

Expansion of Hong Kong International Airport into a Three-Runway System

Construction Phase Monthly EM&A Report No.49 (For January 2020)

February 2020

Airport Authority Hong Kong

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This Monthly EM&A Report No. 49 has been reviewed and certified by the Environmental Team Leader (ETL) in accordance with

Condition 3.5 of Environmental Permit No. EP-489/2014.

Certified by:

Terence Kong

Environmental Team Leader (ETL)
Mott MacDonald Hong Kong Limited

Date 12 February 2020



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By Email

Airport Authority Hong Kong HKIA Tower, 1 Sky Plaza Road Hong Kong International Airport Lantau, Hong Kong

Attn: Mr. Lawrence Tsui, Principal Manager

14 February 2020

Dear Sir.

Contract No. 3102
3RS Independent Environmental Checker Consultancy Services

Submission of Monthly EM&A Report No. 49 (January 2020)

Reference is made to the Environmental Team's submission of the Monthly EM&A Report No. 49 under Condition 3.5 of the Environmental Permit No. EP-489/2014 certified by the ET Leader on 14 February 2020.

We write to verify the captioned submission in accordance with the requirement stipulated in Condition 3.5 of EP-489/2014.

Should you have any query, please feel free to contact the undersigned at 3922 9376.

Yours faithfully, AECOM Asia Co. Ltd.

Jackel Law

Independent Environmental Checker

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Abbreviations

3RS	Three-Runway System		
AAHK Airport Authority Hong Kong			
AECOM Asia Company Limited			
AFCD	Agriculture, Fisheries and Conservation Department		
AIS	Agriculture, Fisheries and Conservation Department Automatic Information System		
ANI	Encounter Rate of Number of Dolphins		
APM	Automated People Mover		
AW	Airport West		
BHS	Baggage Handling System		
C&D	Construction and Demolition		
CAP	Contamination Assessment Plan		
CAR	Contamination Assessment Report		
CNP	Construction Noise Permit		
CWD	Chinese White Dolphin		
DCM	Deep Cement Mixing		
DEZ	Dolphin Exclusion Zone		
DO	Dissolved Oxygen		
EAR	Ecological Acoustic Recorder		
EIA	Environmental Impact Assessment		
EM&A	Environmental Monitoring & Audit		
EP	Environmental Permit		
EPD	Environmental Protection Department		
ET	Environmental Team		
FCZ	Fish Culture Zone		
HDD	Horizontal Directional Drilling		
HKBCF Hong Kong-Zhuhai-Macao Bridge Hong Kong Bour			
	Crossing Facilities		
HKIA	Hong Kong International Airport		
HOKLAS	Hong Kong Laboratory Accreditation Scheme		
HSF	High Speed Ferry		
HVS	High Volume Sampler		
IEC	Independent Environmental Checker		
LKC	Lung Kwu Chau		
MTCC	Marine Traffic Control Centre		
MMHK	Mott MacDonald Hong Kong Limited		
MMWP	Marine Mammal Watching Plan		
MSS	Maritime Surveillance System		
MTRMP-CAV	Marine Travel Routes and Management Plan for Construction		
AND THE REST OF THE PARTY OF TH	and Associated Vessel		
NEL Northeast Lantau			
	10 (10) 10 (10		
NWL	Northwest Lantau		
NWL PAM	Northwest Lantau Passive Acoustic Monitoring		

SCLKCMP	Sha Chau and Lung Kwu Chau Marine Park	
SS	Suspended Solids	
SSSI	Site of Special Scientific Interest	
STG	Encounter Rate of Number of Dolphin Sightings	
SWL	Southwest Lantau	
T2	Terminal 2	
The Project	The Expansion of Hong Kong International Airport into a	
	Three-Runway System	
The SkyPier Plan	Marine Travel Routes and Management Plan for High Speed	
	Ferries of SkyPier	
The Manual	The Updated EM&A Manual	
TSP	Total Suspended Particulates	
WL	West Lantau	
WMP	Waste Management Plan	

Executive Summary

The "Expansion of Hong Kong International Airport into a Three-Runway System" (the Project) serves to meet the future air traffic demands at Hong Kong International Airport (HKIA). On 7 November 2014, the Environmental Impact Assessment (EIA) Report (Register No.: AEIAR-185/2014) for the Project was approved and an Environmental Permit (EP) (Permit No.: EP-489/2014) was issued for the construction and operation of the Project.

Airport Authority Hong Kong (AAHK) commissioned Mott MacDonald Hong Kong Limited (MMHK) to undertake the role of Environmental Team (ET) for carrying out the Environmental Monitoring & Audit (EM&A) works during the construction phase of the Project in accordance with the Updated EM&A Manual (the Manual).

This is the 49th Construction Phase Monthly EM&A Report for the Project which summarises the monitoring results and audit findings of the EM&A programme during the reporting period from 1 to 31 January 2020.

Key Activities in the Reporting Period

The key activities of the Project carried out in the reporting period included reclamation works and land-side works. Reclamation works included deep cement mixing (DCM) works, marine filling, and seawall construction. Land-side works involved mainly airfield works, foundation and substructure work for Terminal 2 expansion, modification and tunnel work for Automated People Mover (APM) and Baggage Handling System (BHS), and preparation work for utilities, with activities include site establishment, site office construction, road and drainage works, cable ducting, demolition, piling, and excavation works.

EM&A Activities Conducted in the Reporting Period

The monthly EM&A programme was undertaken in accordance with the Manual of the Project. Summary of the monitoring activities during this reporting period is presented as below:

Monitoring Activities	Number of Sessions
1-hour Total Suspended Particulates (TSP) air quality monitoring	36
Noise monitoring	16
Water quality monitoring	13
Vessel line-transect surveys for Chinese White Dolphin (CWD) monitoring	2
Land-based theodolite tracking survey effort for CWD monitoring	2

Environmental auditing works, including weekly site inspections of construction works conducted by the ET and bi-weekly site inspections conducted by the Independent Environmental Checker (IEC), audit of SkyPier High Speed Ferries (HSF), audit of construction and associated vessels, and audit of implementation of Marine Mammal Watching Plan (MMWP) and Dolphin Exclusion Zone (DEZ) Plan, were conducted in the reporting period. Based on information including ET's observations, records of Maritime Surveillance System (MSS), and contractors' site records, it is noted that environmental pollution control and mitigation measures were properly implemented and construction activities of the Project in the reporting period did not introduce adverse impacts to the sensitive receivers.

Snapshots of EM&A Activities in the Reporting Period



Enhanced Design of Wheel Washing Facility to prevent runoff of wash water



Impact Noise Monitoring Conducted by ET at Sha Lo Wan



Construction Noise Permit Checking Conducted by ET

Results of Impact Monitoring

The monitoring works for construction dust, construction noise, water quality, construction waste, landscape & visual, and CWD were conducted during the reporting period in accordance with the Manual.

Monitoring results of construction dust, construction noise, construction waste, and CWD did not trigger the corresponding Action and Limit Levels in the reporting period.

The water quality monitoring results for all parameters, except suspended solids (SS) and nickel, obtained during the reporting period were within the corresponding Action and Limit Levels stipulated in the EM&A programme. Relevant investigation and follow-up actions will be conducted according to the EM&A programme if the corresponding Action and Limit Levels are triggered. For SS and nickel, some of the testing results triggered the relevant Action Levels, and the corresponding investigations were conducted accordingly. The investigation findings concluded that the cases were not related to the Project. To conclude, the construction activities in the reporting period did not introduce adverse impact to all water quality sensitive receivers.

Summary of Upcoming Key Issues

Advanced Works:

Contract P560 (R) Aviation Fuel Pipeline Diversion Works

Stockpiling of compressed materials

DCM Works:

Contract 3205 DCM works

DCM works

Reclamation Works:

Contract 3206 Main Reclamation Works

- Land base ground improvement works;
- Seawall construction;
- Marine filling; and
- Sorting and reuse of inert waste from other 3RS contracts.

Airfield Works:

Contract 3301 North Runway Crossover Taxiway

- Cable ducting works;
- Subgrade compaction and paving works;
- Drainage construction works;
- Operation of aggregate mixing facility; and
- Precast of duct bank and fabrication of steel works.

Contract 3302 Eastern Vehicular Tunnel Advance Works

- Cable laying and ducting works;
- Trench excavation works;
- Backfilling and reinstatement works;
- Piling and structure works; and
- Site establishment.

Contract 3303 Third Runway and Associated Works

- Plant and equipment mobilisation
- Footing and utilities work;
- Preparation works for box culvert construction; and
- Site establishment.

Third Runway Concourse and Integrated Airport Centres Works:

Contract 3402 New Integrated Airport Centres Enabling Works

- Potable water and seawater works;
- Footing construction;
- Road works; and
- Sewerage and pipe works.

Contract 3403 New Integrated Airport Centres Building and Civil Works

- Site establishment; and
- Foundation works.

Terminal 2 Expansion Works:

Contract 3501 Antenna Farm and Sewage Pumping Station

Site clearance.

Contract 3503 Terminal 2 Foundation and Substructure Works

- Site establishment:
- Excavation works
- Utilities, drainage, and road work; and
- Piling and structure works.

Automated People Mover (APM) Works:

Contract 3602 Existing APM System Modification Works

Modification works at APM depot.

Airport Support Infrastructure & Logistic Works:

Contract 3721 Construction Support Infrastructure Works

- Site clearance and establishment;
- Excavation for utilities works; and

Construction of utilities.

Contract 3801 APM and BHS Tunnels on Existing Airport Island

- Construction of temporary traffic steel deck;
- Cofferdam installation for box culvert;
- Rising main installation;
- Drilling and grouting works;
- Piling and foundation works; and
- Site clearance.

Summary Table

The following table summarises the key findings of the EM&A programme during the reporting period:

	Yes	No	Details	Analysis / Recommendation / Remedial Actions
Breach of Limit Level^		V	No breach of Limit Level was recorded.	Nil
Breach of Action Level [^]		V	No breach of Action Level was recorded.	Nil
Complaint Received		V	No construction activities-related complaint was received	Nil
Notification of any summons and status of prosecutions		\checkmark	No notification of summons or prosecution was received.	Nil
Change that affect the EM&A		V	There was no change to the construction works that may affect the EM&A.	Nil

Note:

[^] Only triggering of Action or Limit Level found related to Project works is counted as Breach of Action or Limit Level.

1 Introduction

1.1 Background

On 7 November 2014, the Environmental Impact Assessment (EIA) Report (Register No.: AEIAR-185/2014) for the "Expansion of Hong Kong International Airport into a Three-Runway System" (the Project) was approved and an Environmental Permit (EP) (Permit No.: EP-489/2014) was issued for the construction and operation of the Project.

Airport Authority Hong Kong (AAHK) commissioned Mott MacDonald Hong Kong Limited (MMHK) to undertake the role of Environmental Team (ET) for carrying out the Environmental Monitoring & Audit (EM&A) works during the construction phase of the Project in accordance with the Updated EM&A Manual (the Manual) submitted under EP Condition 3.1¹. AECOM Asia Company Limited (AECOM) was employed by AAHK as the Independent Environmental Checker (IEC) for the Project.

The Project covers the expansion of the existing airport into a three-runway system (3RS) with key project components comprising land formation of about 650 ha and all associated facilities and infrastructure including taxiways, aprons, aircraft stands, a passenger concourse, an expanded Terminal 2, all related airside and landside works and associated ancillary and supporting facilities. The submarine aviation fuel pipelines and submarine power cables also require diversion as part of the works.

Construction of the Project is to proceed in the general order of diversion of the submarine aviation fuel pipelines, diversion of the submarine power cables, land formation, and construction of infrastructure, followed by construction of superstructures.

The updated overall phasing programme of all construction works was presented in Appendix A of the Construction Phase Monthly EM&A Report No. 7 and the contract information was presented in **Appendix A**.

1.2 Scope of this Report

This is the 49th Construction Phase Monthly EM&A Report for the Project which summarises the key findings of the EM&A programme during the reporting period from 1 to 31 January 2020.

1.3 Project Organisation

The Project's organisation structure presented in Appendix B of the Construction Phase Monthly EM&A Report No.1 remained unchanged during the reporting period. Contact details of the key personnel are presented in **Table 1.1**.

¹ The Manual is available on the Project's dedicated website (accessible at: http://env.threerunwaysystem.com/en/index.html).

Table 1.1: Contact Information of Key Personnel

Party	Position	Name	Telephone
Project Manager's Representative (Airport Authority Hong Kong)	Principal Manager, Environment	Lawrence Tsui	2183 2734
Environmental Team (ET) (Mott MacDonald Hong Kong Limited)	Environmental Team Leader	Terence Kong	2828 5919
	Deputy Environmental Team Leader	Heidi Yu	2828 5704
	Deputy Environmental Team Leader	Daniel Sum	2585 8495
Independent Environmental Checker (IEC) (AECOM Asia Company Limited)	Independent Environmental Checker	Jackel Law	3922 9376
	Deputy Independent Environmental Checker	Roy Man	3922 9141

Advanced Works:

Party	Position	Name	Telephone
Contract P560(R) Aviation Fuel Pipeline Diversion Works	Project Manager	Wei Shih	2117 0566
(Langfang Huayuan Mechanical and Electrical Engineering Co., Ltd.)	Environmental Officer	Lyn Liu	5172 6543

Deep Cement Mixing (DCM) Works:

Party	Position	Name	Telephone
Contract 3205 DCM	Deputy Project Director	Min Park	9683 0765
(Package 5) (Bachy Soletanche - Sambo Joint Venture)	Environmental Officer	William Chan	5408 3045

Reclamation Works:

Party	Position	Name	Telephone
Contract 3206 Main Reclamation Works	Project Manager	Kim Chuan Lim	3763 1509
(ZHEC-CCCC-CDC Joint Venture)	Environmental Officer	Kwai Fung Wong	3763 1452

Airfield Works:

Party	Position	Name	Telephone
Contract 3301 North Runway Crossover Taxiway	Deputy Project Director	Kin Hang Chung	9800 0048
(FJT-CHEC-ZHEC Joint Venture)	Environmental Officer	Joe Wong	6182 0351

Party	Position	Name	Telephone
Contract 3302 Eastern Vehicular Tunnel Advance	Project Manager	Wan Cheung Lee	6100 6075
Works (China Road and Bridge Corporation)	Environmental Officer	Dennis Ho	5645 0563
Contract 3303 Third Runway and Associated	Project Manager	Andrew Keung	6277 6628
Works (SAPR Joint Venture)	Environmental Officer	Pan Fong	9436 9435

Third Runway Concourse and Integrated Airport Centres Works:

Party	Position	Name	Telephone	
Contract 3402 New Integrated Airport Centres	Contract Manager	Michael Kan	9206 0550	
Enabling Works (Wing Hing Construction Co., Ltd.)	Environmental Officer	Lisa He	5374 3418	
Contract 3403 New	Project Manager	Alice Leung	9220 3162	
Integrated Airport Centres Building and Civil Works (Sun Fook Kong Construction Limited)	Environmental Officer	Alpha Chia	9626 1114	

Terminal 2 (T2) Expansion Works:

Party	Position	Name	Telephone
Contract 3501 Antenna Farm and Sewage Pumping	Contracts Manager	Vincent Kwan	9833 1313
Station (Build King Construction Ltd.)	Environmental Officer	Edward Tam	9287 8270
Contract 3503 Terminal 2 Foundation and	Project Manager	Eric Wu	3973 1718
Substructure Works (Leighton – Chun Wo Joint Venture)	Environmental Officer	Malcolm Leung	3973 0850

Automated People Mover (APM) Works:

Party	Position	Name	Telephone
Contract 3602 Existing APM System Modification Works	Project Manager	Kunihiro Tatecho	9755 0351
(Niigata Transys Co., Ltd.)	Environmental Officer	Yolanda Gao	5399 3509

Baggage Handling System (BHS) Works:

Party	Position	Name	Telephone
Contract 3603 3RS Baggage Handling System (VISH	Project Manager	Andy Ng	9102 2739
Consortium)	Environmental Officer	Eric Ha	9215 3432

Airport Su	pport Infra	structure	and Loc	istic Works:

Party	Position	Name	Telephone
Contract 3721 Construction Support Infrastructure Works	Site Agent	Thomas Lui	9011 5340
(China State Construction Engineering (Hong Kong) Ltd.)	Environmental Officer	Gary Hong	6015 0795
Contract 3801 APM and BHS Tunnels on Existing Airport Island	Project Manager	Tony Wong	9642 8672
(China State Construction Engineering (Hong Kong) Ltd.)	Environmental Officer	Fredrick Wong	9842 2703

1.4 Summary of Construction Works

The key activities of the Project carried out in the reporting period included reclamation works and land-side works. Reclamation works included DCM works, marine filling, and seawall construction. Land-side works involved mainly airfield works, foundation and substructure work for Terminal 2 expansion, modification and tunnel work for APM and BHS systems, and preparation work for utilities, with activities include site establishment, site office construction, road and drainage works, cable ducting, demolition of existing facilities, piling, and excavation works.

The locations of key construction activities are presented in Figure 1.1.

1.5 Summary of EM&A Programme Requirements

The status for all environmental aspects are presented in **Table 1.2**. The EM&A requirements remained unchanged during the reporting period and details can be referred to Table 1.2 of the Construction Phase Monthly EM&A Report No. 1.

Table 1.2: Summary of status for all environmental aspects under the Updated EM&A Manual

Parameters	Status
Air Quality	
Baseline Monitoring	The baseline air quality monitoring result has been reported in Baseline Monitoring Report and submitted to EPD under EP Condition 3.4.
Impact Monitoring	On-going
Noise	
Baseline Monitoring	The baseline noise monitoring result has been reported in Baseline Monitoring Report and submitted to EPD under EP Condition 3.4.
Impact Monitoring	On-going
Water Quality	
General Baseline Water Quality Monitoring for reclamation, water jetting and field joint works	The baseline water quality monitoring result has been reported in Baseline Water Quality Monitoring Report and submitted to EPD under EP Condition 3.4.
General Impact Water Quality Monitoring for reclamation, water jetting and field joint works	On-going Control of the control of t
Initial Intensive Deep Cement Mixing (DCM) Water Quality Monitoring	The Initial Intensive DCM Monitoring Report was submitted and approved by EPD in accordance with the Detailed Plan on DCM.
Regular DCM Water Quality Monitoring	On-going On-going
Waste Management	

Parameters	Status
Waste Monitoring	On-going
Land Contamination	
Supplementary Contamination Assessment Plan (CAP)	The Supplementary CAP was submitted to EPD pursuant to EP Condition 2.20.
Contamination Assessment Report (CAR) for Golf Course	The CAR for Golf Course was submitted to EPD.
Contamination Assessment Report (CAR) for Terminal 2 Emergency Power Supply System No.1 (Volume 1)	The CAR for Terminal 2 Emergency Power Supply System No.1 (Volume 1) was submitted to EPD pursuant to EP Condition 1.9.
Terrestrial Ecology	
Pre-construction Egretry Survey Plan	The Egretry Survey Plan was submitted and approved by EPD under EP Condition 2.14.
Ecological Monitoring	The terrestrial ecological monitoring at Sheung Sha Chau was completed in January 2019.
Marine Ecology	
Pre-Construction Phase Coral Dive Survey	The Coral Translocation Plan was submitted and approved by EPD under EP Condition 2.12.
Coral Translocation	The coral translocation was completed.
Post-Translocation Coral Monitoring	The post-translocation monitoring programme according to the Coral Translocation Plan was completed in April 2018.
Chinese White Dolphins (CWD)	
Vessel Survey, Land-based Theodolite Tracking and Passive Acoustic Monitoring (PAM)	
Baseline Monitoring	Baseline CWD results were reported in the CWD Baseline Monitoring Report and submitted to EPD in accordance with EP Condition 3.4.
Impact Monitoring	On-going
Landscape & Visual	
Landscape & Visual Plan	The Landscape & Visual Plan was submitted to EPD under EP Condition 2.18
Baseline Monitoring	The baseline landscape & visual monitoring result has been reported in Baseline Monitoring Report and submitted to EPD under EP Condition 3.4.
Impact Monitoring	On-going
Environmental Auditing	
Regular site inspection	On-going
Marine Mammal Watching Plan (MMWP) implementation measures	On-going
Dolphin Exclusion Zone (DEZ) Plan implementation measures	On-going
	On-going On-going
implementation measures SkyPier High Speed Ferries (HSF)	
implementation measures SkyPier High Speed Ferries (HSF) implementation measures Construction and Associated Vessels	On-going

Taking into account the construction works in this reporting period, impact monitoring of air quality, noise, water quality, waste management, landscape & visual, and CWD were carried out in the reporting period.

The EM&A programme also involved weekly site inspections and related auditing conducted by the ET for checking the implementation of the required environmental mitigation measures recommended in the approved EIA Report. To promote the environmental awareness and enhance the environmental performance of the contractors, environmental trainings and regular

environmental management meetings were conducted during the reporting period, which are summarised as below:

- Two skipper training sessions provided by ET: 8 and 22 January 2020;
- One Environmental briefing on EP and EM&A requirements of the 3RS provided by ET;
- Ten environmental management meetings for EM&A review with works contracts: 9, 13, 14, 15, 20, 21, 22, 24 and 30 January 2020.

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

2 Air Quality Monitoring

Air quality monitoring of 1-hour Total Suspended Particulates (TSP) was conducted three times every six days at two representative monitoring stations in the vicinity of air sensitive receivers in Tung Chung and villages in North Lantau in accordance with the Manual. **Table 2.1** describes the details of the monitoring stations. **Figure 2.1** shows the locations of the monitoring stations.

Table 2.1: Locations of Impact Air Quality Monitoring Stations

Monitoring Station	Location
AR1A	Man Tung Road Park
AR2	Village House at Tin Sum

2.1 Action and Limit Levels

In accordance with the Manual, baseline air quality monitoring of 1-hour TSP levels at the two air quality monitoring stations were established as presented in the Baseline Monitoring Report. The Action and Limit Levels of the air quality monitoring stipulated in the EM&A programme for triggering the relevant investigation and follow-up procedures under the programme are provided in **Table 2.2**.

Table 2.2: Action and Limit Levels of Air Quality Monitoring

Monitoring Station	Action Level (μg/m³)	Limit Level (μg/m³)
AR1A	306	500
AR2	298	

2.2 Monitoring Equipment

Portable direct reading dust meter was used to carry out the air quality monitoring. Details of equipment used in the reporting period are given in **Table 2.3**.

Table 2.3: Air Quality Monitoring Equipment

Equipment	Brand and Model	Last Calibration Date	Calibration Certificate Provided in
Portable direct reading dust meter (Laser dust monitor)	SIBATA LD-3B-2 (Serial No. 296098)	24 Oct 2019	Monthly EM&A Report No. 46, Appendix E
	SIBATA LD-3B-1 (Serial No. 597337)	19 Sep 2019	Monthly EM&A Report No. 45, Appendix D

2.3 Monitoring Methodology

2.3.1 Measuring Procedure

The measurement procedures involved in the impact air quality monitoring can be summarised as follows:

a. The portable direct reading dust meter was mounted on a tripod at a height of 1.2m above the ground.

- b. Prior to the measurement, the equipment was set up for 1 minute span check and 6 second background check.
- c. The one hour dust measurement was started. Site conditions and dust sources at the nearby area were recorded on a record sheet.
- d. When the measurement completed, the "Count" reading per hour was recorded for result calculation.

2.3.2 Maintenance and Calibration

The portable direct reading dust meter is calibrated every year against high volume sampler (HVS) to check the validity and accuracy of the results measured by direct reading method. The calibration record of the HVS provided in Appendix E of the Construction Phase Monthly EM&A Report No. 46, and the calibration certificates of portable direct reading dust meters listed in **Table 2.3** are valid in the reporting period.

2.4 Summary of Monitoring Results

The air quality monitoring schedule involved in the reporting period is provided in **Appendix C**.

The air quality monitoring results in the reporting period are summarised in **Table 2.4**. Detailed impact monitoring results are presented in **Appendix D**.

Table 2.4: Summary of Air Quality Monitoring Results

Monitoring Station	1-hr TSP Concentration Range (μg/m³)	Action Level (μg/m³)	Limit Level (μg/m³)
AR1A	11 - 175	306	500
AR2	17 - 89	298	

The monitoring results were within the corresponding Action and Limit Levels at all monitoring stations in the reporting period.

General meteorological conditions throughout the impact monitoring period were recorded. Wind data including wind speed and wind direction for each monitoring day were collected from the Chek Lap Kok Wind Station.

2.5 Conclusion

No dust emission source from Project and other activities was observed at the monitoring stations during impact air quality monitoring. It is considered that the monitoring work in the reporting period is effective and there was no adverse impact attributable to the Project activities.

3 Noise Monitoring

Noise monitoring in the form of 30-minute measurements of L_{eq} , L_{10} , and L_{90} levels was conducted once per week between 0700 and 1900 on normal weekdays at four representative monitoring stations in the vicinity of noise sensitive receivers in Tung Chung and villages in North Lantau in accordance with the Manual. **Table 3.1** describes the details of the monitoring stations. **Figure 2.1** shows the locations of the monitoring stations.

Table 3.1: Locations of Impact Noise Monitoring Stations

Monitoring Station	Location	Type of measurement
NM1A	Man Tung Road Park	Free field
NM2 ⁽¹⁾	Tung Chung West Development	To be determined
NM3A ⁽²⁾	Site Office	Facade
NM4	Ching Chung Hau Po Woon Primary School	Free field
NM5	Village House in Tin Sum	Free field
NM6	House No. 1, Sha Lo Wan	Free field

Note:

- (1) As described in Section 4.3.3 of the Manual, noise monitoring at NM2 will only commence after occupation of the future Tung Chung West Development.
- (2) According to Section 4.3.3 of the Manual, the noise monitoring at NM3A was temporarily suspended starting from 1 September 2018 and would be resumed with the completion of the Tung Chung East Development.

3.1 Action and Limit Levels

In accordance with the Manual, baseline noise levels at the noise monitoring stations were established as presented in the Baseline Monitoring Report. The Action and Limit Levels of the noise monitoring stipulated in the EM&A programme for triggering the relevant investigation and follow-up procedures under the programme are provided in **Table 3.2**.

Table 3.2: Action and Limit Levels for Noise Monitoring

Monitoring Stations	Time Period	Action Level	Limit Level, Leq(30mins) dB(A)
NM1A, NM2, NM3A, NM4, NM5 and NM6	0700-1900 hours on normal weekdays	When one documented complaint is received from any one of the sensitive receivers	75dB(A) ⁽¹⁾

Note

The Limit Level for NM4 is reduced to 70dB(A) for being an educational institution. During school examination
period, the Limit Level is further reduced to 65dB(A).

3.2 Monitoring Equipment

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 651:1979 (Type 1) and 804:1985 (Type 1) specifications. Acoustic calibrator was used to check the sound level meters by a known sound pressure level for field measurement. Details of equipment used in the reporting period are given in **Table 3.3**.

Table 3.3: Noise Monitoring Equipment

Equipment	Brand and Model	Last Calibration Date	Calibration Certificate Provided in
Integrated Sound Level Meter	NTi XL2 (Serial No. A2A-14829-E0)	14 Jul 2019	Monthly EM&A Report No. 43, Appendix D
	Rion NL-52 (Serial No. 01287679)	21 Sep 2019	Monthly EM&A Report No. 45, Appendix D
Acoustic Calibrator	Casella CEL-120/1 (Serial No. 2383737)	21 Sep 2019	Monthly EM&A Report No. 45, Appendix D
	Castle GA607 (Serial No. 040162)	14 Jul 2019	Monthly EM&A Report No. 43, Appendix D

3.3 Monitoring Methodology

3.3.1 Monitoring Procedure

The monitoring procedures involved in the noise monitoring can be summarised as follows:

- a. The sound level meter was set on a tripod at least a height of 1.2m above the ground for free-field measurements at monitoring stations NM1A, NM4, NM5 and NM6. A correction of +3dB(A) was applied to the free field measurements.
- b. Façade measurements were made at the monitoring station NM3A.
- c. Parameters such as frequency weighting, time weighting and measurement time were set.
- d. Prior to and after each noise measurement, the meter was calibrated using the acoustic calibrator. If the difference in the calibration level before and after measurement was more than 1dB(A), the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.
- e. During the monitoring period, L_{eq}, L₁₀ and L₉₀ were recorded. In addition, site conditions and noise sources were recorded on a record sheet.
- f. Noise measurement results were corrected with reference to the baseline monitoring levels.
- g. Observations were recorded when high intrusive noise (e.g. dog barking, helicopter noise) was observed during the monitoring.

3.3.2 Maintenance and Calibration

The maintenance and calibration procedures are summarised below:

- 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 laboratory accredited under Hong Kong Laboratory Accreditation Scheme (HOKLAS) to check and calibrate at yearly intervals.

Calibration certificates of the sound level meters and acoustic calibrators used in the noise monitoring listed in **Table 3.3** are valid in the reporting period.

3.4 Summary of Monitoring Results

The noise monitoring schedule involved in the reporting period is provided in Appendix C.

The noise monitoring results in the reporting period are summarised in **Table 3.4**. Detailed impact monitoring results are presented in **Appendix D**.

Table 3.4: Summary of Construction Noise Monitoring Results

Monitoring Station	Noise Level Range, dB(A)	Limit Level, dB(A)	
	Leq (30 mins)	Leq (30 mins)	
NM1A ⁽¹⁾	68 - 72	75	
NM4 ⁽¹⁾	61 - 66	70 ⁽²⁾	
NM5 ⁽¹⁾	56 - 64	75	
NM6 ⁽¹⁾	67 - 71	75	

Notes:

- (1) +3dB(A) Façade correction included;
- (2) Reduced to 65dB(A) during school examination periods at NM4. No school examination took place during this reporting period.

No complaints were received from any sensitive receiver that triggered the Action Level. All monitoring results were also within the corresponding Limit Levels at all monitoring stations in the reporting period.

3.5 Conclusion

As the construction activities were far away from the monitoring stations, major sources of noise dominating the monitoring stations observed during the construction noise impact monitoring were traffic noise near NM1A, school activities at NM4 and aircraft noise near NM1A, NM5 and NM6 during this reporting period. It is considered that the monitoring work during the reporting period was effective and there was no adverse impact attributable to the Project activities.

4 Water Quality Monitoring

Water quality monitoring of DO, pH, temperature, salinity, turbidity, suspended solids (SS), total alkalinity, chromium, and nickel was conducted three days per week, at mid-ebb and mid-flood tides, at a total of 23 water quality monitoring stations, comprising 12 impact (IM) stations, 8 sensitive receiver (SR) stations and 3 control (C) stations in the vicinity of water quality sensitive receivers around the airport island in accordance with the Manual. The purpose of water quality monitoring at the IM stations is to promptly capture any potential water quality impact from the Project before it could become apparent at sensitive receivers (represented by the SR stations). **Table 4.1** describes the details of the monitoring stations. **Figure 4.1** shows the locations of the monitoring stations.

Table 4.1: Monitoring Locations and Parameters of Impact Water Quality Monitoring

Monitoring Station	Description		Coordinates	Parameters
		Easting	Northing	
C1	Control Station	804247	815620	General Parameters
C2	Control Station	806945	825682	DO, pH, Temperature,
C3 ⁽³⁾	Control Station	817803	822109	Salinity, Turbidity, SS
IM1	Impact Station	807132	817949	DCM Parameters
IM2	Impact Station	806166	818163	Total Alkalinity, Heavy
IM3	Impact Station	805594	818784	Metals ⁽²⁾
IM4	Impact Station	804607	819725	
IM5	Impact Station	804867	820735	
IM6	Impact Station	805828	821060	
IM7	Impact Station	806835	821349	
IM8	Impact Station	808140	821830	
IM9	Impact Station	808811	822094	
IM10	Impact Station	809794	822385	_
IM11	Impact Station	811460	822057	
IM12	Impact Station	812046	821459	
SR1A ⁽¹⁾	Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities (HKBCF) Seawater Intake for cooling	812660	819977	General Parameters DO, pH, Temperature, Salinity, Turbidity, SS
SR2 ⁽³⁾	Planned marine park / hard corals at The Brothers / Tai Mo To	814166	821463	General Parameters DO, pH, Temperature, Salinity, Turbidity, SS DCM Parameters
SR3	Sha Chau and Lung Kwu	807571	822147	Total Alkalinity, Heavy Metals ⁽²⁾⁽⁴⁾ <u>General Parameters</u>
	Chau Marine Park / fishing and spawning grounds in North Lantau			DO, pH, Temperature, Salinity, Turbidity, SS
SR4A	Sha Lo Wan	807810	817189	

Monitoring Station	Description		ordinates	Parameters
		Easting	Northing	
SR5A	San Tau Beach SSSI	810696	816593	General Parameters DO, pH, Temperature, Salinity, Turbidity, SS
SR6A ⁽⁵⁾	Tai Ho Bay, Near Tai Ho Stream SSSI	814739	817963	
SR7	Ma Wan Fish Culture Zone (FCZ)	823742	823636	
SR8 ⁽⁶⁾	Seawater Intake for cooling at Hong Kong International Airport (East)	811623	820390	

Notes:

- (1) With the operation of HKBCF, water quality monitoring at SR1A station was commenced on 25 October 2018. To better reflect the water quality in the immediate vicinity of the intake, the monitoring location of SR1A has been shifted closer to the intake starting from 5 January 2019.
- (2) Details of selection criteria for the two heavy metals for regular DCM monitoring refer to the Detailed Plan on Deep Cement Mixing available on the dedicated 3RS website (http://env.threerunwaysystem.com/en/epsubmissions.html). DCM specific water quality monitoring parameters (total alkalinity and heavy metals) were only conducted at C1 to C3, SR2, and IM1 to IM12.
- (3) According to the Baseline Water Quality Monitoring Report, C3 station is not adequately representative as a control station of impact/ SR stations during the flood tide. The control reference has been changed from C3 to SR2 from 1 September 2016 onwards.
- (4) Total alkalinity and heavy metals results are collected at SR2 as a control station for regular DCM monitoring.
- (5) As the access to SR6 was obstructed by the construction activities and temporary structures for Tung Chung New Town Extension, the monitoring location has been relocated to SR6A starting from 8 August 2019.
- (6) The monitoring location for SR8 is subject to further changes due to silt curtain arrangements and the progressive relocation of this seawater intake.

4.1 Action and Limit Levels

In accordance with the Manual, baseline water quality levels at the above-mentioned representative water quality monitoring stations were established as presented in the Baseline Water Quality Monitoring Report. The Action and Limit Levels of general water quality monitoring and regular DCM monitoring stipulated in the EM&A programme for triggering the relevant investigation and follow-up procedures under the programme are provided in **Table 4.2**. The control and impact stations during ebb tide and flood tide for general water quality monitoring and regular DCM monitoring are presented in **Table 4.3**.

Table 4.2: Action and Limit Levels for General Water Quality Monitoring and Regular DCM Monitoring

Parameter	S	Action Level (AL)		Limit Level (LL)	
	Limit Levels for genera	Il water quality mon	nitoring and regular	DCM monitoring	
General Water Quality	DO in mg/L (Surface, Middle & Bottom)	Surface and Middle 4.5mg/L		Surface and Middle 4.1mg/L	
Monitoring				5mg/L for Fish Cult	ure Zone (SR7) only
Worldoning		Bottom 3.4mg/L		Bottom 2.7mg/L	
	Suspended Solids 23 or 120% of (SS) in mg/L upstream control	37	or 130% of upstream control		
	Turbidity in NTU	22.6	station at the same tide of the	36.1	station at the same tide of the
Regular	Total Alkalinity in ppm	95	same day, whichever is higher	99	same day,
DCM Monitoring	Representative Heavy Metals for regular DCM monitoring (Chromium) in µg/L	0.2		0.2	whichever is higher
	Representative Heavy Metals for regular DCM monitoring (Nickel) in µg/L	3.2		3.6	
Action and	Limit Levels SR1A				
SS (mg/l)		33		42	
Action and	Limit Levels SR8				
SS (mg/l)		52		60	

Notes:

- (1) For DO measurement, non-compliance occurs when monitoring result is lower than the limits.
- (2) For parameters other than DO, non-compliance of water quality results when monitoring results is higher than
- (3) Depth-averaged results are used unless specified otherwise.
- (4) Details of selection criteria for the two heavy metals for regular DCM monitoring refer to the Detailed Plan on Deep Cement Mixing available on the dedicated 3RS website (http://env.threerunwaysystem.com/en/epsubmissions.html)
- (5) The Action and Limit Levels for the two representative heavy metals chosen will be the same as that for the intensive DCM monitoring.

Table 4.3: The Control and Impact Stations during Flood Tide and Ebb Tide for General Water Quality Monitoring and Regular DCM Monitoring

Control Station	Impact Stations
Flood Tide	
C1	IM1, IM2, IM3, IM4, IM5, IM6, IM7, IM8, SR3
SR2 ⁽¹⁾	IM7, IM8, IM9, IM10, IM11, IM12, SR1A, SR3, SR4A, SR5A, SR6A, SR8
Ebb Tide	
C1	SR4A, SR5A, SR6A
C2	IM1, IM2, IM3, IM4, IM5, IM6, IM7, IM8, IM9, IM10, IM11, IM12, SR1A, SR2, SR3, SR7, SR8

Note:

(1) As per findings of Baseline Water Quality Monitoring Report, the control reference has been changed from C3 to SR2 from 1 September 2016 onwards.

4.2 Monitoring Equipment

Table 4.4 summarises the equipment used in the reporting period for monitoring of specific water quality parameters under the water quality monitoring programme.

Table 4.4: Water Quality Monitoring Equipment

Equipment	Brand and Model	Last Calibration Date	Calibration Certificate Provided in
Multifunctional Meter	YSI 6920V2 (Serial No. 0001C6A7)	28 Oct 2019	Monthly EM&A Report No. 46,
(measurement of DO, pH,	YSI 6920V2 (Serial No. 00019CB2)	28 Oct 2019	Appendix E
temperature, salinity and turbidity)	YSI 6920V2 (Serial No. 0001C6A7)	20 Jan 2020	Appendix E
turbiaity)	YSI 6920V2 (Serial No. 00019CB2)	20 Jan 2020	_
	YSI ProDSS (Serial No. 17H105557)	23 Dec 2019	Monthly EM&A Report No. 48,
	YSI ProDSS (Serial No. 16H104234)	23 Dec 2019	Appendix D
	YSI ProDSS (Serial No. 17E100747)	23 Dec 2019	_
Digital Titrator (measurement of total alkalinity)	Titrette Digital Burette 50ml Class A	9 Dec 2019	Monthly EM&A Report No. 48,
	(Serial No. 10N64701)		Appendix D

Other equipment used as part of the impact water quality monitoring programme are listed in **Table 4.5**.

Table 4.5: Other Monitoring Equipment

Equipment	Brand and Model
Water Sampler	Van Dorn Water Sampler
Positioning Device (measurement of GPS)	Garmin eTrex Vista HCx
Current Meter (measurement of current speed and direction, and water depth)	Sontek HydroSurveyor

4.3 Monitoring Methodology

4.3.1 Measuring Procedure

Water quality monitoring samples were taken at three depths (at 1m below surface, at mid-depth, and at 1m above bottom) for locations with water depth >6m. For locations with water depth between 3m and 6m, water samples were taken at two depths (surface and bottom). For locations with water depth <3m, only the mid-depth was taken. Duplicate water samples were taken and analysed.

The water samples for all monitoring parameters were collected, stored, preserved and analysed according to the Standard Methods, APHA 22nd ed. and/or other methods as agreed by the EPD. In-situ measurements at monitoring locations including temperature, pH, DO, turbidity, salinity, alkalinity and water depth were collected by equipment listed in **Table 4.4** and **Table 4.5**. Water samples for heavy metals and SS analysis were stored in high density polythene bottles with no preservative added, packed in ice (cooled to 4°C without being frozen), delivered to the laboratory within 24 hours of collection.

4.3.2 Maintenance and Calibration

Calibration of In-situ Instruments

All in-situ monitoring instrument was checked, calibrated and certified by a laboratory accredited under HOKLAS before use. Responses of sensors and electrodes were checked with certified standard solutions before each use.

Wet bulb calibration for a DO meter was carried out before commencement of monitoring and after completion of all measurements each day. Calibration was not conducted at each monitoring location as daily calibration is adequate for the type of DO meter employed. A zero check in distilled water was performed with the turbidity probe at least once per monitoring day. The probe was then calibrated with a solution of known NTU. In addition, the turbidity probe was calibrated at least twice per month to establish the relationship between turbidity readings (in NTU) and levels of SS (in mg/L). Accuracy check of the digital titrator was performed at least once per monitoring day.

Calibration certificates of the monitoring equipment used in the reporting period listed in **Table 4.4** are still valid.

4.3.3 Laboratory Measurement / Analysis

Analysis of SS and heavy metals have been carried out by a HOKLAS accredited laboratory, ALS Technichem (HK) Pty Ltd (Reg. No. HOKLAS 066). Sufficient water samples were collected at all the monitoring stations for carrying out the laboratory SS and heavy metals determination. The SS and heavy metals determination works were started within 24 hours after collection of the water samples. The analysis of SS and heavy metals have followed the standard methods summarised in **Table 4.6**. The QA/QC procedures for laboratory measurement/ analysis of SS and heavy metals were presented in Appendix F of the Construction Phase Monthly EM&A Report No.8.

Table 4.6: Laboratory Measurement/ Analysis of SS and Heavy Metals

Parameters	Instrumentation	Analytical Method	Reporting Limit
SS	Analytical Balance	APHA 2540D	2mg/L
Heavy Metals			
Chromium (Cr)	ICP-MS	USEPA 6020A	0.2µg/L
Nickel (Ni)	ICP-MS	USEPA 6020A	0.2μg/L

4.4 Summary of Monitoring Results

The water quality monitoring schedule for the reporting period is updated and provided in **Appendix C**.

The water quality monitoring results for all parameters, except SS and nickel, obtained during the reporting period were within their corresponding Action and Limit Levels. The detailed monitoring results are presented in **Appendix D**.

For SS and nickel, some of the testing results triggered the corresponding Action Levels, and investigations were conducted accordingly.

Table 4.7 presents the summary of the SS compliance status at IM and SR stations during midebb tide for the reporting period.

IM10 IM11 IM12 SR1A SR2 SR3 IM1 IM2 IM3 IM4 IM5 IM6 IM7 IM8 IM9 SR4A SR5A SR6A SR7 SR8 02/01/2020 04/01/2020 07/01/2020 09/01/2020 11/01/2020 14/01/2020 16/01/2020 18/01/2020 21/01/2020 23/01/2020 25/01/2020 28/01/2020 30/01/2020 No. of result triggereing 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 Action or Limit Level

Table 4.7: Summary of SS Compliance Status (Mid-Ebb Tide)

Monitoring results triggered the corresponding Action Levels on 14 January 2020. Both cases at IM5 and IM10 were located upstream of the Project during ebb tide and would unlikely be affected by the Project.

Table 4.8 presents the summary of the nickel compliance status at IM stations during mid-ebb tide for the reporting period.

Table 4.8: Summary of Nickel Compliance Status (Mid-Ebb Tide)

	IM1	IM2	IM3	IM4	IM5	IM6	IM7	IM8	IM9	IM10	IM11	IM12
02/01/2020												
04/01/2020												
07/01/2020	D _i											
09/01/2020												
11/01/2020												
14/01/2020												
16/01/2020												
18/01/2020												
21/01/2020												
23/01/2020												
25/01/2020												
28/01/2020												
30/01/2020												
No. of result triggering Action or Limit Level	1	0	0	0	0	0	0	0	0	0	0	0

Note: Detailed results are presented in Appendix D .					
Legend:					
	The monitoring results were within the corresponding Action and Limit Levels				
	Monitoring result triggered the Action Level at monitoring station located upstream of the Project based on dominant tidal flow				
D	Monitoring result triggered the Action Level at monitoring station located downstream of the Project based on dominant tidal flow				
	Upstream station with respect to the Project during the respective tide based on dominant tidal flow				

A nickel monitoring result triggered the corresponding Action Level on 7 January 2020. Investigation focusing on the case was carried out. Details of the Project's marine construction activities and site observations on the concerned monitoring day were collected. Findings were summarised in **Table 4.9**

Table 4.9: Summary of Findings from Investigation of Nickel Monitoring Results

Date	Marine construction works nearby	Approximate distance from marine construction works	Status of water quality measures (if applicable)	Construction vessels in the vicinity	Turbidity / Silt plume observed near the monitoring station	Action or Limit Level triggered due to Project
7/1/2020	DCM works	Around 1km	Localised and enhanced silt curtain deployed	No	No	No

The investigation confirmed that DCM works were operating normally on 7 January 2020 with localised and enhanced silt curtains deployed. The silt curtains were maintained properly and checked by ET regularly.

Nickel is a representative heavy metal that indicates the potential for release of contaminants from contaminated mud pits due to the disturbance of marine sediment within it by DCM activities. In this reporting period, no marine DCM works was conducted in the contaminated mud pit areas. There was also no silt plume observed at the monitoring station during monitoring and mitigation measures were properly implemented. Therefore, the incident was considered not due to the Project.

4.5 Conclusion

During the reporting period, it is noted that the vast majority of monitoring results were within their corresponding Action and Limit Levels, while only a minor number of results triggered the corresponding Action Levels, and investigations were conducted accordingly.

Based on the investigation findings, all results that triggered the corresponding Action Levels were not due to the Project. Therefore, the Project did not cause adverse impact at the water quality sensitive receivers. All required actions under the Event and Action Plan were followed. The cases appeared to be due to natural fluctuation or other sources not related to the Project.

Nevertheless, as part of the EM&A programme, the construction methods and mitigation measures for water quality will continue to be monitored and opportunities for further enhancement will continue to be explored and implemented where possible, to strive for better protection of water quality and the marine environment.

In the meantime, the contractors were reminded to implement and maintain all mitigation measures during weekly site inspection and regular environmental management meetings. These include maintaining mitigation measures properly for reclamation works including DCM works, marine filling, and seawall construction as recommended in the Manual.

5 Waste Management

In accordance with the Manual, the waste generated from construction activities was audited once per week to determine if wastes are being managed in accordance with the Waste Management Plan (WMP) prepared for the Project, contract-specific WMP, and any statutory and contractual requirements. All aspects of waste management including waste generation, storage, transportation and disposal were assessed during the audits.

5.1 Action and Limit Levels

The Action and Limit Levels of the construction waste are provided in Table 5.1.

Table 5.1: Action and Limit Levels for Construction Waste

Monitoring Stations	Action Level	Limit Level
Construction Area	When one valid documented complaint is received	Non-compliance of the WMP, contract-specific WMPs, any statutory and contractual requirements

5.2 Waste Management Status

Weekly monitoring on all works contracts were carried out by the ET to check and monitor the implementation of proper waste management practices during the construction phase.

Recommendations made included provision and maintenance of proper chemical waste storage area, as well as handling, segregation, and regular disposal of general refuse. The contractors had taken actions to implement the recommended measures.

Based on updated information provided by contractors, construction waste generated in the reporting period is summarised in **Table 5.2**.

There were no complaints, non-compliance of the WMP, contract-specific WMPs, statutory and contractual requirements that triggered Action and Limit Levels in the reporting period.

Table 5.2: Construction Waste Statistics

	C&D ⁽¹⁾ Material Stockpiled for	C&D Material		C&D Material Transferred to			General Refuse
	Reuse or	Reused in	other Projects	Public Fill ⁽⁴⁾	(kg)	(L)	(tonne)
		the Project	(m^3)	(m^3)			
<u></u>	(m³)	(m ³)					
January 2020 ⁽²⁾⁽³⁾	808	34,625	0	5,341	150	4,704	894

Notes:

- (1) C&D refers to Construction and Demolition.
- (2) Metals, paper and/or plastics were recycled in the reporting period.
- (3) The data was based on the information provided by contractors up to the submission date of this Monthly EM&A Report, and might be updated in the forthcoming Monthly EM&A Report.
- (4) C&D materials not suitable for reuse on-site included asphalt waste and sediment slurry was transferred to public fill during the reporting period.

6 Chinese White Dolphin Monitoring

In accordance with the Manual, CWD monitoring by small vessel line-transect survey supplemented by land-based theodolite tracking survey and passive acoustic monitoring should be conducted during construction phase.

The small vessel line-transect survey should be conducted at a frequency of two full surveys per month, while land-based theodolite tracking survey should be conducted at a frequency of one day per month per station at Sha Chau (SC) and Lung Kwu Chau (LKC) during the construction phase as stipulated in the Manual. Additional survey effort for theodolite tracking at LKC station has been discontinued since January 2020 as it would no longer be necessary to maintain the additional survey for review of the SkyPier Plan.

6.1 Action and Limit Levels

The Action and Limit Levels for CWD monitoring were formulated by the action response approach using the running quarterly dolphin encounter rates STG and ANI derived from the baseline monitoring data, as presented in the CWD Baseline Monitoring Report. The derived values of Action and Limit Levels for CWD monitoring were summarised in **Table 6.1**.

Table 6.1: Derived Values of Action and Limit Levels for Chinese White Dolphin Monitoring

	NEL, NWL, AW, WL and SWL as a Whole
Action Level ⁽³⁾	Running quarterly ⁽¹⁾ STG < 1.86 & ANI < 9.35
Limit Level ⁽³⁾	Two consecutive running quarterly ⁽²⁾ (3-month) STG < 1.86 & ANI < 9.35

Notes: (referring to the baseline monitoring report)

- (1) Action Level running quarterly STG & ANI will be calculated from the three preceding survey months.
- (2) Limit Level two consecutive running quarters mean both the running quarterly encounter rates of the preceding month and the running quarterly encounter rates of this month.
- (3) Action Level and/or Limit Level will be triggered if both STG and ANI fall below the criteria.

6.2 CWD Monitoring Transects and Stations

6.2.1 Small Vessel Line-transect Survey

Small vessel line-transect surveys were conducted along the transects covering Northeast Lantau (NEL), Northwest Lantau (NWL), Airport West (AW), West Lantau (WL) and Southwest Lantau (SWL) areas as proposed in the Manual, which are consistent with the Agriculture, Fisheries and Conservation Department (AFCD) long-term monitoring programme (except the addition of AW). The AW transect has not been previously surveyed in the AFCD programme due to the restrictions of HKIA Approach Area, nevertheless, this transect was established during the EIA of the 3RS Project and refined in the Manual with the aim to collect project specific baseline information within the HKIA Approach Area to fill the data gap that was not covered by the AFCD programme. This also provided a larger sample size for estimating the density, abundance and patterns of movements in the broader study area of the project.

The planned vessel survey transect lines follow the waypoints set for construction phase monitoring as proposed in the Manual and depicted in **Figure 6.1** with the waypoint coordinates of all transect lines given in **Table 6.2**, which are subject to on-site refinement based on the actual survey conditions and constraints.

Table 6.2: Coordinates of Transect Lines in NEL, NWL, AW, WL and SWL Survey Areas

Waypoint	Easting	Northing	Waypoint	Easting	Northing
	2=.	NE		2	
1S	813525	820900	6N	818568	824433
1N	813525	824657	7S	819532	821420
2S	814556	818449	7N	819532	824209
2N	814559	824768	8S	820451	822125
3S	815542	818807	8N	820451	823671
3N	815542	824882	9S	821504	822371
4S	816506	819480	9N	821504	823761
4N	816506	824859	10S	822513	823268
5S	817537	820220	10N	822513	824321
5N	817537	824613	11S	823477	823402
6S	818568	820735	11N	823477	824613
		NV			
1S	804671	814577	5S	808504	821735
1N	804671	831404	5N	808504	828602
2Sb	805475	815457	6S	809490	822075
2Nb	805476	818571	6N	809490	825352
2Sa	805476	820770	7S	810499	822323
2Na	805476	830562	7N	810499	824613
3S	806464	821033	8S	811508	821839
3N	806464	829598	8N	811508	824254
4S	807518	821395	9S	812516	821356
4N	807518	829230	9N	812516	824254
		A			
1W	804733	818205	2W	805045	816912
1E	806708	818017	2E	805960	816633
		W			
1W	800600	805450	7W	800400	811450
1E	801760	805450	7E	802400	811450
2W	800300	806450	8W	800800	812450
2E	801750	806450	8E	802900	812450
3W	799600	807450	9W	801500	813550
3E	801500	807450	9E	803120	813550
4W	799400	808450	10W	801880	814500
4E	801430	808450	10E	803700	814500
5W	799500	809450	11W	802860	815500
5E	801300	809450	12S/11E	803750	815500
6W	799800	810450	12N	803750	818500
6E	801400	810450			
		SV	VL		
18	802494	803961	6S	807467	801137
1N	802494	806174	6N	807467	808458
2S	803489	803280	7S	808553	800329
2N	803489	806720	7N	808553	807377
3S	804484	802509	88	809547	800338
3N	804484	807048	8N	809547	807396
4S	805478	802105	9S	810542	800423
4N	805478	807556	9N	810542	807462

Waypoint	Easting	Northing	Waypoint	Easting	Northing
5S	806473	801250	10S	811446	801335
5N	806473	808458	10N	811446	809436

6.2.2 Land-based Theodolite Tracking Survey

Land-based theodolite tracking survey stations were set up at two locations, one facing east/south/west on the southern slopes of Sha Chau (SC), and the other facing north/northeast/northwest at Lung Kwu Chau (LKC). The stations (D and E) are depicted in **Figure 6.2** and shown in **Table 6.3** with position coordinates, height of station and approximate distance of consistent theodolite tracking capabilities for CWD.

Table 6.3: Land-based Theodolite Survey Station Details

Stations	Location	Geographical Coordinates	Station Height (m)	Approximate Tracking Distance (km)
D	Sha Chau (SC)	22° 20' 43.5" N 113° 53' 24.66" E	45.66	2
Е	Lung Kwu Chau (LKC)	22° 22' 44.83" N 113° 53' 0.2" E	70.40	3

6.3 CWD Monitoring Methodology

6.3.1 Small Vessel Line-transect Survey

Small vessel line-transect surveys provided data for density and abundance estimation and other assessments using distance-sampling methodologies, specifically, line-transect methods.

The surveys involved small vessel line-transect data collection and have been designed to be similar to, and consistent with, previous surveys for the AFCD for their long-term monitoring of small cetaceans in Hong Kong. The survey was designed to provide systematic, quantitative measurements of density, abundance and habitat use.

As mentioned in **Section 6.2.1**, the transects covered NEL, NWL covering the AW, WL and SWL areas as proposed in the Manual and are consistent with the AFCD long-term monitoring programme (except AW). There are two types of transect lines:

- Primary transect lines: the parallel and zigzag transect lines as shown in Figure 6.1; and
- Secondary transect lines: transect lines connecting between the primary transect lines and going around islands.

All data collected on both primary and secondary transect lines were used for analysis of sighting distribution, group size, activities including association with fishing boat, and mother-calf pairs. Only on-effort data collected under conditions of Beaufort 0-3 and visibility of approximately 1200 m or beyond were used for analysis of the CWD encounter rates.

A 15-20m vessel with a flying bridge observation platform about 4 to 5m above water level and unobstructed forward view, and a team of three to four observers were deployed to undertake the surveys. Two observers were on search effort at all times when following the transect lines with a constant speed of 7 to 8 knots (i.e. 13 to 15 km per hour), one using 7X handheld binoculars and the other using unaided eyes and recording data.

During on-effort survey periods, the survey team recorded effort data including time, position (waypoints), weather conditions (Beaufort sea state and visibility) and distance travelled in each

series with assistance of a handheld GPS device. The GPS device also continuously and automatically logged data including time, position (latitude and longitude) and vessel speed throughout the entire survey.

When CWDs were seen, the survey team was taken off-effort, the dolphins were approached and photographed for photo-ID information (using a Canon 7D [or similar] camera and long 300 mm+ telephoto lens), then followed until they were lost from view. At that point, the boat returned (off effort) to the survey line at the closest point after obtaining photo records of the dolphin group and began to survey on effort again.

Focal follows of dolphins would be used for providing supplementary information only where practicable (i.e. when individual dolphins or small stable groups of dolphins with at least one member that could be readily identifiable with unaided eyes during observations and weather conditions are favourable). These would involve the boat following (at an appropriate distance to minimise disturbance) an identifiable individual dolphin for an extended period of time, and collecting detailed data on its location, behaviour, response to vessels, and associates.

6.3.2 Photo Identification

CWDs can be identified by their unique features like presence of scratches, nick marks, cuts, wounds, deformities of their dorsal fin and distinguished colouration and spotting patterns.

When CWDs were observed, the survey team was taken off-effort, the dolphins were approached and photographed for photo-ID information (using a Canon 7D [or similar] camera and long 300 mm+ telephoto lens). The survey team attempted to photo both sides of every single dolphin in the group as the colouration and spotting pattern on both sides may not be identical. The photos were taken at the highest available resolution and stored on Compact Flash memory cards for transferring into a computer.

All photos taken were initially examined to sort out those containing potentially identifiable individuals. These sorted-out images would then be examined in detail and compared to the CWD photo-identification catalogue established for 3RS during the baseline monitoring stage.

6.3.3 Land-based Theodolite Tracking Survey

Land-based theodolite tracking survey obtains fine-scale information on the time of day and movement patterns of the CWDs. A digital theodolite (Sokkia/Sokkisha Model DT5 or similar equipment) with 30-power magnification and 5-s precision was used to obtain the vertical and horizontal angle of each dolphin and vessel position. Angles were converted to geographic coordinates (latitude and longitude) and data were recorded using *Pythagoras* software, Version 1.2. This method delivers precise positions of multiple spatially distant targets in a short period of time. The technique is fully non-invasive, and allows for time and cost-effective descriptions of dolphin habitat use patterns at all times of daylight.

Three surveyors (one theodolite operator, one computer operator, and one observer) were involved in each survey. Observers searched for dolphins using unaided eyes and handheld binoculars (7X50). Theodolite tracking sessions were initiated whenever an individual CWD or group of CWDs was located. Where possible, a distinguishable individual was selected, based on colouration, within the group. The focal individual was then continuously tracked via the theodolite, with a position recorded each time the dolphin surfaced. In case an individual could not be positively distinguished from other members, the group was tracked by recording positions based on a central point within the group whenever the CWD surfaced. Tracking continued until animals were lost from view; moved beyond the range of reliable visibility (>1-3km, depending on station height); or environmental conditions obstructed visibility (e.g., intense haze, Beaufort sea state >4, or sunset), at which time the research effort was terminated. In addition to the tracking

of CWD, all vessels that moved within 2-3km of the station were tracked, with effort made to obtain at least two positions for each vessel.

Theodolite tracking included focal follows of CWD groups and vessels. Priority was given to tracking individual or groups of CWD. The survey team also attempted to track all vessels moving within 1 km of the focal CWD.

6.4 Monitoring Results and Observations

6.4.1 Small Vessel Line-transect Survey

Survey Effort

Within this reporting period, two complete sets of small vessel line-transect surveys were conducted on the 6, 7, 10, 13, 15, 16, 17 and 22 January 2020, covering all transects in NEL, NWL, AW, WL and SWL survey areas for twice.

A total of around 451.33 km of survey effort was collected from these surveys and around 92.0% of the survey effort was being conducted under favourable weather condition (i.e. Beaufort Sea State 3 or below with favourable visibility). Details of the survey effort are given in **Appendix D**.

Sighting Distribution

In January 2020, 13 sightings with 53 dolphins were sighted. Amongst these sightings, 12 sightings with 47 dolphins are on-effort sightings under favourable weather condition (i.e. Beaufort Sea State 3 or below with favourable visibility). Details of cetacean sightings are presented in **Appendix D**.

Distribution of all CWD sightings recorded in January 2020 is illustrated in **Figure 6.3**. In NWL, there was one CWD sighting recorded at north of the 3RS works boundary. In WL, CWD sightings distributed from Tai O to Peaked Hill. In SWL, most CWD sightings were located at the coastal waters around Fan Lau with a single sighting recorded east to Soko Island. No sightings of CWD were recorded in NEL survey area.

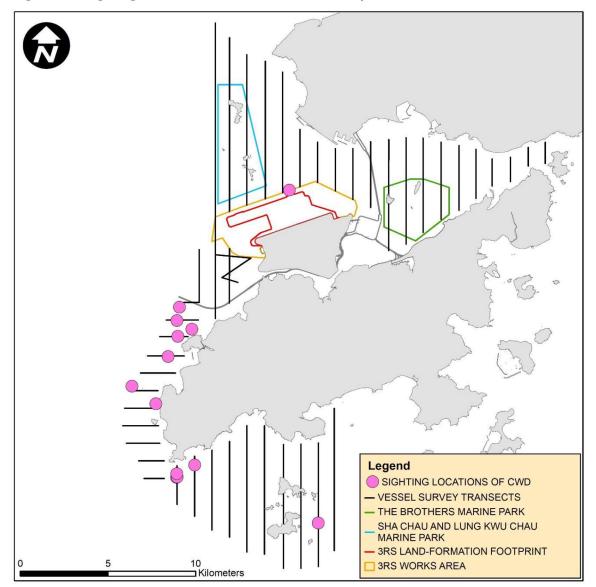


Figure 6.3: Sightings Distribution of Chinese White Dolphins

Remarks: Please note that there are 13 pink circles on the map indicating the sighting locations of CWDs. Some of them were very close to each other and therefore may appear overlapped on this distribution map

Encounter Rate

Two types of dolphin encounter rates were calculated based on the data from January 2020. They included the number of dolphin sightings per 100 km survey effort (STG) and total number of dolphins per 100 km survey effort (ANI) in the whole survey area (i.e. NEL, NWL, AW, WL and SWL). In the calculation of dolphin encounter rates, only survey data collected under favourable weather condition (i.e. Beaufort Sea State 3 or below with favourable visibility) were used. The formulae used for calculation of the encounter rates are shown below:

Encounter Rate by Number of Dolphin Sightings (STG)

$$STG = \frac{Total\ No.\ of\ On-effort\ Sightings}{Total\ Amount\ of\ Survey\ Effort\ (km)}\ x\ 100$$

Encounter Rate by Number of Dolphins (ANI)

$$ANI = \frac{Total\ No.\ of\ Dolphins\ from\ On-effort\ Sightings}{Total\ Amount\ of\ Survey\ Effort\ (km)}\ x\ 100$$

(Notes: Only data collected under Beaufort 3 or below condition were used)

In January 2020, a total of around 415.15 km of survey effort were conducted under Beaufort Sea State 3 or below with favourable visibility, whilst a total number of 12 on-effort sightings with 47 dolphins were sighted under such condition. Calculation of the encounter rates in January 2020 are shown in **Appendix D**.

For the running quarter of the reporting period (i.e., from November 2019 to January 2020), a total of around 1284.77 km of survey effort were conducted under Beaufort Sea State 3 or below with favourable visibility, whilst a total number of 34 on-effort sightings and a total number of 101 dolphins from on-effort sightings were obtained under such condition. Calculation of the running quarterly encounter rates are shown in **Appendix D**.

The STG and ANI of CWD in the whole survey area (i.e. NEL, NWL, AW, WL and SWL) during the month of January 2020 and during the running quarter are presented in **Table 6.4** below and compared with the Action Level. The running quarterly encounter rate STG remains above the Action Level but the running quarterly encounter rate ANI is below the Action Level. Nevertheless, the overall Action Level is not triggered.

Table 6.4: Comparison of CWD Encounter Rates of the Whole Survey Area with Action Levels

	Encounter Rate (STG)	Encounter Rate (ANI)
January 2020	2.89	11.32
Running Quarter from November 2019 to January 2020 ⁽¹⁾	2.65	7.86
Action Level	Running quarterly ⁽¹⁾ ST	G < 1.86 & ANI < 9.35

Note: (1) Running quarterly encounter rates STG & ANI were calculated from data collected in the reporting period and the two preceding survey months, i.e. the data from November 2019 to January 2020, containing six sets of transect surveys for all monitoring areas. Action Level will be triggered if both STG and ANI fall below the criteria.

Group Size

In January 2020, 13 groups with 53 dolphins were sighted, and the average group size of CWDs was 4.1 dolphins per group. Sightings with medium group size (i.e. 3-9 dolphins) were dominant. No CWD sighting with large group size (i.e. 10 or more dolphins) was recorded.

Activities and Association with Fishing Boats

Two sightings of CWD was recorded engaging in feeding activities in January 2020. None of these sightings were observed in association with operating fishing boat.

Mother-calf Pair

In January 2020, one CWD sighing was recorded with the presence of mother-and-unspotted juvenile pair.

6.4.2 Photo Identification

In January 2020, a total number of 27 different CWD individuals were identified for total 38 times. A summary of photo identification works is presented in **Table 6.5**. Representative photos of these individuals are given in **Appendix D**.

Table 6.5: Summary of Photo Identification

Individual	Date of Sighting	Sighting	Area			Date of Sighting		Area
ID	(dd-mmm-yy)	Group No.		_	ID	(dd-mmm-yy)	Group No.	
NLMM004	16-Jan-20	1	NWL		WLMM003	10-Jan-20	1	WL
SLMM003	10-Jan-20	3	WL			15-Jan-20	3	WL
	22-Jan-20	6	SWL		WLMM005	15-Jan-20	3	WL
SLMM007	15-Jan-20	1	WL	1	WLMM006	15-Jan-20	3	WL
		2	WL	1	WLMM009	15-Jan-20	3	WL
SLMM012	22-Jan-20	5	SWL		WLMM018	15-Jan-20	4	WL
SLMM014	7-Jan-20	3	SWL	1	WLMM028	15-Jan-20	1	WL
SLMM022	15-Jan-20	1	WL				2	WL
		2	WL		WLMM056	7-Jan-20	2	SWL
SLMM023	15-Jan-20	4	WL	1			3	SWL
SLMM027	10-Jan-20	3	WL		WLMM065	15-Jan-20	3	WL
SLMM037	7-Jan-20	2	SWL		WLMM079	7-Jan-20	4	SWL
SLMM049	7-Jan-20	3	SWL		WLMM109	10-Jan-20	3	WL
SLMM050	15-Jan-20	4	WL		WLMM114	7-Jan-20	3	SWL
SLMM052	10-Jan-20	3	WL			10-Jan-20	2	WL
	15-Jan-20	2	WL	1	WLMM150	15-Jan-20	1	WL
SLMM053	7-Jan-20	3	SWL	1				
SLMM058	15-Jan-20	1	WL					
WLMM001	10-Jan-20	1	WL	1				
		3	WL	1				
	15-Jan-20	1	WL					
	22-Jan-20	6	SWL	1				

6.4.3 Land-based Theodolite Tracking Survey

Survey Effort

Land-based theodolite tracking surveys were conducted at SC on 8 January 2020 and at LKC on 14 January 2020, with a total of two days of land-based theodolite tracking survey effort accomplished in this reporting period. Three CWD groups were tracked at LKC station during the surveys. Information of survey effort and CWD groups sighted during these land-based theodolite tracking surveys are presented in **Table 6.6**. Details of the survey effort and CWD groups tracked are presented in **Appendix D**. The first sighting locations of CWD groups tracked at LKC station during land-based theodolite tracking surveys in January 2020 were depicted in **Figure 6.4**. No CWD group was sighted from SC station in this reporting month.

Table 6.6: Summary of Survey Effort and CWD Group of Land-based Theodolite Tracking

Land-based Station	No. of Survey Sessions	Survey Effort (hh:mm)	No. of CWD Groups Sighted	CWD Group Sighting per Survey Hour
Lung Kwu Chau	1	6:00	3	0.50
Sha Chau	1	6:00	0	0
TOTAL	2	12:00	3	0.25

Legend

CWD GROUP OFF LUNG KWU CHAU

LUNG KWU CHAU LAND-BASED STATION
SHACHAU AND LUNG KWU CHAU LAND-BASED STATION
SHACHAU AND LUNG KWU CHAU
MARINE PARK

Figure 6.4: Plots of First Sightings of All CWD Groups obtained from Land-based Stations

6.5 Progress Update on Passive Acoustic Monitoring

Underwater acoustic monitoring using Passive Acoustic Monitoring (PAM) should be undertaken during land formation related construction works. In this reporting period, the Ecological Acoustic Recorder (EAR) was retrieved on 7 January 2020 and subsequently redeployed and positioned at south of Sha Chau Island inside the SCLKCMP with 20% duty cycle (**Figure 6.5**). The EAR deployment is generally for 6 weeks prior to data retrieval for analysis. Acoustic data is reviewed to give an indication of CWDs occurrence patterns and to obtain anthropogenic noise information simultaneously. Analysis (by a specialised team of acousticians) involved manually browsing through every acoustic recording and logging the occurrence of dolphin signals. All data will be re-played by computer as well as listened to by human ears for accurate assessment of dolphin group presence. As the period of data collection and analysis takes more than four months, PAM results could not be reported in monthly intervals but report for supplementing the annual CWD monitoring analysis.

6.6 Site Audit for CWD-related Mitigation Measures

During the reporting period, silt curtains were in place by the contractor for marine filling, in which dolphin observers were deployed by contractor in accordance with the MMWP. Overall, 3 to 8 dolphin observation stations and teams of at least two dolphin observers were deployed by the contractors for continuous monitoring of the DEZ for DCM works and seawall construction in accordance with the DEZ Plan. Trainings for the proposed dolphin observers on the implementation of MMWP and DEZ monitoring were provided by the ET prior to the aforementioned works, with a cumulative total of 679 individuals being trained and the training records kept by the ET. From the contractors' MMWP observation records, no dolphin or other marine mammals were observed within or around the silt curtains. As for DEZ monitoring records, no dolphin or other marine mammals were observed within or around the DEZs in this reporting month. These contractors' records were also audited by the ET during site inspection.

Audits of acoustic decoupling measures for construction vessels were carried out during weekly site inspection and the observations are summarised in **Section 7.1**. Audits of SkyPier high speed ferries route diversion and speed control and construction vessel management are presented in **Section 7.2** and **Section 7.3** respectively.

6.7 Timing of Reporting CWD Monitoring Results

Detailed analysis of CWD monitoring results collected by small vessel line-transect survey will be provided in future quarterly reports. Detailed analysis of CWD monitoring results collected by land-based theodolite tracking survey and PAM will be provided in future annual reports after a larger sample size of data has been collected.

6.8 Summary of CWD Monitoring

Monitoring of CWD was conducted with two complete sets of small vessel line-transect surveys and two days of land-based theodolite tracking survey effort as scheduled. The running quarterly encounter rates STG and ANI in the reporting period did not trigger the Action Level for CWD monitoring.

7 Environmental Site Inspection and Audit

7.1 Environmental Site Inspection

Site inspections of the construction works were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures for the Project. The weekly site inspection schedule of the construction works is provided in **Appendix C**. Biweekly site inspections were also conducted by the IEC. Besides, *ad-hoc* site inspections were conducted by ET and IEC if environmental problems were identified, or subsequent to receipt of an environmental complaint, or as part of the investigation work. These site inspections provided a direct means to reinforce the specified environmental protection requirements and pollution control measures in construction sites.

During site inspections, environmental situation, status of implementation of pollution control and mitigation measures were observed. Environmental documents and site records, including waste disposal record, maintenance record of environmental equipment, and relevant environmental permit and licences, were also checked on site. Observations were recorded in the site inspection checklist and passed to the contractor together with the recommended mitigation measures where necessary in order to advise contractors on environmental improvement, awareness and on-site enhancement measures. The observations were made with reference to the following information during the site inspections:

- The EIA and EM&A requirements;
- Relevant environmental protection laws, guidelines, and practice notes;
- The EP conditions and other submissions under the EP;
- Monitoring results of EM&A programme;
- Works progress and programme;
- Proposal of individual works;
- Contract specifications on environmental protection; and
- · Previous site inspection results.

Good site practices were observed in site inspections during the reporting period. Advice were given when necessary to ensure the construction workforce were familiar with relevant procedures, and to maintain good environmental performance on site. Regular toolbox talks on environmental issues were organised for the construction workforce by the contractors to ensure understanding and proper implementation of environmental protection and pollution control mitigation measures.

Implementation of applicable landscape and visual mitigation measures (reference to the environmental protection measures CM1 – CM10 in **Appendix B**) was monitored regularly in accordance with the Manual. No non-conformity was recorded during the reporting period. Based on the latest Contractors' submitted records, a cumulative total of 231 and 8 trees were retained and transplanted. The Contractors' performance on existing trees maintenance and protection measures on retained and transplanted trees were regularly checked by the ET. In case of non-conformity, specific recommendations would be made, and actions will be carried out according to the Event and Action Plan.

A summary of implementation status of the environmental mitigation measures for the construction phase of the Project during the reporting period is provided in **Appendix B**.

7.2 Audit of SkyPier High Speed Ferries

The Marine Travel Routes and Management Plan for High Speed Ferries of SkyPier (the SkyPier Plan) was submitted to the Advisory Council on the Environment for comment and subsequently submitted to and approved by EPD in November 2015 under EP Condition 2.10. The approved SkyPier Plan is available on the dedicated website of the Project. In the SkyPier Plan, AAHK has committed to implement the mitigation measure of requiring HSFs of SkyPier travelling between HKIA and Zhuhai / Macau to start diverting the route with associated speed control across the area, i.e. Speed Control Zone (SCZ), with high CWD abundance. The route diversion and speed restriction at the SCZ have been implemented since 28 December 2015.

Key audit findings for the SkyPier HSFs travelling to/from Zhuhai and Macau against the requirements of the SkyPier Plan during the reporting period are summarised in **Table 7.1**. The daily movements of all SkyPier HSFs in this reporting period (i.e., 74 to 94 daily movements) were within the maximum daily cap of 125 daily movements. Status of compliance with the annual daily average of 99 movements will be further reviewed in the annual EM&A Report.

In total, 511 ferry movements between HKIA SkyPier and Zhuhai / Macau were recorded in January 2020 and the data are presented in **Appendix H**. The time spent by the SkyPier HSFs travelling through the SCZ in January 2020 were presented in **Figure 7.1**. It will take 9.6 minutes to travel through the SCZ when the SkyPier HSFs adopt the maximum allowable speed of 15 knots within the SCZ. **Figure 7.1** shows that all of the SkyPier HSFs spent more than 9.6 minutes to travel through the SCZ.

Duration of Ferry Movements through SCZ for Jan-2020 20 18 Time travelled through the SCZ (minutes) 16 14 12 10 8 6 15 knots (9.6 minutes) 4 2 01-Jan-2020 15-Jan-2020 16-Jan-2020 17-Jan-2020 31-Jan-2020 02-Jan-2020 03-Jan-2020 04-Jan-2020 05-Jan-2020 06-Jan-2020 07-Jan-2020 09-Jan-2020 10-Jan-2020 13-Jan-2020 14-Jan-2020 18-Jan-2020 19-Jan-2020 21-Jan-2020 22-Jan-2020 23-Jan-2020 28-Jan-2020 29-Jan-2020 30-Jan-2020 08-Jan-2020 11-Jan-2020 12-Jan-2020 20-Jan-2020 24-Jan-2020 25-Jan-2020 26-Jan-2020 27-Jan-2020

Figure 7.1: Duration of the SkyPier HSFs travelling through the SCZ for January 2020

Note: Data above the red line indicated that the time spent by the SkyPier HSFs travelling through the SCZ is more than 9.6 minutes, which is in compliance with the SkyPier Plan.

As reported in the Construction Phase Monthly EM&A Report No. 48, one ferry was recorded with minor route deviations on 11 December 2019. ET's investigation found that the deviation was due to strong tidal wave and current.

Table 7.1: Summary of Key Audit Findings against the SkyPier Plan

Requirements in the SkyPier Plan	1 to 31 January 2020
Total number of ferry movements recorded and audited	511
Use diverted route and enter / leave SCZ through Gate Access Points	0 deviation
Speed control in speed control zone	The average speeds of all HSFs travelling through the SCZ ranged from 10.7 to 13.8 knots. All HSFs had travelled through the SCZ with average speeds under 15 knots in compliance with the SkyPier Plan. The time used by HSFs to travel through SCZ is presented in Figure 7.1 .
Daily Cap (including all SkyPier HSFs)	74-94 daily movements (within the maximum daily cap - 125 daily movements).

7.3 Audit of Construction and Associated Vessels

The updated Marine Travel Routes and Management Plan for Construction and Associated Vessel (MTRMP-CAV) was submitted and approved in November 2016 by EPD under EP Condition 2.9. The approved Plan is available on the dedicated website of the Project.

ET carried out the following actions during the reporting period:

- Two skipper training sessions were held for contractors' concerned skippers of relevant construction vessels to familiarize them with the predefined routes; general education on local cetaceans; guidelines for avoiding adverse water quality impact; the required environmental practices / measures while operating construction and associated vessels under the Project; and guidelines for operating vessels safely in the presence of CWDs. The list of all trained skippers was properly recorded and maintained by ET.
- Six skipper training session were held by contractors' Environmental Officers. Competency tests were subsequently conducted with the trained skippers by ET. The list of all trained skippers was properly recorded and maintained by ET.
- In this reporting period, 18 skippers were trained by ET and 7 skippers were trained by contractors' Environmental Officers. In total, 1309 skippers were trained from August 2016 to January 2020.
- The MSS automatically recorded deviation cases such as speeding, entering no entry zone and not travelling through the designated gate. ET conducted checking to ensure the MSS records deviation cases accurately.
- Deviations such as speeding in the works area, entered no entry zone, and entering from non-designated gates were identified. All the concerned contractors were reminded to comply with the requirements of the MTRMP-CAV during the bi-weekly MTCC audit.
- Three-month rolling programmes (one month record and three months forecast) for construction vessel activities were received from the contractors in order to help maintain the number of construction and associated vessels on site to a practicable minimal level.

7.4 Implementation of Dolphin Exclusion Zone

The DEZ Plan was submitted in accordance with EP Condition 3.1 (v) requirement and Section 10.3 of the Manual, and approved in April 2016 by EPD. The 24-hour DEZs with a 250m radius for marine works were established and implemented by the contractors for DCM works and seawall construction according to their Method Statement for DEZ Monitoring that followed the specifications and requirements of the DEZ Plan.

During the reporting period, ET was notified that no dolphin sightings were recorded within the DEZ by the contractors. The ET checked the dolphin sighting record and relevant records by the contractors to audit the implementation of DEZ.

7.5 Status of Submissions under Environmental Permits

The current status of submissions under the EP up to the reporting period is presented in **Table 7.2**.

Table 7.2: Status of Submissions under Environmental Permit

EP Condition	Submission	Status
2.1	Complaint Management Plan	
2.4	Management Organizations	
2.5	Construction Works Schedule and Location Plans	
2.7	Marine Park Proposal	
2.8	Marine Ecology Conservation Plan	
2.9	Marine Travel Routes and Management Plan for Construction and Associated Vessels	
2.10	Marine Travel Routes and Management Plan for High Speed Ferries of SkyPier	Accepted / approved
2.11	Marine Mammal Watching Plan	by EPD
2.12	Coral Translocation Plan	
2.13	Fisheries Management Plan	
2.14	Egretry Survey Plan	
2.15	Silt Curtain Deployment Plan	
2.16	Spill Response Plan	
2.17	Detailed Plan on Deep Cement Mixing	
2.18	Landscape & Visual Plan	Submitted to EPD
2.19	Waste Management Plan	
2.20	Supplementary Contamination Assessment Plan	Accepted / approved
3.1	Updated EM&A Manual	by EPD
3.4	Baseline Monitoring Reports	

7.6 Compliance with Other Statutory Environmental Requirements

During the reporting period, environmental related licenses and permits required for the construction activities were checked. No non-compliance with environmental statutory requirements was recorded. The environmental licenses and permits which are valid in the reporting period are presented in **Appendix F**.

7.7 Analysis and Interpretation of Complaints, Notification of Summons and Status of Prosecutions

7.7.1 Complaints

No construction activities-related complaint was received during the reporting period.

7.7.2 Notifications of Summons or Status of Prosecution

Neither notification of summons nor prosecution was received during the reporting period.

7.7.3 Cumulative Statistics

Cumulative statistics on complaints, notifications of summons and status of prosecutions are summarised in ${\bf Appendix}~{\bf G}.$

8 Future Key Issues and Other EIA & EM&A Issues

8.1 Construction Programme for the Coming Reporting Period

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

Advanced Works:

Contract P560 (R) Aviation Fuel Pipeline Diversion Works

Stockpiling of compressed materials

DCM Works:

Contract 3205 DCM works

DCM works

Reclamation Works:

Contract 3206 Main Reclamation Works

- Land base ground improvement works;
- Seawall construction;
- Marine filling; and
- Sorting and reuse of inert waste from other 3RS contracts.

Airfield Works:

Contract 3301 North Runway Crossover Taxiway

- Cable ducting works;
- Subgrade compaction and paving works;
- Drainage construction works;
- Operation of aggregate mixing facility; and
- Precast of duct bank and fabrication of steel works.

Contract 3302 Eastern Vehicular Tunnel Advance Works

- Cable laying and ducting works;
- Trench excavation works;
- Backfilling and reinstatement works
- Piling and structure works; and
- Site establishment.

Contract 3303 Third Runway and Associated Works

- Plant and equipment mobilisation
- Footing and utilities work
- · Preparation works for box culvert construction; and
- Site establishment.

Third Runway Concourse and Integrated Airport Centres Works:

Contract 3402 New Integrated Airport Centres Enabling Works

- Potable water and seawater works;
- Footing construction;
- Road works; and
- Sewerage and pipe works.

Contract 3403 New Integrated Airport Centres Building and Civil Works

- Site establishment; and
- Foundation works.

Terminal 2 Expansion Works:

Contract 3501 Antenna Farm and Sewage Pumping Station

Site clearance.

Contract 3503 Terminal 2 Foundation and Substructure Works

- Site establishment;
- Excavation works
- Utilities, drainage, and road work; and
- Piling and structure works.

Automated People Mover (APM) Works:

Contract 3602 Existing APM System Modification Works

Modification works at APM depot.

Airport Support Infrastructure & Logistic Works:

Contract 3721 Construction Support Infrastructure Works

- Site clearance and establishment;
- Excavation for utilities works; and
- Construction of utilities.

Contract 3801 APM and BHS Tunnels on Existing Airport Island

- Construction of temporary traffic steel deck;
- Cofferdam installation for box culvert;
- Rising main installation;
- Drilling and grouting works;
- Piling and foundation works; and
- Site clearance.

8.2 Key Environmental Issues for the Coming Reporting Period

The key environmental issues for the Project in the coming reporting period expected to be associated with the construction activities include:

- Generation of dust from construction works and stockpiles;
- Noise from operating equipment and machinery on-site;
- Generation of site surface runoffs and wastewater from activities on-site;
- Water quality from DCM works and marine filling;
- DEZ monitoring for ground improvement works (DCM works) and seawall construction;
- Implementation of MMWP for silt curtain deployment;

- Sorting, recycling, storage and disposal of general refuse and construction waste;
- Management of chemicals and avoidance of oil spillage on-site; and
- Acoustic decoupling measures for equipment on marine vessels.

The implementation of required mitigation measures by the contractors will be monitored by the ET.

8.3 Monitoring Schedule for the Coming Reporting Period

A tentative schedule of the planned environmental monitoring work in the next reporting period is provided in **Appendix C**.

8.4 Review of the Key Assumptions Adopted in the EIA Report

With reference to Appendix E of the Manual, it is noted that the key assumptions adopted in approved EIA report for the construction phase are still valid and no major changes are involved. The environmental mitigation measures recommended in the approved EIA Report remain applicable and shall be implemented in undertaking construction works for the Project.

9 Conclusion and Recommendation

The key activities of the Project carried out in the reporting period included reclamation works and land-side works. Reclamation works included DCM works, marine filling and seawall construction. Land-side works involved mainly airfield works, foundation and substructure work for Terminal 2 expansion, modification and tunnel work for APM and BHS systems, and preparation work for utilities, with activities include site establishment, site office construction, road and drainage works, cable ducting, demolition of existing facilities, piling, and excavation works.

All the monitoring works for construction dust, construction noise, water quality, construction waste, landscape & visual, and CWD were conducted during the reporting period in accordance with the Manual.

Monitoring results of construction dust, construction noise, construction waste, and CWD did not trigger the corresponding Action and Limit Levels during the reporting period.

The water quality monitoring results for all parameters, except SS and nickel, obtained during the reporting period were within the corresponding Action and Limit Levels stipulated in the EM&A programme. Relevant investigations and follow-up actions will be conducted according to the EM&A programme if the corresponding Action and Limit Levels are triggered. For SS and nickel, some of the testing results triggered the relevant Action Levels, and the corresponding investigations were conducted accordingly. The investigation findings concluded that the cases were not related to the Project. To conclude, the construction activities in the reporting period did not introduce adverse impact to all water quality sensitive receivers.

Weekly site inspections of the construction works were carried out by the ET to audit the implementation of proper environmental pollution control and mitigation measures for the Project. Bi-weekly site inspections were also conducted by the IEC. Site inspection findings were recorded in the site inspection checklists and provided to the contractors to follow up.

On the implementation of the SkyPier Plan, the daily movements of all SkyPier HSFs in January 2020 were in the range of 74 to 94 daily movements, which are within the maximum daily cap of 125 daily movements. A total of 511 HSF movements under the SkyPier Plan were recorded in the reporting period. The average speeds of all HSFs travelling through the SCZ ranged from 10.7 to 13.8 knots. All HSFs had travelled through the SCZ with average speeds under 15 knots in compliance with the SkyPier Plan. In summary, the ET and IEC have audited the HSF movements against the SkyPier Plan and conducted follow up investigations or actions accordingly.

On the implementation of MTRMP-CAV, the MSS automatically recorded the deviation case such as speeding, entering no entry zone and not travelling through the designated gates. ET conducted checking to ensure the MSS records all deviation cases accurately. Training has been provided for the concerned skippers to facilitate them in familiarising with the requirements of the MTRMP-CAV. Deviations including speeding in the works area, entered no entry zone, and entry from non-designated gates were reviewed by ET. All the concerned captains were reminded by the contractor's MTCC representative to comply with the requirements of the MTRMP-CAV. The ET reminded contractors that all vessels shall avoid entering the no-entry zone, in particular the Brothers Marine Park and the Sha Chau & Lung Kwu Chau Marine Park. Three-month rolling

programmes for construction vessel activities, which ensures the proposed vessels are necessary and minimal through good planning, were also received from contractors.

Figures

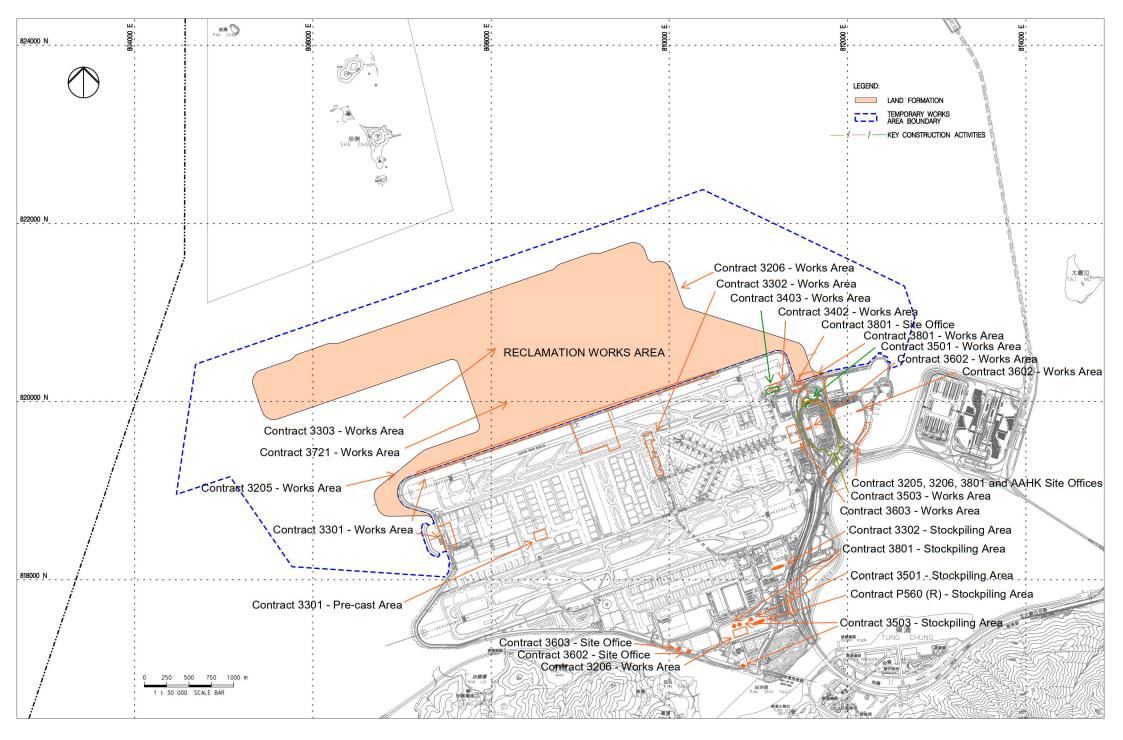
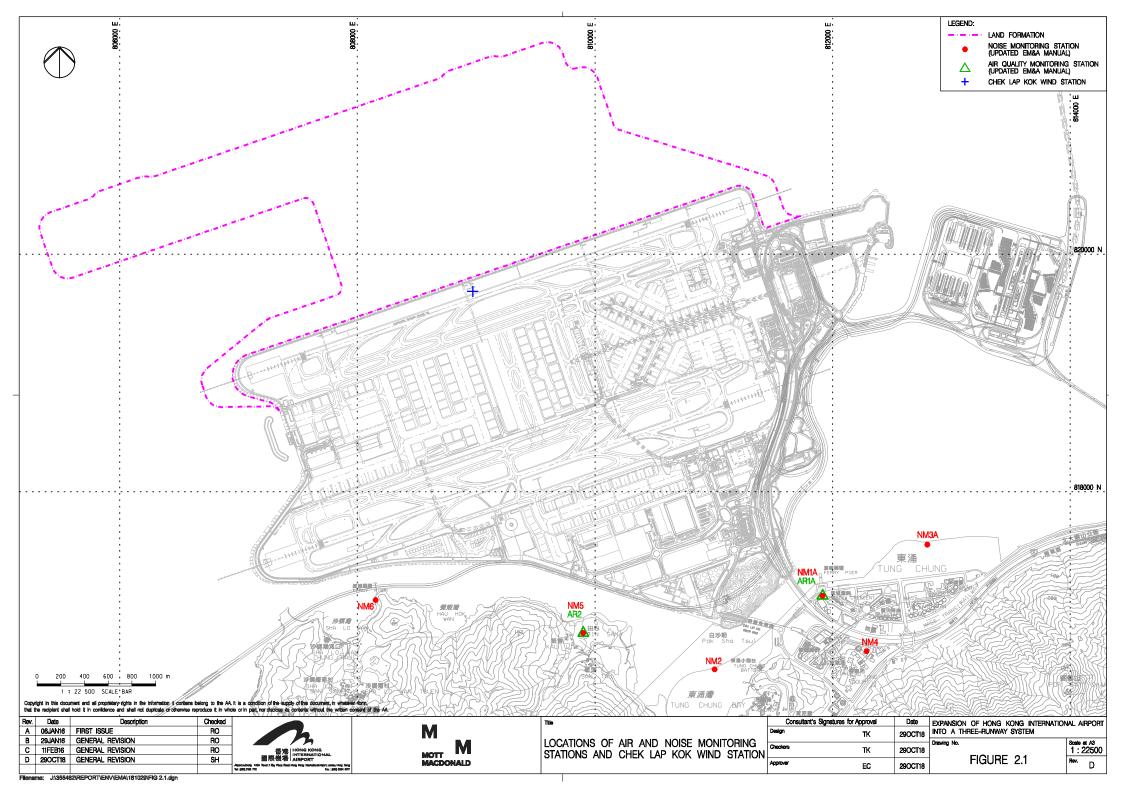
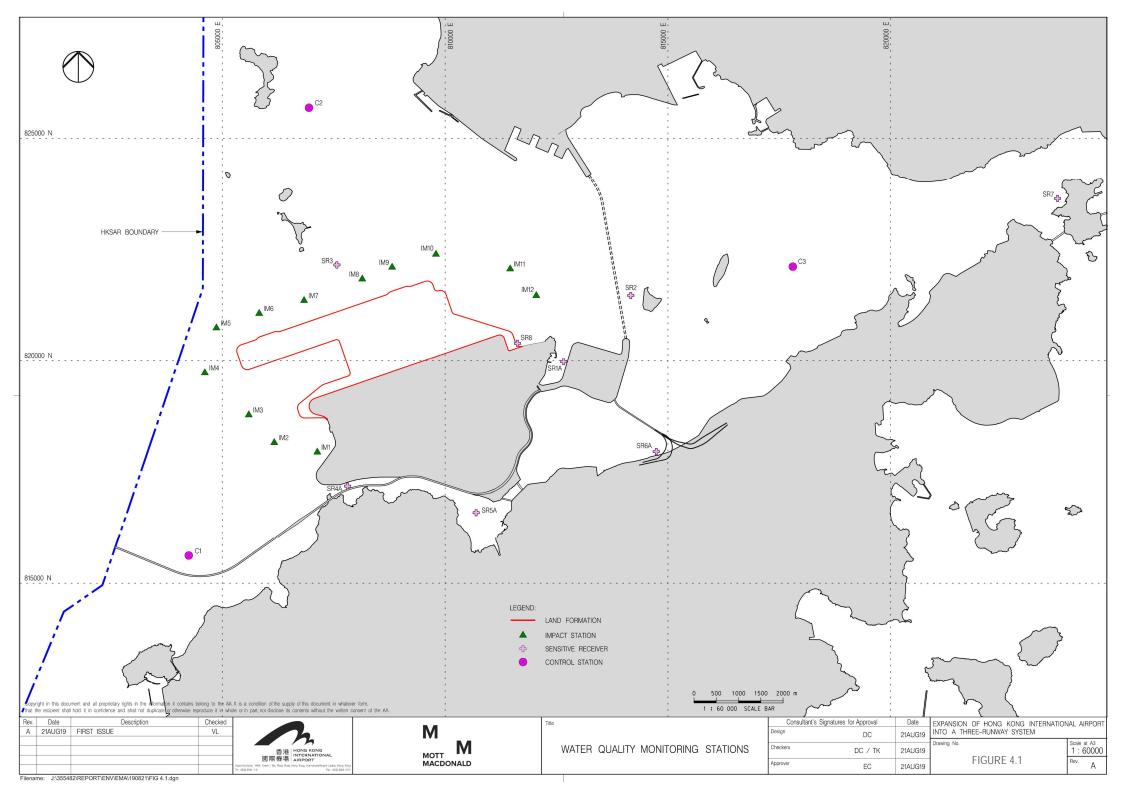
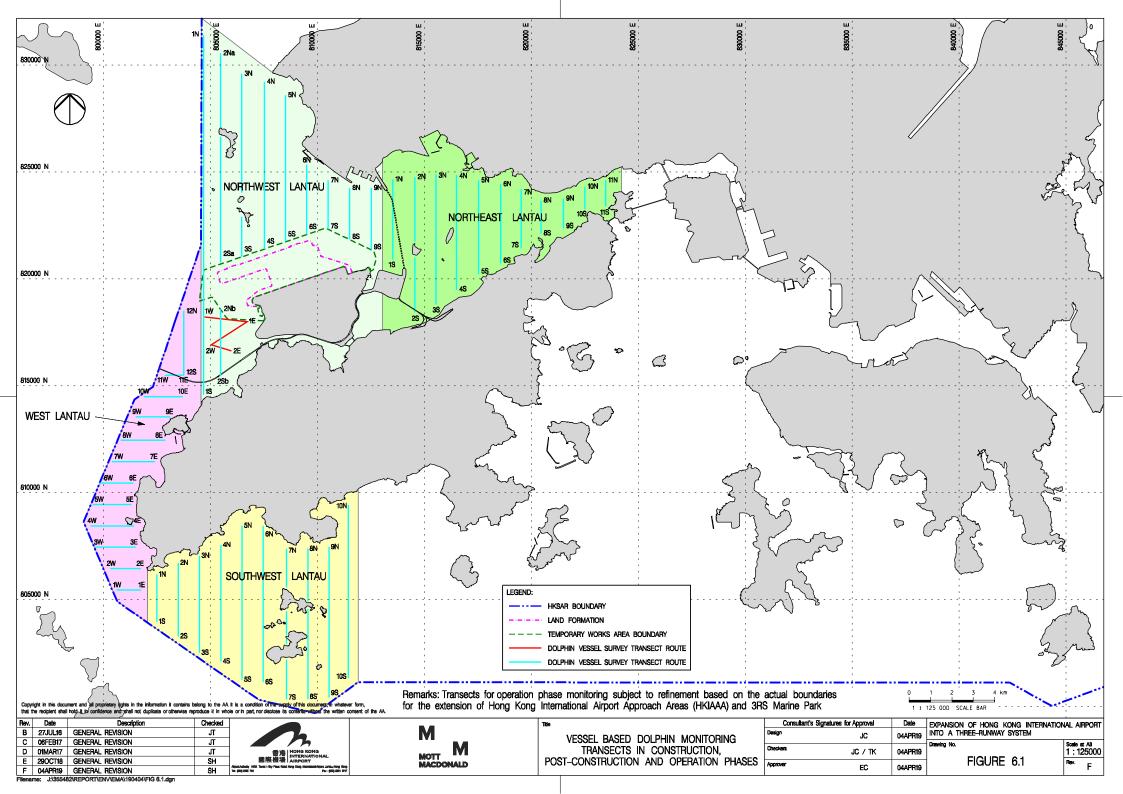
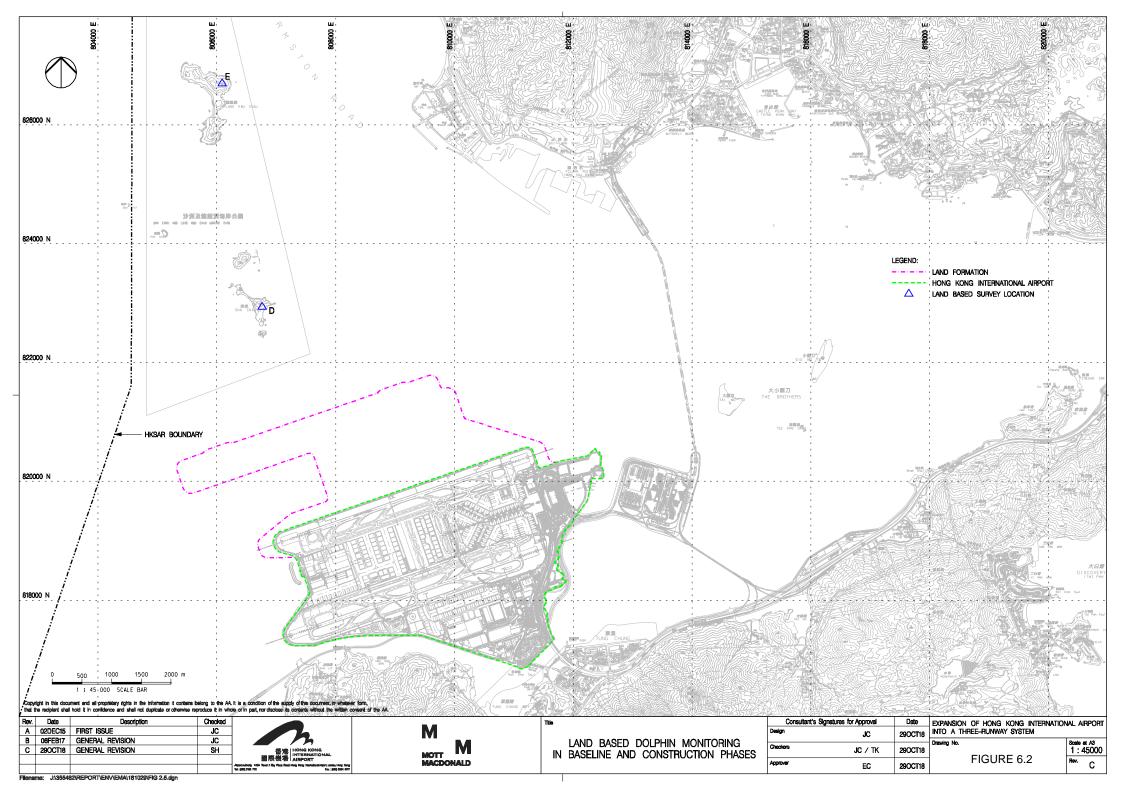


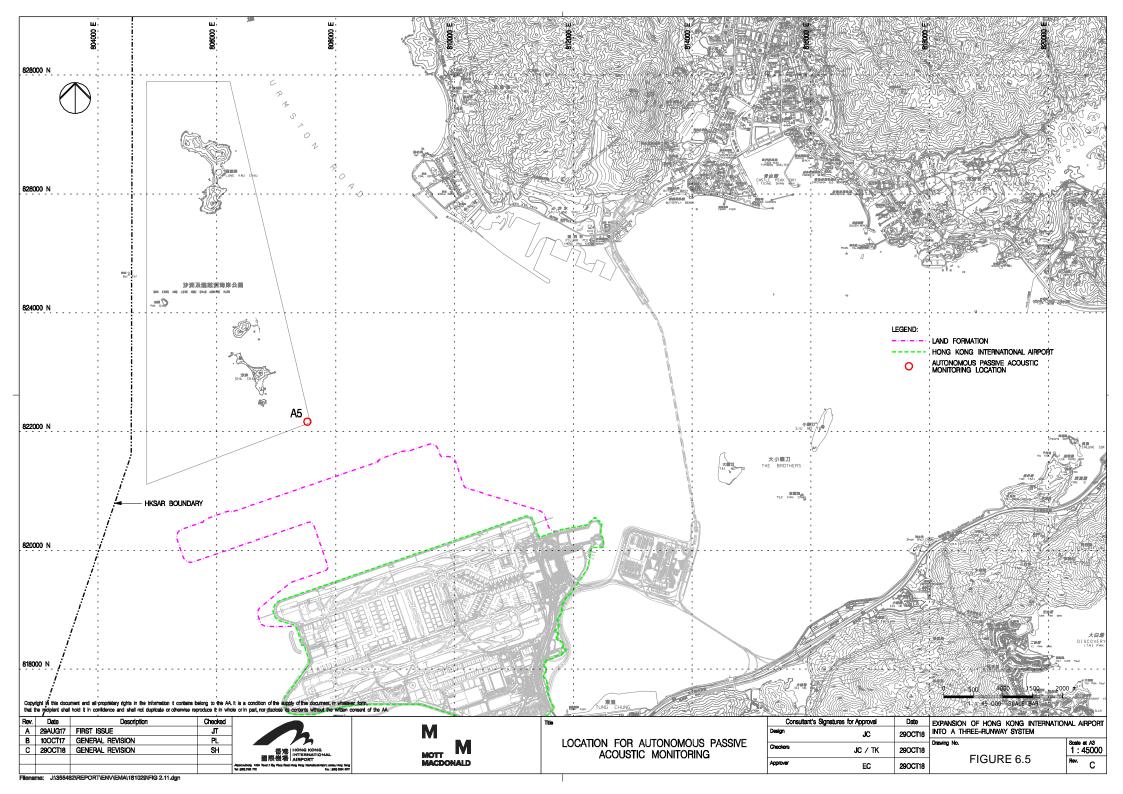
FIGURE 1.1 LOCATIONS OF KEY CONSTRUCTION ACTIVITIES











Appendix A. Contract Description

Contract Description

Contract No.	Contract Title	Contractor	Key Construction Activities
P560 (R)	Aviation Fuel Pipeline Diversion Works	Langfang Huayuan Mechanical and Electrical Engineering Co., Ltd.	Diversion of the existing submarine aviation fuel pipelines will use a horizontal directional drilling (HDD) method forming two rock drill holes by drilling through bedrock from a launching site located at the west of the airport island to a daylighting point adjacent to the offshore receiving platform at Sha Chau. Two new pipelines will be installed through the drilled tunnels. The total length is approximately 5 km. Drilling works will proceed from the HDD launching site at the airport island.
3205	Deep Cement Mixing (Package 5)	Bachy Soletanche- Sambo Joint Venture	The works covered by the Contract 3205 comprise ground improvement of seabed using Deep Cement Mixing (DCM) method, the major construction activities including without limitation the following • Geophysical surveys; • Supply and placing of geotextile and sand blanket under seawalls; • Supply, maintenance, installation and removal of silt curtain systems; • Preliminary construction trails; • Supply and installation of DCM clusters within the works areas; and • Coring, sampling and testing of DCM treated soils and reporting works.
3206	Reclamation Contract	ZHEC-CCCC-CDC Joint Venture	The works covered by the Contract 3206 comprise the formation of approximately 650 hectares of land north of the existing airport island for the project, the major construction activities including without limitation the following • Site clearance and demolition; • Geotechnical and ground improvement works; • Seawall construction; • Marine and land filling works; and • Civil works.
3301	North Runway Crossover Taxiway	FJT-CHEC-ZHEC Joint Venture	The works covered by the Contract 3301 comprise the construction of a new dual taxiway across the existing north runway and utility services and cable

Contract No.	Contract Title	Contractor	Key Construction Activities
			ducting systems. The major construction activities include without limitation the following: • Construction of a new dual taxiway;
			Cable ducting works;
			 Extension of existing portable water supply system; and
			All associated works.
3302	Eastern	China Road and Bridge	The works covered by the Contract 3302 comprise the design and
	Vehicular	Corporation	construction of the first section of the new Eastern Vehicular Tunnel and a
	Tunnel Advance		Road Tunnel Plant Building. The major construction activities include without
	Works		limitation the following:
			 Foundation and structural works;
			Cast-in / Underground electrical & mechanical works and utility
			services; and
			 All associated testing and commissioning works.
3303	Third Runway	SAPR Joint Venture	The works covered by the Contract 3303 comprise all elements of permanent
	and Associated		works and temporary works required for the completion, commissioning and
	Works		operation of the new North Runway and existing South Runway following the
			closure of the existing North Runway. The major construction activities
			include without limitation the following:
			New runway, taxiways, and associated works;
			Infrastructure works;
			Construction of ancillary buildings and facilities;
			Set up of various airport systems; and
2402	Now Intograted	Mina Hina Construction	All associated testing and commissioning works. The works associated by the Contract 3402 commission the analytics works for the
3402	New Integrated Airport Centers	Wing Hing Construction	The works covered by the Contract 3402 comprise the enabling works for the new Integrated Airport Centers. The major construction activities include
	Enabling Works	Co., Ltd.	without limitation the following:
	Litability Works		Site clearance and demolition;
			Building services works;
			 Utilities diversion and installation works;
			Roadworks including associated facilities; and
			 All associated testing and commissioning works.
			An associated testing and continustioning works.

Contract No.	Contract Title	Contractor	Key Construction Activities
3403	New Integrated Airport Centres – Building and Civil Works	Sun Fook Kong Construction Limited	The works covered by the Contract 3403 comprise the construction of a new Integrated Airport Centre (IAC) and a number of ancillary facilities and Additions and Alteration (A&A) works for converting the existing IAC into a back-up IAC, including without limitation the following: Site clearance and demolition; Building structure and envelope; Building Services and Airport Systems; and Utilities division and installations.
3501	Antenna Farm and Sewage Pumping Station	Build King Construction Limited	The works covered by the Contract 3501 comprise the construction of antenna farm and sewage pumping station. The major construction activities include without limitation the following: • Civil and structural engineering works; • Building services works; • Architectural builder's works and finishes; • Trenchless excavation for sewage rising mains; and • All associated works.
3503	Terminal 2 Foundation and Substructure Works	Leighton - Chun Wo Joint Venture	The works covered by the Contract 3503 comprise the foundations for the new T2 terminal, two annex buildings and associated viaducts, construction of the new T2 basement and south annex building structures, diaphragm walls, utility services and other advance works. The major construction activities include without limitation the following: Re-configuration and demolition of existing utilities and structures; Pile foundations for the expanded T2 Terminal Building, South Annex Building, and North Annex Building; Construction of new South Annex Building; Diversion and provisions of utilities; and All associated testing and commissioning works.
3602	Existing APM System Modification Works	Niigata Transys Co., Ltd.	The works covered by the Contract 3602 comprise the detailed design, supply, manufacture, fabrication, implementation, testing and commissioning of the following modification works of the existing APM systems: • Modification of existing APM depot and APM cars; • Modification of existing T1 & T2 tunnels; and • Preparation of new APM depot.

Contract No.	Contract Title	Contractor	Key Construction Activities
3603	3RS Baggage Handling System	VISH Consortium	The works covered by the Contract 3603 comprise the design, supply, manufacture, delivery, installation, testing and commissioning of the high-speed baggage handling system.
3721	Construction Support Infrastructure Works	China State Construction Engineering (Hong Kong) Limited	The works covered by the Contract 3721 comprise the construction of the infrastructure works and building facilities on the reclaimed land formation. The major construction activities include without limitation the following: Project site road; Utilities; Cargo loading quays; and Security fencing and hoarding.
3801	APM and BHS Tunnels on Existing Airport Island	China State Construction Engineering (Hong Kong) Limited	The works covered by the Contract 3801 comprise the construction of the APM and Baggage Handling System (BHS) tunnels on existing airport island. The major construction activities include without limitation the following: Construction of APM and BHS tunnels; Construction of ventilation building and associated infrastructure; and Construction, testing and commissioning of sewerage pumping station; and Civil and structural engineering works.

Appendix B. Environmental Mitigation Implementation Schedule (EMIS) for Construction Phase



Environmental Mitigation Implementation Schedule (EMIS) for Construction Phase

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			Air Quality Impact – Construction Phase		
5.2.6.2	2.1	-	Dust Control Measures ■ Water spraying for 12 times a day or once every two hours for 24-hour working at all active works area.	Within construction site / Duration of the construction phase	I
5.2.6.3	2.1	-	 Covering of at least 80% of the stockpiling area by impervious sheets. Water spraying of all dusty materials immediately prior to any loading transfer operation so as to keep the dusty material wet during material handling. 	Within construction site / Duration of the construction phase	ı
5.2.6.4	2.1	-	Dust control practices as stipulated in the Air Pollution Control (Construction Dust) Regulation should be adopted. These practices include: Good Site Management Good site management is important to help reducing potential air quality impact down to an acceptable level. As a general guide, the Contractor should maintain high standard of housekeeping to prevent emission of fugitive dust. Loading, unloading, handling and storage of raw materials, wastes or byproducts should be carried out in a manner so as to minimise the release of visible dust emission. Any piles of materials accumulated on or around the work areas should be cleaned up regularly. Cleaning, repair and maintenance of all plant facilities within the work areas should be carried out in a manner minimising generation of fugitive dust emissions. The material should be handled properly to prevent fugitive dust emission before cleaning.	Within construction site / Duration of the construction phase	I
			Disturbed Parts of the Roads Each and every main temporary access should be paved with concrete, bituminous hardcore materials or metal plates and kept clear of dusty materials; or Unpaved parts of the road should be sprayed with water or a dust suppression chemical so as to keep the entire road surface wet.	construction phase I so as to keep Within construction of the site / Duration of the	I
			 Exposed Earth Exposed earth should be properly treated by compaction, hydroseeding, vegetation planting or seating with latex, vinyl, bitumen within six months after the last construction activity on the site or part of the site where the exposed earth lies. 		1

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EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures	Mitigation Measures
				Timing of completion of measures	Implemented?
			Loading, Unloading or Transfer of Dusty Materials • All dusty materials should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material wet.	Within construction site / Duration of the construction phase	I
			Debris Handling • Any debris should be covered entirely by impervious sheeting or stored in a debris collection area sheltered on the top and the three sides; and	Within construction site / Duration of the construction phase	1
			 Before debris is dumped into a chute, water should be sprayed so that it remains wet when it is dumped. Transport of Dusty Materials Vehicle used for transporting dusty materials/spoils should be covered with tarpaulin or similar material. The cover should extend over the edges of the sides and tailboards. 	Within construction site / Duration of the construction phase	1
			Wheel washing Vehicle wheel washing facilities should be provided at each construction site exit. Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels.	Within construction site / Duration of the construction phase	I
			 Use of vehicles The speed of the trucks within the site should be controlled to about 10km/hour in order to reduce adverse dust impacts and secure the safe movement around the site; 	Within construction site / Duration of the construction phase	I
			 Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels; and 		
			 Where a vehicle leaving the construction site is carrying a load of dusty materials, the load should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle. 		
			Site hoarding • Where a site boundary adjoins a road, street, service lane or other area accessible to the public, hoarding of not less than 2.4m high from ground level should be provided along the entire length of that portion of the site boundary except for a site entrance or exit.	Within construction site / Duration of the construction phase	I
5.2.6.5	2.1	-	Best Practices for Concrete Batching Plant The relevant best practices for dust control as stipulated in the Guidance Note on the Best Practicable Means for Cement Works (Concrete Batching Plant) BPM 3/2 as well as in the future Specified Process licence should be adopted. The best practices are recommended to be applied to both the land based and floating concrete batching plants. Best practices include:	SS Duration of the	N/A
			Cement and other dusty materials		



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?
			• The loading, unloading, handling, transfer or storage of cement, pulverised fuel ash (PFA) and/or other equally dusty materials shall be carried in a totally enclosed system acceptable to EPD. All dust-laden air or waste gas generated by the process operations shall be properly extracted and vented to fabric filtering system to meet the required emission limit;		
			• Cement, PFA and/or other equally dusty materials shall be stored in storage silo fitted with audible high level alarms to warn of over-filling. The high-level alarm indicators shall be interlocked with the material filling line such that in the event of the silo approaching an overfilling condition, an audible alarm will operate, and after 1 minute or less the material filling line will be closed;		
			 Vents of all silos shall be fitted with fabric filtering system to meet the required emission limit; 		
			 Vents of cement/PFA weighing scale shall be fitted with fabric filtering system to meet the required emission limit; and 		
			 Seating of pressure relief valves of all silos shall be checked, and the valves re-seated if necessary, before each delivery. 		
			Other raw materials	Within Concrete	N/A
			 The loading, unloading, handling, transfer or storage of other raw materials which may generate airborne dust emissions such as crushed rock, sand, stone aggregate, shall be carried out in such a manner to prevent or minimize dust emissions; 	Batching Plant / Duration of the construction phase	
			 The materials shall be adequately wetted prior to and during the loading, unloading and handling operations. Manual or automatic water spraying system shall be provided at all unloading areas, stock piles and material discharge points; 		
			 All receiving hoppers for unloading relevant materials shall be enclosed on three sides up to 3 m above the unloading point. In no case shall these hoppers be used as the material storage devices; 		
			• The belt conveyor for handling materials shall be enclosed on top and two sides with a metal board at the bottom to eliminate any dust emission due to wind-whipping effect. Other type of enclosure will also be accepted by EPD if it can be demonstrated that the proposed enclosure can achieve same performance;		
			 All conveyor transfer points shall be totally enclosed. Openings for the passage of conveyors shall be fitted with adequate flexible seals; 		
			 Scrapers shall be provided at the turning points of all conveyors to remove dust adhered to the belt surface; 		
			 Conveyors discharged to stockpiles of relevant materials shall be arranged to minimize free fall as far as practicable. All free falling transfer points from conveyors to stockpiles shall be enclosed with chute(s) and water sprayed; 		
			 Aggregates with a nominal size less than or equal to 5 mm should be stored in totally enclosed structure such as storage bin and should not be handled in open area. Where there is sufficient buffer area surrounding the concrete batching plant, ground stockpiling may be used; 		



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			 The stockpile shall be enclosed at least on top and three sides and with flexible curtain to cover the entrance side; 		
			 Aggregates with a nominal size greater than 5 mm should preferably be stored in a totally enclosed structure. If open stockpiling is used, the stockpile shall be enclosed on three sides with the enclosure wall sufficiently higher than the top of the stockpile to prevent wind whipping; and 		
			■ The opening between the storage bin and weighing scale of the materials shall be fully enclosed.	Within Concrete Batching Plant / Duration of the construction phase Within Concrete Batching Plant / Duration of the construction phase Within Concrete Batching Plant / Duration of the construction phase	
			Loading of materials for batching		N/A
			Concrete truck shall be loaded in such a way as to minimise airborne dust emissions. The following control measures shall be implemented:		
			(a) Pre-mixing the materials in a totally enclosed concrete mixer before loading the materials into the concrete truck is recommended. All dust-laden air generated by the pre-mixing process as well as the loading process shall be totally vented to fabric filtering system to meet the required emission limit; and		
			(b) If truck mixing batching or other types of batching method is used, effective dust control measures acceptable to EPD shall be adopted. The dust control measures must have been demonstrated to EPD that they are capable to collect and vent all dust-laden air generated by the material loading/mixing to dust arrestment plant to meet the required emission limit.		
			The loading bay shall be totally enclosed during the loading process.		
			Vehicles		N/A
			 All practicable measures shall be taken to prevent or minimize the dust emission caused by vehicle movement; and 		
			 All access and route roads within the premises shall be paved and adequately wetted. 		
			Housekeeping		N/A
			A high standard of housekeeping shall be maintained. All spillages or deposits of materials on ground, support structures or roofs shall be cleaned up promptly by a cleaning method acceptable to EPD. Any dumping of materials at open area shall be prohibited.		
5.2.6.6	2.1	-	Best Practices for Asphaltic Concrete Plant	Within Concrete Batching Plant / Duration of the construction phase	N/A
			The relevant best practices for dust control as stipulated in the Guidance Note on the Best Practicable Means for Tar and Bitumen Works (Asphaltic Concrete Plant) BPM 15 (94) as well as in the future Specified Process licence should be adopted. These include:		
			Design of Chimney		
			• The chimney shall not be less than 3 metres plus the building height or 8 metres above ground level, whichever is the greater;		
			■ The efflux velocity of gases from the main chimney shall not be less than 12 m/s at full load condition;		

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EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented? ⁴
			■ The flue gas exit temperature shall not be less than the acid dew point; and		
			 Release of the chimney shall be directed vertically upwards and not be restricted or deflected. 		
			Cold feed side		N/A
			 The aggregates with a nominal size less than or equal to 5 mm shall be stored in totally enclosed structure such as storage bin and shall not be handled in open area; 		
			• Where there is sufficient buffer area surrounding the plant, ground stockpiling may be used. The stockpile shall be enclosed at least on top and three sides and with flexible curtain to cover the entrance side. If these aggregates are stored above the feeding hopper, they shall be enclosed at least on top and three sides and be wetted on the surface to prevent wind-whipping;		
			• The aggregates with a nominal size greater than 5 mm should preferably be stored in totally enclosed structure. Aggregates stockpile that is above the feeding hopper shall be enclosed at least on top and three sides. If open stockpiling is used, the stockpiles shall be enclosed on three sides with the enclosure wall sufficiently higher than the top of the stockpile to prevent wind whipping;		
			 Belt conveyors shall be enclosed on top and two sides and provided with a metal board at the bottom to eliminate any dust emission due to the wind-whipping effect. Other type of enclosure will also be accepted by EPD if it can be demonstrated that the proposed enclosure can be achieve the same performance; 		
			 Scrapers shall be provided at the turning points of all belt conveyors inside the chute of the transfer points to remove dust adhered to the belt surface; 		
			 All conveyor transfer points shall be totally enclosed. Openings for the passages of conveyors shall be fitted with adequate flexible seals; and 		
			 All materials returned from dust collection system shall be transferred in enclosed system and shall be stored inside bins or enclosures. 		
			Hot feed side		N/A
			• The inlet and outlet of the rotary dryer shall be enclosed and ducted to a dust extraction and collection system such as a fabric filter. The particulate and gaseous concentration at the exhaust outlet of the dust collector shall not exceed the required limiting values;		
			 The bucket elevator shall be totally enclosed and the air be extracted and ducted to a dust collection system to meet the required particulates limiting value; 		
			 All vibratory screens shall be totally enclosed and dust tight with close-fitted access inspection opening. Gaskets shall be installed to seal off any cracks and edges of any inspection openings; 		
			 Chutes for carrying hot material shall be rigid and preferably fitted with abrasion resistant plate inside. They shall be inspected daily for leakages; 		



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures Within Concrete Batching Plant / Duration of the construction phase Within Concrete Batching Plant / Duration of the construction phase	Mitigation Measures Implemented?^
			 Appropriate control measures shall be adopted in order to meet the required bitumen emission limit as well as the ambient odour level (2 odour units). 		
			Material transportation		N/A
			 The loading, unloading, handling, transfer or storage of other raw materials which may generate airborne dust emissions such as crushed rocks, sands, stone aggregates, reject fines, shall be carried out in such a manner as to minimize dust emissions; 		
			 Roadways from the entrance of the plant to the product loading points and/or any other working areas where there are regular movements of vehicles shall be paved or hard surfaced; and 		
			 Haul roads inside the Works shall be adequately wetted with water and/or chemical suppressants by water trucks or water sprayers. 		
			Control of emissions from bitumen decanting		N/A
			 The heating temperature of the particular bitumen type and grade shall not exceed the corresponding temperature limit of the same type listed in Appendix 1 of the Guidance Note; 		
			 Tamper-free high temperature cut-off device shall be provided to shut off the fuel supply or electricity in case the upper limit for bitumen temperature is reached; 		
			 Proper chimney for the discharge of bitumen fumes shall be provided at high level; 		
			 The emission of bitumen fumes shall not exceed the required emission limit; and 		
			The air-to-fuel ratio shall be properly controlled to allow complete combustion of the fuel. The fuel burners, if any, shall be maintained properly and free from carbon deposits in the burner nozzles.		
			Liquid fuel		N/A
			 The receipt, handling and storage of liquid fuel shall be carried out so as to prevent the release of emissions of organic vapours and/or other noxious and offensive emissions to the air. 		
			Housekeeping	Within Concrete	N/A
			A high standard of housekeeping shall be maintained. Waste material, spillage and scattered piles gathered beneath belt conveyors, inside and around enclosures shall be cleared frequently. The minimum clearing frequency is on a weekly basis.	Batching Plant / Duration of the construction phase	
5.2.6.7	2.1	The relevant be Means for Mine	Best Practices for Rock Crushing Plants	Within Concrete	N/A
			The relevant best practices for dust control as stipulated in the Guidance Note on the Best Practicable Means for Mineral Works (Stone Crushing Plant) BPM 11/1 (95) as well as in the future Specified Process licence should be adopted. These include:	Batching Plant / Duration of the construction phase	



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			Crushers		
			• The outlet of all primary crushers, and both inlet and outlet of all secondary and tertiary crushers, if not installed inside a reasonably dust tight housing, shall be enclosed and ducted to a dust extraction and collection system such as a fabric filter;		
			• The inlet hopper of the primary crushers shall be enclosed on top and 3 sides to contain the emissions during dumping of rocks from trucks. The rock while still on the trucks shall be wetted before dumping;		
			 Water sprayers shall be installed and operated in strategic locations at the feeding inlet of crushers; and 		
			 Crusher enclosures shall be rigid and be fitted with self-closing doors and close-fitting entrances and exits. Where conveyors pass through the crusher enclosures, flexible covers shall be installed at entries and exits of the conveyors to the enclosure. 		
			Vibratory screens and grizzlies	Within Concrete	N/A
			• All vibratory screens shall be totally enclosed in a housing. Screenhouses shall be rigid and reasonably dust tight with self-closing doors or close-fitted entrances and exits for access. Where conveyors pass through the screenhouse, flexible covers shall be installed at entries and exits of the conveyors to the housing. Where containment of dust within the screenhouse structure is not successful then a dust extraction and collection system shall be provided; and	Batching Plant / Duration of the construction phase	
			 All grizzlies shall be enclosed on top and 3 sides and sufficient water sprayers shall be installed at their feeding and outlet areas. 		
			Belt conveyors	Within Concrete	N/A
			 Except for those conveyors which are placed within a totally enclosed structure such as a screenhouse or those erected at the ground level, all conveyors shall be totally enclosed with windshield on top and 2 sides; 	Batching Plant / Duration of the construction phase	
			• Effective belt scraper such as the pre-cleaner blades made by hard wearing materials and provided with pneumatic tensioner, or equivalent device, shall be installed at the head pulley of designated conveyor as required to dislodge fine dust particles that may adhere to the belt surface and to reduce carry-back of fine materials on the return belt. Bottom plates shall also be provided for the conveyor unless it has been demonstrated that the corresponding belt scraper is effective and well maintained to prevent falling material from the return belt; and		
			Except for those transfer points which are placed within a totally enclosed structure such as a screenhouse, all transfer points to and from conveyors shall be enclosed. Where containment of dust within the enclosure is not successful, then water sprayers shall be provided. Openings for any enclosed structure for the passage of conveyors shall be fitted with flexible seals.		



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			Storage piles and bins • Where practicable, free falling transfer points from conveyors to stockpiles shall be fitted with flexible curtains or be enclosed with chutes designed to minimize the drop height. Water sprays shall also be used where required.	Within Concrete Batching Plant / Duration of the construction phase	N/A
			 The surface of all surge piles and stockpiles of blasted rocks or aggregates shall be kept sufficiently wet by water spraying wherever practicable; 		
			 All open stockpiles for aggregates of size in excess of 5 mm shall be kept sufficiently wet by water spraying where practicable; or 		
			• The stockpiles of aggregates 5 mm in size or less shall be enclosed on 3 sides or suitably located to minimize wind-whipping. Save for fluctuations in stock or production, the average stockpile shall stay within the enclosure walls and in no case the height of the stockpile shall exceed twice the height of the enclosure walls.		
			 Scattered piles gathered beneath belt conveyors, inside and around enclosures shall be cleared regularly. 		
			Rock drilling equipment Appropriate dust control equipment such as a dust extraction and collection system shall be used during rock drilling activities.	Within Concrete Batching Plant / Duration of the construction phase	N/A
			Hazard to Human Life – Construction Phase		
Table 6.40	3.2	-	■ Precautionary measures should be established to request barges to move away during typhoons.	Construction Site / Construction Period	I
Table 6.40	3.2	-	 An appropriate marine traffic management system should be established to minimize risk of ship collision. 	Construction Site / Construction Period	I
Table 6.40	3.2	-	■ Location of all existing hydrant networks should be clearly identified prior to any construction works.	Construction Site / Construction Period	ı
			Noise Impact – Construction Phase		
7.5.6	4.3	-	Good Site Practice Good site practice and noise management can significantly reduce the impact of construction site activities on nearby NSRs. The following package of measures should be followed during each phase of construction:	Within the Project site / During construction phase / Prior to	I
			 only well-maintained plant to be operated on-site and plant should be serviced regularly during the construction works; 	commencement of operation	
			 machines and plant that may be in intermittent use to be shut down between work periods or should be throttled down to a minimum; 		



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			plant known to emit noise strongly in one direction, should, where possible, be orientated to direct noise away from the NSRs;		
			mobile plant should be sited as far away from NSRs as possible; and		
			 material stockpiles and other structures to be effectively utilised, where practicable, to screen noise from on-site construction activities. 		
7.5.6	4.3	-	Adoption of QPME QPME should be adopted as far as applicable.	Within the Project site / During construction phase / Prior to commencement of operation	I
7.5.6	4.3	-	 Use of Movable Noise Barriers Movable noise barriers should be placed along the active works area and mobile plants to block the direct line of sight between PME and the NSRs. 	Within the Project site / During construction phase / Prior to commencement of operation	I
7.5.6	4.3	-	 Use of Noise Enclosure/ Acoustic Shed Noise enclosure or acoustic shed should be used to cover stationary PME such as air compressor and generator. 	Within the Project site / During construction phase / Prior to commencement of operation	I
			Water Quality Impact – Construction Phase		



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
8.8.1.2 and	5.1	2.26	Marine Construction Activities	Within construction	1
8.8.1.3			General Measures to be Applied to All Works Areas	site / Duration of the	
			 Barges or hoppers shall not be filled to a level which will cause overflow of materials or pollution of water during loading or transportation; 	construction phase	
			 Use of Lean Material Overboard (LMOB) systems shall be prohibited; 		
			 Excess materials shall be cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessels are moved; 		
			 Plants should not be operated with leaking pipes and any pipe leakages shall be repaired quickly; 		
			 Adequate freeboard shall be maintained on barges to reduce the likelihood of decks being washed by wave action; 		
			 All vessels shall be sized such that adequate clearance 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; 		
			 The works shall not cause foam, oil, grease, litter or other objectionable matter to be present in the water within and adjacent to the works site; and 		
			• For ground improvement activities including DCM, the wash water from cleaning of the drilling shaft should be appropriately treated before discharge. The Contractor should ensure the waste water meets the WPCO/TM requirements before discharge. No direct discharge of contaminated water is permitted.		
			Specific Measures to be Applied to All Works Areas	Within construction	
		the A fill sp Ar ste	 The daily maximum production rates shall not exceed those assumed in the water quality assessment in the EIA report; 	site / Duration of the construction phase	I
			 A maximum of 10 % fines content to be adopted for sand blanket and 20 % fines content for marine filling below +2.5 mPD prior to substantial completion of seawall (until end of Year 2017) shall be specified in the works contract document; 		
			 An advance seawall of at least 200m to be constructed (comprising either rows of contiguous permanent steel cells completed above high tide mark or partially completed seawalls with rock core to high tide mark and filter layer on the inner side) prior to commencement of marine filling activities; 		I
			 Closed grab dredger shall be used to excavate marine sediment; 		N/A
			 Silt curtains surrounding the closed grab dredger shall be deployed in accordance with the Silt Curtain Deployment Plan; and 		*(The arrangement silt curtain has beer modified. The detai can be referred to S Curtain Deploymen Plan)
			■ The Silt Curtain Deployment Plan shall be implemented.	=	1



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			Specific Measures to be Applied to Land Formation Activities prior to Commencement of Marine Filling Works Double layer 'Type III' silt curtains to be applied around the active eastern works areas prior to commencement of sand blanket laying activities. The silt curtains shall be configured to minimise SS release during ebb tides. A silt curtain efficiency test shall be conducted to validate the performance of the silt curtains; Double layer silt curtains to enclose WSRs C7a and silt screens installed at the intake points for both WSR C7a and C8 prior to commencement of construction; and	Within construction site / Duration of the construction phase	N/A *(The arrangement of silt curtain has been modified. The details can be referred to Silt Curtain Deployment Plan) For C7a, I For C8, I *(The requirement of silt curtain / screen has been modified. The details can be referred to Silt Curtain Deployment Plan)
			■ The silt curtains and silt screens should be regularly checked and maintained.	-	I
			 Specific Measures to be Applied to Land Formation Activities during Marine Filling Works Double layer 'Type II' or 'Type III' silt curtains to be applied around the eastern openings between partially completed seawalls prior to commencement of marine filling activities. The silt curtains shall be configured to minimise SS release during ebb tides; 	Within construction site / Duration of the construction phase	I *(The arrangement of silt curtain has been modified. The details can be referred to Silt Curtain Deployment Plan)
			 Double layer silt curtains to be applied at the south-western opening prior to commencement of marine filling activities; 		N/A *(The arrangement of silt curtain has been modified. The details can be referred to Silt Curtain Deployment Plan)
			 Double layer silt curtain to enclose WSR C7a and silt screens installed at the intake points for both WSR C7a and C8 prior to commencement of marine filling activities; and 		N/A *(The requirement of silt curtain / screen has been modified. The details can be referred to Silt Curtain Deployment Plan)
			The silt curtains and silt screens should be regularly checked and maintained.		



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			Specific Measures to be Applied to the Field Joint Excavation Works for the Submarine Cable Diversion Only closed grabs designed and maintained to avoid spillage shall be used and should seal tightly when operated. Excavated materials shall be disposed at designated marine disposal area in accordance with the Dumping at Sea Ordinance (DASO) permit conditions; and	Within construction site / Duration of the construction phase	N/A
			 Silt curtains surrounding the closed grab dredger to be deployed as a precautionary measure. 		
8.8.1.4	5.1	-	 Modification of the Existing Seawall Silt curtains shall be deployed around the seawall modification activities to completely enclose the active works areas, and care should be taken to avoid splashing of rockfill / rock armour into the surrounding marine environment. For the connecting sections with the existing outfalls, works for these connection areas should be undertaken during the dry season in order that individual drainage culvert cells may be isolated for interconnection works. 	At the existing northern seawall / Duration of the construction phase	N/A
8.8.1.5	5.1	-	Construction of New Stormwater Outfalls and Modifications to Existing Outfalls	Within construction site / Duration of the	N/A
			 During operation of the temporary drainage channel, runoff control measures such as bunding or silt fence shall be provided on both sides of the channel to prevent accumulation and release of SS via the temporary channel. Measures should also be taken to minimise the ingress of site drainage into the culvert excavations. 	construction phase	
8.8.1.6	5.1	2.27	Piling Activities for Construction of New Runway Approach Lights and HKIAAA Marker Beacons	Within construction	N/A
8.8.1.7			Silt curtains shall be deployed around the piling activities to completely enclose the piling works and care should be taken to avoid spillage of excavated materials into the surrounding marine environment.	site / Duration of the construction phase	
			For construction of the eastern approach lights at the CMPs		
			 Ground improvement via DCM using a close-spaced layout shall be completed prior to commencement of piling works; 		
			• Steel casings shall be installed to enclose the excavation area prior to commencement of excavation;		
			 The excavated materials shall be removed using a closed grab within the steel casings; 		
			 No discharge of the cement mixed materials into the marine environment will be allowed; and 		
			Excavated materials shall be treated and reused on-site.		
8.8.1.8	5.1	-	Construction of Site Runoff and Drainage The site practices outlined in ProPECC Note PN 1/94 should be followed as far as practicable in order to minimise surface runoff and the chance of erosion. The following measures are recommended:	Within construction site / Duration of the construction phase	
			 Install perimeter cut-off drains to direct off-site water around the site and implement internal drainage, erosion and sedimentation control facilities. Channels, earth bunds or sand bag barriers should be provided on site to direct storm water to silt removal facilities. The design of the temporary on-site 	-	I



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			drainage system should be undertaken by the Contractors prior to the commencement of construction (for works areas located on the existing Airport island) or as soon as the new land is completed (for works areas located on the new landform);	_	
			Sand/silt removal facilities such as sand/silt traps and sediment basins should be provided to remove sand/silt particles from runoff to meet the requirements of the TM-DSS standards under the WPCO. The design of efficient silt removal facilities should make reference to the guidelines in Appendix A1 of ProPECC Note PN 1/94. Sizes may vary depending upon the flow rate. The detailed design of the sand/silt traps should be undertaken by the Contractors prior to the commencement of construction;	_	I
			 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 during rainstorms. Deposited silt and grit should be regularly removed, at the onset of and after each rainstorm to ensure that these facilities are functioning properly; 	_	I
			 Measures should be taken to minimize the ingress of site drainage into excavations. If excavation of trenches in wet periods is necessary, they should be dug and backfilled in short sections wherever practicable. Water pumped out from foundation excavations should be discharged into storm drains via silt removal facilities; 	_	1
			• In the event that contaminated groundwater is identified at excavation areas, this should be treated onsite using a suitable wastewater treatment process. The effluent should be treated according to the requirements of the TM-DSS standards under the WPCO prior to discharge to foul sewers or collected for proper disposal off-site. No direct discharge of contaminated groundwater is permitted; and		N/A
			• 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 facility should be provided at construction site exits. Wash-water should have sand and silt settled out and removed regularly 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. All washwater should be treated according to the requirements of the TM-DSS standards under the WPCO prior to discharge.		I
8.8.1.9	5.1	-	Sewage Effluent from Construction Workforce	Within construction	1
			Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site where necessary to handle sewage from the workforce. A licensed contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance.	site / During construction phase	
8.8.1.10	5.1		General Construction Activities	Within construction	1
8.8.1.11			 Construction solid waste, debris and refuse generated on-site should be collected, handled and disposed of properly to avoid entering any nearby storm water drain. Stockpiles of cement and other construction materials should be kept covered when not being used; and 	site / During construction phase	



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures	Mitigation Measures
			Timing of completion of measures	Implemented?^	
			• Oils and fuels should only be stored in designated areas which have pollution prevention facilities. To prevent spillage of fuels and solvents to any nearby storm water drain, all fuel tanks and storage areas should be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank. The bund should be drained of rainwater after a rain event.		
8.8.1.12	5.1	2.28	Drilling Activities for the Submarine Aviation Fuel Pipelines	Within construction	1
8.8.1.13			To prevent potential water quality impacts at Sha Chau, the following measures shall be applied:	site / During	
			 A 'zero-discharge' policy shall be applied for all activities to be conducted at Sha Chau; 	construction phase	
			 No bulk storage of chemicals shall be permitted; and 		
			 A containment pit shall be constructed around the drill holes. This containment pit shall be lined with impermeable lining and bunded on the outside to prevent inflow from off-site areas. 		
			At the airport island side of the drilling works, the following measures shall be applied for treatment of wastewater:	Within construction site / During	I
			 During pipe cleaning, appropriate desilting or sedimentation device should be provided on site for treatment before discharge. The Contractor should ensure discharge water from the sedimentation tank meet the WPCO/TM requirements before discharge; and 	construction phase	
			 Drilling fluid used in drilling activities should be reconditioned and reused as far as possible. Temporary enclosed storage locations should be provided on-site for any unused chemicals that needs to be transported away after all the related construction activities are completed. The requirements in ProPECC Note PN 1/94 should be adhered to in the handling and disposal of bentonite slurries. 		
			Waste Management Implication – Construction Phase		
10.5.1.1	7.1	-	Opportunities to minimise waste generation and maximise the reuse of waste materials generated by the project have been incorporated where possible into the planning, design and construction stages, and the following measures have been recommended:		
			• The relevant construction methods (particularly for the tunnel works) and construction programme have been carefully planned and developed to minimise the extent of excavation and to maximise the on-site reuse of inert C&D materials generated by the project as far as practicable. Temporary stockpiling areas will also be provided to facilitate on-site reuse of inert C&D materials;	Project Site Area / During design and construction phase	1
			 Priority should be given to collect and reuse suitable inert C&D materials generated from other concurrent projects and the Government's PFRF as fill materials for the proposed land formation works; 		I
			 Only non-dredged ground improvement methods should be adopted in order to completely avoid the need for dredging and disposal of marine sediment for the proposed land formation work; 	•	I
			 Excavation work for constructing the APM tunnels, BHS tunnels and airside tunnels will not be down to the CMPs beneath the fill materials in order to avoid excavating any sediments; and 	•	1



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?
			■ For the marine sediments expected to be excavated from the piling works of TRC, APM & BHS tunnels, airside tunnels and other facilities on the proposed land formation area, piling work of marine sections of the approach lights and HKIAAA beacons, basement works for some of T2 expansion area and excavation works for the proposed APM depot should be treated and reused on-site as backfilling materials, although required treatment level / detail and the specific re-use mode are under development.		I
10.5.1.1	7.1	-	The following good site practices should be performed during the construction activities include:	Project Site Area /	I
			 Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site; 	Construction Phase	
		 Training of site personnel in proper waste management and chemical waste handling procedures; 			
			 Provision of sufficient waste disposal points and regular collection for disposal; 		
			 Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks by tarpaulin/similar material or by transporting wastes in enclosed containers. The cover should be extended over the edges of the sides and tailboards; 		
			 Stockpiles of C&D materials should be kept wet or covered by impervious sheets to avoid wind-blown dust; 		
			 All dusty materials including C&D materials should be sprayed with water immediately prior to any loading transfer operation so as to keep the dusty material wet during material handling at the barging points/ stockpile areas; 		
			 C&D materials to be delivered to and from the project site by barges or by trucks should be kept wet or covered to avoid wind-blown dust; 		
			 The speed of the trucks including dump trucks carrying C&D or waste materials within the site should be controlled to about 10 km/hour in order to reduce the adverse dust impact and secure the safe movement around the site; and 		
			To avoid or minimise dust emission during transport of C&D or waste materials within the site, each and every main temporary access should be paved with concrete, bituminous hardcore materials or metal plates and kept clear of dusty materials. Unpaved parts of the road should be sprayed with water or a dust suppression chemical so as to keep the entire road surface wet.		
10.5.1.3	7.1	-	The following practices should be performed to achieve waste reduction include:	Project Site Area /	I
			 Use of steel or aluminium formworks and falseworks for temporary works as far as practicable; 	Construction Phase	
			 Adoption of repetitive design to allow reuse of formworks as far as practicable; 		
			 Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal; 		



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			 Encourage collection of aluminium cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the work force; 		
			 Any unused chemicals or those with remaining functional capacity should be collected for reused as far as practicable; 		
			 Proper storage and site practices to minimise the potential for damage or contamination of construction materials; and 		
			 Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste. 		
10.5.1.5	7.1		 Inert and non-inert C&D materials should be handled and stored separately to avoid mixing the two types of materials. 	Project Site Area / Construction Phase	1
10.5.1.5	7.1	-	 Any recyclable materials should be segregated from the non-inert C&D materials for collection by reputable licensed recyclers whereas the non-recyclable waste materials should be disposed of at the designated landfill site by a reputable licensed waste collector. 	Project Site Area / Construction Phase	I
10.5.1.6	7.1	-	A trip-ticket system promulgated shall be developed in order to monitor the off-site delivery of surplus inert C&D materials that could not be reused on-site for the proposed land formation work at the PFRF and to control fly tipping.	Project Site Area / Construction Phase	I
10.5.1.6	7.1	2.32	 The Contractor should prepare and implement a Waste Management Plan detailing various waste arising and waste management practices. 	Construction Phase	I
10.5.1.16	7.1	-	The following mitigation measures are recommended during excavation and treatment of the sediments: On-site remediation should be carried out in an enclosed area in order to minimise odour/dust emissions;	Project Site Area / Construction Phase	I
			 The loading, unloading, handling, transfer or storage of treated and untreated sediment should be carried out in such a manner to prevent or minimise dust emissions; 		I
			 All practical measures, including but not limited to speed control for vehicles, should be taken to minimise dust emission; 		I
			 Good housekeeping should be maintained at all times at the sediment treatment facility and storage area; 		I
			■ Treated and untreated sediment should be clearly separated and stored separately; and	_	I
			 Surface runoff from the enclosed area should be properly collected and stored separately, and then properly treated to levels in compliance with the relevant effluent standards as required by the Water Pollution Control Ordinance before final discharge. 		ı
10.5.1.18	7.1	-	The marine sediments to be removed from the cable field joint area would be disposed of at the designated disposal sites to be allocated by the MFC. The following mitigation measures should be strictly	Project Site Area / Construction Phase	N/A



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			followed to minimise potential impacts on water quality during transportation of the sediments requiring Type 1 disposal:		
			 Bottom opening of barges shall be fitted with tight fitting seals to prevent leakage of material; 		
			 Monitoring of the barge loading shall be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels shall be equipped with automatic self-monitoring devices as specified by EPD; and 		
			 Barges or hopper barges shall not be filled to a level that would cause the overflow of materials or sediment laden water during loading or transportation. 		
10.5.1.19	7.1	-	Contractor should register with the EPD as a chemical waste producer and to follow the relevant guidelines. The following measures should be implemented:	Project Site Area / Construction Phase	1
			 Good quality containers compatible with the chemical wastes should be used; 		
			Incompatible chemicals should be stored separately;		
			 Appropriate labels must be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc.; and 		
			 The contractor will use a licensed collector to transport and dispose of the chemical wastes at the approved Chemical Waste Treatment Centre or other licensed recycling facilities, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation. 		
10.5.1.20	7.1	-	 General refuse should be stored in enclosed bins or compaction units separated from inert C&D material. A reputable waste collector should be employed by the contractor to remove general refuse from the site for disposal at designated landfill sites. An enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material. 	Project Site Area / Construction Phase	1
10.5.1.21	7.1	-	The construction contractors will be required to regularly check and clean any refuse trapped or accumulated along the newly constructed seawall. Such refuse will then be stored and disposed of together with the general refuse.	Project Site Area / Construction Phase	1
			Land Contamination – Construction Phase		
11.10.1.2	8.1	2.32	For areas inaccessible during site reconnaissance survey	Project Site Area	
to 11.10.1.3			• Further site reconnaissance would be conducted once the areas are accessible in order to identify any land contamination concern for the areas.	inaccessible during site reconnaissance / Prior to Construction Phase	I
			 Subject to further site reconnaissance findings, a supplementary Contamination Assessment Plan (CAP) for additional site investigation (SI) (if necessary) may be prepared and submitted to EPD for endorsement prior to the commencement of SI at these areas. 	-	I



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			• After completion of SI, the Contamination Assessment Report (CAR) will be prepared and submitted to EPD for approval prior to start of the proposed construction works at the golf course, the underground and above-ground fuel storage tank areas, emergency power generation units, airside petrol filling station and fuel tank room.		I *(CAR for golf course and Terminal 2 Emergency Power Supply System No.1)
			 Should remediation be required, Remediation Action Plan (RAP) and Remediation Report (RR) will be prepared for EPD's approval prior to commencement of the proposed remediation and any construction works respectively. 		N/A
11.8.1.2	8.1	-	If contaminated soil is identified, the following mitigation measures are for the excavation and transportation of contaminated materials (if any):	Project Site Area / Construction Phase	N/A
			 To minimize the incidents of construction workers coming in contact with any contaminated materials, bulk earth-moving excavation equipment should be employed; 		
			 Contact with contaminated materials can be minimised by wearing appropriate clothing and personal protective equipment such as gloves and masks (especially when working directly with contaminated material), provision of washing facilities and prohibition of smoking and eating on site; 		
			 Stockpiling of contaminated excavated materials on site should be avoided as far as possible; 		
			 The use of any contaminated soil for landscaping purpose should be avoided unless pre-treatment was carried out; 		
			 Vehicles containing any excavated materials should be suitably covered to reduce dust emissions and/or release of contaminated wastewater; 		
			 Truck bodies and tailgates should be sealed to prevent any discharge; 		
			 Only licensed waste haulers should be used to collect and transport contaminated material to treatment/disposal site and should be equipped with tracking system to avoid fly tipping; 		
			 Speed control for trucks carrying contaminated materials should be exercised. 8km/h is the recommended speed limit; 		
			 Strictly observe all relevant regulations in relation to waste handling, such as Waste Disposal Ordinance (Cap 354), Waste Disposal (Chemical Waste) (General) Regulation (Cap 354) and obtain all necessary permits where required; and 		
			 Maintain records of waste generation and disposal quantities and disposal arrangements. 		
			Terrestrial Ecological – Construction Phase		
12.10.1.1	9.2	2.14	Pre-construction Egretry Survey Conduct ecological survey for Sha Chau egretry to update the latest boundary of the egretry	Breeding season (April - July) prior to	I
			 Conduct ecological survey for Sha Chau egretry to update the latest boundary of the egretry. 	- July) prior to commencement of	



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?
12.7.2.3 9.1 2.30 and 12.7.2.6		2.30	Avoidance and Minimisation of Direct Impact to Egretry The daylighting location will avoid direct encroachment to the Sheung Sha Chau egretry. The daylighting location and mooring of flat top barge, if required, will be kept away from the egretry;	During construction phase at Sheung Sha Chau Island	I
			 In any event, controls such as demarcation of construction site boundary and confining the lighting within the site will be practised to minimise disturbance to off-site habitat at Sheung Sha Chau Island; and 		
			The containment pit at the daylighting location shall be covered or camouflaged.		
12.7.2.5	9.1	2.30	Preservation of Nesting Vegetation The proposed daylighting location and the arrangement of connecting pipeline will avoid the need of tree cutting, therefore the trees that are used by ardeids for nesting will be preserved.		1
12.7.2.4 and 12.7.2.6	9.1	2.30	Timing the Pipe Connection Works outside Ardeid's Breeding Season • All HDD and related construction works on Sheung Sha Chau Island will be scheduled outside the ardeids' breeding season (between April and July). No night-time construction work will be allowed on Sheung Sha Chau Island during all seasons.	During construction phase at Sheung Sha Chau Island	I
12.10.1.1	9.3	-	 Ecological Monitoring During the HDD construction works period from August to March, ecological monitoring will be undertaken monthly at the HDD daylighting location on Sheung Sha Chau Island to identify and evaluate any impacts with appropriate actions taken as required to address and minimise any adverse impact found. 	at Sheung Sha Chau Island	I
			Marine Ecological Impact – Pre-construction Phase		
13.11.4.1	10.2.2	-	■ Pre-construction phase Coral Dive Survey.	HKIAAA artificial seawall	I
			Marine Ecological Impact – Construction Phase		
13.11.1.3 to 13.11.1.6	-	-	Minimisation of Land Formation Area Minimise the overall size of the land formation needed for the additional facilities to minimise the overall loss of habitat for marine resources, especially the CWD population.	Land formation footprint / during detailed design phase to completion of construction	I
13.11.1.7 to 13.11.1.10	-	2.31	Use of Construction Methods with Minimal Risk/Disturbance Use of non-dredge method for the main land formation and ancillary works including the diversion of the aviation fuel pipeline to the AFRF;	During construction phase at marine works area	1
			 Use of Deep Cement Mixing (DCM) method instead of conventional seabed dredging for the land formation works to reduce the risk of negative impacts through the elevation of suspended solids and contaminants on CWDs, fisheries and the marine environment; 		I



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			 Use of bored piling in short duration to form the new approach lights and marker beacons for the new runway; 		N/A
			 Avoid bored piling during CWD peak calving season (Mar to Jun); 	-	I
			 Prohibition of underwater percussive piling; and 		I
			 Use of horizontal directional drilling (HDD) method and water jetting methods for placement of submarine cables and pipelines to minimise the disturbance to the CWDs and other marine ecological resources. 		I
13.11.2.1	-	-	Mitigation for Indirect Disturbance due to Deterioration of Water Quality	All works area during	
to 13.11.2.7			 Water quality mitigation measures during construction phases include consideration of alternative construction methods, deployment of silt curtain and good site practices; 	the construction phase	1
			 Alternative construction methods including use of non-dredge methods for ground improvement (e.g. Deep Cement Mixing (DCM), prefabricated vertical drains (PVD), sand compaction piles, steel cells, stone columns and vertical sand drains); 		I
			 Use of bored piling in short duration to form the new approach lights and marker beacons for the new runway; and 	_	N/A
			Use of horizontal directional drilling (HDD) method and water jetting methods for placement of undersea cables and pipelines to minimise the disturbance to the CWDs and other marine ecological resources.	-	1
13.11.1.12	-	-	Strict Enforcement of No-Dumping Policy	All works area during	I
			 A policy prohibiting dumping of wastes, chemicals, oil, trash, plastic, or any other substance that would potentially be harmful to dolphins and/or their habitat in the work area; 	the construction phase	
			 Mandatory educational programme of the no-dumpling policy be made available to all construction site personnel for all project-related works; 		
			Fines for infractions should be implemented; and		
			Unscheduled, on-site audits shall be implemented.		
13.11.1.13	-	-	 Good Construction Site Practices Regular inspection of the integrity and effectiveness of all silt curtains and monitoring of effluents to ensure that any discharge meets effluent discharge guidelines; Keep the number of working or stationary vessels present on-site to the minimum anytime; and Unscheduled, on-site audits for all good site practice restrictions should be conducted, and fines or penalties sufficient to be an effective deterrent need to be levied against violators. 	All works area during the construction phase	I
13.11.1.3	-	-	Minimisation of Land Formation Area	Land formation	1
to 13.11.1.6			 Minimise the overall size of the land formation needed for the additional facilities to minimise the overall loss of habitat for marine resources, especially the CWD population. 	footprint / during detailed design phase	



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures	Mitigation Measures
				Timing of completion of measures	Implemented?^
				to completion of construction	
13.11.5.4	10.3.1	-	SkyPier High Speed Ferries' Speed Restrictions and Route Diversions	Area between the	I
to 13.11.5.13			SkyPier HSFs operating to / from Zhuhai and Macau would divert north of SCLKC Marine Park with a 15 knot speed limit to apply for the part-journeys that cross high CWD abundance grid squares as indicatively shown in Drawing No. MCL/P132/EIA/13-023 of the EIA Report. Both the alignment of the northerly route and the portion of routings to be subject to the speed limit of 15 knots shall be finalised prior to commencement of construction based on the future review of up-to-date CWD abundance and EM&A data and taking reference to changes in total SkyPier HSF numbers; and	footprint and SCLKC Marine Park during construction phase	
			■ A maximum of 10 knots will be enforced through the designated SCLKC Marine Park area at all times.		
			Other mitigation measures	Area between the	I
			 The ET will audit various parameters including actual daily numbers of HSFs, compliance with the 15-knot speed limit in the speed control zone and diversion compliance for SkyPier HSFs operating to / from Zhuhai and Macau; and 	footprint and SCLKC Marine Park during construction phase	
			 The effectiveness of the CWD mitigation measures after implementation of initial six month SkyPier HSF diversion and speed restriction will be reviewed. 		
13.11.5.14	10.3.1	2.31	Dolphin Exclusion Zone	Marine waters around	
to 13.11.5.18			 Establishment of a 24 hr Dolphin Exclusion Zone (DEZ) with a 250 m radius around the land formation works areas; 	land formation works area during construction phase	I
			 A DEZ would also be implemented during ground improvement works (e.g. DCM), water jetting works for submarine cables diversion, open trench dredging at the field joint locations and seawall construction; and 		I
			 A DEZ would also be implemented during bored piling work but as a precautionary measure only. 		N/A
13.11.5.19	10.4	2.31	Acoustic Decoupling of Construction Equipment	Around coastal works	1
			 Air compressors and other noisy equipment that must be mounted on steel barges should be acoustically-decoupled to the greatest extent feasible, for instance by using rubber or air-filled tyres; and 	area during construction phase	
			 Specific acoustic decoupling measures shall be specified during the detailed design of the project for use during the land formation works. 		
13.11.5.20	10.6.1	2.29	Spill Response Plan	Construction phase	1
			 An oil and hazardous chemical spill response plan is proposed to be established during the construction phase as a precautionary measure so that appropriate actions to prevent or reduce risks to CWDs can be undertaken in the event of an accidental spillage. 		



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
13.11.5.21 to 13.11.5.23	10.6.1	-	Construction Vessel Speed Limits and Skipper Training A speed limit of 10 knots should be strictly observed for construction vessels at areas with the highest CWD densities; and Vessels traversing through the work areas should be required to use predefined and regular routes (which would presumably become known to resident dolphins) to reduce disturbance to cetaceans due to vessel movements. Specific marine routes shall be specified by the Contractor prior to construction commencing.	All areas north and west of Lantau Island during construction phase	I
			Fisheries Impact – Construction Phase		
14.9.1.2 to 14.9.1.5	-		Minimisation of Land Formation Area Minimise the overall size of the land formation needed for the additional facilities to minimise the overall loss of habitat for fisheries resources.	Land formation footprint / during detailed design phase to completion of construction	I
14.9.1.6	-	-	Use of Construction Methods with Minimal Risk/Disturbance Use of non-dredge method for the main land formation and ancillary works including the diversion of the aviation fuel pipeline to the AFRF;	During construction phase at marine works area	1
			 Use of Deep Cement Mixing (DCM) method instead of conventional seabed dredging for the land formation works to reduce the risk of negative impacts through the elevation of suspended solids and contaminants on fisheries and the marine environment; 	-	1
			 Use of bored piling in short duration to form the new approach lights and marker beacons for the new runway; and 	_	N/A
			 Use of horizontal directional drilling (HDD) method and water jetting methods for placement of undersea cables and pipelines to minimise the disturbance to fisheries resources. 	_	I
14.9.1.11	-		Strict Enforcement of No-Dumping Policy • A policy prohibiting dumping of wastes, chemicals, oil, trash, plastic, or any other substance that would potentially be harmful to dolphins and/or their habitat in the work area;	All works area during the construction phase	I
			 Mandatory educational programme of the no-dumpling policy be made available to all construction site personnel for all project-related works; 		
			• Fines for infractions should be implemented; and		
440446			Unscheduled, on-site audits shall be implemented.	All made and don't	
14.9.1.12	-		 Good Construction Site Practices Regular inspection of the integrity and effectiveness of all silt curtains and monitoring of effluents to ensure that any discharge meets effluent discharge guidelines; Keep the number of working or stationary vessels present on-site to the minimum anytime; and 	All works area during the construction phase	1



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			 Unscheduled, on-site audits for all good site practice restrictions should be conducted, and fines or penalties sufficient to be an effective deterrent need to be levied against violators. 		
14.9.1.13	-		Mitigation for Indirect Disturbance due to Deterioration of Water Quality	All works area during	
to 14.9.1.18			 Water quality mitigation measures during construction phases include consideration of alternative construction methods, deployment of silt curtain and good site practices; 	the construction phase	1
			Alternative construction methods including use of non-dredge methods for ground improvement (e.g. Deep Cement Mixing (DCM), prefabricated vertical drains (PVD), sand compaction piles, steel cells, stone columns and vertical sand drains);	_	I
			 Use of bored piling in short duration to form the new approach lights and marker beacons for the new runway; and 	_	N/A
			 Use of horizontal directional drilling (HDD) method and water jetting methods for placement of undersea cables and pipelines to minimise the disturbance to fisheries resources. 		I
			Landscape and Visual Impact – Construction Phase		
Table 15.6	12.3	-	CM1 - The construction area and contractor's temporary works areas should be minimised to avoid impacts on adjacent landscape.	All works areas for duration of works;	I
				Upon handover and completion of works.	
Table 15.6	12.3	-	CM2 - Reduction of construction period to practical minimum.	All works areas for duration of works;	I
				Upon handover and completion of works.	
Table 15.6	12.3	-	CM3 - Phasing of the construction stage to reduce visual impacts during the construction phase.	All works areas for duration of works;	I
				Upon handover and completion of works.	
Table 15.6	12.3	-	CM4 - Construction traffic (land and sea) including construction plants, construction vessels and barges should be kept to a practical minimum.	All works areas for duration of works;	I
				Upon handover and completion of works.	
Table 15.6	12.3	-	CM5 - Erection of decorative mesh screens or construction hoardings around works areas in visually unobtrusive colours.	All works areas for duration of works;	I
				Upon handover and completion of works. –	



	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion	Mitigation Measures Implemented?^
				of measures	
				may be disassembled in phases	
Table 15.6	12.3	-	CM6 - Avoidance of excessive height and bulk of site buildings and structures.	New passenger concourse, terminal 2 expansion and other proposed airport related buildings and structures under the project; Upon handover and completion of works.	N/A
Table 15.6	12.3	-	CM7 - Control of night-time lighting by hooding all lights and through minimisation of night working periods.	All works areas for duration of works;	1
				Upon handover and completion of works. – may be disassembled in phases	
Table 15.6	12.3	2.3 -	Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall	All existing trees to be retained;	1
			be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in contractor's works areas.	Upon handover and completion of works.	
Table 15.6	12.3	-	CM9 - Trees unavoidably affected by the works shall be transplanted where practical. A detailed Tree Transplanting Specification shall be provided in the Contract Specification, if applicable. Sufficient time for	All existing trees to be affected by the works;	1
			necessary tree root and crown preparation periods shall be allowed in the project programme.	Upon handover and completion of works.	
Table 15.6 12	12.3	-	CM10 - Land formation works shall be followed with advanced hydroseeding around taxiways and runways as soon as practical.	All affected existing grass areas around runways and verges/Duration of works;	N/A
				Upon handover and completion of works.	
			Cultural Heritage Impact - Construction Phase		
			Not applicable.		



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			Health Impact - Aircraft Emissions		
			Not applicable.		
			Health Impact - Aircraft Noise		
			Not applicable.		

Notes:

I= implemented where applicable;

N/A= not applicable to the construction works implemented during the reporting month. ^ Checked by ET through site inspection and record provided by the Contractor.

Appendix C. Monitoring Schedule

Monitoring Schedule of This Reporting Period

Jan-20

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2 Site Inspection	Site Inspection AR1A, AR2	4
5	6	7	8	WQ General & Regular DCM mid-ebb: 05:05 mid-flood: 13:04 9	10	WQ General & Regular DCM mid-ebb: 06:36 mid-flood: 14:20
	CWD Survey (Vessel)	Site Inspection CWD Survey (Vessel) WQ General & Regular DCM	CWD Survey (Land-based) AR1A, AR2 NM1A, NM4, NM5, NM6	Site Inspection WQ General & Regular DCM	Site Inspection CWD Survey (Vessel)	WQ General & Regular DCM
		mid-ebb: 10:16 mid-flood: 15:55		mid-ebb: 12:00 mid-flood: 17:13		mid-ebb: 13:31 mid-flood: 08:21
12	CWD Survey (Vessel) AR1A, AR2 NM1A, NM4, NM5, NM6	mid-flood: 15:55 14 Site Inspection CWD Survey (Land-based)	15 CWD Survey (Vessel)	16 Site Inspection CWD Survey (Vessel)	Site Inspection CWD Survey (Vessel)	mid-flood: 08:21 18 AR1A, AR2
		WQ General & Regular DCM mid-ebb: 15:49 mid-flood: 10:29		WQ General & Regular DCM mid-ebb: 17:39 mid-flood: 11:59		WQ General & Regular DCM mid-ebb: 06:40 mid-flood: 13:37
19	20	Site Inspection WQ General & Regular DCM mid-ebb: 10:55 mid-flood: 16:00	Site Inspection CWD Survey (Vessel)	Site Inspection WQ General & Regular DCM mid-ebb: 12:31 mid-flood: 17:26	Site Inspection AR1A, AR2 NM1A, NM4, NM5, NM6	WQ General & Regular DCM mid-ebb: 13:43 mid-flood: 08:31
26	27	28	29 Site Inspection	30 Site Inspection	31 Site Inspection	
		WQ General & Regular DCM mid-ebb: 15:25 mid-flood: 10:03	NM4, NM6	AR1A, AR2 NM1A, NM5 WQ General & Regular DCM mid-ebb: 16:33 mid-flood: 10:48		
		Notes: CWD - Chinese White Dolphin Air quality and Noise Monitoring Station WQ - Water Quality DCM - Deep Cement Mixing	NM1A/AR1A - Man Tung Road Park NM4 - Ching Chung Hau Po Woon Pi NM5/AR2 - Village House, Tin Sum NM6 - House No. 1, Sha Lo Wan	rimary School		

Tentative Monitoring Schedule of Next Reporting Period

Feb-20

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
						WQ General & Regular DCM
						mid-ebb: 18:16
						mid-flood: 11:47
2	3	4	5	6	7	8
		Site Inspection		Site Inspection	Site Inspection	
			AR1A, AR2			
			NM1A, NM4, NM5, NM6			
			141171, 1411-1, 14110, 14110			
		WQ General & Regular DCM		WQ General & Regular DCM		WQ General & Regular DCM
		mid-ebb: 08:2	21	mid-ebb: 10:56		mid-ebb: 12:36
	10	mid-flood: 13:5		mid-flood: 15:56		mid-flood: 17:46
9	10	11	12	13	14	15
	CMD Common (Massel)	Site Inspection	CWD Survey (Land-based)	Site Inspection CWD Survey (Land-based)	Site Inspection CWD Survey (Vessel)	
	CWD Survey (Vessel)	CWD Survey (Vessel) AR1A, AR2	CWD Survey (Land-based)	CWD Survey (Land-based)	CWD Survey (vessel)	
		NM1A, NM4, NM5, NM6				
		WQ General & Regular DCM		WQ General & Regular DCM		WQ General & Regular DCM
		mid-ebb: 14:4 mid-flood: 09:1		mid-ebb: 16:12 mid-flood: 10:25		mid-ebb: 18:06 mid-flood: 11:41
16	17	18	19	20	21	22
10	17	Site Inspection	Site Inspection	Site Inspection	Site Inspection	22
	CWD Survey (Vessel)	CWD Survey (Vessel)	Site inspection	CWD Survey (Vessel)	CWD Survey (Vessel)	
	AR1A, AR2	5112 Sulvey (18888)		CTTZ Currey (Tooses)	0112 04115) (10000)	AR1A, AR2
	NM1A, NM4, NM5, NM6					
		WQ General & Regular DCM mid-ebb: 09:4	11	WQ General & Regular DCM mid-ebb: 11:46		WQ General & Regular DCM mid-ebb: 12:57
		mid-flood: 14:2		mid-flood: 16:33		mid-flood: 18:04
23	24	25	26	27	28	29
	I	Site Inspection		Site Inspection	Site Inspection	
	CWD Survey (Vessel)					
					AR1A, AR2	
					NM1A, NM4, NM5, NM6	
		WQ General & Regular DCM		WQ General & Regular DCM		WQ General & Regular DCM
		mid-ebb: 14:2	24	mid-ebb: 15:16		mid-ebb: 16:24
		mid-flood: 08:5		mid-flood: 09:22		mid-flood: 10:03
		Notes:				
		Contract Number - Site Inspection				
		CWD - Chinese White Dolphin				
			NM1A/AR1A - Man Tung Road Park	part Sahaal		
		Air quality and Noise Monitoring Station	NM4 - Ching Chung Hau Po Woon Prim NM5/AR2 - Village House, Tin Sum	iary scriour		
			NM6 - House No. 1, Sha Lo Wan			
		WQ - Water Quality				
		DCM - Deep Cement Mixing				

Appendix D. Monitoring Results

Mott MacDonald Expansion of Hong Kong International Airport into a Three-Runway	•
Air Quality Monitoring Posul	lte
Air Quality Monitoring Resu	lts

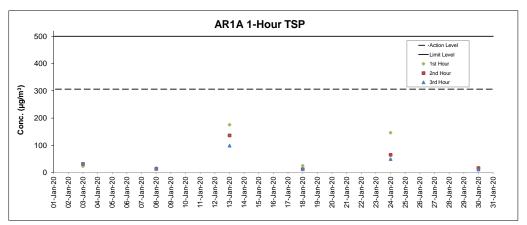
1-hour TSP Results

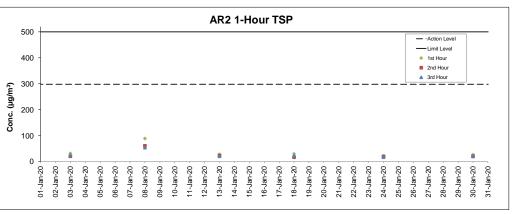
Station: AR1A- Man Tung Road Park

Date	Time	Weather	Wind Spood (m/s)	Wind Direction (deg)	1-hr TSP (µg/m³)	Action Level	Limit Level
Date	Time	weather	willu speeu (III/s)	willa Direction (deg)	1-111 13P (µg/111)	(μg/m³)	(μg/m³)
03-Jan-20	13:15	Sunny	3.9	256	23	306	500
03-Jan-20	14:15	Sunny	4.2	257	31	306	500
03-Jan-20	15:15	Sunny	4.4	253	32	306	500
08-Jan-20	13:30	Sunny	3.9	53	16	306	500
08-Jan-20	14:30	Sunny	8.1	102	13	306	500
08-Jan-20	15:30	Sunny	7.2	111	15	306	500
13-Jan-20	14:22	Cloudy	3.3	315	175	306	500
13-Jan-20	15:22	Cloudy	2.5	266	136	306	500
13-Jan-20	16:22	Cloudy	1.4	Variable	98	306	500
18-Jan-20	13:55	Cloudy	3.9	292	25	306	500
18-Jan-20	14:55	Cloudy	3.3	314	12	306	500
18-Jan-20	15:55	Cloudy	2.5	319	12	306	500
24-Jan-20	9:00	Sunny	4.2	48	146	306	500
24-Jan-20	10:00	Sunny	3.3	68	65	306	500
24-Jan-20	11:00	Sunny	5.8	77	49	306	500
30-Jan-20	13:24	Sunny	5.3	342	17	306	500
30-Jan-20	14:24	Sunny	5.0	357	16	306	500
30-Jan-20	15:24	Sunny	5.0	345	11	306	500

1-hour TSP Results

Station: ARZ- VIIIage	e nouse, rin s	um					
Date	Time	Weather	Wind Speed (m/s)	Wind Direction (deg)	1-hr TSP (μg/m³)	Action Level (μg/m³)	Limit Level (µg/m³)
03-Jan-20	9:30	Sunny	5.0	62	32	298	500
03-Jan-20	10:30	Sunny	4.2	70	21	298	500
03-Jan-20	11:30	Sunny	2.8	56	25	298	500
08-Jan-20	9:38	Sunny	5.3	44	89	298	500
08-Jan-20	10:38	Sunny	3.1	25	61	298	500
08-Jan-20	11:38	Sunny	5.3	56	54	298	500
13-Jan-20	9:32	Cloudy	3.9	43	28	298	500
13-Jan-20	10:32	Cloudy	2.5	39	24	298	500
13-Jan-20	11:32	Cloudy	3.3	38	21	298	500
18-Jan-20	9:31	Cloudy	4.2	54	30	298	500
18-Jan-20	10:31	Cloudy	2.8	54	17	298	500
18-Jan-20	11:31	Cloudy	2.2	5	23	298	500
24-Jan-20	9:22	Cloudy	3.9	63	22	298	500
24-Jan-20	10:22	Cloudy	4.2	79	20	298	500
24-Jan-20	11:22	Cloudy	5.8	83	17	298	500
30-Jan-20	9:23	Sunny	7.8	29	27	298	500
30-Jan-20	10:23	Sunny	6.7	0.1	21	298	500
30-Jan-20	11:23	Sunny	6.4	343	20	298	500





- Notes

 1. Major site activities carried out during the reporting period are summarized in Section 1.4 of the monthly EM&A report.
- Weather conditions during monitoring are presented in the data tables above.

 QA/QC requirements as stipulated in the EM&A Manual were carried out during measurement.

Noise Monitoring Results	

Mott MacDonald | Expansion of Hong Kong International Airport into a Three-Runway System

Noise Measurement Results

Station: NM1A- Man Tung Road Park

Data	Weather	Time	Measured	Measured	1
Date			L ₁₀ dB(A)	L ₉₀ dB(A)	L _{eq(30mins)} dB(A)
08-Jan-20	Sunny	13:44	66.2	48.9	
08-Jan-20	Sunny	13:49	69.8	50.1	
08-Jan-20	Sunny	13:54	68.0	49.9	68
08-Jan-20	Sunny	13:59	68.9	49.9	00
08-Jan-20	Sunny	14:04	68.2	51.2	
08-Jan-20	Sunny	14:09	69.1	52.7	
13-Jan-20	Cloudy	14:30	73.0	54.4	
13-Jan-20	Cloudy	14:35	73.2	54.7	
13-Jan-20	Cloudy	14:40	73.0	54.9	72
13-Jan-20	Cloudy	14:45	72.8	54.8	72
13-Jan-20	Cloudy	14:50	73.1	54.3	
13-Jan-20	Cloudy	14:55	73.1	53.7	
24-Jan-20	Sunny	9:15	71.6	52.9	
24-Jan-20	Sunny	9:20	73.3	53.6	
24-Jan-20	Sunny	9:25	73.4	52.4	72
24-Jan-20	Sunny	9:30	71.1	53.8	72
24-Jan-20	Sunny	9:35	73.9	54.3	
24-Jan-20	Sunny	9:40	74.6	54.7	
30-Jan-20	Sunny	14:35	68.9	57.2	
30-Jan-20	Sunny	14:40	69.7	60.8	
30-Jan-20	Sunny	14:45	68.9	59.2	71
30-Jan-20	Sunny	14:50	68.6	60.4	/1
30-Jan-20	Sunny	14:55	72.3	57.8	
30-Jan-20	Sunny	15:00	72.5	54.6	

Noise Measurement Results

Station: NM4- Ching Chung Hau Po Woon Primary School

Dete	Weather	Time	Measured	Measured	1
Date	weather	Time	L ₁₀ dB(A)	\mathbf{L}_{90} dB(A)	L _{eq(30mins)} dB(A)
08-Jan-20	Sunny	14:09	58.9	55.9	
08-Jan-20	Sunny	14:14	59.7	56.1	
08-Jan-20	Sunny	14:19	60.1	56.4	62
08-Jan-20	Sunny	14:24	61.1	56.2	
08-Jan-20	Sunny	14:29	60.2	56.4	
08-Jan-20	Sunny	14:34	61.2	55.6	
13-Jan-20	Sunny	14:43	62.4	57.5	
13-Jan-20	Sunny	14:48	62.7	58.3	
13-Jan-20	Sunny	14:53	64.9	58.4	64
13-Jan-20	Sunny	14:58	61.2	57.7	04
13-Jan-20	Sunny	15:03	61.7	57.3	
13-Jan-20	Sunny	15:08	62.2	57.9	
24-Jan-20	Cloudy	13:31	69.4	67.6	
24-Jan-20	Cloudy	13:36	66.4	66.1	
24-Jan-20	Cloudy	13:41	64.0	64.2	66
24-Jan-20	Cloudy	13:46	60.0	60.2	
24-Jan-20	Cloudy	13:51	63.2	62.7	
24-Jan-20	Cloudy	13:56	58.0	59.3	
29-Jan-20	Cloudy	13:57	61.1	54.2	
29-Jan-20	Cloudy	14:02	58.6	53.4	
29-Jan-20	Cloudy	14:07	58.9	53.8	61
29-Jan-20	Cloudy	14:12	59.9	54.0	
29-Jan-20	Cloudy	14:17	61.4	54.8	
29-Jan-20	Cloudy	14:22	61.2	55.1	

Remarks:

Remarks: +3dB (A) correction was applied to free-field measurement.

⁺³dB (A) correction was applied to free-field measurement.

Noise Measurement Results

Station: NM5- Village House, Tin Sum

	Weather	Time	Measured	Measured	
Date			L ₁₀ dB(A)	L ₉₀ dB(A)	L _{eq(30mins)} dB(A)
08-Jan-20	Sunny	9:41	56.6	49.3	
08-Jan-20	Sunny	9:46	55.7	49.0	
08-Jan-20	Sunny	9:51	56.7	47.9	56
08-Jan-20	Sunny	9:56	55.8	47.7	30
08-Jan-20	Sunny	10:01	56.6	48.8	
08-Jan-20	Sunny	10:06	55.2	48.3	
13-Jan-20	Sunny	10:37	66.6	49.9	
13-Jan-20	Sunny	10:42	57.9	49.1	
13-Jan-20	Sunny	10:47	53.5	49.0	64
13-Jan-20	Sunny	10:52	54.3	48.7	04
13-Jan-20	Sunny	10:57	70.3	50.2	
13-Jan-20	Sunny	11:02	56.0	47.9	
24-Jan-20	Cloudy	10:40	50.2	42.3	
24-Jan-20	Cloudy	10:45	48.2	40.1	
24-Jan-20	Cloudy	10:50	47.4	41.2	57
24-Jan-20	Cloudy	10:55	54.2	45.0	5/
24-Jan-20	Cloudy	11:00	57.0	46.2	
24-Jan-20	Cloudy	11:05	59.3	46.5	
30-Jan-20	Cloudy	10:48	58.5	48.8	
30-Jan-20	Cloudy	10:53	57.9	48.9	
30-Jan-20	Cloudy	10:58	57.7	50.5	58
30-Jan-20	Cloudy	11:03	55.9	50.0	58
30-Jan-20	Cloudy	11:08	59.0	51.0	
30-Jan-20	Cloudy	11:13	56.9	50.0	

Noise Measurement Results

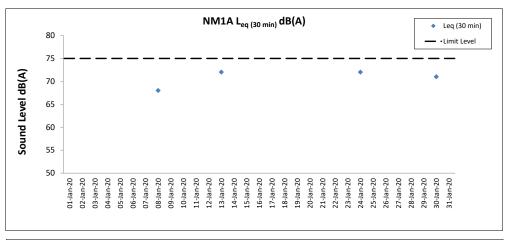
Station: NM6- House No.1 Sha Lo Wan

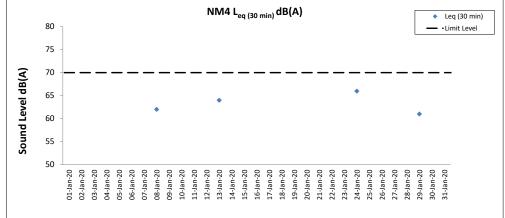
Date	Weather	Time	Measured	Measured	L _{ea(30mins)} dB(A)
			L ₉₀ dB(A)	Eeq(30mins) dD(A)	
08-Jan-20	Sunny	15:42	62.1	47.9	
08-Jan-20	Sunny	15:47	69.8	52.9	
08-Jan-20	Sunny	15:52	65.3	53.2	67
08-Jan-20	Sunny	15:57	66.6	50.4	07
08-Jan-20	Sunny	16:02	64.6	49.7	
08-Jan-20	Sunny	16:07	69.6	52.5	
13-Jan-20	Cloudy	15:41	74.7	48.3	
13-Jan-20	Cloudy	15:46	74.3	48.1	
13-Jan-20	Cloudy	15:51	73.4	49.4	68
13-Jan-20	Cloudy	15:56	70.0	54.4	08
13-Jan-20	Cloudy	16:01	60.2	48.0	
13-Jan-20	Cloudy	16:06	66.6	48.9	
24-Jan-20	Cloudy	15:45	73.5	52.4	
24-Jan-20	Cloudy	15:50	75.2	49.6	
24-Jan-20	Cloudy	15:55	72.5	50.4	71
24-Jan-20	Cloudy	16:00	75.0	54.3	/1
24-Jan-20	Cloudy	16:05	71.4	47.6	
24-Jan-20	Cloudy	16:10	70.5	48.2	
29-Jan-20	Cloudy	15:46	68.6	58.2	
29-Jan-20	Cloudy	15:51	75.5	57.5	
29-Jan-20	Cloudy	15:56	60.1	52.8	70
29-Jan-20	Cloudy	16:01	75.3	57.1	/0
29-Jan-20	Cloudy	16:06	74.6	58.8	
29-Jan-20	Cloudy	16:11	76.9	55.2	

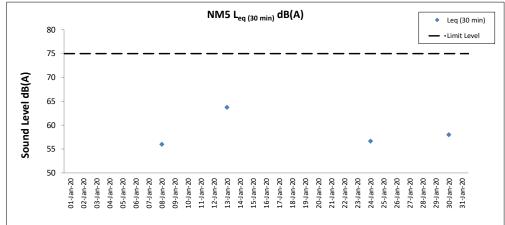
Remarks:

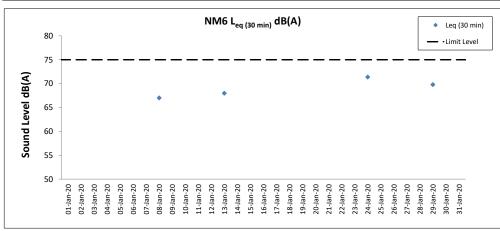
Remarks: +3dB (A) correction was applied to free-field measurement.

⁺³dB (A) correction was applied to free-field measurement.









Notes

- ${\bf 1.\ Major\ site\ activities\ carried\ out\ during\ the\ reporting\ period\ are\ summarized\ in\ Section\ {\bf 1.4\ of\ the\ monthly\ EM\&A\ report.}}$
- ${\bf 2.}\ We ather\ conditions\ during\ monitoring\ are\ presented\ in\ the\ data\ tables\ above.$
- ${\bf 3.\ QA/QC\ requirements\ as\ stipulated\ in\ the\ EM\&A\ Manual\ were\ carried\ out\ during\ measurement.}$

Mott MacDonald Expansion of Hong Kong International Airport into a Three-Runway System	
Water Quality Monitoring Result	S

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring Water Quality Monitoring Results on 02 January 20 during

02 January 20 during Mid-Ebb Tide

Martin	Water Qual	ity Monite	oring Resu	lts on		02 January 20	during Mid-	Ebb Tide)																					
0.000 0.000		Weather	Sea	Sampling	Water	Sampling D	enth (m)			Water Te	mperature (°C)		рН	Salin	ity (ppt)	DO S	aturation (%)			Turbidity(NTU)								Nickel	(µg/L)
	Station	Condition	Condition	Time	Depth (m)	Sampling D	epii (iii)	(m/s)	Direction	Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA	Value	DA			Value DA	Value	DA
Martin M						Surface					19.5		8.0		31.3		101.4													
The Model	04	Etc.		05.04	0.4	A C d dis					10.5		0.0		04.7		404.4		7.8		0.5		٦			045004	004050	×0.2		
Marie Mari	C1	Fine	woderate	05:21	8.4	Middle					19.5		8.0		31.7		101.1	7.8			8.5		° [89	88	815621	804256	<0.2	1.1	1.1
Part Modern Mod						Bottom					19.5		8.0		31.9		101.1	7.8	7.8				-	90				<0.2	1.1	
Fig. Modelle						Surface					20.4	7.9	7.0		20.2	92.2	02.2	7.0						85				<0.2	2.0	
Proper						Guilace					20.4		7.3						7.0				-						1.9	
Proper	C2	Fine	Moderate	05:44	10.6	Middle					20.4		7.9	31.1	31.1	91.9	91.9		ŀ		2.8		5		88	825705	806928	<0.2	2.0	2.0
Californ						Bottom			135	20.4	20.4		7.8	31.1	31.1	93.7	93.7	7.0	7.0	4.6		5	Į	90				<0.2	2.0	,
Part Modern Mod						1																							1.2	
Californ Models						Surface	1.0	0.2	111	20.1	20.1	7.8	7.8	31.9	31.9	92.8	92.8	7.0	7.0	2.4		6	t	86				<0.2	1.0	
Martin	C3	Fine	Moderate	04:08	11.9	Middle					20.1		7.8		32.0		92.8		٠.٠		4.6		8		88	822101	817786			1.1
Moderate Property of the prope						B					20.4		7.0		00.0		04.0						-							
Moderate						Bottom		0.2	124	20.1	20.1		7.8	32.2	32.2	91.8	91.8	6.9	6.9					91				<0.2	1.1	
Mary Free Moderate Modera						Surface					19.6		8.0		31.4		100.3		ŀ				-						1.1	
Mart	IM1	Fine	Moderate	05:30	5.3	Middle					_	-	_	-	_	-			7.7		6.7	-	۰	-	88	817960	807100		-	. 11
Martine Mart	IIVI I	1 1110	Woderate	03.55	5.5	Wildelie												- 70			0.7		ı .		00	017300	007103			
Fig. Moderate Page Moderate Page Moderate Page Moderate Page Moderate Page Page Moderate Page						Bottom					19.6		8.0		31.5		100.6		7.8				F	90				<0.2	1.1	
Moderate Pine Moderate Pine Moderate Pine Moderate Pine Pine Pine Moderate Pine Pine Pine Pine Pine Pine Pine Pin						Surface					19.7		8.0		31.0		98.3						-	86					1.1	
Moderate Pre		_																	7.6									-O 2		
Fig. Moderate C6:54 Fig. Suffice C6:57 Fig. Fig. Suffice C6:57 Fig. C6:57 Fig. Fig. Suffice C6:57 Fig. Fig. Fig. Suffice C6:57 Fig. Fig. Fig. Fig. Suffice C6:57 Fig.	IM2	Fine	Moderate	05:46	6.8	Middle	3.4	0.2	120	19.7	19.7	8.0	8.0	31.0	31.0	98.4	98.4	7.6		11.3	13.0	6	7	89	88	818144	806172	<0.2	1.1	1.1
M3 Fine Moderate 05.54 P.1 Surface 1.0 0.3 188 197 19.7 8.0 8.0 31.0 31.0 85. 85. 76 6 8.8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8						Bottom					19.7		8.0		31.1		98.7		7.6				-							
M3 Fine Moderate 05.4 7.1 Middle 3.5 0.3 11.2 11.7 19.7 19.7 19.7 19.7 19.7 19.7 19.7						Surface	1.0	0.3	136	19.7	10.7	8.0	9.0	31.0	21.0	98.5	00 5	7.6		6.8		8		86				<0.2	1.0	
Moderate						Guilace					13.7		0.0		31.0		30.3		7.6				-							
Report R	IM3	Fine	Moderate	05:54	7.1	Middle					19.7		8.0		31.0		98.5	7.6	ŀ		8.4		8	87	88	818768	805593		1.1	1.1
Moderate						Bottom					19.7		8.0		31.0		99.0		7.6				Į	90				<0.2	1.1	,
Moderate																														_
Middle M						Surface	1.0	0.5	146	19.7	19.7	8.0	8.0	30.9	30.9	98.8	98.8	7.6	76	5.8		5		86				<0.2	1.1	
Mathematical Registration Section Sectio	IM4	Fine	Moderate	06:01	6.9	Middle					19.7		8.0	30.9	30.9	99.1	99.1	7.7			6.8		8	88	88	819730	804620	<0.2	1.1	1.1
Note						Pottom					10.7		9.0		20.0		00.9	7.7	77	8.4			ŀ	90				<0.2	1.1	
Moderate Note Not						Bottom					15.7		0.0		30.9		33.0		1.1											
Moderate						Surface					19.7		8.0		31.0		98.8						ŀ	86					1.1	
Moderate	IM5	Fine	Moderate	06:07	7.3	Middle					19.7		8.0		31.1		98.7	7.6	7.6		8.4		8	88	88	820721	804885	<0.2	1.1	1.1
Moderate Noderate																					•							<0.2		
Mide Fine Moderate Fine Fi						Bottom	6.3	0.5	193	19.7	19.7	8.0	8.0	31.1	31.1	99.2	99.2	7.6	7.6	9.5		8		91				<0.2	1.0	
Moderate Fine Moderate Fine Fine Moderate Fine Fine Moderate Fine Fi						Surface					19.7		8.0		31.1		99.9													
Moderate	IMC	Fin a	Madazata	00:44	7.0	Middle					10.7		0.0		24.4		00.0		7.7		6.0		,			024000	005000	×0.2		
Note Fine Moderate Note Not	IIVIb	Fine	Moderate	06:14	1.2	Middle					19.7		8.0	31.1	31.1	99.9	99.9	7.7		6.5	6.8		4	87	88	821066	805809	<0.2	1.1	1.1
Moderate Fine Fine Moderate Fine Moderate Fine Fine Moderate Fine Fine Moderate Fine Fine Moderate Fine Fine Fine Moderate Fine Fine Fine Fine Moderate Fine						Bottom					19.7	8.0	8.0	31.2	31.2	100.6	100.7	7.8	7.8				-	89				<0.2	1.1	'n
HM Moderate Pine Moderate Pine Moderate Pine Moderate Pine Pine Moderate Pine Pine Moderate Pine Pine Pine Pine Pine Pine Pine Pin				İ		Surface	1.0	0.1	183	19.8	19.8	8.0	8.0	30.9	30.9	99.1	99.1	7.6		5.3		3		86				<0.2	1.2	=
Fine Moderate Mo																			7.7				-					-O 2		
HARM Fine Holes by the Holes have been supported by the Holes have	IM7	Fine	Moderate	06:21	7.6	Middle	3.8	0.3	175	19.7	19.7		8.0	31.2	31.2		99.6	7.7		7.6	7.4	4	5	89	88	821343	806826	<0.2	1.0	1.1
HM8 Fine Moderate 05:19 Fi						Bottom					19.7		8.0		31.2		99.8		7.7				F						1.1	.
Mide Fine Moderate Fine						0					20.0		7.0	30.7	20.7		00.0							86					1.8	=
Bottom 6.0 0.1 194 20.2 20.2 7.9 7.9 31.4 31.4 94.3 94.3 7.1 7.1 1.9 5 90 						Surface	1.0	0.1	175	20.2	20.2	7.9	7.9	30.7	30.7	93.0	93.0	7.0	7.1	1.0		5	ļ	86				<0.2	1.6	,
Bottom 6.0 0.1 194 20.2 20.2 7.9 7.9 31.4 31.4 94.3 94.3 7.1 7.1 1.9 5 90 	IM8	Fine	Moderate	05:19	7.0	Middle					20.2		7.9		30.8		93.4		· }		1.4		5	88	88	821822	808160		1.6	1.6
						Bottom	6.0	0.1	194	20.2	20.2	7.9	79	31.4	31 4	94.3	94.3	7.1	7.1				t	90				<0.2	1.6	,
A: Depth-Averaged	DA: Donth A:					Jottom	6.0	0.1	177	20.2	20.2	7.9		31.4	51.7	94.3	0 7.0	7.1		1.9		6		91				<0.2	1.6	

DA: Depth-Averaged
Cahr: Small or no wave; Moderate: Between cahr and rough; Rough: White capped or rougher
Value exceeding Action Level is underfined: Value exceeding Limit Level is bolded and underlined

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring

during Mid-Ebb Tide Water Quality Monitoring Results on 02 January 20 Suspended Solids Nickel (µg/L) Salinity (ppt) Turbidity(NTU) Water Water Temperature (°C) рΗ Coordinate Sampling Coordinate Monitoring Current (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value DA Value DA Value DA Value DA (Northing) (Easting) Value DA Value Value Average 0.2 93.5 7.1 1.0 0.2 168 20.2 30.7 1.2 86 <0.2 1.6 3.8 0.1 174 20.2 7.8 7.8 94.0 7.1 7.1 1.6 88 87 <0.2 1.6 IM9 Fine Moderate 05:14 7.5 Middle 31.1 2.2 88 822095 808826 <0.2 3.8 0.1 155 6 20.2 6.5 0.1 142 96.3 96.3 90 < 0.2 1.5 20.1 7.8 31.4 7.3 3.8 6 Bottom 20.1 7.8 31.4 96.3 7.3 7.8 31.4 6.5 0.1 148 3.8 91 16 20.1 <0.2 0.3 20.2 1.4 92.7 Surface 20.2 7.8 30.8 92.7 7.8 30.8 92.7 7.0 86 1.5 1.0 0.3 133 20.2 1.4 < 0.2 1.7 0.5 20.2 3.9 135 153 31.0 31.0 93.0 93.0 88 87 <0.2 7.8 7.0 1.1 IM10 Fine Moderate 05:08 7.7 Middle 20.2 7.8 31.0 93.0 88 822361 809794 <n 2 6.7 0.3 132 20.1 7.8 93.2 7.0 2.5 8 90 <0.2 1.6 31.5 7.8 31.5 93.2 7.0 Bottom 20.1 6.7 0.3 138 20.1 7.8 93.2 7.0 2.5 91 < 0.2 1.5 1.0 0.2 135 20.1 2.6 86 1.2 7.8 94.3 7.1 6 31.6 <0.2 Surface 20.1 7.8 31.6 94.3 1.0 0.3 139 20.1 7.8 31.6 94.3 2.6 86 <0.2 1.2 1.2 4.0 0.3 136 20.0 7.8 31.7 94.2 7.1 4.4 87 <0.2 IM11 822074 811474 Fine Moderate 04:58 7.9 Middle 20.0 7.8 31.7 94.2 88 <0.2 4.0 0.3 4.4 88 <0.2 20.0 6.9 133 20.0 7.8 94.8 7.2 5.1 <0.2 1.3 Rottom 20.0 7.8 31.7 94.8 72 6.9 0.2 134 20.0 7.8 31.7 94.8 7.2 5.1 90 1.2 127 7.8 95.2 95.2 7.2 3.9 86 <0.2 1.2 Surface 20.0 7.8 31.7 95.2 1.0 0.3 129 20.0 7.8 31.7 7.2 3.9 86 <0.2 1.2 4.2 0.3 126 19.9 9.0 88 <0.2 1.2 95.0 Middle 821451 812043 IM12 Fine Moderate 04:52 19.9 7.9 31.8 95.0 0.3 19.9 7.9 9.0 89 1.2 7.3 0.2 125 199 7.8 31.9 94.9 9.6 91 <0.2 1.1 Bottom 19.9 7.8 31.9 94.9 7.2 94.9 7.3 0.2 127 19.9 7.8 31.9 7.2 9.6 8 90 < 0.2 1.1 1.0 199 7.8 31.9 96.5 7.3 2.6 Surface 19.9 7.8 31.9 96.5 1.0 19.9 7.8 31.9 96.5 7.3 2.6 5 2.6 SR1A Fine Moderate 04:37 5.2 Middle 819977 812659 2.6 4.2 19.9 7.8 96.8 7.3 2.5 6 7.3 Bottom 19.9 7.8 32.0 96.8 4.2 19.9 7.8 32.0 96.8 7.3 2.5 6 1.0 0.2 129 19.9 7.8 96.6 7.3 2.1 86 <0.2 1.1 Surface 19.9 7.8 31.9 96.6 1.0 0.3 123 19.9 7.8 31.9 96.6 7.3 2.1 6 86 <0.2 1.1 SR2 Fine Moderate 04:26 4.8 Middle 821472 814161 <0.2 134 19.8 32.0 32.0 100.4 Bottom 100.4 3.8 0.3 135 19.8 7.8 7.6 27 90 <0.2 1.0 1.0 0.1 180 20.2 7.8 30.5 93.6 7.1 1.9 4 7.8 30.5 93.6 1.0 0.1 178 20.2 7.8 30.5 93.6 71 1.9 5 4.2 0.1 174 20.2 7.8 31.0 93.6 7.1 2.7 5 SR3 Fine Moderate 05:25 8.3 93.6 822125 807583 4.2 0.1 181 20.2 7.8 31.0 93.6 7.1 2.7 4 0.2 20.2 7.8 7.8 95.4 95.4 3.0 7.3 7.3 142 154 7.2 Bottom 7.8 31.2 95.4 7.2 1.0 0.3 87 19.8 7.9 30.6 97.5 7.5 6.6 Surface 19.8 7.9 30.6 97.5 97.5 6.7 7.2 1.0 0.3 19.8 7.9 30.6 7.5 88 8 -4.4 0.2 19.8 7.9 7.6 64 30.6 97.9 7.9 807804 SR4A Fine Moderate 04:59 8.8 Middle 19.8 30.6 98.0 817197 4.4 0.3 67 19.8 7.9 30.6 7.6 7.2 98.0 19.6 0.2 7.9 98.7 98.7 8.6 8.7 31.2 7.6 Rottom 19.6 7.9 31.2 98.7 7.6 7.8 77 0.2 19.6 7.9 7.6 10 0.1 1.0 67 19.8 3.8 7.9 7.5 30.7 96.9 Surface 19.8 7.9 30.7 96.9 1.0 0.1 72 19.8 7.9 30.7 96.9 7.5 3.9 4 SR5A 04:43 4.3 Middle 816603 810676 Fine Moderate 3.3 0.1 112 19.8 7.9 4.6 30.7 96.9 7.5 Bottom 19.8 7.9 30.7 96.9 7.5 3.3 0.1 121 19.9 0.0 142 7.9 93.5 Surface 20.0 7.9 30.9 93.5 147 20.0 7.9 7.3 SR6A Fine Moderate 04:15 4.2 Middle 817975 814740 3.2 0.0 20.0 93.9 6.2 Bottom 7.8 93.9 1.0 0.1 321 20.1 7.8 32.4 91.8 6.9 4.6 Surface 7.8 1.0 0.1 337 20.1 7.8 91.8 6.9 4.6 8 1 0.1 126 20.1 7.8 32.5 91.2 6.8 47 6 SR7 Fine Moderate 03:41 Middle 91.2 823613 823760 8.1 0.1 137 20.1 7.8 32.5 91.2 6.8 47 5 15.1 0.1 169 20.1 7.8 32.4 91.2 6.8 5.6 6 Bottom 7.8 91.2 15.1 0.1 171 20.1 7.8 91.2 6.8 5.6 31.7 1.0 20.0 7.8 2.8 Surface 20.0 96.1 7.8 96.1 7.3 --SR8 Fine Moderate 04:45 5.0 Middle 3.3 820385 811626 4.0 19.9 7.8 7.8 3.7 31.8 98.6 7.5 Bottom 19.9 7.8 31.8 98.6 19.9

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring

during Mid-Flood Tide Water Quality Monitoring Results on 02 January 20 Suspended Solids Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) рΗ Coordinate Coordinate Monitoring Current (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value DA Value DA Value Value DA (Northing) (Easting) Value Value Value Average 0.3 19.9 1.0 1.0 1.0 0.3 42 199 8.0 31.8 101.4 77 9.1 87 <0.2 11 4.2 0.2 42 19.9 8.0 31.8 101.3 7.7 6.6 6 87 <0.2 1.2 12:30 Middle 19.9 8.0 101.3 815596 804259 Fine Moderate 8.4 88 < 0.2 4.2 0.3 44 19.9 6.6 87 <0.2 1.1 19.9 90 1.1 8.0 31.9 101.4 10.0 <0.2 Bottom 19.9 8.0 31.9 101.4 7.4 0.3 29 19.9 8.0 7.7 10.0 <0.2 1.1 345 20.4 7.8 30.4 91.4 6.9 2.3 86 <0.2 1.8 Surface 20.4 7.8 30.4 91.4 1.0 0.2 317 20.4 7.8 30.4 91.4 6.9 2.3 86 <0.2 1.9 6.9 5.3 89 87 2.0 0.2 20.4 31.1 91.5 6.9 3.9 <0.2 11:19 806947 C2 Fine Moderate 10.6 Middle 20.4 7.9 31.1 91.5 88 825694 < 0.2 5.3 3.9 9.6 0.1 59 20.4 7.9 91.2 6.9 5.0 90 <0.2 1.8 20.4 7.9 31.1 91.2 6.9 Bottom 9.6 0.1 63 20.4 7.9 6.9 5.0 91 1.9 0.1 178 91.3 91.3 0.9 Surface 20.2 7.9 32.2 91.3 1.0 0.1 180 20.2 7.9 32.2 6.8 1.3 87 <0.2 0.9 5.8 0.1 20.2 32.7 6.7 4.5 6 7 88 <0.2 1.0 89.9 13:10 822124 817790 Fine Moderate Middle 7.9 5.8 0.1 266 20.2 7.9 89.9 4.5 89 10.5 0.1 313 20.2 7.9 32.7 90.4 6.8 8.5 8 90 <0.2 1.1 7.9 32.7 90.4 6.8 332 351 10.5 0.1 20.2 79 32.7 90.4 6.8 8.5 90 <0.2 0.9 1.0 19.9 7.5 0.1 8.0 7.7 86 1.1 Surface 19.9 8.0 31.5 1.0 0.1 323 19.9 8.0 31.5 101.4 7.8 7.7 6 85 < 0.2 1.1 -IM1 Fine Moderate 12:08 5.5 Middle 817961 807128 <0.2 45 0.2 342 19.9 102.1 102.2 7.8 7.8 90 <0.2 1.0 8.0 8.4 8 Bottom 19.9 102.2 7.8 0.2 8.0 31.5 8.4 90 1.0 45 199 315 <0.2 1.0 0.2 39 20.0 8.0 100.7 100.7 7.7 3.4 86 < 0.2 11 Surface 20.0 31.5 100.7 31.5 7.7 1.0 0.2 8.0 86 1.0 41 20.0 3.4 4 < 0.2 3.6 0.2 19.9 100.8 7.7 5.8 88 1.0 8.0 31.5 7 <0.2 IM2 Fine Moderate 12:01 7.2 Middle 19.9 8.0 31.5 100.9 6.3 88 818170 806147 <n 2 8.0 89 <0.2 3.6 6.2 19.9 0.2 355 19.9 9.8 8 90 1.1 8.0 31.5 101.0 7.7 31.5 7.7 Rottom 199 8.0 101.0 6.2 327 19.9 8.0 31.5 101.0 7.7 9.8 90 1.0 0.2 < 0.2 10 1.0 0.3 99.7 6.5 86 1.2 20.0 8.0 31.3 7.6 <0.2 Surface 20.0 8.0 31.3 99.7 20.0 6.5 87 <0.2 1.1 3.6 0.2 336 7.6 8.8 88 <0.2 1.0 20.0 8.0 31.3 99.6 IM3 Fine 11:54 7.1 Middle 20.0 8.0 31.3 99.6 88 818760 805603 < 0.2 Moderate 8.0 31.3 99.6 8.8 88 <0.2 1.0 3.6 0.2 336 20.0 19.9 90 <0.2 1.2 31.3 31.3 100.7 9.1 Rottom 100.8 7.7 77 199 8.0 31.3 6.1 0.2 315 19.9 8.0 100.9 9.1 90 <0.2 1.1 99.6 99.6 9.4 1.2 1.0 0.4 355 20.0 8.0 31.1 7.6 86 <0.2 Surface 20.0 8.0 31.1 99.6 1.0 0.5 331 19.9 8.0 31.1 7.6 9.4 86 <0.2 1.0 3.7 0.4 351 19.9 9.4 88 <0.2 1.0 100.0 IM4 Fine Moderate 11:46 7.3 Middle 19.9 8.0 31.3 100.0 88 819707 804590 <0.2 0.4 359 19.9 8.0 31.3 100.0 7.7 9.4 88 <0.2 6.3 0.4 19.9 8.0 31.3 31.3 100.1 7.7 7.7 90 <0.2 1.0 Bottom 19.9 8.0 31.3 100.2 7.7 7.7 6.3 0.4 4 19.9 8.0 90 11 1.0 0.6 20 20.0 8.0 31.0 98.7 7.6 5.8 87 <0.2 1.1 Surface 20.0 8.0 31.0 98.7 1.0 0.6 20 20.0 8.0 31.0 98.7 7.6 5.8 85 <0.2 1.0 3.7 0.5 23 20.0 8.0 31.0 98.9 7.6 6.4 5 89 <0.2 1.0 IM5 Fine Moderate 11:38 7.3 Middle 20.0 8.0 31.0 99.0 820727 804850 <0.2 3.7 0.5 20.0 8.0 31.0 99.0 7.6 6.4 5 88 <0.2 1.1 100.4 100.6 6.3 0.4 19 20.0 7.7 7.8 90 Bottom 100.5 7.7 6.3 0.4 19 20.0 79 31.0 77 7.8 90 <0.2 12 1.0 0.1 244 19.9 8.0 31.2 100.2 77 7.2 86 <0.2 1.0 Surface 8.0 31.2 100.2 1.0 0.1 8.0 77 7.5 87 1.1 248 19.9 31.2 100.2 7 <0.2 88 1.1 3.8 0.1 9.3 230 19.9 8.0 31.3 100.4 7.7 805831 < 0.2 IM6 Fine Moderate 11:31 7.5 Middle 19.9 31.3 100.4 821047 7.7 89 3.8 0.1 248 19.9 8.0 31.3 100.4 9.4 6 <0.2 1.0 6.5 0.0 221 19.9 7.9 31.2 101.5 7.8 9.5 6 90 <0.2 1.0 Bottom 19.9 7.9 31.2 101.6 7.8 6.5 0.0 226 19.9 7.9 101.6 7.8 9.6 90 <0.2 1.1 1.0 0.1 22 20.1 8.0 30.8 98.9 7.6 5.2 85 <0.2 1.2 Surface 20.1 8.0 30.8 99.0 30.9 7.6 1.0 1.0 0.1 99.0 5.3 23 20.1 8.0 5 86 < 0.2 7.6 88 <0.2 <0.2 1.1 4.0 0.2 67 20.1 8.0 31.1 99.0 6.5 7 8.0 31.1 99.0 821369 806846 IM7 Fine Moderate 11:22 7.9 Middle 20.1 88 <0.2 7.6 89 1.1 4.0 71 8.0 31.2 6.6 0.2 20.1 99.0 90 1.1 6.9 89 20.1 8.0 <0.2 0.2 31.2 98.8 7.5 6.9 7.6 Rottom 20.1 8.0 31.2 98.8 7.6 1.0 6.9 0.2 90 20.1 8.0 98.8 6.7 90 <0.2 1.0 0.3 7.8 1.6 20.2 30.6 93.9 7.1 0.8 86 <0.2 Surface 20.2 7.8 93.9 30.6 30.6 7.1 87 1.7 1.0 0.3 20.2 7.8 93.9 0.8 <0.2 1.2 88 <0.2 1.8 3.5 0.3 43 20.2 7.8 31.0 95.2 7.2 5 IM8 Fine 11:43 7.0 Middle 20.2 7.8 31.0 95.2 89 821821 808152 Moderate < 0.2 3.5 0.3 45 20.2 7.8 1.2 4 89 1.7 90 <0.2 1.6 0.2 20.2 7.8 31.2 97.1 7.3 1.5 6 20.2 7.8 31.2 97.1 7.3

DA: Depth-Average

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring

during Mid-Flood Tide Water Quality Monitoring Results on 02 January 20 Suspended Solids Nickel (µg/L) Salinity (ppt) Turbidity(NTU) Water Water Temperature (°C) рΗ Coordinate Sampling Coordinate Monitoring Current (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value DA Value DA Value Value DA (Northing) (Easting) Value DA Value Average 0.4 96.5 1.0 0.4 281 20.0 31.5 7.3 4.1 85 <0.2 1.4 3.3 0.4 277 19.9 7.8 7.8 31.8 96.8 96.8 7.3 7.3 5.4 5.4 88 87 <0.2 1.4 IM9 Fine Moderate 11:48 6.6 Middle 31.8 88 822116 808823 <0.2 279 19.9 0.4 5.6 0.3 288 7.4 7.4 89 <0.2 1.5 20.0 7.8 98.3 3.6 6 Bottom 20.0 7.8 31.7 98.3 7.4 98.3 7.8 31.7 1.5 0.3 307 3.6 90 5.6 20.0 <0.2 0.4 293 20.0 1.0 7.8 < 0.2 Surface 20.0 7.8 31.7 95.9 7.8 31.7 95.9 7.2 86 1.1 1.0 0.5 306 20.0 3.0 < 0.2 1.1 20.0 0.4 96.6 96.6 4.4 88 87 <0.2 3.2 298 309 7.8 31.7 IM10 Fine Moderate 11:56 64 Middle 20.0 7.8 31.7 96.6 88 822387 809791 <0.2 0.5 4.4 5.4 0.3 300 20.0 7.8 98.6 7.4 7.3 9 90 <0.2 1.1 31.7 7.8 31.7 98.6 7.4 Bottom 20.0 5.4 0.4 305 20.0 7.8 98.6 7.4 7.3 91 < 0.2 1.0 1.0 0.4 310 2.7 86 1.0 20.0 8.0 95.3 7.2 9 <0.2 31.8 Surface 20.0 8.0 31.8 95.3 1.0 0.4 328 20.0 8.0 31.8 95.3 7.2 2.7 86 <0.2 1.2 1.0 3.3 0.3 301 20.0 8.0 96.0 96.0 7.2 3.5 88 <0.2 31.8 IM11 31.8 822038 811475 Fine Moderate 12:08 6.6 Middle 20.0 8.0 96.0 88 <0.2 0.4 89 3.3 3.5 <0.2 321 20.0 5.6 19.9 7.9 96.5 7.3 7.3 3.9 <0.2 1.0 Rottom 199 7.9 31.9 96.5 7.3 5.6 0.3 319 19.9 7.9 31.9 96.5 3.9 90 1.1 7.9 32.0 95.2 95.2 7.2 2.8 86 <0.2 1.0 Surface 19.9 7.9 32.0 95.2 1.0 0.1 19.9 7.9 32.0 7.2 2.8 87 <0.2 1.0 4.0 0.2 263 19.9 94.8 4.2 88 <0.2 1.0 IM12 12:14 Middle 821451 812051 Fine Moderate 7.9 32.2 94.8 4.0 0.2 19.9 7.9 94.8 7.1 4.2 8 10 87 1.0 7.0 0.2 270 199 7.9 95.4 7.2 5.0 90 <0.2 1.0 Bottom 19.9 7.9 32.2 95.4 7.2 32.2 95.4 7.0 0.2 271 19.9 7.9 7.2 5.0 9 91 < 0.2 1.1 1.0 20.1 7.9 32.1 95.7 3.0 Surface 20.1 7.9 32.1 95.7 1.0 20.1 7.9 32.1 95.7 7.2 3.0 8 2.7 SR1A Fine Moderate 12:32 5.3 Middle 819982 812657 2.7 98.0 98.0 7.4 7.4 4.3 20.0 7.9 32.1 32.1 3.3 Bottom 20.0 7.9 32.1 7.4 79 1.0 0.2 214 20.0 79 32.0 95.9 72 33 87 <0.2 1.0 Surface 20.0 7.9 32.0 95.9 1.0 0.2 3.3 1.0 227 20.0 79 72 q 88 32.0 95.9 < 0.2 -SR2 Fine Moderate 12:45 4.8 Middle 89 821479 814184 3.8 0.1 300 304 96.9 96.9 7.3 7.3 6.2 90 <0.2 1.0 7.8 Bottom 20.0 32.0 96.9 7.3 0.1 7.8 32.0 10 0.9 20.0 90 < 0.2 0.3 1.0 278 7.8 20.3 30.5 92.9 7.0 1.3 6 Surface 20.3 7.8 30.5 92.9 1.0 7.8 30.5 1.3 0.3 293 20.3 92.9 7.0 4.1 1.8 20.3 7.8 30.8 92.4 7.0 SR3 11:38 Middle 7.8 822127 807588 Fine Moderate 8.2 20.3 30.8 92.4 4.1 0.4 291 20.3 7.8 30.8 92.4 7.0 1.8 . 7.2 0.3 20.2 7.8 31.1 93.3 7.0 3.4 273 31.1 93.3 Rottom 20.2 7.8 7.0 3.4 1.0 0.2 88 19.9 8.0 9.8 31.3 100.1 7.7 Surface 199 8.0 31.3 100.1 1.0 92 19.9 8.0 9.8 0.2 4.4 0.1 19.9 7.7 10.3 8.0 31.3 100.4 SR4A Fine Moderate 12:53 8.7 Middle 19.9 8.0 31.3 100.5 817198 807819 4.4 0.1 56 19.9 8.0 10.2 0.1 19.9 7.9 31.3 101.6 7.8 10.3 Bottom 19.9 7.9 31.3 101.7 7.8 0.1 19.9 1.0 0.1 255 20.1 7.9 4.4 30.6 98.7 7.6 Surface 20.1 7.9 30.6 98.8 1.0 0.1 278 20.1 7.9 98.9 7.6 4.5 6 Fine Moderate 13:09 Middle 810713 3.6 0.1 252 20.1 7.9 30.6 100.0 7.7 5.0 9 Bottom 7.9 7.7 3.6 0.1 256 20.1 7 0 5.0 216 1.0 0.1 20.4 7.9 30.9 96.3 7.3 2.8 1.0 0.1 222 20.4 79 30.9 96.3 7.3 2.8 4 -SR6A Fine Moderate 13:43 4.2 Middle 817948 814748 218 3.2 0.1 20.4 7.8 7.8 97.1 97.3 7.4 7.4 2.8 5 -7.8 97.2 Bottom 3.2 0.1 228 20.4 1.0 0.1 247 20.2 7.9 7.9 32.7 32.7 89.5 89.5 6.7 6.7 0.8 0.8 Surface 20.2 7.9 32.7 89.5 1.0 0.1 262 20.2 8.3 0.1 7.9 33.0 33.0 88.6 6.6 1.6 267 20.2 6 -7.9 88.6 13:42 33.0 823634 823751 SR7 Fine Moderate 16.5 Middle 20.2 88.6 7.9 6.6 8.3 0.1 284 20.2 1.6 -15.5 0.1 274 20.2 7.9 88.6 6.6 1.6 8 33.0 Bottom 20.2 7.9 33.0 88.6 6.6 7.9 88.6 6.6 15.5 0.1 300 20.2 1.6 19.9 19.9 7.9 31.8 31.8 98.2 98.2 7.4 7.4 2.7 10 11 1.0 Surface 19.9 7.9 31.8 98.2 7.9 SR8 Fine 12:23 5.0 Middle 11 820404 811610 Moderate 2.7 19.9 7.6 12 7.9 31.8 100.6 2.6 19.9 7.9 31.8 100.6 7.6 Bottom 19.9

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

04 January 20

Water Quality Monitoring Results on

during Mid-Ebb Tide

1.0

3.9

3.9

6.7

6.7

1.0

1.0

4.0

4.0

7.0

7.0

1.0

1.0

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3.8

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Suspended Solids Nickel (µg/L) Salinity (ppt) Turbidity(NTU) Sampling Water Water Temperature (°C) рΗ Coordinate Coordinate Monitoring Current (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value DA Value Value Value (Northing) (Easting) Value Value Average 0.3 1.0 20.4 1.0 0.3 129 20.4 77 31.0 96.9 7.3 11 9 83 < 0.2 16 3.8 0.3 122 20.2 77 96.1 7.2 8.4 2 88 <0.2 0.9 Rough 06:05 Middle 7.7 815639 804246 Sunny 3.8 0.3 133 20.2 77 96.4 8.5 88 <0.2 11 6.5 0.2 119 20.1 13.8 91 <0.2 1.7 7.8 95.3 7.2 Bottom 7.8 31.4 95.4 7.2 6.5 0.2 121 20.1 7.8 31.4 95.4 7.2 13.9 92 1.5 1.0 0.1 141 20.7 28.0 95.0 7.2 5.2 83 <0.2 1.8 Surface 20.7 7.7 28.0 95.0 1.0 0.1 148 20.7 7.7 95.0 7.2 5.2 84 <0.2 1.7 3.8 0.3 150 20.2 30.6 92.6 7.0 7.3 3 88 <0.2 2.0 C2 Moderate 07:25 7.6 Middle 20.2 7.7 30.6 92.6 825690 806929 Sunny 3.8 0.3 142 20.2 7.7 7.3 89 <0.2 1.8 6.6 0.3 144 20.3 7.8 92.7 7.0 7.0 6.4 4 92 <0.2 2.0 Bottom 20.3 7.8 92.7 7.0 31.2 6.6 0.3 156 20.3 7.8 92.7 6.4 92 <0.2 2.0 0.2 120 20.1 7.7 94.6 94.6 6.5 84 1.6 31.9 <0.2 Surface 20.1 7.7 31.9 94.6 1.0 0.2 138 20.1 31.9 7.1 6.6 4 84 <0.2 1.8 5.9 0.2 131 20.1 5.4 3 89 <0.2 1.8 7.7 31.9 93.6 7.0 C3 Sunny Moderate 05:23 11.7 Middle 20.1 7.7 31.9 93.6 822116 817812 137 7.7 5.7 89 1.6 5.9 20.1 <0.2 20.1 91 1.9 10.7 0.2 143 7.7 8.7 <0.2 32.1 93.1 7.0 20.1 7.7 32.1 93.2 Bottom 7.0 10.7 0.2 157 20.1 7.7 93.3 8.9 <0.2 1.7 1.0 0.1 112 20.3 7.7 7.2 11.2 83 <0.2 1.5 31.1 96.0 Surface 20.3 7.7 31.1 96.0 1.4 1.0 0.1 120 20.3 7.7 96.0 7.2 11.2 2 83 <0.2 -817937 807137 IM1 Sunny Moderate 06:27 5.2 Middle 4.2 0.2 126 20.1 7.8 31.4 7.2 9.6 4 88 <0.2 1.7 95.6 20.1 7.8 31.4 95.7 7.2 Bottom 4.2 0.2 133 7.8 95.7 7.2 9.6 88 <0.2 1.6 20.2 121 84 1.0 0.2 20.6 7.7 30.8 96.0 7.2 8.1 < 0.2 1.6 Surface 20.6 7.7 30.8 96.0 1.0 7.8 30.8 96.0 7.2 84 1.6 0.3 128 20.6 8.2 3 < 0.2 87 3.8 3 1.6 0.2 132 20.3 7.8 31.0 95.5 7.2 10.9 < 0.2 Middle 20.3 7.8 31.0 95.5 818161 806168 IM2 Sunny Moderate 06:35 7.6 86 141 7.8 7.2 2 86 1.5 3.8 0.2 20.3 31.0 95.4 10.8 < 0.2 3 88 1.4 6.6 0.2 120 20.0 7.8 31.4 95.5 7.2 14.6 < 0.2 7.8 Bottom 20.0 31.4 95.6 7.2 132 7.8 31.4 95.6 7.2 4 1.5 6.6 0.2 20.0 14.7 88 <0.2 1.0 0.3 129 20.7 7.7 30.9 95.9 7.2 7.1 84 < 0.2 0.8 Surface 20.7 7.7 30.9 95.9 1.0 7.7 7.2 1.0 0.3 123 20.7 30.9 95.9 7.2 6 85 < 0.2 1.7 7.5 3 88 3.9 0.3 128 20.6 7.7 30.9 95.0 7.1 < 0.2 7.7 818785 805591 IM3 Sunny Moderate 06:42 7.8 Middle 20.6 30.9 95.0 87 < 0.2 7.1 88 1.6 3.9 0.3 129 77 30.9 7.5 20.6 95.0 < 0.2 77 8.5 3 89 16 6.8 0.2 131 20.4 31 1 93.8 7.1 < 0.2 Bottom 20.4 7.7 31.1 93.7 0.3 135 7.7 31.1 7.0 8.5 3 87 6.8 20.4 93.6 <0.2 16 1.0 0.4 243 20.4 7.8 30.2 97.3 73 8.0 84 <0.2 16 Surface 7.8 30.2 97.3 1.0 7.8 97.3 4 85 1.6 0.5 249 20.4 30.2 7.3 8.0 < 0.2 3 87 1.6 3.8 0.4 138 20.4 7.8 30.7 96.2 7.2 5.2 <0.2 IM4 Moderate 06:51 7.5 Middle 7.8 30.7 96.1 87 819744 804620 <0.2 Sunny 3.8 0.4 139 20.4 7.8 30.7 96.0 72 5.3 3 86 <0.2 1.6 6.5 0.4 132 20.3 7.8 30.8 96.0 7.2 8.1 3 89 < 0.2 16 7.8 30.8 96.1 7.3 6.5 0.4 135 20.3 7.8 30.8 96.2 7.3 8.1 3 90 <0.2 1.5 1.0 0.7 207 20.4 7.8 30.5 96.4 7.3 8.2 4 84 <0.2 1.6

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83

87

86

90

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89

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87

88

84

87

88

91

91

83

83

88

88

91

91

87

820712

821068

821334

821845

<0.2

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804884

806843

808151

1.4

0.9

1.0

17

17

1.7

1.7

1.4

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1.3

1.4

1.6

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97.5

96.8

96.5

97.1

97.1

96.1

96.1

95.8

DA: Depth-Averaged

IM6

IM7

IM8

Sunny

Sunny

Sunny

Sunny

Moderate

Moderate

Moderate

Moderate

07:01

07:09

07:19

7.7

8.0

7.6

8.0

Bottom

Surface

Middle

Bottom

Surface

Middle

Bottom

Surface

Middle

Bottom

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

07:00

during Mid-Ebb Tide Water Quality Monitoring Results on 04 January 20 Suspended Solids Nickel (µg/L) Salinity (ppt) Turbidity(NTU) Water Water Temperature (°C) рΗ Coordinate Sampling Coordinate Monitoring Current (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value DA Value DA Value Value DA (Northing) (Easting) Value DA Value Average 0.2 20.4 30.5 96.7 1.0 0.2 20.4 7.3 2.8 83 <0.2 2.1 3.8 0.1 179 20.3 7.8 7.8 30.6 96.0 96.0 7.3 7.3 1.2 88 89 <0.2 2.2 IM9 Moderate 06:53 7.5 Middle 30.6 2.3 88 822103 808804 <0.2 3.8 0.1 184 20.3 6.5 0.1 182 20.3 6 92 <0.2 2.2 7.8 30.7 96.2 7.3 3.0 Bottom 20.3 7.8 30.7 96.3 7.3 96.4 7.8 30.7 6.5 0.1 175 20.3 3.1 92 23 <0.2 0.3 20.5 4.7 2.2 7.8 7.4 Surface 20.5 7.8 30.2 97.9 7.8 30.2 97.9 7.4 86 2.1 1.0 0.3 175 20.5 4.8 3 < 0.2 0.5 20.4 1.0 3.7 181 30.7 96.2 96.2 4.3 88 89 <0.2 7.8 4 IM10 Sunny Moderate 06:45 7.3 Middle 20.4 7.8 30.7 96.2 89 822362 809801 <0.2 4.2 6.3 0.3 182 20.3 7.7 96.3 7.3 3.9 3 91 <0.2 1.9 30.8 7.7 30.8 96.4 7.3 Bottom 20.3 6.3 0.3 176 20.3 7.7 96.4 7.3 3.9 91 < 0.2 2.0 1.0 0.3 173 20.7 7.7 5.2 85 2.1 30.8 95.8 7.2 <0.2 Surface 20.7 7.7 30.8 95.9 1.0 0.3 20.7 30.8 96.0 7.2 5.1 86 <0.2 2.1 3.8 0.3 163 20.6 94.9 7.1 3.7 88 <0.2 2.1 31.0 IM11 822070 811483 Sunny Moderate 06:33 7.5 Middle 20.6 7.7 31.0 95.0 88 <0.2 0.3 88 3.8 169 3.8 <0.2 20.6 6.5 20.4 94.8 7.1 2.6 <0.2 2.1 Rottom 20.4 7.7 31.1 94.9 7 1 6.5 0.2 174 20.4 7.7 31.1 94.9 7.1 2.7 92 2.2 20.6 30.8 96.3 96.3 2.8 83 <0.2 2.2 Surface 20.6 7.7 30.8 96.3 1.0 0.3 176 20.6 7.7 30.8 7.2 2.8 3 84 <0.2 2.1 4.1 0.3 167 20.3 7.7 2.3 88 <0.2 2.1 95.7 Middle 7.7 821475 IM12 Sunny Moderate 06:26 20.3 31.0 95.8 4.1 0.3 20.3 7.7 2.3 89 7.2 0.2 151 20.0 7.8 95.3 41 91 <0.2 1.9 Bottom 20.0 7.8 31.4 95.3 7.2 7.2 0.2 165 20.0 7.8 31.4 95.2 7.2 41 91 < 0.2 2.0 1.0 20.5 7.7 31.0 96.2 7.2 7.5 Surface 20.5 7.7 31.0 96.2 1.0 20.5 7.7 31.0 96.2 7.2 7.6 3 2.3 SR1A Moderate 05:59 Middle 819977 812656 Sunny 2.3 3.5 20.2 95.2 7.2 10.2 7.2 Bottom 20.2 7.8 31.3 95.3 3.5 20.2 7.8 31.3 95.4 7.2 10.2 1.0 0.3 132 20.3 7.7 96.3 7.3 9.9 83 <0.2 2.1 Surface 20.3 7.7 31.1 96.3 1.0 0.3 136 20.3 7.7 31.1 96.3 7.3 9.8 2 84 <0.2 2.1 SR2 Sunny Moderate 05:47 3.7 Middle 821455 814153 <0.2 2.1 2.7 142 95.9 95.9 7.2 7.2 <0.2 20.2 Bottom 95.9 7.2 0.3 143 20.2 7.8 31.3 8.3 90 <0.2 2.0 1.0 0.1 189 20.3 7.7 29.6 96.6 7.3 5.2 7.7 29.6 96.5 1.0 0.1 180 20.3 77 29.6 96.3 7.3 5.2 2 4.3 0.1 170 20.3 7.8 30.4 95.7 7.2 3.8 3 -SR3 Moderate 07:05 8.5 95.8 822162 807594 Sunny 4.3 0.1 173 20.3 7.8 30.4 95.9 7.3 3.9 0.2 20.2 7.8 7.8 30.8 97.0 97.1 4.6 4.5 7.5 7.5 161 168 7.3 7.3 <2 <2 Bottom 7.8 30.8 97.1 7.3 1.0 0.3 97 20.3 7.7 31.2 96.3 7.3 7.1 Surface 20.3 7.7 31.2 96.3 1.0 0.4 105 20.3 7.7 31.2 96.2 7.2 7.2 2 -5.1 0.2 7.7 7.2 7.5 20.1 31.4 95.0 7.7 807798 SR4A Sunny Moderate 05:46 10.1 Middle 31.4 95.0 817209 7.2 5.1 0.2 72 20.1 7.7 95.0 7.6 31.4 0.2 20.1 9.1 31.5 94.7 9.2 Rottom 7.7 31.5 94.8 7.2 7.7 7.2 9.1 0.2 76 20.1 31.5 94.9 9.3 0.1 68 23.7 1.0 8.5 5.5 7.0 29.8 98.0 Surface 23.7 8.5 29.8 98.0 1.0 0.1 72 23.7 8.5 29.8 98.0 7.0 5.6 3 SR5A 05:28 4.1 Middle 816610 810673 Sunny Moderate 3.1 0.1 112 24.0 8.5 31.0 99.7 7.0 6.2 Bottom 24.0 8.5 31.0 99.7 7.0 3.1 0.1 119 24.0 0.0 141 7.9 Surface 20.2 7.9 32.0 94.4 146 20.2 7.9 4.2 SR6A Moderate 04:53 4.6 Middle 817968 814727 Sunny 3.6 0.0 20.1 91.8 91.9 6.9 5.4 <2 91.9 Bottom 7.9 1.0 0.1 330 20.1 7.7 32.1 92.5 7.0 2.5 Surface 7.7 1.0 0.1 357 20.1 77 92.6 7.0 2.6 7.7 8.2 0.1 126 20.2 32.4 91.0 6.8 5.4 4 SR7 Sunny Moderate 04:53 Middle 7.7 91.1 823623 823736 8.2 0.1 135 20.2 77 32.4 91 1 6.8 5.5 3 15.4 0.1 166 20.2 7.7 32.4 90.7 6.8 6.3 4 Bottom 7.7 90.8 15.4 0.1 168 20.2 7.7 90.9 6.8 6.4 20.4 1.0 7.7 97.0 97.2 5.2 5.3 Surface 7.7 97.1 77 31.0 7.3 --SR8 Sunny Moderate 06:13 4.1 Middle 820370 811638 3.1 7.8 7.8 7.2 6.7 20.2 31.3 96.0 4 Bottom 20.2 7.8 31.3 96.0 7.2

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

during Mid-Flood Tide Water Quality Monitoring Results on 04 January 20 Suspended Solids Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) рΗ Coordinate Coordinate Monitoring Current (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value DA Value DA Value Value DA (Northing) (Easting) Value Value Value Average 0.3 1.0 20.7 1.8 1.0 0.4 6 20.7 79 31.1 98.1 7.3 11.8 4 84 <0.2 19 7.3 3.6 0.4 23 20.4 7.9 31.3 96.4 7.2 8.5 4 88 <0.2 1.8 13:37 Middle 7.9 31.3 88 815613 804257 C1 Sunny Rough 7.1 96.4 < 0.2 3.6 0.4 96.4 8.5 4 91 <0.2 1.7 23 20.4 91 1.8 20.2 31.8 9.6 <0.2 96.3 7.2 7.9 31.8 Bottom 20.2 96.5 7.3 6.1 21 20.2 7.9 7.3 9.5 <0.2 1.8 247 20.8 94.4 6.3 <2 85 <0.2 3.6 7.2 Surface 20.8 7.7 27.9 94.5 1.0 0.1 253 20.8 7.7 94.5 7.2 6.2 85 <0.2 3.6 4.2 0.2 7.1 90 90 2.8 326 20.2 7.8 30.8 92.0 91.9 7.0 <0.2 806936 C2 Sunny Calm 12:50 8.3 Middle 20.2 7.8 30.8 92.0 89 825698 < 0.2 4.2 20.2 7.2 7.3 0.3 347 20.3 7.8 31.2 91.9 6.9 8.3 91 <0.2 2.8 20.3 7.8 31.2 92.1 6.9 Bottom 7.3 0.3 319 20.3 6.9 8.4 92 2.9 93.9 94.0 Surface 20.2 7.9 32.0 94.0 1.0 0.5 296 20.2 7.9 32.0 7.1 8.2 <2 84 <0.2 1.3 5.3 0.5 90.7 90.6 6.8 9.3 <2 <2 88 <0.2 1.3 20.2 822125 817811 Sunny Calm 15:17 Middle 7.9 5.3 0.5 282 20.2 7.9 9.6 89 9.5 0.3 294 20.2 7.9 32.7 91.7 6.9 2.8 2 91 <0.2 1.3 Bottom 7.9 32.7 91.7 6.9 297 20.2 9.5 0.3 79 32.7 91.7 6.9 2.5 91 <0.2 13 0.2 7.6 7.9 7.3 88 1.5 Surface 20.5 7.9 31.2 97.5 1.0 0.3 10 20.5 7.9 31.2 97.4 7.3 7.7 7 88 < 0.2 1.5 -Moderate 13:19 4.7 Middle 817965 807128 <0.2 3.7 0.2 342 20.2 96.3 96.3 7.3 7.3 91 <0.2 1.4 7.9 31.3 8.2 8 Bottom 7.3 0.2 7.9 8.2 92 15 3.7 357 20.2 <0.2 1.0 0.1 344 20.7 7.8 30.8 97.3 7.3 92 85 < 0.2 15 Surface 20.7 7.8 30.8 97.2 30.8 97.1 7.3 1.0 20.7 7.8 9.3 84 1.5 0.1 316 < 0.2 4.1 0.1 354 20.4 7.2 7.2 11.4 87 1.5 1.5 7.8 31.0 95.7 5 <0.2 IM2 Sunny Moderate 13:12 8.1 Middle 20.4 7.8 31.0 95.7 818170 806183 <n 2 87 20.4 <0.2 4.1 0.1 326 17 11.3 7.1 0.1 7.8 87 1.5 31.0 95.9 7.2 7.2 9.0 4 7.8 Rottom 20.4 31.0 96.0 7.2 7.1 0.1 20.4 7.8 31.0 96.0 9.0 89 1.5 < 0.2 1.0 312 15.4 0.1 85 1.5 20.4 7.8 30.6 98.2 7.4 6 <0.2 Surface 20.4 7.8 30.6 98.2 20.4 30.6 7.4 15.3 84 <0.2 1.4 3.9 0.1 19 7.8 12.5 87 <0.2 1.4 20.2 30.7 97.0 7.3 5 IM3 13:06 7.7 Middle 20.2 7.8 30.7 97.2 87 818769 805613 < 0.2 Sunny Moderate 0.2 19 7.8 30.7 12.8 86 <0.2 1.3 3.9 20.2 20.2 7.8 30.7 89 <0.2 1.4 7.3 Rottom 20.2 7.8 30.7 97.1 7.3 6.7 0.2 20.2 7.8 97.1 7.3 11.8 90 <0.2 1.4 352 98.0 98.0 1.5 1.0 20.6 7.8 30.2 7.4 10.2 85 <0.2 Surface 20.6 7.8 30.2 98.0 1.0 0.1 358 20.6 7.8 30.2 7.4 10.2 84 <0.2 1.4 3.7 0.0 348 20.4 13.8 87 <0.2 1.4 30.4 97.2 IM4 Sunny Moderate 12:57 7.4 Middle 20.4 7.8 30.4 97.1 819732 804604 <0.2 0.0 20.4 7.8 30.4 97.0 7.3 13.7 88 <0.2 1.4 7.8 6.4 337 20.3 30.6 97.6 97.6 7.4 7.4 12.4 12.4 89 <0.2 1.4 Bottom 20.3 7.8 30.6 97.6 7.4 30.6 6.4 0.1 343 20.3 4 88 1.4 1.0 0.0 348 20.5 7.7 29.9 98.4 7.4 9.0 84 <0.2 1.5 Surface 20.5 7.7 29.9 98.4 1.0 0.0 320 20.5 7.7 29.9 98.4 7.4 9.0 7 85 <0.2 1.4 7.7 3.9 0.0 351 20.5 30.5 97.5 7.4 11.3 7 87 <0.2 1.4 IM5 Sunny Moderate 12:50 Middle 20.5 7.7 30.5 97.5 820734 804877 3.9 0.0 353 20.5 7.7 30.5 97.4 7.3 11.3 86 <0.2 1.4 97.8 97.7 6.7 0.0 347 20.3 7.8 30.6 7.4 11.6 89 <0.2 1.4 6.7 0.0 319 20.3 7.8 30.6 7.4 11.5 8 88 <0.2 14 1.0 0.1 342 21.1 77 27.5 94.9 7.2 6.3 85 <0.2 1.4 Surface 7.7 27.5 95.0 1.0 0.1 77 72 85 1.4 344 21.1 27.5 95.1 6.3 8 <0.2 87 1.3 0.1 47 7.0 6 4.0 20.3 7.8 30.9 92.2 7.0 805851 < 0.2 IM6 Moderate 12:44 8.0 Middle 7.8 30.9 92.2 821062 Sunny 7.0 86 4.0 0.1 49 20.3 7.8 30.9 92.1 7.1 6 <0.2 1.4 0.1 20.3 7.8 31.2 92.5 7.0 6.1 4 91 <0.2 1.4 Bottom 20.3 7.8 31.2 92.5 7.0

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27.5

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27.5

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31.2

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30.5

30.6

92.5

95.2

95.2

92.3

92.2

92.6

92.6

98.0

97.0

97.4

7.0

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7.0

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84

83

87

88

90

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91

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821829

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806821

808124

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4.1

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Surface

Middle

Rottom

Surface

Middle

Rottom

20.3

21.0

21.0

20.2

20.2

20.3

20.3

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20.4

20.3

349

350

11

11

8

266

270

278

278

254

IM7

IM8

Sunny

Sunny

Moderate

Calm

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

13:24

12:37

8.4

8.1

during Mid-Flood Tide Water Quality Monitoring Results on 04 January 20 Suspended Solids Nickel (µg/L) Salinity (ppt) Turbidity(NTU) Water Water Temperature (°C) рΗ Coordinate Sampling Coordinate Monitoring Current (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value DA Value DA Value Value DA (Northing) (Easting) Value DA Value Average 0.3 283 30.6 97.7 1.0 0.4 20.4 7.4 2.7 84 <0.2 1.9 3.5 0.3 266 284 20.2 7.8 7.8 97.5 97.6 7.4 7.4 3.4 5 89 89 <0.2 1.8 IM9 Calm 13:31 6.9 Middle 30.7 97.6 3.3 88 822077 808817 <0.2 0.3 3.4 20.2 5.9 0.2 251 20.2 7.4 7.4 6 91 < 0.2 1.9 7.8 30.7 97.4 3.9 Bottom 20.2 7.8 30.7 97.5 7.4 97.5 7.8 30.7 0.2 39 91 1.8 5.9 260 20.2 <0.2 0.5 314 20.7 2.1 1.9 7.8 97.4 83 Surface 20.7 7.8 30.8 97.4 7.8 30.8 97.4 84 1.8 1.0 0.5 326 20.7 7.3 2.0 < 0.2 0.5 20.4 1.9 4.5 31.0 31.0 96.0 96.0 2.8 88 89 <0.2 7.8 7.2 4 IM10 Sunny Calm 13:41 89 Middle 20.4 7.8 31.0 96.0 88 822376 809811 <0.2 7.9 0.4 332 20.4 7.8 95.8 7.2 6.2 91 <0.2 1.8 31.0 7.8 31.0 95.9 7.2 Bottom 20.4 7.9 0.5 341 20.4 7.8 95.9 7.2 6.3 92 < 0.2 1.9 1.0 0.5 271 1.6 84 1.8 20.6 7.9 97.7 7.3 4 <0.2 31.2 97.7 Surface 20.6 7.9 31.2 1.0 0.5 281 20.6 7.9 97.7 7.3 1.7 85 <0.2 1.7 4.0 0.5 285 20.3 7.9 97.3 7.3 2.6 89 <0.2 1.7 31.2 IM11 31.2 822062 811448 Sunny Calm 13:56 8.0 Middle 20.3 7.9 97.3 88 <0.2 4.0 0.5 2.7 89 1.8 <0.2 311 20.3 286 20.2 7.9 96.5 96.5 7.3 3.4 <0.2 1.7 Rottom 20.2 79 31.3 96.5 7.3 7.0 0.4 310 20.2 7.9 31.3 7.3 3.4 91 1.7 249 20.7 7.9 98.3 98.4 7.3 1.6 83 <0.2 1.7 Surface 20.7 7.9 31.1 98.4 1.0 0.5 258 20.7 7.9 31.1 7.4 1.6 84 <0.2 1.6 3.9 0.3 260 20.4 2.5 4 88 <0.2 1.7 96.4 Middle 821438 IM12 Sunny Calm 14:05 20.4 7.9 31.3 96.4 0.3 20.4 7.9 2.5 88 1.7 6.8 0.4 261 20.1 7.9 31.9 94.7 5.7 91 <0.2 1.6 Bottom 20.1 7.9 31.9 94.7 7.1 94.7 7.1 6.8 0.4 284 20.1 7.9 31.9 5.6 3 92 <0.2 1.6 1.0 20.7 7.9 31.1 97.6 7.3 2.3 Surface 20.7 7.9 31.1 97.6 20.7 7.9 31.1 97.6 7.3 2.4 5 2.3 Sunny SR1A Calm 14:40 4.6 Middle 819980 812665 2.3 3.6 20.4 95.5 95.5 4.8 4.8 7.9 31.8 7.1 7.1 Bottom 7.9 31.8 95.5 7.1 79 1.0 0.4 321 20.4 79 31.9 93.7 7.0 2.5 85 <0.2 1.4 Surface 20.4 7.9 31.9 93.8 1.0 1.3 0.4 336 79 31.9 7.0 2.5 4 86 20.4 93.8 < 0.2 -SR2 Sunny Calm 14:52 5.2 Middle 87 821467 814147 4.2 325 333 31.9 93.8 7.0 88 <0.2 1.3 7.9 Bottom 20.3 31.9 93.9 7.0 0.3 7.9 31.9 3.8 1.3 20.3 6 89 < 0.2 1.0 0.1 238 20.5 7.7 30.1 98.4 7.4 7.1 Surface 20.5 7.7 30.1 98.5 1.0 0.1 7.7 30.1 7.1 238 20.5 98.6 7.4 3.9 10.4 4 286 20.5 30.5 97.7 7.4 SR3 13:12 Middle 20.5 7.7 97.7 822164 807558 Sunny Calm 7.8 30.5 3.9 0.1 293 20.5 7.7 30.5 97.6 7.4 10.4 4 . 6.8 0.1 20.3 7.8 30.6 30.6 97.0 97.1 7.3 7.3 9.8 9.8 4 264 7.8 97.1 Rottom 20.3 30.6 7.3 6.8 0.1 233 20.5 7.9 11.9 31.9 96.6 7.2 Surface 20.5 7.9 31.9 96.6 1.0 20.5 96.6 12.0 6 244 5.3 0.1 20.7 15.1 242 7.9 31.1 98.9 7.4 SR4A Sunny Calm 14:16 10.5 Middle 20.7 7.9 31.1 98.9 817196 807804 5.3 0.1 260 20.7 7.9 15.1 9.5 0.1 246 20.5 7.8 31.8 98.3 7.4 14.8 Bottom 20.5 7.8 31.8 98.7 7.4 9.5 0.1 20.5 14.9 249 1.0 0.2 20.7 7.9 7.4 31.1 99.9 7.5 Surface 20.7 7.9 31.1 99.8 1.0 0.2 248 20.7 7.9 99.7 7.5 7.5 4 Sunny Calm 14:35 Middle 816569 810679 0.2 239 20.5 7.9 98.4 7.4 6.4 3 Bottom 7.9 7.4 3.2 250 346 20.5 7 0 6.5 1.0 0.1 20.4 7.9 31.8 94.9 7.1 2.3 71 2.2 1.0 0.1 355 20.4 79 31.8 94 9 -SR6A Calm 15:14 4.9 Middle 817972 814755 Sunny 3.9 0.0 13 20.3 7.9 7.9 96.2 96.1 3.8 3 -7.9 96.2 Bottom 3.9 0.0 13 20.3 31.9 3.8 1.0 0.1 190 20.4 7.9 7.9 32.5 32.5 91.6 91.4 6.8 3.8 Surface 20.4 7.9 32.5 91.5 1.0 0.1 208 20.4 3.8 7.9 0.1 7.9 32.8 32.8 90.5 6.8 4.3 233 20.3 3 --7.9 90.5 32.8 823648 823737 SR7 Sunny Calm 15:46 15.8 Middle 20.3 7.9 90.5 6.8 7.9 0.1 235 20.3 4.3 3 -14.8 0.2 219 20.2 7.9 90.4 6.7 5.9 4 -33.0 Bottom 20.2 7.8 33.0 90.6 6.8 7.8 14.8 0.2 208 20.2 5.9 20.7 7.9 31.1 31.1 98.7 98.7 7.4 7.4 2.2 1.0 6 Surface 20.7 7.9 31.1 98.7 7.9 SR8 Calm 14:22 4.5 Middle 820374 811616 Sunny 7.9 31.6 97.0 7.3 3.6 20.5 7.9 31.5 97.0 7.3 Bottom

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

during Mid-Ebb Tide Water Quality Monitoring Results on 07 January 20 Suspended Solids Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water рΗ Coordinate Coordinate Water Temperature (°C) Monitoring Current (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Value DA Value Value (Northing) (Easting) Value Value Value Average Average 0.2 1.0 242 20.9 3.5 1.0 0.2 254 20.9 8.1 30.1 101.8 7.6 4.8 4 87 <0.2 3.4 41 0.2 210 21.0 8.1 30.3 102.3 7.6 5.0 4 88 <0.2 2.3 Fine Rough 10:06 8.2 Middle 815623 804259 41 0.2 218 20.9 8 1 30.4 7.6 5.0 5 89 <0.2 2.3 7.2 0.1 21.0 8.1 6.3 7 90 <0.2 3.4 221 7.5 Bottom 21.1 8.1 30.0 100.8 7.2 0.1 230 21.1 8.1 29.9 100.7 7.5 6.3 6 90 3.4 1.0 0.4 20.7 8.0 28.1 92.2 7.0 2.0 85 <0.2 2.8 Surface 20.7 8.0 92.1 28.2 1.0 0.5 171 20.7 8.0 92.0 7.0 2.0 3 86 <0.2 2.8 5.6 0.2 171 20.5 8.0 30.9 90.9 6.8 2.2 3 89 <0.2 2.8 C2 Moderate 11:18 11.2 Middle 20.5 8.0 30.9 90.9 825676 806924 Fine 5.6 0.2 181 20.5 8.0 6.8 2.2 4 87 <0.2 2.8 10.2 0.3 149 20.5 8.0 91.6 6.8 5.6 5 90 <0.2 2.8 Bottom 20.5 8.0 91.7 6.9 10.2 0.3 151 20.5 8.0 91.7 6.9 5.7 90 <0.2 2.9 0.2 139 20.4 8.0 1.5 86 2.3 31.9 93.0 7.0 <0.2 Surface 20.4 8.0 31.9 93.0 1.0 0.2 151 20.4 8.0 31.9 92.9 6.9 1.5 4 86 <0.2 2.3 6.9 5.7 0.2 121 20.4 6.9 1.7 5 88 2.4 8.0 32.1 91.8 <0.2 C3 Fine Moderate 09:32 11.3 Middle 20.4 8.0 32.1 91.8 822121 817793 5.7 20.4 6.9 1.7 87 2.5 131 <0.2 20.3 90 2.4 10.3 0.1 29 8.0 6.9 2.5 6 <0.2 32.5 92.8 20.3 8.0 32.5 93.0 Bottom 7.0 10.3 0.1 30 20.3 8.0 93.1 7.0 2.5 90 <0.2 2.4 1.0 0.1 237 21.2 8.1 29.8 7.6 5.1 4 83 <0.2 3.4 102.5 21.2 8.1 102.5 Surface 29.8 1.0 0.1 250 21.2 8.1 29.8 102.5 7.6 5.2 4 84 <0.2 3.3 817970 807140 -Fine 10:27 IM1 Calm 4.2 Middle < 0.2 3.5 3.2 0.1 199 21.4 8.1 7.6 5.7 6 88 <0.2 3.5 29.8 102.3 21.4 8.1 29.8 102.3 Bottom 3.2 0.2 8.1 29.8 7.6 5.8 6 88 <0.2 3.6 206 21.4 102.3 0.1 145 4.8 84 1.0 21.2 8.1 29.4 101.9 7.6 < 0.2 3.6 Surface 21.2 8.1 29.4 101.8 1.0 0.1 152 8.1 29.4 101.6 4.8 84 3.4 21.1 7.6 6 < 0.2 5.4 87 0.1 184 3.4 3.3 20.9 8.1 28.8 101.1 7.6 6 < 0.2 Middle 20.9 8.1 101.2 818173 806142 IM2 Fine Calm 10:34 6.5 28.8 0.1 8.1 28.8 7.6 5.7 7 87 3.3 3.3 190 20.9 101.2 < 0.2 0.1 185 29.1 29.0 8 89 3.3 5.5 21.0 8.1 101.6 7.6 5.8 < 0.2 Bottom 21.1 8.1 29.0 101.6 8.1 101.6 7.6 5.5 0.1 193 21.1 5.6 8 89 <0.2 3.3 1.0 0.1 154 20.9 8.1 29.3 101.4 7.6 4.6 85 < 0.2 2.6 Surface 20.9 8.1 29.3 101.4 1.0 4.7 2.7 0.2 162 8.1 29.3 101.4 7.6 5 85 < 0.2 20.9 4.5 88 2.6 3.3 0.1 151 21.0 8.1 29.7 101.7 7.6 6 7 < 0.2 818793 805611 IM3 Fine Calm 10:43 6.6 Middle 21.0 8.1 29.7 101.7 88 < 0.2 88 3.3 0.1 158 21.0 8.1 29.7 7.6 5.1 26 1016 < 0.2 175 8.1 8 89 2.5 5.6 0.1 22.3 29.5 103.6 7.6 5.1 < 0.2 Bottom 22.3 8.1 29.5 103.6 7.6 5.6 7.6 5.2 7 0.1 185 22.3 8.1 29.5 103.6 90 <0.2 26 1.0 0.4 185 21.3 8 1 28.5 101.9 77 3.4 84 <0.2 27 Surface 21.3 28.5 101.9 1.0 190 8.1 3.3 84 2.7 0.4 21.3 28.5 101 9 77 5 < 0.2 3.5 0.2 165 21 2 8.0 26.7 101.5 77 47 4 88 <0.2 2.6 IM4 Fine Moderate 10:53 7.0 Middle 21.2 8.0 26.7 101.5 87 819713 804592 <0.2 3.5 0.2 167 21.2 8.0 26.7 1015 77 5.1 4 88 <0.2 2.6 6.0 0.1 155 21.2 8.1 26.8 101.4 77 5.9 3 90 < 0.2 27 21.2 26.8 101.4 7.7 6.0 0.1 170 21.2 8.1 26.8 101.3 77 6.2 3 90 <0.2 27 1.0 0.4 204 21.6 8.0 27.2 101.9 7.7 4.2 2 84 <0.2 2.6 101.8 1.0 0.4 220 21.6 8.0 27.3 101.7 7.7 4.6 3 84 <0.2 2.7 8.0 3.3 0.3 188 21.3 26.4 101.2 77 43 4 86 <0.2 2.8 IM5 Fine Moderate 101.2 820713 804849 3.3 0.4 203 21.3 8.1 26.4 101 1 77 4.5 4 87 <0.2 2.6 5.5 0.2 197 21.2 8.1 27.9 100.5 7.6 5.0 6 90 <0.2 2.7 Bottom 21.2 8.1 27.9 100.5 7.6 5.5 0.2 210 21.2 8.1 27 9 100.4 7.6 4.9 7 90 <0.2 2.7 1.0 0.2 227 22.2 8.0 7.7 2.8 89 <0.2 2.1 26.5 Surface 8.0 26.5 102.7 1.0 0.2 241 22.1 8.0 26.5 102.7 7.7 2.8 6 89 <0.2 2.1 2.2 3.3 0.2 194 21.4 8.0 25.6 101.3 5.8 5 90 <0.2 805839 IM6 Fine Moderate 11:10 6.6 Middle 21.4 8.0 25.6 101.3 821063 <0.2 3.3 0.2 198 21.4 8.0 25.6 7.7 6.1 5 91 <0.2 2.1 5.6 0.2 190 21.4 8.0 100.9 7.7 6.3 4 92 <0.2 2.0 7.7 Bottom 21.4 8.0 26.1 100.9 5.6 0.2 194 21.4 8.0 26.1 100.9 7.7 6.8 4 92 2.0 1.0 0.2 264 21.4 8.0 25.8 101.4 5.2 85 <0.2 2.1 Surface 21.4 8.0 25.8 101.3 1.0 0.2 264 21.4 8.0 25.8 101.2 7.7 5.1 3 85 <0.2 2.0 3.8 0.2 21.4 7.4 88 2.0 224 8.0 25.0 101.0 7.7 <0.2 IM7 Fine Moderate 11:19 7.5 Middle 21.5 8.0 25.0 101.1 821333 806825 <0.2 3.8 0.2 246 21.5 8.0 25.0 7.7 7.4 89 <0.2 21.7 8.0 7.8 2.2 6.5 0.1 185 25.1 101.3 7.7 91 <0.2

21.8

20.9

20.6

20.3

8.0

8.0

8.0

8.0

24.9

27.0

27.0

29.3

29.2

31.4

8.0

8.0

8.0

8.0

8.0

8.0

25.0

27.0

29.3

31.4

101.5

96.0

95.7

94.4

94.5

95.6

101.4

95.9

94.5

95.6

7.7

7.2

7.9

1.6

1.6

2.3

2.3

5.7

3.2

91

86

86

87

88

90

90

88

821812

<2

<2

3

2

4

<0.2

<0.2

<0.2

<0.2

<0.2

< 0.2

< 0.2

808124

2.6

2.7

2.7

2.7

2.7

2.6

2.7

7.7

7.3

7.3

7.1

7.2

7.2

DA: Depth-Averaged

Fine

IM8

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

10:52

Moderate

7.4

Bottom

Surface

Middle

Bottom

6.5

1.0

1.0

3.7

3.7

6.4

6.4

0.1

0.1

0.1

0.0

0.0

0.2

0.2

198

159

162

56

59

101

109

21.8

20.9

20.9

20.6

20.6

20.3

20.3

during Mid-Ebb Tide Water Quality Monitoring Results on 07 January 20 Suspended Solids Nickel (µg/L) Salinity (ppt) Turbidity(NTU) Water Water Temperature (°C) рΗ Coordinate Sampling Coordinate Monitoring Current (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value DA Value DA Value Value DA (Northing) (Easting) Value DA Value Value Average Average 0.2 2.6 95.4 1.0 0.2 99 20.8 8.0 28.1 7.2 1.9 86 <0.2 2.6 3.4 0.1 118 20.6 8.0 95.4 95.4 7.2 2.6 4 88 89 <0.2 2.6 IM9 Fine Moderate 10:47 6.8 Middle 88 822083 808814 <0.2 127 3.4 0.1 2.9 20.6 5.8 0.2 83 95.3 95.3 4.6 90 <0.2 2.4 20.4 8.0 30.8 7.2 Bottom 20.4 8.0 30.8 95.3 7.2 5.8 0.2 8.0 30.7 46 90 89 20.4 <0.2 2.5 0.3 93 20.9 2.5 8.0 96.1 Surface 20.9 8.0 27.8 96.1 8.0 27.8 96.1 86 2.4 1.0 0.4 96 20.9 7.3 1.5 4 < 0.2 0.3 20.7 2.7 8.0 29.6 29.5 94.4 88 87 <0.2 2.5 3.6 7.1 7.1 4 IM10 Fine Moderate 10:40 72 Middle 20.7 8.0 29.6 94.4 88 822383 809813 <0.2 6.2 0.3 90 20.5 8.0 93.5 7.0 4.6 90 <0.2 2.5 31.1 31.1 93.6 7.0 Bottom 20.5 8.0 6.2 0.3 94 20.5 8.0 93.6 7.0 4.6 90 < 0.2 2.6 0.5 82 1.8 86 2.5 1.0 20.9 8.0 4 <0.2 27.4 96.8 7.4 Surface 20.9 8.0 27.4 96.7 1.0 0.5 83 20.9 8.0 96.6 7.4 1.9 4 87 <0.2 2.6 4.0 0.2 29 20.7 8.0 7.2 2.6 87 <0.2 2.6 29.0 95.6 IM11 822060 811454 Fine Moderate 10:28 7.9 Middle 20.7 8.0 29.0 95.6 88 <0.2 4.0 8.0 88 0.3 <0.2 20.7 6.9 20.5 8.0 95.5 7.2 3.0 <0.2 2.6 Rottom 20.6 8.0 31.1 95.8 72 6.9 0.2 55 20.6 8.0 30.9 96.0 7.2 3.0 90 2.6 27.3 27.4 95.9 95.6 7.3 2.4 86 <0.2 2.3 Surface 20.8 8.0 27.3 95.8 1.0 0.4 91 20.7 8.0 7.3 2.4 85 <0.2 2.3 4.0 0.1 83 20.5 8.0 94.1 2.8 4 88 <0.2 2.3 10:20 Middle 31.2 821479 IM12 Fine Moderate 20.5 8.0 94.1 4.0 0.1 8.0 94.1 7.1 2.8 87 7.0 0.1 35 20.5 8.0 31.6 94.2 7.1 2.9 4 90 <0.2 2.4 Bottom 20.5 8.0 31.6 94.3 7.1 94.3 7.0 0.1 37 20.5 8.0 31.6 7.1 2.9 3 90 <0.2 2.3 1.0 20.6 8.0 31.1 94.0 7.0 3.1 Surface 20.6 8.0 31.2 94.0 1.0 20.6 8.0 31.2 93.9 7.0 3.4 6 2.5 SR1A Fine Moderate 10:05 Middle 819978 812657 2.5 4.0 20.5 8.0 93.9 7.0 5.6 7.0 Bottom 20.5 8.0 31.6 94.0 4.0 20.5 8.0 31.6 94.0 7.0 5.6 1.0 0.1 61 20.6 8.0 2.7 86 <0.2 2.4 Surface 20.6 8.0 31.4 94.5 1.0 0.1 66 20.5 8.0 31.4 94.4 7.1 2.7 4 86 <0.2 2.2 SR2 Fine Moderate 09:53 4.9 Middle 821477 814152 <0.2 2.3 31.5 31.5 94.7 <0.2 2.4 Bottom 31.5 94.8 3.9 0.1 90 20.5 8.0 71 2.9 6 90 <0.2 2.2 1.0 0.2 169 20.8 8.0 27.2 95.2 7.3 1.7 8.0 27.2 95.3 1.0 0.2 176 20.9 8.0 27.2 95.3 7.3 1.7 5 4.2 0.1 140 20.6 8.0 30.1 94.5 7.1 2.8 4 SR3 Fine Moderate 10:58 8.3 94.6 822128 807569 4.2 0.1 143 20.5 8.0 30.1 94.7 7.1 3.2 0.2 20.3 8.0 95.2 95.2 5.5 5.8 7.3 7.3 93 102 7.2 Bottom 95.2 7.2 1.0 0.2 96 20.7 8.1 29.8 101.2 7.6 5.8 Surface 20.7 8.1 29.9 101.2 105 1.0 0.2 20.7 8.1 29.9 101.1 7.6 5.8 7 -4.2 0.1 8.1 7.6 6.5 20.7 29.9 100.8 817172 807815 SR4A Fine Calm 09:44 8.3 Middle 20.7 8.1 29.9 100.8 4.2 0.1 85 20.7 8.1 29.9 7.6 6.7 100.8 0.1 20.8 8.1 7.1 54 30.0 100.9 7.6 Rottom 20.8 8.1 30.0 100.8 7.6 7.3 7.1 0.1 54 20.8 8.1 30.0 100.7 7.6 190 1.0 0.1 8.0 8.1 29.7 98.9 7.4 Surface 21.1 8.0 29.7 98.9 1.0 0.1 207 21.0 8.0 29.7 98.9 7.4 8.0 6 SR5A 09:25 4.7 Middle 816586 810709 Fine Calm 3.7 0.1 174 21.1 8.0 29.8 98.7 7.4 6.1 Bottom 21.1 8.0 29.8 98.7 7.4 3.7 0.1 185 21.1 0.1 8.0 8.2 Surface 20.6 8.0 29.4 97.3 293 20.6 8.1 20 SR6A Fine 09:00 3.3 Middle 13 817950 814717 Calm 2.3 0.1 20.9 29.2 98.4 Bottom 8.1 98.5 1.0 0.1 279 0.2 306 20.3 8.0 32.6 88.1 6.6 2.0 Surface 8.0 1.0 0.2 328 20.3 8.0 88 1 6.6 2.0 8.2 0.3 303 20.2 8.0 32.8 87.7 6.5 2.2 4 SR7 Fine Moderate 08:57 Middle 823640 823726 8.2 0.3 319 20.2 79 32.8 87.7 6.6 22 3 6.6 15.3 0.2 303 20.2 7.9 88.9 2.0 3 Bottom 20.2 7.9 15.3 0.3 331 20.2 7.9 89.2 20.7 30.1 1.0 8.0 96.0 95.9 3.9 7.2 Surface 3.9 8.0 7.2 --SR8 Fine Moderate 10:13 5.1 Middle 4.3 820403 811616 20.6 4.8 4.1 8.0 31.2 95.2 7.1 Bottom 20.6 8.0 31.2 95.3 20.6

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

during Mid-Flood Tide Water Quality Monitoring Results on 07 January 20 Suspended Solids Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) рΗ Coordinate Coordinate Monitoring Current (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value DA Value DA Value Value DA (Northing) (Easting) Value Value Value Average 0.1 1.0 21.9 3.5 102.8 1.0 0.1 43 21.9 8.1 29.0 1027 7.6 4.9 8 84 <0.2 3.4 7.6 4.1 0.1 58 22.1 8.1 28.6 103.3 7.6 6.0 7 88 <0.2 3.4 C1 15:09 Middle 8.1 28.6 103.5 815601 804264 Fine Moderate 8.1 < 0.2 4.1 0.1 57 6.1 88 <0.2 3.4 22.2 0.1 90 <0.2 3.3 22.4 8.1 29.4 104.3 7.6 8.1 Bottom 22.4 8.1 29.4 104.3 7.6 7.1 0.1 19 22.4 8.1 104.3 8.8 <0.2 3.5 20.8 8.0 85 <0.2 2.7 92.8 Surface 20.8 8.0 28.0 92.7 1.0 0.2 18 20.8 8.0 92.5 7.0 1.9 86 <0.2 2.8 5.7 3.2 4 88 87 2.8 0.2 8.0 30.9 89.5 89.3 6.7 <0.2 825673 806924 C2 Fine Moderate 14:19 11.4 Middle 20.5 8.0 31.0 89.4 88 < 0.2 3.6 10.4 0.4 20.5 8.0 31.6 89.0 6.7 5.8 90 <0.2 2.8 20.5 8.0 31.6 89.0 6.7 Bottom 10.4 0.4 18 20.5 8.0 6.7 5.7 90 2.7 0.1 20.6 Surface 20.6 8.0 31.7 93.4 1.0 0.1 232 20.6 8.0 31.8 93.2 7.0 2.0 85 <0.2 2.3 5.9 0.1 20.4 6.8 2.4 88 87 <0.2 2.3 91.3 16:11 822115 817790 Fine Moderate Middle 8.0 5.9 0.1 262 20.4 8.0 91 1 2.5 10.7 0.2 252 20.4 8.0 32.2 93.1 7.0 2.9 4 90 <0.2 2.4 Bottom 32.1 93.4 7.0 261 78 10.7 0.2 20.4 8.0 32 1 93.6 7.0 2.8 4 90 <0.2 24 0.1 21.7 1.0 8.1 7.6 3.8 4 85 4.0 Surface 21.7 8.1 29.3 103.0 1.0 0.1 78 21.7 8.1 29.3 7.6 4.2 5 85 < 0.2 4.0 -IM1 Fine Calm 14:45 4.4 Middle 817947 807125 <0.2 3.4 0.1 89 21.7 29.1 29.1 103.1 103.1 7.7 7.7 90 <0.2 4.0 8 1 10.9 8 Bottom 21.7 7.7 0.1 8.1 11.0 90 78 21.7 <0.2 4.0 3.4 356 1.0 0.2 21.8 8 1 28.8 102.0 102.3 7.6 5.1 87 <0.2 4.0 Surface 21.9 102.2 28.7 7.6 1.0 359 8.1 88 3.9 0.2 21.9 5.1 < 0.2 3.4 0.1 338 22.0 7.7 7.7 5.6 5 88 3.9 8.1 27.5 103.5 <0.2 IM2 Fine Calm 14:39 6.8 Middle 22.0 8.1 27.5 103.4 89 818158 806171 <0 2 21.9 21.4 8.1 88 <0.2 3.4 5.8 0.1 311 0.1 284 8.1 6.2 90 3.8 28.8 101.7 7.6 6 7.6 Rottom 21 4 8.1 28.7 101.7 5.8 0.1 21.4 8.1 101.7 7.6 6.3 91 3.9 290 <0.2 1.0 344 0.2 3.3 88 4.7 22.4 8.0 27.2 103.1 7.7 <0.2 Surface 22.4 8.0 27.2 103.3 22.4 3.3 88 <0.2 4.6 3.5 0.1 316 8.1 26.5 26.6 3.2 89 <0.2 2.7 22.3 103.4 7.7 4 IM3 Fine 14:37 6.9 Middle 22.2 8.1 26.5 103.3 89 818786 805598 <0.2 Moderate 0.1 8.1 103.1 89 <0.2 2.7 3.5 316 22.1 3.3 5.9 247 3.7 <0.2 2.4 101.4 101.7 7.5 7.5 Rottom 21 9 8.0 28.8 101.6 5.9 0.0 248 21.9 8.0 28.7 7.5 3.6 91 <0.2 2.2 102.6 102.3 4.2 2.7 1.0 22 22.0 8.0 26.0 7.7 83 <0.2 Surface 22.0 8.0 26.1 102.5 1.0 0.0 21.9 8.0 7.7 4.3 84 <0.2 2.7 3.6 0.1 26 21.7 8.0 3.7 4 87 <0.2 2.5 2.5 27.6 7.6 IM4 Fine Moderate 14:30 7.1 Middle 21.8 8.0 27.5 101.6 819721 804604 <0.2 0.1 21.9 8.0 7.6 3.8 87 <0.2 3.6 <0.2 2.3 6.1 327 21.4 8.1 27.8 27.8 101.4 7.6 7.6 11.7 91 Bottom 21.4 8.1 27.8 101.4 7.6 21.4 6.1 0.1 343 8.1 11.9 91 1.0 0.2 281 21.7 8.0 102.1 7.7 3.8 88 <0.2 2.7 Surface 21.8 8.0 25.8 102.1 1.0 0.2 303 21.8 8.0 25.8 102.1 7.7 4.2 3 88 <0.2 2.9 3.4 0.2 274 21.7 8.0 7.8 4.4 3 87 <0.2 2.7 IM5 Fine Moderate 14:25 Middle 21.7 8.0 25.3 102.2 820748 804884 <0.2 3.4 0.2 282 21.7 8.0 25.3 102.1 7.8 4.7 3 88 <0.2 2.6 21.7 21.8 101.6 101.5 5.7 0.1 32 25.4 25.3 7.7 6.0 2 <2 91 <0.2 2.6 Bottom 101.6 7.7 5.7 0.1 8.0 77 6.0 91 <0.2 26 1.0 0.2 245 21.5 8.0 25.1 101.7 7.8 4.5 4 84 <0.2 2.6 Surface 8.0 25.1 101.7 1.0 0.2 85 2.6 258 21.5 8.0 25.1 1017 7.8 4.6 4 <0.2 3 88 3.5 0.1 5.3 218 21.5 8.0 25.3 101.8 7.8 805805 < 0.2 IM6 Fine Moderate 14:14 7.0 Middle 21.5 101.8 821050 <0.2 88 3.5 0.1 225 21.5 8.0 25.3 101.7 7.8 6.1 3 <0.2 2.6 6.0 0.1 116 21.3 8.0 25.0 101.1 7.7 8.0 90 <0.2 2.6 Bottom 21.3 8.0 25.0 101.1 7.7 6.0 0.1 125 21.3 8.0 25.0 101.1 7.7 7.1 <2 91 <0.2 2.6 1.0 0.1 286 21.8 8.0 25.5 25.5 102.0 7.7 2.2 85 <0.2 2.5 Surface 21.8 8.0 25.5 102.1 102.1 1.0 0.1 21.8 7.7 2.3 85 2.6 295 8.0 6 < 0.2 0.1 25.1 25.1 7.7 87 <0.2 <0.2 2.6 3.8 165 21.4 8.0 101.4 4.5 4 25.1 101.4 87 821371 806828 IM7 Fine Moderate 14:10 7.6 Middle 21.4 8.0 <0.2 3.8 7.7 87 180 8.0 4.9 3 2.5 0.1 21.4 90 0.2 149 21.7 8.0 7.5 <0.2 2.5 6.6 25.3 101.7 7.7 21.7 Rottom 8.0 25.3 101.7 77 7.5 6.6 0.2 154 21.7 8.0 90 <0.2 2.5 1.0 0.4 249 21.1 8.0 2.7 97.8 7.4 1.6 86 <0.2 27.0 Surface 21 1 27.0 97.8 8.0 1.6 87 2.8 1.0 0.4 250 21.1 8.0 7.4 <0.2 <0.2 0.4 20.9 2.0 88 3.7 268 8.0 27.8 97.0 7.4 <2 2.8 IM8 Fine 14:43 7.4 Middle 20.9 8.0 27.8 96.9 88 821833 808123 2.8 Moderate < 0.2 3.7 0.4 288 20.8 8.0 1.8 3 88 <0.2 2.8 7.2 90 <0.2 2.8

8.0

8.0

20.3

31.4

31.4

95.8

95.9

4.8

7.2

<2

0.1

260

20.3

during Mid-Flood Tide Water Quality Monitoring Results on 07 January 20 Suspended Solids Nickel (µg/L) Salinity (ppt) Turbidity(NTU) Water Water Temperature (°C) рΗ Coordinate Sampling Coordinate Monitoring Current (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value DA Value DA Value Value DA (Northing) (Easting) Value DA Value Average 0.3 97.2 1.0 0.3 288 21.0 8.0 27.9 7.4 1.8 86 <0.2 2.8 3.5 0.4 279 20.6 8.0 96.0 95.8 7.3 7.3 4.9 4 5 88 <0.2 2.8 IM9 Fine Moderate 14:48 7.0 Middle 88 822104 808808 <0.2 3.5 280 5.1 0.4 20.6 6.0 0.2 285 20.7 95.2 95.2 7.0 90 < 0.2 2.8 8.0 30.4 7.1 Bottom 20.8 8.0 30.3 95.2 8.0 0.2 20.8 30.2 6.8 90 27 6.0 289 <0.2 0.5 290 20.9 2.8 8.0 96.1 < 0.2 Surface 20.9 8.0 28.6 96.0 8.0 28.6 95.9 87 2.8 1.0 0.5 291 20.8 7.3 1.7 < 0.2 2.7 0.3 20.7 1.9 3.7 284 287 8.0 29.3 29.4 95.5 95.6 88 87 <0.2 4 IM10 Fine Moderate 14:55 7.3 Middle 20.7 8.0 29.3 95.6 88 822367 809795 <0.2 6.3 0.3 276 20.9 8.0 95.9 7.2 2.4 4 90 <0.2 2.8 29.7 8.0 29.7 96.1 7.2 Bottom 21.0 6.3 0.3 278 21.0 8.0 29.6 96.2 7.2 2.3 90 < 0.2 2.8 1.0 0.1 224 21.3 1.7 86 2.6 8.0 97.9 7.4 <0.2 28.3 97.7 Surface 21.3 8.0 28.3 1.0 0.1 242 21.2 8.0 97.4 7.3 1.7 86 <0.2 2.6 3.5 0.1 250 20.7 8.0 29.5 29.5 94.8 7.2 2.0 88 <0.2 2.6 IM11 822077 811467 Fine Moderate 15:04 7.0 Middle 20.7 8.0 29.5 94.8 88 <0.2 8.0 89 3.5 0.2 <0.2 263 285 20.7 6.0 20.7 8.0 29.9 94.9 7.1 2.7 <0.2 2.7 Rottom 20.7 8.0 29 9 94.9 72 6.0 0.3 286 20.7 8.0 29.9 94.9 7.2 2.7 90 2.5 244 20.8 8.0 29.0 29.2 95.6 95.4 7.2 2.8 86 <0.2 2.6 Surface 20.8 8.0 29.1 95.5 1.0 0.1 20.8 8.0 7.2 3.1 4 85 <0.2 2.6 3.8 0.1 253 20.6 8.0 94.3 4.0 87 <0.2 2.6 IM12 Middle 821458 Fine Moderate 15:11 20.6 8.0 30.9 94.4 0.1 20.6 8.0 30.9 94.4 7.1 4.0 88 2.6 6.5 0.2 158 20.8 8.0 30.9 95.1 7.1 3.8 90 <0.2 2.5 Bottom 20.9 8.0 30.8 95.3 7.1 6.5 0.2 165 20.9 8.0 30.8 95.4 7.1 3.7 3 90 < 0.2 2.6 1.0 20.9 8.0 29.1 97.9 7.4 1.9 Surface 20.9 8.0 29.1 97.9 20.9 8.0 29.2 97.8 7.4 2.0 <2 2.6 SR1A Fine Moderate 15:36 5.1 Middle 819981 812659 2.6 20.7 97.0 97.0 4.1 8.0 30.5 7.3 7.3 2.1 Bottom 8.0 30.5 97.0 7.3 41 8.0 1.0 0.2 222 20.9 8.0 29.1 98 1 74 2.0 87 <0.2 2.5 Surface 20.9 8.0 29.2 98.0 1.0 0.2 231 8.0 97.9 2.0 2 86 2.5 20.8 29.3 74 < 0.2 -SR2 Fine Moderate 15:52 4.9 Middle 88 821481 814143 0.1 218 219 3.9 8.0 97.5 97.7 7.3 7.3 2.1 90 <0.2 2.5 Bottom 20.8 8.0 30.0 97.6 7.3 0.1 8.0 29.9 20.8 90 < 0.2 2.5 0.4 1.0 8.0 1.9 12 21.0 27.2 96.4 7.3 Surface 21.0 8.0 27.2 96.3 1.0 0.4 27.2 13 21.0 8.0 96.2 7.3 2.0 4.2 3.7 20.5 8.0 30.6 95.0 7.2 SR3 14:38 Middle 20.5 822166 807591 Fine Moderate 8.4 8.0 30.6 95.0 4.2 0.3 16 20.4 8.0 30.7 95.0 7.2 4.0 <2 . 7.4 0.3 20.3 8.0 31.6 31.5 95.0 95.0 7.1 7.1 6.3 5.9 31.6 Rottom 20.3 8.0 95.0 7.4 1.0 0.1 238 22.5 8.1 7.6 5.0 29.2 104.0 Surface 22.5 8.1 29.2 103.9 1.0 22.4 103.8 4.9 233 29.2 4.2 0.2 22.3 5.4 289 8.1 29.0 103.5 7.6 SR4A Fine Calm 15:35 8.4 Middle 22.3 8.1 29.0 103.5 817170 807789 4.2 0.2 268 22.3 8.1 5.2 0.3 275 21.2 8.1 30.2 101.3 7.6 7.0 Bottom 21.2 8.1 30.2 101.4 7.6 7.4 277 6.9 21.2 1.0 0.2 281 22.1 8.1 6.5 29.8 7.6 Surface 22.1 8.1 103.0 29.8 1.0 0.2 288 22.1 8.1 7.6 6.4 9 Fine Calm 15:48 Middle 810704 3.3 0.1 288 22.3 8.1 29.8 101.0 7.4 7.1 8 Bottom 3.3 0.1 294 252 22.3 8 1 1.0 0.1 24.7 8.1 29.8 7.5 7.0 0.1 6.8 1.0 265 24.7 8 1 29.8 107 1 7.5 --SR6A Fine Calm 16:21 4.0 Middle 817950 814753 3.0 0.1 287 24.7 8.1 29.6 29.7 107.2 107.2 9.5 -107.2 Bottom 3.0 0.1 292 24.7 8.1 9.4 1.0 0.1 289 20.5 8.0 32.2 92.7 92.4 6.9 1.5 1.6 2 <2 Surface 20.5 8.0 32.2 92.6 1.0 0.1 298 20.5 8.2 0.1 8.0 32.4 32.4 90.6 6.8 1.8 248 20.4 3 -90.6 8.0 32.4 823637 823748 SR7 Fine Moderate 16:38 16.3 Middle 20.4 8.0 90.5 6.8 8.2 0.1 249 20.4 1.9 3 -15.3 0.1 294 20.3 8.0 6.7 1.6 3 -32.5 90.3 Bottom 20.3 8.0 32.5 90.4 6.8 90.4 6.8 8.0 15.3 0.1 302 20.3 20.8 8.0 29.2 29.3 95.7 95.6 7.2 7.2 <2 <2 1.0 3.1 Surface 20.8 8.0 95.7 29.2 8.0 3.4 7.2 -SR8 Fine 15:26 5.0 Middle 820370 811620 Moderate 20.7 8.0 29.6 95.6 7.2 4.2 20.8 8.0 29.6 95.7 7.2 Bottom 8.0

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Water Quality Monitoring Results on during Mid-Ebb Tide 09 January 20 Suspended Solids Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Water Water Temperature (°C) nН Coordinate Coordinat Sampling Monitorino Current Sampling Depth (m) HK Grid HK Grid Direction Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Average Value Value DA Value DA Value Value DA (Northing) (Easting) DA Value Average Value 20.0 1.0 0.1 1.4 Surface 1.0 0.1 227 20.0 8.2 30.4 101.3 77 12.5 8 83 <0.2 1.5 3.6 0.1 202 20.0 8.2 30.4 7.7 116 7 88 <0.2 1.6 Cloudy Rough 11:30 7.1 Middle 8.2 815629 804252 3.6 0.1 205 20.0 8.2 30.4 77 115 7 88 <0.2 1.4 6.1 0.1 120 20.0 11.0 7 91 <0.2 1.6 Bottom 20.0 8.2 30.4 101.5 77 6.1 0.1 129 20.0 8.2 30.4 1015 11.0 7 91 1.4 1.0 0.1 161 20.7 8.0 29.8 95.2 7.2 3.4 4 86 1.8 Surface 20.7 8.0 29.8 95.2 1.0 0.1 161 20.6 8.0 7.2 3.7 4 86 <0.2 1.8 6.7 0.2 65 20.6 8.0 4.8 4 89 <0.2 1.7 C2 Cloudy Moderate 12:25 13.3 Middle 20.6 8.0 30.4 93.9 825672 806966 6.7 0.2 67 20.6 8.0 4.9 4 89 <0.2 1.7 12.3 0.2 356 20.6 8.0 91.2 6.8 4.8 5 90 1.7 20.6 8.0 31.5 91.4 Bottom 12.3 0.2 328 20.6 8.0 91.5 47 5 90 <0.2 1.7 20.5 8.0 32.3 90.5 90.5 2.2 84 <0.2 0.8 6.7 Surface 20.5 8.0 32.3 90.5 1.0 0.2 77 20.5 8.0 32.4 6.7 2.2 3 85 <0.2 0.9 6.1 0.2 97 20.5 2.9 3 85 0.8 8.0 32.4 89.6 6.7 <0.2 C3 Cloudy Moderate 10:48 12.2 Middle 20.5 8.0 32.4 89.6 822096 817784 6.1 3.4 3 86 <0.2 0.9 104 20.5 11.2 88 0.8 0.1 119 20.4 8.0 32.5 90.1 4.9 3 <0.2 6.7 20.4 8.0 32.5 90.3 6.7 Bottom 11.2 123 20.4 5.1 88 <0.2 0.9 1.0 0.1 190 20.1 8.1 100.3 7.6 7.6 85 <0.2 1.4 29.9 20.1 8.1 100.3 Surface 29.9 7.6 7 1.4 1.0 0.1 202 20.1 29.9 100.3 7.6 86 <0.2 -817928 807152 11:52 IM1 Cloudy Rough 5.2 Middle 4.2 0.1 246 20.1 8.1 7.7 10.1 91 <0.2 1.4 30.0 100.6 20.1 8.1 30.0 100.6 Bottom 4.2 0.1 248 20.1 8.1 7.7 10.1 7 91 1.4 30.0 <0.2 1.0 258 20.1 10 0.1 8.2 29.9 101.0 7.7 10.2 83 <0.2 1.3 Surface 20.1 8.2 29.9 101.0 1.0 0.1 8.2 7.7 10.2 10 84 1.4 265 20.1 29.9 101.0 < 0.2 10 1.4 7.7 87 3.9 0.0 20.1 8.2 29.9 101.1 13.0 <0.2 20.1 8.2 29.9 818156 806147 IM2 Cloudy Rough 12:01 7.8 Middle 101.1 7.7 13.0 10 87 1.4 3.9 0.0 20.1 8.2 29.9 < 0.2 7.7 7.7 10 91 1.4 6.8 0.1 83 20.1 8.2 29.9 101.3 10.7 < 0.2 Bottom 20.1 8.2 29.9 101.4 90 8.2 10.7 10 6.8 0.1 20.1 29.9 101.4 92 <0.2 1.4 1.0 0.2 269 20.1 8.2 30.3 101.2 7.7 7.7 10.8 9 83 <0.2 1.3 Surface 20.1 8.2 30.3 101.2 10 1.3 1.0 0.2 271 20.1 8.2 30.3 101.2 10.9 84 < 0.2 11.0 9 88 1.5 3.8 0.1 234 20.1 8.2 30.3 101.1 7.7 <0.2 818782 805590 IM3 Cloudy Rough 12:07 7.6 Middle 20.1 8.2 30.3 101.1 7.7 9 1.4 3.8 0.1 234 20.1 8.2 101 1 11.0 88 30.3 <0.2 0.1 7.7 7.7 9 91 1 4 6.6 20.1 8.2 30.3 101.1 119 < 0.2 Bottom 20.1 8.2 30.3 101.2 10 0.1 2 8.2 119 6.6 20.1 30.3 101 2 91 <0.2 1.3 1.0 0.2 254 20.1 8.2 30.2 101.5 77 114 8 83 <0.2 1 4 Surface 8.2 30.2 101.5 1.0 8.2 77 11.3 8 84 1.4 0.2 275 20.1 30.2 1015 < 0.2 77 1.3 4 0 0.1 249 20.0 8.2 30.2 101.4 12.0 8 88 804624 <0.2 IM4 Cloudy Rough 12:16 8.0 Middle 8.2 30.2 101.4 819704 4 0 0.1 256 20.0 8.2 30.2 101 4 77 12.0 8 88 <0.2 1.5 7.0 0.1 313 20.0 8.2 30.2 101.8 7.8 12.4 8 91 <0.2 1 4 20.0 30.2 101.8 7.0 0.1 328 20.0 8.2 30.2 101.8 7.8 12.4 8 93 <0.2 1.5 1.0 0.2 344 20.1 8.2 29.9 101.2 7.7 9.9 7 83 <0.2 1.3 Surface 101.2 1.0 0.2 316 20.1 8.2 29.9 101.2 7.7 9.9 7 84 <0.2 1.3 41 0.1 359 20.0 8.2 29.9 101.2 77 10.9 7 88 <0.2 1.4 Cloudy Rough 12:24 101.2 820739 804847 41 0.1 330 20.0 8.2 29.9 101 2 7.7 10.9 7 89 <0.2 1.4 7.2 0.1 19 20.1 8.2 29.9 101.6 7.7 13.4 6 91 <0.2 1.5 Bottom 20.1 8.2 29.9 101.7 7.2 0.1 20 20.1 8.2 29.9 1017 7.7 13.4 6 92 <0.2 1.4 1.0 0.2 339 20.1 8.1 10.1 83 <0.2 1.4 29.7 100.4 Surface 8.1 29.7 100.5 1.0 0.2 341 20.1 8.1 29.7 100.5 7.7 10.1 5 84 <0.2 1.4 4.0 0.2 359 20.0 8.1 29.7 100.5 7.7 10.8 5 88 <0.2 1.4 100.5 805819 IM6 Cloudy Rough 12:32 7.9 Middle 8.1 821051 4.0 0.2 359 20.0 8.1 29.7 7.7 10.8 5 89 1.5 6.9 0.1 30 20.0 100.6 7.7 11.2 4 91 <0.2 1.6 7.7 Bottom 20.0 8.1 29.8 100.6 6.9 0.1 20.0 8.1 29.8 11.2 4 91 1.7 1.0 0.2 241 20.2 8.1 28.7 99.6 7.6 6.0 83 <0.2 1.6 Surface 20.2 8.1 28.7 99.6 1.0 0.2 250 20.2 8.1 28.7 99.6 7.6 6.0 8 84 <0.2 1.4 4.2 0.1 209 20.3 9.0 9 88 1.3 28.7 99.9 7.6 <0.2 IM7 Cloudy Rough 12:41 8.3 Middle 20.3 8.1 28.7 100.0 821363 806813 < 0.2 4.2 0.1 225 20.2 8.1 7.6 9.1 9 88 <0.2 1.4 7.3 8.1 9 91 <0.2 1.5 0.0 182 20.1 28.9 100.4 7.7 7.3 Bottom 20.1 8.1 28.9 100.4 7.7 7.3 0.0 182 20.1 8.1 7.7 7.3 92 1.4 1.0 36 20.6 8.0 30.3 96.8 7.3 6.8 6 85 <0.2 1.5 20.6 8.0 30.3 96.8 Surface 8.0 96.8 7.3 7.1 86 1.6 1.0 0.1 36 20.6 30.3 6 <0.2 4.0 0.1 89 20.5 8.0 30.4 97.0 7.3 8.4 6 86 <0.2 1.5 8.0 30.5 97.0 821822 808118 Cloudy 12:02 Middle 20.5 87 1.5 IM8 Moderate 8.0 < 0.2 8.0 7.3 7 86 1.5 4.0 0.1 94 20.5 30.5 97.0 8.2 <0.2

8.1

20.3

8.1

31.6

97.0

31.6

7.3

7.3

97.1

7.5

8

88

<0.2

1.5

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

7.0

Bottom

0.2

0.2

67

71

20.3

during Mid-Ebb Tide Water Quality Monitoring Results on 09 January 20 Dissolved Turbidity(NTU) Suspended Solids Salinity (ppt) Nickel (µg/L) Water Water Temperature (°C) рΗ Coordinate Sampling Coordinate Monitorino Current Sampling Depth (m) HK Grid HK Grid Direction Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Average Value Value DA Value DA Value Value DA (Northing) (Easting) DA Value Average Value 0.1 20.6 1.6 0.1 70 20.6 8.0 30.4 96.9 7.3 10.8 13 85 < 0.2 1.5 3.6 0.2 20.5 8.1 8.1 97.0 97.0 7.3 10.1 9.6 13 14 85 86 1.4 IM9 Cloudy Moderate 11:57 7.2 Middle 20.5 8.1 97.0 9.8 14 87 822108 808821 1.5 20.5 <0.2 6.2 0.2 95 20.3 7.4 7.4 8.6 15 89 1.4 8.1 98.3 <0.2 Bottom 20.3 8.1 31.3 98.7 7.4 8.1 95 20.3 99.0 8.8 15 1 4 6.2 0.2 89 <n 2 20.6 4.6 1.3 Surface 20.6 8.0 30.7 95.4 8.0 30.8 95.3 7.2 11 85 1.3 1.0 0.1 11 20.6 4.5 < 0.2 28 20.6 94.5 94.6 4.3 5 1.2 0.1 8.0 7.1 86 86 <0.2 IM10 Cloudy Moderate 11:53 7.3 Middle 20.6 8.0 31.0 94.6 87 822363 809808 <n 2 8.0 4.4 6.3 0.1 19 20.5 8.0 95.6 7.2 4.4 5 89 <0.2 1.3 31.0 20.5 8.0 95.8 7.2 Bottom 31.0 6.3 0.1 19 20.5 8.0 95.9 7.2 4.3 6 89 <0.2 1.3 1.0 0.1 131 20.5 5.0 85 1.2 8.0 7.0 31.3 93.3 <0.2 Surface 20.5 8.0 31.3 93.3 1.0 0.1 142 20.5 8.0 31.3 93.2 7.0 5.1 6 85 <0.2 1.2 4.6 0.1 154 20.5 5.3 6 87 <0.2 1.2 8.0 31.4 92.6 6.9 IM11 Cloudy 11:42 92.7 822038 811458 Moderate 9.1 Middle 20.5 8.0 31.4 1.3 4.6 0.1 6 87 <0.2 1.3 165 5.6 20.5 8.1 20.5 8.0 94.8 95.0 7.1 6.5 88 <0.2 1.3 Bottom 20.5 8.0 31.5 7 1 8.1 0.1 213 20.5 8.0 95.1 6.7 88 1.3 20.6 8.0 94.0 94.0 7.0 84 <0.2 1.3 Surface 20.6 8.0 31.3 1.0 0.2 263 20.6 8.0 3.8 6 84 <0.2 1.3 3.9 0.2 271 20.6 8.0 4.0 6 85 <0.2 1.3 Middle 821461 812029 IM12 Cloudy Moderate 11:36 7.8 20.6 8.0 31.3 93.8 20.6 8.0 7.0 4.0 86 1.3 288 6.8 0.3 235 20.6 8.0 95.8 7.2 7.2 41 88 <0.2 1.2 Bottom 20.6 8.0 31.4 95.9 7.2 6.8 0.3 255 20.6 8.0 31 4 96.0 4.1 5 88 <0.2 1.3 1.0 20.7 8.0 30.9 94.6 7.1 4.0 6 Surface 8.0 30.9 94.7 1.0 20.6 8.0 30.9 94.7 7.1 4.0 5 2.6 SR1A Cloudy Calm 11:17 Middle 819974 812656 2.6 4.1 20.6 8.0 96.5 7.2 4.3 4 7.3 Bottom 20.6 8.0 31.0 96.6 4.1 20.6 8.0 31.0 96.7 7.3 4.3 4 1.0 0.2 23 20.5 8.0 3.3 4 84 <0.2 1.1 Surface 20.5 8.0 31.5 94.1 1.0 0.2 23 20.5 8.0 94.2 7.0 3.4 4 85 <0.2 1.0 SR2 Cloudy Moderate 11:07 4.9 Middle 821444 814176 < 0.2 95.9 96.3 7.2 7.2 3.8 87 1.1 96.1 88 3.9 0.2 16 20.5 8.0 31.6 4 < 0.2 1.1 1.0 0.0 353 20.6 8.1 30.3 97.7 7.4 5.9 5 Surface 8.0 30.3 97.8 1.0 0.0 325 20.6 8.0 30.3 97.9 7.4 5.9 5 4.6 0.1 83 20.2 8.0 30.5 99.7 7.6 5.7 5 SR3 Cloudy Moderate 12:07 9.2 99.9 822144 807594 4.6 0.1 83 20.1 8.0 30.6 100.0 7.6 5.6 6 0.2 20.3 97.3 97.4 7.3 6.6 8.2 73 78 8.1 Bottom 8.1 97.4 7.3 8.1 31.4 6 1.0 0.3 86 20.0 8.1 29.6 100.3 7.7 7.9 6 Surface 20.0 8.1 29.6 100.3 7.7 7.9 1.0 0.3 91 20.0 8.1 100.3 29.6 6 -4.8 0.3 7.6 20.1 8.1 100.2 807797 SR4A Cloudy Rough 11:07 9.6 Middle 20.1 8.1 29.5 100.2 817194 7.2 4.8 0.3 82 20.1 8.1 7.6 29.5 0.2 20.0 8.1 8.6 68 100.5 7.7 11.5 Rottom 20.0 8.1 29.6 100.5 7.7 20.0 8.6 0.2 72 43 8.1 11.5 1.0 0.1 8.1 7.4 6.0 8 29.1 98.4 Surface 20.7 8.1 29.1 98.4 1.0 0.1 46 20.7 8.1 29.1 98.4 7.4 6.1 8 SR5A Cloudy 10:49 Middle 816583 810710 Rough 3.9 2.9 0.1 114 20.7 98.4 7.4 8.1 5.5 8.1 Bottom 20.7 29.0 98.4 7.4 2.9 0.1 114 20.7 8.0 Surface 20.3 8.0 29.1 95.7 20.3 7.3 4.1 SR6A Cloudy Rough 10:22 4.5 Middle 817946 814727 3.5 306 20.3 95.6 95.7 Bottom 8.0 318 1.0 0.3 53 20.4 8.0 32.6 89.0 89.0 6.6 2.2 Surface 8.0 32.6 1.0 0.4 55 20.4 8.0 32.6 6.6 2.3 7.8 0.2 53 20.4 8.0 32.6 89.2 6.6 2.3 3 SR7 Cloudy Moderate 10:21 Middle 32.6 89.2 823635 823722 89.2 7.8 0.3 55 20.4 8.0 32.6 6.7 2.3 3 6.7 14.6 0.2 35 20.4 8.0 32.6 89.7 2.1 3 Bottom 8.0 32.6 89.8 14.6 0.2 20.4 8.0 89.8 20.6 20.6 5.4 5.5 1.0 8.0 95.3 95.2 12 11 Surface 20.6 95.3 7 1 8.0 --SR8 Cloudy Calm 11:26 5.3 Middle 5.7 10 820392 811638 4.3 8.0 7.2 5.9 20.6 95.6 8 20.6 8.0 31.0 95.7 7.2 20.6

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring Water Quality Monitoring Results on 09 January 20 during

09 January 20 during Mid-Flood Tide

Water Qua	lity Monit	toring Resu	ılts on		09 January 20	during Mid-	Flood Tid	le																					
Monitoring	Weather	Sea	Sampling	Water	Sampling De	pth (m)	Current Speed	Current	Water Te	emperature (°C)		рН	Salir	ity (ppt)		aturation %)	Dissol Oxyg		Turbidity(NTU)	Suspende (mg/		Total Alkali (ppm)	, 000	ordinate K Grid	Coordinate HK Grid	Chromit (µg/L)		kel (µg/L)
Station	Condition	Condition	Time	Depth (m)			(m/s)	Direction	Value	Average		Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA	Value D		orthing)	(Easting)		DA Valu	
					Surface	1.0	0.1	14 15	20.2	20.2	8.2	8.2	30.3	30.3	101.9 101.9	101.9	7.7		7.1 7.0		13 14		83				<0.2	1.3	
C1	Fine	Rough	16:54	6.9	Middle	3.5 3.5	0.1	19 20	20.2	20.2	8.2 8.2	8.2	30.2	30.2	102.0 102.0	102.0	7.7	7.7	7.2 7.2	9.2	13 13	13	88	8 8	15640	804250	<0.2	<0.2	
					Bottom	5.9	0.1 0.1	18	20.2	20.2	8.2	8.2	30.3	30.3	102.0	102.0	7.7	7.7	13.5		12		88 91				<0.2	1.3	3
						5.9 1.0	0.1	19 15	20.2		8.2		30.3		102.0 94.5		7.7	7.7	13.5 3.0		11 4		92 84				<0.2	1.3	
					Surface	1.0 6.3	0.1	16 15	20.6 20.6	20.6	8.0	8.0	29.7 30.1	29.7	94.4 94.1	94.5	7.1 7.1	7.1	3.2 5.1	ļ	4 6		84				<0.2 <0.2	1.7	7
C2	Cloudy	Moderate	15:30	12.6	Middle	6.3	0.2	16	20.6	20.6	8.0	8.0	30.1	30.1	94.1	94.1	7.1		5.2	5.1	7	6	89	8 82	25695	806963	<0.2	1.7	7 1.7
					Bottom	11.6 11.6	0.4	17 18	20.6	20.6	8.0	8.0	30.5	30.5	94.7 95.1	94.9	7.1	7.1	6.9 7.0		8		90				<0.2	1.7	
					Surface	1.0	0.1	221 226	20.4	20.5	8.0	8.0	32.0	32.0	90.1 89.9	90.0	6.7		2.1	-	<2 3		85 86				<0.2	1.0	
C3	Cloudy	Moderate	17:23	11.2	Middle	5.6 5.6	0.1	237	20.5	20.5	8.0	8.0	32.3	32.3	89.7 89.8	89.8	6.7	6.7	5.1 5.5	4.6	2	2	00	8 82	22111	817814	×0.2	<0.2	T
					Bottom	10.2	0.2	250	20.5	20.5	8.0	8.0	32.3	32.3	91.0	91.2	6.8	6.8	6.5	ļ	2		89				<0.2	1.2	2
					Surface	10.2	0.2	258 89	20.5	20.1	8.0	8.2	32.3 30.0	30.0	91.4 101.5	101.5	6.8 7.7		6.4 9.0		8		90 83				<0.2	1.1	
						1.0	0.1	87	20.1	20.1	8.2	0.2	30.0	30.0	101.5	101.5	7.7	7.7	9.0		9		88				<0.2	1.1	-
IM1	Fine	Rough	16:37	4.9	Middle	-	-	-	- 20.4	-	-	-	-	-	-	-	-		- 70	8.1	-	10	-	7 8	17938	807123	-	<0.2	
					Bottom	3.9	0.1 0.1	80 86	20.1	20.1	8.2 8.2	8.2	30.0	30.0	101.8 101.8	101.8	7.8	7.8	7.2 7.1		11 10		88 88				<0.2 <0.2	1.1	1
					Surface	1.0	0.2	350 354	20.1	20.1	8.2	8.2	30.0	30.0	101.8 101.8	101.8	7.7	7.7	7.2 7.2	-	14 13		83 84				<0.2	1.1	
IM2	Fine	Rough	16:29	7.4	Middle	3.7	0.1	342 347	20.1	20.1	8.2 8.2	8.2	30.0	30.0	101.7 101.6	101.7	7.7	<i>'.'</i>	7.3 7.3	7.3	15 15	15	88 8	8 8	18172	806174	<0.2	<0.2 0.9	
					Bottom	6.4 6.4	0.1 0.1	283 300	20.1	20.1	8.2	8.2	30.0	30.0	101.6 101.7	101.7	7.7	7.7	7.5 7.5	ļ	15 15		91 92				<0.2 <0.2	0.9	9
					Surface	1.0	0.2	336	20.1	20.1	8.2	8.2	30.1	30.1	101.7	101.7	7.7		9.5		16		83				<0.2	1.2	2
IM3	Fine	Rough	16:17	7.2	Middle	1.0 3.6	0.2	341 310	20.1	20.1	8.2 8.2	8.2	30.1	30.0	101.7 101.7	101.7	7.7	7.7	9.5 7.8	8.6	16 15	16	84 88	8 8	18777	805610	<0.2	<0.2	2 12
		9			Bottom	3.6 6.2	0.1	312 243	20.1	20.1	8.2	8.2	30.0 30.1	30.1	101.7 101.8	101.8	7.7	7.7	7.8 8.4		16 16		91				<0.2	1.2	2
						6.2	0.0	257 22	20.1		8.2		30.1		101.8 101.1		7.7	7.7	8.4 9.3		16 15		92 83				<0.2	1.2	
					Surface	1.0	0.0	23	20.1	20.1	8.2	8.2	30.0	30.0	101.1	101.1	7.7	7.7	9.1 9.1	Į	16 16		83				<0.2	1.2	2
IM4	Fine	Rough	16:08	7.9	Middle	4.0	0.1	20	20.1	20.1	8.2	8.2	30.2	30.2	101.5	101.5	7.7		9.0	9.3	18	17	88	7 8	19737	804618	<0.2	<0.2	2 1.1
					Bottom	6.9 6.9	0.1 0.1	334 350	20.1	20.1	8.2	8.2	30.1 30.1	30.1	101.9 101.9	101.9	7.7	7.7	9.7 9.7	ŀ	18 19		91 91				<0.2 <0.2	1.2	2
					Surface	1.0	0.2	28 30	20.2	20.2	8.1 8.1	8.1	29.6 29.6	29.6	101.3	101.3	7.7		11.7 11.7		13 14		81 83				<0.2	1.0	
IM5	Fine	Rough	15:57	8.0	Middle	4.0 4.0	0.1	27 28	20.2	20.2	8.1 8.1	8.1	29.4 29.4	29.4	101.2 101.1	101.2	7.7	′.′	11.9 11.9	10.6	17 16	16	87 87	7 82	20735	804883	<0.2	<0.2	2 40
					Bottom	7.0	0.1	34	20.3	20.3	8.1	8.1	29.3	29.3	101.8	101.9	7.8	7.8	8.3	ļ	19		92				<0.2	1.3	3
					Surface	7.0 1.0	0.1	36 25	20.2	20.3	8.1 8.1	8.1	29.3 28.5	28.5	101.9 99.8	99.8	7.8 7.6		8.3 6.0		18 17		92 83				<0.2 <0.2	1.2	2
	_					1.0 3.9	0.2	25 22	20.3		8.1 8.1		28.5 28.5		99.8 99.9		7.6 7.6	7.6	6.0 5.9		17 18		84 88				<0.2	1.0	
IM6	Fine	Rough	15:47	7.8	Middle	3.9 6.8	0.1	24 19	20.3	20.3	8.1 8.1	8.1	28.5 27.6	28.5	99.9 99.9	99.9	7.6 7.7		5.9 5.0	5.6	17 20	18	88	8 84	21059	805818	<0.2	<0.2	
					Bottom	6.8	0.1	16 27	20.2	20.2	8.1	8.1	28.5	28.1	99.9	99.9	7.7	7.7	4.9 5.8		21		91				<0.2	1.0)
					Surface	1.0	0.1	26	20.7	20.7	8.1 8.1	8.1	29.2	29.2	100.2 100.2	100.2	7.6 7.6	7.7	5.8		12 13		83 84				<0.2 <0.2	0.9	9
IM7	Fine	Rough	15:28	8.1	Middle	4.1 4.1	0.1 0.1	16 18	20.2	20.2	8.1 8.1	8.1	28.6	28.6	99.9 99.9	99.9	7.7		6.2 6.2	5.9	9	10	88 8	8 82	21353	806811	<0.2	<0.2 1.0	
					Bottom	7.1 7.1	0.1	14 14	20.1	20.1	8.1 8.1	8.1	28.6 28.6	28.6	100.1	100.2	7.7	7.7	5.6 5.6	ļ	9		91 91				<0.2 <0.2	0.9	
					Surface	1.0	0.3	332	20.5	20.5	8.1 8.1	8.1	30.4	30.4	96.6	96.6	7.3		7.2	-	14		85 85				<0.2	1.6	3
IM8	Cloudy	Moderate	15:57	7.5	Middle	1.0 3.8	0.4	334 328	20.5 20.5	20.5	8.1	8.1	30.5	30.5	96.6 96.4	96.4	7.3	7.3	7.2 6.1	6.6	14 16	17	86	7 82	21840	808116	<0.2	0.0 1.4	1 40
	J.O.G.G.	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	10.07			3.8 6.5	0.4	319 333	20.5 20.5	20.5	8.1	8.0	30.5 30.6	30.6	96.4 96.8	96.9	7.3 7.3	72	6.2 6.4	5.0	17 20		87	. 02		300110	<0.2	1.5	3
DA: Depth-Ave					Bottom	6.5	0.1	309	20.5	20.5	8.0	8.0	30.6	30.6	97.0	96.9	7.3	7.3	6.6		20		88				<0.2	1.6	

during Mid-Flood Tide Water Quality Monitoring Results on 09 January 20 Dissolved Suspended Solids Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Water Water Temperature (°C) nН Coordinate Sampling Coordinate Monitorino Current Sampling Depth (m) HK Grid HK Grid Direction Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Average Value Value DA Value DA Value DA Value DA (Northing) (Easting) DA Value Average Value 0.3 20.6 1.4 8.0 0.3 285 20.6 96.1 7.3 8.1 13 86 < 0.2 1.3 3.6 0.4 20.5 8.0 96.5 96.5 7.3 11.0 13 87 87 <0.2 1.4 IM9 Cloudy Moderate 16:04 7.2 Middle 20.5 30.1 96.5 10.9 14 87 822110 808813 0.4 282 10.8 < 0.2 20.5 6.2 0.2 290 20.5 7.3 7.3 13.1 13 88 1.4 8.0 30.4 97.1 <0.2 Bottom 20.5 8.0 30.4 97.2 7.3 1.3 8.0 14.5 13 20.5 30.4 97.3 89 6.2 0.2 293 <0.2 20.5 8.7 14 84 1.3 94.5 Surface 20.5 8.0 31.0 94.5 8.0 94.5 7.1 14 84 1.4 1.0 0.5 285 20.5 8.9 < 0.2 10.3 14 13 287 291 20.5 94.6 85 86 <0.2 1.3 3.5 0.3 8.0 7.1 IM10 Cloudy Moderate 16:13 6.9 Middle 20.5 8.0 31.0 94.7 10.0 86 822406 809814 <n 2 8.0 0.3 5.9 0.3 279 20.5 8.0 95.2 7.1 10.7 13 89 <0.2 1.3 31.1 20.5 8.0 31.1 95.3 7.2 Bottom 5.9 0.3 286 20.5 8.0 95.4 7.2 11.0 13 89 <0.2 1.3 1.0 0.1 285 20.4 7.6 9 85 1.2 8.0 7.1 <0.2 31.0 94.3 94.3 Surface 20.4 8.0 31.0 1.0 0.1 20.4 8.0 94.3 7.1 7.7 10 85 <0.2 1.2 4.3 0.2 259 20.4 7.1 7.2 11 85 <0.2 1.2 8.0 94.1 IM11 Cloudy 94.1 822074 811466 Moderate 16:24 8.6 Middle 20.4 8.0 31.0 86 4.3 11 86 <0.2 1.2 0.2 262 287 20.4 7.6 20.4 8.0 95.0 95.2 7.1 7.2 7.8 11 88 <0.2 1.1 Bottom 20.4 8.0 31.1 7.2 7.6 0.2 291 20.4 8.0 95.3 7.9 12 89 1.2 234 20.5 8.0 93.4 93.4 93.4 7.0 84 <0.2 1.3 Surface 20.5 8.0 31.2 1.0 0.1 234 20.5 8.0 31.2 5.2 9 85 <0.2 1.3 4.2 0.1 244 20.5 8.0 5.4 10 86 <0.2 1.2 Middle 821457 812040 IM12 Cloudy Moderate 16:31 20.5 8.0 31.2 93.4 10 4.2 0.1 20.5 8.0 93.4 7.0 10 86 1.3 251 74 0.2 253 20.5 8.0 94.5 7.1 7.1 11 88 <0.2 1.3 Bottom 20.5 8.0 31.2 94.7 7.1 7.1 7.4 0.2 260 20.5 8.0 31.2 94.8 7.3 11 88 <0.2 1.4 1.0 20.5 8.0 31.2 93.2 7.0 5.9 9 Surface 20.5 8.0 31.2 93.2 20.5 8.0 31.2 93.2 7.0 6.1 10 2.5 SR1A Cloudy Calm 16:47 5.0 Middle 12 819976 812655 2.5 20.5 7.0 6.8 13 14 4.0 8.0 93.2 Bottom 20.5 8.0 31.2 93.2 7.0 31.2 8.0 1.0 0.2 222 20.5 8.0 94.2 6.3 12 85 <0.2 12 Surface 20.5 8.0 31.2 94.3 1.0 11 0.2 222 8.0 94.4 7 1 6.3 86 12 20.5 31.2 <0.2 SR2 Cloudy Calm 16:59 4.6 Middle 821477 814181 1.3 3.6 218 219 20.5 20.5 8.0 95.8 96.3 7.2 5.9 5.9 88 <0.2 Bottom 20.5 8.0 31.2 96.1 7.2 8.0 0.1 88 1.3 8 <0.2 1.0 0.4 20.6 7.6 16 12 8.0 30.1 96.1 7.2 Surface 20.6 8.0 30.1 96.1 1.0 0.4 7.2 7.6 16 12 20.6 8.0 30.1 96.1 4.9 10.3 15 20.5 7.3 8.1 30.4 96.5 SR3 15:49 20.5 8.1 30.4 96.6 822170 807574 Cloudy Moderate 9.8 Middle 15 4.9 0.4 15 20.5 8.1 30.4 96.6 7.3 10.2 16 14 8.8 0.3 14 20.4 8.0 30.9 97.6 98.2 7.3 7.4 10.7 97.9 Rottom 20.4 8.0 30.8 20.4 15 1.0 0.1 236 20.2 8.2 7.6 10 30.1 101.8 7.7 Surface 20.2 8.2 30.1 101.8 1.0 237 8.2 7.7 7.6 10 20.2 4.3 0.2 7.7 7.2 10 280 20.2 8.2 30.1 101.8 SR4A Fine Rough 17:24 8.5 Middle 20.2 8.2 30.1 101.8 817189 807813 4.3 0.3 287 7.7 7.2 12 20.2 0.3 275 20.2 8.2 7.7 7.2 11 20.2 8.2 30.0 101.8 7.7 Bottom 7.5 281 20.2 1.0 0.2 290 20.9 7.4 8.1 29.5 7.6 Surface 20.9 8.1 29.5 101.6 1.0 0.2 291 20.9 8.1 7.6 7.5 9 SR5A Fine Rough 17:41 Middle 816592 810676 7.7 2.6 0.1 284 20.8 8.1 6.7 8 Bottom 8.1 102.2 7.7 2.6 0.1 284 20.8 8.2 6.7 8.1 1.0 0.1 241 20.6 29.1 7.6 7.2 9 100.9 0.1 7.6 7.2 1.0 234 20.6 8 1 29 1 100.9 9 SR6A Rough 18:10 3.8 Middle 817949 814725 2.8 0.1 269 20.8 8.1 29.5 101.2 7.6 7.6 6.9 6 8.1 101.2 8.1 2.8 0.1 255 20.8 6.9 1.0 0.1 286 20.5 8.0 32.0 32.0 89.0 89.1 6.7 6.7 2.4 Surface 20.5 8.0 32.0 89.1 1.0 0.1 308 20.5 2.4 7.7 0.1 243 20.4 8.0 32.2 88.8 6.6 2.7 8 88.8 823755 17:50 20.4 8.0 32.2 823626 SR7 Cloudy Moderate 15.4 Middle 3.0 8.0 88.8 6.6 8 7.7 0.1 246 20.4 32.2 2.7 14.4 0.1 292 20.4 8.0 88.7 6.6 3.8 9 32.4 Bottom 20.4 8.0 32.4 88.8 6.6 8.0 88.8 3.8 14.4 0.1 302 20.4 1.0 20.5 20.5 8.0 93.0 93.0 7.0 7.0 5.9 6.1 10 11 31.2 Surface 20.5 8.0 93.0 31.2 1.0 8.0 31.2 7.0 SR8 Cloudy Calm 16:40 4.5 Middle 10 820372 811628 6.5 8.0 10 20.5 93.0 7.0 6.9 20.5 8.0 31.2 93.0 7.0 Bottom

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

Water Quality Monitoring Results on 11 January 20 during Mid-Ebb Tide

Water Qual	ity wonite	oring Resu	its on		11 January 20	during Mid	-EDD IIG	3																		
Monitoring	Weather	Sea	Sampling	Water	Sampling De	epth (m)	Current Speed	Current	Water Te	mperature (°C)		pН	Salinity (ppt)	DO:	Saturation (%)	Dissolved Oxygen	Turbio	ity(NTU)	Suspende (mg		Total Alkali (ppm)	Coordinat	Coordinate HK Grid			Nickel (µg/L)
Station	Condition	Condition	Time	Depth (m)		,	(m/s)	Direction	Value	Average	Value	Average	Value Average	Value	Average	Value D/	Value	DA	Value	DA	Value D				DA \	Value DA
					Surface	1.0	0.1	211 211	20.5 20.5	20.5	8.0	8.0	30.0 30.0	98.8 98.8	98.8	7.5 7.5	5.1		11		83 84			<0.2		2.9 3.0
C1	Fine	Rough	13:19	7.1	Middle	3.6	0.1	216	20.5	20.5	8.1	8.1	31.4	98.8	98.8	7.4	6.3	7.0	11	11	88	9 815596	804263	<0.2	-0.2	2.9
		9	10.10			3.6 6.1	0.1	224 249	20.5		8.1 8.1		31.4	98.7 98.3		7.4	6.4 9.4		12 10		91			<0.2		3.0
					Bottom	6.1	0.1	251	20.5	20.5	8.1	8.1	31.7	98.2	98.3	7.3	9.4		11		93			<0.2		3.0
					Surface	1.0	0.1	181 199	20.9	20.9	8.0	8.0	26.7	87.3 87.3	87.3	6.6	4.8	+	8	ł	89 89			<0.2		2.4
C2	Sunny	Moderate	11:47	11.5	Middle	5.8 5.8	0.0	167 183	20.9 20.9	20.9	8.0	8.0	26.8 26.8	87.7 87.7	87.7	6.6	5.1 5.1	5.2	8	9	91 91	1 825662	806929	<0.2		2.2 2.3
					Bottom	10.5	0.1	164	20.9	20.9	8.0	8.0	26.8	88.0	88.0	6.6	5.6	_	11	1	94			<0.2		2.2
						10.5	0.1	168 150	20.9		8.0		26.8	88.0 85.7		6.6	5.7		11 8		93		+	<0.2		1.3
					Surface	1.0	0.3	155	21.4	21.4	8.1	8.1	30.1	85.6	85.7	6.4	3.3		10	İ	87			<0.2		1.2
C3	Sunny	Moderate	13:43	10.8	Middle	5.4 5.4	0.3	154 166	20.8	20.8	8.1 8.1	8.1	30.2 30.2	84.4	84.4	6.3	3.7	3.5	11 10	10	89 89	9 822123	817807	<0.2		1.1 1.0
					Bottom	9.8	0.2	142 150	21.2	21.2	8.1 8.1	8.1	30.1	85.4 85.7	85.6	6.4	3.4		11 11		91 92			<0.2		1.2
					Surface	1.0	0.0	111	20.5	20.5	8.1	8.1	31.8	99.8	99.9	7.5	4.3		10		83			<0.2		2.7
	-					1.0	0.0	118	20.5		8.1		31.8	99.9		7.5 7.5	4.3		- 11		84			<0.2		2.6
IM1	Fine	Rough	12:51	4.2	Middle	3.2	-	283	-	-	-	-		-	-	-	. 5.5	4.9	- 8	10	91 8	817936	807113	-	<0.2	3.1
					Bottom	3.2	0.1	283 297	20.5 20.5	20.5	8.1 8.1	8.1	31.9 31.9	100.3	100.3	7.5 7.5	5.5		9		92			<0.2		3.0
					Surface	1.0	0.1	125 136	20.7	20.7	8.0	8.0	30.6	100.8	100.8	7.6	4.8		9		82			<0.2		2.9 3.0
IM2	Fine	Rough	12:44	7.3	Middle	3.7	0.1	100	20.5	20.5	8.0	8.0	31.5	98.6	98.7	7.4	7.6	J 67	11	11	88	7 818159	806184	<0.2	-02	3.0
					Bottom	3.7 6.3	0.1	101 176	20.5 20.4	20.4	8.0 8.1	8.1	31.5 31.9 31.9	98.7 98.3	98.4	7.4	7.6 7.8		12 12		88 91			<0.2		3.6
						6.3 1.0	0.1	191 212	20.4		8.1 8.0		31.9	98.4 99.1		7.4	7.8 6.1		12 12		92 81	+	1	<0.2		3.6
					Surface	1.0	0.1	223	20.7	20.7	8.0	8.0	29.6	99.1	99.1	7.5	6.2		12	İ	82			<0.2		3.1
IM3	Fine	Rough	12:35	7.6	Middle	3.8	0.1	189 190	20.5	20.5	8.0	8.0	31.5 31.5	98.4 98.5	98.5	7.4	8.5 8.6	8.2	13 12	13	88 89	7 818775	805588	<0.2		2.1 2.7
					Bottom	6.6 6.6	0.1	123 124	20.5	20.5	8.0	8.0	31.7	97.4 97.5	97.5	7.3 7.3	9.8		14 14		91 92			<0.2		3.1
					Surface	1.0	0.1	287	20.7	20.7	8.0	8.0	30.0	100.5	100.6	7.6	4.7		7		82			<0.2		3.5
19.44	F1	Donat	40.07			1.0 3.5	0.1	310 216	20.7		8.0		30.0	100.6 98.3		7.6 7.5	7.5	-	7 8		81	040740	004040	<0.2		3.7 2.4
IM4	Fine	Rough	12:27	6.9	Middle	3.5 5.9	0.0	228 262	20.5 20.5	20.5	8.0 8.0	8.0	31.0	97.9	98.1	7.4 7.3	7.6	7.6	9	8	88 88	819742	804618	<0.2 <0.2	<0.2	2.5 2.8 3.0
					Bottom	5.9	0.0	266	20.5	20.5	8.0	8.0	31.4	96.9 96.7	96.8	7.2	10.8		8		89			<0.2		2.8
					Surface	1.0	0.2	218 205	20.6	20.5	8.0	8.0	30.6	98.6 98.5	98.6	7.4	7.9	-	9	+	84			<0.2		2.2
IM5	Fine	Rough	12:18	7.3	Middle	3.7 3.7	0.1	203	20.5	20.5	8.0	8.0	31.6 31.6	98.1 98.0	98.1	7.3	3.9	5.5	11 10	10	89 89	7 820743	804890	<0.2	-0.3	2.4 2.3
					Bottom	6.3	0.1	202 174	20.5 20.5	20.5	8.0	8.0	31.6	97.8	97.9	7.3	4.6		10		87			<0.2		2.3
						1.0	0.1	175 182	20.5		8.0		31.6	97.9 98.1		7.3	4.6 5.7	+	11		87 84		+	<0.2		3.0
					Surface	1.0	0.1	193	20.5	20.5	8.0	8.0	31.5	98.2	98.2	7.3	5.7		10	1	83			<0.2		3.0
IM6	Fine	Rough	12:09	8.1	Middle	4.1 4.1	0.1	169 180	20.5 20.5	20.5	8.0	8.0	31.5 31.5	98.3 98.3	98.3	7.4	6.0	8.2	9 10	10	89 89	821058	805812	<0.2	<0.2	2.3 3.0
					Bottom	7.1 7.1	0.1	181 190	20.5	20.5	8.0	8.0	31.6 31.6	97.9 97.8	97.9	7.3 7.3	12.8		9		87 86			<0.2		3.6
					Surface	1.0	0.1	176	20.8	20.8	7.9	7.9	29.7	97.0	97.1	7.3	4.2		10		83			<0.2		2.3
11.47	Ex :	Devent	11.50	0.5		1.0 4.3	0.1	167 153	20.8		7.9 7.9		29.7	97.1 97.4		7.3 7.3	6.5	-	10 11	4.4	85 88	, , , , , , , ,	000015	<0.2		2.4
IM7	Fine	Rough	11:52	8.5	Middle	4.3	0.0	167	20.6	20.6	7.9	7.9	30.8	97.6	97.5	7.3	6.6	6.7	11	11	88	7 821361	806812	<0.2	<0.2	2.2
					Bottom	7.5 7.5	0.0	144 136	20.5 20.5	20.5	7.9 8.0	7.9	31.4 31.4 31.4	97.1 96.5	96.8	7.3 7.3	9.5		12 13		89 88		<u> </u>	<0.2 <0.2		2.1
					Surface	1.0	0.1	166 158	20.9	20.9	8.0	8.0	27.2 27.2	85.2 85.3	85.3	6.5	8.9		10 9		86 85			<0.2		2.0
IM8	Sunny	Moderate	12:14	8.0	Middle	4.0	0.1	158	20.9	20.9	8.0	8.0	27.3	88.1	88.2	6.7	9.6	10.0	10	10	87	8 821844	808138	<0.2	-02	2.0
	•				Bottom	4.0 7.0	0.1	159 165	20.9	21.0	8.0	8.0	27.3	88.2 89.9	90.0	6.7 6.7 6.1	9.5		9 12	1	90			<0.2	. L	2.0
DA: Depth-Avera					DOLLOTTI	7.0	0.1	169	21.0	21.0	8.0	0.0	27.2	90.0	90.0	6.7	11.9		11		90			<0.2		2.0

during Mid-Ebb Tide Water Quality Monitoring Results on 11 January 20 Suspended Solids Nickel (µg/L) Salinity (ppt) Turbidity(NTU) Water рΗ Coordinate Sampling Water Temperature (°C) Coordinate Monitoring Current (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value DA Value DA Value Value DA (Northing) (Easting) Value DA Value Average Average 0.2 88.0 1.0 0.2 141 20.9 8.0 27.2 6.7 10.1 16 86 <0.2 2.0 3.8 0.2 144 20.9 8.1 88.6 88.6 6.7 6.7 11.8 17 18 88 89 <0.2 2.1 IM9 Moderate 12:21 7.6 Middle 12.1 17 88 822104 808810 <0.2 3.8 0.2 145 20.9 8.1 11.8 6.6 0.3 101 20.9 89.6 89.7 18 90 < 0.2 2.0 8.1 27.5 6.7 14.5 Bottom 20.9 8.1 27.5 89.7 6.7 6.7 6.6 0.3 108 8 1 27.5 14 4 18 91 19 20.9 <0.2 0.3 123 20.9 8.3 8.0 2.1 6.6 Surface 20.9 8.0 27.2 86.8 8.0 86.7 6.5 87 2.0 1.0 0.3 129 20.9 8.3 8 < 0.2 0.3 21.0 21.0 108 8.0 86.8 86.9 9.1 9.1 89 89 <0.2 2.0 4.2 6.5 IM10 Sunny Moderate 12:29 84 Middle 21.0 8.0 27.2 86.9 89 822391 809778 <0.2 10 7.4 0.2 109 21.0 8.0 89.0 6.7 9.7 91 <0.2 2.0 27.2 89.2 6.7 Bottom 21.0 8.0 27.2 7.4 0.2 111 21.0 8.0 27.2 89.3 6.7 9.7 10 91 < 0.2 2.0 1.0 0.4 136 10.1 10 86 1.4 20.7 8.1 84.9 <0.2 29.1 6.4 Surface 20.7 8.1 29.1 84.8 1.0 0.4 132 20.7 8.1 29.1 84.7 6.4 10.2 11 86 <0.2 1.3 4.5 0.5 109 20.8 8.1 83.7 9.2 12 88 <0.2 1.3 29.0 6.3 IM11 822069 811441 Sunny Moderate 12:41 8.9 Middle 20.8 8.1 29.0 83.7 13 88 <0.2 4.5 0.5 8.1 12 15 89 1.4 <0.2 122 20.8 9.2 7.9 20.8 8.1 29.1 84.2 84.4 6.3 9.9 <0.2 1.2 Rottom 20.8 8.1 29.1 84.3 6.3 7.9 0.4 139 20.8 8.1 29.1 6.3 9.9 16 90 1.3 29.2 85.5 85.4 12 86 <0.2 1.4 Surface 20.8 8.1 29.2 85.5 1.0 0.5 133 20.8 8.1 6.4 5.1 12 86 <0.2 1.3 4.2 0.5 119 20.7 84.3 5.9 13 88 <0.2 1.3 29.2 Middle 821465 812063 IM12 Sunny Moderate 12:49 20.7 8.1 29.2 84.3 0.5 118 20.7 8.1 84.3 5.9 14 89 1.4 7.3 0.4 129 20.7 8.1 84.9 5.4 16 90 <0.2 1.4 Bottom 20.7 8.1 29.2 85.1 6.4 7.3 0.4 125 20.7 8.1 29.2 85.2 6.4 5.4 16 91 < 0.2 1.3 1.0 20.7 8.1 29.5 84.6 6.4 5.3 8 Surface 20.7 8.1 29.5 84.6 1.0 20.7 8.1 29.5 84.5 6.4 5.3 7 2.8 Moderate 13:13 Middle 819972 812665 Sunny 2.8 4.6 20.5 8.1 82.3 6.1 5.5 11 6.1 Bottom 20.5 8.1 29.5 82.3 4.6 20.5 8.1 29.5 82.3 6.1 5.5 11 1.0 0.4 87 20.7 8.1 29.4 85.4 4.4 86 <0.2 1.2 Surface 20.7 8.1 29.4 85.3 1.0 0.4 91 20.7 8.1 29.4 85.1 6.4 4.4 10 85 <0.2 1.2 SR2 Sunny Moderate 13:22 4.6 Middle 821482 814181 <0.2 1.2 29.4 29.4 83.5 83.6 6.3 <0.2 1.3 Bottom 8.1 29.4 83.6 6.3 3.6 0.3 65 20.6 8.1 6.3 11 87 <0.2 1.2 1.0 0.3 209 20.8 8.0 27.5 85.5 6.5 8.9 10 8.0 27.5 85.5 1.0 0.3 174 20.8 8.0 27.5 85.5 6.5 8.9 11 4.4 0.3 162 20.8 8.1 28.0 86.1 6.5 10.9 10 -SR3 Moderate 12:07 8.8 28.0 822145 807580 Sunny 4.4 0.3 168 20.8 8.1 28.0 86.1 6.5 10.9 11 0.3 20.8 8.1 8.1 27.6 27.6 87.0 87.1 6.6 8.7 8.7 7.8 182 178 11 Bottom 87.1 6.6 1.0 0.3 78 20.5 8.1 31.6 98.5 7.4 6.0 11 Surface 20.5 8.1 31.6 98.5 1.0 0.3 8.1 31.6 98.5 7.4 6.0 11 82 20.5 -84 8.1 9.2 12 0.2 20.5 31.6 97.5 7.3 807792 SR4A Fine Moderate 13:48 9.9 Middle 20.5 8.1 31.6 97.5 12 817170 5.0 0.2 87 20.5 8.1 97.4 7.3 9.2 10 31.6 14 0.2 20.5 8.1 96.9 97.1 8.9 54 31.7 12.5 Rottom 20.5 8.1 31.7 97.0 7.3 8.9 0.2 55 13 20.5 8.1 31.7 7.3 12.7 14 0.1 1.0 8.0 10 3.9 31.8 97.5 7.3 Surface 20.6 8.0 31.8 97.5 1.0 0.1 13 20.6 8.0 31.8 97.4 7.3 3.9 10 SR5A 14:03 4.8 Middle 816569 810704 Fine Moderate 3.8 0.1 20.6 8.0 13 31.9 97.9 7.3 5.2 Bottom 20.6 8.0 31.9 98.0 7.3 3.8 0.1 20.6 12 0.0 8.0 Surface 20.9 8.0 31.5 98.7 20.9 1.9 10 SR6A Fine Moderate 14:39 3.8 Middle 817958 814741 2.8 20.7 3.2 12 Bottom 1.0 0.4 32 21.1 8.1 30.3 83.9 83.9 6.2 4.1 9 Surface 8.1 1.0 0.4 32 21.1 8.1 6.2 41 7.3 0.4 49 20.7 8.1 30.3 84.0 6.3 4.3 9 SR7 Sunny Moderate 14:13 Middle 823656 823739 7.3 0.4 53 20.7 8.1 30.3 84 1 6.3 43 10 13.6 0.3 21.2 8.1 30.3 84.8 6.3 4.0 9 Bottom 21.2 8.1 84.9 13.6 0.3 21.2 8.1 84.9 6.3 4.0 10 20.7 1.0 8.1 29.4 29.4 85.6 85.5 4.9 10 Surface 6.4 5.0 8 1 q --SR8 Sunny Moderate 13:02 4.3 Middle 11 820380 811618

8.1

8.1

20.7

29.5

29.5

85.9

6.4

86.1

6.3

12

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

3.3

Bottom

20.7

20.7

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring Water Quality Monitoring Results on 11 January 20 during

11 January 20 during Mid-Flood Tide

Water Qua	lity Monit	oring Resu	lts on		11 January 20	during Mid-	Flood Ti	de																			
Monitoring	Weather	Sea	Sampling	Water	Sampling De	enth (m)	Current Speed	Current	Water Te	mperature (°C)	1	pН	Salinity (ppt)	DO	Saturation (%)	Diss		Turbidity	NTU)	Suspende (mg/		Total Alk (ppn		Coordinate HK Grid	Coordinate HK Grid	Chron (µg/	
Station	Condition	Condition	Time	Depth (m)	Camping 20		(m/s)	Direction	Value	Average	Value	Average			_		DA	Value	DA	Value	DA		DA	(Northing)	(Easting)		DA Value DA
					Surface	1.0	0.7	44 44	20.5 20.5	20.5	7.9 7.9	7.9	31.6 31.6	98.2		7.4	7.4	5.3 5.4		12 11		83 84				<0.2	3.0
C1	Sunny	Moderate	08:16	7.2	Middle	3.6	0.7	50 53	20.5	20.5	8.0	8.0	31.7 31.7	97.5		7.3	7.4	5.1 5.3	5.8	10 12	12	87 88	88	815597	804241	<0.2	<0.2 3.4 3.1
					Bottom	6.2	0.6	38 41	20.5 20.5	20.5	8.0	8.0	31.7 31.7	07.2	07.2	7.3 7.3	7.3	6.7 6.8		12 13		91 92				<0.2	3.0
					Surface	1.0	0.3	345 317	20.8	20.8	8.0	8.0	26.8 26.8 26.8	02.	02.4	6.3		5.1 5.1		5		90				<0.2	2.2
C2	Sunny	Moderate	09:51	11.0	Middle	5.5 5.5	0.3	1	20.8	20.8	8.0	8.0	26.9 26.9 26.9	04.6	81.6	6.2	6.3	5.5	5.5	9	8	92 92	92	825679	806946	<0.2	<0.2 1.1 1.8
					Bottom	10.0	0.4	25 26	20.8	20.8	8.0	8.0	26.9 26.9 26.9	02.0	020	6.4	6.4	5.7 5.8		9		94				<0.2	2.0
					Surface	1.0	0.5	271	20.4	20.4	8.1 8.1	8.1	29.4 29.4 29.4	8/10	04.0	6.4		6.5		11		88 88				<0.2	1.4
C3	Sunny	Moderate	07:52	10.8	Middle	1.0 5.4	0.6	281 271	20.4	20.5	8.1	8.1	29.4	84.5	04 6	6.3	6.4	6.5 5.5	6.6	12	12	92	91	822111	817806	<0.2	.0.2 1.3 4.2
	,				Bottom	5.4 9.8	0.5 0.4	289 271	20.5 20.4	20.4	8.1 8.1	8.1	29.4 29.4	84.5 84.5	846	6.3	6.4	5.5 7.8		12 14		93 93				<0.2	1.2
					Surface	9.8	0.4	279 9	20.4	20.5	8.1	8.0	31.6	98.7	00.7	6.4 7.4		7.8 7.2		13 10		93 83				<0.2	1.3 1.9
IM1	Sunny	Moderate	08:39	4.5	Middle	1.0	0.1	9	20.5		8.0		31.6	98.7	1	7.4	7.4	7.1	7.6	10	11	84	86	817970	807137	<0.2	<0.2 - 2.0
	Canny	moderate	00.00		Bottom	3.5	0.2	14	20.5	20.5	8.1	8.1	32.1 32.1	99.0		7.4	7.4	8.1		- 11		- 88		017070	007107	<0.2	2.0
					Surface	3.5 1.0	0.2	15 12	20.5	20.5	8.1 7.9	7.9	31.2	99.2	00 5	7.4 7.4	1.3	8.1 6.6		11 12		88 83				<0.2	2.1
IM2	Cunny	Moderate	08:48	6.8	Middle	1.0 3.4	0.3	12 23	20.5 20.5	20.5	7.9 7.9	7.9	31.2 31.7 31.7	98.6	5	7.4 7.3	7.4	6.6 8.3	8.6	11 12	12	84 87	87	818168	806177	<0.2	<0.2 2.0
IIVIZ	Sunny	Woderate	06.48	0.8	Bottom	3.4 5.8	0.2	23 342	20.5 20.5		7.9 7.9		31.7	98.1		7.3 7.4		8.4 10.7	0.0	12 12	12	89 90	67	010100	800177	<0.2	1.9
					Surface	5.8 1.0	0.2	345 357	20.5	20.5	7.9 7.9	7.9	32.0 32.0 31.3 31.3	99.5)	7.4	7.4	10.8 5.4		13 12		89 83				<0.2	2.5
						1.0 3.8	0.4	328 351	20.5 20.5	20.5	7.9 7.9	7.9	31.3	97.9	90.0	7.3 7.3	7.3	5.4 6.2		12 11		85 88				<0.2	2.2
IM3	Sunny	Moderate	08:55	7.5	Middle	3.8 6.5	0.3	357 340	20.5 20.5	20.5	7.9 7.9	7.9	31.5	97.4	97.4	7.3 7.3	-	6.2 11.1	7.6	10 11	11	87 91	88	818763	805584	<0.2	<0.2 2.0 2.1 2.0 2.2
	<u> </u>				Bottom	6.5	0.4	313 347	20.5	20.5	7.9	7.9	31.7	97.8	97.9	7.3	7.3	11.2 4.2		10 9		91 83				<0.2	2.1
					Surface	1.0	0.6	352 345	20.5	20.5	7.9	7.9	30.4	98.6	98.7	7.4	7.4	4.3		9		83				<0.2	1.9
IM4	Sunny	Moderate	09:02	7.7	Middle	3.9 6.7	0.5	317 333	20.5	20.5	7.9 7.9	7.9	31.3	98.5	98.6	7.4		5.6 8.7	6.2	10	10	87 90	87	819709	804624	<0.2	<0.2 2.6 2.3 2.4 2.3
					Bottom	6.7 1.0	0.4	348 26	20.5	20.5	7.9	7.9	31.5 31.5 31.4	100.	2 100.2	7.5	7.5	8.9 9.9		10		89 83				<0.2	2.3
					Surface	1.0	0.7	26	20.5	20.5	7.9	7.9	31.4	97.2	97.3	7.3	7.3	9.9		14		83				<0.2	1.6
IM5	Sunny	Moderate	09:10	7.4	Middle	3.7	0.7	22	20.5	20.5	7.9	7.9	31.6 31.6	97.8	98.0	7.3		5.7 5.8	9.1	14	14	87 89	87	820741	804852	<0.2	<0.2 1.1 1.6
					Bottom	6.4 6.4	0.5 0.5	29 30	20.5 20.5	20.5	8.0	8.0	31.7 31.7	97.8	97.9	7.3	7.3	11.5 11.7		14 15		90 89				<0.2	2.1 2.0
					Surface	1.0	0.4	130 140	20.5 20.5	20.5	8.0	8.0	31.5 31.5	97.9	97.9	7.3 7.3	7.3	7.9 8.0		12 11		83 84				<0.2	1.9
IM6	Sunny	Moderate	09:17	7.8	Middle	3.9 3.9	0.4	143 150	20.5 20.5	20.5	8.0	8.0	31.5 31.5	98.	98.1	7.3 7.3		13.3 13.2	10.5	13 12	13	88 87	87	821081	805849	<0.2	<0.2 2.1 2.1
					Bottom	6.8	0.3	132 136	20.5 20.5	20.5	8.0	8.0	31.4 31.4	97.0 97.0		7.3 7.3	7.3	10.3 10.2		14 15		91 91				<0.2	2.5
					Surface	1.0 1.0	0.1 0.1	99 104	20.8	20.8	7.9 7.9	7.9	29.6 29.6 29.6	96.6	96.7	7.3 7.3	72	3.5 3.4		17 18		83 85				<0.2	1.6
IM7	Sunny	Moderate	09:24	8.1	Middle	4.1 4.1	0.1 0.1	72 73	20.6 20.6	20.6	7.9 7.9	7.9	30.5 30.5	97.2 97.3	97.3	7.3 7.3	1.3	5.5 5.5	6.4	18 17	17	87 88	88	821329	806847	<0.2	<0.2 1.9 1.9
					Bottom	7.1 7.1	0.1	82 82	20.5 20.5	20.5	8.0	8.0	31.3 31.3	00.1	983	7.4	7.4	10.1 10.1		16 16		92 92				<0.2	2.1
					Surface	1.0	0.1	68 69	20.8	20.8	8.0	8.0	26.8 26.8 26.8	82.0	82.0	6.3		5.9		7		88 88				<0.2	2.1
IM8	Sunny	Moderate	09:24	7.8	Middle	3.9	0.1	60 61	20.7	20.7	8.0	8.0	26.8 26.8 26.8	02.0	02.0	6.3	6.3	6.6	7.1	8	8	91 91	91	821823	808126	<0.2	<0.2 2.0 2.0
					Bottom	6.8 6.8	0.3	78 79	20.7	20.7	8.1 8.1	8.1	27.2 27.2 27.2	00.	92.5	6.3	6.3	8.7 8.6		9		94				<0.2	2.0
DA: Depth-Aver	raned		1		I.	0.0	U.3	19	20.7		0.1		41.4	02.	<u>, 1 </u>	0.3		0.0		J		53				NU.Z	1.3

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring Water Quality Monitoring Results on 11 January 20 during

11 January 20 during Mid-Flood Tide

Water Qua	lity Monite	oring Resu	ts on		11 January 20	during Mid-		de																					
Monitoring	Weather	Sea	Sampling	Water	Sampling De	epth (m)	Current Speed	Current	Water Ter	nperature (°C)		pН	Salir	nity (ppt)		aturation (%)	Dissol Oxyg		Turbidity(NTU)	Suspende (mg	d Solids /L)	Total Alk (ppn		Coordinate HK Grid	Coordinate HK Grid	Chromi (µg/L		(µg/L)
Station	Condition	Condition	Time	Depth (m)		1.0	(m/s)	Direction 65	Value 20.8	Average	Value 8.0	Average	Value 26.9	Average	Value 84.1	Average	Value 6.4	DA	Value 7.3	DA	Value 9	DA	Value 87	DA	(Northing)	(Easting)	Value	DA Value 2.0	DA
					Surface	1.0	0.3	65	20.8	20.8	8.0	8.0	26.9	26.9	84.1	84.1	6.4	6.5	7.3		8		86				<0.2	2.0	,
IM9	Sunny	Moderate	09:17	7.5	Middle	3.8	0.2	63 68	20.7	20.7	8.0	8.0	27.0 27.0	27.0	84.8 84.9	84.9	6.5 6.5		8.6 8.5	9.0	9	9	90	90	822093	808791	<0.2	<0.2 2.0	2.0
					Bottom	6.5 6.5	0.1	124 136	20.7	20.7	8.0	8.0	27.4 27.4	27.4	85.6 85.7	85.7	6.5	6.5	11.1 11.2		11 10		94 93				<0.2	1.8 1.9	
					Surface	1.0	0.4	348 320	20.7	20.7	8.0	8.0	27.4	27.4	85.1 85.1	85.1	6.4	6.4	7.6 7.6		9		86 85				<0.2	1.9	
IM10	Sunny	Moderate	09:10	8.0	Middle	4.0 4.0	0.4	345 317	20.7 20.7	20.7	8.0	8.0	27.6 27.6	27.6	84.8 84.8	84.8	6.4	•••	8.1 8.1	9.3	9	9	85 86	89	822392	809797	<0.2	<0.2 1.9 2.0	1.9
					Bottom	7.0 7.0	0.4	320 337	20.6 20.6	20.6	8.1 8.1	8.1	27.9 27.9	27.9	84.9 85.0	85.0	6.4	6.4	12.2 12.2		10 10		96 97				<0.2	1.7	
					Surface	1.0	0.4	295 305	20.5 20.5	20.5	8.1 8.1	8.1	28.8	28.8	84.7 84.7	84.7	6.4	6.4	7.4 7.4		10 10		86 85				<0.2	1.5 1.4	
IM11	Sunny	Moderate	08:57	8.8	Middle	4.4	0.4	304 333	20.5 20.5	20.5	8.1 8.1	8.1	29.0 29.0	29.0	84.7 84.7	84.7	6.4	0.4	9.5 9.5	9.6	12 12	12	90 90	90	822058	811457	< 0.2	<0.2 1.3	1.4
					Bottom	7.8 7.8	0.3	306 318	20.5	20.5	8.1	8.1	29.1 29.1	29.1	84.6 84.7	84.7	6.4	6.4	11.9 12.0		12 13		94 93				<0.2	1.3 1.3	
					Surface	1.0	0.5 0.5	273 296	20.6 20.6	20.6	8.1 8.1	8.1	28.6 28.6	28.6	85.2 85.2	85.2	6.4	6.4	7.1 7.3		8		89 89				<0.2	1.4	
IM12	Sunny	Moderate	08:50	8.6	Middle	4.3 4.3	0.5 0.5	290 295	20.6 20.6	20.6	8.1	8.1	28.7	28.7	85.2 85.2	85.2	6.4	0.4	7.6 7.6	8.6	10 9	10	93 93	92	821481	812044	<0.2	<0.2	1.5
					Bottom	7.6 7.6	0.4	295 307	20.5 20.5	20.5	8.1 8.1	8.1	28.9	28.9	85.7 85.9	85.8	6.5	6.5	11.2 11.2		11 12		95 95				<0.2	1.6 1.5	
					Surface	1.0	-	-	20.5 20.5	20.5	8.1 8.1	8.1	28.5 28.5	28.5	85.3 85.3	85.3	6.4	6.4	6.9 6.8		8 9		-				-	-	
SR1A	Sunny	Moderate	08:34	5.1	Middle	2.6 2.6	-	-	-	-	-	-	-		-	-	-	0.4	-	8.5	-	9	-	-	819982	812656	-		-
					Bottom	4.1 4.1	-	0	20.5 20.5	20.5	8.1 8.1	8.1	28.6 28.6		84.9 84.9	84.9	6.4	6.4	10.1 10.2		8 9		-				-	-	
					Surface	1.0	0.2	3	20.6 20.6	20.6	8.1 8.1	8.1	29.0 29.0	29.0	85.4 85.3	85.4	6.4	6.4	10.5 10.5		14 15		89 88				<0.2	2.0 1.9	
SR2	Sunny	Moderate	08:22	4.6	Middle	-	-	-	-	-	-	-	-	-	-	-	-		-	12.5	-	16	-	90	821464	814148	-	<0.2	2.0
					Bottom	3.6 3.6	0.2	6	20.5 20.5	20.5	8.1 8.1	8.1	29.2 29.2	29.2	85.2 85.3	85.3	6.4	6.4	14.6 14.5		18 17		91 91				<0.2	1.9 2.2	
					Surface	1.0	0.2	58 59	20.8	20.8	8.0	8.0	26.9 26.9	26.9	82.6 82.7	82.7	6.3	6.4	5.8 5.8		5		-				-	-	
SR3	Sunny	Moderate	09:32	9.1	Middle	4.6 4.6	0.3	70 74	20.7	20.7	8.1	8.1	27.4	27.4	84.8 84.8	84.8	6.5		8.0	7.4	8	7	-	-	822149	807594	-		-
					Bottom	8.1 8.1	0.4	66 70	20.6	20.6	8.1	8.1	27.3	27.3	87.3 87.3	87.3	6.6	6.6	8.6 8.5		9		-					-	
					Surface	1.0	0.4	279 286	20.5	20.5	8.0	8.0	32.1	32.1	99.4	99.5	7.4	7.4	4.7		8		-				-	-	r
SR4A	Sunny	Moderate	07:48	9.2	Middle	4.6 4.6	0.4	286 292	20.5	20.5	8.0	8.0	32.1	32.1	99.3	99.3	7.4		5.6 5.7	6.3	8	8	Ė	-	817190	807796	-		-
					Bottom	8.2 8.2 1.0	0.4 0.4	260 265 219	20.5 20.5	20.5	8.0 8.0	8.0	32.1 32.1 31.9	32.1	98.6 98.8 97.1	98.7	7.4 7.4 7.3	7.4	8.5 8.6 5.3		9 8 11		-				-	-	
					Surface	1.0	0.0	220	20.5	20.5	8.0	8.0	31.9	31.9	97.0	97.1	7.2	7.3	5.3		12		-				-	-	i
SR5A	Sunny	Moderate	07:29	4.8	Middle	-	- 0.0	211		-	8.0	-	31.9	-	- 00.4	-	- 70		-	5.4	- 9	10		-	816589	810680			-
					Bottom	3.8 3.8 1.0	0.0	205	20.5 20.5 20.4	20.5	8.0	8.0	31.9	31.9	98.1 98.0	98.1	7.3	7.3	5.4 5.4		9 5						-	-	
					Surface	1.0	0.1	231 236	20.4	20.4	7.9	7.9	31.8	31.8	92.7 92.7	92.7	6.9	6.9	3.2		6		-				-	-	i
SR6A	Sunny	Moderate	07:03	4.0	Middle	3.0	- 0.1	238	20.4	-	- 8.0	-	31.8	-	93.1	-	7.0		5.0	4.1	- - 5	6	Ė	-	817966	814715	-		-
					Bottom	3.0	0.1	241	20.4	20.4	8.0	8.0	31.8	31.8	93.1	93.1	7.0	7.0	5.1		6		-						
					Surface	1.0 1.0 7.3	0.2	209 211	20.3	20.3	8.0	8.0	29.9	29.9	83.6 83.6	83.6	6.3	6.3	9.0		10 10		-					-	i
SR7	Sunny	Moderate	07:24	14.5	Middle	7.3 7.3 13.5	0.2 0.2 0.3	217 210 219	20.3 20.3 20.4	20.3	8.0 8.0 7.9	8.0	29.9 29.9 29.8	29.9	82.9 82.9 83.1	82.9	6.2 6.2		10.9 11.0 11.3	10.5	12 13 14	12		-	823652	823760	-		-
					Bottom	13.5 13.5	0.3	219	20.4	20.4	7.9 7.9 8.1	7.9	29.8	29.8	83.1 83.2 85.3	83.2	6.2	6.2	11.3 11.6 7.3		14 14 10		-					-	
					Surface	1.0	-	-	21.1	21.1	8.1	8.1	28.4	28.4	85.3 85.3	85.3	6.4	6.4	7.3		10							-	i
SR8	Sunny	Moderate	08:42	4.4	Middle		-	-		-	-	-	28.9	-	- 0F 0	-	-		- 11.7	9.5	- 12	11	-	-	820380	811643	-		-
					Bottom	3.4	-	-	20.6 20.6	20.6	8.1 8.1	8.1	28.9	28.9	85.0 85.0	85.0	6.4	6.4	11.7		12 12		-					-	

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring Water Quality Monitoring Results on 14 January 20 during N

14 January 20 during Mid-Ebb Tide

Water Qua	lity Moni	toring Res	ults on		14 January 20	during Mid-	-Ebb Tid	le																					
Monitoring	Weather	Sea	Sampling	Water	Sampling De	oth (m)	Current Speed	Current	Water Te	emperature (°C)		рH	Salin	ity (ppt)	DO S	aturation (%)	Dissolv Oxyge		Turbidity(f	NTU)	Suspende (mg		Total Alk (ppn		Coordinate HK Grid	Coordinate HK Grid	Chromiui (µg/L)		(µg/L)
Station	Condition	Condition	Time	Depth (m)	3 4	,	(m/s)	Direction	Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA	Value	DA	(Northing)	(Easting)	Value D	DA Value	DA
					Surface	1.0	0.1	214 222	20.4	20.4	8.1 8.1	8.1	29.9 29.9	29.9	98.8 99.2	99.0	7.5 7.5		4.8 4.8		16 15		84 86				<0.2	2.0 1.9	
C1	Fine	Rough	16:05	8.2	Middle	4.1 4.1	0.1 0.1	223 236	20.7	20.8	8.1 8.1	8.1	29.9 29.9	29.9	101.2 101.7	101.5	7.6 7.6	7.6	4.6 4.9	8.1	17 16	16	89 90	89	815605	804256	-O 2	0.2 1.7	1.8
					Bottom	7.2	0.0	245	20.3	20.3	8.1	8.1	29.2	29.2	99.0	99.0	7.5	7.6	14.7	þ	17		93				<0.2	1.6	
						7.2 1.0	0.0	257 141	20.2		8.1 7.9		29.2		99.0 95.3		7.6	_	14.7 2.4		16 9		94 83				<0.2	1.6	_
					Surface	1.0 5.5	0.1	150 161	20.4	20.4	7.9 7.9	7.9	29.7 29.8	29.7	95.4 94.0	95.4	7.2	7.2	2.4	F	8 10		82 86				<0.2	1.2	
C2	Fine	Rough	14:05	10.9	Middle	5.5	0.0	173	20.3	20.3	7.9	7.9	29.8	29.8	94.1	94.1	7.1		2.7	2.8	10	10	86	86	825698	806959	<0.2	1.2	1.2
					Bottom	9.9 9.9	0.1 0.1	169 172	20.3	20.3	7.9 7.9	7.9	30.0	30.0	94.3 94.5	94.4	7.2	7.2	3.5 3.3		10 11		90				<0.2	1.2	
					Surface	1.0	0.3	156 165	20.3	20.3	7.9 7.9	7.9	32.2 32.2	32.2	94.6 94.5	94.6	7.1	,	2.8	F	11		83 83				<0.2	1.1	
C3	Fine	Moderate	15:48	10.7	Middle	5.4 5.4	0.3	154 157	20.1	20.1	7.9 7.9	7.9	32.3 32.3	32.3	94.0	94.0	7.1	"' F	5.8 6.3	5.5	10 11	10	87 87	87	822115	817798	<0.2	0.2 1.1	1.2
					Bottom	9.7	0.2	148 154	20.1	20.1	8.0	8.0	32.3 32.3	32.3	96.1 96.0	96.1	7.2	7.2	7.8	ļ	9		90				<0.2	1.2	
					Surface	1.0	0.0	115	20.2	20.2	8.1	8.1	29.2	29.2	99.0	99.1	7.6		11.6		15		89				<0.2	1.8	
IM1	Fine	Moderate	15:41	4.5	Middle	1.0	0.0	121	20.2	_	8.1		29.2		99.1		7.6	7.6	11.6	11.0	14	14	89	91	817945	807117	<0.2	0.2	1.7
11411	1 1116	Woderate	13.41	4.5		3.5	0.1	280	20.2		- 8.1		29.2		99.6		7.6		10.5		13		92	31	017343	007117	<0.2	1.7	1.7
					Bottom	3.5	0.1	304 124	20.3	20.3	8.1 8.1	8.1	29.1 29.1	29.1	100.1 99.4	99.9	7.6 7.6	7.6	10.5 12.2		13 16		93 84				<0.2	1.6	_
					Surface	1.0	0.2	126	20.2	20.2	8.1	8.1	29.1	29.1	99.6	99.5	7.6	7.7	12.1	þ	15		85				<0.2	1.6	
IM2	Fine	Moderate	15:34	6.7	Middle	3.4 3.4	0.1 0.1	100 109	20.1	20.1	8.1 8.1	8.1	29.1 29.1	29.1	100.7 101.1	100.9	7.7		11.1 11.1	11.3	18 17	18	88 89	89	818176	806148	<0.2	0.2 1.5	1.6
					Bottom	5.7 5.7	0.1	172 177	19.8 19.7	19.8	8.1 8.1	8.1	29.3 29.4	29.3	102.0	102.1	7.8	7.9	10.6 10.6	F	19 20		92 93				<0.2	1.6	
					Surface	1.0	0.1 0.1	207 223	20.1	20.1	8.1 8.1	8.1	29.1 29.1	29.1	98.6 98.7	98.7	7.5 7.5		16.1 16.1	-	17 18		88 88				<0.2	1.5	
IM3	Fine	Moderate	15:27	6.8	Middle	3.4	0.1	182 189	20.2	20.2	8.1	8.1	29.0	29.0	99.1	99.2	7.6	7.6	12.7	13.4	21	20	92	91	818775	805586	<0.2	0.2	1.4
					Bottom	5.8	0.1	124	20.3	20.3	8.1 8.1	8.1	29.1	29.1	100.5	100.7	77	7.7	11.3	þ	21		93				<0.2	1.3	
					Surface	5.8 1.0	0.1	134 201	20.0	20.0	8.1	8.1	29.0	29.0	98.7	98.7	7.6		15.3		20 19		94 86				<0.2	1.3	
IM4	Fine	Moderate	15:18	7.8	Middle	1.0 3.9	0.1	198 197	20.0	20.0	8.1 8.1	8.1	29.0 29.0	29.0	98.7 99.0	99.1	7.6	7.6	14.9 15.1	15.0	19 17	17	87 90	90	819702	804589	<0.2	0.2	
11014	rine	Moderate	15:16	7.0		3.9 6.8	0.0	199 183	20.0		8.1 8.1		29.0 29.0		99.1 99.3		7.6 7.6	[15.2 14.7	15.0	16 16	17	91 94	90	619702	004509	<0.2	1.5	1.4
					Bottom	6.8	0.0	192	20.0	20.0	8.1	8.1	29.0	29.0	99.3	99.3	7.6	7.6	14.5		17		93				<0.2	1.4	
					Surface	1.0	0.2	203	20.3	20.3	8.1	8.1	28.2	28.2	98.3	98.3	7.5	7.6	8.7		25		86				<0.2	1.2	
IM5	Fine	Rough	15:10	6.5	Middle	3.3	0.1	203 206	20.2	20.3	8.1 8.1	8.1	28.2	28.2	98.6 98.8	98.7	7.6 7.6	-	8.7 8.8	8.4	25 25	<u>25</u>	89 90	89	820742	804858	<0.2	0.2 1.2	1.2
					Bottom	5.5 5.5	0.1	198 187	20.3	20.3	8.1 8.1	8.1	28.1	28.1	101.6	101.9	7.8	7.8	7.9 7.9	-	25 26		92 93				<0.2	1.2	
					Surface	1.0	0.1	284 292	20.2	20.2	8.1 8.1	8.1	28.1	28.1	98.1 98.4	98.3	7.5 7.6	-	9.7 9.6	-	10 9		87 86				<0.2	1.2	
IM6	Fine	Rough	15:02	6.8	Middle	3.4	0.1	286 312	20.1	20.1	8.1	8.1	28.2	28.2	99.6	99.7	7.7	7.6	8.9 9.0	9.1	10	10	89 90	90	821055	805811	-O 2	0.2	1.2
					Bottom	5.8	0.1	265	19.9	19.9	8.1	8.1	28.4	28.4	100.3	100.5	7.7	7.8	8.7	þ	11		92				<0.2	1.3	
					Surface	5.8 1.0	0.1	284 258	19.8 20.1	20.1	8.1 8.1	8.1	28.4	28.1	100.7 96.7	96.7	7.8		8.7 9.4		11 10		94 87				<0.2	1.2	
		B		7.0		1.0 3.9	0.1	263 260	20.1		8.1 8.1		28.1 27.7		96.7 97.2		7.4	7.5	9.1 8.2	. [10 11		87 88		004045	00000-	<0.2	1.2	
IM7	Fine	Rough	14:55	7.8	Middle	3.9	0.0	282 343	20.1	20.2	8.1	8.1	27.8	27.8	97.2 97.1	97.2	7.5	_	8.4 8.9	8.8	11	11	88 91	89	821342	806832	<0.2	0.2 1.7	1.6
					Bottom	6.8	0.0	351	20.0	20.0	8.1	8.1	28.3	28.2	97.1	97.1	7.5	7.5	8.9		12		91				<0.2	1.8	
					Surface	1.0	0.1 0.1	265 269	20.3	20.3	7.9 7.9	7.9	30.3	30.3	96.2 96.4	96.3	7.3	7.3	6.1 6.2	Ŀ	10 10		84 83				<0.2	1.3	
IM8	Fine	Rough	14:36	7.1	Middle	3.6	0.1	223 262	20.2	20.2	7.9	7.9	30.4	30.4	96.4 96.5	96.5	7.3	-	8.2 8.2	7.5	10 11	11	87 87	87	821848	808145	<0.2	0.2 1.3	1.3
					Bottom	6.1 6.1	0.1 0.1	264 255	20.2	20.2	7.9 7.9	7.9	30.4 30.4	30.4	98.5 99.4	99.0	7.5 7.5	7.5	8.2 7.9	F	13 14		90 91				<0.2	1.3	
																													

Water Qua	lity Monit	oring Resu	ults on		14 January 20	during Mid-	Ebb Tid	le																						
Monitoring	Weather	Sea	Sampling	Water	Sampling Dep	th (m)	Current Speed	Current	Water Te	mperature (°C)		рН	Salir	nity (ppt)		aturation %)	Dissol Oxyg		Turbidity(I	NTU)	Suspende (mg/		Total A		Coordinate HK Grid	Coordinate HK Grid	Chrom (µg/		Nickel (µ	ıg/L)
Station	Condition	Condition	Time	Depth (m)			(m/s)	Direction	Value	Average		Average		Average	Value	Average		DA	Value	DA	Value	DA	Value	DA	(Northing)	(Easting)	Value	DA		DA
					Surface	1.0	0.2	212 219	20.2	20.2	7.9	7.9	30.7	30.7	95.9 96.0	96.0	7.3		7.3 7.5	-	19 20		83 83				<0.2	-	1.3	
IM9	Fine	Rough	14:42	6.7	Middle	3.4 3.4	0.2	236 225	20.1	20.1	7.9 7.9	7.9	30.7	30.7	96.8 97.0	96.9	7.3 7.3	7.3	8.9 8.8	9.6	20 19	20	86 87	87	822103	808819	<0.2	<0.2	13	1.3
					Bottom	5.7	0.3	209	20.1	20.1	7.9	7.9	30.8	30.7	97.5	97.6	7.4	7.4	12.5	į	20		90	<u> </u>			<0.2		1.4	
					Surface	5.7 1.0	0.3	212 188	20.1	20.0	7.9 8.0	8.0	30.7	31.2	97.7 96.9	96.9	7.4		12.3 5.7		21 24		91 83				<0.2		1.1	_
						1.0 3.5	0.3	176 180	20.0		8.0		31.2 31.2		96.9 96.9		7.3 7.3	7.3	5.5 7.6		24 25		82 87				<0.2	F	1.1	
IM10	Fine	Rough	14:49	7.0	Middle	3.5	0.3	188	20.0	20.0	8.0	8.0	31.2	31.2	97.0	97.0	7.3		8.1	7.4	26	<u>26</u>	87	87	822380	809806	<0.2	<0.2	1.2	1.2
					Bottom	6.0	0.2	169 170	20.0	20.0	8.0	8.0	31.2 31.2	31.2	99.0 99.2	99.1	7.5 7.5	7.5	8.7 8.7		27 28		91 90				<0.2		1.2	
					Surface	1.0	0.4	167 169	20.1	20.1	8.0	8.0	31.2	31.2	96.0 96.0	96.0	7.3		9.0	-	17 18		83	 			<0.2		1.3	
IM11	Fine	Rough	15:02	8.3	Middle	4.2 4.2	0.5	183 169	20.1	20.1	8.0	8.0	31.3	31.3	96.5 96.5	96.5	7.3 7.3	7.3	10.9 11.1	11.5	17 18	18	87 87	87	822079	811459	<0.2	<0.2	1.3	1.4
					Bottom	7.3	0.4	158	20.1	20.1	8.0	8.0	31.3	31.3	96.9	97.0	7.3	7.3	14.8	ļ	19		91	1			<0.2	.	1.4	
					Surface	7.3 1.0	0.4	171 158	20.1	20.2	8.0 7.9	7.9	31.3 31.2	31.2	97.0 95.8	95.7	7.3 7.2		14.7 9.0		18 13		91 82	\vdash			<0.2 <0.2	-1	1.3	
						1.0 4.3	0.5 0.5	163 163	20.2		7.9 7.9		31.2 31.2		95.6 95.7		7.2	7.2	9.1 10.5	F	14 13		83 86				<0.2		1.0	
IM12	Fine	Rough	15:08	8.5	Middle	4.3	0.5	165 159	20.2	20.2	7.9	7.9	31.2	31.2	95.5	95.6	7.2		10.2	10.2	14	14	87 90	87	821448	812042	<0.2	<0.2	1.2	1.2
					Bottom	7.5 7.5	0.4	164	20.1	20.1	8.0	8.0	31.2 31.2	31.2	97.3 97.9	97.6	7.4	7.4	11.1		13		91				<0.2		1.4	
					Surface	1.0	-	-	20.1	20.1	8.0	8.0	31.3	31.3	95.5 95.9	95.7	7.2		5.6 5.7	ŀ	11 13		-	 			-	-	-	
SR1A	Fine	Moderate	15:20	4.2	Middle	2.1 2.1	-	-	-	-	-	-	-	-	-	-	-	7.2	-	5.8	-	13	-	.	819982	812657	-		-	-
					Bottom	3.2		-	20.1	20.1	8.0	8.0	31.3	31.3	95.9	96.0	7.2	7.2	6.0	Į	14			ļ ļ			-	.		
					Surface	3.2 1.0	0.4	- 80	20.1	20.2	8.0	8.0	31.3 31.3	31.3	96.0 97.0	97.1	7.2		6.0 6.9		14 13		83				<0.2		1.3	_
	_					1.0	0.4	- 87	20.2	20.2	8.0	0.0	31.3	01.0	97.1		7.3	7.3	7.1	}	13		83	ł			<0.2	}	1.2	
SR2	Fine	Moderate	15:27	4.1	Middle	3.1	0.3	- 67	20.1	-	8.0	-	31.3	-	98.4	-	7.4		- 7.7	7.3	- 14	14	- 86	85	821454	814157	<0.2	<0.2	1.1	1.2
					Bottom	3.1	0.3	69	20.1	20.1	8.0	8.0	31.3	31.3	98.9	98.7	7.5	7.5	7.3	-	14		86				<0.2		1.2	
					Surface	1.0	0.3	126 128	20.4	20.4	7.9	7.9	30.2	30.2	95.1 95.1	95.1	7.2	7.2	4.2 4.2	E	12 12		-	<u> </u>			-		-	
SR3	Fine	Rough	14:30	8.1	Middle	4.1	0.3	131 134	20.3	20.3	7.9 7.9	7.9	30.2	30.2	95.4 95.2	95.3	7.2	'. <u>-</u>	4.9 4.9	5.0	13 12	12	-	-	822165	807558	-		-	-
					Bottom	7.1 7.1	0.3	121 122	20.3	20.3	7.9 7.9	7.9	30.2	30.2	96.9 97.0	97.0	7.3 7.3	7.3	5.8 6.2	Ī	12 13		-	ļ ļ			-	.		
					Surface	1.0	0.3	79	21.2	21.2	8.1	8.1	30.4	30.4	101.5	101.5	7.6		5.5		6		÷					一	$\dot{\equiv}$	
SR4A	Fine	Calm	16:31	9.1	Middle	1.0 4.6	0.3	83 85	21.2 21.2	21.3	8.1 8.1	8.1	30.4	30.2	101.4 100.7	100.7	7.6 7.5	7.6	5.6 3.8	5.1	5 7	7		<u> </u>	817169	807789	-		-	
SK4A	rine	Caim	16.31	9.1		4.6 8.1	0.2	85 54	21.3		8.1 8.1		30.2		100.7 98.4		7.5 7.5		3.7 5.9	5.1	7	,	-	-	817109	607769	-		-	-
					Bottom	8.1	0.2	58 15	20.3	20.3	8.1	8.1	30.1	30.1	98.3	98.4	7.5	7.5	6.3		8						-		-	
					Surface	1.0	0.1 0.1	15	20.2	20.2	8.1 8.1	8.1	32.2 32.2	32.2	95.0 94.9	95.0	7.1	7.1	5.8 5.8	ļ	5 5		-	<u> </u>			-		-	
SR5A	Fine	Calm	16:46	4.7	Middle	-	-	-	-	-	-	-	-	-	-	-	-	···	-	6.2	-	6	-	 -	816599	810695	-		-	-
					Bottom	3.7 3.7	0.1 0.1	12 12	20.2	20.2	8.1 8.1	8.1	32.2	32.2	95.2 95.3	95.3	7.1 7.1	7.1	6.6 6.6		7		-				-	. F	-	
					Surface	1.0	0.0	23 23	20.2	20.2	8.1 8.1	8.1	32.0 32.0	32.0	96.2 96.2	96.2	7.2		2.3		4		-							Ħ
SR6A	Fine	Calm	17:08	4.0	Middle	-	-	-			-	_	-		90.2		-	7.2	-	2.4	5	5		_	817967	814762	-			
011071	1 810	Ouiii	17.00	1.0		3.0	0.0	32	20.2		8.1		32.0		97.0		7.3		2.5		5	Ü	-	 	011001	0.1102	-		-	
					Bottom	3.0 1.0	0.0	32 37	20.2	20.2	8.1 7.9	8.1	32.0 32.4	32.0	96.8 93.4	96.9	7.3 7.0	7.3	2.5		5 5		-				-		-	_
					Surface	1.0	0.4	39	20.2	20.2	7.9	7.9	32.4	32.4	93.4	93.4	7.0	7.0	2.1	ļ	6		-	1			-			
SR7	Fine	Moderate	16:19	18.3	Middle	9.2 9.2	0.4 0.4	45 46	20.1	20.1	7.9 7.9	7.9	32.4 32.4	32.4	93.0 92.9	93.0	7.0		3.8 3.8	3.8	7 6	6	-	-	823659	823757	-	<u> </u>	-	-
					Bottom	17.3 17.3	0.3	44 46	20.1	20.1	7.9 7.9	7.9	32.5 32.5	32.5	92.8 92.7	92.8	7.0 6.9	7.0	5.4 5.6	F	6 7		-	 			-	, F	-	
					Surface	1.0	-	-	20.1	20.1	8.0	8.0	31.3	31.3	97.9 97.9	97.9	7.4		6.1	İ	13 14		-	П			-	F	耳	
SR8	Fine	Moderate	15:15	4.4	Middle	1.0	-	-	20.1	-	- 0.0	-	- 31.3	-			-	7.4	-	5.9	- 14	14	-		820408	811600	-			_
						3.4	-	-	20.1	20.1	8.0	8.0	31.3	31.3	98.9	99.4	7.5	75	5.7	-	- 14		-	<u> </u>			-	,		
					Bottom	3.4	-		20.1	20.1	8.0	0.0	31.3	31.3	99.9	99.4	7.5	7.5	5.5		14		-	$oxed{oxed}$			亘		三	

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring Water Quality Monitoring Results on 14 January 20 during N

14 January 20 during Mid-Flood Tide

Water Qua	lity Monit	oring Res	ults on		14 January 20	during Mid-	-Flood T	ide																					
Monitoring	Weather	Sea	Sampling	Water	Sampling Dep	oth (m)	Current Speed	Current	Water Te	emperature (°C)		pН	Salir	ity (ppt)	DOS	aturation (%)	Dissolv Oxyge		Turbidity(I	NTU)	uspende (mg	d Solids /L)	Total Alk (ppm		Coordinate HK Grid	Coordinate HK Grid	Chromiur (µg/L)		(µg/L)
Station	Condition	Condition	Time	Depth (m)			(m/s)	Direction	Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA	Value	DA	(Northing)	(Easting)	Value D	DA Value	DA
					Surface	1.0	0.7	49 0	19.2 19.2	19.2	8.1 8.1	8.1	29.2	29.2	100.1	100.2	7.8 7.8		9.5 9.7		10 9		87 88				<0.2	1.9 2.0	
C1	Fine	Moderate	10:29	8.2	Middle	4.1	0.7	55	19.4	19.4	8.1	8.1	29.2	29.2	98.2	98.2	7.6	7.7	9.5	9.8	9	10	90	91	815617	804223	<0.2	2.0	1.7
01	1 1110	Woderate	10.23	0.2		4.1 7.2	0.7	58 41	19.4 19.3		8.1 8.1	0.1	29.2 29.2		98.2 98.8		7.6 7.7		9.6	3.0	10 10		90 94	31	013017	004223	<0.2	2.0	1.7
					Bottom	7.2	0.6	41	19.4	19.4	8.1	8.1	29.2	29.2	99.2	99.0	7.7	7.7	10.2		10		94				<0.2	1.2	
					Surface	1.0	0.3	323 326	20.4	20.4	7.9	7.9	29.8	29.8	94.2	94.3	7.1	ŀ	2.6	-	8	ļ	86 86				<0.2	1.7	
C2	Fine	Rough	11:07	11.0	Middle	5.5	0.3	328	20.3	20.3	7.9	7.9	29.8	29.8	94.1	94.3	7.1	7.2	3.1	3.6	8	8	90	90	825666	806943	<0.2	0.2	1.4
					Dottom.	5.5 10.0	0.4	357 350	20.3	20.2	7.9 7.9	7.0	29.8 30.0	20.0	94.4 93.8	02.0	7.2 7.1	7.4	3.0 5.1	F	9		90 94				<0.2	1.1	
					Bottom	10.0	0.3	322	20.3	20.3	7.9	7.9	30.0	30.0	93.7	93.8	7.1	7.1	5.0		8		93				<0.2	1.3	
					Surface	1.0	0.5	251 269	20.2	20.2	7.9	7.9	31.2 31.2	31.2	95.3 94.9	95.1	7.2	7.2	5.1 5.3	L	11		85 85				<0.2	1.4	
C3	Fine	Moderate	09:23	10.5	Middle	5.3 5.3	0.0	251 254	20.2	20.2	7.9	7.9	31.3	31.3	94.4	94.5	7.1	′. <u>~</u> -	8.0 8.1	8.3	10 12	11	89 89	89	822095	817787	<0.2	0.2 1.2	1.2
					Bottom	9.5	0.4	254	20.2	20.2	7.9	7.9	31.4	31.4	94.1	94.2	7.1	7.1	11.7	L	12	İ	92				<0.2	1.1	
						9.5	0.4	272 12	20.2 19.4		7.9 8.1		31.4 29.1		94.2		7.1 7.6	+	11.3		12		92 88				<0.2	1.1	
					Surface	1.0	0.1	12	19.4	19.4	8.1	8.1	29.1	29.1	98.1	98.1	7.6	7.6	9.8	Į	11	ļ	89				<0.2	1.3	
IM1	Fine	Calm	10:47	4.4	Middle			-	-	-	-	-	-	-	-	-	-	-	-	9.1	-	12	-	90	817969	807152	- <0	0.2	1.2
					Bottom	3.4 3.4	0.2	17 17	19.8 19.7	19.8	8.1 8.1	8.1	28.9 28.9	28.9	99.2 99.4	99.3	7.6 7.7	7.7	8.4 8.4	F	13 13	Ī	90 91				<0.2	1.2	
					Surface	1.0	0.3	17	19.9	19.9	8.1	8.1	28.9	28.9	98.2	98.2	7.6		10.3		10		86				<0.2	1.2	
	_					1.0 3.3	0.3	18 23	19.8 19.8		8.1 8.1		28.9 28.9		98.2 98.3		7.6 7.6	7.6	9.8 9.2	}	11		87 92				<0.2	1.1	
IM2	Fine	Moderate	10:55	6.6	Middle	3.3	0.2	24	19.8	19.8	8.1	8.1	28.9	28.9	98.5	98.4	7.6		9.2	9.5	12	12	93	91	818178	806183	<0.2	1.3	1.2
					Bottom	5.6 5.6	0.2	342 315	19.8 19.8	19.8	8.1 8.1	8.1	28.8	28.8	99.3 99.4	99.4	7.7	7.7	9.1 9.1		14 14		95 95				<0.2	1.2	
					Surface	1.0	0.4	354 326	19.7 19.7	19.7	8.1 8.1	8.1	28.9	28.9	98.5 98.7	98.6	7.6 7.6	-	10.4 10.5		15 16		86 87				<0.2	1.2	
IM3	Fine	Moderate	11:02	6.7	Middle	3.4	0.3	342	19.7	19.7	8.1	8.1	28.9	28.9	99.4	99.6	7.7	7.7	9.3	9.6	16	16	90	91	818776	805607	<0.2	0.2	1.2
						3.4 5.7	0.4	315 349	19.7 19.6		8.1 8.1		28.9		99.7 100.2		7.7		9.4	-	16 17		91 95	•			<0.2	1.1	
					Bottom	5.7 1.0	0.4	351 350	19.6 20.1	19.6	8.1 8.1	8.1	28.8	28.8	100.4 97.8	100.3	7.8	7.8	9.2 15.5		17 10		95 87				<0.2	1.2	
					Surface	1.0	0.6	351	20.1	20.1	8.1	8.1	28.3 28.3	28.3	97.8	97.8	7.5 7.5	7.5	15.3		11		87				<0.2	1.3	
IM4	Fine	Moderate	11:10	7.6	Middle	3.8	0.5	348 357	20.1	20.1	8.1 8.1	8.1	28.4	28.4	97.9 98.0	98.0	7.5 7.5	′ }	15.0 14.9	14.9	9	9	91 91	91	819744	804602	<0.2	0.2 1.4	1.3
					Bottom	6.6	0.4	333	20.0	20.0	8.1	8.1	28.3	28.3	99.4	99.9	7.6	7.7	14.3	L	9	İ	96				<0.2	1.2	
					0	6.6 1.0	0.4	358 25	20.0		8.1 8.1		28.3		100.4 97.6		7.7 7.5	-	14.3 17.1	+	6		95 87				<0.2	1.4	
					Surface	1.0 3.2	0.7 0.7	25 27	20.1	20.1	8.1 8.1	8.1	28.3 28.4	28.3	97.7 98.3	97.7	7.5	7.6	15.9 14.8	Į	6 9	ļ	88 92				<0.2	1.3	
IM5	Fine	Moderate	11:17	6.4	Middle	3.2	0.7	29	20.1	20.1	8.1	8.1	28.4	28.4	98.4	98.4	7.6		14.0	14.7	8	8	92	92	820739	804890	<0.2 <0	0.2	1.2
					Bottom	5.4 5.4	0.5	21 21	19.9 19.9	19.9	8.1 8.1	8.1	28.3	28.2	98.1	98.1	7.6	7.6	13.2	-	9		95 95				<0.2	1.2	
					Surface	1.0	0.4	14	20.1	20.1	8.1	8.1	28.3	28.3	97.0	97.0	7.4		14.7		8		86				<0.2	1.1	
	_					1.0 3.4	0.4	14 16	20.1		8.1 8.1		28.3 28.3		97.0 97.2		7.5 7.5	7.5	15.0 14.7	H	8	_	87 92				<0.2	1.2	
IM6	Fine	Moderate	11:23	6.7	Middle	3.4 5.7	0.4	15 17	20.1	20.1	8.1	8.1	28.3	28.3	97.3	97.3	7.5		15.0 15.4	15.0	9	9	93 94	91	821070	805821	<0.2	0.2	1.2
					Bottom	5.7	0.3	17	20.1	20.1	8.1 8.1	8.1	28.3	28.3	97.3 97.3	97.3	7.5 7.5	7.5	15.4		9		95				<0.2	1.2	
					Surface	1.0	0.1	9 10	20.1	20.1	8.0	8.0	28.2	28.2	96.9 97.0	97.0	7.4 7.5	-	12.6 13.2	-	8		88 89				<0.2	1.2	
IM7	Fine	Rough	11:33	7.9	Middle	4.0	0.1	12	20.1	20.1	8.0	8.0	28.1	28.1	97.6	97.8	7.5	7.5	11.7	12.3	7	R	92	91	821330	806825	<0.2	0.2	1.2
		rtoug.	55			4.0 6.9	0.1	13 17	20.1		8.0		28.1 28.1		98.0 99.2		7.5 7.6	_	12.0 12.3	-	7	Ĭ	92 93	٠.	32.000	000020	<0.2	1.2	
					Bottom	6.9	0.1	18	20.1	20.1	8.0	8.0	28.1	28.1	99.4	99.3	7.7	7.7	12.3		8		93				<0.2	1.2	
					Surface	1.0	0.2	261 263	20.2	20.2	7.9	7.9	30.4	30.4	95.2 95.1	95.2	7.2	, , 	9.6 9.7	ŀ	16 17	ł	85 86				<0.2	1.6	
IM8	Fine	Rough	10:39	7.0	Middle	3.5 3.5	0.1	264 268	20.2	20.2	7.9 7.9	7.9	30.4	30.4	95.6 95.7	95.7	7.2	7.2	11.7 11.9	11.5	19 19	19	90 89	90	821835	808136	<0.2	0.2	1.3
					Bottom	6.0	0.1	276	20.2	20.2	7.9	7.9	30.4	30.4	96.6	96.8	7.3	7.3	13.0	L	21	ł	93				<0.2	1.3	
					DUILUIT	6.0	0.1	292	20.2	20.2	7.9	1.9	30.4	30.4	96.9	30.0	7.3	7.3	13.3		20		94				<0.2	1.1	

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring Water Quality Monitoring Results on 14 January 20 during N

14 January 20 during Mid-Flood Tide

Water Qua	lity Moni	toring Res	ults on		14 January 20	during Mid-	-Flood T	ide																					
Monitoring	Weather	Sea	Sampling	Water	Sampling Dep	th (m)	Current Speed	Current	Water Te	emperature (°C)		рН	Salin	ity (ppt)	DO S	aturation (%)	Dissol Oxyg		Turbidity(NTU)	Suspende (mg.		Total Alk (ppm		Coordinate HK Grid	Coordinate HK Grid	Chromit (µg/L)		el (µg/L)
Station	Condition	Condition	Time	Depth (m)	3 1	,	(m/s)	Direction	Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA	Value	DA	(Northing)	(Easting)	Value	DA Value	e DA
					Surface	1.0	0.6	258 264	20.1	20.1	7.9	7.9	30.6	30.6	96.4 96.0	96.2	7.3		6.1	-	19 19		86 85				<0.2	1.1	
IM9	Fine	Rough	10:34	6.5	Middle	3.3	0.5	260	20.1	20.1	7.9	7.9	30.6	30.6	95.5	95.6	7.2	7.3	6.7	7.5	20	20	90	90	822082	808803	<0.2	0.2 1.1] 42
						3.3 5.5	0.5 0.4	260 260	20.1		7.9 7.9		30.6 30.6		95.7 97.0		7.3 7.4		6.5 9.9		20 20		89 93				<0.2	1.2	
					Bottom	5.5	0.5	261 288	20.1	20.1	7.9	7.9	30.6	30.6	97.6	97.3	7.4	7.4	9.5		21 16		94				<0.2	1.2	
					Surface	1.0	0.6	296	20.2	20.2	7.9	7.9	30.4	30.4	95.7 96.0	95.9	7.3	7.3	7.3 7.5	ŀ	16		86 86				<0.2	1.2	
IM10	Fine	Rough	10:29	6.8	Middle	3.4	0.5 0.5	294 315	20.2	20.2	7.9 7.9	7.9	30.4	30.4	96.7 97.1	96.9	7.3	1.3	11.4 11.0	10.0	18 19	18	90 89	90	822393	809795	<0.2	:0.2	
					Bottom	5.8	0.5	296	20.2	20.2	7.9	7.9	30.4	30.4	98.2	98.6	7.4	7.5	11.3		21		93				<0.2	1.2	
						5.8 1.0	0.5	296 297	20.2		7.9 7.9		30.4		99.0 95.3		7.5 7.2		11.3 6.5		20 10		94 85				<0.2	1.3	
					Surface	1.0	0.7	312 300	20.1	20.1	7.9	7.9	30.9	30.9	95.4	95.4	7.2	7.2	6.9	Ī	11 13		86				<0.2	1.1	
IM11	Fine	Rough	10:19	8.2	Middle	4.1	0.6	316	20.1	20.1	8.0	8.0	31.1	31.1	95.8 95.9	95.9	7.2		7.3 7.7	7.8	14	13	89 90	89	822058	811470	<0.2	:0.2	
					Bottom	7.2	0.5	299 317	20.1	20.1	8.0	8.0	31.1	31.1	95.9 96.2	96.1	7.3	7.3	9.3 9.0	-	14 15		93 93				<0.2	1.2	
					Surface	1.0	0.6	288	20.1	20.1	8.0	8.0	31.0	31.0	95.3	95.5	7.2		5.0		13		86				<0.2	1.2	
	_					1.0 4.2	0.6	309 290	20.1		8.0		31.0 31.2		95.6 96.1		7.2	7.3	5.1 8.1	}	14 14		85 90				<0.2	1.2	
IM12	Fine	Rough	10:12	8.4	Middle	4.2	0.5 0.4	304 290	20.0	20.0	8.0	8.0	31.3	31.2	96.2	96.2	7.3		8.8 10.3	8.0	14 16	15	89 94	90	821464	812062	<0.2	1.3	
					Bottom	7.4	0.4	290	20.0	20.0	8.0	8.0	31.4	31.4	98.2 98.5	98.4	7.4	7.4	10.4		16		94				<0.2	1.3	
					Surface	1.0	-		20.1	20.1	7.9	7.9	31.2	31.2	96.1 96.1	96.1	7.3		5.4 5.3	-	13 13		-					-	-
SR1A	Fine	Calm	09:57	4.1	Middle	2.1	-	-	-		-	-	-		-		-	7.3	-	5.6	-	14	-		819979	812663	-		1 .
						2.1 3.1	-	-	20.1	00.4	7.9	7.0	31.2	04.0	96.8	07.0	7.3	7.0	5.8		15		-				-	-	-
					Bottom	3.1 1.0	0.4	321	20.1	20.1	7.9 7.9	7.9	31.2 31.3	31.2	97.2 98.0	97.0	7.3 7.4	7.3	5.9 5.1		14 14		- 85				<0.2	1.7	$\downarrow \downarrow \downarrow$
					Surface	1.0	0.4	352	20.0	20.0	7.9	7.9	31.3	31.3	98.0	98.0	7.4	7.4	5.0	į	14		85				<0.2	1.6	
SR2	Fine	Moderate	09:43	4.0	Middle	-	-	-	-	-	-	-	-	-	-	-	-		-	5.0	-	14	-	88	821449	814177	- <	:0.2	1.4
					Bottom	3.0	0.3	322	20.0	20.0	7.9	7.9	31.3	31.3	99.0	99.3	7.5	7.5	5.0	Į	13		90				<0.2	1.1	
					Surface	3.0 1.0	0.3	329 273	20.0	20.3	7.9	7.9	31.3	30.2	99.6 94.5	94.6	7.5		4.9 5.6		13 9		90				<0.2	1.1	$\pm \pm$
						1.0	0.1	284 288	20.3		7.9 7.9		30.2		94.7 95.7		7.2	7.2	5.7 6.2	-	8 11		-				-	-	- 1
SR3	Fine	Rough	10:48	7.9	Middle	4.0	0.1	312	20.3	20.3	7.9	7.9	30.2	30.2	95.6	95.7	7.2		6.3	6.1	12	11	-	-	822158	807594	-	-	<u> </u>
					Bottom	6.9	0.0	173 175	20.3	20.3	7.9 7.9	7.9	30.2	30.2	96.7 97.5	97.1	7.3	7.4	6.4		12 13		-				-	-	-
					Surface	1.0	0.4	285 287	19.5 19.5	19.5	8.1	8.1	29.2 29.2	29.2	96.3 96.3	96.3	7.4		9.8 9.8		10 11		-				-	-	T = 0
SR4A	Fine	Calm	10:07	9.0	Middle	4.5	0.4	279	19.6	19.6	8.1	8.1	29.1	29.1	96.5	96.5	7.5	7.5	8.3	8.9	12	12	-		817211	807798	-	. 🖃	╡.
SICHA	1 116	Cairi	10.07	3.0		4.5 8.0	0.4	286 268	19.6 19.8		8.1 8.1		29.1 29.1		96.5 97.3		7.5 7.5		9.1 8.3	0.5	13 13	. '2	-		017211	007730	-	-	-
					Bottom	8.0	0.4	266	19.8	19.8	8.1	8.1	29.1	29.1	97.3	97.3	7.5	7.5	8.3		13		-				-		
					Surface	1.0	0.0	211 227	19.0 19.0	19.0	8.1 8.1	8.1	29.4 29.4	29.4	95.2 95.2	95.2	7.4	7.4	7.3 7.2	ŀ	12 11		-				-	-	-
SR5A	Fine	Calm	09:50	4.8	Middle	-	-	-		-	-	-	-		-		-	1.4	-	8.3		12	-	-	816610	810702	-		
					Bottom	3.8	0.0	217	19.3	19.3	8.1	8.1	29.3	29.3	95.7	95.8	7.4	7.4	9.4		12		-				-	_	1
						3.8 1.0	0.0	231 231	19.3 19.7		8.1		29.3		95.8 96.0		7.4		9.2 8.3		12 14		-					+	+
					Surface	1.0	0.1	250	19.7	19.7	8.0	8.0	29.3	29.3	96.1	96.1	7.4	7.4	8.3	I	13		-				-	-	1
SR6A	Fine	Calm	09:24	3.6	Middle	-	-	-		-	-	-	-	-	-	-	-		-	8.6	-	12	-	-	817984	814735	-		-
					Bottom	2.6	0.1	245 260	19.8 19.8	19.8	8.0	8.0	29.4	29.4	96.2 96.2	96.2	7.4	7.4	8.9 8.9	-	10 12		-				-		7
					Surface	1.0	0.1	245	20.1	20.1	8.0	7.9	31.6	31.6	93.9	94.0	7.1		5.3		9		-				-		$\pm \equiv$
						1.0 9.1	0.1	254 278	20.1		7.9 7.9		31.6 31.6		94.0 93.5		7.1	7.1	5.3 5.5	}	10 10		-				-	-	-
SR7	Fine	Moderate	08:52	18.1	Middle	9.1	0.0	286	20.1	20.1	7.9	7.9	31.6	31.6	93.4	93.5	7.0		5.7	5.7	11	11	-	-	823617	823765	-	•]
					Bottom	17.1 17.1	0.0	314 331	20.1	20.1	7.9 7.9	7.9	31.6 31.6	31.6	92.8 92.7	92.8	7.0	7.0	6.1 6.5		12 12		-				-		
					Surface	1.0		-	20.0	20.0	7.9 7.9	7.9	31.1	31.1	96.5 96.5	96.5	7.3 7.3		5.4 5.6	Ī	11 11			Ī				F	7]
SR8	Fine	Calm	10:05	4.3	Middle	-	-	-	-	-	-	-	-	-	-	_	-	7.3	-	6.2	-	12		_	820396	811613		. E	╡.
		- 41111	12.00			3.3	-	-	20.0		8.0		31.2		97.2		7.4		6.8		- 13		-				-	` :	_
					Bottom	3.3	-	-	20.0	20.0	8.0	8.0	31.2	31.2	97.3	97.3	7.4	7.4	7.0		13		-				-		1

16 January 20 during Mid-Ebb Tide

Water Quality Monitoring Results on

Salinity (pot) DO Saturation Dissolved Turbidity(NTU) Suspended Solids Total Alkalinity Coordinate Coordinate Chromium Nickel (ug/L) Weather Sea Sampling Water

Station Condition Condition Time Depth (m) Sampling Depth (m) Surface 1.0 0.1	0.1 211 20.9 0.1 221 20.9 0.1 217 21.2 0.1 232 21.3	Average Value Average 20.9 8.0 8.0 21.3 8.0 8.0	212 00.5		Value DA	Value DA Value	DA (Northing)	HK Grid (Easting) Value DA Value DA
Surface 1.0 0.1 C1 Cloudy Moderate 17:13 8.7 Middle 4.4 0.1	0.1 221 20.9 0.1 217 21.2 0.1 232 21.3	20.9 8.0					İ	<0.2 1.2
C1 Cloudy Moderate 17:13 8.7 Middle 4.4 0.1	0.1 217 21.2 0.1 232 21.3	0.0				12 86		<0.2 1.2
4.4 0.1			31.2 31.1 101.7	102.0 7.6	5.3 4.3 5.7	13 13 89	88 815634	0.2 0.2 1.2
P 7.7 0.1		8.0	31.1 102.2	7.6	4.6 7.4	13 88 14 90	0.0001	<0.2 <0.2 1.2 1.2 <0.2 1.2 1.2 <0.2 1.2 <0.2 1.2 <0.2 1.2 <0.2 1.2 <0.2 1.2 <0.2 <0.2 <0.2 <0.2 <0.2 <0.2 <0.2 <0
7.7 0.1	0.1 261 20.7	20.8 8.0 8.0	30.5 98.7	7.4	7.4	15 90		<0.2 1.1
Surface 1.0 0.1 1.0 0.1		20.5 7.9 7.9	29.3 29.3 94.9 29.3 94.9	94.9 7.2 7.2	1.6	8 85 9 86		<0.2 2.0 <0.2 2.0
C2 Cloudy Moderate 15:59 11.8 Middle 5.9 0.0 5.9 0.0		20.4 7.9 7.9	29.5 29.5 94.4 94.4	94.4 7.2 7.2	2.1 1.9	9 9 87 10 9 88	88 825663	806941 <0.2 <0.2 2.0 1.9
Bottom 10.8 0.1	0.1 167 20.4	20.4 7.9 7.9	29.6 94.1	04.1 7.1 7.1	2.1	10 90		<0.2 1.9
10.8 0.1		7.9	29.6 94.1	7.1	2.1	10 90 16 86		<0.2 1.8 <0.2 1.1
Surface 1.0 0.3	0.3 165 20.3	20.3 7.9 7.9	31.7 96.1	96.1 7.2 7.2	2.5	16 85		<0.2 1.1
C3 Cloudy Moderate 18:13 11.2 Middle 5.6 0.3 5.6 0.3	0.3 155 20.2	20.2 <u>7.9</u> 7.9	31.8 31.8 94.9 94.9	94.9 7.1 7.2	9.0 5.9	14 88	88 822115	817803 <0.2 <0.2 1.1 1.1
Bottom 10.2 0.2 10.2 0.2		20.1 7.9 7.9	31.8 31.8 96.0 96.0	96.0 7.2 7.2	6.2	14 89 15 90		<0.2 1.1 <0.2 1.1
Surface 1.0 0.0	0.0 116 20.7	20.7 8.1 8.1	30.4 99.7	99.7 7.5	9.8	9 86		<0.2 1.2
M1		8.1	30.4 99.8	7.5 7.5	9.8	9 87	88 817926	807129 <0.2 1.2 - 1.2 - 1.2
IM1 Cloudy Moderate 16:49 5.4 Middle			30.4 20.4 100.1	7.6	10.0	- 11 - 90	88 817926	807129 - <0.2 - 1.2 - 1.2
Bottom 4.4 0.1	0.1 280 20.8	20.8 8.1 8.1	30.3 100.6	7.6	10.2	12 90		<0.2 1.2
Surface 1.0 0.1 1.0 0.1		20.7 8.0 8.0	30.3 30.3 99.1 30.3 99.3	99.2 7.5	7.8	9 86 10 85		<0.2 1.1 <0.2 1.2
IM2 Cloudy Moderate 16:42 7.0 Middle 3.5 0.1	0.1 100 20.6	20.6 8.0 8.0	30.3 30.3 101.4	101.6 7.7	6.4	11 12 88	88 818141	906153 <0.2 -0.3 1.1 1.1
3.5 0.1 Bottom 6.0 0.1	0.1 173 20.3	20.3 8.0 8.0	30.3 101.8 30.5 30.6 102.5	100.6 7.8 7.0	6.4 10.3	14 90		<0.2 1.2
6.0 0.1		8.0	30.6 102.6	7.8	10.3 9.4	14 91 13 86		<0.2 1.1 <0.2 1.1
Surface 1.0 0.1	0.1 208 20.6	20.6 8.1 8.0	30.3 98.4	7.4	9.4	13 85		<0.2 1.1
IM3 Cloudy Moderate 16:35 7.3 Middle 3.7 0.1 3.7 0.1		20.7 8.1 8.1	30.3 30.3 30.3 99.8 100.0	99.9 7.5 7.5	10.3 10.3	16 15 90 15 90	89 818755	805590 <0.2 <0.2 1.1 1.2
Bottom 6.3 0.1 6.3 0.1		20.8 8.1 8.1	30.4 30.3 30.3 101.0		11.0 11.0	16 90 15 91		<0.2 1.2 <0.2 1.2
Surface 1.0 0.1	0.1 279 20.5	20.5 8.1 8.1	30.3 30.3 98.4	08.4 7.5	7.5	17 86		<0.2 1.1
1.0 0.1		8.1	30.3 98.4	7.5 7.5	7.5 8.9	18 87 16 16 89	88 819724	<0.2 1.1 <0.2 1.1 1.1
IM4 Cloudy Moderate 16:26 7.5 Middle 3.8 0.0 6.5 0.0	0.0 201 20.5	20.5 8.1 8.1	30.3 30.3 99.8 30.3 99.8	99.7 7.6	8.9 9.4	16 87 90	88 819724	804608
6.5 0.0	0.0 185 20.5	20.5 8.1 8.1	30.3 99.8	99.8 7.6 7.6	9.4	14 90		<0.2 1.1
Surface 1.0 0.2 1.0 0.2		20.8 8.0 8.0	29.4 29.4 29.4 98.0	90.0	8.0	14 86 13 86		<0.2 1.1 <0.2 1.1
IM5 Cloudy Moderate 16:18 7.4 Middle 3.7 0.2	0.2 242 20.7	20.8 8.0 8.0	29.5 99.3	99.4 7.5	9.2	15 15 88	88 820717	904993 <0.2 -0.3 1.1 1.1
Bottom 8.74 Million 3.7 0.2		20.8 8.0 8.0	29.5 99.5	7.5	9.3 7.6	16 87 15 90		<0.2
6.4 0.1		8.0	29.4 102.6	7.8	7.6 9.1	16 90 19 86		<0.2 1.1 <0.2 1.1
Surface 1.0 0.1	0.1 203 20.7	20.7 8.0 8.0	29.3 98.1	98.0 7.4 7.5	8.9	20 87		<0.2 1.1
IM6 Cloudy Moderate 16:10 7.6 Middle 3.8 0.1 3.8 0.1		20.6 8.0 8.0	29.5 29.5 100.3 29.5 100.5	100.4 7.6 7.6	9.4 8.9	18 18 87 18 89	88 821080	805833 <0.2 <0.2 1.1 1.1
Bottom 6.6 0.1	0.1 188 20.4	20.4 8.0 8.0	29.6 100.8	101.0 7.7 7.7	8.4	16 90		<0.2 1.1
	0.1 260 20.6	20.6 8.0 8.0	29.7 101.2 29.4 29.3 96.4	06.4 7.3	8.4 8.8	17 91 19 86		<0.2 1.1 <0.2 1.1
1.0 0.2		8.0	29.3 96.4	7.3 7.4	8.4	18 86 19 40 88		<0.2 1.0
IM7 Cloudy Moderate 16:03 7.8 Middle 3.9 0.0	0.0 270 20.6	20.7 8.0 8.0	29.0 29.0 97.9	7.5	8.9	18 19 87	88 821335	000014 <0.2 <0.2 1.1 I.1
Bottom 6.8 0.0 6.8 0.0		20.5 8.0 8.0	29.5 29.5 97.6 29.5 97.6	97.6 7.4 7.4	8.6 8.6	20 90 19 90		<0.2 1.1 <0.2 1.1
Surface 1.0 0.1 1.0 0.1		20.4 7.9 7.9	30.0 30.0 30.0 96.8 96.8	96.8 7.3 7.3	3.6 3.6	18 87 18 86		<0.2 1.7 <0.2 1.7
IM8 Cloudy Moderate 16:35 7.3 Middle 3.7 0.1	0.1 200 20.4	20.4 7.9 7.0	30.0 30.0 96.7	7.3	3.5	18 19 88	88 821846	0.2 0.2 1.9 0.0
3.7 0.1		7.9	30.0 96.7	7.3	3.5	19 87 19 90	021040	<0.2 <0.2 2.0 <0.2 2.2
6.3 0.1		20.4 7.9 7.9	30.0 30.0 98.6		3.1	20 90		<0.2 2.2
DA: Depth-Averaged Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher								

during Mid-Ebb Tide Water Quality Monitoring Results on 16 January 20 Suspended Solids Nickel (µg/L) Salinity (ppt) Turbidity(NTU) Water рΗ Coordinate Sampling Water Temperature (°C) Coordinate Monitoring Current (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value DA Value DA Value Value DA (Northing) (Easting) Value DA Value Value Average 0.2 20.4 30.5 96.9 1.0 0.2 184 20.4 7.3 3.5 16 85 <0.2 1.5 3.3 0.2 195 185 20.4 7.9 7.9 30.5 98.1 98.1 7.4 7.4 5.6 16 15 88 89 <0.2 1.5 IM9 Cloudy Moderate 16:41 6.6 Middle 7.9 30.5 98.1 16 88 822115 808803 <0.2 0.2 5.6 20.4 5.6 0.3 176 20.3 7.6 7.6 4.1 16 90 <0.2 1.5 8.0 30.6 100.8 Bottom 20.3 8.0 30.6 100.8 7.6 30.6 182 20.3 8.0 100.8 41 15 90 14 5.6 0.4 <0.2 0.3 20.4 14 7.9 1.4 Surface 20.4 7.9 30.6 96.9 7.9 30.6 96.9 86 1.4 1.0 0.3 176 20.4 7.3 6.5 15 < 0.2 0.3 20.3 1.4 181 97.5 97.5 9.6 9.6 15 14 88 89 <0.2 3.5 7.9 30.7 7.4 IM10 Cloudy Moderate 16:52 6.9 Middle 20.3 7.9 30.7 97.5 15 88 822391 809813 <n 2 7.9 5.9 0.2 199 20.3 8.0 99.9 7.5 8.8 15 90 <0.2 1.5 30.7 8.0 30.7 99.9 7.5 Bottom 20.3 5.9 0.2 175 20.3 8.0 30.7 99.9 7.5 8.8 15 90 < 0.2 1.4 1.0 0.4 177 5.5 17 85 1.6 20.2 7.9 97.9 30.9 7.4 <0.2 Surface 20.2 7.9 30.9 97.9 1.0 0.4 20.2 7.9 97.9 7.4 5.5 16 86 <0.2 1.5 1.6 3.7 0.5 171 20.2 7.9 7.4 5.6 16 88 <0.2 30.9 98.0 IM11 Cloudy 822079 811451 Moderate 17:06 7.4 Middle 20.2 7.9 30.9 98.0 18 88 <0.2 3.7 0.5 174 5.6 17 87 <0.2 20.2 6.4 137 20.2 8.0 98.0 7.4 5.8 20 <0.2 1.6 Rottom 20.2 8.0 30.9 98.0 74 6.4 0.4 150 20.2 8.0 30.9 98.0 7.4 5.8 20 90 1.6 154 20.2 7.9 97.8 97.8 5.5 86 <0.2 1.5 Surface 20.2 7.9 31.3 97.8 1.0 0.5 156 20.2 7.9 31.3 7.4 5.5 13 87 <0.2 1.4 4.0 0.5 158 20.1 7.9 8.7 11 88 <0.2 1.3 97.3 17:16 Middle 821444 812054 IM12 Cloudy Moderate 20.1 7.9 31.3 97.3 4.0 0.5 159 20.1 7.9 97.3 8.7 12 10 87 1.4 7.0 0.4 161 20.1 8.0 97.8 13.9 90 <0.2 1.5 Bottom 20.1 8.0 31.3 97.8 7.4 97.8 7.0 0.4 161 20.1 8.0 31.3 7.4 13.9 10 90 < 0.2 1.6 1.0 20.3 8.0 31.4 97.3 7.3 2.3 14 Surface 20.3 8.0 31.4 97.3 1.0 20.3 8.0 31.4 97.3 7.3 2.3 14 2.6 Cloudy Moderate 17:35 5.1 Middle 819975 812660 2.6 4.1 20.3 8.0 98.4 7.4 3.1 17 7.4 Bottom 20.3 8.0 31.4 98.4 4.1 20.3 8.0 31.4 98.4 7.4 3.1 17 1.0 0.4 137 20.3 7.9 31.3 97.5 8.1 86 <0.2 1.3 Surface 20.3 7.9 31.3 97.5 1.0 0.4 141 20.3 7.9 31.3 97.5 7.3 8.1 14 85 <0.2 1.3 SR2 Cloudy Moderate 17:48 4.3 Middle 821479 814163 <0.2 1.3 168 31.3 97.7 97.7 16 16 1.3 3.3 20.2 Bottom 31.3 97.7 0.3 158 20.2 7.9 7.4 92 89 <0.2 14 1.0 0.3 112 20.4 7.9 29.9 96.2 7.3 4.0 19 7.9 29.9 96.2 1.0 0.3 119 20.4 79 29.9 96.2 7.3 4.0 20 4.2 0.3 132 20.4 7.9 29.9 96.1 7.3 6.3 22 -SR3 Moderate 16:28 8.4 29.9 21 822153 807557 Cloudy 4.2 0.3 135 20.4 7.9 29.9 96.1 7.3 6.3 22 0.3 20.4 7.9 7.9 29.9 29.9 96.5 96.5 7.3 6.4 7.4 125 128 22 Bottom 7.9 96.5 7.3 1.0 0.2 80 21.7 8.1 31.6 102.2 7.5 6.0 12 Surface 21.7 8.1 31.6 102.1 1.0 0.3 21.7 8.1 31.6 102.1 7.5 6.1 12 86 -4.2 0.2 8.1 7.5 3.5 13 21.7 31.5 101.2 17:39 807797 SR4A Cloudy Moderate 8.3 Middle 21.8 8.1 31.4 101.2 13 817200 4.2 0.2 75 21.8 8.1 7.5 3.4 12 31.4 13 0.2 20.8 8.0 31.3 98.1 7.4 5.3 Rottom 20.8 8.0 31.3 98.1 7.4 7.3 0.2 60 20.8 8.0 31.3 98.0 7.3 5.6 13 1.0 0.1 5.5 15 8 8.1 33.4 95.5 7.1 Surface 20.7 8.1 33.4 95.5 7.1 1.0 0.1 8 20.7 8.1 33.4 95.4 5.5 14 SR5A 17:54 4.5 Middle 816608 810686 Cloudy Moderate 3.5 0.1 14 20.7 6.0 15 8.1 33.4 94.9 7.0 Bottom 20.7 8.1 33.4 95.0 7.0 3.5 0.1 14 20.7 16 0.0 8.1 Surface 20.7 8.1 33.2 95.9 20.7 1.5 SR6A Cloudy Moderate 18:16 4.3 Middle 817952 814739 0.0 20.7 3.0 Bottom 8.1 97.6 1.0 0.4 33 20.3 7.9 31.9 94.9 7.1 0.8 Surface 7.9 1.0 0.4 33 20.3 79 31.9 94.9 71 0.8 8 8.3 0.4 46 20.1 7.9 32.3 95.1 7.1 17 8 SR7 Cloudy Moderate 18:48 Middle 823628 823743 8.3 0.4 49 20.1 79 32.3 95.1 7 1 17 q 15.5 0.3 37 20.1 7.9 94.8 7.1 1.9 10 Bottom 7.9 94.8 15.5 0.3 40 20.1 7.9 94.8 7.1 1.9 11 11 10 1.0 20.2 7.9 3.8 Surface 31.1 79 31.1 99.8 7.5 --SR8 Cloudy Moderate 17:26 5.0 Middle 11 820367 811632 4.0 100.3 12 20.2 8.0 31.1 7.6 4.0 Bottom 20.2 8.0 31.1 100.3

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring Water Quality Monitoring Results on 16 January 20 during

16 January 20 during Mid-Flood Tide

Water Qua	lity Monit	oring Resu	lts on		16 January 20	during Mid-	Flood Ti	de																					
Monitoring	Weather	Sea	Sampling	Water	Sampling Dep	th (m)	Current Speed	Current	Water Te	mperature (°C)		рН	Sali	nity (ppt)		aturation (%)	Disso Oxy		Turbidity(NTU)	Suspende (mg/		Total Al		Coordinate HK Grid	Coordinate HK Grid	Chrom (µg/l		ıg/L)
Station	Condition	Condition	Time	Depth (m)			(m/s)	Direction	Value	Average	Value	Averag		Average		Average	Value	DA	Value	DA	Value	DA	Value	DA	(Northing)	(Easting)			DA
					Surface	1.0	0.7	49 53	19.7 19.7	19.7	8.0	8.0	30.4	30.4	100.6	100.7	7.7		9.2 9.4	-	14 15	i l	86 86				<0.2	1.1	
C1	Cloudy	Moderate	12:14	8.8	Middle	4.4 4.4	0.7	42 42	19.9 19.9	19.9	8.0	8.0	30.4	30.4	97.9 97.9	97.9	7.5 7.5	7.6	8.9 8.9	9.6	13 12	12	88 87	88	815629	804242	<0.2	1.1	1.1
					Bottom	7.8	0.6	31	19.8	19.9	8.0	8.0	30.4	30.4	99.5	99.7	7.6	7.6	10.8		9	ı İ	90				<0.2 <0.2	1.1	
						7.8	0.6	32 300	19.9 20.5		8.0 7.9	1	30.4 29.3		99.9 95.1		7.6 7.2	7.0	10.7 1.6		9	=	89 85				<0.2	2.2	=
					Surface	1.0 5.8	0.1	301 46	20.5 20.4	20.5	7.9 7.9	7.9	29.3 29.6	29.3	95.1 96.3	95.1	7.2 7.3	7.3	1.6 2.1	F	7	, [86 88				<0.2 <0.2	2.2	
C2	Cloudy	Moderate	13:13	11.6	Middle	5.8	0.2	46	20.4	20.4	7.9	7.9	29.6	29.6	96.3	96.3	7.3		2.1	1.8	7	7	88	88	825690	806934	<0.2	<0.2	2.2
					Bottom	10.6 10.6	0.2	49 51	20.4 20.4	20.4	7.9 7.9	7.9	29.7 29.7	29.7	97.7 97.7	97.7	7.4	7.4	1.6 1.6		7		90 90				<0.2	2.1	
					Surface	1.0	0.4	231 250	20.2	20.2	7.8	7.8	31.2	31.2	96.3 96.3	96.3	7.3		5.5 5.5	-	5 6	, ,	86 87				<0.2	1.1	
СЗ	Cloudy	Moderate	11:02	11.6	Middle	5.8 5.8	0.3	223 237	20.2	20.2	7.8	7.8	31.3 31.3		95.3 95.3	95.3	7.2	7.3	6.6	6.3	6	7	88 89	88	822112	817787	~n 2	1.2	1.1
					Bottom	10.6	0.3	236	20.2	20.2	7.8	7.8	31.3	31 3	95.4	95.4	7.2	7.2	6.8		8	, }	90				<0.2	1.2	
					Surface	10.6	0.3	252 12	20.2 19.9	19.9	7.8 8.0	8.0	31.3 30.4		95.4 97.8	97.8	7.2 7.5		6.8 9.4		9		90 86				<0.2	1.1	
						1.0	0.1	12	19.9	15.5	8.0	0.0	30.4	30.4	97.8	57.0	7.5	7.5	9.1		9	í [86				<0.2	1.1	
IM1	Cloudy	Moderate	12:32	5.2	Middle	4.2	0.2	- 15	20.3	-	8.0	<u> </u>	30.1	-	99.9	-	7.6		- 8.9	9.1	- 11	10	90	88	817945	807132	<0.2	<0.2	1.1
					Bottom	4.2	0.2	15	20.2	20.3	8.0	8.0	30.1	30.1	100.1	100.0	7.6	7.6	8.9		11		90				<0.2	1.1	
					Surface	1.0	0.3	17 17	20.4	20.4	8.0	8.0	30.1 30.2		97.9 97.9	97.9	7.4	7.5	9.7 9.1		10 10	i l	86 85				<0.2 <0.2	1.0	
IM2	Cloudy	Moderate	12:40	7.3	Middle	3.7	0.2	21 21	20.3	20.3	8.0	8.0	30.1	30.1	99.0 99.2	99.1	7.5 7.5	7.5	9.7 9.7	9.3	12 12	12	88 87	88	818146	806161	<0.2	<0.2	1.1
					Bottom	6.3 6.3	0.2	340 345	20.3	20.3	8.0	8.0	30.1 30.1	30.1	99.8 99.9	99.9	7.6 7.6	7.6	8.8 8.8	F	13 13	, [90 90				<0.2	1.1	
					Surface	1.0	0.4	356 359	20.2	20.2	8.0	8.0	30.1	30.1	98.2 98.4	98.3	7.5 7.5		9.8 9.8		12	1	86 86				<0.2	1.0	
IM3	Cloudy	Moderate	12:47	7.5	Middle	3.8	0.3	351	20.2	20.2	8.0	8.0	30.1	30.1	100.1	100.2	7.6	7.6	9.8	9.5	15	14	89	88	818779	805588	<0.2 <0.2	<0.2 1.1	1.1
	,				Bottom	3.8 6.5	0.4	323 344	20.2	20.1	8.0	8.0	30.2 30.1	30.1	100.4 100.7	100.8	7.6 7.7	7.7	9.9 8.9	· · ·	14 15	i I	88 90				<0.2	1.1	
						6.5 1.0	0.4	316 350	20.1		8.0	1	30.1 29.6		100.9 97.5		7.7	7.7	8.9 14.9		15 14	=	90 87				<0.2	1.1	=
					Surface	1.0 3.6	0.6	322 332	20.6 20.6	20.6	8.0	8.0	29.6 29.6	29.0	97.5 98.6	97.5	7.4 7.5	7.5	14.6 15.5	F	15 14	, [86 88				<0.2	1.1	
IM4	Cloudy	Moderate	12:55	7.1	Middle	3.6	0.5	333	20.6	20.6	8.0	8.0	29.6	29.6	98.7	98.6	7.5		15.4	14.7	14	14	89	89	819708	804591	<0.2	<0.2	1.1
					Bottom	6.1 6.1	0.4	341 314	20.5 20.5	20.5	8.0	8.0	29.6 29.6	29.6	99.9 100.9	100.4	7.6 7.7	7.7	14.0 14.0		12 12		90 91				<0.2 <0.2	1.1	
					Surface	1.0	0.7	22 23	20.6 20.6	20.6	8.0	8.0	29.6 29.6	29.6	97.3 97.4	97.4	7.4		11.5 10.2	-	9	í þ	86 86				<0.2	1.0	
IM5	Cloudy	Moderate	13:02	7.6	Middle	3.8	0.7	18 19	20.6 20.5	20.6	8.0	8.0	29.6 29.6	29.6	99.0 99.1	99.0	7.5 7.5	7.5	10.3 9.5	11.2	9	9	88 87	88	820732	804851	<0.2	1.0	1.1
					Bottom	6.6 6.6	0.5	26 26	20.4	20.4	8.0	8.0	29.5 29.4	29.4	98.6 98.5	98.6	7.5 7.5	7.5	12.9 13.0	ļ	10	,	90				<0.2	1.1	
					Surface	1.0	0.4	135	20.6	20.6	8.0	8.0	29.6	29.6	96.7	96.7	7.4		9.1		10		85				<0.2	1.1	_
IM6	Cloudy	Moderate	13:08	7.7	Middle	1.0 3.9	0.4	146 140	20.6 20.6	20.6	8.0	8.0	29.6 29.6	29.6	96.7 97.9	97.9	7.4 7.4	7.4	9.3 10.2	9.9	11 11	11	87 88	88	821047	805832	<0.2	<0.2	1.1
livio	Cloudy	Woderate	13.06	7.7		3.9 6.7	0.4	145 133	20.6 20.6		8.0	-	29.6 29.6		98.0 97.8		7.4 7.4		10.5 10.1	9.9	10 11	, '' [87 90	00	621047	005032	<0.2	1.2	1.1
					Bottom	6.7	0.3	136 99	20.6	20.6	8.0	8.0	29.6	29.6	97.8	97.8	7.4	7.4	10.1		12	\Box	90 87				<0.2	1.1	
					Surface	1.0	0.1	99	20.6	20.6	8.0	8.0	29.5 29.5	29.5	96.6 96.7	96.7	7.3 7.4	7.4	12.5		9	, }	86				<0.2	1.1	
IM7	Cloudy	Moderate	13:18	7.9	Middle	4.0	0.1	78 79	20.6 20.6	20.6	8.0	8.0	29.4 29.4	29.4	98.3 98.7	98.5	7.5 7.5		12.2 12.5	12.2	10 10	10	88 87	88	821366	806822	<0.2	<0.2 1.1	1.1
					Bottom	6.9 6.9	0.1	70 74	20.6 20.6	20.6	8.0	8.0	29.3 29.3	29.3	99.7 99.9	99.8	7.6 7.6	7.6	12.0 12.0	F	11 12	i ļ	90 90				<0.2	1.0	
					Surface	1.0	0.3	42 44	20.3	20.3	7.9 7.9	7.9	30.0	20.0	95.9 96.0	96.0	7.3		8.7 8.8	-	10	,	86 86				<0.2	2.4	
IM8	Cloudy	Moderate	12:43	6.6	Middle	3.3	0.3	41	20.3	20.3	7.9	7.9	30.0	20.0	96.7	96.7	7.3	7.3	19.2	15.1	9	10	88	88	821825	808124	<0.2	2.4	2.4
					Bottom	3.3 5.6	0.3	44 38	20.3	20.3	7.9 7.9	7.9	30.0 30.1	30.1	96.7 100.4	100.4	7.3 7.6	7.6	19.2 17.2		10 10	·	88 90				<0.2	2.5	
DA: Denth-Ave					Buttum	5.6	0.3	41	20.3	20.3	7.9	1 '.9	30.1	30.1	100.4	100.4	7.6	7.0	17.2		10		90				<0.2	2.4	

during Mid-Flood Tide Water Quality Monitoring Results on 16 January 20 Suspended Solids Nickel (µg/L) Salinity (ppt) Turbidity(NTU) Water Water Temperature (°C) рΗ Coordinate Sampling Coordinate Monitoring Current (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value DA Value DA Value Value DA (Northing) (Easting) Value DA Value Average 0.5 2.4 96.3 1.0 0.5 304 20.3 30.0 7.3 5.3 10 85 <0.2 2.5 3.5 0.5 287 20.3 7.9 7.9 30.1 96.0 96.0 7.3 7.3 6.7 10 9 88 87 <0.2 2.5 IM9 Cloudy Moderate 12:38 7.0 Middle 7.9 30.1 6.5 88 822085 808825 <0.2 3.5 0.5 291 20.3 6.0 0.4 287 20.3 7.6 6 90 < 0.2 2.6 7.9 30.1 98.5 7.5 7.5 Bottom 20.3 7.9 30.1 98.5 7.5 98.5 7.9 0.4 314 20.3 30.1 7.6 89 26 6.0 <0.2 0.4 293 20.4 6.1 7.9 95.1 Surface 20.4 7.9 30.2 95.1 7.9 30.2 95.1 7.2 13 85 1.6 1.0 0.5 298 20.4 6.1 < 0.2 20.4 7.3 7.3 13 14 1.5 95.0 95.0 88 87 <0.2 3.6 0.4 7.9 30.2 IM10 Cloudy Moderate 12:31 7.1 Middle 20.4 7.9 30.2 95.0 13 88 822393 809810 <0.2 0.5 7.9 6.1 0.4 299 20.4 7.9 94.5 7.2 8.1 13 90 <0.2 1.8 30.2 7.9 30.2 94.5 7.2 Bottom 20.4 6.1 0.4 308 20.4 7.9 30.2 94.5 7.2 8.1 14 90 < 0.2 1.8 1.0 0.5 294 5.9 14 86 1.2 20.3 7.9 <0.2 30.5 96.7 7.3 Surface 20.3 7.9 30.5 96.7 1.0 0.5 303 20.3 7.9 30.5 96.7 7.3 5.9 13 86 <0.2 1.2 3.7 0.4 292 20.3 7.9 97.5 7.4 6.5 13 89 <0.2 1.1 30.5 IM11 Cloudy 822073 811440 Moderate 12:20 7.3 Middle 20.3 7.9 30.5 97.5 88 <0.2 3.7 0.5 6.6 14 88 1.3 <0.2 20.3 6.3 20.3 7.9 99.7 99.7 7.5 6.9 14 <0.2 1.6 7.5 Rottom 20.3 7.9 30.5 99.7 6.3 0.3 314 20.3 7.9 30.5 7.5 6.9 15 90 1.5 269 20.3 7.9 30.8 96.1 96.1 7.3 3.5 85 <0.2 1.4 Surface 20.3 7.9 30.8 96.1 1.0 0.4 20.3 7.9 30.8 7.3 3.5 9 86 <0.2 1.5 4.1 0.3 273 20.3 7.9 4.6 9 88 <0.2 1.5 96.2 12:12 Middle 821442 IM12 Cloudy Moderate 20.3 7.9 30.8 96.2 4.1 0.3 20.3 7.9 30.8 4.6 10 87 1.5 72 0.3 276 20.3 7.9 30.9 96.2 6.3 10 90 <0.2 1.5 Bottom 20.3 7.9 30.9 96.2 7.3 96.2 7.2 0.3 276 20.3 7.9 30.9 7.3 6.3 10 90 < 0.2 1.4 1.0 20.1 7.8 31.0 97.8 7.4 4.6 10 Surface 20.1 7.8 31.0 97.8 20.1 7.8 31.0 97.8 7.4 4.6 10 2.6 SR1A Cloudy Moderate 11:44 5.2 Middle 819977 812655 2.6 4.2 20.1 97.8 97.8 4.7 4.7 11 12 7.8 31.0 7.4 Bottom 7.8 31.0 97.8 7.4 7.8 7.4 1.0 0.3 244 20.1 7.8 31.0 98.0 74 47 16 86 <0.2 1.0 Surface 7.8 31.0 98.0 1.0 0.3 17 1.0 252 20.1 7.8 31.0 47 86 98.0 74 < 0.2 -SR2 Cloudy Moderate 11:28 4.4 Middle 821463 814189 3.4 262 273 20.1 31.0 31.0 99.6 99.6 7.5 7.5 4.7 18 18 90 <0.2 1.0 7.8 Bottom 20.1 31.0 99.6 7.5 0.2 7.8 4.7 1.0 20.1 90 < 0.2 1.0 0.5 7.9 278 20.3 30.0 95.5 7.2 9.0 12 Surface 20.3 7.9 30.0 95.5 1.0 0.5 7.9 30.0 7.2 9.0 12 288 20.3 95.5 4.0 10.7 8 270 20.3 7.9 30.0 95.4 7.2 SR3 12:48 Middle 7.9 822134 807569 Cloudy Moderate 8.0 20.3 30.0 95.4 4.0 0.5 285 20.3 7.9 30.0 95.4 7.2 10.7 8 . 0.5 7.9 30.0 95.3 95.3 7.2 7.2 13.6 272 291 20.3 7.9 Rottom 20.3 30.0 95.3 72 1.0 0.4 279 20.0 8.0 9.5 30.5 96.8 7.4 15 Surface 20.0 8.0 30.5 96.8 1.0 20.0 8.0 30.5 96.8 9.5 14 0.4 282 4.2 0.4 7.7 13 282 20.1 8.0 30.3 96.2 96.2 7.3 SR4A Cloudy Moderate 11:52 8.4 Middle 20.1 8.0 30.3 96.2 817208 807826 4.2 0.4 286 20.1 8.0 8.4 14 0.4 266 20.3 8.0 30.4 98.0 7.4 8.8 13 Bottom 20.3 8.0 30.4 98.0 7.4 7.4 268 20.3 1.0 0.0 19.5 8.0 7.0 30.6 95.7 7.4 Surface 19.5 8.0 95.7 30.6 1.0 0.0 205 19.5 8.0 95.7 7.4 6.9 7 Cloudy Moderate 11:35 Middle 810700 3.6 0.0 210 19.8 8.0 30.6 95.4 7.3 8.8 Bottom 7.3 3.6 0.0 223 19.8 8 0 8.5 1.0 0.1 231 20.2 8.0 30.5 96.7 7.4 8.8 8.8 1.0 0.1 247 20.2 8.0 30.5 96.8 7.4 8 -SR6A Moderate 11:09 4.3 Middle 817952 814729 Cloudy 3.3 0.1 236 20.3 7.9 7.9 30.6 96.7 96.7 8.6 9 -7.9 96.7 Bottom 3.3 0.1 245 20.3 30.6 8.6 1.0 0.6 204 20.1 7.8 7.8 31.8 31.8 95.0 95.0 7.2 7.2 1.2 Surface 20.1 7.8 31.8 95.0 1.0 0.6 216 20.1 6 8.4 0.4 7.8 32.0 32.0 94.4 7.1 208 20.1 2.1 6 -94.4 7.8 32.0 823636 823728 SR7 Cloudy Moderate 10:28 16.8 Middle 20.1 7.8 94.4 7.1 8.4 0.4 213 20.1 2.1 -15.8 0.2 243 20.1 7.8 7.0 7.0 2.5 6 32.0 93.8 Bottom 20.1 7.8 32.0 93.8 7.0 7.8 93.8 15.8 0.2 260 20.1 2.5 20.3 7.9 30.8 98.9 98.9 7.5 7.5 12 11 1.0 3.4 Surface 20.3 7.9 30.8 98.9 7.9 3.4 7.5 SR8 Cloudy 12:12 5.1 Middle 12 820411 811636 Moderate 3.2

7.9

7.9

20.3

30.8

102.0

102.0

30.8

20.3

12

2.9

7.7

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Bottom

Water Quality Monitoring Results on 18 January 20 during Mid-Ebb Tide

Water Qual	ity Monite	oring Resu	its on		18 January 20	during Mid-	Epp lide	9																				
Monitoring Station	Weather	Sea	Sampling	Water	Sampling D	Depth (m)	Current Speed	Current Direction	Water Te	mperature (°C)		рН	Salin	ity (ppt)		aturation %)	Dissolved Oxygen	Turbidity	(NTU)	Suspender (mg/l		Fotal Alka (ppm)		Coordinate HK Grid	Coordinate HK Grid	Chromium (µg/L)	Nickel	l (μg/L)
Station	Condition	Condition	Time	Depth (m)			(m/s)		Value	Average	Value	Average	Value	Average	Value	Average	Value DA	Value	DA	Value	DA		DA	(Northing)	(Easting)	Value DA		
					Surface	1.0	0.1	211 220	20.0	20.0	7.8	7.8	30.9	30.9	95.4 95.3	95.4	7.2	2.4		<2 <2	-	84 85				<0.2	1.0	
C1	Cloudy	Rough	06:09	7.1	Middle	3.6	0.1	225	20.0	20.0	7.8	7.8	31.0	31.0	95.3	95.3	7.2	4.6	4.0	<2	2	88	88	815602	804268	<0.2	0.9	
01	Cioudy	rtougii	00.03	7.1	Wildus	3.6 6.1	0.1	230 231	20.0		7.8 7.8		31.0 31.0		95.2 95.0		7.2	4.7 4.9	4.0	<2 2	- F	88 91	00	013002	004200	<0.2	1.0	
					Bottom	6.1	0.1	236	20.0	20.0	7.8	7.8	31.0	31.0	95.0	95.0	7.2 7.2	5.0		2		91				<0.2	1.0	ŀ
					Surface	1.0	0.1	202 212	20.4	20.4	7.8 7.8	7.8	30.1	30.1	98.5 98.4	98.5	7.4	5.4 5.6		4 5		83 84				<0.2	1.5	
C2	Cloudy	Rough	07:43	8.5	Middle	4.3	0.0	188	20.2	20.2	7.8	7.8	30.5	30.5	98.1	98.2	7.4	5.1	5.1	5	5	88	88	825703	806943	<0.2	1.5	1.5
02	Cioudy	rtougii	07.43	0.5	Wildus	4.3 7.5	0.0	191 169	20.2		7.8 7.9		30.5 30.9		98.2 99.6		7.4 7.5	5.2 4.6	5.1	5 6	Ĭ	88 91	00	023703	000343	<0.2	1.5	۱۵
					Bottom	7.5	0.1	174	20.2	20.2	7.9	7.9	30.9	30.9	99.7	99.7	7.5	4.8		5		92				<0.2	1.5	
					Surface	1.0	0.3	157 166	20.0	20.0	7.8	7.8	31.7	31.7	94.2	94.3	7.1	3.5		5 5	-	83 84				<0.2	1.0	ł
СЗ	Cloudy	Rough	05:45	11.1	Middle	5.6	0.3	142	20.0	20.0	7.8	7.8	31.9	31.9	93.6	93.6	7.1	4.7	4.5	4	4 E	89	88	822120	817779	<0.2	1.0	1,
00	O.Outa,	rtougn	00.10			5.6 10.1	0.3	145 144	20.0		7.8 7.9		31.9 32.2		93.5 93.0		7.0	4.8 5.1		4		89 91		022120	011110	<0.2	1.0	1
					Bottom	10.1	0.2	150	20.1	20.1	7.9	7.9	32.2	32.2	93.0	93.0	7.0	5.2		3		92				<0.2	1.1	
					Surface	1.0	0.0	111 119	19.9 19.9	19.9	7.8	7.8	30.7	30.7	98.9 99.0	99.0	7.5 7.5	2.7		6 5	-	83 84				<0.2	1.0	+
IM1	Cloudy	Rough	06:37	4.6	Middle	-	-	-	-	-	-	-	-		-		7.5	-	3.5	-	5	-	87	817932	807149	02	, -	1.0
	,					3.6	0.1	282	19.9		7.8		30.7		99.5		7.6	4.2		4		91				<0.2	1.0	+
					Bottom	3.6	0.1	304	19.9	19.9	7.8	7.8	30.7	30.7	99.4	99.5	7.6	4.2		4		91				<0.2	1.0	<u> </u>
					Surface	1.0	0.1	125 130	19.9 19.9	19.9	7.8	7.8	30.5	30.5	98.3 98.3	98.3	7.5	5.7 5.7		2	-	83 84				<0.2	1.0	ł
IM2	Cloudy	Rough	06:42	6.5	Middle	3.3	0.1	100	19.8	19.8	7.7	7.7	30.6	30.6	97.6	97.6	7.4	9.3	8.5	2	2	87	87	818164	806183	<0.2	1.0	
	,				B	3.3 5.5	0.1	104 172	19.8 19.8	10.0	7.7		30.6 30.6	00.0	97.6 97.3	07.0	7.4	9.4 10.2		3	-	87 91				<0.2	1.1	ł
					Bottom	5.5	0.1	186	19.8	19.8	7.7	7.7	30.6	30.6	97.2	97.3	7.4	10.5		2		91				<0.2	1.0	<u> </u>
					Surface	1.0	0.1	204 204	19.9 19.9	19.9	7.8	7.8	30.5	30.5	98.4 98.3	98.4	7.5 7.5	6.4		4 5	-	79 83				<0.2	1.0	ł
IM3	Cloudy	Rough	06:46	6.8	Middle	3.4	0.1	188	19.8	19.8	7.8	7.8	30.6	30.6	97.6	97.6	7.4	8.1	7.7	3	4	88	87	818764	805599	<0.2	, 1.1	1.0
					Bottom	3.4 5.8	0.1	204 122	19.8 19.8	19.8	7.8 7.8	7.0	30.6 30.6	30.6	97.6 97.8	97.8	7.4 7.5 7.5	8.1 8.6		3	H	88 91				<0.2	0.9	ł
					Bottom	5.8	0.1	132	19.8	19.8	7.8	7.8	30.6	30.6	97.7	97.8	7.4	8.6		2		91				<0.2	1.0	
					Surface	1.0	0.1	274 275	19.9 19.9	19.9	7.8	7.8	30.5	30.5	98.3 98.1	98.2	7.5 7.5 7.5	4.5 4.5		5 4	-	83 84				<0.2	1.0	ŧ
IM4	Cloudy	Rough	06:53	7.8	Middle	3.9 3.9	0.0	216 208	19.8 19.8	19.8	7.8 7.8	7.8	30.5 30.5	30.5	97.8 97.7	97.8	7.5 7.5	6.4 6.4	8.4	3	4	88 88	88	819706	804617	<0.2	2 1.0	1.0
					Bottom	6.8	0.0	208	19.8	19.8	7.8	7.8	30.6	30.6	97.5	97.5	7.4	14.3		3	H	91				<0.2	1.0	İ
					Bottom	6.8 1.0	0.0	266 202	19.8 20.0	15.0	7.8	7.0	30.6 30.6	30.0	97.5 99.4		7.4	14.4 2.5		3		92 83				<0.2	1.0	<u> </u>
					Surface	1.0	0.2	202	20.0	20.0	7.8	7.8	30.6	30.6	99.4	99.4	7.6	2.5		3		84				<0.2	1.0	
IM5	Cloudy	Rough	07:07	7.7	Middle	3.9	0.1	237 218	19.9 19.9	19.9	7.8	7.8	30.6 30.6	30.6	99.0 98.8	98.9	7.5 7.5	3.5 3.6	4.1	2	3	85 87	87	820743	804887	<0.2	2 1.1	1.0
					Bottom	6.7	0.1	221	19.9	19.9	7.8	7.8	30.6	30.6	98.8	98.9	7.5	6.3		3	L	91				<0.2	1.0	İ
						1.0	0.1	202 286	19.9		7.8		30.6 30.5		98.9 99.0		7.5 7.5 7.5	6.3 1.7		5		91 83				<0.2	1.0	-
					Surface	1.0	0.1	298	20.0	20.0	7.8	7.8	30.6	30.5	99.2	99.1	7.5	1.8		4		83				<0.2	1.0	1
IM6	Cloudy	Rough	07:13	7.5	Middle	3.8	0.1	265 280	19.9 19.9	19.9	7.8	7.8	30.5	30.5	98.8 98.7	98.8	7.5 7.5	2.5 2.6	2.5	4	4	87 88	87	821064	805850	<0.2	2 1.0	1.1
					Bottom	6.5	0.1	288	19.9	19.9	7.8	7.8	30.6	30.6	98.7	98.7	7.5	3.1		4		91				<0.2	1.2	1
						6.5 1.0	0.1	313 254	19.9 20.3		7.8		30.6 30.6		98.7 99.8		7.5 7.5 7.5	3.2 1.5		2	+	92 83				<0.2	1.2	⊨
					Surface	1.0	0.1	277	20.3	20.3	7.8	7.8	30.6	30.6	100.0	99.9	7.6	1.5		2		84				<0.2	1.0	1
IM7	Cloudy	Rough	07:18	8.3	Middle	4.2	0.0	258 283	20.0	20.0	7.8	7.8	30.6	30.6	99.0 98.8	98.9	7.5 7.5	1.2	1.7	3	2	88 89	88	821352	806826	<0.2	2 1.2	1.1
					Bottom	7.3	0.0	342	20.0	20.0	7.8	7.8	30.7	30.7	98.8	98.8	7.5	2.3		2	Į	91				<0.2	1.2	
						7.3	0.0	345 216	20.0		7.8		30.7		98.7 99.4		7.5	2.3		7	-	91 83				<0.2	1.1	₩
					Surface	1.0	0.1	226	20.0	20.0	7.8	7.8	30.5	30.5	99.5	99.5	7.6	1.4		6	ļ	84				<0.2	1.3	1
IM8	Cloudy	Rough	07:16	8.1	Middle	4.1	0.1	204 205	19.8 19.8	19.8	7.8	7.8	30.6 30.6	30.6	99.3 99.3	99.3	7.6	1.9	1.8	6 5	6	87 87	87	821816	808152	<0.2	2 1.4	
					Bottom	7.1	0.1	219	19.8	19.8	7.8	7.8	30.6	30.6	99.3	99.3	7.6	2.1		6	ļ	91				<0.2	1.4	
A: Depth-Aver						7.1	0.1	204	19.8		7.8		30.6		99.3		7.6	1.9		6		91				<0.2	1.3	<u> Ш</u>

during Mid-Ebb Tide Water Quality Monitoring Results on 18 January 20 Suspended Solids Nickel (µg/L) Salinity (ppt) Turbidity(NTU) Water Water Temperature (°C) рΗ Coordinate Sampling Coordinate Monitoring Current (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value DA Value DA Value DA Value DA (Northing) (Easting) Value DA Value Average 0.2 99.6 1.0 0.2 195 19.9 30.6 7.6 3.8 84 <0.2 1.4 3.8 0.2 198 19.9 7.8 7.8 99.1 7.5 7.6 4.2 87 88 <0.2 1.3 IM9 Cloudy Rough 07:10 7.5 Middle 30.6 4.5 87 822108 808813 <0.2 3.8 0.2 201 19.9 99.4 6.5 0.3 209 19.9 100.1 100.2 9 91 < 0.2 1.3 7.8 30.6 7.6 7.6 5.6 Bottom 19.9 7.8 30.6 100.2 7.6 7.8 6.5 0.3 199 30.6 5.6 10 91 13 211 <0.2 0.3 183 19.8 5.4 83 1.3 Surface 19.8 7.8 30.5 98.3 7.8 30.5 98.3 84 1.3 1.0 0.3 186 19.8 7.5 5.4 8 < 0.2 0.3 19.8 19.8 7.8 7.8 1.3 196 182 30.6 30.6 97.4 97.4 88 89 <0.2 3.8 7.8 7.4 9 10 IM10 Cloudy Rough 07:00 7.6 Middle 19.8 7.8 30.6 97.4 10 88 822382 809796 <n 2 6.6 0.2 189 19.8 7.8 97.3 7.5 10 91 <0.2 1.3 30.6 7.4 19.8 7.8 30.6 97.2 7.4 Bottom 6.6 0.2 179 19.8 7.8 30.6 97.1 7.4 7.5 12 91 < 0.2 1.3 1.0 0.4 169 19.9 7.7 5.0 12 83 1.2 7.5 30.5 98.0 <0.2 Surface 19.9 7.7 30.5 98.0 1.0 0.4 19.9 97.9 7.5 5.0 12 83 <0.2 1.3 1.2 3.8 0.5 180 19.8 97.6 7.4 8.5 12 88 <0.2 30.6 IM11 Cloudy 822055 811468 Rough 06:48 7.5 Middle 19.8 7.7 30.6 97.7 <0.2 0.5 184 19.8 8.6 12 88 3.8 <0.2 6.5 19.8 7.8 30.6 97.1 7.4 11.1 <0.2 1.2 Rottom 19.8 7.8 30.6 97.2 74 6.5 0.4 189 19.8 7.8 30.6 97.2 7.4 11.2 10 91 1.3 166 7.7 98.1 98.1 6.6 83 <0.2 1.3 30.5 Surface 19.8 7.7 30.5 98.1 1.0 0.5 169 19.8 30.5 7.5 6.7 9 85 <0.2 1.3 3.6 0.5 154 19.8 7.7 8.6 88 <0.2 1.3 Middle 7.7 821458 IM12 Cloudy Rough 06:41 7.1 19.8 30.5 97.8 0.5 19.8 7.7 30.5 97.7 8.6 88 1.2 6.1 0.4 150 19.8 77 30.6 97.9 13.3 9 91 <0.2 1.2 Bottom 19.8 7.7 30.6 97.9 7.5 152 97.9 6.1 0.4 19.8 77 30.6 7.5 13.9 9 91 <0.2 1.2 1.0 20.0 7.8 30.9 97.0 7.4 2.4 Surface 20.0 7.8 30.9 97.1 1.0 20.0 7.8 30.9 97.1 7.4 2.5 8 2.9 SR1A Cloudy Rough 06:21 Middle 819971 812665 2.9 4.8 20.1 7.9 94.9 7.2 9.8 9 7.2 Bottom 20.1 7.9 31.3 95.0 4.8 20.1 7.9 31.3 95.1 7.2 9.8 9 1.0 0.4 165 20.0 7.9 30.8 98.1 2.5 84 <0.2 1.0 Surface 20.0 7.9 30.8 98.0 1.0 0.4 149 20.0 7.9 30.8 97.8 7.4 2.6 6 84 <0.2 1.1 SR2 Cloudy Rough 06:08 5.9 Middle 87 821460 814173 <0.2 1.2 4.9 162 164 99.2 7.5 7.5 Bottom 99.3 49 0.3 20.0 7.9 30.8 1 4 91 <0.2 1.3 1.0 0.3 149 20.4 7.8 30.7 100.1 7.6 2.3 7.8 30.7 100.2 1.0 0.3 151 20.4 7.8 30.7 100.2 7.6 2.3 4 3.7 0.3 131 20.0 7.8 30.7 99.5 7.6 1.4 5 SR3 07:22 7.3 99.5 822149 807579 Cloudy Rough 3.7 0.3 140 20.0 7.8 30.7 99.5 7.6 1.4 4 0.3 20.0 7.8 7.8 30.7 98.8 98.7 7.5 7.5 3.1 6.3 144 Bottom 7.8 30.7 98.8 7.5 165 1.0 0.2 78 20.0 7.7 30.8 97.0 7.4 1.4 Surface 20.0 7.7 30.8 97.0 7.7 1.5 1.0 0.3 20.0 30.8 96.9 7.4 81 3 -5.2 7.8 1.9 0.2 80 20.0 30.8 96.0 7.3 7.8 807795 SR4A Cloudy Rough 05:40 10.3 Middle 20.0 30.8 96.1 817206 5.2 0.2 80 20.0 7.8 30.8 7.3 1.9 96.1 0.2 20.0 7.8 9.3 30.8 96.5 3.4 Rottom 20.0 7.8 30.8 96.7 7.3 9.3 0.2 55 11 20.0 19.9 7.8 30.8 96.8 7.3 3.5 1.0 0.1 7.8 94.3 3.2 31.7 7.1 Surface 19.9 7.8 31.7 94.4 7.1 1.0 0.1 11 19.9 7.8 31.7 94.4 3.2 4 SR5A 05:27 4.5 Middle 816609 810717 Cloudy Rough 3.5 0.1 20.0 4.1 7.8 31.8 94.1 7.1 Bottom 20.0 7.8 31.8 94.2 3.5 0.1 20.0 0.0 3.8 Surface 19.8 7.7 32.3 94.6 18 19.8 7.7 3.9 SR6A Cloudy 04:59 4.7 Middle 817980 814729 Rough 19.8 94.1 8.5 Bottom 7.7 19.8 1.0 0.4 33 19.8 7.8 32.4 94.5 94.4 7.1 2.0 Surface 7.8 1.0 0.4 34 19.8 7.8 71 2.1 4 7.6 0.4 42 19.9 7.8 32.4 93.9 7.1 2.5 4 SR7 Cloudy Rough 05:09 Middle 93.9 823631 823751 7.6 0.4 43 199 7.8 32.4 93.9 7 1 2.6 3 14.2 0.3 31 19.9 7.8 93.3 7.0 3.4 4 Bottom 7.8 93.3 14.2 0.3 19.9 7.8 93.3 3.5 1.0 19.9 7.8 30.7 Surface 19.9 199 7.8 7.6 3.1 99.2 6 --SR8 Cloudy Rough 06:32 5.0 Middle 820380 811640 4.0 19.9 7.8 7.8 30.7 99.7 7.6 6.5 Bottom 19.8 7.8 30.7 99.8 19.8

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring Water Quality Monitoring Results on 18 January 20 during

18 January 20 during Mid-Flood Tide

Water Qual	ity Monit	oring Resu	lts on		18 January 20	during Mid-	Flood Ti	de																				
Monitoring	Weather	Sea	Sampling	Water	Sampling De	epth (m)	Current Speed	Current	Water Te	emperature (°C)		pН	Salinity (ppt)	DO S	Saturation (%)	Disso Oxyg		Turbidity(NTU)	Suspende (mg		Total All (ppi		Coordinate HK Grid	Coordinate HK Grid	Chron (µg/		l (μg/L)
Station	Condition	Condition	Time	Depth (m)	Cumpung De		(m/s)	Direction	Value	Average	Value	Average	_		Average	Value	DA	Value	DA	Value	DA	Value	DA	(Northing)	(Easting)		DA Value	DA
					Surface	1.0	0.7	49 51	20.2	20.2	7.9 7.9	7.9	31.2 31.2	96.2 96.2	96.2	7.3	7.3	5.7 6.0		3		83 84				<0.2	1.7	
C1	Fine	Moderate	13:32	7.6	Middle	3.8	0.7	55 59	20.2	20.2	7.9	7.9	31.4 31.4	95.8 95.8	95.8	7.2	7.5	12.1 12.2	9.0	3	3	88 88	88	815621	804235	<0.2	<0.2	1.7
					Bottom	6.6 6.6	0.6 0.6	36 39	20.2 20.2	20.2	7.9 7.9	7.9	31.4 31.4 31.4	96.1 96.2	96.2	7.2 7.3	7.3	8.8 8.9		3		92 92				<0.2	1.6	İ
					Surface	1.0	0.1	330 346	20.5 20.5	20.5	7.8 7.8	7.8	30.1 30.1 30.1	98.6 98.7	98.7	7.4 7.5		2.2		4		84 84				<0.2	1.9	
C2	Fine	Rough	11:55	9.6	Middle	4.8	0.1	91 94	20.2	20.2	7.8	7.8	30.7	96.8 96.5	96.7	7.3	7.4	5.5 5.6	6.8	2	3	89 89	88	825689	806950	<0.2	<0.2	1.5
					Bottom	8.6 8.6	0.1	167 183	20.2	20.2	7.8	7.8	31.3 31.3	96.5 96.5	96.5	7.3	7.3	12.3		3		91				<0.2	1.3	Į
					Surface	1.0	0.2	322 331	20.0	20.0	7.9	7.9	32.8 32.8 32.8	95.6 95.5	95.6	7.2		2.6		4		87 87				<0.2	1.3	
C3	Fine	Rough	14:00	11.3	Middle	5.7	0.1 0.1	321	20.0	20.0	7.9 7.9	7.9	32.8 32.8 32.8	93.9 93.9	93.9	7.0	7.1	1.4	1.9	3	3	88 89	89	822088	817803	<0.2	<0.2	1.4
					Bottom	10.3	0.1	328 4	20.0 19.9	19.9	7.9 7.9	7.9	32.8 32.8 32.8	94.4	94.2	7.0	7.1	1.7		3		91 92				<0.2	1.4	1
					Surface	10.3	0.1	12	20.0	20.2	7.9	7.9	30.9	98.2	98.1	7.4		3.7		7		81				<0.2	1.5	
IM1	Fine	Moderate	13:04	4.8	Middle	1.0	0.1	12	20.2	_	7.9	-	30.9	98.0	-	7.4	7.4	3.8	4.3	6	6	81	86	817949	807155	<0.2	<0.2	1.6
					Bottom	3.8	0.2	14	20.1	20.1	7.9	7.9	31.1	96.1	96.1	7.3	7.3	4.7		4		91				<0.2	1.6	ļ
					Surface	3.8 1.0	0.2	14 21	20.1	20.1	7.9	7.8	30.8	96.0 97.9	97.9	7.3		4.8 2.5		5 9		92 83				<0.2	1.7	
IM2	Fine	Moderate	12:50	7.5	Middle	1.0 3.8	0.3	22 23	20.1 20.1	20.1	7.8	7.8	30.8	97.8 96.8	96.8	7.4 7.3	7.4	2.5 3.6	3.8	8	8	84 88	88	818163	806161	<0.2 <0.2	<0.2	1.7
					Bottom	3.8 6.5	0.2	25 340	20.1 20.0	20.0	7.8 7.9	7.9	30.8	96.8 97.2	97.3	7.3 7.4	7.4	3.6 5.2		7		88 91				<0.2 <0.2	1.7	l l
					Surface	6.5 1.0	0.2	313 354	20.0	20.1	7.9 7.9	7.9	30.6	97.3 101.1	101.1	7.4		5.3 2.6		7 6		91 84				<0.2	1.6 1.5	
IM3	Fine	Moderate	12:40	7.8	Middle	1.0 3.9	0.4	354 342	20.1	20.0	7.9 7.9	7.9	30.6	101.0	100.2	7.7 7.6	7.7	2.7 3.6	4.2	6	6	84 88	88	818793	805593	<0.2	<0.2	1.7
		moderate	12.10	7.0	Bottom	3.9 6.8	0.4	350 344	20.0	20.0	7.9 7.9	7.9	30.6	100.2 99.9	99.9	7.6 7.6	7.6	3.7 6.2		7		88 91	00	010100	000000	<0.2	1.8	l
					Surface	6.8 1.0	0.3	316 342	20.0 19.9	19.9	7.9 7.8	7.8	30.6 30.6	99.9		7.6 7.6	7.0	6.1 4.5		9		92 83				<0.2	1.8	
IM4	Fine	Madazata	40.00	8.0	Middle	1.0 4.0	0.7 0.5	351 350	19.9 19.9		7.8 7.8		30.6	99.8 99.7	99.7	7.6 7.6	7.6	4.5 3.7	4.1	9	8	83 84	0.7	819703	804588	<0.2	1.7	1.7
IIVI4	Fine	Moderate	12:33	8.0		4.0 7.0	0.5	355 333	19.9 19.9	19.9	7.8 7.8	7.8	30.6 30.6 30.6 30.6	99.7 98.8	98.9	7.6 7.5	7.5	3.4 4.3	4.1	8	٥	88 91	87	019703	004300	<0.2	<0.2	1.7
					Bottom	7.0 1.0	0.4	358 21	19.9 20.0		7.8 7.9		30.6	98.9 101.3	101.4	7.5 7.7	7.5	4.4 3.2		6 5		92 79				<0.2	1.6 1.6	
	_				Surface	1.0 4.1	0.8	22 29	20.0 19.9	20.0	7.9 7.9	7.9	30.6	101.4		7.7 7.6	7.7	3.1 4.8		5 5	_	80 88				<0.2	1.6	İ
IM5	Fine	Moderate	12:25	8.2	Middle	4.1 7.2	0.7	31 34	19.9 20.0	19.9	7.9 8.0	7.9	30.6	99.9 99.4	100.0	7.6 7.6		4.9 5.8	4.6	5	5	88 91	86	820725	804850	<0.2	<0.2	1.6
					Bottom	7.2 1.0	0.5	34 331	20.0	20.0	8.0 7.8	8.0	30.7	99.2 98.2	99.3	7.5	7.6	5.8 3.6		6		91 84				<0.2	1.6 1.6	
					Surface	1.0	0.4	333 344	20.5	20.5	7.8	7.8	30.1	98.3 97.2	98.3	7.4	7.4	3.8		4 5		84				<0.2	1.7	[
IM6	Fine	Moderate	12:05	7.6	Middle	3.8 6.6	0.4	348 339	20.2	20.2	7.8	7.8	30.6	97.2 97.3	97.2	7.4		4.8	5.0	5	5	88 92	88	821046	805835	<0.2	<0.2	1.7
					Bottom	6.6	0.3	343 299	20.2	20.2	7.8	7.8	31.0 31.0 30.1	97.5 98.9	97.4	7.4	7.4	6.5		7		93				<0.2	1.7	
					Surface	1.0	0.1	304	20.5	20.5	7.8	7.8	30.1	98.8	98.9	7.5	7.5	2.9		5		84				<0.2	1.6	1
IM7	Fine	Moderate	11:53	8.4	Middle	4.2 4.2 7.4	0.1 0.1	350 333	20.2	20.2	7.8	7.8	30.6 30.6 30.6	97.8 97.8	97.8	7.4		3.6	3.6	5	5	87 88	88	821332	806846	<0.2	<0.2	1.3
					Bottom	7.4	0.1	327 318	20.2	20.2	7.8	7.8	31.0 31.0 31.0	96.4 96.4	96.4	7.3	7.3	4.3 4.3		4		91 91				<0.2	1.3	<u> </u>
					Surface	1.0	0.3	323 331	19.9	19.9	7.9	7.9	30.6 30.6	100.0	100.0	7.6	7.6	6.3		7		85 85				<0.2	1.2	1
IM8	Fine	Rough	12:24	8.5	Middle	4.3 4.3	0.3	326 344	19.9 19.9	19.9	7.9 7.9	7.9	30.6 30.6	99.2 99.3	99.3	7.5 7.6		8.6 8.8	6.0	9	8	88 88	88	821808	808143	<0.2	<0.2	1.2
					Bottom	7.5 7.5	0.3	327 359	19.9 19.9	19.9	7.9 7.9	7.9	30.7 30.7	98.9 99.4	99.2	7.5 7.6	7.6	3.0		9 10		91 92				<0.2	1.3	
A: Depth-Aver	hane																											

during Mid-Flood Tide Water Quality Monitoring Results on 18 January 20 Suspended Solids Nickel (µg/L) Salinity (ppt) Turbidity(NTU) Sampling Water Water Temperature (°C) рΗ Coordinate Coordinate Monitoring Current (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value DA Value DA Value DA Value DA (Northing) (Easting) Value DA Value Average 0.4 30.6 100.6 1.0 0.4 294 20.0 7.6 4.4 85 <0.2 1.1 3.7 0.4 285 304 20.0 7.9 7.9 30.6 100.1 7.6 7.6 7.7 88 89 <0.2 1.2 IM9 Fine Rough 12:31 7.4 Middle 7.9 100.2 88 822112 808818 <0.2 7.9 0.4 20.0 6.4 0.3 283 20.0 9 91 < 0.2 1.2 7.9 30.6 100.2 7.6 7.6 4.1 Bottom 20.0 7.9 30.6 100.2 7.6 7.9 30.6 10 6.4 0.3 100.2 39 92 11 284 20.0 <0.2 0.4 20.2 2.2 7.9 Surface 20.2 7.9 30.8 98.5 7.9 30.8 98.5 7.5 83 1.1 1.0 0.4 310 20.2 2.2 < 0.2 0.3 20.1 97.8 97.6 4.2 4.4 87 88 1.1 3.8 303 316 7.9 7.9 30.8 <0.2 7.4 IM10 Fine Rough 12:41 7.6 Middle 20.1 7.9 30.8 97.7 87 822380 809776 <0.2 6.6 0.2 313 20.0 7.9 97.9 7.4 7.9 8 91 <0.2 1.0 30.8 7.9 30.8 98.3 7.5 Bottom 20.0 6.6 0.2 318 20.0 7.9 30.8 98.7 7.5 7.9 91 < 0.2 1.0 1.0 0.5 300 7.9 1.7 83 1.0 20.2 97.7 30.9 97.7 7.4 <0.2 Surface 20.2 7.9 30.9 1.0 0.5 304 20.2 7.9 97.6 7.4 1.8 84 <0.2 1.0 1.0 4.3 0.5 310 20.1 7.9 7.2 5.0 88 <0.2 31.1 95.8 IM11 822049 811477 Fine Rough 12:55 8.5 Middle 20.1 7.9 31.1 95.8 <0.2 4.3 0.5 4.8 89 <0.2 312 20.1 7.5 305 20.1 7.9 31.2 94.4 7.1 7.1 6.8 90 <0.2 0.9 Rottom 20.1 7.9 31.2 94.3 7 1 7.5 0.4 318 20.1 7.9 31.2 94.2 6.9 90 1.0 273 20.2 7.9 31.2 97.1 97.0 7.3 1.5 87 <0.2 1.0 Surface 20.2 7.9 31.2 97.1 1.0 0.3 20.2 7.9 31.2 7.3 1.6 87 <0.2 1.0 4.0 0.3 275 20.2 5.3 88 <0.2 0.9 96.5 IM12 13:03 Middle 821478 Fine Rough 7.9 31.3 96.6 4.0 0.3 7.9 5.5 89 0.9 20.2 6.9 0.2 271 20.2 7.9 31.3 96.4 5.7 20 91 <0.2 0.6 Bottom 20.2 7.9 31.3 96.5 7.3 96.5 6.9 0.2 278 20.2 7.9 31.3 7.3 5.8 22 91 <0.2 0.7 1.0 20.2 7.9 31.2 98.2 7.4 2.2 Surface 20.2 7.9 31.2 98.2 1.0 20.2 7.9 31.2 98.1 7.4 2.2 7 1.8 SR1A Fine Rough 13:24 3.5 Middle 819977 812653 1.8 98.2 98.1 2.5 20.2 7.9 31.2 7.4 2.1 Bottom 7.9 31.2 98.2 7.4 79 7.4 6 1.0 0.1 304 20.4 7.8 31 4 98.9 74 15 86 <0.2 0.7 Surface 20.4 7.8 31.4 98.9 1.0 0.1 331 16 20.4 7.8 7 86 0.6 31 4 98.9 74 < 0.2 -SR2 Fine Rough 13:36 4.8 Middle 87 821460 814181 <0.2 0.7 3.8 347 20.3 31.5 31.4 98.8 98.9 7.4 88 <0.2 7.8 Bottom 20.3 31.5 98.9 7.4 0.0 319 7.8 1.6 20.4 0.6 89 < 0.2 1.0 0.3 260 20.0 8.0 30.6 100.7 7.7 2.9 4 Surface 20.0 8.0 30.6 100.7 1.0 30.6 7.6 2.9 0.3 260 20.0 8.0 100.6 4 19.9 3.6 4 250 8.1 30.6 99.7 7.6 SR3 12:16 7.1 Middle 19.9 822156 807581 Fine Rough 8.1 30.6 99.8 3.6 0.3 273 19.9 8.1 30.6 99.8 7.6 3.7 4 . 19.9 6.1 0.2 8.2 30.7 99.6 99.6 7.6 7.6 4.8 246 8.2 99.6 Rottom 199 30.7 76 265 19.9 1.0 0.4 280 20.0 7.9 3.4 32.8 95.0 7.1 Surface 20.0 7.9 32.8 95.1 1.0 32.8 95.1 3.5 0.4 282 20.0 5.4 0.4 19.9 7.1 1.0 285 7.9 32.8 94.2 SR4A Fine Moderate 13:57 10.8 Middle 19.9 7.9 32.8 94.2 817196 807806 5.4 0.4 287 19.9 7.9 7.1 1.0 9.8 0.4 19.9 7.9 32.8 94.2 7.1 1.3 Bottom 19.9 7.9 32.8 94.2 9.8 19.9 268 1.0 0.0 214 20.2 7.9 1.9 31.2 98.0 7.4 Surface 20.2 7.9 31.2 98.0 1.0 0.0 215 20.2 7.9 98.0 7.4 1.8 4 Fine Moderate 14:06 Middle 810719 2.4 0.0 211 20.2 7.9 98.0 7.4 2.1 4 Bottom 7.9 2.4 0.0 208 7 0 97.9 1.0 0.1 20.3 7.8 31.4 98.3 7.4 17 1.8 1.0 0.1 243 20.3 7.8 31 4 98.3 7.4 4 -SR6A Fine Moderate 14:19 3.8 Middle 817969 814759 2.8 0.1 241 20.3 7.8 7.8 98.1 98.1 7.4 7.4 4.7 4 -7.8 98.1 Bottom 2.8 0.1 246 20.3 31.5 4.9 1.0 0.2 324 330 20.1 7.9 7.9 32.8 32.8 96.5 96.4 7.2 7.2 2.5

20.1

20.0

19.9

20.7

20.0

20.1

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20.0

19.9

20.0

20.7

20.0

7.9

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7.9

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33.0 33.0

33.0

30.7

31.3

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32.8

33.0

33.0

30.7

31.3

96.5 96.4

95.9

96.4

100.5 100.4

97.8

96.5

96.5

96.2

100.5

97.7

7.2

7.2

7.2

7.5 7.5

7.4

7.2

7.4

2.6

3.0

3.1

3.4

3.1

1.7

1.8

5.4

4

4

5

6

13

10

823650

820402

823743

811636

-

-

DA: Depth-Averaged

SR7

SR8

Fine

Fine

Rough

Rough

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

13:14

14:35

14.6

5.1

Surface

Middle

Bottom

Surface

Middle

Bottom

1.0

7.3

7.3

13.6

13.6

1.0

0.2

0.3

0.3

0.4

0.4

329

331

346

318

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring Water Quality Monitoring Results on 21 January 20 during

21 January 20 during Mid-Ebb Tide

Water Qual	ity Monit	oring Resu	lts on		21 January 20	during Mid-	Ebb Tid	е																			
Monitoring	Weather	Sea	Sampling	Water	Sampling De	epth (m)	Current Speed	Current	Water Te	emperature (°C)	pН	Salinity (ppt)	DO	Saturation (%)	Dissolved Oxygen	Turbidit	y(NTU)	Suspende (mg		Total All		Coordinate HK Grid	Coordinate HK Grid	Chrom (µg/l		Nickel (µg/L)
Station	Condition	Condition	Time	Depth (m)			(m/s)	Direction	Value	Average	Value	Average	Value Average	Value	Average	Value D	\ Value	DA	Value	DA	Value	DA	(Northing)	(Easting)	Value	DA V	/alue DA
					Surface	1.0	0.1	219 233	19.3 19.3	19.3	8.0	8.0	33.4 33.4	107.9	108.0	8.2	2.3		9		80 80				<0.2		1.3
C1	Fine	Rough	10:47	8.4	Middle	4.2 4.2	0.0	186 186	19.2 19.2	19.2	8.0	8.0	33.5 33.5	105.0		8.0 7.9	3.5	3.2	7	7	84 83	83	815629	804246	<0.2	-0.3	1.0
					Bottom	7.4	0.0	92	19.2	19.2	8.0	8.0	33.6	105.2	104.0	8.0	3.8		6		86				<0.2	(0.7
					Surface	7.4 1.0	0.0	94 147	19.2 19.7	19.7	8.0 8.1	8.1	33.6 33.0 31.4 31.4	104.6	i l	7.9 o.	3.6		6 4		87 85				<0.2		1.0
						1.0 5.6	0.2	154 156	19.7 19.5		8.1 8.1		31.4	101.3	1	7.7 7.6	7 2.3	1	3		85 87				<0.2	_	1.1
C2	Cloudy	Moderate	11:31	11.2	Middle	5.6	0.3	158	19.6	19.6	8.1	8.1	32.1	100.0	100.1	7.6	3.9	3.6	3	4	86 90	87	825676	806960	<0.2	<0.2	1.0 1.0 0.9
					Bottom	10.2 10.2	0.2	161 171	19.6 19.6	19.6	8.1 8.1	8.1	32.2 32.2 32.2	100.7	100.8	7.6 7.6	4.6	1	3 4		89				<0.2		1.0
					Surface	1.0	0.1	282 287	19.7 19.7	19.7	8.1 8.1	8.1	33.0 33.0	95.6 95.6		7.2 7.2 7.	2.2	1	3		85 86				<0.2		0.5
СЗ	Cloudy	Moderate	09:38	12.0	Middle	6.0	0.1	307 325	19.7 19.7	19.7	8.1 8.1	8.1	32.9 32.9	94.7 94.7		7.1 7.1	7.2	4.4	3	3	87 88	88	822114	817780	<0.2	<0.2	0.6 0.5
					Bottom	11.0	0.1	304	19.7	19.7	8.1	8.1	32.9 32.9 32.9	95.3 95.4	95.4	7.2 7.2	2.6		4		89 90				<0.2	(0.4
					Surface	11.0	0.1	311 147	19.7 19.3	19.3	8.1	8.1	33.1	111.9	1110	8.5	2.3		8		81				<0.2		1.3
IM1	Fine	Moderate	11:09	4.6	Middle	1.0	0.1	157	19.3		8.1		33.1	111.9		8.5	2.2	2.1	7	7	81	84	817941	807149	<0.2		1.2 - 1.4
IIVI I	rille	Woderate	11.09	4.0		3.6	0.1	150	19.3	-	8.1		33.1	109.4		8.3	2.0] 2.1	- 7	· '	- 87	04	617941	607149	<0.2		1.5
					Bottom	3.6	0.1	150 137	19.3	19.3	8.1	8.1	33.1 33.1 33.1 23.4	108.5	109.0	8.2	1.9		6		87				<0.2		1.6
					Surface	1.0	0.0	149	19.3	19.3	8.1	8.1	33.1	109.8	110.1	8.4 8.3 8.	4.8	1	9		81 81				<0.2	_	1.2
IM2	Fine	Moderate	11:17	6.6	Middle	3.3	0.1	158 170	19.2 19.2	19.2	8.1	8.1	33.2 33.2	108.6		8.2	5.8 5.9	5.9	7 8	8	84 84	84	818146	806173	<0.2	<0.2	1.2 1.1
					Bottom	5.6 5.6	0.1	155 169	19.2 19.2	19.2	8.1 8.1	8.1	33.2 33.2	108.4		8.2 8.2	7.1	1	7		87 87				<0.2		1.1
					Surface	1.0	0.1	196 202	19.3 19.3	19.3	8.1 8.1	8.1	33.1 33.1 33.1	111.6		8.5 8.4	2.3		7		80 81				<0.2	F	1.6
IM3	Fine	Moderate	11:24	6.5	Middle	3.3	0.1	153 167	19.3	19.3	8.1	8.1	33.1 33.1 33.1	109.9	100.0	8.3 8.3	2.7	2.7	7	7	85 85	84	818766	805578	<0.2	-0.3	1.6 1.5
					Bottom	5.5	0.1	171	19.2	19.2	8.1	8.1	33.2	107.6	107.4	8.2	3.4	1	7		88				<0.2		1.5
					Surface	5.5 1.0	0.1	185 203	19.2 19.5	19.5	8.1 8.1	8.1	33.2	107.2	1130	8.6	3.1		6		87 82				<0.2		1.5
	_					1.0 3.7	0.3	207 192	19.5 19.4		8.1 8.1		32.7	113.0		8.6 8.5	1.4	١.,	6 7	_	81 85				<0.2		1.4
IM4	Fine	Moderate	11:33	7.4	Middle	3.7 6.4	0.3	195 167	19.4 19.3	19.4	8.1 8.1	8.1	32.7	111.9		8.5	1.4	1.8	7	′	85 88	85	819746	804622	<0.2 <0.2	<0.2	1.4 1.4 1.2
					Bottom	6.4	0.2	179	19.3	19.3	8.1	8.1	33.0	106.4	106.3	8.1	2.6	1	8		88				<0.2		1.1
					Surface	1.0	0.3	190 205	19.4 19.4	19.4	8.1 8.1	8.1	32.8 32.8	110.6		8.4 8.4 8.	2.8	1	7 6		81 81				<0.2		1.4
IM5	Fine	Moderate	11:41	6.8	Middle	3.4	0.3	191 199	19.3 19.3	19.3	8.1 8.1	8.1	32.8 32.8	109.1	109.1	8.3	3.0	3.2	7	7	84 85	84	820734	804877	<0.2		1.5
					Bottom	5.8 5.8	0.2	187 195	19.3 19.3	19.3	8.0	8.0	32.8 32.8	107.8		8.2 8.2	3.5	1	7		87 88				<0.2		1.3
					Surface	1.0	0.3	229 237	19.5 19.5	19.5	8.0	8.0	32.3 32.3	112.4	1126	8.5	1.3		4		82 82				<0.2	Ŀ	1.6
IM6	Fine	Moderate	11:50	6.6	Middle	3.3	0.3	212	19.4	19.4	8.1	8.1	32.5	110.9	110.0	8.4	1.9	2.1	7	6	86	85	821058	805838	<0.2	-0.3	1.5
					Bottom	3.3 5.6	0.3	231 197	19.4 19.3	19.3	8.1 8.1	8.1	32.5 32.9 32.9	110.9	108.1	8.4 8.2 8.2	1.9	1	7 8		85 88				<0.2 <0.2		1.5
						5.6 1.0	0.2	213 203	19.3 19.6		8.1 8.0		32.9	108.2		8.2	3.1		7		89 82				<0.2		1.5
					Surface	1.0	0.1	213 164	19.6 19.4	19.6	8.0 8.1	8.0	32.2	110.7	110.5	8.4 8.3	1.3	1	5		82 85				<0.2	Ε.	1.4
IM7	Fine	Moderate	11:58	7.4	Middle	3.7	0.1	173	19.4	19.4	8.1	8.1	32.4	109.3	109.3	8.3	2.2	2.2	4	5	85	85	821354	806815	<0.2	<0.2	1.3 1.2
					Bottom	6.4 6.4	0.0	105 112	19.3 19.3	19.3	8.1 8.1	8.1	32.9 32.9	106.6	106.6	8.1 8.1	3.1	1	5 5		88 88				<0.2 <0.2		1.2
					Surface	1.0	0.2	81 88	19.5 19.5	19.5	8.2 8.2	8.2	31.7 31.7	107.0		8.1 8.2 8.	2.4	+	4		85 85				<0.2		1.0
IM8	Cloudy	Moderate	10:59	7.4	Middle	3.7 3.7	0.2	96 104	19.3 19.3	19.3	8.2 8.2	8.2	32.5 32.5	107.4		8.2 8.2	4.3 4.4	4.0	5 5	5	87 86	90	821846	808158	-0.2	-0.2	0.9 0.9
					Bottom	6.4	0.2	61	19.3	19.3	8.2	8.2	32.6 32.6 32.6	106.7	106.7	8.1 8.1 8.1	E 2	1	6	 	90				<0.2	(0.9
DA: Denth-Aver					L	6.4	0.2	61	19.3		8.2		JZ.0	106.6	<u> </u>	0.1	5.1		5		108				<0.2		U.9

during Mid-Ebb Tide Water Quality Monitoring Results on 21 January 20 Suspended Solids Nickel (µg/L) Salinity (ppt) Turbidity(NTU) Water Water Temperature (°C) рΗ Coordinate Sampling Coordinate Monitoring Current (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value DA Value DA Value DA Value DA (Northing) (Easting) Value DA Value Average 0.2 19.6 106.5 1.0 0.2 89 19.6 8.2 31.7 8.1 2.8 85 <0.2 0.9 3.7 0.3 19.4 8.2 107.1 8.2 4.1 87 86 <0.2 1.0 IM9 Cloudy Moderate 10:53 7.3 Middle 32.2 107.1 87 822093 808829 <0.2 0.3 4.3 19.4 6.3 0.2 92 19.3 89 < 0.2 1.1 8.2 32.6 106.8 8.1 5.4 Bottom 19.3 8.2 32.6 106.7 8.1 8.2 32.6 106.6 8.1 6.3 0.3 19.3 5.4 89 0.9 96 <0.2 0.3 19.6 8.2 7.8 Surface 19.6 31.7 102.1 8.2 31.7 102.0 7.8 85 0.9 1.0 0.3 69 19.6 5.0 6 < 0.2 0.3 19.5 19.5 7.0 7.1 87 88 1.0 3.8 31.8 31.8 101.3 <0.2 8.2 7.7 6 IM10 Cloudy Moderate 10:44 7.5 Middle 19.5 8.2 31.8 101.3 88 822386 809807 <n 2 6.5 0.2 90 19.5 8.2 101.0 7.7 4.0 6 90 <0.2 0.9 32.0 19.5 101.0 7.7 Bottom 8.2 32.0 6.5 0.2 90 19.5 8.2 32.0 101.0 7.7 3.7 90 < 0.2 0.9 1.0 106 19.6 3.2 86 0.9 0.2 8.2 7.6 32.2 100.8 <0.2 Surface 19.6 8.2 32.2 100.8 1.0 0.2 114 19.6 8.2 32.2 100.7 7.6 3.1 6 85 <0.2 0.8 0.8 4.1 0.2 93 19.6 8.2 7.6 3.1 87 <0.2 32.2 100.7 IM11 Cloudy 822039 811446 Moderate 10:33 8.1 Middle 19.6 8.2 32.2 100.7 <0.2 4.1 19.6 3.1 87 0.8 <0.2 0.2 19.6 8.1 32.2 100.9 3.2 90 <0.2 1.0 Rottom 196 8.1 32.2 100.9 77 7.1 0.1 19.6 8.1 32.2 100.9 7.7 3.3 89 0.8 19.6 8.2 100.4 6.7 <0.2 0.5 32.2 Surface 19.6 8.2 32.2 100.4 1.0 0.1 123 19.6 8.2 32.2 7.6 6.4 8 85 <0.2 0.7 4.4 0.1 126 19.6 2.7 87 <0.2 0.7 100.0 10:27 Middle 100.0 821435 IM12 Cloudy Moderate 19.6 8.1 32.2 4.4 0.1 19.6 8.1 2.8 86 0.7 7.8 0.1 126 19.6 8.1 100.1 2.8 89 <0.2 0.8 Bottom 19.6 8.1 32.2 100.2 7.6 32.2 7.8 0.1 133 19.6 8.1 100.2 7.6 2.9 8 89 <0.2 0.7 1.0 19.5 8.1 31.8 99.0 7.5 4.1 4 Surface 19.6 8.1 31.8 99.1 1.0 19.6 8.1 31.8 99.1 7.5 4.5 5 2.5 Cloudy Moderate 10:11 Middle 819976 812666 2.5 4.0 19.6 8.1 99.9 7.6 6.4 7.6 Bottom 19.6 8.1 32.0 100.0 4.0 19.6 8.1 32.0 100.1 7.6 6.8 6 1.0 0.1 329 19.6 96.6 2.2 85 <0.2 0.7 Surface 19.6 8.1 32.4 96.7 1.0 0.1 335 19.6 8.1 32.4 96.7 7.3 2.2 3 86 <0.2 0.7 SR2 Cloudy Moderate 09:59 4.6 Middle 821475 814142 <0.2 0.7 334 19.6 32.4 32.4 98.0 98.2 0.8 Bottom 8.1 98.1 3.6 0.1 343 19.6 8.1 7.4 2.3 89 <0.2 0.7 1.0 0.0 146 19.5 8.2 31.8 107.6 8.2 2.6 8.2 31.8 107.7 1.0 0.0 148 19.5 8.2 31.9 107.8 8.2 2.8 3 4.2 0.2 73 19.3 8.2 32.5 107.9 8.2 4.0 3 SR3 Moderate 11:03 8.3 107.9 822134 807589 Cloudy 4.2 0.2 76 19.3 8.2 32.5 107.9 8.2 4.1 4 0.2 19.2 19.2 8.2 106.7 106.4 8.1 8.1 5.1 7.3 7.3 45 48 4 Bottom 8.2 32.7 106.6 8.1 1.0 0.2 71 19.2 8.0 33.2 111.9 8.5 2.8 Surface 19.2 8.0 33.2 111.9 1.0 0.2 75 19.2 8.0 33.2 111.9 8.5 2.7 8 -4.3 0.1 8.0 8.4 3.1 84 19.2 33.2 110.6 807830 SR4A Fine Calm 10:25 8.6 Middle 19.2 8.0 33.2 110.8 817199 4.3 0.1 92 8.0 3.1 19.2 33.2 8.4 0.2 19.2 8.0 62 33.2 109.1 8.3 3.3 Rottom 19.2 8.0 33.2 109.1 8.3 7.6 0.2 63 19.2 19.5 8.0 33.2 109.0 8.3 3.4 0.1 1.0 340 7.9 1.7 8.3 8 32.2 108.8 Surface 19.5 7.9 32.2 108.7 1.0 0.1 313 19.5 7.9 32.2 108.6 8.3 1.7 8 SR5A 10:07 4.0 Middle 816578 810711 Fine Calm 3.0 0.1 341 19.4 8.0 1.9 107.7 8.2 32.2 Bottom 19.4 8.0 32.2 107.8 8.2 3.0 0.1 314 19.4 0.0 7.5 Surface 19.7 7.5 32.1 94.3 65 19.7 3.8 20 SR6A Fine 09:38 3.9 Middle 20 817952 814720 Calm 2.9 0.0 156 19.7 32.2 2.4 21 Bottom 7.5 94.6 2.9 165 19.7 0.2 72 19.7 8.1 32.9 94.2 94.2 7.1 2.1 Surface 8.1 1.0 0.2 72 197 8.1 71 2.1 8.3 0.4 75 19.7 8.1 33.0 93.9 7.1 2.2 3 SR7 Cloudy Moderate 09:10 Middle 93.9 823641 823763 8.3 0.4 81 19.7 8.1 33.0 93.9 7 1 22 3 7.2 7.2 15.5 0.2 60 19.7 8.0 2.7 3 Bottom 8.0 95.2 15.5 0.3 19.7 8.0 95.3 2.8 3.6 3.7 1.0 19.6 32.2 Surface 19.6 103.1 8.2 7.8 19.6 --SR8 Cloudy Moderate 10:19 5.1 Middle 820397 811619 19.6 8.2 32.2 102.7 4.1 7.8 4.6 Bottom 19.6 8.2 32.2 102.7 19.6

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring Water Quality Monitoring Results on 21 January 20 during

21 January 20 during Mid-Flood Tide

Water Qua	lity Monite	oring Resu	lts on		21 January 20	during Mid-	Flood Ti	de																				
Monitoring	Weather	Sea	Sampling	Water	Sampling D	epth (m)	Current Speed	Current	Water Te	emperature (°C)		pН	Sali	nity (ppt)		aturation (%)	Disso Oxyg		Turbidity(NTU)	Suspende (mg/		Total All (ppr		Coordinate HK Grid	Coordinate HK Grid	Chrom (µg/l	
Station	Condition	Condition	Time	Depth (m)			(m/s)	Direction	Value	Average	Value	Average		Average	Value	Average	Value	DA	Value	DA	Value	DA	Value	DA	(Northing)	(Easting)		DA Value DA
					Surface	1.0	0.1	14 13	19.7 19.7	19.7	8.1	8.1	32.9 32.9	32.9	112.5 112.4	112.5	8.5 8.5	8.7	1.7	-	10 10		82 82				<0.2	2.2
C1	Fine	Rough	15:26	8.2	Middle	4.1 4.1	0.1	18 19	19.4 19.4	19.4	8.1	8.1	33.1	33.1	115.9 115.7	115.8	8.8	0.7	5.2 5.3	4.1	8	9	86 85	85	815629	804257	<0.2	<0.2 2.2 2.1
					Bottom	7.2	0.1	19	19.3	19.3	8.1	8.1	33.2	33.2	115.0	115.4	8.7	8.8	5.4 5.5		8		88 89				<0.2	1.8
					Surface	1.0	0.1	16	19.7	19.7	8.2	8.2	31.4	31.4	101.1	101.1	7.7		2.4		4		85				<0.2	0.7
C2	Cloudy	Moderate	14:19	11.4	Middle	1.0 5.7	0.1	16 16	19.7 19.5	19.5	8.2 8.2	8.2	31.4 32.1	32.1	101.1 100.1	100.0	7.7 7.6	7.7	2.5 3.5	11	4 6	5	84 87	87	825676	806943	<0.2 <0.2	<0.2 0.6 0.7
02	Oloudy	Woderate	14.15	11.4		5.7 10.4	0.2	15 17	19.5 19.6		8.2 8.1		32.1 32.2		99.9 99.9		7.6 7.6	7.0	3.5 6.6	7	6		86 90	0,	023070	000343	<0.2	0.7
					Bottom	10.4	0.4	18 277	19.6 19.8	19.6	8.1 8.1	8.1	32.1 32.7	32.2	100.1 95.8	100.0	7.6 7.2	7.6	6.1 2.2		6		89 86				<0.2	0.7
					Surface	1.0	0.1	281 241	19.7	19.8	8.1	8.1	32.7 32.8	32.7	95.6 95.1	95.7	7.2	7.2	2.3		3		85 87				<0.2	1.1
C3	Cloudy	Moderate	16:39	12.1	Middle	6.1	0.1	252	19.7	19.7	8.1	8.1	32.8	32.8	95.2	95.2	7.2		3.1	2.7	4	4	88	88	822093	817808	< 0.2	1.1
					Bottom	11.1	0.2	263 269	19.7 19.7	19.7	8.1 8.1	8.1	32.8 32.8	32.8	95.6 95.8	95.7	7.2 7.2	7.2	2.9 2.9		5 4		90 90				<0.2 <0.2	1.1
					Surface	1.0	0.1	19 18	19.4 19.4	19.4	8.1	8.1	33.2	33.2	114.3 114.1	114.2	8.6 8.6	8.6	4.0		12 12		80 81				<0.2	1.8
IM1	Fine	Moderate	14:59	4.5	Middle	-		-	-	-	-		-		-	-	-	0.0	-	4.0	-	12	-	84	817962	807111	-	<0.2 - 1.8
					Bottom	3.5 3.5	0.1	18 19	19.4 19.4	19.4	8.2 8.2	8.2	33.2 33.2	33.2	109.1 108.6	108.9	8.3 8.2	8.3	4.0 4.1	ŀ	11 12		88 87				<0.2	1.8
					Surface	1.0	0.2	351 323	19.4	19.4	8.1	8.1	33.2	33.2	117.6	117.5	8.9 8.9		2.4		11		81				<0.2	1.9
IM2	Fine	Rough	14:53	6.5	Middle	3.3	0.1	327	19.4	19.4	8.1	8.1	33.2 33.2	33.2	113.9	114.0	8.6 8.6	8.8	2.6	2.6	12	12	84	84	818163	806158	~O 2	<0.2 1.7 2.0
					Bottom	3.3 5.5	0.1	355 289	19.4 19.3	19.3	8.1 8.1	8.1	33.2	33.2	112.3	112.3	8.5	8.5	2.8		12 13		87				<0.2	2.5
					Surface	5.5 1.0	0.1	289 341	19.3 19.4	19.4	8.1 8.1	8.1	33.2 33.0	33.0	112.2 119.1	119.0	8.5 9.0		2.7		13 9		87 81				<0.2	2.5
IM3	Fine	Rough	14:45	6.4	Middle	1.0 3.2	0.2	314 319	19.4 19.4	19.4	8.1 8.1	8.1	33.0 33.0	33.0	118.8 117.0	116.9	9.0 8.9	8.9	1.5 1.5	1.7	9 10	10	81 84	84	818785	805600	<0.2 <0.2	<0.2 2.3 2.3
iiio	1 110	rtougn	10	0.1	Bottom	3.2 5.4	0.1	322 244	19.4 19.4	19.4	8.1 8.1	8.1	33.0 33.1	33.1	116.8 113.5	113.3	8.8 8.6	8.6	1.5 2.0		9 11		84 87	•	010700	000000	<0.2	2.2 2.3
						5.4 1.0	0.1	245 25	19.4 19.5		8.1		33.1 32.4		113.0 111.7		8.6 8.5	0.0	2.0 1.6		10 7		87 80				<0.2	2.3
					Surface	1.0 3.7	0.0	27 21	19.5 19.5	19.5	8.0	8.0	32.4 32.5	32.4	111.8 110.7	111.8	8.5 8.4	8.5	1.6 2.3	ŀ	6 7		80 84				<0.2	2.2
IM4	Fine	Rough	14:37	7.3	Middle	3.7	0.1	21 325	19.5	19.5	8.0	8.0	32.5 32.8	32.5	110.6	110.7	8.4		2.4	2.6	8	7	83	83	819738	804612	<0.2	<0.2 1.9 1.8 1.5
					Bottom	6.3 1.0	0.1	344	19.4	19.4	8.0	8.0	32.8	32.8	109.3	109.4	8.3	8.3	3.9		8 7		87				<0.2	1.5
					Surface	1.0	0.2	277 297	19.6 19.6	19.6	8.0	8.0	32.4 32.4	32.4	110.0 109.8	109.9	8.3 8.3	8.2	1.8		6		83 86				<0.2	2.6
IM5	Fine	Moderate	14:29	6.4	Middle	3.2	0.2	358 339	19.4 19.3	19.3	8.0	8.0	32.7 32.7	32.7	107.4 107.2	107.3	8.2 8.1		3.1 3.1	2.6	9 8	8	87 88	88	820728	804845	<0.2	<0.2 2.5 2.4
					Bottom	5.4 5.4	0.1	36 38	19.3 19.3	19.3	8.0	8.0	32.8 32.8	32.8	105.8 106.0	105.9	8.0 8.1	8.1	3.0		10 9		91 91				<0.2 <0.2	2.2
					Surface	1.0	0.2	240 258	19.5 19.5	19.5	8.0	8.0	32.4 32.4	32.4	111.9 111.7	111.8	8.5 8.5	8.5	1.6		8 9		81 81				<0.2	2.3
IM6	Fine	Rough	14:21	6.4	Middle	3.2 3.2	0.1	356 359	19.5 19.5	19.5	8.0	8.0	32.5 32.5	32.5	111.3 110.9	111.1	8.4 8.4	8.5	2.2	2.1	6 7	7	84 85	84	821083	805810	< 0.2	<0.2 2.0 2.0
					Bottom	5.4 5.4	0.1	338 341	19.4	19.4	8.1	8.1	32.8 32.8	32.8	108.3	108.3	8.2	8.2	2.4		7		87 88				<0.2	1.8
					Surface	1.0	0.1	284	19.4 19.6	19.6	8.0	8.0	32.1 32.1	32.1	111.6	111.6	8.5 8.5		1.0		5 4		82 81				<0.2	1.3
IM7	Fine	Rough	14:15	7.1	Middle	3.6	0.1	302 15	19.4	19.4	8.0	8.0	32.5	32.5	110.3	110.3	8.4	8.5	2.6	2.6	5	5	85	85	821348	806853	<0.2	0.0 1.3
					Bottom	3.6 6.1	0.1	14 14	19.4 19.3	19.3	8.0	8.0	32.5 32.9	32.9	110.3 108.1	108.1	8.4 8.2	8.2	2.5 4.3		6		85 88				<0.2	1.4
						6.1 1.0	0.2	14 19	19.3 19.7		8.0		32.9 31.5	24.5	108.1 105.5		8.2 8.0	0.2	4.2 2.0		6 5		88 85				<0.2	1.4
					Surface	1.0	0.4	16 18	19.6 19.3	19.7	8.2 8.2	8.2	31.5 32.4		105.7 107.3	105.6	8.0 8.2	8.1	2.1 4.3		6 7		86 87				<0.2	1.1
IM8	Cloudy	Moderate	14:45	7.6	Middle	3.8	0.4	19 16	19.3	19.3	8.2	8.2	32.5 32.7	32.5	107.3	107.3	8.2		4.4	3.7	6	7	86 90	87	821821	808138	<0.2	<0.2 1.2 1.2
DA: Depth-Ave					Bottom	6.6	0.1	18	19.2	19.2	8.2	8.2	32.7	32.7	106.4	106.5	8.1	8.1	4.7		7		89				<0.2	1.2

during Mid-Flood Tide Water Quality Monitoring Results on 21 January 20 Suspended Solids Nickel (µg/L) Salinity (ppt) Turbidity(NTU) Water Water Temperature (°C) рΗ Coordinate Sampling Coordinate Monitoring Current (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value DA Value DA Value Value DA (Northing) (Easting) Value DA Value Average 19.6 0.3 107.0 1.0 0.3 336 19.6 8.2 31.7 8.1 2.4 85 <0.2 1.1 3.8 0.4 318 19.4 8.2 106.6 8.1 3.4 86 88 <0.2 1.0 Cloudy IM9 Moderate 14:50 7.6 Middle 32.2 106.5 87 822093 808830 <0.2 1.2 3.8 338 0.4 19.3 6.6 0.2 347 19.3 8 90 <0.2 1.2 8.2 32.6 105.1 8.0 4.4 Bottom 19.3 8.2 32.6 105.0 8.0 8.0 8.2 32.6 104.9 1.2 6.6 0.2 19.3 44 89 352 <0.2 0.5 345 19.6 2.8 8.2 106.1 Surface 19.6 31.9 106.0 8.2 31.9 105.9 8.0 86 0.9 1.0 0.5 325 19.6 2.9 < 0.2 0.3 105.0 105.1 5.0 5.2 87 88 1.0 3.5 331 19.4 8.2 8.2 6 <0.2 8.0 IM10 Cloudy Moderate 14:56 7.0 Middle 19.4 8.2 32.3 105.1 87 822365 809781 <0.2 19.4 6.0 0.4 319 19.3 8.2 104.5 8.0 5.6 6 89 <0.2 1.0 32.4 19.3 8.2 104.5 8.0 Bottom 32.4 6.0 0.5 328 19.3 8.2 32.4 104.4 7.9 5.6 89 < 0.2 0.9 1.0 0.1 311 19.7 2.4 85 1.0 8.2 7.8 6 31.9 103.3 <0.2 Surface 19.7 8.2 32.0 103.2 1.0 0.1 312 19.7 8.2 32.0 103.1 7.8 2.4 86 <0.2 1.1 3.9 0.2 343 19.6 8.2 2.5 87 <0.2 1.0 32.2 102.1 IM11 Cloudy 822035 811465 Moderate 15:06 7.7 Middle 19.6 8.2 32.2 102.1 <0.2 19.6 87 1.0 3.9 0.2 2.6 <0.2 19.6 8.2 32.2 2.7 89 <0.2 1.0 Rottom 196 8.2 32.2 101.8 77 6.7 0.3 302 19.6 8.2 32.2 101.8 7.7 2.7 10 89 1.0 19.6 8.2 102.5 7.8 2.7 <0.2 0.8 32.2 Surface 19.6 8.2 32.2 102.5 1.0 0.1 19.6 8.2 32.2 7.8 2.7 6 85 <0.2 0.8 4.1 0.1 256 19.6 8.2 2.9 6 87 <0.2 8.0 32.2 15:11 Middle 821482 IM12 Cloudy Moderate 19.6 8.2 32.2 101.7 4.1 0.1 19.6 8.2 7.7 3.1 86 0.8 72 0.2 162 19.6 8.2 101.7 7.7 3.5 6 89 <0.2 0.8 Bottom 19.6 8.2 32.2 101.7 7.7 32.2 7.2 0.2 168 19.6 8.2 101.7 7.7 3.6 7 90 <0.2 0.8 1.0 19.7 8.2 100.8 7.6 2.4 4 Surface 19.7 8.2 32.3 100.8 1.0 19.7 8.2 32.3 100.8 7.6 2.4 4 2.6 SR1A Cloudy Moderate 15:50 5.1 Middle 819972 812658 2.6 101.6 101.9 7.7 7.7 4.1 19.7 32.3 2.6 Bottom 19.7 8.1 32.3 101.8 41 19.7 6 8.1 1.0 0.2 326 197 8.2 32.3 100.3 7.6 24 86 <0.2 0.8 Surface 19.7 8.2 32.3 100.3 1.0 0.3 355 19.7 8.2 32.3 7.6 24 6 86 0.8 100.3 < 0.2 -SR2 Cloudy Moderate 16:15 4.4 Middle 821443 814145 90 0.8 3.4 0.1 227 238 19.7 8.2 100.9 7.6 7.6 2.5 <0.2 Bottom 19.7 8.2 32.3 101.0 7.6 0.1 19.7 8.2 32.3 6 89 < 0.2 0.4 19.7 1.0 8.2 31.5 104.9 8.0 2.2 Surface 19.7 8.2 31.5 105.0 1.0 0.4 31.6 13 19.7 8.2 105.0 8.0 2.4 6 4.1 19.5 3.4 8.0 8.2 32.0 104.7 6 SR3 14:40 8.2 Middle 19.5 822141 807547 Cloudy Moderate 8.2 32.1 104.6 4.1 0.4 18 19.4 8.2 32.1 104.5 8.0 3.6 . 19.3 7.2 0.3 50 8.2 32.4 32.4 103.0 7.8 7.8 4.3 193 8.2 32.4 7.8 Rottom 102.8 19.3 1.0 0.1 232 19.4 8.1 4.8 33.1 115.4 8.7 Surface 194 8.1 33.1 115.3 1.0 19.4 5.4 233 4.2 0.2 19.3 8.7 6.9 269 8.1 33.1 114.2 8 SR4A Fine Calm 15:55 8.3 Middle 19.3 8.1 33.1 114.2 817167 807811 4.2 0.2 301 19.3 8.1 8.6 7.0 0.3 274 19.3 8.1 33.1 8.8 6.9 10 Bottom 19.3 8.1 33.1 115.6 8.8 7.3 0.3 19.3 275 1.0 0.2 282 19.6 2.2 8.1 32.4 8.6 Surface 19.6 8.1 32.4 114.0 1.0 0.2 289 19.6 8.1 8.6 2.3 7 Fine Calm 16:11 Middle 810676 3.0 0.1 290 19.5 8.1 32.4 8.5 2.3 9 Bottom 3.0 0.1 296 254 19.6 8 1 1.0 0.1 19.7 8.1 32.4 117.8 8.9 2.1 32.4 2.2 1.0 0.1 261 19.7 8 1 117 9 8.9 9 --SR6A Fine Calm 16:45 3.9 Middle 817985 814741 2.9 0.1 281 19.7 8.1 32.4 32.4 117.5 8.9 8.9 1.0 6 -19.7 117.5 Bottom 8.1 2.9 0.1 287 19.7 1.0 0.1 285 19.7 8.2 8.2 32.8 32.8 95.6 95.6 7.2 7.2 1.4 Surface 19.7 8.2 32.8 95.6 1.4 1.0 0.1 290 19.7 8.2 0.1 8.1 32.8 32.8 95.7 95.8 7.2 1.5 243 19.7 6 -17:06 19.7 8.1 32.8 95.8 823626 823725 SR7 Cloudy Moderate 16.4 Middle 8.1 7.2 8.2 0.1 244 19.7 1.6 -15.4 0.1 298 19.7 8.1 7.4 7.4 1.4 6 -32.8 97.9 Bottom 19.7 8.1 32.8 98.1 7.4 8.1 19.7 15.4 0.1 304 1.4 1.0 19.7 8.2 8.2 32.2 32.2 103.2 103.1 7.8 7.8 2.6 2.6 6

19.7

19.6

19.7

19.6

19.6

8.2

8.2

8.2

32.2

32.2

103.0

32.2

103.2

103.0

7.8

7.8

2.7

2.9

-

820374

811614

DA: Depth-Averaged

SR8

Cloudy

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

15:26

Moderate

5.1

Surface

Middle

Bottom

Water Quality Monitoring Results on 23 January 20 during Mid-Ebb Tide

Water Qual	ity wonite	oring Resu	its on		23 January 20	during Mid-	EDD HOE)																				
Monitoring Station	Weather	Sea	Sampling	Water	Sampling [Depth (m)	Current Speed	Current Direction	Water Te	mperature (°C)		рН	Salin	ity (ppt)		aturation %)	Dissolved Oxygen	Turbidity	(NTU)	Suspender (mg/l		otal Alka (ppm		Coordinate HK Grid	Coordinate HK Grid	Chromium (µg/L)	Nickel	(µg/L)
Station	Condition	Condition	Time	Depth (m)			(m/s)	Direction	Value	Average	Value	Average	Value	Average	Value	Average	Value DA	Value	DA	Value	DA		DA	(Northing)	(Easting)	Value DA		
					Surface	1.0	0.1	15 15	19.8 19.8	19.8	8.0	8.0	31.5 31.5	31.5	118.9 119.0	119.0	9.0	2.6		6	-	85 85				<0.2	1.3	
C1	Fine	Moderate	11:26	7.8	Middle	3.9	0.0	337	19.7	19.7	8.0	8.0	32.5	32.5	115.0	114.9	8.7	3.6	3.8	9	8	86	86	815610	804264	<0.2	1.4	
						3.9 6.8	0.0	349 257	19.7 19.7		8.0		32.5 33.1		114.8 111.9		8.7	3.6 5.3		9	-	86 88				<0.2	1.6	ł
					Bottom	6.8	0.1	260	19.7	19.7	8.0	8.0	33.1	33.1	112.0	112.0	8.4	5.3		9		88				<0.2	1.5	<u></u>
					Surface	1.0	0.3	50 54	20.0	20.0	8.2	8.2	30.7	30.7	106.1 106.3	106.2	8.1 8.1 8.2	2.5		7 6	F	85 86				<0.2	1.5 1.5	İ
C2	Fine	Moderate	13:22	12.3	Middle	6.2	0.3	45 47	19.9 19.9	19.9	8.2	8.2	31.6 31.6	31.6	110.3 110.3	110.3	8.3 8.3	4.3	6.6	8	8	87 88	87	825668	806947	<0.2	2 1.5	1.5
					Bottom	11.3	0.2	26	19.8	19.8	8.3	8.3	32.4	32.4	112.1	112.1	8.5	13.2	1	8		88				<0.2	1.5	1
						11.3	0.2	28 79	19.8 19.8		8.3 8.1		32.4 32.6		112.0 98.6		8.5 0.3 7.4	12.8		9		89 85				<0.2	1.5 0.9	\vdash
					Surface	1.0	0.1	79	19.8	19.8	8.1	8.1	32.6	32.6	98.5	98.6	7.4	7.1	1	7		86				<0.2	0.9	
C3	Fine	Moderate	11:21	11.8	Middle	5.9 5.9	0.2	104 105	19.8 19.8	19.8	8.1 8.1	8.1	32.7 32.7	32.7	97.7 97.7	97.7	7.4	11.7	10.1	8	8	87 87	87	822120	817811	<0.2	2 0.9	0.9
					Bottom	10.8	0.2	52 56	19.8 19.8	19.8	8.1 8.1	8.1	32.7	32.7	98.0 98.1	98.1	7.4 7.4	12.1 11.6		9	F	88 88				<0.2	0.9 1.0	ĺ
					Surface	1.0	0.0	40	20.1	20.1	8.1	8.1	32.4	32.4	120.1	120.1	9.0	2.9		7		86				<0.2	0.9	Г
	_					1.0	0.0	40	20.1		8.1		32.4		120.0		9.0	2.9		7	_	86				<0.2	1.0	ł
IM1	Fine	Moderate	11:37	4.9	Middle	-	-	-	-	-	-	-	-	-	-	•	-	-	3.4	-	7	-	87	817929	807136	- <0.2	-	1.0
					Bottom	3.9	0.1	228 228	20.0	20.0	8.1 8.1	8.1	33.1 33.1	33.1	118.5 118.2	118.4	8.9 8.9	3.8	ł	6	F	87 88				<0.2	1.1	t
					Surface	1.0	0.1	163 175	20.0	20.0	8.0	8.0	31.4 31.4	31.4	120.5 120.3	120.4	9.1	2.5 2.5		7	-	85 86				<0.2	1.1	
IM2	Sunny	Moderate	11:46	6.8	Middle	3.4	0.1	222	19.7	19.7	8.0	8.0	33.1	33.1	115.5	115.6	8.7	3.9	3.9	8	8	87	88	818151	806148	<0.2	1.1	1.
IIVIZ						3.4 5.8	0.1	234 240	19.7 19.7		8.0 8.1		33.1 33.3		115.7 114.4		8.6	3.9 5.4		7	-	88 89				<0.2	1.2	+
					Bottom	5.8	0.2	261	19.7	19.7	8.1	8.1	33.3	33.3	114.4	114.4	8.6	5.4		8		90				<0.2	1.2	lacksquare
					Surface	1.0	0.0	254 275	19.9 19.9	19.9	8.0	8.0	31.8 31.8	31.8	118.1 118.0	118.1	8.9 8.9 8.8	2.8	ł	7 6	-	85 85				<0.2	1.2	t
IM3	Sunny	Moderate	11:55	6.7	Middle	3.4	0.0	272 275	19.7 19.7	19.7	8.0	8.0	32.6 32.6	32.6	114.7 114.8	114.8	8.7 8.7	5.8 5.9	5.4	8	8	86 87	87	818774	805594	<0.2	2 1.3	1.4
					Bottom	5.7	0.0	254	19.7	19.7	8.0	8.0	33.1	33.1	112.5	112.5	8.5	7.3	1	9		89				<0.2	1.4	1
						5.7 1.0	0.0	261 189	19.7 19.8		8.0		33.1 32.3		112.5 118.6		8.5 8.9	7.4		9		89 85				<0.2	1.4	\vdash
					Surface	1.0	0.1	189	19.8	19.8	8.0	8.0	32.3	32.3	118.7	118.7	9.0	3.7	1	7		85				<0.2	1.4	Ī
IM4	Sunny	Moderate	12:03	7.6	Middle	3.8	0.1	187 190	19.7 19.7	19.7	8.0	8.0	32.7 32.7	32.7	114.3 114.3	114.3	8.6 8.6	6.2 5.9	5.2	7 8	8	87 87	87	819744	804593	<0.2	2 1.5	1.5
					Bottom	6.6	0.2	218 218	19.7 19.7	19.7	8.0	8.0	33.0 33.0	33.0	112.9 112.9	112.9	8.5 8.5	5.8 5.8		8		89 89				<0.2	1.5	ĺ
					Surface	1.0	0.2	62	19.9	19.9	8.0	8.0	32.5	32.5	117.9	117.9	8.9	3.6		6		86				<0.2	1.4	Г
	_					1.0 3.5	0.2	67 61	19.9 19.7		8.0		32.5 32.7		117.9 114.8		8.9 8.6	3.6 4.5		6	_	85 87				<0.2	1.3	ł .
IM5	Sunny	Moderate	12:24	7.0	Middle	3.5	0.2	63	19.7	19.7	8.0	8.0	32.7	32.7	114.7	114.8	8.6	4.5	4.7	6	7	86	87	820731	804871	<0.2	1.4] '.^
					Bottom	6.0	0.0	347 319	19.7 19.7	19.7	8.0	8.0	32.9 32.9	32.9	114.0 113.8	113.9	8.6 8.6	5.9 5.9		8		88				<0.2 <0.2	1.4	<u> </u>
					Surface	1.0	0.1	13 14	20.1	20.1	8.0	8.0	31.2 31.2	31.2	115.0 114.9	115.0	8.7	2.0		3		85 85				<0.2	1.5 1.5	1
IM6	Sunny	Moderate	12:46	6.9	Middle	3.5	0.1	354	19.9	19.9	8.1	8.1	32.7	32.7	116.1	116.0	8.7	3.2	3.3	5	5	87	87	821040	805809	<0.2	1.5	1.6
						3.5 5.9	0.1	326 322	19.9 19.8		8.1 8.1		32.7 32.8		115.9 114.8		8.6	3.2 4.6		5 5	· -	87 89	-			<0.2	1.6	† ```
					Bottom	5.9	0.0	342	19.8	19.8	8.1	8.1	32.8	32.8	114.8	114.8	8.6	4.6		5		88				<0.2	1.8	<u> </u>
					Surface	1.0	0.0	328 352	20.4	20.4	7.9	7.9	30.5	30.5	112.7 112.8	112.8	8.5 8.5 8.6	0.9 1.0	1	4	-	84 84				<0.2	2.4	t
IM7	Sunny	Moderate	13:03	8.3	Middle	4.2 4.2	0.0	290 310	19.8 19.8	19.8	8.0	8.0	32.7 32.7	32.7	115.8 115.8	115.8	8.7 8.7	3.8	3.2	5 4	5	86 86	86	821348	806850	<0.2	2 2.8 3.3	3.0
					Bottom	7.3	0.0	301	19.8	19.8	8.1	8.1	32.8	32.8	114.0	114.1	8.6	4.7		6		89				<0.2	3.4	1
					1	7.3 1.0	0.0	329 80	19.8 20.1		8.1 8.1		32.8 29.7		114.1 105.4		8.6	4.7 2.1		6		89 85				<0.2	3.3 0.6	\vdash
					Surface	1.0	0.2	80	20.1	20.1	8.1	8.1	29.7	29.7	105.5	105.5	8.0 8.3	2.1		3		86				<0.2	0.6	1
IM8	Fine	Moderate	12:38	7.2	Middle	3.6	0.2	77 79	19.8 19.8	19.8	8.3	8.3	32.2 32.2	32.2	112.2 112.1	112.2	8.5 8.5	5.1 5.2	5.0	3	3	88	87	821841	808151	<0.2	2 0.6	0.6
					Bottom	6.2	0.1	69	19.8	19.8	8.3	8.3	32.5	32.5	111.9	111.9	8.4	7.8		3		88				<0.2	0.6	1
: Depth-Aver					l	6.2	0.1	73	19.8		8.3		32.5		111.8		8.4	8.0		4		89				<0.2	0.6	Щ

during Mid-Ebb Tide Water Quality Monitoring Results on 23 January 20 Suspended Solids Nickel (µg/L) Salinity (ppt) Turbidity(NTU) Water Water Temperature (°C) рΗ Coordinate Sampling Coordinate Monitoring Current (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value DA Value DA Value DA Value DA (Northing) (Easting) Value DA Value Value Average 0.2 1.4 1.0 0.2 141 20.1 8.1 29.8 102.5 7.8 2.4 85 <0.2 1.5 3.5 0.2 124 129 20.0 8.2 7.8 7.8 2.8 88 89 <0.2 1.5 IM9 Fine Moderate 12:32 7.0 Middle 102.8 2.9 88 822074 808802 <0.2 3.5 0.2 2.9 6 20.0 6.0 0.2 117 20.0 3.5 89 <0.2 1.5 8.2 30.9 102.6 7.8 7.8 Bottom 20.0 8.2 30.9 102.5 7.8 8.2 0.2 120 30.9 1024 3.5 90 15 6.0 20.0 <0.2 0.2 20.0 0.7 8.2 Surface 20.0 31.5 107.5 8.2 31.6 8.1 86 0.6 1.0 0.2 132 20.0 107.4 2.7 8 < 0.2 0.2 19.9 19.9 106.0 105.8 0.7 3.7 123 129 31.9 31.9 88 88 <0.2 8.2 8.0 3.1 IM10 Fine Moderate 12:25 74 Middle 19.9 8.2 31.9 105.9 88 822362 809814 <n 2 6.4 0.2 106 19.9 8.2 104.2 7.9 4.4 8 89 < 0.2 0.8 32.1 19.9 104.2 7.9 Bottom 8.2 32.1 6.4 0.2 111 19.9 8.2 32.1 104.2 7.9 4.4 90 < 0.2 0.7 1.0 0.3 109 19.9 5.2 84 1.5 8.2 32.1 108.6 8.2 <0.2 Surface 19.9 8.2 32.1 108.6 1.0 0.4 19.9 8.2 32.1 108.6 8.2 5.3 6 85 <0.2 1.5 4.2 0.3 109 19.9 8.2 108.3 5.6 88 <0.2 1.5 32.1 8.2 IM11 12:16 822036 811460 Fine Moderate 8.3 Middle 19.9 8.2 32.1 108.3 88 <0.2 0.4 19.9 5.8 89 1.4 4.2 112 <0.2 7.3 19.9 8.2 32.1 107.9 8.1 5.1 89 <0.2 1.5 Rottom 199 8.2 32.1 107.9 8 1 7.3 0.2 105 19.9 8.2 32.1 107.9 8.1 5.0 90 1.4 8.2 32.1 109.5 109.4 3.8 85 <0.2 0.7 Surface 19.9 8.2 32.1 109.5 1.0 0.2 83 19.9 8.2 32.1 8.3 3.8 85 <0.2 0.7 4.4 0.4 94 19.9 4.5 6 87 <0.2 0.7 32.1 IM12 12:10 Middle 108.9 821460 812065 Fine Moderate 19.9 8.2 32.1 4.4 0.4 19.9 8.2 108.9 4.6 88 0.7 7.8 0.4 63 19.8 8.2 108.2 5.7 89 <0.2 0.8 Bottom 19.8 8.2 32.2 108.2 8.2 32.2 108 1 7.8 0.4 68 19.8 8.2 8.2 5.5 6 90 <0.2 0.7 1.0 199 8.2 32.3 110.6 8.3 3.2 Surface 19.9 8.2 32.3 110.6 1.0 19.9 8.2 32.3 110.5 8.3 3.2 6 2.4 SR1A Fine Calm 11:50 Middle 819981 812663 2.4 3.8 19.8 8.2 110.0 8.3 3.9 6 8.3 Bottom 19.8 8.2 32.3 110.1 3.8 19.8 8.2 32.3 110 1 8.3 3.8 1.0 0.2 84 19.9 8.2 32.3 109.3 3.7 81 <0.2 0.7 Surface 19.9 8.2 32.3 109.3 1.0 0.2 85 19.9 8.2 32.3 109.2 8.2 3.5 4 82 <0.2 0.7 SR2 Fine Moderate 11:40 4.2 Middle 821453 814155 <0.2 0.7 19.9 32.3 32.3 107.2 <0.2 0.7 3.2 Bottom 107.1 0.2 29 19.9 8.2 8.1 3.7 6 87 <0.2 0.7 1.0 0.4 118 20.0 8.2 30.2 108.2 8.2 2.6 8.2 30.3 108.3 1.0 0.4 121 20.0 8.2 30.3 108.4 8.2 2.8 6 4.5 0.3 111 19.9 8.2 31.1 110.9 8.4 5.2 6 -SR3 Fine Moderate 13:05 9.0 111.0 822165 807582 4.5 0.3 116 19.9 8.2 31.2 8.4 5.5 5 0.3 8.3 110.9 110.5 8.4 8.3 9.6 9.5 8.0 114 19.8 4 Bottom 8.3 32.4 110.7 8.4 124 19.8 1.0 0.2 356 19.8 7.9 32.5 118.3 8.9 3.4 Surface 19.8 7.9 32.5 118.4 1.0 0.2 19.8 7.9 32.5 118.4 8.9 3.4 328 6 -4.0 4.4 0.2 342 19.7 7.9 8.7 32.8 116.0 7.9 807794 SR4A Fine Calm 11:15 8.7 Middle 19.7 32.8 116.0 817166 4.4 0.2 350 19.7 7.9 32.8 8.7 4.0 0.1 19.7 7.9 33.1 114.3 8.6 5.0 Rottom 7.9 33.1 114.4 8.6 7.7 0.1 10 19.7 7.9 33.1 114.4 8.6 5.0 1.0 0.1 269 20.0 5.8 10 7.8 8.3 32.8 110.1 Surface 20.0 7.8 32.8 110.1 1.0 0.1 293 20.0 7.8 32.8 110.0 8.2 5.9 10 SR5A 11:14 Middle 12 816601 810702 Fine Calm 3.6 2.6 0.1 20.0 7.9 108.8 4.6 14 32.8 8.2 Bottom 20.0 7.9 32.8 108.7 8.2 2.6 0.1 20.0 15 0.1 7.8 Surface 20.0 7.8 32.6 106.8 162 20.0 1.9 8.0 SR6A Fine 11:05 3.9 Middle 817966 814743 Calm 2.9 0.1 124 20.0 105.6 105.5 Bottom 7.8 2.9 0.1 124 0.1 44 19.8 8.1 32.6 99.2 7.5 3.0 Surface 8.1 1.0 0.1 45 19.8 8.1 99.2 7.5 3.1 8 79 0.1 86 19.8 8.1 32.7 98.9 7.4 3.1 7 SR7 Fine Moderate 10:55 Middle 98.9 823627 823748 79 0.1 86 19.8 8.1 32.7 98.9 7.4 3.0 7 14.7 0.3 84 19.8 8.1 98.3 7.4 3.3 5 Bottom 8.1 98.3 14.7 0.3 19.8 8.1 98.3 7.4 3.3 3.7 3.8 1.0 19.9 32.3 32.3 Surface 19.9 110.5 199 8.2 110 4 8.3 8 8.3 --SR8 Fine Calm 12:00 5.4 Middle 820377 811632 19.8 8.2 110.0 4.4 32.3 8.3 4.1 Bottom 19.8 8.2 32.3 110.0 19.8

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring Water Quality Monitoring Results on 23 January 20 during

23 January 20 during Mid-Flood Tide

Water Qua	lity Monit	oring Resu	lts on		23 January 20	during Mid-	Flood T	ide																			
Monitoring	Weather	Sea	Sampling	Water	Sampling De	oth (m)	Current Speed	Current	Water Te	emperature (°C)		рН	Salinity (ppt)	DO	Saturation (%)	Dissolve Oxygen	Turbidit	y(NTU)	Suspende (mg	ed Solids /L)	Total All		Coordinate HK Grid	Coordinate HK Grid	Chrom (µg/l		kel (µg/L)
Station	Condition	Condition	Time	Depth (m)			(m/s)	Direction	Value	Average	Value	Average			Average	Value D		DA	Value	DA	Value	DA	(Northing)	(Easting)		DA Value	
					Surface	1.0	0.3	10 10	20.3	20.3	8.1	8.1	30.8 30.8	130.1	130.0	9.8 9.8 9	1.5		9		85 85				<0.2	1.1	
C1	Cloudy	Moderate	17:44	7.7	Middle	3.9	0.4	32 35	19.8 19.8	19.8	8.1	8.1	32.1 32.1	117.5		8.9 8.9	2.3	2.6	10 9	10	86 86	86	815618	804251	<0.2	<0.2	
					Bottom	6.7	0.2	21	19.7	19.7	8.1	8.1	32.8 32.8 32.8	111.8		8.4 8.5	3.0		11		88				<0.2	1.2	
					Surface	1.0	0.4	311 321	20.1	20.1	8.2 8.2	8.2	30.7 30.7 30.7	107.7	107.8	8.2	2.6	1	4 3		86				<0.2	1.4	
C2	Fine	Moderate	15:41	11.8	Middle	5.9	0.3	36	20.0	20.0	8.2	8.2	30.9	110.4	110.5	8.4	3.6	5.0	5 4	4	86 88	88	825677	806964	<0.2	1.6	1.6
					Bottom	5.9 10.8	0.3	37 340	20.0 19.8	19.8	8.2 8.2	8.2	32.0	110.6	109.4	8.4 8.3 8	3.9	_	5		88 89				<0.2	1.6	i l
					Surface	10.8	0.3	313 280	19.8 20.4	20.4	8.2 8.2	8.2	32.5	109.7	100.6	8.2	2.0		5 7		90 85				<0.2 <0.2	1.6 1.2	
СЗ	Fine	Moderate	17:26	11.2	Middle	1.0 5.6	0.5	299 265	20.3	20.4	8.2 8.2		32.5 32.5 32.5 32.5	109.5	106.1	8.2 8.0	1 2.0	2.2	6 8	8	85 88	87	822089	817820	<0.2	<0.2	1.1
CS	rine	Moderate	17.26	11.2		5.6 10.2	0.5 0.5	267 287	20.1 19.8		8.2 8.2	8.2	32.5	106.0		8.0 7.5	2.2	7	8	°	88 89	0'	622069	617620	<0.2	1.2	□ '.'
					Bottom	10.2	0.5	292 12	19.8 20.1	19.8	8.2 8.1	8.2	32.8	100.0		7.5 7 7.5 9.8	2.5		9		89 86				<0.2	1.1	
					Surface	1.0	0.2	12	20.1	20.1	8.1	8.1	31.5	130.0		9.8	2.0		6	•	86				<0.2	1.7	
IM1	Cloudy	Moderate	17:36	4.9	Middle	-	-	-	-	-	-	-		-	-	-	-	2.2	-	7	-	87	817961	807128	-	<0.2	1.7
					Bottom	3.9 3.9	0.2	333 338	20.0	20.0	8.1 8.1	8.1	31.6 31.6	127.2		9.6 9.6	2.4		8		87 88				<0.2	1.6 1.8	
					Surface	1.0	0.1	332 332	20.0	20.0	8.1 8.1	8.1	32.0 32.0 32.0	125.6		9.5	3 2.4	1	5 5	1	86 86				<0.2	1.8	3
IM2	Cloudy	Moderate	17:27	7.4	Middle	3.7	0.1	351 323	19.8 19.8	19.8	8.1	8.1	32.5 32.5	122.5	122.5	9.2	2.8	2.8	6 5	6	88 88	88	818170	806164	<0.2	<0.2	1.0
					Bottom	6.4	0.2	19 19	19.8 19.8	19.8	8.2	8.2	32.8 32.8	118.9	118.9	9.0 8.9	0 3.3		7		89 89				<0.2	1.8	
					Surface	1.0	0.1	313 318	19.9 19.9	19.9	8.1 8.1	8.1	32.3 32.3	121.5		9.2	3.0		5 6	-	85 85				<0.2	2.1 2.1	
IM3	Cloudy	Moderate	17:18	7.0	Middle	3.5 3.5	0.1 0.1	22 22	19.8 19.8	19.8	8.0 8.0	8.0	32.7 32.7 32.7	116.8	116.8	8.8 8.8	4.0 4.0	4.2	5 6	5	88 88	88	818771	805617	<0.2	<0.2 2.0	
					Bottom	6.0	0.2	40 42	19.7	19.7	8.0	8.0	33.1 33.1 33.1	114.6		8.6 8.6	5.5	1	5		89 90				<0.2	2.0)
					Surface	1.0	0.1	214 232	19.9	19.9	8.0	8.0	32.4 32.4 32.4	121.3		9.1	3.1		4		85 85				<0.2 <0.2	2.2	!
IM4	Cloudy	Moderate	16:59	7.9	Middle	4.0	0.0	287	19.7	19.7	8.0 8.0	8.0	32.6 32.6 32.6	116.4	116.4	8.8 8.8	0 4.2	4.5	7	6	88 88	87	819730	804584	<0.2 <0.2	<0.2 2.1	2.2
					Bottom	4.0 6.9	0.0	300 113	19.7	19.7	8.0	8.0	33.0	114.2	1142	8.6	6.1		6		89				<0.2	2.3	1
					Surface	6.9 1.0	0.1	123 243	19.7 20.0	20.0	8.0 8.0	8.0	33.0 33.0 32.3 32.3	114.2	122.2	9.3	6.1		7		89 85				<0.2 <0.2	2.2	
IM5	Cloudy	Moderate	16:44	7.2	Middle	1.0 3.6	0.0	251 22	20.0 19.8	19.8	8.0 8.0	8.0	32.3	123.3		9.3 8.8	3.7	3.9	7	8	85 87	87	820748	804847	<0.2 <0.2	<0.2	
	Oloudy	moderate	10.11	• • •	Bottom	3.6 6.2	0.0	23 316	19.8 19.7	19.7	8.0 8.1	8.1	32.7	117.0	1112	8.8 8.6 8	3.8 6 5.1	- 0.0	7 9		87 88		020710	001011	<0.2	2.3	1
					Surface	6.2 1.0	0.1	322 334	19.7	20.0	8.1 8.0	8.0	32.9 31.8 31.8 31.8	114.3		8.6 8.7	5.1		9		89 85				<0.2	2.3	
						1.0 3.6	0.1 0.1	353 54	20.0 19.9		8.0 8.1		31.8	114.7		8.7 8.6	7 2.1	1	4		85 87				<0.2	2.6	.
IM6	Cloudy	Moderate	16:25	7.1	Middle	3.6 6.1	0.1	57 17	19.9 19.8	19.9	8.1 8.1	8.1	32.6	114.8	114.9	8.6	3.0	3.0	4 5	4	87 89	87	821059	805823	<0.2	<0.2 2.4 2.5	2.5
					Bottom	6.1	0.1	18	19.8	19.8	8.1	8.1	32.8 32.8 30.7	113.6	113.9	8.6 8.5	6 4.0 1.4		4		88				<0.2	2.4	
					Surface	1.0	0.1	309	20.3	20.3	7.9	7.9	30.7	113.2	113.1	8.5	6 1.4	1	2		84				<0.2	3.0)
IM7	Cloudy	Moderate	15:54	8.1	Middle	4.1 4.1	0.1	12 13	19.8 19.8	19.8	8.0	8.0	32.7 32.7	115.6	115.5	8.7 8.7	4.1	3.2	4	3	87 87	87	821337	806846	<0.2	<0.2	3.2
					Bottom	7.1 7.1	0.1	8	19.8 19.8	19.8	8.0	8.0	32.8 32.8	113.7	113.7	8.6 8.6	4.0		4	1	89 89				<0.2 <0.2	3.2 3.3	1
					Surface	1.0	0.1 0.1	211 228	20.1	20.1	8.2 8.2	8.2	30.9	113.1	113.2	8.6 8.6 8	4.9 5.1		3	1	85 85				<0.2	1.4	3
IM8	Fine	Moderate	16:07	7.9	Middle	4.0 4.0	0.1 0.1	307 321	19.8 19.8	19.8	8.3 8.3	8.3	32.2 32.2 32.2	112.3	112.2	8.5 8.5	8.9 9.0	6.7	4 2	3	88 88	88	821848	808149	<0.2	<0.2	
					Bottom	6.9	0.1	18 18	19.8	19.8	8.3	8.3	32.5 32.5	108.6	108.7	8.2 8.2	6.0	7	4		89				<0.2	1.4	
DA: Denth-Aver					·				,		, 5.5			,		J.L	1 0.7										

during Mid-Flood Tide Water Quality Monitoring Results on 23 January 20 Suspended Solids Nickel (µg/L) Salinity (ppt) Turbidity(NTU) Water Water Temperature (°C) рΗ Coordinate Sampling Coordinate Monitoring Current (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value DA Value DA Value Value DA (Northing) (Easting) Value Value Average 0.1 1.4 30.6 1.0 0.1 241 20.2 8.2 8.4 3.6 83 <0.2 1.4 3.4 0.1 308 312 19.8 8.3 110.4 8.3 5.3 4 84 84 <0.2 1.3 IM9 Fine Moderate 16:12 6.8 Middle 32.1 110.2 84 822114 808829 <0.2 3.4 0.1 19.8 5.2 5.8 0.1 21 19.8 107.2 106.9 5.7 4 86 <0.2 1.3 8.3 32.3 8.1 Bottom 19.8 8.3 32.3 107.1 8.1 8.3 32.3 8.1 1.3 5.8 0.1 19.8 5.5 87 21 <0.2 0.5 280 20.0 3.3 84 1.3 8.2 8.4 < 0.2 Surface 20.0 8.2 31.4 111.5 8.2 31.4 111.5 8.4 84 1.4 1.0 0.6 280 19.9 3.3 < 0.2 0.5 19.8 19.8 4.7 1.4 3.5 8.3 109.7 109.5 83 84 <0.2 8.3 IM10 Fine Moderate 16:19 7.0 Middle 19.8 8.3 32.1 109.6 85 822368 809800 <0.2 4.9 6.0 0.5 290 19.8 8.2 107.2 8.1 6.4 87 <0.2 1.4 32.3 19.8 8.2 107.1 8.1 Bottom 32.3 6.0 0.6 19.8 8.2 32.3 107.0 8.1 6.5 87 < 0.2 1.4 292 1.0 0.5 308 2.5 84 1.4 20.1 8.2 8.3 <0.2 32.1 110.5 Surface 20.1 8.2 32.1 110.4 1.0 0.6 311 20.1 8.2 32.1 110.3 8.3 2.5 85 <0.2 1.4 4.3 0.5 265 19.9 8.2 109.6 3.8 85 <0.2 1.4 32.2 8.3 IM11 822075 811477 Fine Moderate 16:31 8.6 Middle 19.9 8.2 32.2 109.6 86 <0.2 4.3 0.5 19.9 4.2 86 <0.2 1.4 290 279 7.6 19.9 8.2 32.2 109.2 8.2 5.3 <0.2 1.4 Rottom 199 8.2 32.2 109.2 82 7.6 0.5 289 19.9 8.2 32.2 109.1 8.2 5.2 88 1.4 20.2 8.2 32.1 115.5 2.5 85 <0.2 0.9 Surface 20.2 8.2 32.1 115.4 1.0 0.1 245 20.2 8.2 32.1 8.7 2.5 86 <0.2 0.9 4.2 0.1 296 19.9 8.2 2.8 87 <0.2 0.9 108.9 IM12 16:37 Middle 108.7 821438 Fine Moderate 19.9 8.2 32.1 0.1 19.9 8.2 108.5 2.9 87 1.0 7.3 0.1 349 199 8.2 106.1 8.0 3.6 84 <0.2 0.9 Bottom 19.9 8.2 32.2 106.1 8.0 32.2 7.3 0.1 356 19.9 8.2 106.1 8.0 3.6 6 84 <0.2 1.1 1.0 20.1 8.2 112.2 8.4 3.0 Surface 20.1 8.2 32.2 112.1 20.1 8.2 32.2 112.0 8.4 3.0 5 2.2 SR1A Fine Calm 16:54 4.3 Middle 819972 812657 2.2 3.3 106.7 106.6 8.0 20.0 32.2 8.6 Bottom 20.0 8.2 32.2 106.7 8.0 8.2 8.9 6 1.0 0.6 316 20.0 8.3 32.1 114.2 8.6 2.8 81 <0.2 0.9 Surface 20.0 8.3 32.1 114.1 1.0 2.7 0.6 330 20.0 8.3 32.2 8.6 6 82 0.8 1139 < 0.2 -SR2 Fine Calm 17:06 4.2 Middle 83 821453 814158 0.9 3.2 0.4 322 336 8.3 32.2 32.2 111.3 110.8 8.4 8.3 84 <0.2 Bottom 20.0 8.3 32.2 111.1 8.4 0.4 8.3 20.0 2.9 6 85 < 0.2 1.0 0.1 20.1 80 8.2 30.5 109.8 8.3 2.8 Surface 20.1 8.2 30.6 110.0 1.0 0.1 30.6 85 20.1 8.2 110.1 8.3 2.9 4.4 19.9 5.1 298 8.3 31.8 112.1 8.5 SR3 16:01 Middle 19.9 31.8 822160 807561 Fine Moderate 8.8 8.3 112.2 4.4 0.1 326 19.9 8.3 31.9 112.2 8.5 5.3 4 . 7.8 19.9 0.1 8.3 32.3 32.3 111.9 8.4 8.4 6.6 6.5 6 273 Rottom 199 8.3 32.3 111.7 84 19.9 8.1 1.0 0.1 234 20.3 9.6 2.2 30.8 127.3 127.3 Surface 20.3 8.1 30.8 1.0 30.8 2.2 252 20.3 4.6 0.1 19.9 3.9 8.1 31.6 120.1 9.1 8 SR4A Fine Calm 17:53 9.2 Middle 19.9 8.1 31.6 120.0 817178 807809 4.6 0.1 251 19.9 8.1 4.0 8.2 0.1 248 19.8 8.1 32.6 116.3 8.8 4.3 10 Bottom 19.8 8.1 32.6 116.3 8.8 8.2 0.1 19.8 266 0.2 20.7 8.0 4.5 32.8 120.9 8.9 Surface 20.7 8.0 32.8 120.8 1.0 0.2 245 20.7 8.0 120.7 8.9 4.5 6 Fine Calm 18:03 Middle 816597 810692 2.5 0.2 224 20.2 8.0 117.6 8.8 4.8 Bottom 2.5 236 8 0 118 (40 1.0 342 0.1 20.9 8.0 32.5 116.3 8.6 17 6 0.1 32.5 1.7 1.0 354 20.9 8.0 1163 8.6 --SR6A Fine Calm 18:30 4.1 Middle 817974 814743 3.1 0.0 16 20.2 8.0 32.6 32.6 111.4 8.3 8.3 1.6 5 -32.6 111.4 Bottom 3.1 0.0 17 20.2 1.0 0.1 200 19.9 8.1 8.2 32.9 32.9 98.3 98.2 7.4 7.4 2.6 Surface 19.9 8.1 32.9 98.3 1.0 0.1 217 19.9 2.6 4

8.2

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98.0

97.9

114.5 114.4

109.9

32.9

32.9

32.1

32.2

2.6

2.7

2.6

2.7

4.5

8.6

6

6

5

823649

820396

823719

811613

-

-

-

-

7.4

7.4

7.4 7.4

8.6

8.3 8.3 7.4

8.3

98.0

97.9

114.5

109.8

DA: Depth-Averaged

SR8

SR7

Fine

Fine

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

16:46

17:54

15.6

5.3

Middle

Bottom

Surface

Middle

Bottom

Moderate

Calm

7.8

7.8

14.6

14.6

1.0

0.2

0.2

0.2

0.2

214

234

159

169

19.9

19.9

19.9

19.9

20.2

19.9

19.9

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring Water Quality Monitoring Results on 25 January 20 during N

25 January 20 during Mid-Ebb Tide

Water Qua	lity Monit	toring Res	ults on		25 January 20	during Mid-	Ebb Tid	е																		
Monitoring	Weather	Sea	Sampling	Water	Sampling Dep	oth (m)	Current Speed	Current	Water Te	emperature (°C)		рН	Salin	ity (ppt)	DO S	aturation (%)	Dissolved Oxygen	Turbidity	(NTU)	Suspende (mg		Total Alkali (ppm)	Coordii HK G			
Station	Condition	Condition	Time	Depth (m)		. ,	(m/s)	Direction	Value	Average	Value	Average	Value	Average	Value	Average \	alue DA	Value	DA	Value	DA	Value D	A (North	ng) (Easting	g) Value [DA Value DA
					Surface	1.0	0.1	271 285	20.5	20.5	8.2	8.2	31.5 31.5	31.5	116.9 116.7		8.8	2.6	1	3		83 84			<0.2	1.0 0.9
C1	Fine	Moderate	13:30	7.2	Middle	3.6 3.6	0.0	286 292	20.3	20.3	8.2 8.2	8.2	31.5 31.5	31.5	114.8		8.6 8.6	2.8	3.1	5 5	5	87 88	8 8156	0 804243	3 <0.2 <	<0.2 0.9 1.0
					Bottom	6.2	0.0	59	20.2	20.2	8.2	8.2	31.6	31.6	111.9	112.0	8.4	4.0	1	6		91 92			<0.2	1.0
					Surface	6.2 1.0	0.0	63 165	20.6	20.6	8.2	8.2	31.6 29.4	29.4	110.1	110.2	8.4	2.1		4		87			<0.2	1.6
C2	Claudii	Moderate	12:02	8.3	Middle	1.0 4.2	0.6	163 153	20.6	20.4	8.2 8.2	8.2	29.4 29.6	29.6	110.3 112.4		8.4 8.5	2.1	2.7	4 5	5	86 88	8 8256	4 806957	<0.2	1.6
62	Cloudy	woderate	12:02	0.3		4.2 7.3	0.4	155 121	20.4		8.2 8.2		29.6 29.8		112.5 113.8	-	8.5	2.9 3.2	2./	5 5	5	89 90	0 0230	4 800957	<0.2 <0.2	1.6
					Bottom	7.3	0.3	118	20.5	20.5	8.2	8.2	29.8	29.8	113.8	113.8	8.6	3.2		6		89			<0.2	1.6
					Surface	1.0	0.1 0.1	177 186	20.4	20.4	8.2 8.2	8.2	32.6 32.6	32.6	107.0 107.0	107.0	8.0 8.0 7.8	1.7	1	3 4		83 83			<0.2	0.6
C3	Cloudy	Moderate	13:42	12.3	Middle	6.2 6.2	0.1	127 137	20.0	20.0	8.2	8.2	32.7 32.7	32.7	101.6 101.5		7.6 7.6	1.9	2.0	5 5	5	87 88	7 8221	4 817806	6 <0.2 <0.2	0.2 0.6 0.6
					Bottom	11.3 11.3	0.2	141 152	20.0	20.0	8.2 8.2	8.2	32.7	32.7	100.3		7.5 7.5	2.5]	7		91 91			<0.2	0.7
					Surface	1.0	0.0	200 213	20.6	20.6	8.2	8.2	29.9	29.9	114.0	11/1 1	8.6	2.5		6		83 84			<0.2	1.0
IM1	Fine	Moderate	13:04	4.7	Middle	-	-	-	-	-	-	-	-	-	-		8.6	-	3.2	-	4	- 8	8 8179	7 807149	, 🗀 ,	:0.2 - 1.0
					Bottom	3.7	0.0	212	20.3	20.3	8.2	8.2	31.0	31.0	117.7		8.9 8.9	3.8	1	3		91			<0.2	1.0
						3.7 1.0	0.0	219 232	20.3		8.2		31.0 29.5		117.5 116.1		8.9 ^{0.9}	3.8		3 5		92 86		+	<0.2	1.0
					Surface	1.0 3.7	0.1	251 243	20.7	20.7	8.2 8.3	8.2	29.5 31.4	29.5	116.4 119.6		8.8 9.0	3.6 5.3]	5 4	İ	87 87			<0.2	1.2
IM2	Fine	Moderate	12:57	7.4	Middle	3.7	0.0	246	20.2	20.2	8.3	8.3	31.4	31.4	119.6	119.6	9.0	5.3	4.7	4	4	87	8 8181	9 806156	<0.2	(0.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1
					Bottom	6.4 6.4	0.0	232 221	20.2	20.2	8.3 8.3	8.3	31.4 31.4	31.4	119.4 119.4	119.4	9.0 9.0	5.4		3 4		90			<0.2	1.1
					Surface	1.0	0.1	170 180	20.6	20.6	8.2	8.2	29.7	29.7	119.2 119.4		9.0	2.5	1	7		86 87			<0.2	1.1
IM3	Fine	Moderate	12:50	7.3	Middle	3.7 3.7	0.1	213 214	20.4	20.4	8.3 8.3	8.3	30.3	30.3	119.8 119.8		9.1 9.1	2.6	3.3	5 5	5	88 89	8 8187	8 805579	<0.2	(0.2 1.1 1.1
					Bottom	6.3	0.1	215 235	20.2	20.2	8.3 8.3	8.3	31.5	31.5	119.5	110.5	9.0 9.0	4.7	1	4	İ	90			<0.2	1.1
					Surface	1.0	0.1	132	20.5	20.5	8.3	8.3	31.5	31.5	123.0	123.0	9.2	2.5		6		85			<0.2	1.0
IM4	Fine	Moderate	12:37	6.5	Middle	1.0 3.3	0.1	136 221	20.5 20.4	20.4	8.3 8.3	8.3	31.5 31.6	31.6	123.0 121.5		9.2 9.1	2.5	2.7	5 5	4	86 87	8 8197	3 804610	<0.2 <0.2	1.0
livi-	1 1116	Woderate	12.57	0.5		3.3 5.5	0.2	230 213	20.4		8.3 8.3		31.6 31.6		121.4 120.8		9.1	2.8 3.0		3	,	90	0 0137	5 004010	<0.2	1.1
					Bottom	5.5 1.0	0.2	220 216	20.4	20.4	8.3 8.2	8.3	31.6 31.5	31.6	120.6	120.7	9.1	2.9		2		90			<0.2	1.1
					Surface	1.0	0.3	205	20.5	20.5	8.2	8.2	31.5	31.5	117.2	117.2	8.8	2.3	‡	5		85			<0.2	1.0
IM5	Fine	Moderate	12:28	7.1	Middle	3.6 3.6	0.3	187 194	20.3	20.3	8.2 8.2	8.2	31.5 31.5	31.5	113.7 113.6	113.7	8.5 8.5	3.1	3.2	5 4	5	88 88	8 8207	2 804861	<0.2	<0.2 1.0 1.0
					Bottom	6.1 6.1	0.2	177 180	20.2	20.2	8.2	8.2	31.6 31.6	31.6	110.6 110.5		8.3 8.3	4.0		5 6		90			<0.2 <0.2	1.1
					Surface	1.0	0.1	123 126	20.6	20.6	8.2	8.2	29.3 29.3	29.3	111.1 111.3		8.4	2.2	-	4		85 87			<0.2	1.0
IM6	Fine	Moderate	12:22	7.3	Middle	3.7	0.1	100	20.4	20.4	8.2	8.2	29.5 29.5	29.5	112.6	1127	8.5 8.5	2.7	2.6	5 4	4	87 89	8 8210	4 805810	-0.2	(0.2 1.0 1.0
					Bottom	6.3	0.1	114	20.5	20.5	8.2	8.2	29.7	29.7	113.6	113.6	8.6	3.0	1	5		90			<0.2	1.1
					Surface	6.3 1.0	0.1	124 208	20.5	20.5	8.2 8.2	8.2	29.7 29.4	29.4	113.5 110.5		8.6	3.1 2.2		5 3		90 86			<0.2 <0.2	0.9
						1.0 3.6	0.1	198 201	20.5		8.2 8.2		29.4 29.7		110.6 112.1		8.4 8.5	2.2		2	_	85 88			<0.2	0.9
IM7	Fine	Moderate	12:06	7.2	Middle	3.6 6.2	0.1	203	20.4	20.4	8.2	8.2	29.7	29.7	112.2	112.2	8.5	2.8	2.8	4	3	87 90	8 8213	4 806840	<0.2	1.0 1.0
					Bottom	6.2	0.1	216	20.4	20.4	8.2	8.2	29.8	29.8	113.6	113.7	8.6 8.6	3.4	†	4		90			<0.2	1.0
					Surface	1.0	0.2	198 198	20.8	20.8	8.2 8.2	8.2	28.8	28.8	113.5 113.4	113.5	8.6 8.6 8.5	1.9 1.9	1	3 4	1	86 85			<0.2 <0.2	1.5
IM8	Cloudy	Moderate	12:26	7.5	Middle	3.8	0.2	200 206	20.4	20.4	8.2 8.2	8.2	29.5 29.5	29.5	111.1		8.4 8.4	2.7	3.0	4	4	90 88	8 8218	5 808157	7 <0.2 <	(0.2 1.7 1.7
					Bottom	6.5 6.5	0.2	199 202	20.3	20.3	8.2	8.2	30.6	30.7	117.4	117.4	8.9 8.9	43	1	5	ļ	90			<0.2	2.0
L					1	0.5	U.Z	202	20.3		0.2		30.7		1117.4		U.J	4.3		5		91			<u.z< td=""><td>1.0</td></u.z<>	1.0

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
Value exceeding Action Level is underlined: Value exceeding Limit Level is bolded and underlined

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring Water Quality Monitoring Results on 25 January 20 during N

25 January 20 during Mid-Ebb Tide

Water Qua	lity Monit	toring Resi	ults on		25 January 20	during Mid	-Ebb Tid	e																					
Monitoring	Weather	Sea	Sampling	Water	Sampling Dep	th (m)	Current Speed	Current	Water Te	mperature (°C)		рН	Salir	ity (ppt)	DO S	aturation (%)	Dissolve Oxyger		idity(NTL	J) Suspend (mg			Alkalinity pm)	Coordinate HK Grid	Coordinate HK Grid	Chror (µg		Nickel (μg/L)
Station	Condition	Condition	Time	Depth (m)			(m/s)	Direction	Value	Average	Value	Average	Value	Average	Value	Average	Value D	A Va	ue D	A Value	DA	Value	DA	(Northing)	(Easting)	Value	DA	Value	DA
					Surface	1.0	0.2	154 164	20.7	20.7	8.2 8.2	8.2	29.5 29.5	29.5	116.9 117.1	117.0	8.8	_ 2		5		85 85				<0.2	ī	2.1	
IM9	Cloudy	Moderate	12:33	8.6	Middle	4.3	0.2	142	20.2	20.2	8.3	8.3	31.5	31.5	120.2	120.2	9.1	.0 4	3 4	. 6	6	88	87	822079	808793	<0.2	.02	2.0	2.1
livio	Cloudy	Woderate	12.55	0.0		4.3 7.6	0.2	147 132	20.2		8.3 8.3		31.5 31.5		120.2 118.2		9.1 8.9	_ 5	2	7 8	-	87 89	- 07	022073	000733	<0.2	1 1	2.0	2.1
					Bottom	7.6	0.1	141	20.2	20.2	8.3	8.3	31.5	31.5	118.1	118.2	8.9	.9 5)	7	<u> </u>	90				<0.2		2.2	
					Surface	1.0	0.2	121 129	20.6	20.6	8.2	8.2	29.7	29.7	116.2	116.3	8.8	3		4	1	86 85	┨			<0.2	ıŀ	1.5	
IM10	Cloudy	Moderate	12:38	7.1	Middle	3.6	0.2	136	20.2	20.2	8.3	8.3	31.4	31.4	120.0	120.0	9.0	.9 4	7 ,	4	5	89	89	822385	809799	<0.2	<0.2	1.5	1.7
	,					3.6 6.1	0.2	138 144	20.2		8.3 8.3		31.4 31.4		120.0		9.0	. 5		5	1	90 91	1			<0.2	ı	1.6	
					Bottom	6.1	0.2	155	20.2	20.2	8.3	8.3	31.5	31.4	119.0	119.1	9.0	.0 5	1	6	1	90	_			<0.2		2.0	_
					Surface	1.0	0.3	72 73	20.4	20.4	8.2	8.2	30.2	30.2	112.9 113.0	113.0	8.5 8.5	.6 2		3	1	84 85	ł			<0.2	ı ŀ	1.6	
IM11	Cloudy	Moderate	12:49	8.1	Middle	4.1	0.3	88 89	20.3	20.3	8.3	8.3	31.2	31.2	114.1 114.0	114.1	8.6 8.6	3		4 3	4	88 89	88	822064	811482	<0.2	<0.2	1.6	1.7
					Bottom	7.1	0.2	90	20.3	20.4	8.3	8.3	31.5	31.5	112.8	112.7	8.5	_ 4)	4	1	90	1			<0.2	ıt	1.9	
						7.1 1.0	0.2	95 75	20.4		8.3 8.3		31.4		112.5 123.4		9.2	.5 4		4		89 86				<0.2	\vdash	1.9	_
					Surface	1.0	0.3	78	20.5	20.5	8.3	8.3	31.5	31.5	123.2	123.3	9.2	2 2	5	4	1	85	1			<0.2	ıt	1.0	
IM12	Cloudy	Moderate	12:54	7.7	Middle	3.9	0.3	90 95	20.4	20.4	8.3	8.3	31.6	31.6	121.1 120.8	121.0	9.1	2		7 4	5	88 90	88	821461	812042	<0.2	<0.2	1.0	1.0
					Bottom	6.7	0.3	80	20.3	20.3	8.3	8.3	31.6	31.6	119.7	119.8	9.0	0 2	3	5	1	89	1			<0.2	, [1.0	
						6.7 1.0	0.3	- 84	20.3		8.3		31.6 31.5		119.9		9.0	2		6		90				<0.2	\vdash	1.0	=
					Surface	1.0	-	-	20.4	20.4	8.3	8.3	31.5	31.5	120.0	120.1	9.0	.0 2	_	5	1	-	1			-	ı	-	
SR1A	Cloudy	Moderate	13:12	4.9	Middle	2.5 2.5	-		-	-	-	-	-	-	-	-	-	-	- 1 2.	7 -	5	-	-	819978	812659	-	ı - F	-	-
					Bottom	3.9	-	-	20.3	20.3	8.3	8.3	31.5	31.5	118.8 118.8	118.8	8.9	.9 2		5	1	-	1			-	, [-	
					Surface	3.9 1.0	0.2	106	20.3	20.4	8.3 8.3	8.3	31.5	31.4	120.6	120.6	9.1	2		5		83				<0.2	一十	0.8	-
					Surace	1.0	0.2	111	20.4	20.4	8.3	0.3	31.4	31.4	120.6	120.0	9.0	.1 2	_	4	1	84	1			<0.2	ıF	0.8	
SR2	Cloudy	Moderate	13:22	4.3	Middle	-			-	•	-	-		-		-	-			-	6	-	86	821473	814168	-	<0.2	-	8.0
					Bottom	3.3	0.1	95 100	20.3	20.3	8.3	8.3	31.7	31.7	117.6	117.6	8.8	.8 2		7	1	87 88	1			<0.2		0.8	
					Surface	1.0	0.4	100	20.7	20.7	8.2	8.2	28.9	28.9	113.4	113.4	8.6	1.	9	3		-				-		-	
						1.0 3.7	0.5	101 114	20.7		8.2 8.2		28.9 29.5		113.4		8.6 8.5	.6 1	,	3	1 _	-	+			-	ıŀ	-	
SR3	Cloudy	Moderate	12:20	7.4	Middle	3.7	0.4	115	20.4	20.4	8.2	8.2	29.5	29.5	111.9	111.8	8.5	2	3 2.	4	3	-	1 .	822167	807591	-	,	-	-
					Bottom	6.4	0.4	105 106	20.3	20.3	8.3	8.3	30.6	30.6	115.5 115.4	115.5	8.7 8.7	.7 4		4	1	-	ł			-	ı ŀ	-	
					Surface	1.0	0.1	92	20.5	20.5	8.3	8.3	31.6 31.6	31.6	123.3	123.3	9.2	2		3	_	-	-			-	ī	-	
SR4A	Fine	Moderate	13:59	8.9	Middle	4.5	0.1	95 131	20.5	20.3	8.3	8.3	31.5	31.5	120.3	120.4	9.0	.1 2	3 ,	3 3	1	-	1	817189	807831	-	ıt	-	
SK4A	rine	Woderate	13.39	0.5		4.5 7.9	0.1	136 148	20.3		8.3 8.3		31.5 31.6		120.5 120.0		9.0	2	′	4 4		-	ļ .	817169	00/031	-	,	-	1
					Bottom	7.9	0.1	120	20.3	20.3	8.3	8.3	31.6	31.6	119.9	120.0	9.0	.0 2	3	5		-				-	ئلسا	-	
					Surface	1.0	0.1	87 93	20.5	20.5	8.3	8.3	31.5	31.5	122.2 122.1	122.2	9.1	. 2		4	1	-	ł			-	ıŀ	-	
SR5A	Fine	Moderate	14:15	4.1	Middle	-	-	-	-		-		-		-		- 9	.1 📑		-	5	-	1.	816573	810674	-		-	
					Bottom	3.1	0.1	113	20.3	20.3	8.3	8.3	31.5	31.5	119.6	119.6	9.0	.0 3)	6	1	-	ł			-	ıŀ	-	
					Bollom	3.1 1.0	0.1	124 124	20.3	20.3	8.3 8.3	0.3	31.5 31.4	31.5	119.6 121.0	119.0	9.0	.0 3		6 5		-	<u> </u>			-	oxdot	-	_
					Surface	1.0	0.1	127	20.4	20.4	8.3	8.3	31.4	31.4	121.0	121.0	9.1	.1 2		4	1	-	1			-	ıt	-	
SR6A	Fine	Moderate	14:47	4.0	Middle	-	-	-	-			-	-	-	-		- 9	' <u> </u>	2.	4 -	5	-		817959	814746	-	ı - F	-	-
					Bottom	3.0	0.1	130	20.3	20.3	8.3	8.3	31.5	31.5	120.2	120.2	9.0	0 2	5	6	1	-	1			-	ıt	-	
						3.0	0.1	138 347	20.3		8.3 8.2		31.5 32.7		120.2		9.0 ⁹	.0 2		6		-				-	\dashv		_
					Surface	1.0	0.1	319	20.1	20.1	8.2	8.2	32.7	32.7	102.0	102.1	7.6	6 2		5	1	-	1			-	ı İ	-	
SR7	Cloudy	Moderate	14:05	16.2	Middle	8.1 8.1	0.1	350 322	20.1	20.1	8.2 8.2	8.2	32.7	32.7	101.6 101.6	101.6	7.6	1		7 3 4	4	-	-	823655	823753	-	, - }	-	-
					Bottom	15.2	0.2	42	20.0	20.0	8.2	8.2	32.7	32.7	100.1	100.1	7.5	5 4)	2	1	-	1			-	,	-	
						15.2 1.0	0.2	- 43	20.0		8.2 8.3		32.7 31.5		100.1 123.8		7.5 ⁷	2		4		-			<u> </u>	-	\vdash	\rightarrow	\dashv
					Surface	1.0	-	-	20.5	20.5	8.3	8.3	31.5	31.5	123.8	123.8	0.3	.3 2	1	5	Į	-	1			-	, [-	
SR8	Cloudy	Moderate	13:03	5.1	Middle		-			-		-		-		-			2.	-	5		1 -	820402	811642		, - t		-
					Bottom	4.1 4.1	-		20.5 20.5	20.5	8.3 8.3	8.3	31.5 31.5	31.5	123.4 123.4	123.4	9.2 9.2	.2 2		5	1	-	4		1	-	, [크	
					l .	7.1			20.0		0.0		01.0		120.4		J.2				1				1				

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
Value exceeding Action Level is underlined: Value exceeding Limit Level is bolded and underlined

Expansion of Hong Kong International Airport into a Three-Runway System

Water Quality Monitoring
Water Quality Monitoring Results on

Water Qua	lity Moni	toring Res	ults on		25 January 20	during Mid-	Flood T	ide																					
Monitoring	Weather	Sea	Sampling	Water	Sampling De	oth (m)	Current Speed	Current	Water Te	emperature (°C)		рН	Salir	ity (ppt)	DO S	aturation (%)	Disso Oxyg		Turbidity(NTU)	Suspende (mg		Total All		Coordinate HK Grid	Coordinate HK Grid	Chromium (µg/L)	n Nickel	(µg/L)
Station	Condition	Condition	Time	Depth (m)	Camping De	201 (111)	(m/s)	Direction	Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA	Value	DA	(Northing)	(Easting)	Value D/	A Value	DA
					Surface	1.0	0.3	11 11	20.4	20.4	8.3 8.3	8.3	31.5 31.5	31.5	115.4 115.3	115.4	8.7 8.7		2.4		4 5		83 84				<0.2	0.8	
C1	Sunny	Moderate	08:13	7.2	Middle	3.6 3.6	0.4	28 29	20.4	20.4	8.3 8.3	8.3	31.6 31.6	31.6	114.8	114.8	8.6 8.6	8.7	2.4	3.1	3	4	88 88	88	815603	804247	<0.2	0.8	0.8
					Bottom	6.2	0.2	23	20.3	20.3	8.3	8.3	31.9	31.9	112.5	112.6	8.4	8.4	4.6		3		92	, !			<0.2	0.8	
					Surface	6.2 1.0	0.2	23 329	20.3	20.6	8.3 8.2	8.2	31.9 29.4	29.4	112.6 110.4	110.4	8.4		4.6 2.2		2		92 87	=			<0.2	0.8 1.5	
-00	0		00.00	7.0		1.0 4.0	0.1	342 22	20.6		8.2 8.2		29.4 29.8		110.4 113.3	113.4	8.4	8.5	2.3 3.2		3 5	4	85 87		005000	22222	<0.2	1.6	
C2	Sunny	Moderate	09:22	7.9	Middle	4.0 6.9	0.2	22 53	20.4	20.4	8.2 8.2	8.2	29.8 30.1	29.8	113.5 115.2		8.6 8.7		3.2 3.4	3.0	4	4	89 90	88	825683	806965	<0.2 <0.2 <0.2	1.6 1.6	1.6
					Bottom	6.9	0.4	54 260	20.4	20.4	8.2	8.2	30.1	30.1	115.2	115.2	8.7	8.7	3.5		5 4		89 83	-			<0.2	1.6	
					Surface	1.0	0.4	284	20.2	20.2	8.2	8.2	31.9	31.9	109.1	109.2	8.2	8.1	2.1		3		83	, !			<0.2	1.2	
C3	Sunny	Moderate	07:19	11.8	Middle	5.9 5.9	0.4 0.4	260 260	20.1	20.1	8.2 8.2	8.2	32.2 32.2	32.2	104.7 104.7	104.7	7.9 7.9		3.9 3.9	5.0	3 4	4	88 88	88	822088	817793	<0.2	1.2	1.2
					Bottom	10.8 10.8	0.3	268 280	20.1	20.1	8.2	8.2	32.2	32.2	104.4 104.4	104.4	7.8	7.8	8.8 8.9		5 5		91 92	i l			<0.2	1.2	
					Surface	1.0	0.0	14 14	20.4	20.4	8.3	8.3	31.3	31.3	117.0 117.0	117.0	8.8	8.8	2.8		4		84 84	i l			<0.2	1.0	
IM1	Sunny	Moderate	08:39	5.3	Middle	-	-	-	-	-	-	-	-	-	-	-		0.0	-	3.0	-	5	-	88	817956	807114	- <0.).2	0.9
					Bottom	4.3 4.3	0.2	330 341	20.3	20.3	8.3 8.3	8.3	31.5 31.5	31.5	115.6 115.6	115.6	8.7 8.7	8.7	3.3		5 6		91 91	,			<0.2	0.8	
					Surface	1.0	0.1	340 346	20.3	20.3	8.2 8.2	8.2	31.4 31.4	31.4	115.0 115.0	115.0	8.7 8.6		3.3	,	5		86 86	\Box			<0.2	0.9	
IM2	Sunny	Moderate	08:45	8.1	Middle	4.1	0.1	354 326	20.2	20.2	8.2	8.2	31.4	31.4	112.5	112.5	8.5 8.5	8.6	3.1	3.3	5	5	88 89	88	818149	806172	<0.2	0.9	0.9
					Bottom	7.1	0.1	18	20.2	20.2	8.2	8.2	31.4 31.4	31.4	112.3	112.4	8.5 8.5	8.5	3.4		4		90	,			<0.2	0.9	
					Surface	1.0	0.1 0.1	320 339	20.3	20.3	8.2 8.2	8.2	31.5 31.5	31.5	110.7	110.7	8.3 8.3		2.7		3		86 87	\neg			<0.2 <0.2	0.8	
IM3	Sunny	Moderate	08:52	8.3	Middle	4.2	0.1	23	20.3	20.3	8.2	8.2	31.5	31.5	109.8	109.8	8.3	8.3	3.5	3.2	3	3	87	88	818795	805603	<0.2	0.8	0.9
	,				Bottom	4.2 7.3	0.1 0.2	23 43	20.3	20.2	8.2 8.2	8.2	31.5 31.5	31.5	109.8 109.7	109.7	8.3 8.2	8.2	3.5 3.3		3		87 90	,			<0.2	0.9	
					Surface	7.3 1.0	0.2	44 325	20.2	20.4	8.2	8.2	31.5 30.8	30.8	109.7 115.1	115.0	8.2	0.2	3.4 2.6		3		90 86	=			<0.2	0.9 1.1	
IM4	C	Madazata	00.00	7.5		1.0 3.8	0.1	342 290	20.4		8.2 8.3		30.7 31.5		114.9 115.5	115.5	8.7 8.7	8.7	2.6 3.2	3.1	4	3	85 87	00	040722	80.4600	<0.2	1.1	4.0
11014	Sunny	Moderate	09:06	7.5	Middle	3.8 6.5	0.0	305 325	20.3	20.3	8.3 8.3	8.3	31.5 31.5	31.5	115.5 114.3		8.7 8.6		3.2 3.6	3.1	2	3	89 90	88	819733	804600	<0.2 <0.2 <0.2	0.9 1.0	1.0
					Bottom	6.5 1.0	0.1	328 24	20.3	20.3	8.3	8.3	31.5 28.9	31.5	114.2	114.3	8.6 8.2	8.6	3.6 2.5		2		91 86	$\overline{}$			<0.2	1.0	
					Surface	1.0	0.0	25 21	20.6	20.6	8.2	8.2	28.9	28.9	108.3	108.3	8.2	8.3	2.4		2		87 87	, !			<0.2	1.1	
IM5	Sunny	Moderate	09:18	7.8	Middle	3.9 6.8	0.0	22	20.3	20.3	8.2	8.2	30.3	30.3	110.2	110.2	8.3		3.4	4.2	2	3	88	88	820738	804848	<0.2 <0.2	1.0	1.1
					Bottom	6.8	0.0	332	20.3	20.3	8.3	8.3	31.0	31.0	114.4	114.5	8.6	8.6	6.9		3		90	\square			<0.2	1.1	
					Surface	1.0	0.1 0.1	332 305	20.5 20.5	20.5	8.2 8.2	8.2	29.3 29.3	29.3	112.6 112.7	112.7	8.5 8.5	8.8	2.9 2.9		4		85 86	ı İ			<0.2	0.9	
IM6	Sunny	Moderate	09:26	7.9	Middle	4.0	0.1 0.1	54 55	20.2	20.2	8.3 8.3	8.3	31.4 31.4	31.4	119.1 119.1	119.1	9.0		5.1 5.1	4.5	3	3	88 87	88	821050	805824	<0.2	1.0	1.0
					Bottom	6.9	0.1 0.1	12 12	20.2	20.2	8.3 8.3	8.3	31.5 31.5	31.5	118.3 118.2	118.3	8.9 8.9	8.9	5.5 5.5		2		90 90	,			<0.2	1.1	
					Surface	1.0	0.1 0.1	346 318	20.5	20.5	8.2 8.2	8.2	29.0 29.0	29.0	113.3 113.6	113.5	8.6 8.6		2.1 2.1		<2 <2		86 85				<0.2 <0.2	0.8	
IM7	Sunny	Moderate	09:33	7.1	Middle	3.6 3.6	0.1	11 11	20.3	20.3	8.3 8.3	8.3	30.7 30.7	30.7	117.2 117.3	117.3	8.9 8.9	8.8	4.2 4.2	4.5	2	2	89 87	88	821371	806816	<0.2	0.8	0.9
					Bottom	6.1	0.1	8 8	20.2	20.2	8.3 8.3	8.3	31.4 31.4	31.4	117.7	117.7	8.9 8.9	8.9	7.2		3		90				<0.2	0.9	
					Surface	1.0	0.1	63	20.5	20.5	8.2 8.2	8.2	29.2	29.1	111.1	111.1	8.4		2.6 2.6		3		86 85				<0.2 <0.2	1.6	
IM8	Sunny	Moderate	08:53	6.9	Middle	3.5	0.3	69 84	20.2	20.2	8.3	8.3	31.4	31.4	118.6	118.6	8.4	8.7	4.7	4.2	3	3	89	88	821853	808154	<0.2	1.6	1.6
					Bottom	3.5 5.9	0.3	90 75	20.2	20.2	8.3 8.3	8.3	31.4 31.5	31.5	118.6 118.7	118.7	8.9 8.9	8.9	4.8 5.1		2		88 90				<0.2	1.7	
DA: Denth-Ave					DOLLOIT	5.9	0.2	76	20.2	20.2	8.3	0.3	31.5	51.5	118.6	110.7	8.9	0.5	5.2		3		90				<0.2	1.7	

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

Expansion of Hong Kong International Airport into a Three-Runway System

Water Quality Monitoring 25 January 20 during Mid-Flood Tide

Water Qua	lity Monit	toring Resi	ults on		25 January 20	during Mid-I	Flood Ti	ide																						
Monitoring	Weather	Sea	Sampling	Water	Sampling Dep	th (m)	Current Speed	Current	Water Ter	mperature (°C)	1	Н	Salin	ity (ppt)		aturation (%)	Disso Oxyg		Turbidity(I	NTU)	Suspende (mg/			lkalinity om)	Coordinate HK Grid	Coordinate HK Grid	Chron (µg/		Nickel (µ	ug/L)
Station	Condition	Condition	Time	Depth (m)	Gampling Dep	ui (iii)	(m/s)	Direction	Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA	Value	DA	(Northing)	(Easting)	Value	DA	Value	DA
					Surface	1.0	0.2	77 77	20.5	20.5	8.2	8.2	28.9	28.9	108.2 108.2	108.2	8.2 8.2		2.4	-	3		85 86				<0.2		1.6	
IM9	Sunny	Moderate	08:46	7.5	Middle	3.8 3.8	0.1 0.2	83 84	20.3	20.3	8.2 8.2	8.2	30.3	30.3	109.3 109.5	109.4	8.3 8.3	8.3	3.3 3.3	3.9	3	2	89 88	88	822098	808834	<0.2	<0.2	1.6	1.6
					Bottom	6.5 6.5	0.2	87 91	20.3	20.3	8.3	8.3	31.0	31.0	116.0 115.9	116.0	8.7	8.7	6.1	ļ	<2 <2		90	İ			<0.2		1.6	
					Surface	1.0	0.2	9	20.5	20.5	8.2	8.2	29.4	20.4	110.8	110.9	8.4		2.1		3	,	86				<0.2		1.6	
IM10	Sunny	Moderate	08:36	8.1	Middle	1.0 4.1	0.2	9 331	20.5 20.3	20.3	8.2 8.3	8.3	29.4 31.5	24.5	110.9 115.9	115.9	8.4 8.7	8.6	2.1 3.3	3.0	2	. 3	87 87	- 88	822393	809815	<0.2	<0.2	1.5	1.6
IWITO	Guilly	Woderate	00.30	0.1		4.1 7.1	0.2	343 313	20.3		8.3 8.3		31.5 31.5		115.9 114.1	114.1	8.7 8.6		3.3	3.0	3		89 90	- 00	022333	003013	<0.2	VO.2	1.5	1.0
					Bottom	7.1 1.0	0.3 0.1	341 284	20.3	20.3	8.3 8.2	8.3	31.5 31.5		114.1 110.9		8.6 8.3	8.6	3.6 2.9		4	,	90 86			<u> </u>	<0.2		1.6	_
					Surface	1.0	0.2	305	20.3	20.3	8.2	8.2	31.5	31.5	110.9	110.9	8.3	8.3	2.8	ļ	2		85	1			<0.2	ļ	1.2	
IM11	Sunny	Moderate	08:22	8.2	Middle	4.1 4.1	0.1	273 287	20.3	20.3	8.2	8.2	31.5 31.5		110.3 110.3	110.3	8.3 8.3	-	2.8	2.9	4	4	89 88	88	822078	811460	<0.2	<0.2	1.4	1.3
					Bottom	7.2 7.2	0.2	284 310	20.2	20.2	8.2	8.2	31.5 31.5	31.5	109.3 109.2	109.3	8.2 8.2	8.2	3.3	-	5 4		90 90	ł			<0.2	-	1.4	
					Surface	1.0	0.2	275 281	20.3 20.3	20.3	8.2 8.2	8.2	31.4 31.4	31.4	114.1 114.1	114.1	8.6 8.6		3.1 3.1		4		85 85				<0.2		1.0	
IM12	Sunny	Moderate	08:13	8.8	Middle	4.4	0.2	272 293	20.2	20.2	8.2	8.2	31.4	21.4	112.3 112.3	112.3	8.5 8.4	8.5	3.2	4.3	4	4	88 89	88	821459	812059	<0.2	<0.2	1.0	1.0
					Bottom	7.8	0.1	279	20.2	20.2	8.2	8.2	31.4	31./	111.0	111.0	8.4	8.4	6.7		5		90				<0.2		1.0	
					Surface	7.8 1.0	0.1	283	20.2	20.4	8.2 8.3	8.3	31.4 31.6	31.6	111.0 114.7	114.7	8.4 8.6		6.7 2.6		5		89				<0.2		1.1	_
0044	0		07.55	5.0		1.0 2.5	-	-	20.4	20.1	8.3	0.0	31.6	01.0	114.6		8.6	8.6	2.5		3	. 3	-	ł	040074	812665	-	-	-	
SR1A	Sunny	Moderate	07:55	5.0	Middle	2.5 4.0	-	-	20.4		8.3		31.8	-	- 112.9	-	8.5		3.2	2.9	3	. 3	-		819974	812665	-	. [-	-
					Bottom	4.0	- 0.3	320	20.4	20.4	8.3	8.3	31.8	31.8	112.8	112.9	8.5	8.5	3.2		2		- 83				<0.2		1.2	
					Surface	1.0	0.3	321	20.3	20.3	8.3	8.3	31.4		114.9	114.9	8.6	8.6	4.9		5		84				<0.2		1.2	
SR2	Sunny	Moderate	07:41	5.4	Middle	-	-		-	-	-	-	-	-	-	-	-	-	-	6.0	-	6	-	88	821485	814186	-	<0.2	-	1.2
					Bottom	4.4 4.4	0.3	318 335	20.3	20.3	8.3	8.3	31.4	31.4	113.8 113.8	113.8	8.6 8.6	8.6	7.0 7.0	-	7		91 92	-			<0.2		1.2	
					Surface	1.0	0.1 0.1	53 56	20.6 20.6	20.6	8.2 8.2	8.2	28.9		111.5 111.6	111.6	8.5 8.5	-	1.8 1.9		3 2		•				-	-		
SR3	Sunny	Moderate	09:01	8.6	Middle	4.3	0.3	82 89	20.3	20.3	8.3 8.3	8.3	30.3	30.3	117.0 117.0	117.0	8.9 8.9	8.7	2.9	4.9	2 2	3	-		822168	807580	-	.		-
					Bottom	7.6	0.3	72	20.2	20.2	8.3	8.3	31.4	24.4	117.0	117.0	8.8	8.8	9.8	Į	3		÷	1				þ	=	
					Surface	7.6 1.0	0.3 0.1	72 239	20.2	20.3	8.3 8.2	8.2	31.4 31.4	24.4	117.0 115.1	115.1	8.8 8.7		9.9 5.0		3 6		÷				-		-	-
SR4A	0		07.44		Middle	1.0 4.6	0.1	251 241	20.3		8.2 8.2		31.4 31.4		115.1 114.8	114.8	8.7 8.6	8.7	5.1 5.3	5.1	6		-		047404	007004	-	-	-	
SK4A	Sunny	Moderate	07:44	9.1		4.6 8.1	0.1 0.1	245 243	20.3	20.3	8.2 8.2	8.2	31.4 31.4	31.4	114.8 114.6		8.6 8.6		5.3 5.1	5.1	7	. /	-	•	817191	807801	-	· [-	-
					Bottom	8.1 1.0	0.1	254 231	20.3	20.3	8.3	8.2	31.4	31.4	114.5	114.6	8.6	8.6	5.1		7	,	-				-		크	
					Surface	1.0	0.2	238	20.1	20.1	8.2 8.2	8.2	32.0 32.0	32.0	107.1 106.9	107.0	8.0	8.0	2.1		3		÷				-			
SR5A	Sunny	Moderate	07:29	4.3	Middle	-	-	-	-	-	-	-	-	-	-	-	-		-	2.5	-	4	-	-	816610	810686	-		-	-
					Bottom	3.3	0.2	230 248	20.1	20.1	8.2	8.2	32.2 32.2	32.2	105.5 105.5	105.5	7.9 7.9	7.9	2.7	-	5 5		-	-			-		-	
					Surface	1.0	0.1 0.1	332 356	20.1	20.1	8.2 8.2	8.2	32.2 32.2		104.9 104.9	104.9	7.9 7.9	-	3.2	-	4	,	-				-		=	
SR6A	Sunny	Moderate	07:02	3.9	Middle	-	-	-	-	-	-	-	-	-	-	-	-	7.9	-	3.0	-	4	-	-	817943	814752	-		-	-
					Bottom	2.9	0.0	21	20.1	20.1	8.2	8.2	32.2	32.2	104.6	104.7	7.9	7.9	2.8	Į	4		÷	İ			-		Ė	
					Surface	2.9 1.0	0.0	22 323	20.1	20.1	8.2 8.2	8.2	32.2 32.2	32.2	104.7 104.5	104.5	7.9 7.9		2.8 3.0		4		÷				-		-	_
CD7	C	Madassi	00.40	46.4		1.0 8.1	0.1	332 227	20.1		8.2 8.1		32.2		104.4 102.6		7.8	7.8	3.1 2.8		4		-	1	000040	000750	-	F	-	
SR7	Sunny	Moderate	06:48	16.1	Middle	8.1 15.1	0.1	208 231	20.1 20.0	20.1	8.1 8.1	8.1	32.3 32.6	32.3	102.5 100.2	102.6	7.7 7.5		2.8 3.3	3.1	4 5	5	-	1	823643	823750	-	-	-	-
					Bottom	15.1 15.1	0.2	224	20.0	20.0	8.1	8.1	32.6	32.0	100.2	100.2	7.5	7.5	3.4	ļ	6		-							_
					Surface	1.0	-	-	20.6	20.6	8.3	8.3	31.2		115.1 115.2	115.2	8.6	8.6	2.5		4		÷	İ			-	ŀ		
SR8	Sunny	Moderate	08:04	4.9	Middle	-	-	-	-	-	-	-	E	-	-	-	-		-	2.8	-	4		-	820406	811607	-		-	-
					Bottom	3.9 3.9	-	-	20.3	20.3	8.3 8.3	8.3	31.4 31.4		112.2 111.9	112.1	8.4 8.4	8.4	3.0	F	4 5		-	-			-	F	-	

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined.

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring

Water Quality Monitoring Results on 28 January 20 during Mid-Ebb Tide

Water Qual	ity wonite	oring Resu	its on		28 January 20	during Mid-	EDD HOE)																				
Monitoring Station	Weather	Sea	Sampling	Water	Sampling [epth (m)	Current Speed	Current Direction	Water Te	mperature (°C)		рH	Salin	ity (ppt)		aturation %)	Dissolved Oxygen	Turbidity	(NTU)	Suspender (mg/l		otal Alka (ppm)		Coordinate HK Grid	Coordinate HK Grid	Chromium (µg/L)	Nickel	(µg/L)
Station	Condition	Condition	Time	Depth (m)			(m/s)		Value	Average	Value	Average	Value	Average	Value	Average	Value DA	Value	DA	Value	DA		DA	(Northing)	(Easting)	Value DA		DA
					Surface	1.0	0.1	265 276	18.6 18.6	18.6	8.0	8.0	31.7	31.7	102.1 102.1	102.1	7.9	5.3		6 7	-	85 84				<0.2	0.5	
C1	Fine	Rough	14:52	7.8	Middle	3.9	0.0	288	18.5	18.5	8.0	8.0	31.7	31.7	101.1	101.1	7.8	6.3	7.1	9	8	86	86	815632	804240	<0.2	0.7	0.6
0.	1 110	rtougn	11.02	7.0		3.9 6.8	0.0	308 56	18.5 18.5		8.0		31.7 31.8		101.0 100.3		7.8	6.5 9.5		8 9	Ĭ	85 87		010002	001210	<0.2	0.6	
					Bottom	6.8	0.0	59	18.5	18.5	8.0	8.0	31.8	31.8	100.3	100.3	7.8	9.6		9		87				<0.2	0.6	
					Surface	1.0	0.5	166 171	19.1 19.1	19.1	8.0	8.0	31.4	31.4	97.6 97.5	97.6	7.5 7.5	2.2		6 5	ŀ	82 83				<0.2	0.9 1.0	
C2	Sunny	Rough	13:45	8.1	Middle	4.1	0.4	150	19.1	19.1	8.0	8.0	31.4	31.4	97.2	97.2	7.5	2.6	3.0	6	6	87	87	825665	806921	<0.2	1.0	1.0
	,					7.1	0.4	152 113	19.1 19.2		8.0		31.4 31.5		97.2 97.0		7.5 7.4	2.6 4.2		6	· -	87 91				<0.2	0.9	
					Bottom	7.1	0.3	115	19.2	19.2	8.0	8.0	31.5	31.5	97.0	97.0	7.4	4.3		6		92				<0.2	1.0	
					Surface	1.0	0.1	168 175	19.6 19.6	19.6	8.0	8.0	33.3	33.3	94.5 94.5	94.5	7.1	2.9 3.0		5 6	ŀ	82 83				<0.2	1.0 0.9	
C3	Sunnv	Rough	15:48	11.9	Middle	6.0	0.1	122	19.6	19.6	8.0	8.0	33.3	33.3	94.2	94.2	7.1	4.2	4.4	6	6	87	87	822122	817787	<0.2	1.0	1.0
	, i					6.0	0.1	128 140	19.6 19.6		8.0		33.3		94.2 94.0		7.1	4.2 6.1		7 6	ŀ	87 91				<0.2	1.0	
					Bottom	10.9	0.2	145	19.6	19.6	8.0	8.0	33.3	33.3	94.0	94.0	7.1	6.1		7		91				<0.2	0.9	
					Surface	1.0	0.0	209 228	18.3 18.3	18.3	8.1	8.0	31.2	31.2	102.0 101.9	102.0	8.0	5.3 5.3		8	ŀ	86 86				<0.2	0.7	i
IM1	Fine	Moderate	14:42	4.9	Middle	-	-	-	-	-	-	-	-		-		- 0.0	-	6.1	-	8	-	87	817942	807145	-02	,	0.6
					Bottom	3.9	0.0	217	18.3	18.3	8.0	8.0	31.3	31.3	100.1	100.1	7.8 7.8	7.0		- 8	ŀ	87				<0.2	0.6	
					Bollom	3.9 1.0	0.0	227	18.3 18.4	10.3	8.0 8.1	6.0	31.3	31.3	100.1	100.1	7.8 7.8 7.9	6.9		9		87				<0.2	0.6	
					Surface	1.0	0.1	326 331	18.4	18.4	8.1	8.1	31.1	31.1	100.8	100.8	7.9	7.4		10 10	F	85 85				<0.2	0.7	
IM2	Fine	Rough	14:34	6.8	Middle	3.4 3.4	0.0	47 51	18.4 18.4	18.4	8.1 8.1	8.1	31.1	31.1	100.0 99.9	100.0	7.8 7.8	9.0	9.7	11 10	11	86 87	86	818175	806176	<0.2	0.7	0.7
					Bottom	5.8	0.0	39	18.4	18.4	8.0	8.0	31.3	31.3	99.9	99.4	7.7	12.6		13	t	87				<0.2	0.6	i
					Bottom	5.8 1.0	0.0	39 174	18.4 18.4		8.0 8.1	6.0	31.3	31.3	99.4 100.6		7.7	12.6 8.2		12 11		88				<0.2	0.7	
					Surface	1.0	0.1	174	18.4	18.4	8.1	8.1	31.1	31.1	100.6	100.6	7.9	8.3		11		85				<0.2	0.7	ı
IM3	Fine	Rough	14:27	6.9	Middle	3.5 3.5	0.1	216 236	18.4 18.4	18.4	8.0	8.0	31.3	31.3	99.8 99.8	99.8	7.8 7.8	9.1	9.8	13 12	12	87 87	87	818770	805606	<0.2	0.7	0.7
					Bottom	5.9	0.1	220	18.4	18.4	8.0	8.0	31.3	31.3	99.4	99.4	7.7	12.3		12	Ė	88				<0.2	0.7	i
						5.9 1.0	0.1	237 131	18.4 18.4		8.0 8.1		31.3		99.4 100.3		7.7	11.9 8.0		13 13		88 84				<0.2	0.7	
					Surface	1.0	0.1	142	18.4	18.4	8.1	8.1	30.9	30.9	100.3	100.3	7.8	7.9		13	Ė	85				<0.2	0.7	
IM4	Fine	Rough	14:17	7.6	Middle	3.8	0.2	219 233	18.4 18.4	18.4	8.1 8.1	8.1	31.0	31.0	99.2 99.2	99.2	7.7	11.2	19.2	11 12	12	87 87	86	819712	804615	<0.2	0.7	0.7
					Bottom	6.6	0.2	212	18.4	18.4	8.0	8.0	31.2	31.2	99.0	99.0	7.7	38.0		11		88				<0.2	0.8	
						6.6 1.0	0.2	214 137	18.4 18.5		8.0		31.2 30.9		99.0 99.3		7.7	39.0 8.7		12 12		87 85				<0.2	0.7	_
					Surface	1.0	0.3	138	18.5	18.5	8.0	8.0	30.9	30.9	99.2	99.3	7.7	8.9		12		85				<0.2	0.7	,
IM5	Fine	Rough	14:08	7.1	Middle	3.6	0.3	219 214	18.5 18.5	18.5	8.0	8.0	30.9	30.9	99.0	99.0	7.7	10.5 10.5	10.6	12 14	13	86 86	86	820743	804886	<0.2	0.7	0.7
					Bottom	6.1	0.3	207	18.5	18.5	8.0	8.0	30.9	30.9	98.6	98.6	7.7	12.5		14		87				<0.2	0.8	ſ
					0	1.0	0.3	208 131	18.5 18.4	10.1	8.0	0.0	30.9	04.4	98.6 99.8	99.8	7.7 7.7 7.8	12.3 6.2		13 12		87 85				<0.2	0.7	
					Surface	1.0	0.1	132	18.4	18.4	8.0	8.0	31.1	31.1	99.8	99.8	7.8 7.8	6.2		14	-	85				<0.2	0.7	ſ
IM6	Fine	Rough	13:59	6.8	Middle	3.4	0.1	204 214	18.4 18.4	18.4	8.0	8.0	31.1	31.1	99.7 99.7	99.7	7.8 7.8	6.3	6.4	14 13	13	86 86	86	821056	805848	<0.2	0.7	0.7
					Bottom	5.8	0.1	232	18.4	18.4	8.0	8.0	31.1	31.1	99.6	99.6	7.8	6.9		12		87				<0.2	0.7	i
					Surface	5.8 1.0	0.1	211 134	18.4 18.4	10.4	8.0	0.0	31.1	24.0	99.6 99.7	00.7	7.8 7.8 7.8	6.9		11 9	1	87 85	_			<0.2	0.6	_
					Surface	1.0	0.1	137	18.4	18.4	8.0	8.0	31.0	31.0	99.7	99.7	7.8	6.2		10	-	85				<0.2	0.7	í
IM7	Fine	Moderate	13:49	8.4	Middle	4.2	0.1	201	18.4 18.4	18.4	8.0	8.0	31.0	31.0	99.6 99.6	99.6	7.8 7.8	5.9 5.9	6.7	10 10	11	86 86	86	821353	806858	<0.2	0.7	0.7
					Bottom	7.4	0.1	213	18.4	18.4	8.0	8.0	31.0	31.0	99.2	99.2	7.7 7.7	7.9		12	ļ	87				<0.2	0.7	i
					Surface	7.4 1.0	0.1	218 149	18.4 19.0	10.0	8.0	0.0	31.0 31.5	31.5	99.2 97.3	97.3	7.7	8.0 3.2		12 3	1	88	\dashv			<0.2	0.6	_
					эшпасе	1.0	0.3	155	19.0	19.0	8.0	8.0	31.5	31.5	97.3		7.5	3.2		4	ļ	83				<0.2	0.9	í
IM8	Sunny	Rough	14:16	7.9	Middle	4.0	0.2	202 211	18.9 18.9	18.9	8.0	8.0	31.6 31.6	31.6	97.2 97.3	97.3	7.5 7.5	3.1	3.9	4 5	4	87 87	87	821829	808118	<0.2	0.9	0.9
					Bottom	6.9	0.2	189	18.5	18.5	8.0	8.0	31.5	31.5	97.9 98.0	98.0	7.6	5.6 5.7		5	ļ	90				<0.2	1.0	i
A: Depth-Aver	L		I		l	6.9	0.2	197	18.5		8.0		31.5		98.0		7.6	5./		5		91				<0.2	0.9	

DA: Depth-Averaged
Caim: Small or no wave; Moderate: Between caim and rough; Rough: White capped or rougher
Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring

during Mid-Ebb Tide Water Quality Monitoring Results on 28 January 20 Suspended Solids Nickel (µg/L) Salinity (ppt) Turbidity(NTU) Water Water Temperature (°C) рΗ Coordinate Sampling Coordinate Monitoring Current (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value DA Value DA Value Value DA (Northing) (Easting) Value DA Value Value Average Average 0.2 18.7 98.5 1.0 0.2 153 18.7 8.0 31.6 7.6 3.7 10 82 <0.2 0.9 3.4 0.2 144 18.7 8.0 98.5 98.5 7.6 7.6 4.1 10 11 86 87 <0.2 0.9 IM9 Rough 14:20 6.8 Middle 11 86 822102 808800 <0.2 0.9 3.4 0.2 156 18.7 8.0 4.2 5.8 0.1 138 18.7 7.6 7.6 11 90 < 0.2 0.9 8.0 98.6 5.2 Bottom 18.7 8.0 31.7 98.7 7.6 98.7 8.0 31.7 5.8 0.1 147 18.6 5.4 12 90 1.0 <0.2 0.2 114 18.9 6.5 83 1.0 8.0 Surface 18.9 8.0 31.9 97.8 8.0 31.9 97.8 7.5 83 0.9 1.0 0.2 119 18.9 6.6 11 < 0.2 0.2 18.9 18.9 12 11 87 88 0.9 3.8 132 8.0 31.8 31.8 97.6 97.6 9.1 9.1 <0.2 7.5 7.5 IM10 Sunny Rough 14:26 7.5 Middle 18.9 8.0 31.8 97.6 87 822390 809784 <n 2 154 12 6.5 0.1 18.8 8.0 97.6 7.5 9.4 90 < 0.2 1.0 31.8 18.8 8.0 31.8 97.7 7.5 Bottom 6.5 0.2 161 18.8 8.0 97.7 7.5 9.5 11 91 < 0.2 1.0 1.0 0.3 77 18.9 6.2 11 83 1.0 8.0 7.6 32.0 98.2 <0.2 Surface 18.9 8.0 32.0 98.2 1.0 0.3 18.9 8.0 32.0 98.2 7.6 6.2 12 83 <0.2 1.0 4.4 0.3 80 18.9 8.0 7.5 5.8 12 86 <0.2 0.9 32.0 98.0 IM11 822039 811483 Sunny Rough 14:37 8.7 Middle 18.9 8.0 32.0 98.0 12 86 <0.2 4.4 0.3 18.9 8.0 13 86 0.9 5.9 <0.2 18.8 8.0 98.0 7.5 12.2 <0.2 0.9 Rottom 18.8 8.0 31.9 98.1 76 7.7 0.2 18.8 8.0 32.0 98.1 7.6 12.2 12 90 0.9 97.7 97.7 7.5 5.3 82 <0.2 1.0 32.0 Surface 19.0 8.0 32.0 97.7 1.0 0.4 19.0 8.0 32.0 7.5 5.4 8 83 <0.2 1.0 3.9 0.3 99 19.0 97.4 6.3 8 87 <0.2 1.0 Middle 97.4 821457 812033 IM12 Sunny Rough 14:44 19.0 8.0 32.0 0.3 19.0 8.0 97.4 6.4 87 1.0 6.8 0.3 89 19.0 8.0 97.5 10.8 10 90 <0.2 1.0 Bottom 19.0 8.0 32.0 97.6 7.5 97.6 6.8 0.3 92 19.0 8.0 32.0 7.5 10.7 q 91 < 0.2 1.0 1.0 19.0 8.0 32.0 97.7 7.5 4.9 10 Surface 19.0 8.0 32.0 97.7 1.0 19.0 8.0 32.0 97.7 7.5 5.0 10 1.7 SR1A Rough 15:13 3.4 Middle 819970 812654 Sunny 1.7 2.4 19.0 8.0 97.8 7.5 5.5 12 7.5 Bottom 19.0 8.0 32.0 97.8 2.4 19.0 8.0 32.0 97.8 7.5 5.5 12 1.0 0.2 100 19.1 8.0 32.2 7.5 5.2 83 <0.2 1.0 Surface 19.1 8.0 32.2 97.7 1.0 0.2 105 19.1 8.0 32.2 97.7 7.5 5.2 8 83 <0.2 1.0 SR2 Sunny Rough 15:26 4.0 Middle 821469 814182 <0.2 32.2 98.8 12 12 1.0 Bottom 98.9 3.0 0.1 93 19.2 7.9 7.6 7.5 88 <0.2 1.0 1.0 0.4 104 19 1 8.0 31.5 97.4 7.5 3.0 8.0 31.5 97.4 1.0 0.4 104 19.1 8.0 31.5 97.4 7.5 3.0 6 3.8 0.4 111 19.1 8.0 31.5 97.4 7.5 3.2 6 -SR3 14:10 7.5 31.5 97.4 822134 807594 Sunny Rough 3.8 0.4 115 19.1 8.0 31.5 97.4 7.5 3.4 5 7.9 7.9 97.6 97.8 6.0 6.5 0.4 102 112 19.1 7.5 7.5 Bottom 7.9 31.4 97.7 7.5 0.4 19.1 1.0 0.1 145 18.3 8.0 31.4 101.8 7.9 6.7 Surface 18.3 8.0 31.4 101.8 1.0 0.1 153 18.3 8.0 31.4 101.8 7.9 6.7 9 -4.6 0.1 111 18.3 8.0 7.9 5.8 9 31.4 101.5 807790 SR4A Fine Calm 15:03 9.1 Middle 18.3 8.0 31.4 101.5 817169 4.6 0.1 118 18.3 8.0 7.9 5.8 31.4 0.1 18.2 121 8.0 11.0 8.1 31.4 100.8 Rottom 18.2 8.0 31.4 100.8 7.9 8.1 0.1 128 18.2 8.0 31.4 100.8 7.9 11.1 1.0 0.1 272 18.4 3.9 10 8.0 7.8 30.5 100.0 Surface 18.4 8.0 30.5 100.0 1.0 0.2 294 18.4 8.0 30.5 100.0 7.8 3.9 11 SR5A 15:19 Middle 816612 810704 Fine Calm 3.6 2.6 0.1 239 18.4 8.0 4.1 30.4 99.9 7.8 Bottom 18.4 8.0 30.4 99.9 7.8 2.6 0.1 18.4 251 0.1 18.6 8.0 Surface 18.6 8.0 30.7 104.7 259 18.6 2.6 8.2 SR6A Fine 15:53 4.0 Middle 817983 814760 Calm 3.0 0.1 84 18.7 2.8 103.6 Bottom 0.1 18.7 1.0 0.1 31 19.5 8.0 33.2 94.7 94.6 7.1 2.3 Surface 1.0 0.1 32 19.5 8.0 33.2 71 2.3 8 1 0.1 35 19.7 8.0 33.4 93.9 7.1 2.8 5 SR7 Sunny Rough 16:13 Middle 93.9 823633 823729 8.1 0.2 37 19.7 8.0 33.4 93.9 7 1 2.8 6 15.2 0.2 51 19.7 8.0 94.2 7.1 4.7 6 Bottom 7.9 15.2 0.2 19.7 7.9 94.5 7.1 4.7 1.0 19.0 8.0 32.0 32.0 97.8 97.8 4.9 Surface 19.0 97.8 7.5 4.9 19.0 8.0 8 --SR8 Sunny Rough 14:56 4.1 Middle 4.7 10 820400 811633 3.1 19.0 8.0 97.8 4.5 10 32.0 7.5 Bottom 19.0 8.0 32.0 97.9

19.0

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring

28 January 20

Water Quality Monitoring Results on

during Mid-Flood Tide

1.0

3.6

3.6

6.2

6.2

1.0

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3.4

3.4

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Nickel (µg/L) Salinity (ppt) Turbidity(NTU) Sampling Water Water Temperature (°C) рΗ Coordinate Coordinate Monitoring Current (ppm) Sampling Depth (m) HK Grid HK Grid Direction Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value DA Value DA Value Value (Northing) (Easting) Value Value Value Average 0.4 1.0 18.4 0.6 1.0 0.4 49 18.4 8.0 31.7 99.3 77 9.6 16 85 <0.2 0.6 4.0 0.4 43 18.5 8.0 31.9 99.2 7.7 11.6 17 85 <0.2 0.6 10:05 7.9 Middle 8.0 31.9 99.2 86 815603 804224 Cloudy Rough < 0.2 4.0 0.4 18.5 12.3 16 85 <0.2 0.6 46 99.2 18.4 18 87 <0.2 0.6 8.0 31.9 99.6 14.1 Bottom 18.4 8.0 31.9 99.6 6.9 45 18.4 8.0 7.7 18 <0.2 0.5 351 19.1 8.0 31.3 97.4 2.6 83 <0.2 1.1 7.5 Surface 19.1 8.0 31.3 97.4 1.0 0.3 356 19.1 8.0 97.4 7.5 2.6 83 <0.2 1.1 4.6 0.4 19.2 87 87 1.1 346 8.0 31.4 97.0 97.0 7.4 3.6 <0.2 806926 C2 Fine Rough 10:28 9.2 Middle 19.2 8.0 31.4 97.0 825688 < 0.2 4.6 318 19.2 8.2 0.4 355 19.2 7.9 31.5 97.1 7.4 5.7 9 90 <0.2 1.0 19.2 7.9 31.5 Bottom 8.2 0.4 327 19.2 7.9 97 1 5.6 91 1.0 0.4 264 19.1 96.9 96.9 83 Surface 19.1 8.0 32.1 96.9 1.0 0.4 283 19.1 8.0 32.1 7.4 3.0 83 <0.2 1.0 5.7 0.5 19.2 96.4 96.3 7.4 3.0 5 86 87 <0.2 1.1 822126 817793 Fine Rough 08:51 Middle 5.7 0.5 284 19.2 8.0 3.0 10.3 0.4 269 19.5 7.9 32.6 95.9 7.3 8.4 6 90 <0.2 1.0 19.5 7.9 95.9 7.3 269 10.3 0.5 19.5 79 32.6 95.9 7.3 8.5 91 <0.2 1.0 0.2 16 1.0 18.4 8.0 98.3 8.6 85 0.7 Surface 8.0 31.3 1.0 0.2 21 18.4 8.0 31.3 98.4 7.7 8.6 17 85 < 0.2 0.6 Cloudy Moderate 10:26 4.5 Middle 817946 807129 3.5 0.2 26 98.1 98.1 7.6 7.6 15 15 86 <0.2 0.6 18.4 8.0 14.3 Bottom 0.2 8.0 31.4 3.5 27 18.4 13.8 86 0.6 <0.2 349 1.0 0.1 18.4 8.0 99.3 99.3 7.8 12.7 18 85 < 0.2 0.6 Surface 18.4 30.9 99.3 30.9 7.8 1.0 18.4 8.0 12.7 18 86 0.6 0.2 350 < 0.2 3.3 0.2 346 18.4 7.8 7.8 11.1 24 86 0.6 8.0 30.9 99.3 <0.2 IM2 Cloudy Moderate 10:34 6.6 Middle 18.4 8.0 30.9 99.3 22 86 818152 806169 <n 2 0.2 8.0 24 24 <0.2 3.3 5.6 318 351 18.4 99.3 11.0 18.4 8.0 87 0.8 30.9 99.4 7.8 13.2 99.4 7.8 Rottom 18.4 8.0 30.9 5.6 0.2 18.4 8.0 30.9 99.4 7.8 13.6 25 87 0.8 < 0.2 1.0 348 0.3 18.4 19 85 0.9 8.0 30.9 99.6 7.8 8.4 <0.2 Surface 18.4 8.0 30.9 99.6 348 18.4 8.6 19 85 <0.2 0.8 0.8 3.5 0.2 347 18.4 7.8 9.9 13 85 <0.2 8.0 30.9 99.4 IM3 Cloudy 10:42 7.0 Middle 18.4 8.0 30.9 99.4 15 86 818805 805597 <0.2 Rough 319 18.4 8.0 30.9 99.4 9.9 14 85 <0.2 0.8 3.5 0.2 6.0 30.9 13.0 14 <0.2 0.9 99.5 7.8 Rottom 7.8 18.4 8.0 30.9 99.5 6.0 0.2 349 18.4 8.0 99.5 7.8 13.0 13 87 <0.2 0.8 98.8 98.8 12 0.8 1.0 0.4 349 18.5 8.0 30.9 7.7 8.5 85 <0.2 Surface 18.5 8.0 30.9 98.8 1.0 0.4 18.5 8.0 30.9 7.7 8.7 13 85 <0.2 0.8 3.8 0.4 347 18.6 10.5 12 86 <0.2 0.8 98.6 IM4 Cloudy Rough 10:52 7.5 Middle 18.6 8.0 30.9 98.6 13 86 819701 804597 <0.2 0.4 18.6 8.0 30.9 98.6 7.7 10.5 13 85 <0.2 0.8 13 <0.2 6.5 0.4 339 18.6 8.0 30.9 30.9 98.7 98.7 7.7 12.7 12.5 0.9 Bottom 18.6 8.0 30.9 98.7 7.7 6.5 0.4 342 18.6 8.0 87 0.8 1.0 0.6 18.5 8.0 30.9 99.1 7.7 8.0 11 86 <0.2 0.8 Surface 8.0 30.9 99.1

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821071

821371

821850

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808134

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IM5

IM6

IM7

IM8

Cloudy

Cloudy

Cloudy

Fine

Rough

Rough

Moderate

Rough

11:01

11:09

11:17

10:04

7.2

6.7

8.3

7.2

Middle

Surface

Middle

Bottom

Surface

Middle

Rottom

Surface

Middle

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring

during Mid-Flood Tide Water Quality Monitoring Results on 28 January 20 Suspended Solids Nickel (µg/L) Salinity (ppt) Turbidity(NTU) Sampling Water Water Temperature (°C) рΗ Coordinate Coordinate Monitoring Current (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value DA Value DA Value DA Value DA (Northing) (Easting) Value DA Value Average 0.3 18.7 1.0 0.3 288 18.7 8.0 31.6 98.1 7.6 5.8 83 <0.2 0.9 3.7 0.2 283 18.7 8.0 97.9 97.9 7.6 7.6 6.3 9 86 86 <0.2 1.0 IM9 Fine Rough 09:59 7.4 Middle 97.9 6.6 86 822077 808806 <0.2 0.2 18.7 8.0 6.2 295 6.4 0.2 259 18.7 7.6 7.6 7.7 9 90 <0.2 1.0 8.0 31.6 97.8 Bottom 18.7 8.0 31.6 97.8 7.6 8.0 31.6 97.8 1.0 6.4 0.2 18.7 7.8 90 275 <0.2 0.6 18.7 5.2 83 8.0 7.6 Surface 18.7 8.0 31.7 97.9 18.7 8.0 31.7 97.9 7.6 83 1.0 1.0 0.6 302 5.3 8 < 0.2 18.8 18.8 7.5 7.6 1.0 8.0 97.3 97.3 7.5 7.5 86 86 <0.2 3.6 0.6 9 10 IM10 Fine Rough 09:52 72 Middle 18.8 8.0 31.7 97.3 87 822404 809772 <0.2 0.6 6.2 0.4 292 18.8 7.9 97.4 7.5 8.7 10 90 <0.2 1.1 31.7 18.8 7.9 31.7 97.5 7.5 Bottom 6.2 0.4 313 18.8 7.9 97.5 7.5 8.7 91 < 0.2 1.0 1.0 0.5 18.7 6.7 14 82 1.0 295 8.0 7.6 31.7 98.0 <0.2 Surface 18.7 8.0 31.7 98.0 1.0 0.5 311 18.7 8.0 98.0 7.6 6.6 14 82 <0.2 1.2 4.0 0.4 288 18.7 8.0 31.7 97.8 7.6 7.7 14 87 <0.2 1.1 IM11 31.7 822053 811454 Fine Rough 09:43 8.0 Middle 18.7 8.0 97.8 15 <0.2 16 16 4.0 0.5 18.7 7.9 87 1.1 <0.2 298 18.7 8.0 97.7 7.6 9.6 <0.2 1.1 Rottom 18.7 8.0 31.6 97.7 76 7.0 0.3 314 18.7 8.0 31.6 97.7 7.6 9.7 15 92 1.3 276 19.0 32.0 97.1 97.1 8.2 14 83 <0.2 1.1 Surface 19.0 8.0 32.0 97.1 1.0 0.6 19.0 8.0 32.0 7.4 8.1 15 83 <0.2 1.1 4.3 0.6 277 19.0 96.8 9.2 15 86 <0.2 1.1 IM12 09:37 Middle 821465 812047 Fine Rough 8.0 32.1 96.8 4.3 0.6 19.0 8.0 9.3 14 87 1.0 7.5 0.4 284 19.0 8.0 96.8 7.4 12.8 13 90 <0.2 1.1 Bottom 19.0 8.0 32.1 96.8 7.4 32.1 96.8 7.5 0.5 304 19.0 8.0 7.4 12.9 12 91 <0.2 1.2 2.7 1.0 18.8 8.0 31.6 96.0 7.4 4 Surface 18.8 8.0 31.6 96.0 1.0 18.8 8.0 31.6 96.0 7.4 4 2.0 SR1A Fine Moderate 09:22 3.9 Middle 819981 812664 2.0 2.9 97.8 97.9 7.6 7.6 18.7 2.7 Bottom 18.7 31.6 97.9 7.6 18.7 31.6 8.0 1.0 0.1 147 18 9 8.0 32.1 96.1 74 9.2 14 82 <0.2 12 Surface 18.9 8.0 32.1 96.1 1.0 0.1 12 149 8.0 32.1 96.1 9.3 14 82 189 74 < 0.2 -SR2 Fine Rough 09:11 4.3 Middle 85 821461 814184 18.9 87 1.2 3.3 0.1 66 66 8.0 32.1 32.1 96.2 96.3 7.4 7.4 14 <0.2 Bottom 18.9 7.9 32.1 96.3 7.4 0.1 18.9 7.9 10.7 15 88 < 0.2 0.1 19.1 1.0 10 8.0 31.5 97.1 7.5 3.2 6 Surface 19.1 8.0 31.5 97.1 1.0 0.1 31.5 7.5 10 19.1 8.0 97.1 3.3 6 3.9 14 19.1 3.0 8 8.0 31.5 97.0 7.5 SR3 10:10 Middle 19.1 31.5 97.0 822151 807552 Fine Rough 7.8 8.0 3.9 0.1 14 19.1 8.0 31.5 97.0 7.5 3.0 . 19.0 6.8 0.1 13 7.9 31.5 31.5 97.1 97.1 7.5 7.5 3.5 7.9 31.5 97 1 Rottom 19.0 7.5 6.8 19.0 0.1 287 18.3 8.0 7.8 5.3 30.5 98.8 Surface 18.3 8.0 30.5 98.9 1.0 8.0 30.5 7.8 5.3 303 18.3 4.3 0.1 18.3 5.8 333 8.0 30.5 99.0 7.8 SR4A Cloudy Calm 09:42 8.6 Middle 18.3 8.0 30.5 99.1 817201 807791 4.3 0.1 346 18.3 8.0 6.0 0.1 344 18.2 8.0 30.5 100.0 7.9 5.9 Bottom 8.0 30.5 100.2 7.9 7.6 0.1 344 18.2 1.0 0.2 257 18.4 8.0 4.5 30.5 98.3 Surface 18.4 8.0 98.3 30.5 1.0 0.2 264 18.4 8.0 98.3 7.7 4.5 7 Cloudy Calm 09:25 Middle 810695 2.5 0.2 256 18.4 8.0 30.5 98.6 7.7 5.1 8 Bottom 7.7 2.5 0.2 278 18.4 8 0 5.1 1.0 0.0 216 18.2 8.0 30.3 97.7 7.7 2.7 97.7 77 2.7 1.0 0.0 220 18.2 8.0 30.3 4 -SR6A Cloudy Calm 09:00 3.7 Middle 817979 814751 2.7 0.1 220 18.3 8.0 30.5 100.3 4.2 4 -100.3 Bottom 30.5 2.7 0.1 241 18.3 100.3 4.4 1.0 0.3 332 347 19.3 8.0 32.4 32.4 96.4 96.4 7.3 7.3 2.6 Surface 19.3 8.0 32.4 96.4 1.0 0.3 19.3 2.6 7.9 0.3 348 8.0 32.5 32.5 95.5 95.4 7.3 2.7 19.4 4 -32.5 95.5 08:25 8.0 823613 823752 SR7 Fine Rough 15.7 Middle 19.4 8.0 19.4 7.2 7.9 0.3 350 2.7 -14.7 0.2 56 19.5 8.0 95.1 95.1 7.2 3.4 5 32.8 Bottom 19.5 8.0 32.8 95.1 7.2 19.5 8.0 14.7 0.3 56 3.4 1.0 18.8 8.0 31.7 31.7 97.8 97.8 7.6 7.6 4.9 Surface 18.8 8.0 31.7 97.8 18.8 8.0 4.9 SR8 Fine 09:30 5.7 Middle 820376 811626 Rough

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18.8

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Bottom

Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring

Water Quality Monitoring Results on 30 January 20 during Mid-Ebb Tide

Tato: Qua.	ity wormt	oring Resu	is on		30 January 20	during Mid-Ebb	riae																				
Monitoring	Weather	Sea	Sampling	Water	Sampling Dep	Sr	rrent eed Current	Water Te	emperature (°C)		pН	Salin	ity (ppt)	DO Saturation (%)	Dissolved Oxygen	Turbidity	(NTU)	Suspende (mg.	ed Solids /L)	Total All (ppr		Coordinate HK Grid	Coordinate HK Grid	Chror (µg	nium /L)	Nickel ((µg/L)
Station	Condition	Condition	Time	Depth (m)	Jampang 2 3		n/s) Direction	Value	Average	Value	Average	Value	Average	Value Average	Value DA	Value	DA	Value	DA	Value	DA	(Northing)	(Easting)	Value	DA	Value	DA
					Surface		0.3 125 0.3 126	18.5 18.5	18.5	8.3	8.3	34.1	34.1	102.1 102.1	7.8 7.8	6.9		7		86 86				<0.2		0.6	
C1	Sunny	Rough	16:12	7.6	Middle	3.8	0.3 133	18.5	18.5	8.3	8.3	34.2	34.2	102.0	7.8	6.9	6.9	7	8	88	88	815627	804230	<0.2	-02	0.8	0.8
	,				B		0.3 134	18.5 18.5	40.5	8.3 8.3		34.2 34.2	04.0	102.1	7.8	6.8		8		87 90				<0.2		0.9	
					Bottom		0.2 121	18.5	18.5	8.3	8.3	34.2	34.2	102.9	7.9 7.9	6.8		8		90 86				<0.2		0.9	
					Surface	1.0).1 132).1 149	18.6 18.6	18.6	8.1 8.1	8.1	31.4 31.4	31.4	98.0 98.0	7.6 7.6 7.6	2.2		5 6		86				<0.2		1.0	
C2	Fine	Rough	14:50	11.4	Middle		0.3 146 0.3 138	18.6 18.6	18.6	8.1 8.1	8.1	31.4	31.4	97.1 97.0	7.5 7.5	2.6	3.0	4	4	87 88	87	825664	806930	<0.2		0.7	0.8
ļ					Bottom	10.4).3 147	18.6	18.6	8.1	8.1	31.4	31.4	96.7	7.5	3.9		3		88				<0.2		0.6	
					Surface).3 149).1 124	18.6 19.4	19.4	8.1 8.1	8.1	31.4 32.9	32.9	96.7 95.9 95.9	7.5	4.0 1.5		<2 2		88 88				<0.2		0.6	_
							0.1 122 0.2 131	19.4 19.4		8.1 8.1		32.9 32.9		95.9	7.3 7.2	1.6		3		88 89				<0.2	1 -	0.5	
C3	Fine	Rough	17:13	10.7	Middle	5.4 ().2 125	19.4	19.4	8.1	8.1	32.9	32.9	95.3	7.2	2.0	1.8	3	3	89	89	822090	817825	<0.2	<0.2	0.4	0.6
					Bottom		0.2 130	19.4 19.4	19.4	8.1 8.1	8.1	32.9 32.9	32.9	96.3 96.5	7.3 7.3	1.9		3		89 90				<0.2		1.0 0.8	
					Surface		0.1 118	18.1	18.1	8.3	8.3	33.7	33.7	104.5	8.1	3.5		5		86				<0.2		1.0	
IM1	Sunny	Rough	16:01	5.2	Middle		0.1 121	18.1		8.3		33.7		104.5	8.1	3.5	4.0	5	5	87 -	87	817965	807155	<0.2	<0.2	1.1	1.0
IIVI I	Sumiy	Rough	10.01	5.2				18.0	-	8.3	-	33.9		103.4	8.0	4.5	4.0	- 4	,	- 88		817905	807 133	<0.2	l L	1.0	1.0
					Bottom	4.2).2 128	18.0	18.0	8.3	8.3	33.9	33.9	103.5	8.0	4.5		5		88				<0.2		0.9	
ļ					Surface		0.2 121	18.4 18.4	18.4	8.3	8.3	34.0	34.0	102.9 102.9	7.9 7.9	5.2		8		85 86				<0.2		0.8	
IM2	Sunny	Rough	15:52	6.9	Middle		0.2 117	18.3 18.3	18.3	8.3 8.3	8.3	34.0 34.0	34.0	102.1 102.1	7.8 7.8	6.4 6.4	7.1	8	8	87 87	87	818185	806157	<0.2		0.5	0.8
					Bottom	5.9).2 136	18.3	18.3	8.3	8.3	34.0	34.0	101.6	7.8	9.6		9		89				<0.2		1.2	
							0.2 132	18.3 18.3		8.3 8.3		34.0 34.0		101.6	7.8	9.8 5.2		9		89 85				<0.2		1.1 0.6	
					Surface	1.0).3 158	18.3	18.3	8.3	8.3	34.0	34.0	102.2	7.8	5.2		8		86				<0.2		0.4	
IM3	Sunny	Rough	15:44	7.1	Middle		0.3 132 0.3 139	18.3 18.3	18.3	8.3	8.3	34.0	34.0	101.6 101.5	7.8	5.6 5.7	6.5	9	8	87 87	87	818760	805605	<0.2		0.5	0.5
					Bottom		0.2 138 0.2 144	18.3 18.3	18.3	8.3 8.3	8.3	34.0 34.0	34.0	100.9	7.8 7.8	8.7 8.8		7		88 88				<0.2		0.4	
					Surface	1.0	0.4 143	18.0	18.0	8.4	8.4	33.4	33.4	105.0	8.1	5.0		8		86				<0.2		0.6	
	0	Donat	45.00	7.4			0.4 135	18.0 17.9		8.4 8.4		33.4 33.4		104.9	8.1 8.1	5.0 7.4	7.0	7	9	85 87		040740	004000	<0.2	1 F	0.6	
IM4	Sunny	Rough	15:33	7.4	Middle).4 138).4 141	17.9 17.9	17.9	8.4	8.4	33.4	33.4	104.1	8.1	7.4	7.6	9	9	86	87	819742	804620	<0.2		0.5	0.6
					Bottom).4 159	17.9	17.9	8.3 8.3	8.3	33.4 33.4	33.4	103.4 103.3	8.0 8.0	10.2 10.4		10		89 89				<0.2		0.6	
					Surface		0.7 192 0.7 191	17.9 17.9	17.9	8.4	8.4	33.2 33.2	33.2	104.3	8.1	6.6		7 8		85 85				<0.2		0.9	
IM5	Sunny	Rough	15:24	7.2	Middle	3.6).6 184	17.9	17.9	8.4	8.4	33.2	33.2	103.7	8.1	7.2	7.8	8	8	87	87	820717	804871	<0.2	-02	0.6	0.8
	,				Bottom		0.6 185 0.4 203	17.9 17.9	17.9	8.4 8.4	8.4	33.2 33.2	33.2	103.6	8.1 8.0 8.0	7.3 9.6		8		86 89				<0.2		1.0	
							0.5 204	17.9 18.0		8.4		33.2 33.5		103.3	8.0 7.9	9.7 7.2		8		88 85				<0.2		1.0 0.7	
					Surface	1.0	0.4 209	18.0	18.0	8.4	8.4	33.5	33.5	101.8	7.9	7.1		9		86				<0.2		0.8	
IM6	Sunny	Rough	15:13	7.0	Middle		0.3 204	18.0 18.0	18.0	8.4	8.4	33.5 33.5	33.5	101.5 101.5	7.9 7.9	8.8	7.6	13 14	11	87 88	87	821059	805846	<0.2		0.7	0.8
					Bottom	6.0).3 183	18.1	18.1	8.3	8.3	33.6	33.6	101.8	7.9	6.6		10		89				<0.2		0.8	
					Surface).3 185).2 183	18.1 18.5	18.5	8.3 8.3	8.3	33.6 32.6	32.6	101.8	7.9	7.0		11 3		89 85				<0.2		0.8 1.4	_
							0.2 182	18.5 18.3		8.3 8.3		32.6 33.0		101.9	7.9 7.9	2.4		3		84 86				<0.2	1 1	1.5	
IM7	Sunny	Rough	15:01	7.9	Middle	4.0 ().3 194	18.3	18.3	8.3	8.3	33.0	33.0	102.2	7.9	3.0	3.0	4	3	87	86	821368	806818	<0.2	<0.2	1.2	1.4
ļ					Bottom		0.2 155 0.2 158	18.2 18.2	18.2	8.3	8.3	33.5 33.5	33.5	101.8 101.8	7.9 7.9	3.7		3 4	ŀ	88 88				<0.2		1.4	
					Surface	1.0	0.1 191	18.3	18.3	8.1	8.1	31.6	31.6	101.6	7.9	4.1		4		86				<0.2		0.9	
IM8	Fine	Rough	15:51	7.2	Middle	3.6	0.1 188	18.2 18.1	18.1	8.1 8.1	8.1	31.6 31.6	31.6	101.6	7.9 8.0	4.6 6.1	5.7	3	4	85 87	87	821826	808158	<0.2	-02	0.8	0.7
IIVIO	File	Rougii	10.01	1.2			0.0 160 0.1 143	18.1 17.9		8.1 8.1		31.6 31.6		101.6	8.0	6.1 6.9	5.7	4	7	87 88	01	32 1020	300130	<0.2	l L	0.6	0.7
ļ					Bottom		0.1 147	17.9	17.9	8.1	8.1	31.6	31.6	101.7	8.0	6.5	†	4		88				<0.2		0.8	

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring Water Quality Monitoring Results on 30 January 20 during

30 January 20 during Mid-Ebb Tide

Water Qua	ity Monite	oring Resu	lts on		30 January 20	during Mid-Ebb Tid	е																				
Monitoring	Weather	Sea	Sampling	Water	Sampling Dep	Current Speed	Current	Water Te	emperature (°C)		рН	Salin	ity (ppt)	DO Saturation (%)	Dissolved Oxygen	Turbidity	(NTU)	Suspende (mg/		Total A (pp	dkalinity om)	Coordinate HK Grid	Coordinate HK Grid	Chron (µg		Nickel ((µg/L)
Station	Condition	Condition	Time	Depth (m)	5	(m/s)	Direction	Value	Average	Value	Average	Value	Average	Value Average	Value DA	Value	DA	Value	DA	Value	DA	(Northing)	(Easting)	Value			DA
					Surface	1.0 0.2 1.0 0.2	171 178	17.9 17.9	17.9	8.1 8.1	8.1	31.7	31.7	102.3 102.3	8.0	4.8		7 6		85 86				<0.2		0.7	
IM9	Fine	Rough	15:56	7.1	Middle	3.6 0.1 3.6 0.1	172 173	17.9 17.9	17.9	8.1 8.1	8.1	31.7	31.7	102.2 102.2	8.0	4.2	5.0	7	8	86 86	87	822105	808824	<0.2		0.6	0.6
					Bottom	6.1 0.1 6.1 0.1	136 143	17.9 17.9	17.9	8.1 8.1	8.1	31.7	31.7	102.3 102.3	8.0	6.1 5.9		11 12		88 88	1			<0.2		0.6	
					Surface	1.0 0.3 1.0 0.3	160 163	18.2 18.2	18.2	8.1 8.1	8.1	31.7	31.7	100.9	7.9 7.9	4.2		7		85 86	İ			<0.2		0.8	
IM10	Fine	Rough	16:02	7.7	Middle	3.9 0.5 3.9 0.5	168 165	18.2	18.2	8.1 8.1	8.1	31.7	31.7	100.9	7.9 7.9	4.8	4.8	7	7	88 88	88	822363	809791	<0.2	-02	0.6	0.6
					Bottom	6.7 0.3 6.7 0.3	132	18.2	18.2	8.1	8.1	31.7	31.7	101.7 102.0	7.9 8.0	5.2		8 7		89 90	1			<0.2	l E	0.5	
					Surface	1.0 0.2	136	18.6	18.6	8.1	8.1	32.0	32.0	99.6	7.7	3.5		8		86				<0.2		0.8	
IM11	Fine	Rough	16:14	8.6	Middle	1.0 0.2 4.3 0.3	134 139	18.6 18.6	18.6	8.1 8.1	8.1	32.0 32.0	32.0	99.6	7.7 7.7	3.5 3.6	4.1	7 6	6	86 89	88	822079	811444	<0.2	_02	0.6	0.5
					Bottom	4.3 0.4 7.6 0.2	138 132	18.6 18.6	18.6	8.1 8.1	8.1	32.0 32.0	32.0	99.4	7.7 7.7 7.7	3.7 5.1		6 5		89 89	1			<0.2 <0.2		0.4	
					Surface	7.6 0.2 1.0 0.3	135 127	18.6 18.5	18.5	8.1 8.1	8.1	32.0 31.9	31.9	99.8 98.8	7.7	5.1 3.4		5 6		90 84				<0.2		0.4	
IM12	Fine	Davish	16:20	8.3	Middle	1.0 0.3 4.2 0.3	128 126	18.5 18.5	18.5	8.1 8.1		31.9 31.9	31.9	98.8 98.8 98.9	7.7 7.7	3.5 3.5	3.6	6	5	85 86	86	821463	812038	<0.2		0.4	0.5
IIVI12	rine	Rough	16.20	0.3		4.2 0.3 7.3 0.2	127 125	18.5 18.5		8.1 8.1	8.1	31.9 31.9		98.9	7.7	3.4 3.9	3.6	5 4	5	86 88	00	021403	612036	<0.2		0.5	0.5
					Bottom	7.3 0.2 1.0 -	121	18.5	18.5	8.1 8.1	8.1	31.9	31.9	99.8 99.7	7.7 7.6	4.0 3.5		5 4		89		1	1	<0.2		0.6	_
					Surface	1.0 -	-	18.5	18.5	8.1	8.1	31.9	31.9	98.7 98.7	7.6	3.4		4			1			-	ıF	-	
SR1A	Fine	Moderate	16:36	4.9	Middle	2.5 -	-	-	-	-	-	-	-		-		3.5	-	5	-	-	819973	812655	-			-
					Bottom	3.9 - 3.9 -	-	18.5 18.5	18.5	8.0	8.0	31.9 31.9	31.9	98.6 98.6	7.6 7.6	3.6 3.5		5 6		-				-	ш		
					Surface	1.0 0.2 1.0 0.3	123 134	18.6 18.6	18.6	8.1 8.1	8.1	31.9 31.9	31.9	99.5 99.5	7.7 7.7	2.6		4 5		82 82	1			<0.2		0.6	
SR2	Fine	Moderate	16:49	4.6	Middle		-	-	-	-	-	-	-	-	-	-	2.7	-	5	-	83	821455	814179	-	<0.2	-	0.5
					Bottom	3.6 0.3 3.6 0.3	135 141	18.6 18.6	18.6	8.1 8.1	8.1	32.0 32.0	32.0	100.0 100.2	7.7 7.7	2.7		4 5		84 84				<0.2		0.4	
					Surface	1.0 0.1 1.0 0.1	177 173	18.4 18.4	18.4	8.1 8.1	8.1	31.6 31.6	31.6	100.1	7.8 7.8	2.3		4						-	i -	-	
SR3	Fine	Rough	15:27	8.5	Middle	4.3 0.1 4.3 0.1	173 178	18.3 18.2	18.3	8.1 8.1	8.1	31.7 31.7	31.7	101.1 101.4 101.3	7.9 7.9	2.5 2.6	2.6	4	4	-	-	822153	807572	-	ı - F	-	-
					Bottom	7.5 0.2 7.5 0.2	134 141	17.8 17.8	17.8	8.1 8.1	8.1	31.7	31.7	101.2 101.2	8.0 8.0	2.9		3 4		-	Ī			-	ıF	-	
					Surface	1.0 0.3 1.0 0.3	86 92	18.1 18.1	18.1	8.4 8.4	8.4	33.9 33.9	33.9	105.7 105.7	8.2	3.6 3.6		6 5		-				-	F	-	
SR4A	Sunny	Moderate	16:23	9.0	Middle	4.5 0.2 4.5 0.3	65 68	18.0	18.0	8.4	8.4	34.0	34.0	104.5 104.4	8.1 8.1	4.3	4.1	5	5		1 -	817168	807790	-	1 -	-	-
					Bottom	8.0 0.2 8.0 0.2	71 72	18.0	18.0	8.4	8.4	34.0 34.0	34.0	103.9 103.9	8.0 8.0	4.4		5		-				-	ıF	-	
					Surface	1.0 0.1 1.0 0.1	67	17.9 17.9	17.9	8.4	8.4	32.4 32.4	32.4	107.0 106.9	8.4	3.4 3.5		5 4						Ħ	ī	荁	
SR5A	Sunny	Moderate	16:40	3.7	Middle		-	-	-	-	-	-	-		- 8.4	-	3.4	-	5	-		816589	810712		-		-
					Bottom	2.7 0.1 2.7 0.1	112	17.7	17.7	8.4	8.4	32.4 32.4	32.4	105.0 105.0	8.2 8.2	3.4		5			1				ı -		
					Surface	1.0 0.0	122	18.4	18.4	8.4	8.4	32.4	32.4	109.9	8.5	3.4		3		-	<u> </u>					-	-
SR6A	Sunny	Moderate	17:12	4.2	Middle	1.0 0.0	148	18.4	-	8.4	_	32.4	-	109.8	8.5	3.2	4.5	4	3	-		817944	814719	-			_
					Bottom	3.2 0.0	- 75	18.4	18.4	8.4	8.4	32.5	32.5	108.8	8.4	5.8		3		-				-	ıĿ	-	
					Surface	3.2 0.0 1.0 0.1	78 321	18.4 19.4	19.4	8.4 8.1	8.1	32.5 32.8	32.8	95.6	7.3	5.8 1.8		3 4		-				-	一七	-	-
SR7	Fine	Moderate	17:44	15.7	Middle	1.0 0.1 7.9 0.1	339 124	19.4 19.5	19.5	8.1 8.1	8.1	32.8 32.9	32.9	95.6 95.3 95.3	7.2 7.2	1.8 2.6	2.8	3	4		1.	823637	823728	-	ı . E		
JK/	riile	wouerate	17.44	13.7		7.9 0.1 14.7 0.1	131 168	19.5 19.5		8.1 8.1		32.9 33.0		95.3	7.2 7.3	2.7 4.0	2.0	3 4	7	-	1	023037	023726	-	,	\exists	-
					Bottom	14.7 0.1 1.0 -	172	19.5 18.6	19.5	8.1 8.1	8.1	33.0 31.9	33.0	96.3	7.3 7.3 7.7	3.9		4 5				1	1	-	\dashv		_
					Surface	1.0	-	18.5	18.6	8.1	8.1	31.9	31.9	98.8 98.8	7.6 7.7	3.4		5		-	1			-	ı F	-	
SR8	Fine	Moderate	16:28	5.3	Middle	4.3	-	18.5	-	8.1	-	31.9	-	98.5	7.6	3.5	3.5	- 5	5	-	-	820389	811615	-	ı †	=	-
					Bottom	4.3	 	18.5	18.5	8.1	8.1	31.9	31.9	98.6	7.6	3.6		4	ŀ	$\overline{}$	t			\vdash	ı F	-	

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
Value exceeding Action Level is underlined: Value exceeding Limit Level is bolded and underlined

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring Water Quality Monitoring Results on 30 January 20 during

30 January 20 during Mid-Flood Tide

Water Qual	ity Monite	oring Resu	Its on		30 January 20	during Mid-Flood T	ide																					
Monitoring	Weather	Sea	Sampling	Water	Sampling De	Current Speed	Current	Water Te	emperature (°C)		pН	Salin	ity (ppt)	DO Saturation (%)		solved ygen	Turbidity	NTU)	Suspende (mg/		Total Al (ppi		Coordinate HK Grid	Coordinate HK Grid	Chron (µg/		Nickel (μg/L)
Station	Condition	Condition	Time	Depth (m)		(m/s)	Direction	Value	Average	Value	Average		Average	Value Averag		DA	Value	DA	Value	DA	Value	DA	(Northing)	(Easting)	Value		Value	DA
					Surface	1.0 0.4 1.0 0.4	57 58	18.4 18.4	18.4	8.4 8.4	8.4	34.2 34.2	34.2	100.4 100.4	7.7	7.7	5.0 5.1		11 12		86 85				<0.2		0.5	
C1	Sunny	Rough	10:40	7.8	Middle	3.9 0.4 3.9 0.4	46 46	18.4 18.4	18.4	8.4	8.4	34.2 34.2	34.2	100.1 100.1	7.7	+	4.9 5.0	5.9	11 10	11	88 88	88	815639	804228	<0.2		0.4	0.4
					Bottom	6.8 0.4 6.8 0.4	39 39	18.5 18.4	18.5	8.4	8.4	34.2 34.2	34.2	99.8 99.9	7.6	7.6	7.5 7.9		11 11		90 90				<0.2		0.5	
					Surface	1.0 0.3 1.0 0.3	318 341	18.6 18.6	18.6	8.1 8.1	8.1	31.4 31.4	31.4	98.3 98.2 98.3	7.6 7.6	7.0	2.5 2.6		3 4		86 86				<0.2		0.7	
C2	Sunny	Rough	11:25	11.1	Middle	5.6 0.4 5.6 0.4	336 309	18.6 18.6	18.6	8.1 8.1	8.1	31.4 31.4	31.4	97.4 97.3	7.6 7.6	7.6	4.7 5.2	5.0	4	3	87 87	87	825682	806947	<0.2	<0.2	0.7	0.7
					Bottom	10.1 0.3 10.1 0.3	339 350	18.6 18.6	18.6	8.1 8.1	8.1	31.5 31.5	31.5	97.2 97.4	7.5 7.6	7.6	7.4 7.9		3	-	88 89				<0.2		0.7	
					Surface	1.0 0.5 1.0 0.5	255 278	18.8	18.8	8.1	8.1	32.1 32.1	32.1	96.1 96.1	7.4		2.8		4 3		87 88				<0.2	Ĺ	0.6	
С3	Sunny	Rough	09:42	10.5	Middle	5.3 0.4 5.3 0.4	253 256	18.8	18.8	8.1	8.1	32.1 32.1	32.1	96.0 96.0	7.4	7.4	4.3	4.7	3 4	4	89 89	89	822093	817808	<0.2	.0.2	0.5	0.6
					Bottom	9.5 0.4 9.5 0.4	258 266	18.8	18.8	8.1	8.1	32.1 32.1	32.1	96.0 96.1	7.4		6.8	•	4		90				<0.2		0.6	
					Surface	1.0 0.2 1.0 0.2	16 16	17.9	17.9	8.4	8.4	33.5	33.5	101.0 101.0	7.8		4.3		7	-	86 87				<0.2		0.7	
IM1	Sunny	Rough	11:01	4.5	Middle		-	-	-	-	-	-	-		-	7.8	-	5.4	-	8	-	88	817957	807122	-	<0.2		0.7
					Bottom	3.5 0.2 3.5 0.2	6	18.0 18.0	18.0	8.3 8.3	8.3	33.7 33.6	33.6	100.1 100.1	7.8		6.7 6.6	•	8	ŀ	89 88				<0.2		0.7	
					Surface	1.0 0.3 1.0 0.3	18 19	18.1	18.1	8.4 8.4	8.4	33.7 33.7	33.7	102.0 102.0	7.0		6.7		10	-	85 85				<0.2	Ĺ	0.8	
IM2	Sunny	Rough	11:09	6.5	Middle	3.3 0.3 3.3 0.3	13	18.1	18.1	8.4	8.4	33.7	33.7	101.7 101.7	7.9 7.9	7.9	8.1 8.1	8.5	11	11	87 87	87	818178	806168	<0.2	-02	0.8	0.7
					Bottom	5.5 0.3 5.5 0.3	6	18.0	18.0	8.3	8.3	33.7	33.7	101.6 101.7	7.9		10.6	·	12	-	88				<0.2		0.6	
					Surface	1.0 0.3 1.0 0.3	352 354	18.0	18.0	8.4 8.4	8.4	33.4 33.4	33.4	102.5 102.5	0.0		5.4 5.4		8 8	-	85 85				<0.2	Ĺ	0.8	
IM3	Sunny	Rough	11:19	6.6	Middle	3.3 0.3 3.3 0.3	353 325	18.0	18.0	8.4	8.4	33.4	33.4	102.1 102.1	7.9	7.9	6.0	6.4	9	9	87 86	87	818772	805572	<0.2	-02	0.8	0.8
					Bottom	5.6 0.3 5.6 0.3	347 319	18.0	18.0	8.4	8.4	33.4	33.4	101.6 101.6	7.0		7.8		10	-	88				<0.2		0.7	
					Surface	1.0 0.4 1.0 0.4	358 329	18.0 18.0	18.0	8.4	8.4	33.1	33.1	102.7 102.6	8.0		6.0		9		85 85				<0.2		1.2	
IM4	Sunny	Rough	11:32	7.7	Middle	3.9 0.4 3.9 0.4	357 328	18.0	18.0	8.4	8.4	33.1 33.1	33.1	101.9 101.9	7.0		6.3	6.4	10	9	86 87	86	819712	804622	<0.2	.0.2	1.3	1.2
					Bottom	6.7 0.3 6.7 0.3	351 352	18.0	18.0	8.3	8.3	33.1	33.1	102.2 102.3	7.9	8.0	6.9 7.0		9	-	88 87				<0.2		0.9	
					Surface	1.0 0.6 1.0 0.6	8 8	18.0	18.0	8.4 8.4	8.4	33.2	33.2	101.9 101.9	7.0		5.7		10		84 84				<0.2		1.4	
IM5	Sunny	Rough	11:39	6.9	Middle	3.5 0.6 3.5 0.6	11 12	18.0	18.0	8.4	8.4	33.2	33.2	101.5 101.5	7.0		6.0	6.2	9	9	87	86	820751	804884	<0.2	-0.2	1.3	1.3
					Bottom	5.9 0.5 5.9 0.6	11	18.0	18.0	8.3	8.3	33.2	33.2	101.8 101.9	7.0		6.7	-	8 9	ļ	88				<0.2		1.2	
					Surface	1.0 0.1 1.0 0.1	121 129	18.2	18.2	8.4	8.4	33.7	33.7	102.6 102.6	7.0		4.6 4.6		6		84 84				<0.2		1.5	
IM6	Sunny	Rough	11:49	6.8	Middle	3.4 0.1 3.4 0.1	138	18.2	18.2	8.4	8.4	33.7	33.7	101.8 101.7	7.9 7.9	7.9	5.1	5.2	7 8	7	87 87	87	821047	805811	<0.2		1.3	1.4
					Bottom	5.8 0.1 5.8 0.1	173 183	18.1	18.1	8.4	8.4	33.7	33.7	101.4 101.4 101.4	7.8 7.8	7.8	5.9	.	7	-	88				<0.2		1.5	
					Surface	1.0 0.1 1.0 0.1	199	18.5	18.5	8.3 8.3	8.3	32.6 32.6	32.6	101.7 101.7 101.7	7.9 7.9		2.5	.	8 7		84 84				<0.2		1.1	
IM7	Sunny	Rough	12:00	8.0	Middle	4.0 0.2 4.0 0.2	147 155	18.3	18.3	8.3 8.3	8.3	33.1 33.1	33.1	102.5 102.5	7.0		3.5 3.6	3.4	7 6	7	86 86	86	821357	806824	<0.2	-02	0.9	0.9
					Bottom	7.0 0.2 7.0 0.2	129	18.2	18.2	8.3 8.3	8.3	33.5	33.5	102.2 102.2 102.2	7.0		4.1		5	ļ	89				<0.2		0.8	
					Surface	1.0 0.1	256 260	17.9 17.9	17.9	8.3 8.1 8.1	8.1	31.7 31.7	31.7	100.7 100.7 100.7	7.9 7.9 7.9		4.4 4.1 4.1		9		85 85				<0.2 <0.2 <0.2		0.8	=
IM8	Sunny	Moderate	10:58	7.5	Middle	3.8 0.1	227	17.8	17.8	8.1	8.1	31.7	31.7	100.7 100.8 100.8	7.9 7.9 7.9	7.9	4.1 4.6 4.7	4.4	9	9	88	87	821829	808140	<0.2	-02	0.8	0.8
					Bottom	6.5 0.1	231 238	17.8	17.8	8.1	8.1	31.7	31.7	101.6	8.0	8.0	4.5		10 8 8		88				<0.2		0.8	
DA: Depth-Aver	<u> </u>		1			6.5 0.1	259	17.8		8.1		31.7		101.7	8.0		4.5		8		89	L	l		<0.2		0.8	

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

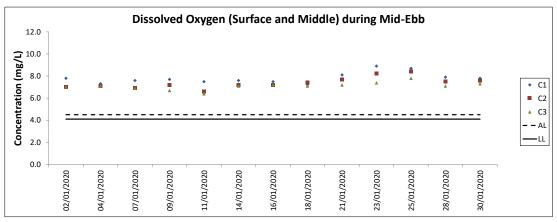
Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

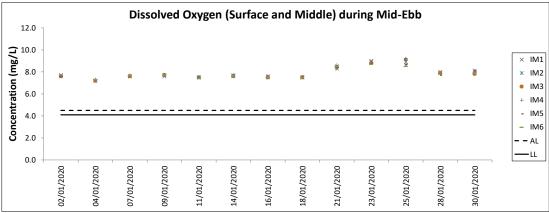
Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring Water Quality Monitoring Results on 30 January 20 during

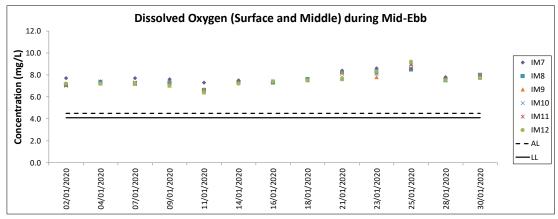
30 January 20 during Mid-Flood Tide

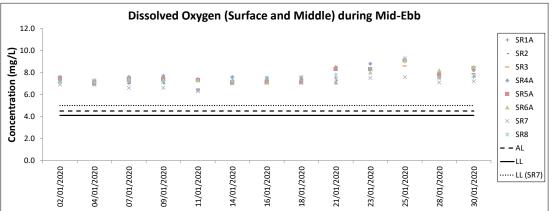
Water Qual	ity Monit	oring Resu	its on		30 January 20	during Mid-	-Fiooa ii	ae																					
Monitoring	Weather	Sea	Sampling	Water	Sampling Dep	oth (m)	Current Speed	Current	Water To	emperature (°C)		pН	Salin	nity (ppt)	DO Saturation (%)	Dissolved Oxygen	Tu	rbidity(N	NTU)	Suspende (mg.	ed Solids /L)		Alkalinity pm)	Coordinate HK Grid	Coordinate HK Grid	Chro	mium g/L)	Nickel	(µg/L
Station	Condition	Condition	Time	Depth (m)	Gamping Bop	,	(m/s)	Direction	Value	Average	Value	Average	Value	Average	Value Average	Value D	A V	alue	DA	Value	DA	Value	DA	(Northing)	(Easting)	Value	DA	Value	DA
					Surface	1.0	0.4	277 277	17.8 17.8	17.8	8.1 8.1	8.1	31.8	31.8	101.0 101.0	7.9		5.9 5.2	-	9 10		85 86	-			<0.2		1.5	
IM9	Sunny	Moderate	10:52	7.0	Middle	3.5 3.5	0.3	272 279	17.8 17.8	17.8	8.1 8.1	8.1	31.8	31.7	101.0	7.9 7.9 7.9	* <u> </u>	7 7	7.8	9	10	88 89	88	822077	808794	<0.2	<0.2	1.0	1.2
					Bottom	6.0	0.3	262 282	17.8	17.8	8.1	8.1	31.7	31.7	102.0 102.1	8.0 8.	n !	0.4	F	10		89 90	‡			<0.2		1.3	ı
					Surface	1.0	0.5	302	18.0	18.0	8.1	8.1	31.8	31.8	100.6	7.9	-	.4		9		85	ļ			<0.2	\vdash	0.7	_
IM10	Sunny	Moderate	10:44	7.4	Middle	1.0 3.7	0.6	302 302	18.0 17.9	17.9	8.1 8.1	8.1	31.8 31.8	31.8	100.6	7.9 7.9	° _ :	i.4 i.6	5.5	10 9	9	86 87	87	822383	809800	<0.2	<0.2	0.5	0.7
	Cumy	Moderate	10.11	***	Bottom	3.7 6.4	0.6	312 300	17.9 17.9	17.9	8.1 8.1	8.1	31.8 31.8	31.8	101.2	7.9 7.9 8.		i.8	-	8	Ĭ	88 88		022000	000000	<0.2	1 1	0.8	J
						6.4 1.0	0.4	312 284	17.9 17.9		8.1		31.8 31.8		101.4	7.8		5.4		8 10		88 85				<0.2		0.8	_
					Surface	1.0 4.2	0.6 0.5	293 282	17.9 17.9	17.9	8.1 8.1	8.1	31.8 31.8	31.8	100.1	7.8 7.8	. 🗀	5.0 5.1	F	9		85 87	1			<0.2		1.0	ı
IM11	Sunny	Moderate	10:33	8.4	Middle	4.2 7.4	0.5	288 294	17.9 17.9	17.9	8.1	8.1	31.8	31.8	100.0	7.8	-	6.4	6.4	8 7	8	87	87	822047	811452	< 0.2	<0.2	0.8	0.9
					Bottom	7.4	0.5 0.5	322	17.9	17.9	8.1 8.1	8.1	31.8 31.8	31.8	101.0 101.1	7.9 7.9	9 {	3.0 3.0		8		88 88				<0.2	Ш	0.8	
					Surface	1.0	0.6	282 302	18.2 18.2	18.2	8.1 8.1	8.1	31.7 31.7	31.7	100.1 100.1	7.8 7.8		2.7	Ŀ	8 7		84 84	1			<0.2]	0.7	ı
IM12	Sunny	Moderate	10:28	8.5	Middle	4.3	0.4	295 315	18.1 18.1	18.1	8.1 8.1	8.1	31.8	31.8	99.6 99.6	7.8		3.5 3.7	3.6	7 6	7	85 85	86	821450	812053	<0.2	<0.2	0.7	0.8
					Bottom	7.5 7.5	0.2	274 280	18.0 18.0	18.0	8.1 8.1	8.1	31.8	31.8	99.5 99.5	7.8 7.8		1.6	F	5 6	-	88 88	1			<0.2		0.7	ı
					Surface	1.0	-	-	17.9 17.9	17.9	8.1 8.1	8.1	31.4 31.4	31.4	99.6 99.8 99.7	7.8 7.8		2.1		5		-				-		-	_
SR1A	Sunny	Moderate	10:13	4.3	Middle	2.2	-	-	-	-	-	-	-	-		- 7.	8 🗀	_	2.2	-	5	-	1 -	819982	812662	-	.		-
					Bottom	3.3		-	17.9	17.9	8.1	8.1	31.4	31.3	100.8	7.9 7.	9	2.2	İ	5		-	1			-		ᄇ	ı
					Surface	3.3 1.0	0.4	304	17.9 18.4	18.4	8.1	8.1	31.3 31.9	31.9	97.4 97.4	7.6		2.3 5.1		7		84				<0.2		1.0	_
SR2	Sunny	Rough	10:01	4.5	Middle	1.0	0.4	328	18.4		8.1		31.9		97.4	7.6	6	i.1 -	5.0	7	6	84	85	821478	814184	<0.2	<0.2	0.9	0.9
SKZ	Suriny	Kougii	10.01	4.5		3.5	0.3	305	18.4	40.4	8.1	-	31.9	-	97.4	7.6		5.0	3.0	- 5	Ů	- 86	- 85	021470	014104	<0.2	V0.2	- 0.8	0.8
					Bottom	3.5 1.0	0.4 0.1	316 254	18.4 18.3	18.4	8.1 8.1	8.1	31.9 31.7	31.9	97.5 97.5 99.7	7.6 7. 7.8	_ 4	1.8 2.6		6		86	Ī			<0.2	oxdot	0.7	_
					Surface	1.0	0.1	259 308	18.3	18.3	8.1	8.1	31.7	31.7	99.8	7.8 7.	, 🗀	2.7	F	7	ŀ	-	1			-		-	ı
SR3	Sunny	Moderate	11:04	8.3	Middle	4.2	0.2	333	18.2	18.2	8.1	8.1	31.8	31.8	99.8	7.8	;	3.0	2.9	6	7	-	ļ -	822144	807573	-	-	-	
					Bottom	7.3 7.3	0.1	285 295	18.1 18.1	18.1	8.1 8.1	8.1	31.7 31.7	31.7	100.5 100.7	7.9 7.9	° :	3.0		9		-				-	Ш	-	
					Surface	1.0	0.2	226 238	17.5 17.5	17.5	8.4 8.4	8.4	32.6 32.6	32.6	102.0 102.0	8.0 8.0 8.	<u>. ا</u>	3.3		6 7	-	-	1			-]	-	i
SR4A	Sunny	Moderate	10:17	8.3	Middle	4.2	0.1	244 267	17.5 17.5	17.5	8.4 8.4	8.4	32.7 32.7	32.7	101.5 101.5	8.0	:	3.8	3.9	5 6	6	-	-	817176	807800	-	-	-	-
					Bottom	7.3	0.1	243 244	17.5 17.5	17.5	8.4 8.4	8.4	32.8 32.8	32.8	101.3	8.0 8.		l.5	-	6		-	1			-		-	i
					Surface	1.0	0.3	290 298	17.6 17.6	17.6	8.4 8.4	8.4	32.3 32.3	32.3	101.6 101.6	8.0	Ė	l.9 l.8	-	8 9		-				-		-	_
SR5A	Sunny	Moderate	09:59	3.6	Middle	-	-	-	-	-	-	-	-	-		- 8.			5.2	-	9	-	1 -	816607	810697	-	.	-	-
					Bottom	2.6	0.2	295	17.6	17.6	8.4	8.4	32.3	32.3	101.8	8.0		5.5	ļ	9		-	‡			-		-	ı
					Surface	2.6	0.2	323 271	17.6 17.4	17.4	8.4 8.3	8.3	32.3 31.9	31.9	101.9	8.0		.9		9		-	<u> </u>			-	H	-	_
SR6A	Sunny	Moderate	09:33	3.9	Middle	1.0	0.1	286	17.4		8.3		31.9		101.7	8.1 8.	1	.9	2.1	3	4	-	1 .	817950	814737	-] .	브	
Onto t	Cumy	Moderate	00.00	0.0	Bottom	2.9	0.1	249	17.7	17.7	8.2	0.0	32.3	32.3	102.0	8.0		2.3		3		-	1	017000	011101	-		-	i
						2.9	0.1	257 0	17.7		8.2	8.2	32.3 32.3		102.0	8.0 8. 7.3	_	.9		4		-				-	Н	-	_
					Surface	1.0	0.1	0 347	18.8	18.8	8.2	8.2	32.3 32.3	32.3	95.6	7.3 7.	。□	.9	Ţ	4 3		-	1			-		-	ı
SR7	Sunny	Moderate	09:10	15.6	Middle	7.8	0.1	319	18.9	18.9	8.2	8.2	32.3	32.3	95.3	7.3		.9	2.9	4	4	-	† ·	823643	823737	-	-		- I
					Bottom	14.6 14.6	0.1	18 18	18.9 18.9	18.9	8.2 8.2	8.2	32.3 32.3	32.3	94.8 94.9	7.3 7.3	3 !	i.8		5		-	<u> </u>			-	ш		
					Surface	1.0	-	-	18.0 18.0	18.0	8.1 8.1	8.1	31.6 31.6	31.6	99.6 99.6	7.8 7.8		3.4 3.5	Ŀ	8 9		-	1			-	j l	-	ı
SR8	Sunny	Moderate	10:20	5.2	Middle	-	-	-	-	-	-	-	-	-		- '	Ĕ	-	4.2	-	8	-	-	820408	811610	-	-	-	-
					Bottom	4.2 4.2	-	-	18.0 18.0	18.0	8.1 8.1	8.1	31.6	31.6	100.9	7.9 7.9		1.8	F	7	ļ	-	}			-		Æ	ı
					1	1									1					-									

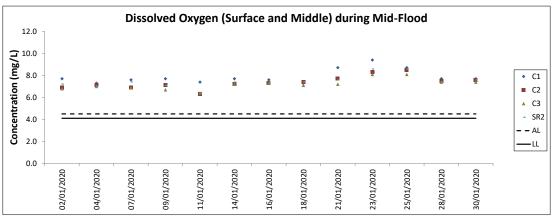
DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
Value exceeding Action Level is underlined: Value exceeding Limit Level is bolded and underlined

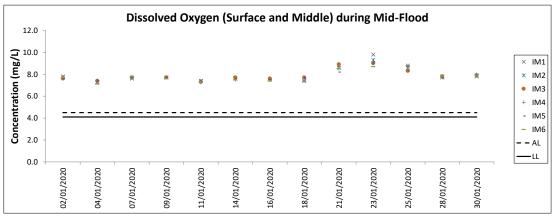


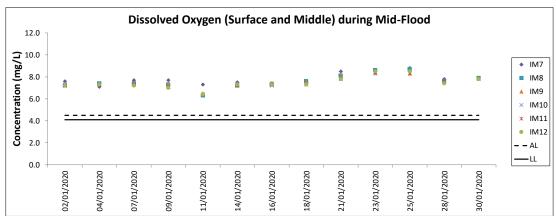


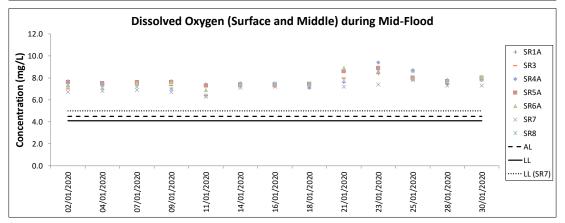


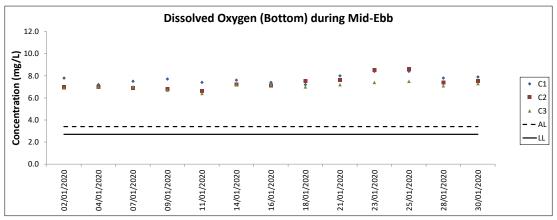


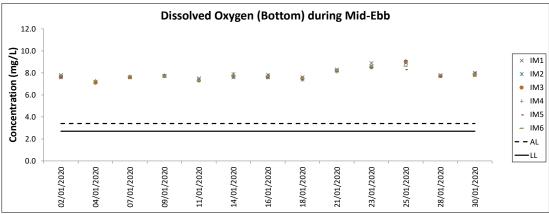


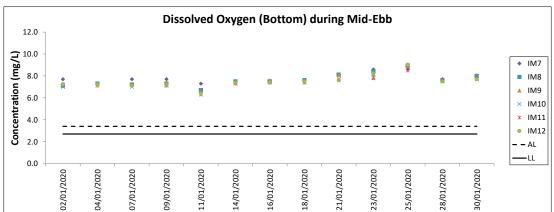


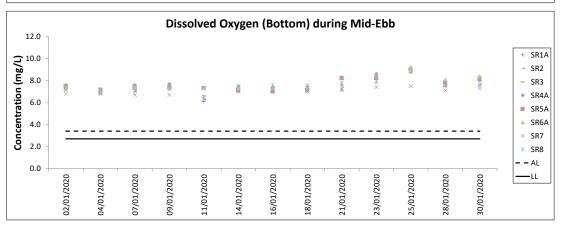


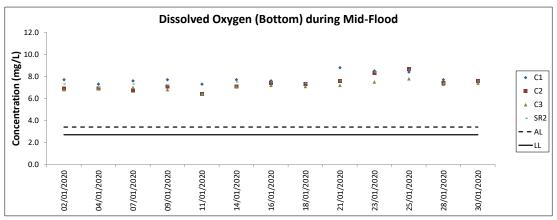


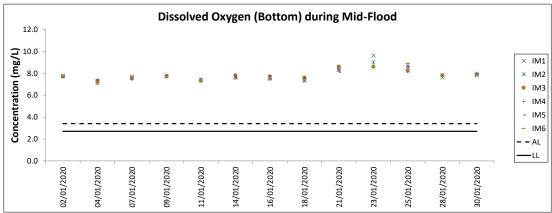


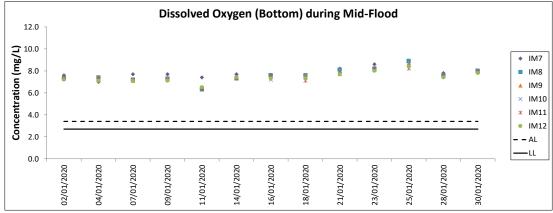


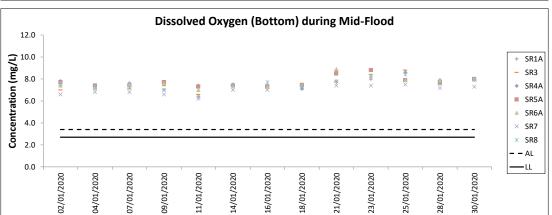


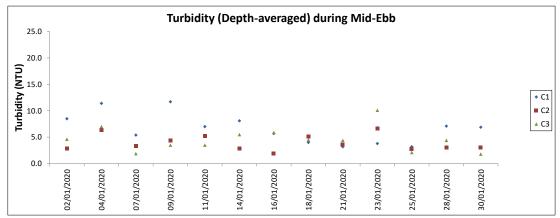


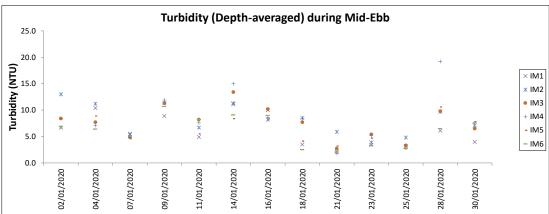


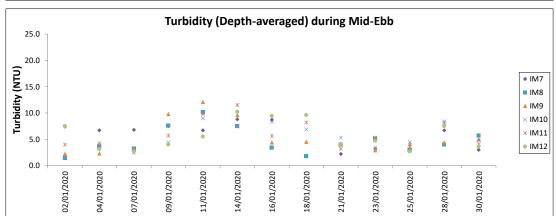


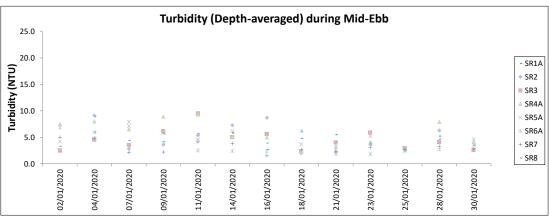




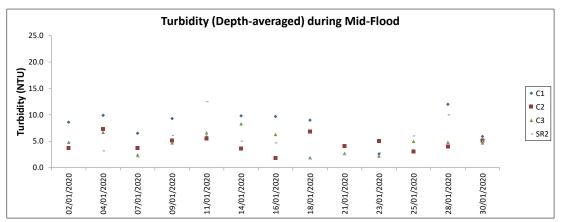


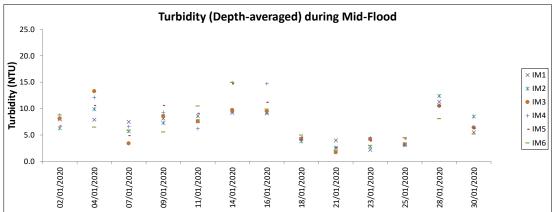


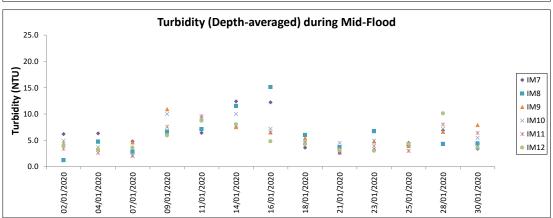


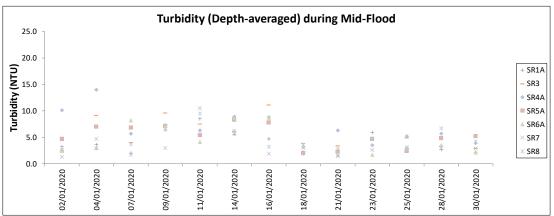


Note: The Action and Limit Level of turbidity can be referred to Table 4.2 of the monthly EM&A report.

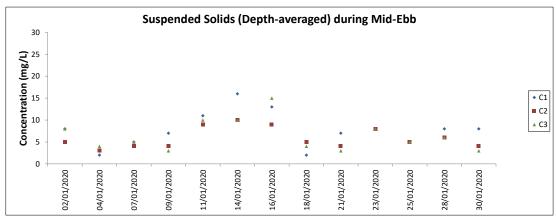


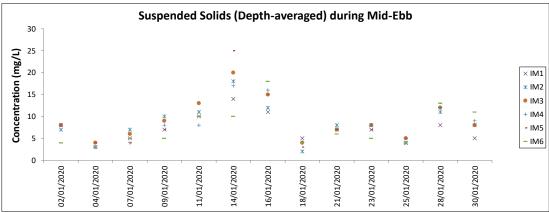


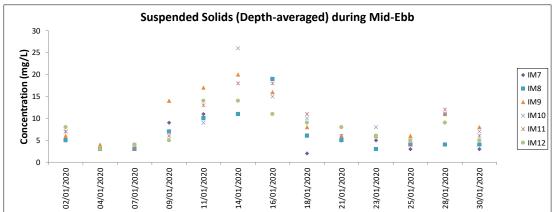


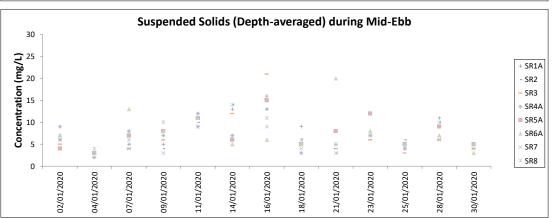


Note: The Action and Limit Level of turbidity can be referred to Table 4.2 of the monthly EM&A report

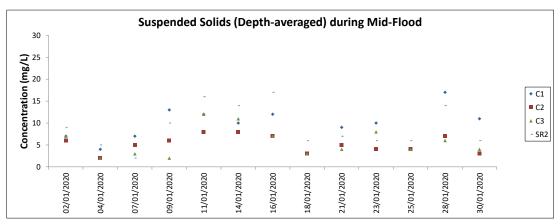


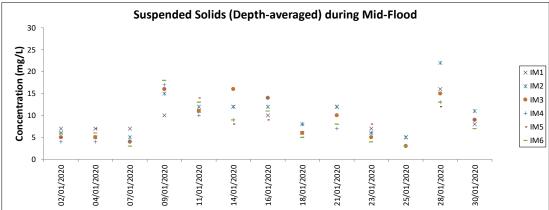


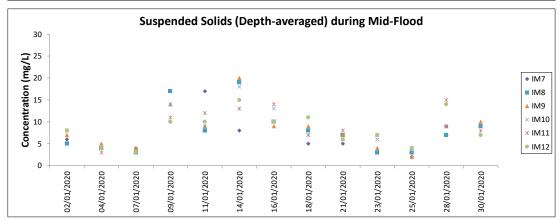


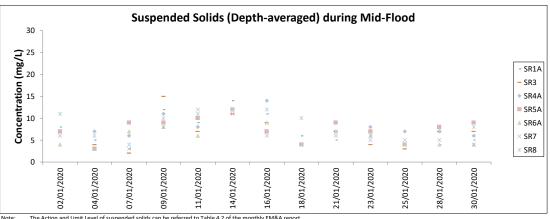


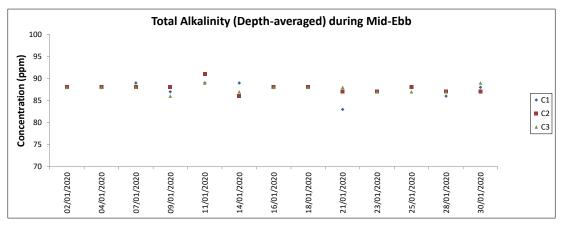
Note: The Action and Limit Level of suspended solids can be referred to Table 4.2 of the monthly EM&A repor

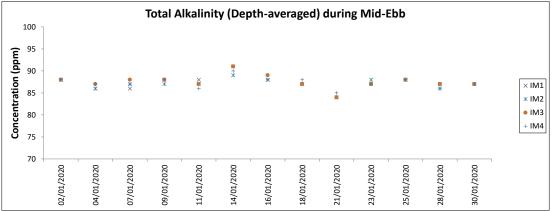


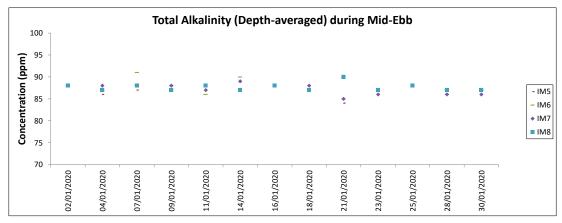


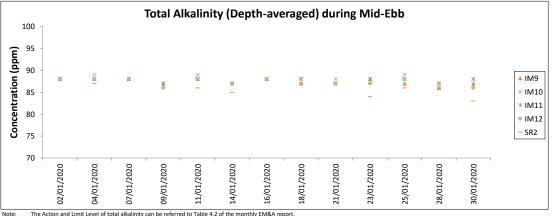


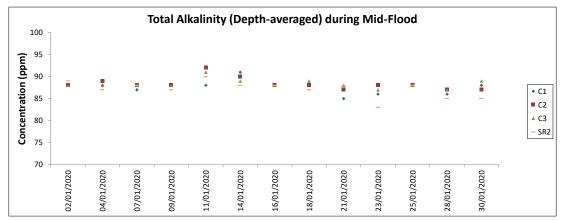


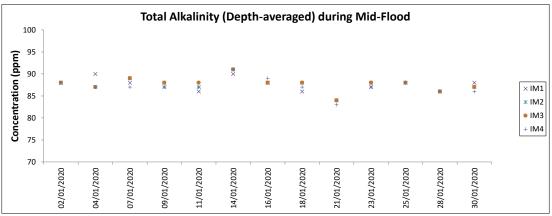


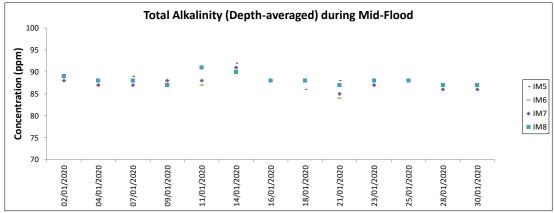


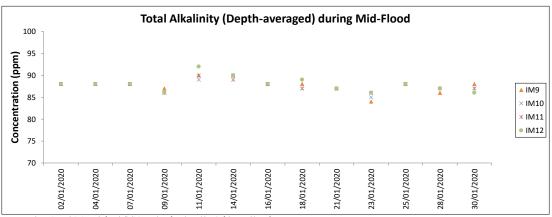




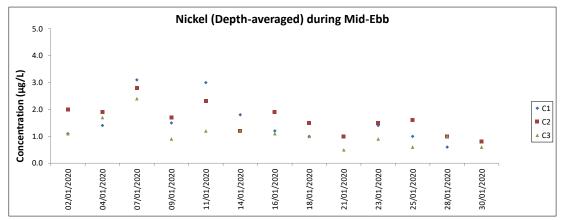


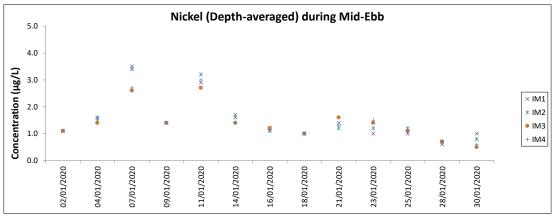


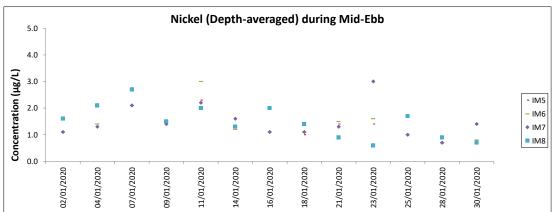


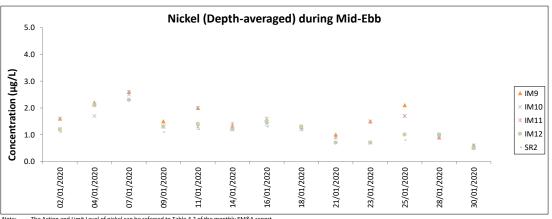


Note: The Action and Limit Level of total alkalinity can be referred to Table 4.2 of the monthly EM&A report.



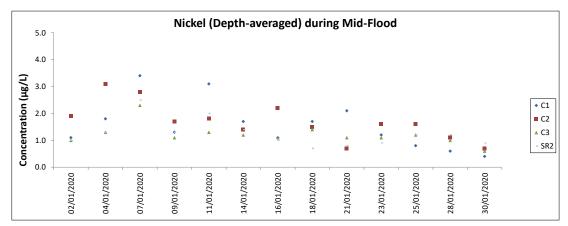


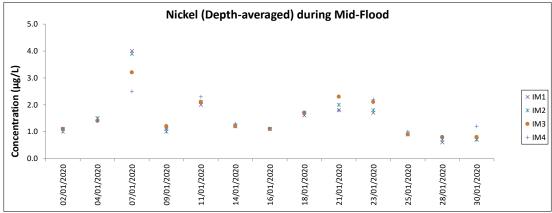


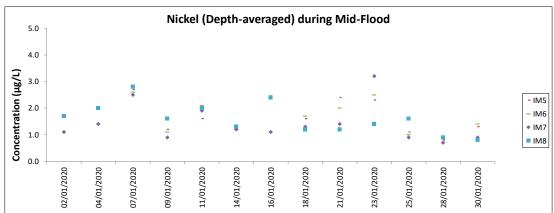


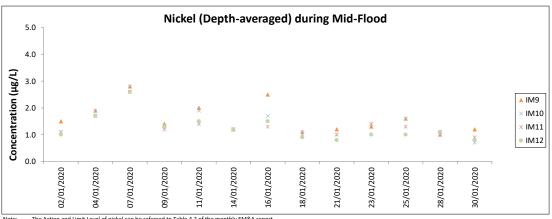
The Action and Limit Level of nickel can be referred to Table 4.2 of the monthly EM&A report.

All chromium results in the reporting period was below the reporting limit 0.2 µg/L.









Note: The Action and Limit Level of nickel can be referred to Table 4.2 of the monthly EM&A report.

All chromium results in the reporting period was below the reporting limit 0.2 µg/L.

Major site activities carried out during the reporting period are summarized in Section 1.4 of the monthly EM&A report.

Weather conditions during monitoring are presented in the data tables above.

QA/ QC requirements as stipulated in the EM&A Manual were carried out during measurement.

Nott MacDonald Expansion of Hong Kong International Airport into a Three-Runway System
Chinese White Dolphin Monitoring Results

CWD Small Vessel Line-transect Survey

Survey Effort Data

DATE	AREA	BEAU	KM SEARCHED	SEASON	VESSEL	TYPE	P/S
7-Nov-19	NEL	2	5.760	AUTUMN	32166	3RS ET	Р
7-Nov-19	NEL	3	27.790	AUTUMN	32166	3RS ET	Р
7-Nov-19	NEL	4	3.700	AUTUMN	32166	3RS ET	Р
7-Nov-19	NEL	2	2.990	AUTUMN	32166	3RS ET	S
7-Nov-19	NEL	3	7.460	AUTUMN	32166	3RS ET	S
8-Nov-19	NEL	2	11.100	AUTUMN	32166	3RS ET	Р
8-Nov-19	NEL	3	25.840	AUTUMN	32166	3RS ET	Р
8-Nov-19	NEL	2	6.500	AUTUMN	32166	3RS ET	S
8-Nov-19	NEL	3	4.160	AUTUMN	32166	3RS ET	S
11-Nov-19	NWL	2	56.549	AUTUMN	32166	3RS ET	Р
11-Nov-19	NWL	3	2.200	AUTUMN	32166	3RS ET	Р
11-Nov-19	NWL	4	2.900	AUTUMN	32166	3RS ET	Р
11-Nov-19	NWL	2	11.051	AUTUMN	32166	3RS ET	S
11-Nov-19	NWL	4	0.900	AUTUMN	32166	3RS ET	S
12-Nov-19	AW	3	4.760	AUTUMN	32166	3RS ET	Р
12-Nov-19	WL	2	3.570	AUTUMN	32166	3RS ET	Р
12-Nov-19	WL	3	14.600	AUTUMN	32166	3RS ET	Р
12-Nov-19	WL	4	2.600	AUTUMN	32166	3RS ET	Р
12-Nov-19	WL	2	2.990	AUTUMN	32166	3RS ET	S
12-Nov-19	WL	3	5.730	AUTUMN	32166	3RS ET	S
12-Nov-19	WL	4	1.300	AUTUMN	32166	3RS ET	S
13-Nov-19	NWL	2	57.200	AUTUMN	32166	3RS ET	Р
13-Nov-19	NWL	3	6.000	AUTUMN	32166	3RS ET	Р
13-Nov-19	NWL	2	11.800	AUTUMN	32166	3RS ET	S
21-Nov-19	SWL	2	5.700	AUTUMN	32166	3RS ET	Р
21-Nov-19	SWL	3	48.558	AUTUMN	32166	3RS ET	Р
21-Nov-19	SWL	2	1.300	AUTUMN	32166	3RS ET	S
21-Nov-19	SWL	3	14.822	AUTUMN	32166	3RS ET	S
22-Nov-19	AW	1	2.900	AUTUMN	32166	3RS ET	Р
22-Nov-19	AW	2	2.070	AUTUMN	32166	3RS ET	Р
22-Nov-19	WL	2	6.843	AUTUMN	32166	3RS ET	Р
22-Nov-19	WL	3	12.828	AUTUMN	32166	3RS ET	Р
22-Nov-19	WL	2	1.987	AUTUMN	32166	3RS ET	S
22-Nov-19	WL	3	7.842	AUTUMN	32166	3RS ET	S
29-Nov-19	SWL	2	22.710	AUTUMN	32166	3RS ET	Р
29-Nov-19	SWL	3	28.090	AUTUMN	32166	3RS ET	Р
29-Nov-19	SWL	4	3.600	AUTUMN	32166	3RS ET	Р
29-Nov-19	SWL	2	9.890	AUTUMN	32166	3RS ET	S
29-Nov-19	SWL	3	6.210	AUTUMN	32166	3RS ET	S
9-Dec-19	AW	3	4.860	WINTER	32166	3RS ET	Р
9-Dec-19	WL	3	21.298	WINTER	32166	3RS ET	Р
9-Dec-19	WL	4	2.800	WINTER	32166	3RS ET	Р
9-Dec-19	WL	3	9.102	WINTER	32166	3RS ET	S
9-Dec-19	WL	4	0.900	WINTER	32166	3RS ET	S
10-Dec-19	SWL	2	30.840	WINTER	32166	3RS ET	Р
10-Dec-19	SWL	3	23.200	WINTER	32166	3RS ET	Р
10-Dec-19	SWL	2	7.990	WINTER	32166	3RS ET	S

DATE	AREA	BEAU	KM SEARCHED	SEASON	VESSEL	TYPE	P/S
10-Dec-19	SWL	3	8.100	WINTER	32166	3RS ET	S
13-Dec-19	NEL	2	1.500	WINTER	32166	3RS ET	Р
13-Dec-19	NEL	3	35.350	WINTER	32166	3RS ET	Р
13-Dec-19	NEL	4	0.400	WINTER	32166	3RS ET	Р
13-Dec-19	NEL	3	10.350	WINTER	32166	3RS ET	S
16-Dec-19	NWL	2	37.711	WINTER	32166	3RS ET	Р
16-Dec-19	NWL	3	25.070	WINTER	32166	3RS ET	Р
16-Dec-19	NWL	2	8.660	WINTER	32166	3RS ET	S
16-Dec-19	NWL	3	2.860	WINTER	32166	3RS ET	S
17-Dec-19	SWL	2	46.934	WINTER	32166	3RS ET	Р
17-Dec-19	SWL	3	8.050	WINTER	32166	3RS ET	Р
17-Dec-19	SWL	2	12.746	WINTER	32166	3RS ET	S
17-Dec-19	SWL	3	3.170	WINTER	32166	3RS ET	S
18-Dec-19	AW	1	4.530	WINTER	32166	3RS ET	Р
18-Dec-19	WL	1	10.510	WINTER	32166	3RS ET	Р
18-Dec-19	WL	2	6.930	WINTER	32166	3RS ET	Р
18-Dec-19	WL	1	4.850	WINTER	32166	3RS ET	S
18-Dec-19	WL	2	4.940	WINTER	32166	3RS ET	S
19-Dec-19	NEL	1	2.700	WINTER	32166	3RS ET	Р
19-Dec-19	NEL	2	15.000	WINTER	32166	3RS ET	Р
19-Dec-19	NEL	3	18.090	WINTER	32166	3RS ET	Р
19-Dec-19	NEL	4	1.670	WINTER	32166	3RS ET	Р
19-Dec-19	NEL	1	1.300	WINTER	32166	3RS ET	S
19-Dec-19	NEL	2	2.700	WINTER	32166	3RS ET	S
19-Dec-19	NEL	3	6.240	WINTER	32166	3RS ET	S
23-Dec-19	NWL	2	1.830	WINTER	32166	3RS ET	Р
23-Dec-19	NWL	3	45.110	WINTER	32166	3RS ET	Р
23-Dec-19	NWL	4	17.460	WINTER	32166	3RS ET	Р
23-Dec-19	NWL	3	7.300	WINTER	32166	3RS ET	S
23-Dec-19	NWL	4	4.600	WINTER	32166	3RS ET	S
6-Jan-20	NEL	2	17.100	WINTER	32166	3RS ET	Р
6-Jan-20	NEL	3	20.610	WINTER	32166	3RS ET	Р
6-Jan-20	NEL	2	6.200	WINTER	32166	3RS ET	S
6-Jan-20	NEL	3	3.790	WINTER	32166	3RS ET	S
7-Jan-20	SWL	1	3.200	WINTER	32166	3RS ET	Р
7-Jan-20	SWL	2	49.770	WINTER	32166	3RS ET	Р
7-Jan-20	SWL	2	15.800	WINTER	32166	3RS ET	S
10-Jan-20	AW	3	4.860	WINTER	32166	3RS ET	Р
10-Jan-20	WL	2	10.760	WINTER	32166	3RS ET	Р
10-Jan-20	WL	3	5.190	WINTER	32166	3RS ET	Р
10-Jan-20	WL	4	5.890	WINTER	32166	3RS ET	Р
10-Jan-20	WL	2	4.910	WINTER	32166	3RS ET	S
10-Jan-20	WL	3	0.860	WINTER	32166	3RS ET	S
10-Jan-20	WL	4	2.340	WINTER	32166	3RS ET	S
13-Jan-20	NEL	2	15.540	WINTER	32166	3RS ET	P
13-Jan-20	NEL	3	21.900	WINTER	32166	3RS ET	Р
13-Jan-20	NEL	2	4.160	WINTER	32166	3RS ET	S
13-Jan-20	NEL	3	6.200	WINTER	32166	3RS ET	S
15-Jan-20	AW	3	1.170	WINTER	32166	3RS ET	P

DATE	AREA	BEAU	KM SEARCHED	SEASON	VESSEL	TYPE	P/S
15-Jan-20	AW	4	4.000	WINTER	32166	3RS ET	Р
15-Jan-20	WL	3	7.366	WINTER	32166	3RS ET	Р
15-Jan-20	WL	4	8.390	WINTER	32166	3RS ET	Р
15-Jan-20	WL	5	1.550	WINTER	32166	3RS ET	Р
15-Jan-20	WL	3	8.514	WINTER	32166	3RS ET	S
15-Jan-20	WL	4	2.110	WINTER	32166	3RS ET	S
16-Jan-20	NWL	2	25.710	WINTER	32166	3RS ET	Р
16-Jan-20	NWL	3	36.900	WINTER	32166	3RS ET	Р
16-Jan-20	NWL	4	0.300	WINTER	32166	3RS ET	Р
16-Jan-20	NWL	2	5.570	WINTER	32166	3RS ET	S
16-Jan-20	NWL	3	5.220	WINTER	32166	3RS ET	S
16-Jan-20	NWL	4	0.200	WINTER	32166	3RS ET	Ø
17-Jan-20	NWL	2	4.600	WINTER	32166	3RS ET	Р
17-Jan-20	NWL	3	49.000	WINTER	32166	3RS ET	Р
17-Jan-20	NWL	4	9.300	WINTER	32166	3RS ET	Р
17-Jan-20	NWL	2	1.000	WINTER	32166	3RS ET	Ø
17-Jan-20	NWL	3	9.500	WINTER	32166	3RS ET	Ø
17-Jan-20	NWL	4	2.100	WINTER	32166	3RS ET	S
22-Jan-20	SWL	1	2.200	WINTER	32166	3RS ET	Р
22-Jan-20	SWL	2	47.923	WINTER	32166	3RS ET	Р
22-Jan-20	SWL	3	4.200	WINTER	32166	3RS ET	Р
22-Jan-20	SWL	2	14.227	WINTER	32166	3RS ET	S
22-Jan-20	SWL	3	1.200	WINTER	32166	3RS ET	S

Notes: CWD monitoring survey data of the two preceding survey months are presented for reference only.

CWD Small Vessel Line-transect Survey

Sighting Data

DATE	STG#	TIME	CWD/FP	GP SZ	AREA	BEAU	PSD	EFFORT	TYPE	DEC LAT	DEC LON	SEASON	BOAT ASSOC.	P/S
11-Nov-19	1	1051	CWD	3	NWL	2	142	ON	3RS ET	22.2844	113.8702	AUTUMN	NONE	Р
11-Nov-19	2	1155	CWD	1	NWL	2	112	ON	3RS ET	22.3605	113.8777	AUTUMN	NONE	Р
11-Nov-19	3	1339	CWD	2	NWL	2	55	ON	3RS ET	22.3884	113.8980	AUTUMN	NONE	Р
12-Nov-19	1	1039	CWD	3	WL	3	20	ON	3RS ET	22.2617	113.8548	AUTUMN	NONE	S
21-Nov-19	1	1113	FP	1	SWL	3	55	ON	3RS ET	22.1514	113.9361	AUTUMN	NONE	Р
21-Nov-19	2	1151	CWD	1	SWL	3	23	ON	3RS ET	22.2056	113.9194	AUTUMN	NONE	S
21-Nov-19	3	1223	FP	1	SWL	3	151	ON	3RS ET	22.1518	113.9175	AUTUMN	NONE	Р
21-Nov-19	4	1503	CWD	4	SWL	3	50	ON	3RS ET	22.1965	113.8686	AUTUMN	NONE	Р
22-Nov-19	1	1020	CWD	1	WL	2	39	ON	3RS ET	22.2694	113.8571	AUTUMN	NONE	Р
22-Nov-19	2	1100	CWD	4	WL	3	484	ON	3RS ET	22.2498	113.8460	AUTUMN	NONE	Р
22-Nov-19	3	1127	CWD	1	WL	3	988	ON	3RS ET	22.2446	113.8493	AUTUMN	NONE	S
22-Nov-19	4	1145	CWD	3	WL	3	175	ON	3RS ET	22.2377	113.8275	AUTUMN	NONE	S
22-Nov-19	5	1216	CWD	1	WL	3	112	ON	3RS ET	22.2258	113.8375	AUTUMN	NONE	S
22-Nov-19	6	1329	CWD	2	SWL	2	N/A	OFF	3RS ET	22.1948	113.8524	AUTUMN	NONE	N/A
29-Nov-19	1	1321	FP	3	SWL	3	294	ON	3RS ET	22.1638	113.8972	AUTUMN	NONE	Р
9-Dec-19	1	1101	CWD	2	WL	3	438	ON	3RS ET	22.2569	113.8371	WINTER	NONE	S
10-Dec-19	1	1114	FP	2	SWL	3	76	ON	3RS ET	22.1592	113.9281	WINTER	NONE	Р
10-Dec-19	2	1450	CWD	1	SWL	2	216	ON	3RS ET	22.1958	113.8589	WINTER	GILLNETTER	Р
10-Dec-19	3	1526	CWD	3	SWL	2	182	ON	3RS ET	22.1885	113.8492	WINTER	NONE	Р
16-Dec-19	1	1033	CWD	1	NWL	3	107	ON	3RS ET	22.3041	113.8700	WINTER	NONE	Р
16-Dec-19	2	1213	CWD	2	NWL	2	219	ON	3RS ET	22.3934	113.8876	WINTER	NONE	Р
16-Dec-19	3	1227	CWD	3	NWL	2	301	ON	3RS ET	22.3882	113.8871	WINTER	NONE	Р
17-Dec-19	1	1132	FP	1	SWL	2	187	ON	3RS ET	22.1704	113.8785	WINTER	NONE	Р
17-Dec-19	2	1336	FP	2	SWL	2	199	ON	3RS ET	22.1451	113.9083	WINTER	NONE	Р
17-Dec-19	3	1435	FP	2	SWL	2	472	ON	3RS ET	22.1677	113.9269	WINTER	NONE	Р
18-Dec-19	1	0954	CWD	2	WL	1	4	ON	3RS ET	22.3045	113.8613	WINTER	NONE	Р
18-Dec-19	2	1036	CWD	5	WL	2	107	ON	3RS ET	22.2605	113.8468	WINTER	NONE	Р
18-Dec-19	3	1104	CWD	8	WL	1	18	ON	3RS ET	22.2538	113.8347	WINTER	NONE	S
18-Dec-19	4	1153	CWD	1	WL	2	40	ON	3RS ET	22.2232	113.8349	WINTER	NONE	Р
18-Dec-19	5	1212	CWD	2	WL	2	5	ON	3RS ET	22.2182	113.8196	WINTER	NONE	S
7-Jan-20	1	1033	FP	1	SWL	2	N/A	OFF	3RS ET	22.2218	113.9359	WINTER	NONE	Р
7-Jan-20	2	1123	CWD	2	SWL	2	849	ON	3RS ET	22.1646	113.9274	WINTER	NONE	Р

DATE	STG#	TIME	CWD/FP	GP SZ	AREA	BEAU	PSD	EFFORT	TYPE	DEC LAT	DEC LON	SEASON	BOAT ASSOC.	P/S
7-Jan-20	3	1501	CWD	7	SWL	2	715	ON	3RS ET	22.1943	113.8589	WINTER	NONE	Р
7-Jan-20	4	1543	CWD	2	SWL	2	26	ON	3RS ET	22.1879	113.8490	WINTER	NONE	Р
10-Jan-20	1	1023	CWD	5	WL	2	16	ON	3RS ET	22.2756	113.8503	WINTER	NONE	S
10-Jan-20	2	1052	CWD	3	WL	2	140	ON	3RS ET	22.2643	113.8572	WINTER	NONE	S
10-Jan-20	3	1153	CWD	8	WL	2	579	ON	3RS ET	22.2347	113.8242	WINTER	NONE	S
15-Jan-20	1	1041	CWD	7	WL	3	304	ON	3RS ET	22.2688	113.8490	WINTER	NONE	Р
15-Jan-20	2	1109	CWD	5	WL	3	456	ON	3RS ET	22.2607	113.8495	WINTER	NONE	Р
15-Jan-20	3	1132	CWD	6	WL	4	12	ON	3RS ET	22.2503	113.8441	WINTER	NONE	Р
15-Jan-20	4	1209	CWD	3	WL	3	1864	ON	3RS ET	22.2257	113.8374	WINTER	NONE	S
16-Jan-20	1	1339	CWD	1	NWL	2	861	ON	3RS ET	22.3359	113.9111	WINTER	NONE	S
22-Jan-20	1	1101	FP	1	SWL	2	69	ON	3RS ET	22.1433	113.9273	WINTER	NONE	S
22-Jan-20	2	1115	FP	2	SWL	2	149	ON	3RS ET	22.1671	113.9278	WINTER	NONE	Р
22-Jan-20	3	1159	FP	6	SWL	2	39	ON	3RS ET	22.1591	113.9176	WINTER	NONE	Р
22-Jan-20	4	1319	FP	1	SWL	2	35	ON	3RS ET	22.1582	113.8978	WINTER	NONE	Р
22-Jan-20	5	1517	CWD	2	SWL	2	362	ON	3RS ET	22.1881	113.8492	WINTER	NONE	Р
22-Jan-20	6	1531	CWD	2	SWL	2	82	ON	3RS ET	22.1898	113.8490	WINTER	NONE	Р

Abbreviations: STG# = Sighting Number; GP SZ = Group Size; BEAU = Beaufort Sea State; PSD = Perpendicular Distance (in metres); N/A = Not Applicable; DEC LAT = Latitude (WGS84 in Decimal), DEC LON = Longitude (WGS84 in Decimal); BOAT ASSOC. = Fishing Boat Association; P/S = Primary Transect / Secondary Transect

Notes:

CWD monitoring survey data of the two preceding survey months are presented for reference only. No relevant figure or text will be mentioned in this monthly EM&A report.

Sighting data of finless porpoise (FP) are presented for reference only. No relevant figure or text will be mentioned in the monthly EM&A report. All FP sightings are excluded in calculation.

Calculation of the encounter rates STG and ANI in the whole survey area (NEL, NWL, AW, WL, SWL):

A total of 415.150 km of survey effort was collected under Beaufort Sea State 3 or below with favourable visibility; total no. of 12 on-effort sightings and total number of 47 dolphins from on-effort sightings were collected under such condition. Calculation of the encounter rates in January 2020 are shown as below:

Encounter Rate by Number of Dolphin Sightings (STG) in January 2020

$$STG = \frac{12}{415.150} \times 100 = 2.89$$

Encounter Rate by Number of Dolphins (ANI) in January 2020

$$ANI = \frac{47}{415.150} \times 100 = 11.32$$

Calculation of the running quarterly STG and ANI in the whole survey area (NEL, NWL, AW, WL, SWL):

A total of 1284.771 km of survey effort was collected under Beaufort Sea State 3 or below with favourable visibility; total no. of 34 on-effort sightings and total number of 101 dolphins from on-effort sightings were collected under such condition. Calculation of the running quarterly encounter rates are shown as below:

Running Quarterly Encounter Rate by Number of Dolphin Sightings (STG)

$$STG = \frac{34}{1284.771} \times 100 = 2.65$$

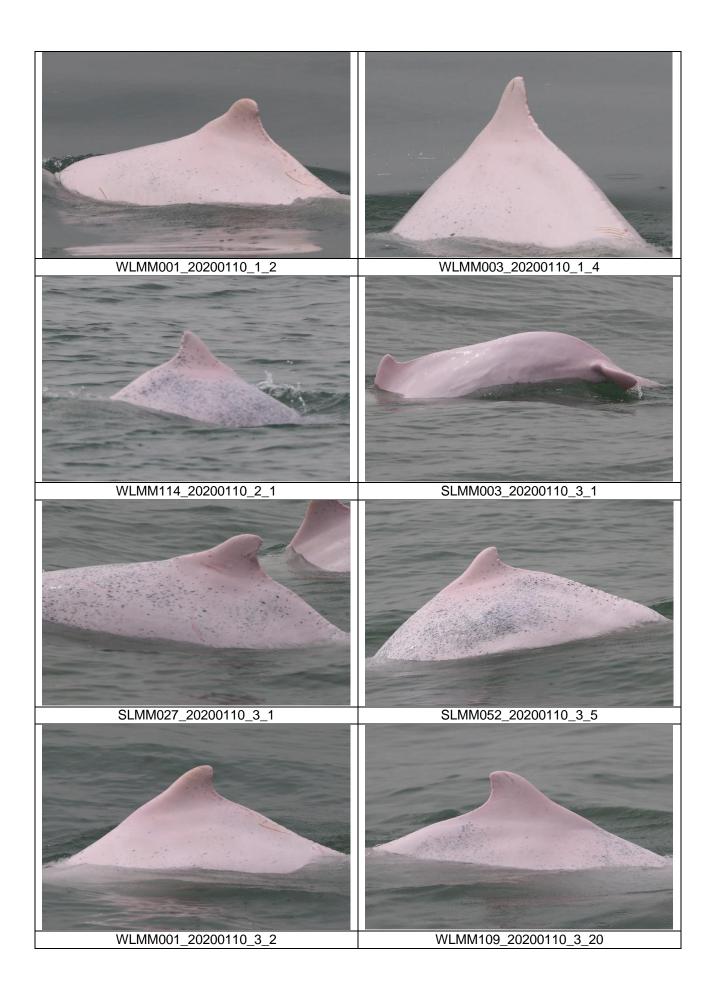
Running Quarterly Encounter Rate by Number of Dolphins (ANI)

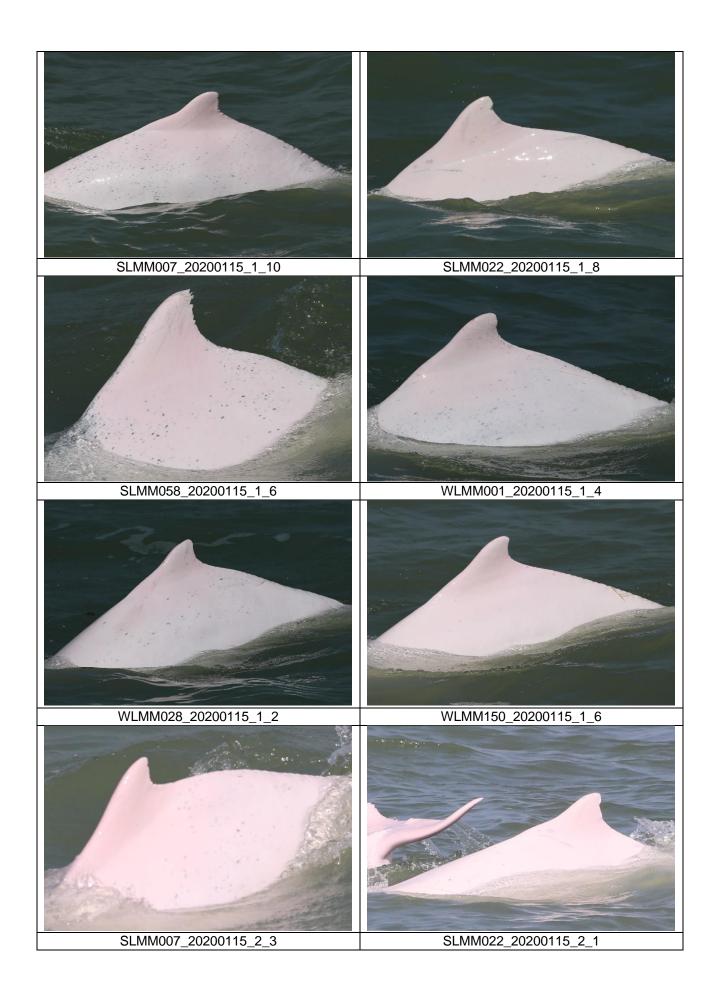
$$ANI = \frac{101}{1284.771} \times 100 = 7.86$$

CWD Small Vessel Line-transect Survey

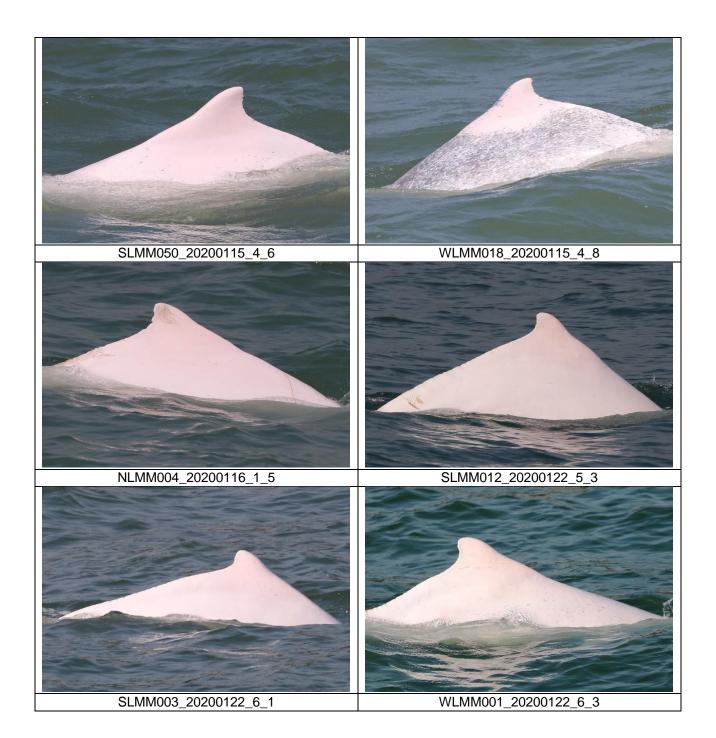
Photo Identification











CWD Land-based Theodolite Tracking Survey

CWD Groups by Survey Date

Date	Station	Start Time	End Time	Duration	Beaufort Range	Visibility	No. of Focal Follow Dolphin Groups Tracked	Dolphin Group Size Range
8/Jan/20	Sha Chau	8:52	14:52	6:00	2	2-3	0	-
14/Jan/20	Lung Kwu Chau	9:20	15:20	6:00	2-3	2	3	1-3

Visibility: 1=Excellent, 2=Good, 3=Fair, 4=Poor

Appendix E. Calibration Certificates



REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No.

AJ010132

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24 January 2019

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PART A - CUSTOMER INFORMATION

Enovative Environmental Service Ltd. Flat 2207, Yu Fun House, Yu Chui Court, Shatin

New Territories, Hong Kong Attn: Mr. Thomas WONG

PART B - DESCRIPTION

Name of Equipment

YSI 6920V2 (Multi-Parameters)

Manufacturer

YSI (a xylem brand)

Serial Number

00019CB2

Date of Received

Jan 20, 2020

Date of Calibration

Jan 20, 2020

Date of Next Calibration(a)

Apr 20, 2020

PART C - REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter

Reference Method

pH at 25°C

APHA 21e 4500-H+ B APHA 21e 4500-O G

Dissolved Oxygen Conductivity at 25°C

APHA 21e 2510 B

Salinity

APHA 21e 2520 B

Turbidity

APHA 21e 2130 B

Temperature

Section 6 of international Accreditation New Zealand Technical

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

PART D - CALIBRATION RESULTS(b,c)

(1) pH at 25°C

Target (pH unit)	Displayed Reading(d) (pH Unit)	Tolerance ^(e) (pH Unit)	Results
4.00	4.01	0.01	Satisfactory
7.42	7.36	-0.06	Satisfactory
10.01	9.96	-0.05	Satisfactory

Tolerance of pH should be less than ± 0.20 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
10.0	10.03	0.0	Satisfactory
20.0	20.06	0.1	Satisfactory
45.0	44.90	-0.1	Satisfactory

Tolerance limit of temperature should be less than ±2.0 (°C)

~ CONTINUED ON NEXT PAGE ~

Remark(s): -

The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted form relevant international standards.

The results relate only to the calibrated equipment as received

The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.

"Displayed Reading" denotes the figure shown on item under calibration/checking regardless of equipment precision or significant figures.

The "Tolerance Limit" mentioned is referenced to YSI product specifications.

LEE Chun-ning, Desmond Senior Chemist



QUALITY PRO TEST-CONSULT LIMITED Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong

Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

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PART D - CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.92	1.22	0.30	Satisfactory
4.68	4.66	-0.02	Satisfactory
5.18	5.34	0.16	Satisfactory
8.84	8.96	0.12	Satisfactory

Tolerance limit of dissolved oxygen should be less than ± 0.50 (mg/L)

(4) Conductivity at 25°C

Conc. of KCl (M)	Expected Reading (µS/cm)	Displayed Reading (μS/cm)	Tolerance (%)	Results
0.001	146.9	152.9	4.08	Satisfactory
0.01	1412	1391	-1.49	Satisfactory
0.1	12890	12796	-0.73	Satisfactory
0.5	58670	57862	-1.38	Satisfactory
1.0	111900	110894	-0.90	Satisfactory

Tolerance limit of conductivity should be less than ± 10.0 (%)

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	10.05	0.50	Satisfactory
20	19.96	-0.20	Satisfactory
30	30.38	1.27	Satisfactory

Tolerance limit of salinity should be less than ± 10.0 (%)

(6) Turbidity

Expected Reading (NTU)	Displayed Reading ^(f) (NTU)	Tolerance ^(g) (%)	Results
0	0.1		Satisfactory
10	9.9	-1.0	Satisfactory
20	19.8	-1.0	Satisfactory
100	98.6	-1.4	Satisfactory
800	789.3	-1.3	Satisfactory

Tolerance limit of turbidity should be less than ± 10.0 (%)

~ END OF REPORT ~

Remark(s): -

relevant international standards.

[&]quot;Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures. The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted form



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PART A - CUSTOMER INFORMATION

Enovative Environmental Service Ltd. Flat 2207, Yu Fun House, Yu Chui Court, Shatin New Territories, Hong Kong Attn: Mr. Thomas WONG

PART B - DESCRIPTION

Name of Equipment

YSI 6920V2 (Multi-Parameters)

Manufacturer

YSI (a xylem brand)

Serial Number

0001C6A7

Date of Received

Jan 20, 2020

Date of Calibration

Jan 20, 2020

Date of Next Calibration(a)

Apr 20, 2020

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter

Reference Method

pH at 25°C

APHA 21e 4500-H+ B APHA 21e 4500-O G

Dissolved Oxygen Conductivity at 25°C

APHA 21e 2510 B

Salinity

APHA 21e 2520 B

Turbidity

APHA 21e 2130 B

Temperature

Section 6 of international Accreditation New Zealand Technical

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

PART D - CALIBRATION RESULTS(b,c)

(1) pH at 25°C

Target (pH unit)	Displayed Reading(d) (pH Unit)	Tolerance(e)(pH Unit)	Results
4.00	3.99	-0.01	Satisfactory
7.42	7.38	-0.04	Satisfactory
10.01	10.06	0.05	Satisfactory

Tolerance of pH should be less than ±0.20 (pH unit)

(2) Temperature

Reading of Ref. thermometer	Displayed Reading (°C)	Tolerance (°C)	Results
10.0	10.04	0.0	Satisfactory
20.0	20.05	0.1	Satisfactory
45.0	44.90	-0.1	Satisfactory

Tolerance limit of temperature should be less than ±2.0 (°C)

~ CONTINUED ON NEXT PAGE ~

Remark(s): -

The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted form relevant international standards.

The results relate only to the calibrated equipment as received

The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.

"Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.

The "Tolerance Limit" mentioned is referenced to YSI product specifications.

LEE Chun-ning, Desmond Senior Chemist



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PART D - CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.92	1.31	0.39	Satisfactory
4.68	4.68	0.00	Satisfactory
5.18	5.33	0.15	Satisfactory
8.84	8.98	0.14	Satisfactory

Tolerance limit of dissolved oxygen should be less than ±0.50 (mg/L)

(4) Conductivity at 25°C

Conc. of KCI (M)	Expected Reading (µS/cm)	Displayed Reading (μS/cm)	Tolerance (%)	Results
0.001	146.9	153.4	4.42	Satisfactory
0.01	1412	1386	-1.84	Satisfactory
0.1	12890	12784	-0.82	Satisfactory
0.5	58670	57934	-1.25	Satisfactory
1.0	111900	110886	-0.91	Satisfactory

Tolerance limit of conductivity should be less than ± 10.0 (%)

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.98	-0.20	Satisfactory
20	20.20	1.00	Satisfactory
30	30.42	1.40	Satisfactory

Tolerance limit of salinity should be less than ±10.0 (%)

(6) Turbidity

Expected Reading (NTU)	Displayed Reading ^(f) (NTU)	Tolerance ^(g) (%)	Results
0	0.2		Satisfactory
10	10.1	1.0	Satisfactory
20	19.8	-1.0	Satisfactory
100	98.7	-1.3	Satisfactory
800	788.4	-1.5	Satisfactory

Tolerance limit of turbidity should be less than ± 10.0 (%)

~ END OF REPORT ~

Remark(s): -

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

The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted form relevant international standards.

Appendix F. Status of Environmental Permits and Licences

	Description	Permit/ Reference No.	Status
EIAO	Environmental Permit	EP-489/2014	Approved on 7 Nov 2014

Contract No.	Description	Location	Permit/ Reference No.	Status
P560 (R)	Notification of Construction Work	Site Office	397151	Receipt acknowledged by EPD on 15 Jan 2016
	under APCO	Stockpiling Area	398015	Receipt acknowledged by EPD on 18 Jan 2016
	Discharge License under WPCO	Stockpiling Area	WT00024250- 2016	Valid from 25 Apr 2016 to 30 Apr 2021
	Registration as Chemical Waste Producer	Stockpiling Area	WPN 5213-951- L2902-02	Registration was updated on 3 Oct 2016
	Bill Account for disposal		A/C 7023982	Approval granted from EPD on 14 Dec 2015
3205	Notification of Construction Work under APCO	Works area of 3205	409041	Receipt acknowledged by EPD on 19 Oct 2016
	Registration as Chemical Waste Producer	Works Area of 3205	WPN 5213-951- B2502-01	Registration was updated on 25 Sep 2017
		Works Area of 3205	WPN 5111-421- B2509-01	Registration was updated on 25 Sep 2017
	Construction Noise Permit (General Works)	Works Area of 3205	GW-RS1094-19	Valid from 10 Dec 2019 to 9 Jun 2020
	Discharge License under WPCO	Works area of 3205	WT00028370- 2017	Valid from 21 Jun 2017 to 30 Jun 2022
	Bill Account for disposal	Works area of 3205	A/C 7026295	Approval granted from EPD on 9 Nov 2016
3206	Notification of Construction Work	Works area of 3206	409237	Receipt acknowledged by EPD on 25 Oct 2016
	under APCO	Works area of 3206 (Area 11)	447899	Receipt acknowledged by EPD on 8 Aug 2019
	Registration as Chemical Waste	Site office of 3206	WPN 5213-951- Z4035-01	Completion of Registration on 18 Nov 2016
	Producer	Works area of 3206	WPN 5213-951- Z4035-02	Completion of Registration on 18 Nov 2016
		Works Area of 3206 (Area 11)	WPN 5213-951- Z4035-04	Completion of Registration on 4 Sep 2019
	Construction Noise Permit (General Works)	Works Area of 3206	GW-RS1059-19	Superseded by GW-RS1194-19
	,		GW-RS1194-19	Valid from 7 Jan 2020 to 1 Jul 2020

Contract No.	Description	Location	Permit/ Reference No.	Status
		Works Area of 3206 (Area 11)	GW-RS1170-19	Valid from 2 Jan 2020 to 24 Jun 2020
	Bill Account for disposal	Works area of 3206	A/C 7026398	Approval granted from EPD on 16 Nov 2016
3301	Notification of Construction Work under APCO	Works area of 3301	415821	Receipt acknowledged by EPD on 19 Apr 2017
	Registration as Chemical Waste Producer	Works area of 3301	WPN 5213-951- F2718-02	Completion of Registration on 9 Jun 2017
	Discharge License under WPCO	Works area of 3301	WT00029286- 2017	Valid from 20 Sep 2017 to 30 Sep 2022
	Bill Account for disposal	Works area of 3301	A/C 7027728	Approval granted from EPD on 8 May 2017
	Construction Noise Permit (General Works)	Works area of 3301 (Cable ducting works)	GW-RS0858-19	Valid from 30 Sep 2019 to 24 Mar 2020
		Works area of 3301	GW-RS0865-19	Valid until from 12 Oct 2019 to 11 Apr 2020
3302	Notification of Construction Work	Works area of 3302	440222	Receipt acknowledged by EPD on 10 Dec 2018
	under APCO	Staging area of 3302	2018CES1	Receipt acknowledged by EPD on 21 Dec 2018
	Registration as Chemical Waste Producer	Works area of 3302	5296-951-C4331- 01	Completion of Registration on 4 Jan 2019
	Discharge License under WPCO	Staging area of 3302	WT00034541- 2019	Valid from 14 Oct 2019 to 31 Oct 2024
	Bill Account for disposal	Works area of 3302	A/C 7032881	Approval granted from EPD on 8 Jan 2019
	Construction Noise Permit (General	Works area of 3302	GW-RS0595-19	Superseded by GW-RS1162-19
	Works)		GW-RS1162-19	Valid from 7 Jan 2020 to 6 Jul 2020
	Construction Noise Permit (Percussive Piling)	Works area of 3302	PP-RS0011-19	Valid until 31 Jan 2020
3303	Notification of Construction Work under APCO	Works area of 3303	445611	Receipt acknowledged by EPD on 27 May 2019
	Registration as Chemical Waste Producer	Works area of 3303	5213-951-S4174- 01	Completion of Registration on 17 Jun 2019
	Bill Account for disposal	Works area of 3303	A/C 7034272	Approval granted from EPD on 10 Jun 2019
	Construction Noise Permit (General Works)	Works area of 3303 (Existing airport)	GW-RS0764-19	Valid from 29 Aug 2019 to 28 Feb 2020
		Works area of 3303 (Reclamation area)	GW-RS1083-19	Valid from 26 Nov 2019 to 25 May 2020
3402	Notification of Construction Work	Works area of 3402	440808	Receipt acknowledged by EPD on 31 Dec 2018
	under APCO	Stockpiling area of 3402	441960	Receipt acknowledged by EPD on 8 Feb 2019

Contract No.	Description	Location	Permit/ Reference No.	Status
	Registration as Chemical Waste Producer	Works area of 3402	WPN 5213-951- W1172-05	Registration was updated on 25 Feb 2019
	Discharge License under WPCO	Works area of 3402	WT00033685- 2019	Valid from 20 Jun 2019 to 30 Jun 2024
	Bill Account for disposal	Works area of 3402	A/C 7032577	Approval granted from EPD on 27 Nov 2018
	Construction Noise Permit (General	Works area of 3402	GW-RS0720-19	Superseded by GW-RS1210-19
	Works)		GW-RS1210-19	Valid from 15 Jan 2020 to 14 Jul 2020
3403	Notification of Construction Work under APCO	Works area of 3403	448504	Receipt acknowledged by EPD on 28 Aug 2019
	Registration as Chemical Waste Producer	Works area of 3403	WPN 5213-951- S4218-01	Completion of Registration on 9 Jan 2020
	Bill Account for disposal	Works area of 3403	A/C 7035267	Approval granted from EPD on 30 Sep 2019
3501	Notification of Construction Work under APCO	Works area of 3501	434640	Receipt acknowledged by EPD on 13 Jun 2018
	Registration as Chemical Waste Producer	Works area of 3501	WPN 5213-951- B2520-02	Completion of Registration on 25 Jul 2017
	Discharge License under WPCO	Works area of 3501	WT00031400- 2018	Valid from 30 Aug 2018 to 31 Aug 2023
	Bill Account for disposal	Works area of 3501	A/C 7028144	Approval granted from EPD on 23 Jun 2017
	Construction Noise Permit (General Works)	Works area of 3501	GW-RS0796-19	Valid from 5 Sep 2019 to 2 Mar 2020
3503	Notification of Construction Work	Works area of 3503	435180	Receipt acknowledged by EPD on 29 Jun 2018
	under APCO	Stockpiling area of 3503	439777	Receipt acknowledged by EPD on 26 Nov 2018
	Registration as Chemical Waste Producer	Works area of 3503	WPN 5113-951- L2845-02	Completion of Registration on 8 Jan 2018
	Discharge License under WPCO	Works area of 3503	WT00031258- 2018	Valid from 7 Jun 2018 to 30 Jun 2023
		Stockpiling area of 3503	WT00031826- 2018	Valid from 18 Sep 2018 to 30 Sep 2023
	Bill Account for disposal	Works area of 3503	A/C 7029665	Approval granted from EPD on 27 Dec 2017
	Construction Noise	Works area of	GW-RS0961-19	Superseded by GW-RS1191-19
	Permit (General Works)	3503	GW-RS1191-19	Valid from 8 Jan 2020 to 30 Jun 2020
		Stockpiling area of 3503	GW-RS1012-19	Valid from 14 Nov 2019 to 13 May 2020
		Stockpiling area of 3503	GW-RS1180-19	Valid from 4 Jan 2020 to 30 Jun 2020
3602	Notification of Construction Work under APCO	Works area of 3602	421278	Receipt acknowledged by EPD on 18 Sep 2017

Contract No.	Description	Location	Permit/ Reference No.	Status
	Registration as Chemical Waste	Works area of 3602	WPN 5296-951- N2673-01	Completion of Registration on 9 Oct 2017
	Producer	Site office of 3602	WPN 5296-951- N2673-02	Completion of Registration on 11 Dec 2017
	Bill Account for disposal	Works area of 3602	A/C 7028942	Approval granted from EPD on 6 Oct 2017
	Construction Noise Permit (General Works)	Works area of 3602	GW-RS0888-19	Valid from 8 Oct 2019 to 31 Mar 2020
3603	Notification of Construction Work under APCO	Site office of 3603	433604	Receipt acknowledged by EPD on 16 May 2018
	Registration as Chemical Waste Producer	Works area of 3603	WPN 5296-951- S4069-01	Completion of Registration on 22 Jan 2018
	Bill Account for disposal	Works area of 3603	A/C 7030002	Approval granted from EPD on 1 Feb 2018
	Construction Noise Permit (General Works)	Works area of 3603	GW-RS0909-19	Valid from 25 Oct 2019 to 23 Apr 2020
3721	Notification of Construction Work under APCO	Works area of 3721	448657	Receipt acknowledged by EPD on 02 Sep 2019
	Registration as Chemical Waste Producer	Works area of 3721	WPN 5218-951- C4412-01	Completion of Registration on 9 Dec 2019
	Bill Account for disposal	Works area of 3721	A/C 705234	Approval granted from EPD on 25 Sep 2019
3801	Notification of Construction Work	Works area of 3801	418345	Receipt acknowledged by EPD on 26 Jun 2017
	under APCO		430372	Receipt acknowledged by EPD on 2 Feb 2018
			435652	Receipt acknowledged by EPD on 16 Jul 2018
			450940	Receipt acknowledged by EPD on 13 Nov 2019
	Registration as Chemical Waste Producer	Works area of 3801	WPN 5296-951- C1169-53	Completion of Registration on 14 Aug 2018
	Discharge License under WPCO	Works and stockpiling area of 3801	WT00029535- 2017	Valid from 24 Nov 2017 to 30 Nov 2022
	Bill Account for disposal	Works area of 3801	A/C 7028254	Approval granted from EPD on 3 Jul 2017
	Construction Noise	Works and	GW-RS0782-19	Superseded by GW-RS1212-19
	Permit (General Works)	stockpiling area of 3801	GW-RS1212-19	Valid from 9 Jan 2020 to 8 Jul 2020
		Works area of 3801	GW-RS1126-19	Valid from 27 Dec 2019 to 26 Mar 2020

Appendix G. Cumulative Statistics on Exceedances, Environmental Complaints, Notification of Summons and Status of Prosecutions

Statistics for Exceedances for 1-hour TSP, Noise, Water, Waste, CWD Monitoring

		Total no. recorded in the reporting period	Total no. recorded since the project commenced
1-hr TSP	Action	0	0
	Limit	0	0
Noise	Action	0	0
	Limit	0	0
Water	Action	0	0
	Limit	0	0
Waste	Action	0	0
	Limit	0	0
CWD	Action	0	0
	Limit	0	0

Remark: Exceedances, which are not project related, are not shown in this table.

Statistics for Complaints, Notifications of Summons and Prosecutions

Reporting Period	Cumulative Statistics					
	Complaints	Notifications of Summons	Prosecutions			
This reporting period	0	0	0			
From 28 December 2015 to end of the reporting period	17	1	1			

Appendix H. Data of SkyPier HSF Movements to/from Zhuhai and Macau (between 1 and 31 January 2020)

<u>Data of SkyPier HSF Movements to/from Zhuhai and Macau (between 1 and 31 January 2020)</u>

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [XZM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
1-Jan	8:25	3A061	YFT	Arrival	12.4	-	-
1-Jan	9:59	3A081	ZUI	Arrival	11.3	-	-
1-Jan	10:16	8S212	XZM	Arrival	11	-	-
1-Jan	10:26	3A181	ZUI	Departure	12.7	-	-
1-Jan	11:06	8S121	XZM	Departure	12.5	-	-
1-Jan	12:41	8S215	XZM	Arrival	12.7	-	-
1-Jan	13:57	3A082	ZUI	Arrival	12.1	-	-
1-Jan	14:11	3A182	ZUI	Departure	13.3	-	-
1-Jan	14:52	3A065	YFT	Arrival	13.4	-	-
1-Jan	16:34	3A167	YFT	Departure	13.6	-	-
1-Jan	16:56	3A067	YFT	Arrival	11.6	-	-
1-Jan	16:59	3A083	ZUI	Arrival	13.2	-	-
1-Jan	17:21	3A183	ZUI	Departure	13.3	-	-
1-Jan	18:07	8S126	XZM	Departure	13	-	-
1-Jan	20:35	3A084	ZUI	Arrival	13.1	-	-
1-Jan	20:45	8S2113	XZM	Arrival	12.8	-	-
1-Jan	20:55	3A185	ZUI	Departure	13.1	-	-
2-Jan	8:26	3A061	YFT	Arrival	12.4	1	-
2-Jan	9:56	3A081	ZUI	Arrival	12.7	-	-
2-Jan	10:16	8S212	XZM	Arrival	12	-	-
2-Jan	10:24	3A181	ZUI	Departure	12.8	-	-
2-Jan	11:01	8S121	XZM	Departure	12.1	-	-
2-Jan	12:47	8S215	XZM	Arrival	12.3	-	-
2-Jan	13:54	3A082	ZUI	Arrival	12.7	-	-
2-Jan	14:12	3A182	ZUI	Departure	13.5	-	-
2-Jan	14:55	3A065	YFT	Arrival	11.3	-	-
2-Jan	16:16	3A167	YFT	Departure	11.7	-	-
2-Jan	16:52	3A067	YFT	Arrival	12.4	-	-
2-Jan	16:53	3A083	ZUI	Arrival	13.2	-	-
2-Jan	17:15	3A183	ZUI	Departure	12.8	-	-
2-Jan	18:19	8S126	XZM	Departure	12.5	-	-
2-Jan	20:33	3A084	ZUI	Arrival	13.4	-	-
2-Jan	20:57	3A185	ZUI	Departure	12.9	-	-
2-Jan	21:04	8S2113	XZM	Arrival	12.2	-	-
3-Jan	8:28	3A061	YFT	Arrival	12.1	-	-
3-Jan	9:57	3A081	ZUI	Arrival	12.8	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [XZM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
3-Jan	10:16	8S212	XZM	Arrival	11.9	1	-
3-Jan	10:28	3A181	ZUI	Departure	13.3	-	-
3-Jan	11:06	8S121	XZM	Departure	12.7	-	-
3-Jan	12:47	8S215	XZM	Arrival	11.8	-	-
3-Jan	13:55	3A082	ZUI	Arrival	12.6	-	-
3-Jan	14:09	3A182	ZUI	Departure	12.7	-	-
3-Jan	14:52	3A065	YFT	Arrival	13	-	-
3-Jan	16:25	3A167	YFT	Departure	13.6	-	-
3-Jan	16:58	3A067	YFT	Arrival	12.8	-	-
3-Jan	17:13	3A083	ZUI	Arrival	12.9	-	-
3-Jan	17:25	3A183	ZUI	Departure	12.4	-	-
3-Jan	18:11	8S126	XZM	Departure	11.3	-	-
3-Jan	20:35	3A084	ZUI	Arrival	13.5	-	-
3-Jan	20:56	3A185	ZUI	Departure	12.8	-	-
3-Jan	21:15	8S2113	XZM	Arrival	11.8	-	-
4-Jan	8:24	3A061	YFT	Arrival	11.7	-	-
4-Jan	9:54	3A081	ZUI	Arrival	12.8	-	-
4-Jan	10:24	8S212	XZM	Arrival	12.3	-	-
4-Jan	10:27	3A181	ZUI	Departure	12.5	-	-
4-Jan	11:06	8S121	XZM	Departure	13	-	-
4-Jan	12:44	8S215	XZM	Arrival	12.4	-	-
4-Jan	13:54	3A082	ZUI	Arrival	12.7	-	-
4-Jan	14:09	3A182	ZUI	Departure	13	-	-
4-Jan	14:58	3A065	YFT	Arrival	11.6	-	-
4-Jan	16:26	3A167	YFT	Departure	11.9	-	-
4-Jan	16:52	3A083	ZUI	Arrival	12.9	-	-
4-Jan	16:52	3A067	YFT	Arrival	13.1	-	-
4-Jan	17:13	3A183	ZUI	Departure	13.3	-	-
4-Jan	18:07	8S126	XZM	Departure	13.8	-	-
4-Jan	20:32	3A084	ZUI	Arrival	13.3	-	-
4-Jan	20:49	8S2113	XZM	Arrival	12.9	-	-
4-Jan	20:57	3A185	ZUI	Departure	12.7	-	-
5-Jan	8:26	3A061	YFT	Arrival	11.9	-	-
5-Jan	9:55	3A081	ZUI	Arrival	13.2	-	-
5-Jan	10:05	8S212	XZM	Arrival	12.1	-	-
5-Jan	10:06	3A181	ZUI	Departure	12.6	-	-
5-Jan	11:02	8S121	XZM	Departure	13	-	-
5-Jan	12:42	8S215	XZM	Arrival	12.3	-	-
5-Jan	13:55	3A082	ZUI	Arrival	12.9	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [XZM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
5-Jan	14:12	3A182	ZUI	Departure	13.1	-	-
5-Jan	14:58	3A065	YFT	Arrival	11.6	1	-
5-Jan	16:28	3A167	YFT	Departure	12.3	-	-
5-Jan	16:54	3A083	ZUI	Arrival	12.9	-	-
5-Jan	16:56	3A067	YFT	Arrival	11.5	-	-
5-Jan	17:13	3A183	ZUI	Departure	13.5	-	-
5-Jan	17:59	8S126	XZM	Departure	12.3	-	-
5-Jan	20:42	3A084	ZUI	Arrival	13	-	-
5-Jan	20:48	8S2113	XZM	Arrival	12.1	-	-
5-Jan	20:57	3A185	ZUI	Departure	12.7	-	-
6-Jan	8:25	3A061	YFT	Arrival	11.6	-	-
6-Jan	9:57	3A081	ZUI	Arrival	12.1	-	-
6-Jan	10:19	8S212	XZM	Arrival	12.6	-	-
6-Jan	10:21	3A181	ZUI	Departure	12	-	-
6-Jan	11:06	8S121	XZM	Departure	13.2	-	-
6-Jan	12:35	8S215	XZM	Arrival	11.9	-	-
6-Jan	13:55	3A082	ZUI	Arrival	12.3	-	-
6-Jan	14:12	3A182	ZUI	Departure	12.6	-	-
6-Jan	14:53	3A065	YFT	Arrival	11.4	-	-
6-Jan	16:24	3A167	YFT	Departure	12.8	-	-
6-Jan	16:54	3A083	ZUI	Arrival	12.5	-	-
6-Jan	16:56	3A067	YFT	Arrival	11.7	-	-
6-Jan	17:27	3A183	ZUI	Departure	13.4	-	-
6-Jan	18:17	8S126	XZM	Departure	13.1	-	-
6-Jan	20:34	3A084	ZUI	Arrival	12.9	-	-
6-Jan	20:54	8S2113	XZM	Arrival	13.1	-	-
6-Jan	20:59	3A185	ZUI	Departure	12.9	-	-
7-Jan	8:27	3A061	YFT	Arrival	13	-	-
7-Jan	9:54	3A081	ZUI	Arrival	12.6	-	-
7-Jan	10:19	8S212	XZM	Arrival	12.7	-	-
7-Jan	10:27	3A181	ZUI	Departure	12.4	-	-
7-Jan	11:01	8S121	XZM	Departure	12.5	-	-
7-Jan	12:36	8S215	XZM	Arrival	13.2	-	-
7-Jan	13:54	3A082	ZUI	Arrival	12.7	-	-
7-Jan	14:11	3A182	ZUI	Departure	12.6	-	-
7-Jan	14:57	3A065	YFT	Arrival	11.4	-	-
7-Jan	16:20	3A167	YFT	Departure	13.1	-	-
7-Jan	16:51	3A067	YFT	Arrival	11.5	-	-
7-Jan	16:54	3A083	ZUI	Arrival	12.7		-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [XZM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
7-Jan	17:18	3A183	ZUI	Departure	13.6	-	-
7-Jan	18:00	8S126	XZM	Departure	12.6	1	-
7-Jan	20:34	3A084	ZUI	Arrival	13.1	-	-
7-Jan	20:47	8S2113	XZM	Arrival	11.9	-	-
7-Jan	20:58	3A185	ZUI	Departure	12.9	-	-
8-Jan	8:22	3A061	YFT	Arrival	12.6	-	-
8-Jan	9:57	3A081	ZUI	Arrival	12.6	-	-
8-Jan	10:18	8S212	XZM	Arrival	12.1	-	-
8-Jan	10:26	3A181	ZUI	Departure	12.8	-	-
8-Jan	11:03	8S121	XZM	Departure	11.8	-	-
8-Jan	12:34	8S215	XZM	Arrival	11.7	-	-
8-Jan	13:58	3A082	ZUI	Arrival	11.4	-	-
8-Jan	14:09	3A182	ZUI	Departure	13.1	-	-
8-Jan	14:55	3A065	YFT	Arrival	11.7	-	-
8-Jan	16:15	3A167	YFT	Departure	12.5	-	-
8-Jan	16:56	3A083	ZUI	Arrival	11.8	-	-
8-Jan	16:58	3A067	YFT	Arrival	11	-	-
8-Jan	17:16	3A183	ZUI	Departure	13.5	-	-
8-Jan	18:04	8S126	XZM	Departure	12.3	<= 5	< 1min
8-Jan	20:34	3A084	ZUI	Arrival	13.2	-	-
8-Jan	20:55	3A185	ZUI	Departure	12.8	-	-
8-Jan	21:26	8S2113	XZM	Arrival	13	-	-
9-Jan	8:28	3A061	YFT	Arrival	10.9	-	-
9-Jan	10:01	3A081	ZUI	Arrival	12.6	-	-
9-Jan	10:27	8S212	XZM	Arrival	12.2	-	-
9-Jan	10:41	3A181	ZUI	Departure	13	-	-
9-Jan	11:14	8S121	XZM	Departure	13.2	-	-
9-Jan	12:31	8S215	XZM	Arrival	12.7	-	-
9-Jan	14:01	3A082	ZUI	Arrival	12	-	-
9-Jan	14:16	3A182	ZUI	Departure	11.7	-	-
9-Jan	14:58	3A065	YFT	Arrival	12.4	-	-
9-Jan	16:26	3A167	YFT	Departure	12.7	-	-
9-Jan	16:53	3A067	YFT	Arrival	12.4	-	-
9-Jan	16:54	3A083	ZUI	Arrival	12.4	-	-
9-Jan	17:16	3A183	ZUI	Departure	13.6	-	-
9-Jan	18:13	8S126	XZM	Departure	12.5	-	-
9-Jan	20:33	3A084	ZUI	Arrival	12.8	-	-
9-Jan	20:54	8S2113	XZM	Arrival	12.6	-	-
9-Jan	20:58	3A185	ZUI	Departure	13.2	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [XZM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
10-Jan	8:22	3A061	YFT	Arrival	12	-	-
10-Jan	10:03	3A081	ZUI	Arrival	12.4	1	-
10-Jan	10:22	8S212	XZM	Arrival	11	-	-
10-Jan	10:37	3A181	ZUI	Departure	13	-	-
10-Jan	11:05	8S121	XZM	Departure	11.9	-	-
10-Jan	12:35	8S215	XZM	Arrival	12.5	-	-
10-Jan	13:54	3A082	ZUI	Arrival	12.5	-	-
10-Jan	14:15	3A182	ZUI	Departure	12.6	-	-
10-Jan	15:06	3A065	YFT	Arrival	13.1	-	-
10-Jan	16:20	3A167	YFT	Departure	13.3	-	-
10-Jan	16:59	3A067	YFT	Arrival	12.3	-	-
10-Jan	17:03	3A083	ZUI	Arrival	11.9	-	-
10-Jan	17:19	3A183	ZUI	Departure	13	-	-
10-Jan	18:06	8S126	XZM	Departure	11.2	-	-
10-Jan	20:43	3A084	ZUI	Arrival	12	-	-
10-Jan	20:53	8S2113	XZM	Arrival	11.8	-	-
10-Jan	20:56	3A185	ZUI	Departure	13.2	-	-
11-Jan	8:22	3A061	YFT	Arrival	11.2	-	-
11-Jan	10:05	3A081	ZUI	Arrival	12.9	-	-
11-Jan	10:15	8S212	XZM	Arrival	12.3	-	-
11-Jan	10:35	3A181	ZUI	Departure	13.1	-	-
11-Jan	11:04	8S121	XZM	Departure	12.5	-	-
11-Jan	12:30	8S215	XZM	Arrival	12.5	-	-
11-Jan	13:54	3A082	ZUI	Arrival	13.5	-	-
11-Jan	14:13	3A182	ZUI	Departure	13	-	-
11-Jan	14:55	3A065	YFT	Arrival	11.7	-	-
11-Jan	16:15	3A167	YFT	Departure	11.9	-	-
11-Jan	16:56	3A067	YFT	Arrival	11.9	-	-
11-Jan	16:57	3A083	ZUI	Arrival	13.2	-	-
11-Jan	17:19	3A183	ZUI	Departure	13.2	-	-
11-Jan	18:07	8S126	XZM	Departure	11.7	-	-
11-Jan	20:42	3A084	ZUI	Arrival	13.1	-	-
11-Jan	20:51	8S2113	XZM	Arrival	11.7	-	-
11-Jan	20:56	3A185	ZUI	Departure	12.5	-	-
12-Jan	8:26	3A061	YFT	Arrival	10.8	-	-
12-Jan	9:56	3A081	ZUI	Arrival	12.8	-	-
12-Jan	10:23	8S212	XZM	Arrival	10.7	-	-
12-Jan	10:33	3A181	ZUI	Departure	13	-	-
12-Jan	11:01	8S121	XZM	Departure	13.5	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [XZM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
12-Jan	12:47	8S215	XZM	Arrival	12.1	-	-
12-Jan	14:03	3A082	ZUI	Arrival	13.5	-	-
12-Jan	14:17	3A182	ZUI	Departure	13.1	-	-
12-Jan	14:53	3A065	YFT	Arrival	12	-	-
12-Jan	16:16	3A167	YFT	Departure	13.1	-	-
12-Jan	16:55	3A067	YFT	Arrival	12.8	-	-
12-Jan	16:59	3A083	ZUI	Arrival	13.2	-	-
12-Jan	17:22	3A183	ZUI	Departure	12.9	-	-
12-Jan	18:07	8S126	XZM	Departure	11.5	-	-
12-Jan	20:35	3A084	ZUI	Arrival	13.2	-	-
12-Jan	20:58	8S2113	XZM	Arrival	11.7	-	-
12-Jan	20:59	3A185	ZUI	Departure	13.2	-	-
13-Jan	8:23	3A061	YFT	Arrival	11.5	-	-
13-Jan	10:07	3A081	ZUI	Arrival	12.2	-	-
13-Jan	10:21	8S212	XZM	Arrival	11.2	-	-
13-Jan	10:41	3A181	ZUI	Departure	12.7	-	-
13-Jan	11:04	8S121	XZM	Departure	11.7	-	-
13-Jan	12:33	8S215	XZM	Arrival	11.8	-	-
13-Jan	13:53	3A082	ZUI	Arrival	13.3	-	-
13-Jan	14:14	3A182	ZUI	Departure	12.8	-	-
13-Jan	14:57	3A065	YFT	Arrival	12.1	-	-
13-Jan	16:15	3A167	YFT	Departure	12.2	-	-
13-Jan	16:55	3A083	ZUI	Arrival	13.4	-	-
13-Jan	16:56	3A067	YFT	Arrival	12.5	-	-
13-Jan	17:18	3A183	ZUI	Departure	12.9	-	-
13-Jan	18:09	8S126	XZM	Departure	12.7	-	-
13-Jan	20:39	3A084	ZUI	Arrival	12.4	-	-
13-Jan	20:44	8S2113	XZM	Arrival	12.5	-	-
13-Jan	20:57	3A185	ZUI	Departure	12.8	-	-
14-Jan	8:27	3A061	YFT	Arrival	11.3	-	-
14-Jan	10:05	3A081	ZUI	Arrival	12.8	-	-
14-Jan	10:26	8S212	XZM	Arrival	11.9	-	-
14-Jan	10:48	3A181	ZUI	Departure	13.2	-	-
14-Jan	11:01	8S121	XZM	Departure	12.3	-	-
14-Jan	12:30	8S215	XZM	Arrival	12.9	-	-
14-Jan	13:53	3A082	ZUI	Arrival	13.4	-	-
14-Jan	14:18	3A182	ZUI	Departure	12.1	-	-
14-Jan	14:56	3A065	YFT	Arrival	11	-	-
14-Jan	16:21	3A167	YFT	Departure	11.3	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [XZM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
14-Jan	16:52	3A067	YFT	Arrival	12.2	-	-
14-Jan	16:59	3A083	ZUI	Arrival	11.9	-	-
14-Jan	17:18	3A183	ZUI	Departure	13	-	-
14-Jan	18:05	8S126	XZM	Departure	12.5	-	-
14-Jan	20:40	3A084	ZUI	Arrival	12.7	-	-
14-Jan	20:47	8S2113	XZM	Arrival	12	-	-
14-Jan	20:59	3A185	ZUI	Departure	12.9	-	-
15-Jan	8:27	3A061	YFT	Arrival	12.3	-	-
15-Jan	10:03	3A081	ZUI	Arrival	12.9	-	-
15-Jan	10:18	8S212	XZM	Arrival	11	-	-
15-Jan	10:35	3A181	ZUI	Departure	11.8	-	-
15-Jan	11:11	8S121	XZM	Departure	11.6	-	-
15-Jan	12:34	8S215	XZM	Arrival	12.8	-	-
15-Jan	13:56	3A082	ZUI	Arrival	12.7	-	-
15-Jan	14:13	3A182	ZUI	Departure	13.3	-	-
15-Jan	14:53	3A065	YFT	Arrival	12.3	-	-
15-Jan	16:16	3A167	YFT	Departure	12.6	-	-
15-Jan	16:57	3A067	YFT	Arrival	12.9	-	-
15-Jan	17:06	3A083	ZUI	Arrival	13.3	-	-
15-Jan	17:20	3A183	ZUI	Departure	13.2	-	-
15-Jan	17:59	8S126	XZM	Departure	13.2	-	-
15-Jan	20:37	3A084	ZUI	Arrival	12.4	-	-
15-Jan	20:51	8S2113	XZM	Arrival	12.5	-	-
15-Jan	20:57	3A185	ZUI	Departure	13.2	1	-
16-Jan	8:26	3A061	YFT	Arrival	12.5	-	-
16-Jan	10:04	3A081	ZUI	Arrival	12.5	-	-
16-Jan	10:25	8S212	XZM	Arrival	11.1	-	-
16-Jan	10:42	3A181	ZUI	Departure	12.9	-	-
16-Jan	11:01	8S121	XZM	Departure	11.8	-	-
16-Jan	12:34	8S215	XZM	Arrival	12.2	-	-
16-Jan	14:00	3A082	ZUI	Arrival	12.3	-	-
16-Jan	14:14	3A182	ZUI	Departure	12.8	-	-
16-Jan	14:57	3A065	YFT	Arrival	11.7	-	-
16-Jan	16:15	3A167	YFT	Departure	11.8	-	-
16-Jan	16:53	3A067	YFT	Arrival	12.9	-	-
16-Jan	17:00	3A083	ZUI	Arrival	13.3	-	-
16-Jan	17:18	3A183	ZUI	Departure	11.6	-	-
16-Jan	18:12	8S126	XZM	Departure	12.9	-	-
16-Jan	20:39	3A084	ZUI	Arrival	12.9	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [XZM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
16-Jan	20:49	8S2113	XZM	Arrival	11.5	-	-
16-Jan	21:00	3A185	ZUI	Departure	12.3	-	-
17-Jan	8:27	3A061	YFT	Arrival	11.6	-	-
17-Jan	10:05	3A081	ZUI	Arrival	12.5	-	-
17-Jan	10:21	8S212	XZM	Arrival	11.7	-	-
17-Jan	10:44	3A181	ZUI	Departure	13	-	-
17-Jan	11:09	8S121	XZM	Departure	13	-	-
17-Jan	12:36	8S215	XZM	Arrival	12.3	-	-
17-Jan	14:02	3A082	ZUI	Arrival	11.6	-	-
17-Jan	14:16	3A182	ZUI	Departure	13	-	-
17-Jan	15:09	3A065	YFT	Arrival	12.4	-	-
17-Jan	16:17	3A167	YFT	Departure	12.8	-	-
17-Jan	16:57	3A083	ZUI	Arrival	12.7	-	-
17-Jan	17:01	3A067	YFT	Arrival	11.8	-	-
17-Jan	17:14	3A183	ZUI	Departure	12.5	-	-
17-Jan	18:04	8S126	XZM	Departure	12.7	-	-
17-Jan	20:35	3A084	ZUI	Arrival	12.7	-	-
17-Jan	20:48	8S2113	XZM	Arrival	12.8	-	-
17-Jan	20:58	3A185	ZUI	Departure	12.2	-	-
18-Jan	8:26	3A061	YFT	Arrival	11.9	-	-
18-Jan	10:15	8S212	XZM	Arrival	12.6	-	-
18-Jan	10:19	3A081	ZUI	Arrival	10.9	-	-
18-Jan	10:57	3A181	ZUI	Departure	12.8	-	-
18-Jan	11:09	8S121	XZM	Departure	13.1	-	-
18-Jan	12:43	8S215	XZM	Arrival	11.8	-	-
18-Jan	14:05	3A082	ZUI	Arrival	12.2	-	-
18-Jan	14:18	3A182	ZUI	Departure	13.1	-	-
18-Jan	14:50	3A065	YFT	Arrival	12.5	-	-
18-Jan	16:17	3A167	YFT	Departure	12	-	-
18-Jan	16:44	3A083	ZUI	Arrival	13.2	-	-
18-Jan	16:52	3A067	YFT	Arrival	12.3	-	-
18-Jan	17:27	3A183	ZUI	Departure	12.8	-	-
18-Jan	18:07	8S126	XZM	Departure	13.1	-	-
18-Jan	20:25	3A084	ZUI	Arrival	12.3	-	-
18-Jan	20:54	8S2113	XZM	Arrival	12.6	-	-
18-Jan	20:57	3A185	ZUI	Departure	12.9	-	-
19-Jan	8:25	3A061	YFT	Arrival	12.7	-	-
19-Jan	10:12	3A081	ZUI	Arrival	13.1	-	-
19-Jan	10:16	8S212	XZM	Arrival	12	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [XZM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
19-Jan	10:27	3A181	ZUI	Departure	12.1	1	-
19-Jan	10:57	8S121	XZM	Departure	12.1	-	-
19-Jan	12:37	8S215	XZM	Arrival	12	-	-
19-Jan	13:45	3A082	ZUI	Arrival	13	-	-
19-Jan	14:10	3A182	ZUI	Departure	12.7	-	-
19-Jan	14:54	3A065	YFT	Arrival	11.1	-	-
19-Jan	16:22	3A167	YFT	Departure	11.7	-	-
19-Jan	16:57	3A067	YFT	Arrival	11.2	-	-
19-Jan	16:59	3A083	ZUI	Arrival	12.9	-	-
19-Jan	17:16	3A183	ZUI	Departure	12.7	-	-
19-Jan	18:00	8S126	XZM	Departure	11.3	-	-
19-Jan	20:30	3A084	ZUI	Arrival	12.7**	-	-
19-Jan	20:55	8S2113	XZM	Arrival	11.5	-	-
19-Jan	20:56	3A185	ZUI	Departure	12.7	-	-
20-Jan	8:21	3A061	YFT	Arrival	12.8	-	-
20-Jan	9:42	3A081	ZUI	Arrival	12.8	-	-
20-Jan	10:18	8S212	XZM	Arrival	12.1	-	-
20-Jan	10:20	3A181	ZUI	Departure	13.3**	-	-
20-Jan	11:01	8S121	XZM	Departure	12.4	-	-
20-Jan	12:33	8S215	XZM	Arrival	13	-	-
20-Jan	13:48	3A082	ZUI	Arrival	12.4	-	-
20-Jan	14:08	3A182	ZUI	Departure	12.6	-	-
20-Jan	14:54	3A065	YFT	Arrival	11.7	-	-
20-Jan	16:17	3A167	YFT	Departure	13.1	-	-
20-Jan	16:42	3A083	ZUI	Arrival	12.8	-	-
20-Jan	16:57	3A067	YFT	Arrival	12.9	-	-
20-Jan	17:17	3A183	ZUI	Departure	13	-	-
20-Jan	18:05	8S126	XZM	Departure	13	-	-
20-Jan	20:48	8S2113	XZM	Arrival	12.3	-	-
20-Jan	20:50	3A084	ZUI	Arrival	13	-	-
20-Jan	21:07	3A185	ZUI	Departure	11.7	-	-
21-Jan	8:25	3A061	YFT	Arrival	11.9	-	-
21-Jan	9:58	3A081	ZUI	Arrival	12.7	-	-
21-Jan	10:24	8S212	XZM	Arrival	11.8	-	-
21-Jan	10:33	3A181	ZUI	Departure	12.2	-	-
21-Jan	11:06	8S121	XZM	Departure	11.5	-	-
21-Jan	12:45	8S215	XZM	Arrival	11.8	-	-
21-Jan	13:56	3A082	ZUI	Arrival	12.5	-	-
21-Jan	14:09	3A182	ZUI	Departure	12.2	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [XZM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
21-Jan	14:54	3A065	YFT	Arrival	12.4	-	-
21-Jan	16:13	3A167	YFT	Departure	12.6	-	-
21-Jan	16:53	3A067	YFT	Arrival	12	-	-
21-Jan	16:57	3A083	ZUI	Arrival	12	-	-
21-Jan	17:19	3A183	ZUI	Departure	13.2	-	-
21-Jan	18:03	8S126	XZM	Departure	12	-	-
21-Jan	20:36	3A084	ZUI	Arrival	12.6	-	-
21-Jan	20:55	8S2113	XZM	Arrival	11.5	-	-
21-Jan	21:00	3A185	ZUI	Departure	12.1	-	-
22-Jan	8:24	3A061	YFT	Arrival	11	-	-
22-Jan	9:58	3A081	ZUI	Arrival	12.3	-	-
22-Jan	10:21	8S212	XZM	Arrival	12.2	-	-
22-Jan	10:34	3A181	ZUI	Departure	12.4	-	-
22-Jan	11:09	8S121	XZM	Departure	12.5	-	-
22-Jan	12:39	8S215	XZM	Arrival	12.6	-	-
22-Jan	13:56	3A082	ZUI	Arrival	12.8	-	-
22-Jan	14:11	3A182	ZUI	Departure	12.5	-	-
22-Jan	14:53	3A065	YFT	Arrival	13	-	-
22-Jan	16:20	3A167	YFT	Departure	13.2	-	-
22-Jan	16:52	3A067	YFT	Arrival	13.1	-	-
22-Jan	17:08	3A083	ZUI	Arrival	12	-	-
22-Jan	17:24	3A183	ZUI	Departure	12.7	-	-
22-Jan	18:08	8S126	XZM	Departure	13.5	-	-
22-Jan	20:35	3A084	ZUI	Arrival	12.9	-	-
22-Jan	20:44	8S2113	XZM	Arrival	13.4	-	-
22-Jan	21:08	3A185	ZUI	Departure	12.5	-	-
23-Jan	8:28	3A061	YFT	Arrival	11.7	-	-
23-Jan	10:06	3A081	ZUI	Arrival	12.3	-	-
23-Jan	10:15	8S212	XZM	Arrival	12	-	-
23-Jan	10:44	3A181	ZUI	Departure	12.8	-	-
23-Jan	11:03	8S121	XZM	Departure	12.6	-	-
23-Jan	12:35	8S215	XZM	Arrival	12.1	-	-
23-Jan	13:55	3A082	ZUI	Arrival	12.9	-	-
23-Jan	14:12	3A182	ZUI	Departure	12.5	-	-
23-Jan	14:54	3A065	YFT	Arrival	12.6	-	-
23-Jan	16:15	3A167	YFT	Departure	12.7	-	-
23-Jan	16:58	3A067	YFT	Arrival	11.7	-	-
23-Jan	16:59	3A083	ZUI	Arrival	12.2	-	-
23-Jan	17:29	3A183	ZUI	Departure	13.2	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [XZM - Macao (Maritime Ferry Terminal) YFT - Macao (Taipa) ZUI - Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
23-Jan	18:13	8S126	XZM	Departure	12.5	-	-
23-Jan	20:41	3A084	ZUI	Arrival	12.1	1	-
23-Jan	20:48	8S2113	XZM	Arrival	12.5	-	-
23-Jan	21:16	3A185	ZUI	Departure	12.6	-	-
24-Jan	8:24	3A061	YFT	Arrival	12	-	-
24-Jan	9:57	3A081	ZUI	Arrival	12.3	-	-
24-Jan	10:04	8S212	XZM	Arrival	11.5	-	-
24-Jan	10:45	3A181	ZUI	Departure	12.9	-	-
24-Jan	11:03	8S121	XZM	Departure	12.2	-	-
24-Jan	12:31	8S215	XZM	Arrival	12.5	-	-
24-Jan	13:54	3A082	ZUI	Arrival	12.7	-	-
24-Jan	14:09	3A182	ZUI	Departure	12.7	-	-
24-Jan	14:53	3A065	YFT	Arrival	11.9	-	-
24-Jan	16:17	3A167	YFT	Departure	12.3	-	-
24-Jan	16:52	3A067	YFT	Arrival	12.6	-	-
24-Jan	16:57	3A083	ZUI	Arrival	12.1	-	-
24-Jan	17:14	3A183	ZUI	Departure	12.9	-	-
24-Jan	18:13	8S126	XZM	Departure	12.6	-	-
24-Jan	20:40	3A084	ZUI	Arrival	12.3	-	-
24-Jan	20:50	8S2113	XZM	Arrival	12.4	-	-
24-Jan	20:57	3A185	ZUI	Departure	13	-	-
25-Jan	8:24	3A061	YFT	Arrival	12	-	-
25-Jan	10:01	8S212	XZM	Arrival	11.1	-	-
25-Jan	10:01	3A081	ZUI	Arrival	12.2	-	-
25-Jan	10:28	3A181	ZUI	Departure	13.1	-	-
25-Jan	10:58	8S121	XZM	Departure	12.2	-	-
25-Jan	12:36	8S215	XZM	Arrival	12.6	-	-
25-Jan	14:06	3A082	ZUI	Arrival	12.9	-	-
25-Jan	14:19	3A182	ZUI	Departure	12.6	-	-
25-Jan	14:58	3A065	YFT	Arrival	11.3	-	-
25-Jan	16:11	3A167	YFT	Departure	12	-	-
25-Jan	16:57	3A067	YFT	Arrival	11.8	-	-
25-Jan	17:03	3A083	ZUI	Arrival	12.6	-	-
25-Jan	17:20	3A183	ZUI	Departure	12.7	-	-
25-Jan	18:01	8S126	XZM	Departure	12.7	-	-
25-Jan	20:45	3A084	ZUI	Arrival	12.1	-	-
25-Jan	20:48	8S2113	XZM	Arrival	12	-	
25-Jan	21:03	3A185	ZUI	Departure	13.1	-	-
26-Jan	8:32	3A061	YFT	Arrival	11.6	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [XZM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
26-Jan	10:05	3A081	ZUI	Arrival	11.9	-	-
26-Jan	10:18	8S212	XZM	Arrival	12.3	-	-
26-Jan	10:39	3A181	ZUI	Departure	13.1	-	-
26-Jan	11:00	8S121	XZM	Departure	12.8	-	-
26-Jan	12:41	8S215	XZM	Arrival	12.3	-	-
26-Jan	14:00	3A082	ZUI	Arrival	13.1	-	-
26-Jan	14:19	3A182	ZUI	Departure	12.1	-	-
26-Jan	14:53	3A065	YFT	Arrival	12.9	-	-
26-Jan	16:13	3A167	YFT	Departure	12.5	1	-
26-Jan	16:49	3A067	YFT	Arrival	12.5	-	-
26-Jan	17:17	3A083	ZUI	Arrival	12.9	-	-
26-Jan	17:28	3A183	ZUI	Departure	12.5	-	-
26-Jan	18:10	8S126	XZM	Departure	11.9	-	-
26-Jan	20:40	3A084	ZUI	Arrival	12.1	-	-
26-Jan	20:48	8S2113	XZM	Arrival	12.6	-	-
26-Jan	20:54	3A185	ZUI	Departure	12.6	-	-
27-Jan	8:27	3A061	YFT	Arrival	11.7	-	-
27-Jan	10:02	3A081	ZUI	Arrival	11.9	-	-
27-Jan	10:13	8S212	XZM	Arrival	11.3	-	-
27-Jan	10:34	3A181	ZUI	Departure	13.3	-	-
27-Jan	11:01	8S121	XZM	Departure	12.2	-	-
27-Jan	12:38	8S215	XZM	Arrival	12	-	-
27-Jan	13:59	3A082	ZUI	Arrival	12.5	-	-
27-Jan	14:13	3A182	ZUI	Departure	12.8	-	-
27-Jan	14:57	3A065	YFT	Arrival	12.8	-	-
27-Jan	16:11	3A167	YFT	Departure	11.7	-	-
27-Jan	16:54	3A067	YFT	Arrival	12.8	-	-
27-Jan	17:00	3A083	ZUI	Arrival	12.9	-	-
27-Jan	17:14	3A183	ZUI	Departure	12.9	-	-
27-Jan	18:07	8S126	XZM	Departure	13.4	-	-
27-Jan	20:54	8S2113	XZM	Arrival	13.1	-	-
28-Jan	8:28	3A061	YFT	Arrival	11.8	-	-
28-Jan	10:03	3A081	ZUI	Arrival	11.8	-	-
28-Jan	10:04	8S212	XZM	Arrival	11.7	-	-
28-Jan	10:30	3A181	ZUI	Departure	12.5	-	-
28-Jan	11:00	8S121	XZM	Departure	12.9	-	-
28-Jan	12:36	8S215	XZM	Arrival	12.9	-	-
28-Jan	14:00	3A082	ZUI	Arrival	12.5	-	-
28-Jan	14:14	3A182	ZUI	Departure	12.1	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [XZM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
28-Jan	14:56	3A065	YFT	Arrival	11.9	1	-
28-Jan	16:11	3A167	YFT	Departure	12.2	-	-
28-Jan	16:52	3A067	YFT	Arrival	12.8	-	-
28-Jan	17:07	3A083	ZUI	Arrival	12.6	-	-
28-Jan	17:20	3A183	ZUI	Departure	12.3	-	-
28-Jan	17:56	8S126	XZM	Departure	11.5	-	-
28-Jan	20:56	8S2113	XZM	Arrival	11.2	-	-
29-Jan	8:28	3A061	YFT	Arrival	11	-	-
29-Jan	10:05	8S212	XZM	Arrival	12.2	-	-
29-Jan	10:31	3A081	ZUI	Arrival	11.9	-	-
29-Jan	10:46	3A181	ZUI	Departure	12.7	-	-
29-Jan	12:38	8S215	XZM	Arrival	12	-	-
29-Jan	13:56	3A082	ZUI	Arrival	12.5	-	-
29-Jan	14:11	3A182	ZUI	Departure	12.5	-	-
29-Jan	14:55	3A065	YFT	Arrival	11.6	-	-
29-Jan	16:14	3A167	YFT	Departure	12.2	-	-
29-Jan	16:53	3A067	YFT	Arrival	12.5	-	-
29-Jan	17:00	3A083	ZUI	Arrival	13.1	-	-
29-Jan	17:38	3A183	ZUI	Departure	11.8	-	-
29-Jan	20:41	8S2113	XZM	Arrival	12.5	-	-
30-Jan	8:24	3A061	YFT	Arrival	11.6	-	-
30-Jan	10:08	3A081	ZUI	Arrival	11.8	-	-
30-Jan	10:13	8S212	XZM	Arrival	11.5	-	-
30-Jan	10:36	3A181	ZUI	Departure	12.6	-	-
30-Jan	12:36	8S215	XZM	Arrival	13.2	-	-
30-Jan	13:56	3A082	ZUI	Arrival	12.3	-	-
30-Jan	14:24	3A182	ZUI	Departure	12.7	-	-
30-Jan	14:55	3A065	YFT	Arrival	12.1	-	-
30-Jan	16:16	3A167	YFT	Departure	12.4	-	-
30-Jan	16:56	3A067	YFT	Arrival	12	-	-
30-Jan	17:09	3A083	ZUI	Arrival	12.2	-	-
30-Jan	17:27	3A183	ZUI	Departure	11.9	-	-
30-Jan	20:55	8S2113	XZM	Arrival	11.3	-	-
31-Jan	8:29	3A061	YFT	Arrival	11.5	-	-
31-Jan	10:00	3A081	ZUI	Arrival	12	-	-
31-Jan	10:03	8S212	XZM	Arrival	13	-	-
31-Jan	10:28	3A181	ZUI	Departure	13.2	-	-
31-Jan	12:39	8S215	XZM	Arrival	12.4	-	-
31-Jan	14:02	3A082	ZUI	Arrival	12.3	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [XZM - Macao (Maritime Ferry Terminal) YFT - Macao (Taipa) ZUI - Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
31-Jan	14:16	3A182	ZUI	Departure	12.6	-	-
31-Jan	14:51	3A065	YFT	Arrival	12.6	-	-
31-Jan	16:13	3A167	YFT	Departure	12.9	-	-
31-Jan	16:53	3A067	YFT	Arrival	11.5	-	-
31-Jan	17:07	3A083	ZUI	Arrival	13	-	-
31-Jan	17:25	3A183	ZUI	Departure	11.8	-	-
31-Jan	20:42	8S2113	XZM	Arrival	12.4	-	-

^{**} Insufficient or no AIS data for speed calculation.

Follow-up on instantaneous speeding

Referring to the data of SkyPier HSF movements in January 2020, instantaneous speeding (i.e. a sudden change in speed at over 15 knots for a short period of time) within the SCZ was recorded from 1 HSF movement of which the duration of instantaneous speeding case was less than 1 minute. The AIS data and ferry operators' response showed the case was due to local strong water. The captain had reduced speed and maintained the speed at less than 15 knots after the incident.