type silt curtain and close grab. Also, no dark smoke emission was observed during the intermittent dredging.			
	As reported by Contractor, one inspection was conducted by the EPD and the Contractor on 28 September 2020, no adverse comment was recorded from EPD against the operation of dredging.			
	To conclude, proper mitigation measure and additional improvement measure had already conducted by the Contractor to minimize the odour, air, noise and water nuisance from the dredging.			
	Environmental Complaint No: EC-034-CKRKTW20200924_01_C059			
	<u>Details of Complaint</u>			
26 September	Complaint (ref.: CKRKTW20200924_01_C059) was received by Gammon Construction Limited on 24 September 2020 and referred by Gammon Construction Limited on 26 September 2020.The complaint related to the noise concern was detailed as follows:			
2020	- 噪音 24 小時,特別半夜有擾人睡眠的噪音,已困擾			
(Referred by	多月,例如昨晚 (2020 年 9 月 24 日凌晨 0 時至大概 1 時半) 噪音不斷。			
the Contractor	- 為何工程需要 24 小時進行? (向管理處投訴,管理處	Closed		
on 24	說工程是金門及已獲得環保署批准) - 何時完工?			
September	- 因屬低層戶,所以噪音(揼揼聲) 聽得清楚,午夜會被			
2020)	· 四屬似會广外以味自(秋水草) 転付月走,十枚音板			
	Details of Investigation and findings			
	As the complaint was received on 24 September 2020 and claimed that the noise nuisance came from the nighttime works the night before the complaint received			

	Date	Subject	Status	Total no.	Total no.
	received			received	received since
				in this	project
				month	commencement
		date. In the view of this, the investigation was considered to include the construction works during restricted hours at Ma Tau Kok on 23 September 2020.			
		As reported by the Contractor, the construction activities were conducted during the restricted hours on 23 September 2020, which were:			
		23 September 2020			
		From 19:00 to 23:00 Rock breaking below S6 layer (38.5m below ground) Water pumping			
		From 23:00 to 07:00 on next day Rock breaking below S6 layer (38.5m below ground) Water pumping			
		Valid Construction Noise Permit (CNP no.: GW-RE0603-20) had been granted from EPD to cover the operation time of powered mechanical equipment (hereinafter PME) from 19:00 to 23:00 and 23:00 to 07:00 on next day by different group and conditions.			
		As reported by the Contractor, except for ventilation fan with enclosure, Sound Power Level ≤ 85dB(A), electric submersible water pump (CNP 283), wastewater treatment plant, Sound Power Level ≤ 80dB(A), electric air blower and electric welding machine, all other PMEs were only operated inside the shaft with all openings covered by acoustic enclosure.			
		As reported by the Contractor, proper noise mitigation measures had conducted to comply with the listed condition in the granted CNP, such as all opening of access shaft had been covered by acoustic enclosure for noise screening, the door of a tally room at the Access Shaft had been closed during the nighttime works and specific ventilation fan had been connected to silencers which not less than 8.9m in length.			
		From the results of the compliance check, no non-compliance was found under the conditions in the granted CNP.			
		It is considered that the noise mitigation measures had been implemented properly by the Contractor to comply with the terms and condition under the valid CNP during the works conducted during the restricted hours. Besides, no non-compliance was found on the compliance check with PME list based on the Contractor's information.			
Notification of summons				0	0
Successful					
prosecutions		-		0	0
p. 00000000000					

APPENDIX M

Monthly Summary Waste Flow Table

Appendix M Monthly Summary Waste Flow Table

Monthly Summary Waste Flow Table for 2020

				Actual C	Quantities of	Inert C&D N	/laterials Ge	nerated Mon	thly (Note 1)			Actual Quantities of Non-inert C&D Materials (i.e. C&D Quantities of Contaminated Soil Monthly Actual Quantities of Contaminated Soil Monthly Actual Quantities of Land-based Sediment Monthly								Actual Quantities of Marine-based sediment Monthly					
	Generated Disposed								Reused		Recycled		Disposed		Reused	Reused	Disp	osed	Disposed							
Month	Fill Artificial Material .		Total	Disposed	Disposed	Disposed	Disposed	Disposed	Disposed	Disposed	Total	Reused in	Reused in	Total		Paper/		Chaminal	General	Davis ad in the	Reused in the Contract		t Designated ite	Dispose	ed at Designat	ted Site
	Soil and Rock	Broken Concrete	Asphalt	Building Derbis	Quantity Generated	as Public Fills at TKO137	as Public Fills at TM38	as Public Fills at CWPFBP	Quantity Disposal	the Contract	Other Projects	Quantity Reused	Metals	cardboard packaging (Note 3)	Plastics	Chemical Waste	Refuse (Note 2)	Reused in the	Type 1 (Cat. L)	Type 1 (Cat. M _p)	Type 2 (Cat. M _f , Cat. H)	Type 1 (Cat. L, Cat. M _p)	Type 2 (Cat. M _f , Cat. H, Cat. H _p)	Type 3 (Cat. H _f)		
Unit	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000Kg)	('000Kg)	('000Kg)	('000L)	('000Kg)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)		
Jan	35.394	0.008	0.000	0.000	35.402	0.000	0.031	0.000	0.031	0.000	35.371	35.371	33.130	0.180	0.000	0.000	21.510	0.000	0.000	0.000	0.000	0.000	0.309	0.000		
Feb	48.036	0.000	0.023	0.000	48.058	0.000	1.065	0.000	1.065	0.000	46.993	46.993	0.000	0.000	0.000	0.000	13.800	0.000	0.000	0.000	0.000	0.724	4.126	0.000		
Mar	40.020	0.008	0.000	0.000	40.029	5.760	0.024	0.000	5.784	0.000	34.245	34.245	0.000	0.214	0.000	0.000	33.740	0.000	0.000	0.000	0.000	6.496	8.543	0.000		
Apr	46.955	0.003	0.002	0.000	46.960	24.984	0.895	0.000	25.879	0.000	21.081	21.081	0.000	0.172	0.000	1.400	38.070	0.000	0.000	0.000	0.000	10.151	8.900	0.000		
May	46.664	0.007	0.074	0.000	46.745	35.045	5.697	0.000	40.742	0.000	6.003	6.003	0.000	0.000	0.000	0.000	36.930	0.000	0.000	0.000	0.000	6.134	1.051	0.000		
Jun	63.995	0.068	0.000	0.000	64.063	42.410	17.309	0.000	59.719	0.000	4.343	4.343	13.330	0.000	0.000	0.000	46.060	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
SUB-TOTAL	281.064	0.094	0.099	0.000	281.257	108.199	25.021	0.000	133.220	0.000	148.036	148.036	46.460	0.566	0.000	1.400	190.110	0.000	0.000	0.000	0.000	23.505	22.929	0.000		
Jul	55.313	0.008	0.000	0.000	55.321	42.107	8.908	0.000	51.015	0.000	4.306	4.306	51.140	0.237	0.000	0.000	56.340	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
Aug	30.427	0.011	0.000	0.000	30.438	27.996	0.517	0.000	28.512	0.593	1.333	1.926	60.160	0.000	0.000	0.000	48.120	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
Sep	19.263	0.009	0.018	0.000	19.290	13.582	0.009	0.000	13.592	1.746	3.953	5.699	283.970	0.000	0.000	0.000	67.380	0.000	0.000	0.000	0.000	0.000	2.319	1.097		
Oct	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
Nov	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
Dec	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
TOTAL in 2018	6.289	0.462	0.408	0.121	7.282	0.000	6.010	0.000	6.010	0.000	1.272	1.272	94.284	0.120	0.017	6.600	283.760	0.000	0.000	0.000	0.000	0.000	2.417	0.000		
TOTAL in 2019	187.465	0.023	3.686	0.000	191.174	0.000	3.801	0.000	3.801	27.868	159.505	187.373	275.583	1.888	1.259	11.600	436.940	0.000	0.000	0.000	0.000	0.000	13.455	4.977		
TOTAL in 2020	386.067	0.122	0.117	0.000	386.306	191.884	34.455	0.000	226.339	2.339	157.628	159.967	441.730	0.803	0.000	1.400	361.950	0.000	0.000	0.000	0.000	23.505	25.248	1.097		
CUMULATIVE TOTAL	579.821	0.607	4.211	0.121	584.762	191.884	44.266	0.000	236.150	30.207	318.405	348.612	811.597	2.811	1.276	19.600	1082.650	0.000	0.000	0.000	0.000	23.505	41.120	6.074		

Notes:

Assume the density of fill is 2 ton/m³.

^{2.} Refuse disposed to NENT landfill.