

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

Construction Phase Monthly EM&A Report No.40 (For April 2019)

May 2019

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This Monthly EM&A Report No. 40 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 14 May 2019



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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 May 2019

Dear Sir,

Contract No. 3102
3RS Independent Environmental Checker Consultancy Services

Submission of Monthly EM&A Report No. 40 (April 2019)

Reference is made to the Environmental Team's submission of the Monthly EM&A Report No. 40 under Condition 3.5 of the Environmental Permit No. EP-489/2014 certified by the ET Leader on 14 May 2019.

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	AECOM Asia Company Limited
AFCD	Agriculture, Fisheries and Conservation Department
AIS	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 Boundary
	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
MMHK	Mott MacDonald Hong Kong Limited
MMWP	Marine Mammal Watching Plan
MSS	Marine Surveillance System
MTRMP-CAV	Marine Travel Routes and Management Plan for Construction
	and Associated Vessel
NEL	Northeast Lantau
NWL	Northwest Lantau
PAM	Passive Acoustic Monitoring
PVD	Prefabricated Vertical Drain
SC	Sha Chau

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 40th Construction Phase Monthly EM&A Report for the Project which summarizes the monitoring results and audit findings of the EM&A programme during the reporting period from 1 to 30 April 2019.

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, seawall construction, and prefabricated vertical drain (PVD) installation. Land-side works involved mainly 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

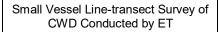
The monthly EM&A programme was undertaken in accordance with the Manual of the Project. Summary of the monitoring activities during this reporting period is presented as below:

Monitoring Activities	Number of Sessions
1-hour Total Suspended Particulates (TSP) air quality monitoring	36
Noise monitoring	20
Water quality monitoring	13
Vessel line-transect surveys for Chinese White Dolphin (CWD) monitoring	2
Land-based theodolite tracking survey effort for CWD monitoring	3

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 Marine 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







Impact Noise Monitoring Conducted by ET in Man Tung Road Park



Checking of Environmental Licenses during Weekly Inspection 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, water quality, construction waste, and CWD did not trigger the corresponding Action and Limit Levels in the reporting period.

Summary of Upcoming Key Issues

Advanced Works:

Contract P560 (R) Aviation Fuel Pipeline Diversion Works

Stockpiling of compressed materials

DCM Works:

Contract 3201 and 3205 DCM Works

DCM works

Reclamation Works:

Contract 3206 Main Reclamation Works

- Seawall construction;
- Marine filling; and
- DCM works

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

- Site survey and cable laying; and
- Site establishment.

Third Runway Concourse and Integrated Airport Centres Works:

Contract 3402 New Integrated Airport Centres Enabling Works

- Site establishment;
- Installation of sheet and pipe piles; and
- Manhole and pipe construction works.

Terminal 2 Expansion Works:

Contract 3501 Antenna Farm and Sewage Pumping Station

- Drainage works;
- Boring works; and
- Pipe installation.

Contract 3502 Terminal 2 Automated People Mover (APM) Depot Modification Works

- Site clearance;
- Cable duct installation; and
- Plastering and painting.

Contract 3503 Terminal 2 Foundation and Substructure Works

- Site establishment;
- Demolition works:
- Utilities and road work; and
- Piling and structure works.

Automated People Mover (APM) Works:

Contract 3602 Existing APM System Modification Works

- Site establishment; and
- Modification works at APM depot.

<u>Airport Support Infrastructure & Logistic Works:</u>

Contract 3801 APM and BHS Tunnels on Existing Airport Island

- Site establishment:
- Cofferdam installation and construction of box culvert;
- Rising main installation;
- Piling and foundation works; and
- Site clearance.

Summary Table

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

	Yes	No	Details	Analysis / Recommendation / Remedial Actions
Breach of Limit Level [^]		√	No breach of Limit Level was recorded.	Nil
Breach of Action Level^		√	No breach of Action Level was recorded.	Nil
Complaint Received	V		A complaint regarding suspected open burning at airport runway, outlying island was received on 12 April 2019.	ET investigated all work contracts that carried out construction activities at or near the alleged area. Based on information provided by contractors, no open burning activities were carried out in the period of 3 to 10 April 2019. The case was considered closed.
Notification of any summons and status of prosecutions		V	No notification of summons or prosecution was received.	Nil
Change that affect the EM&A		1	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 of the Construction Phase Monthly EM&A Report No. 38.

1.2 Scope of this Report

This is the 40th Construction Phase Monthly EM&A Report for the Project which summarizes the key findings of the EM&A programme during the reporting period from 1 to 30 April 2019.

1.3 Project Organisation

The Project's organization 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 (Langfang Huayuan Mechanical and Electrical Engineering Co., Ltd.)	Project Manager	Wei Shih	2117 0566
	Environmental Officer	Lyn Liu	5172 6543
Deep Cement Mixing (D	CM) Works:		
Party	Position	Name	Telephone
Contract 3201 DCM (Package 1) (Penta-Ocean-China State- Dong-Ah Joint Venture)	Project Director	Tsugunari Suzuki	9178 9689
	Environmental Officer	Hiu Yeung Tang	6329 3513
Contract 3202 DCM (Package 2) (Samsung-BuildKing Joint Venture)	Project Manager	Ilkwon Nam	9643 3117
Contract 3203 DCM (Package 3) (Sambo E&C Co., Ltd)	Project Manager	Eric Kan	9014 6758
Contract 3204 DCM (Package 4) (CRBC-SAMBO Joint Venture)	Project Manager	Kyung-Sik Yoo	9683 8697
Contract 3205 DCM (Package 5)	Deputy Project Director	Min Park	9683 0765
(Bachy Soletanche - Sambo Joint Venture)	Environmental	Lawrence Chan	5107 5961

Reclamation Works:

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

Party	Position	Name	Telephone
Contract 3301 North Runway Crossover Taxiway (FJT-CHEC-ZHEC Joint Venture)	Deputy Project Director	Kin Hang Chung	9800 0048
	Environmental Officer	Nelson Tam	9721 3942
Contract 3302 Eastern Vehicular Tunnel Advance Works (China Road and Bridge Corporation)	Project Manager	Wan Cheung Lee	6100 6075
	Environmental Officer	Kanny Cho	6381 8171

Third Runway Concourse and Integrated Airport Centres Works:

Party	Position	Name	Telephone
Contract 3402 New Integrated Airport Centres Enabling Works (Wing Hing Construction Co., Ltd.)	Contract Manager	Michael Kan	9206 0550
	Environmental Officer	Lisa He	5374 3418

Terminal 2 (T2) Expansion Works:

Party	Position	Name	Telephone	
Contract 3501 Antenna Farm and Sewage Pumping Station (Build King Construction Ltd.)	Project Manager	Vincent Kwan	9833 1313	
	Environmental Officer	Edward Tam	9287 8270	
Contract 3502 Terminal 2 APM Depot Modification Works (Build King Construction Ltd.)	Project Manager	David Ng	9010 7871	
	Environmental Officer	Chun Pong Chan	9187 7118	
Contract 3503 Terminal 2 Foundation and Substructure Works (Leighton – Chun Wo Joint Venture)	Project Manager	Eric Wu	3973 1718	
	Environmental Officer	Stephen Tsang	5508 6361	

Automated People Mover (APM) Works:

Party	Position	Name	Telephone
Contract 3602 Existing APM System Modification Works (Niigata Transys Co., Ltd.)	Project Manager	Kunihiro Tatecho	9755 0351
·	Environmental Officer	Arthur Wong	9170 3394

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 Support Infrastructure and Logistic Works:

Party	Position	Name	Telephone
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 deep cement mixing (DCM) works, marine filling, seawall construction, and prefabricated vertical drain (PVD) installation. Land-side works involved mainly foundation and substructure work for Terminal 2 expansion, modification and tunnel work for Automated People Mover (APM) and Baggage Handling System (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**. Locations of reclamation works area are presented in **Figure 1.2**. Latest layout of the enhanced silt curtain deployed is presented in **Figure 1.3**.

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.	

Parameters	Status
Impact Monitoring	On-going 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
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	
Waste Monitoring	On-going 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.
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 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
SkyPier High Speed Ferries (HSF) implementation measures	On-going On-going
Construction and Associated Vessels Implementation measures	On-going
Complaint Hotline and Email channel	On-going 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 summarized as below:

- Two skipper trainings provided by ET: 3 and 17 April 2019
- Six environmental management meetings for EM&A review with works contracts: 3, 16, 17, 23, 24, and 29 April 2019

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 A**.

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-1 (Serial No. 597337)	2 Oct 2018	Monthly EM&A Report No. 35, Appendix D
	SIBATA LD-3B-2 (Serial No. 296098)	16 Oct 2018	

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 1.2 m 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 D of the Construction Phase Monthly EM&A Report No.35, and the calibration certificates of portable direct reading dust meters listed in **Table 2.3** are still valid.

2.4 Summary of Monitoring Results

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

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

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	14 – 38	306	500
AR2	9 – 51	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 activities was observed during impact air quality monitoring. Major sources of dust observed at the monitoring stations during the monitoring sessions were local air pollution and nearby traffic emissions. 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 Sep 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, L _{eq(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	75 dB(A) ⁽¹⁾

Note:

(1) Reduced to 70dB(A) for school and 65dB(A) during school examination periods for NM4.

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-M2211 (Microphone Serial No.7681; Capsule Serial No.72079)	28 Aug 2018	Monthly EM&A Report No. 36, Appendix E
	Rion NL-52 (Serial No. 01287679)	6 Feb 2019	Monthly EM&A Report No. 39, Appendix D
Acoustic Calibrator	Castle GA607 (Serial No. 040162)	7 Aug 2018	Monthly EM&A Report No. 35, Appendix D
	Casella CEL-120/1 (Serial No. 2383737)	17 Oct 2018	

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 1.2 m above the ground for free-field measurements at monitoring stations NM1A, NM4, NM5 and NM6. A correction of +3 dB(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 1 dB(A), the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.
- e. During the monitoring period, L_{eq} , L_{10} and L_{90} 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:

- 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 still valid.

3.4 Summary of Monitoring Results

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

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

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⁾	71 – 73	75	
NM4 ⁽¹⁾	63 – 66	70 ⁽²⁾	
NM5 ⁽¹⁾	53 – 61	75	
NM6 ⁽¹⁾	64 – 71	75	

Notes:

- (1) +3 dB(A) Façade correction included;
- (2) Reduced to 65 dB(A) during school examination periods at NM4. No school examination was taken 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 and traffic noise near NM4, and aircraft noise near 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
				<u>DCM Parameters</u> Total Alkalinity, Heavy Metals ⁽²⁾⁽⁴⁾
SR3	Sha Chau and Lung Kwu Chau Marine Park / fishing and spawning grounds in North Lantau	807571	822147	General Parameters DO, pH, Temperature, Salinity, Turbidity, SS
SR4A	Sha Lo Wan	807810	817189	

Monitoring Station	Description		Coordinates	Parameters
SR5A	San Tau Beach SSSI	810696	816593	
SR6	Tai Ho Bay, Near Tai Ho Stream SSSI	814663	817899	
SR7	Ma Wan Fish Culture Zone (FCZ)	823742	823636	
SR8 ⁽⁵⁾	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) 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 abovementioned 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

Parameters		Action Level (AL) Limit Level (LL)			
	Limit Levels for genera SR1A & SR8)	l water quality mor	nitoring and regular	DCM monitorin	g
	DO in mg/L (Surface, Middle & Bottom)			Surface and M 4.1 mg/L 5 mg/L for Fish only	iddle ı Culture Zone (SR7)
		Bottom 3.4 mg/L		Bottom 2.7 mg/L	
	Suspended Solids 23 (SS) in mg/L	23	or 120% of 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,	99	same day,
DCM Monitoring	Representative Heavy Metals for regular DCM monitoring (Chromium) in µg/L	presentative 0.2 whichever is avy Metals for ular DCM nitoring	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 the limits.
- (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 (<u>http://env.threerunwaysystem.com/en/ep-submissions.html</u>)
- (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, SR6, SR8
Ebb Tide	
C1	SR4A, SR5A, SR6
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 Sep 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 (measurement of DO, pH, temperature, salinity and turbidity)	YSI ProDSS (Serial No. 17E100747) YSI ProDSS (Serial No. 00019CB2)		Monthly EM&A Report No. 39, Appendix D
Digital Titrator (measurement of total alkalinity)	Titrette Digital Burette 50ml Class A (Serial No. 10N64701)	25 Feb 2019	

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 were 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	2 mg/L
Heavy Metals			
Chromium (Cr)	ICP-MS	USEPA 6020A	0.2 μg/L
Nickel (Ni)	ICP-MS	USEPA 6020A	0.2 μg/L

4.4 Summary of Monitoring Results

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

The water quality monitoring results for all parameters (i.e. DO, total alkalinity, turbidity, SS, chromium, and nickel) obtained during the reporting period were within their corresponding Action and Limit Level. The detailed monitoring results are presented in **Appendix C**.

4.5 Conclusion

During the reporting period, all monitoring results were within the corresponding Action and Limit Levels. 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 summarized 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 Reuse or Recycle (m³)			C&D Material Transferred to Public Fill (m³)	Chemical Waste (kg)	Chemical Waste (L)	General Refuse (tonne)
Mar 2019 ⁽²⁾⁽³⁾	*4,516	*10,056	*6,903	6,780	240	18,400	362
Apr 2019 ⁽³⁾	10,003	5,650	4,531	5,598	90	13,200	432

Notes:

- (1) C&D refers to Construction and Demolition.
- (2) Updated figures in the past month are reported and marked with an asterisk (*). Updated figures for earlier months will be reported in the forthcoming Annual EM&A Report.
- (3) Metals, paper and/or plastics were recycled in 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. Supplemental theodolite tracking survey of one additional day has also been conducted at LKC, i.e. in total twice per month at the LKC station.

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 summarized in **Table 6.1**.

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

NEL NIVIL AM MI and SMI as a Mhala

	NEL, NVVL, AVV, WL and SVVL as a vinole	
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		
		ŀ	NEL				
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		
		N	IWL				
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		
			AW				
1W	804733	818205	2W	805045	816912		
1E	806708	818017	2E	805960	816633		
WL							
1W	800600	805450	7W	800400	811450		
1E	801760	805450	7E	802400	811450		
2W	800300	806450	W8	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					
SWL							
1S	802494	803961	6S	807467	801137		
1N	802494	806174	6N	807467	808458		
28	803489	803280	7S	808553	800329		
2N	803489	806720	7N	808553	807377		
3S	804484	802509	8S	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
E	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 15-20 m vessel with a flying bridge observation platform about 4 to 5 m 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 minimize 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 (>1-3 km, 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 2-3 km 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 2, 3, 9, 11, 17, 18, 24 and 25 April 2019, covering all transects in NEL, NWL, AW, WL and SWL survey areas for twice.

A total of around 457.92 km of survey effort was collected from these surveys, with around 99.3% of the total survey effort 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 C**.

Sighting Distribution

In April 2019, 13 sightings with 49 dolphins were sighted. Details of cetacean sightings are presented in **Appendix C**.

Distribution of all CWD sightings recorded in April 2019 is illustrated in **Figure 6.3**. In NWL, two CWD sightings were recorded northwestern waters off Lung Kwu Chau, while another two sightings were recorded at the southwestern corner of the survey area. In WL, CWD sightings were recorded from waters off the north of Tai O to Peaked Hill. No sightings of CWD were recorded in SWL, NEL or in close vicinity to 3RS Works Area.

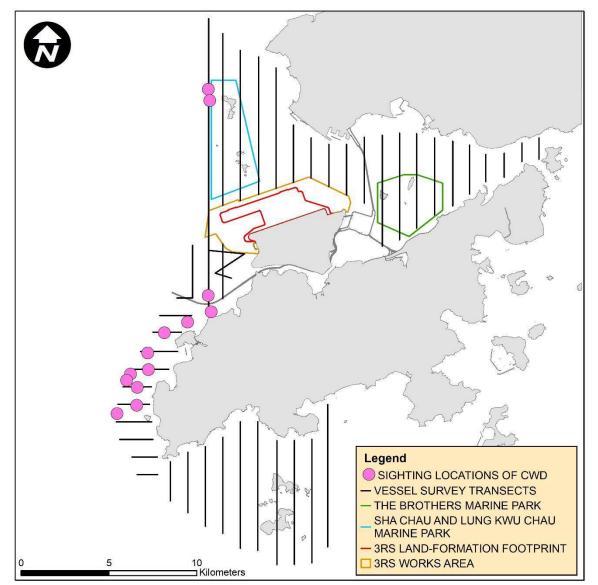


Figure 6.3: Sightings Distribution of Chinese White Dolphins

Encounter Rate

Two types of dolphin encounter rates were calculated based on the data from April 2019. 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 April 2019, a total of around 454.52 km of survey effort were conducted under Beaufort Sea State 3 or below with favourable visibility, whilst a total number of 13 on-effort sightings with 49 dolphins were sighted under such condition. Calculation of the encounter rates in April 2019 are shown in **Appendix C**.

For the running quarter of the reporting period (i.e., from February 2019 to April 2019), a total of around 1285.11 km of survey effort were conducted under Beaufort Sea State 3 or below with favourable visibility, whilst a total number of 27 on-effort sightings and a total number of 96 dolphins from on-effort sightings were obtained under such condition. Calculation of the running quarterly encounter rates are shown in **Appendix C**.

The STG and ANI of CWD in the whole survey area (i.e. NEL, NWL, AW, WL and SWL) during the month of April 2019 and during the running quarter are presented in **Table 6.4** below and compared with the Action Level. The running quarterly encounter rate STG is slightly 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)
April 2019	2.86	10.78
Running Quarter from February 2019 to April 2019 ⁽¹⁾	2.10	7.47
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 February 2019 to April 2019, 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 April 2019, 13 groups with 49 dolphins were sighted, and the average group size of CWDs was 3.77 dolphins per group. The number of sightings with small group size (i.e. 1-2 dolphins) and that with medium group size (i.e. 3-9 dolphins) were similar. One CWD sighting with 21 dolphins, i.e. regarded as large group size (10 or more dolphins), was recorded in WL. This is the 2nd largest group since the commencement of the 3RS CWD monitoring in December 2015.

Activities and Association with Fishing Boats

Three sightings of CWDs were recorded engaging in feeding activities in April 2019. One sighting recorded in WL was observed in association with pair trawlers that was operating outside but close to the Hong Kong boundary.

Mother-calf Pair

In April 2019, there were two sightings of CWD with the presence of mother-and-unspotted juvenile pair.

6.4.2 Photo Identification

In April 2019, a total number of 35 different CWD individuals were identified for totally 39 times. A summary of photo identification works is presented in **Table 6.5**. Representative photos of these individuals are given in **Appendix C**.

Table 6.5: Summary of Photo Identification

Individual Date of Sighting (dd-mmm-yy)		Sighting Group No.	Area	Individual ID	Date of Sighting (dd-mmm-yy)	Sighting Group No.	Area
NLMM004	17-Apr-19	1	WL	WLMM030	3-Apr-19	3	WL
NLMM016	3-Apr-19	2	WL	WLMM032	3-Apr-19	3	WL
	17-Apr-19	4	WL	WLMM039	3-Apr-19	3	WL
NLMM039	25-Apr-19	2	NWL		17-Apr-19	6	WL
NLMM060	3-Apr-19	3	WL	WLMM043	3-Apr-19	1	WL
NLMM063	25-Apr-19	3	NWL		17-Apr-19	1	WL
NLMM065	17-Apr-19	1	WL			5	WL
NLMM069	25-Apr-19	1	NWL	WLMM046	17-Apr-19	3	WL
NLMM070	25-Apr-19	1	NWL	WLMM054	3-Apr-19	3	WL
SLMM002	3-Apr-19	3	WL	WLMM056	3-Apr-19	3	WL
SLMM014	3-Apr-19	3	WL	WLMM063	3-Apr-19	3	WL
SLMM022	3-Apr-19	3	WL	WLMM069	3-Apr-19	3	WL
SLMM034	3-Apr-19	3	WL	WLMM086	17-Apr-19	4	WL
SLMM050	3-Apr-19	3	WL	WLMM090	17-Apr-19	4	WL
SLMM059	3-Apr-19	3	WL	WLMM115	24-Apr-19	1	NWL
WLMM001	3-Apr-19	3	WL	WLMM118	17-Apr-19	6	WL
WLMM003	3-Apr-19	3	WL	WLMM120	3-Apr-19	3	WL
WLMM004	3-Apr-19	3	WL	WLMM127	25-Apr-19	1	NWL
WLMM007	3-Apr-19	3	WL	WLMM132	3-Apr-19	3	WL
WLMM019	17-Apr-19	2	WL			<u> </u>	

6.4.3 Land-based Theodolite Tracking Survey

Survey Effort

Land-based theodolite tracking surveys were conducted at LKC on 4 and 10 April 2019 and at SC on 24 April 2019, with a total of three days of land-based theodolite tracking survey effort accomplished in this reporting period. One CWD group was 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 C**. The first sighting locations of CWD groups tracked at LKC station during land-based theodolite tracking surveys in April 2019 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	2	12:00	1	0.08
Sha Chau	1	6:00	0	0
TOTAL	3	18:00	1	0.06

Legend

CWD GROUP OFF LUNG KWU CHAU

LING KWU CHAU LAND-BASED

STATION

SHA CHAU 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 12 April 2019 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 specialized 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, 6 to 12 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, PVD installation, 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 677 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 three 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 B**. 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 appropriate 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 organized for the construction workforce by the contractors to ensure understanding and proper implementation of environmental protection and pollution control mitigation measures.

During the reporting period, implementation of recommended landscape and visual mitigation measures (CM1 – CM10) where applicable was monitored weekly in accordance with the Manual and no non-conformity was recorded. In case of non-conformity, specific recommendations will be made, and actions will be proposed according to the Event and Action Plan. The monitoring status is summarized in **Appendix A**.

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 A**.

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 summarized in **Table 7.1**. The daily movements of all SkyPier HSFs in this reporting period (i.e., 86 to 89 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, 782 ferry movements between HKIA SkyPier and Zhuhai / Macau were recorded in April 2019 and the data are presented in **Appendix F**. The time spent by the SkyPier HSFs travelling through the SCZ in April 2019 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.

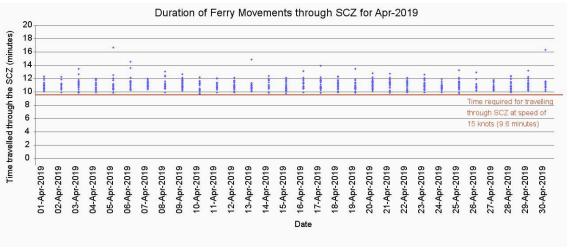


Figure 7.1: Duration of the SkyPier HSFs travelling through the SCZ for April 2019

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.

A total of five ferries were recorded with minor route deviations on 7 April, 13 April, 18 April, 27 April and 29 April 2019. Notices were sent to the ferry operators and the cases are under investigation by ET.

As reported in the Construction Phase Monthly EM&A Report No. 39, two ferries were recorded with minor route deviations on 5 March 2019 and 7 March 2019. ET's investigation found that the deviations were due to giving way to vessels in order to avoid collision.

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

Requirements in the SkyPier Plan	1 to 30 April 2019
Total number of ferry movements recorded and audited	782
Use diverted route and enter / leave SCZ through Gate Access Points	5 deviations
Speed control in speed control zone	The average speeds of all HSFs travelling through the SCZ ranged from 8.4 to 14.0 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)	86 to 89 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.
- Seven skipper training sessions were held by contractors' Environmental Officers. Competency tests were subsequently conducted with the trained skippers by ET.
- In this reporting period, five skippers were trained by ET and nine skippers were trained by contractors' Environmental Officers. In total, 1139 skippers were trained from August 2016 to April 2019.
- The Marine Surveillance System (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 relevant records by the contractors and conducted competence checking 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 D**.

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

7.7.1 Complaints

A complaint was received on 12 April 2019 regarding suspected open burning at Airport Runway, Outlying Island. Investigation was conducted by the ET in accordance with the Manual and the Complaint Management Plan of the Project. Exact location could not be identified from the photographic and video record provided by the anonymous complainant. Specific information (e.g. date and time) were also not provided.

ET investigated all work contracts that carried out construction activities at or near the alleged area. Based on information provided by the contractors, no open burning or related activities were carried out in the period of 3 to 10 April 2019. As a side note, based on information provided by AAHK, a small fire incident occurred on a piece of newly reclaimed land of the 3RS Project on 10 April 2019, which confirmed was not a case of open burning on site. The above issue also did not cause any impact on the implementation of environmental mitigation measures under the Project.

In view of the findings, there were no evidence suggesting that open burning activity was carried out under the Project in the concerned period. ET will remind all contractors that open burning of construction waste was strictly prohibited and the contractors shall follow the corresponding statutory regulations. Hence, the complaint case was considered closed.

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 summarized in **Appendix E**.

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 3201 and 3205 DCM Works

DCM works

Reclamation Works:

Contract 3206 Main Reclamation Works

- Seawall construction;
- Marine filling; and
- DCM works

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

- Site survey and cable laying; and
- Site establishment.

Third Runway Concourse and Integrated Airport Centres Works:

Contract 3402 New Integrated Airport Centres Enabling Works

- Site establishment;
- Installation of sheet and pipe piles; and
- Manhole and pipe construction works.

Terminal 2 Expansion Works:

Contract 3501 Antenna Farm and Sewage Pumping Station

Drainage works;

- Boring works; and
- Pipe installation.

Contract 3502 Terminal 2 Automated People Mover (APM) Depot Modification Works

- Site clearance:
- Cable duct installation; and
- Plastering and painting.

Contract 3503 Terminal 2 Foundation and Substructure Works

- Site establishment;
- Demolition works;
- Utilities and road work; and
- Piling and structure works.

Automated People Mover (APM) Works:

Contract 3602 Existing APM System Modification Works

- Site establishment; and
- Modification works at APM depot.

<u>Airport Support Infrastructure & Logistic Works:</u>

Contract 3801 APM and BHS Tunnels on Existing Airport Island

- Site establishment;
- Cofferdam installation and construction of box culvert;
- Rising main installation;
- · 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 B**.

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, seawall construction, and prefabricated vertical drain (PVD) installation. Land-side works involved mainly 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.

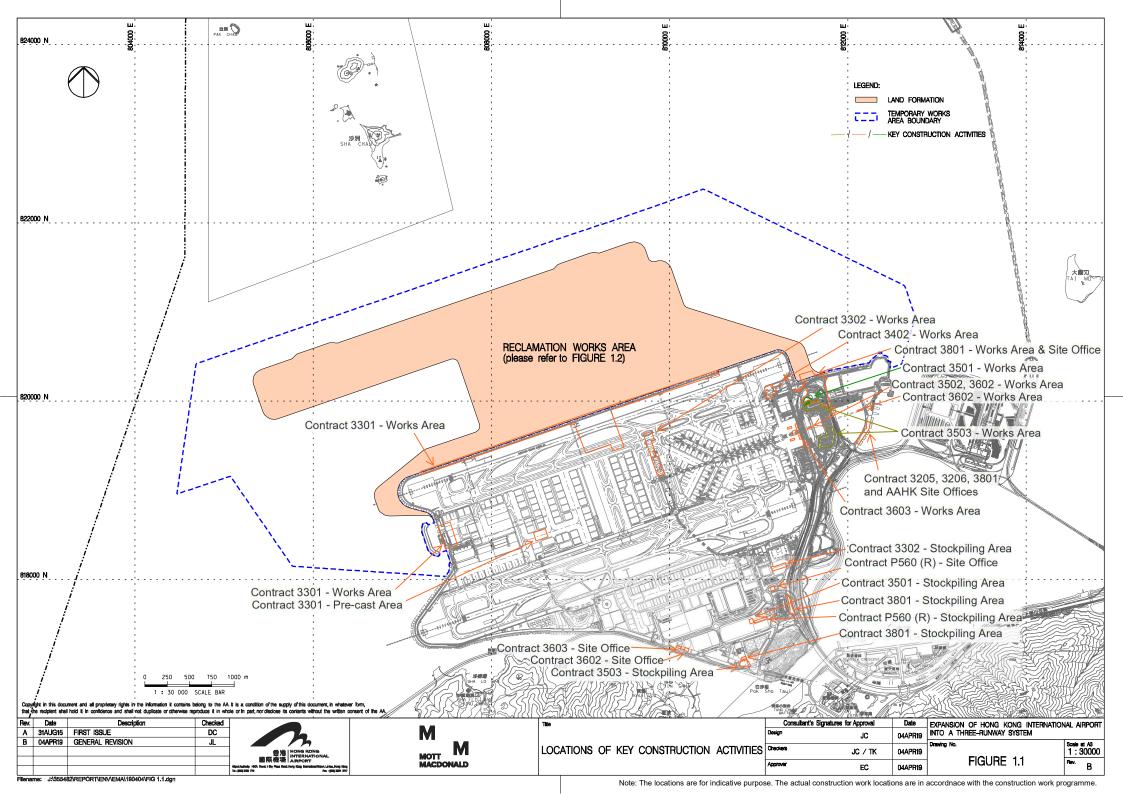
Monitoring results of construction dust, construction noise, water quality, construction waste, and CWD did not trigger the corresponding Action and Limit Levels during the reporting period.

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 April 2019 were in the range of 86 to 89 daily movements, which are within the maximum daily cap of 125 daily movements. A total of 782 HSF movements under the SkyPier Plan were recorded in the reporting period. The average speeds of all HSFs travelling through the SCZ ranged from 8.4 to 14.0 knots. All HSFs had travelled through the SCZ with average speeds under 15 knots in compliance with the SkyPier Plan. Five deviations from the diverted route in April 2019 were recorded in the HSF monitoring and are under investigation by the ET. 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, 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. 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



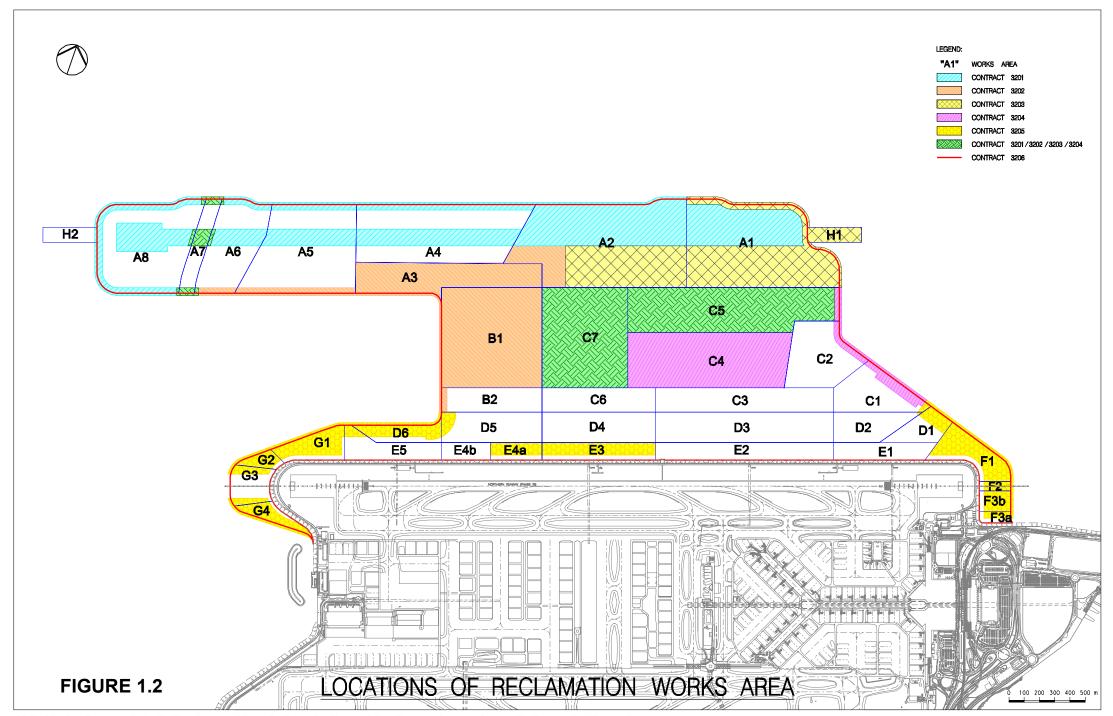
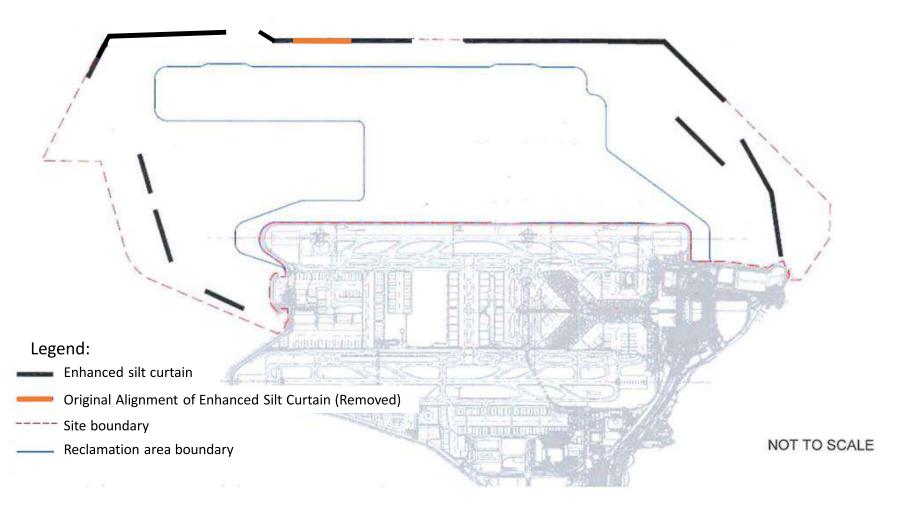
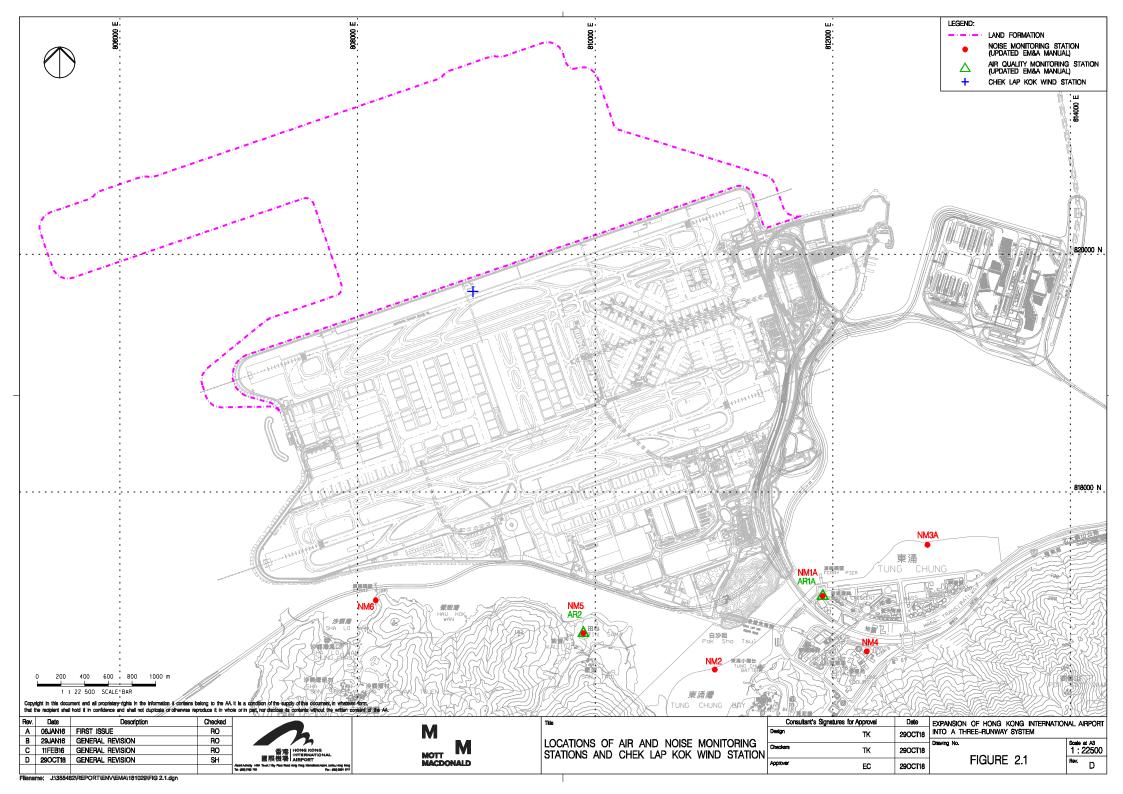
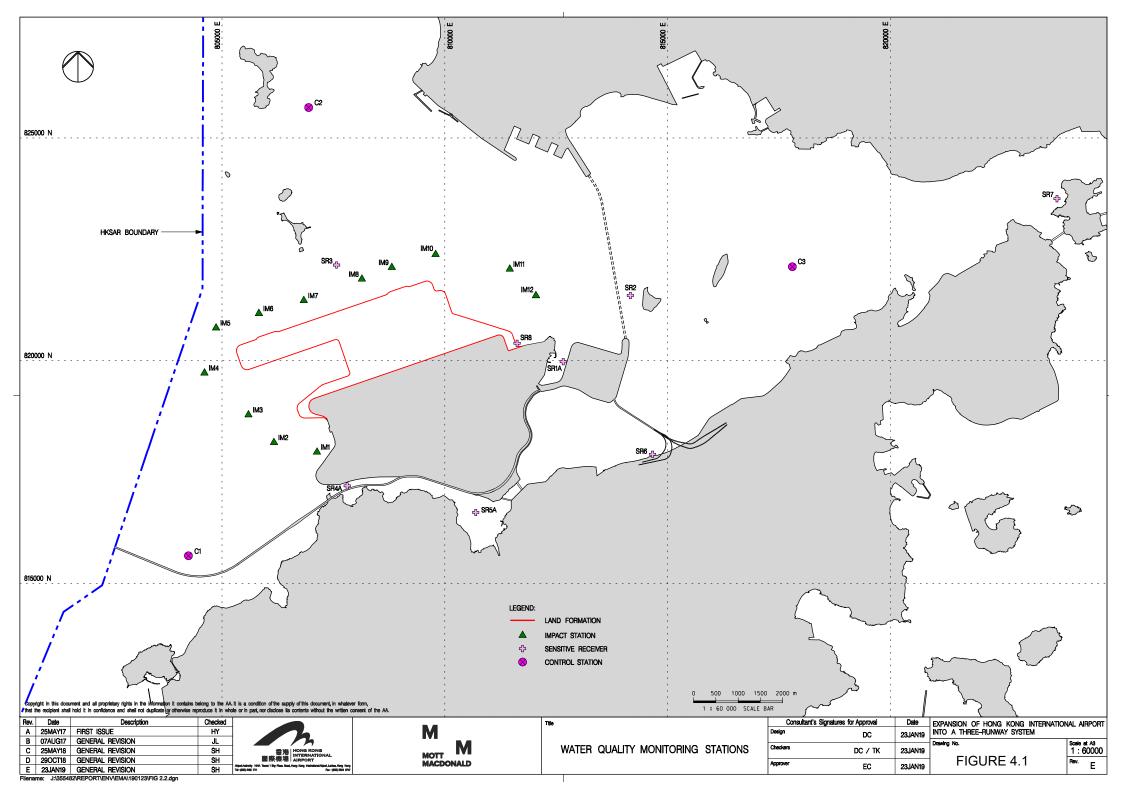


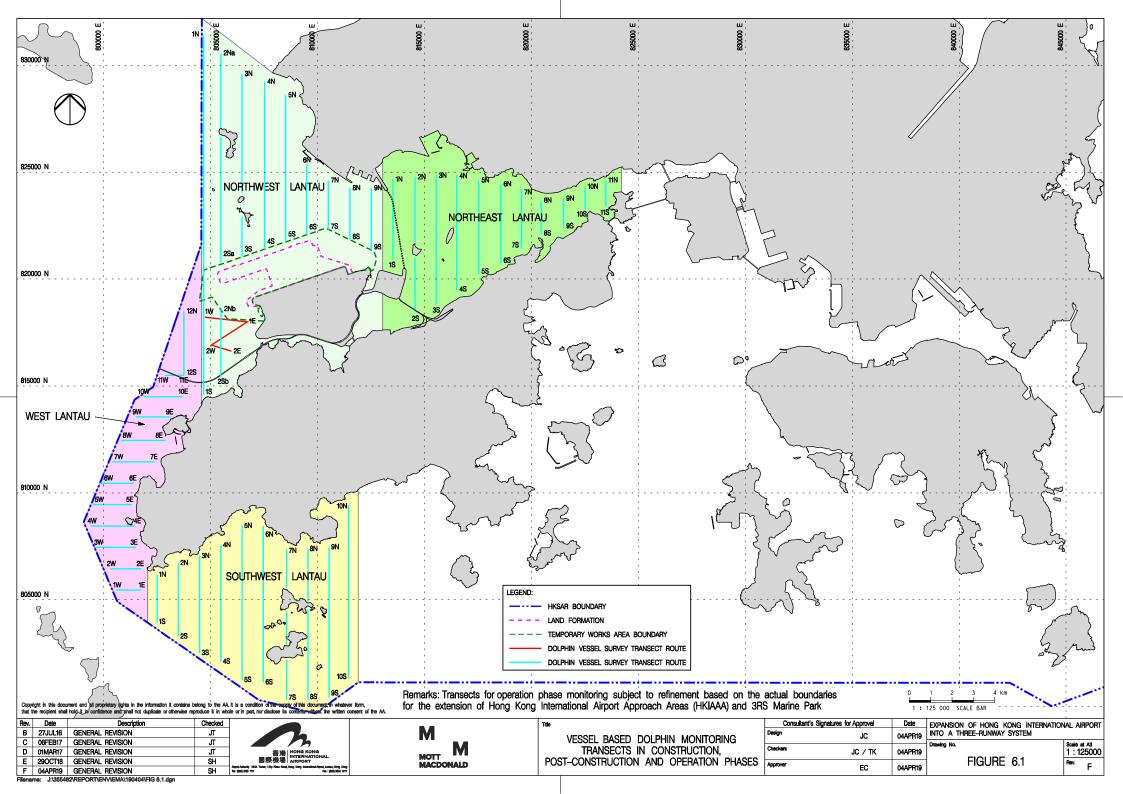
Figure 1.3

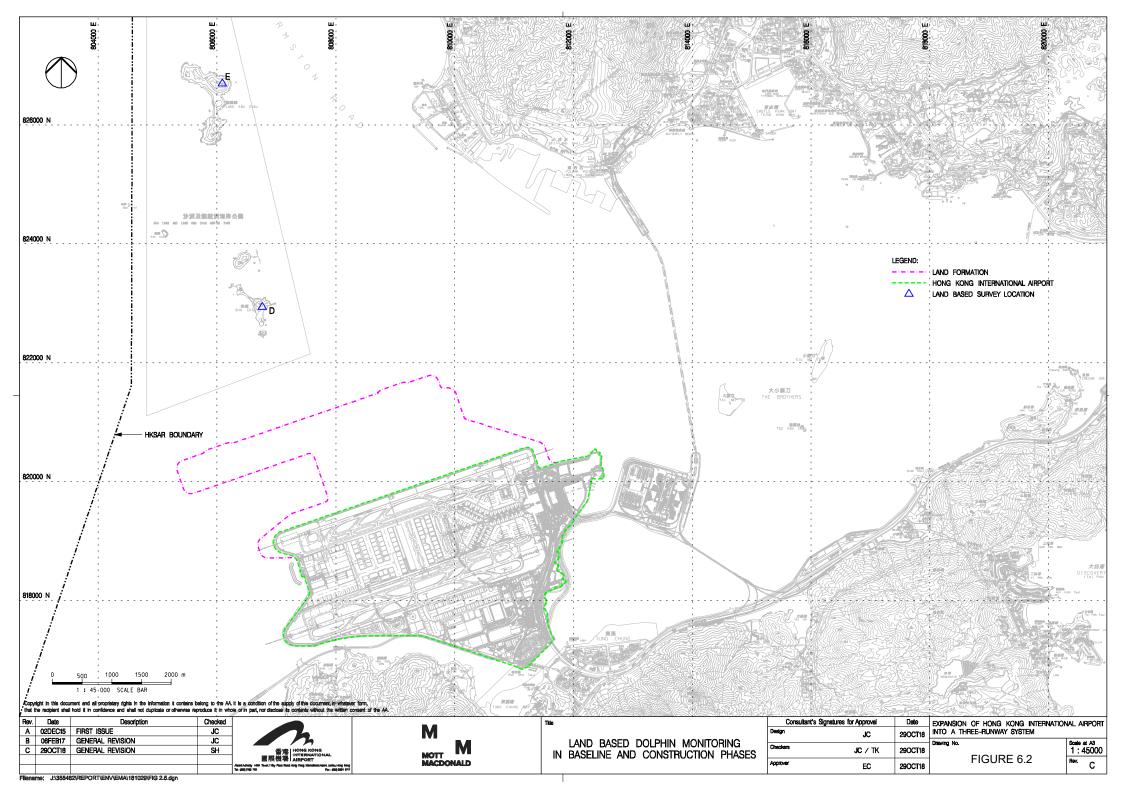
<u>Latest Layout of the Enhanced Silt Curtain</u>

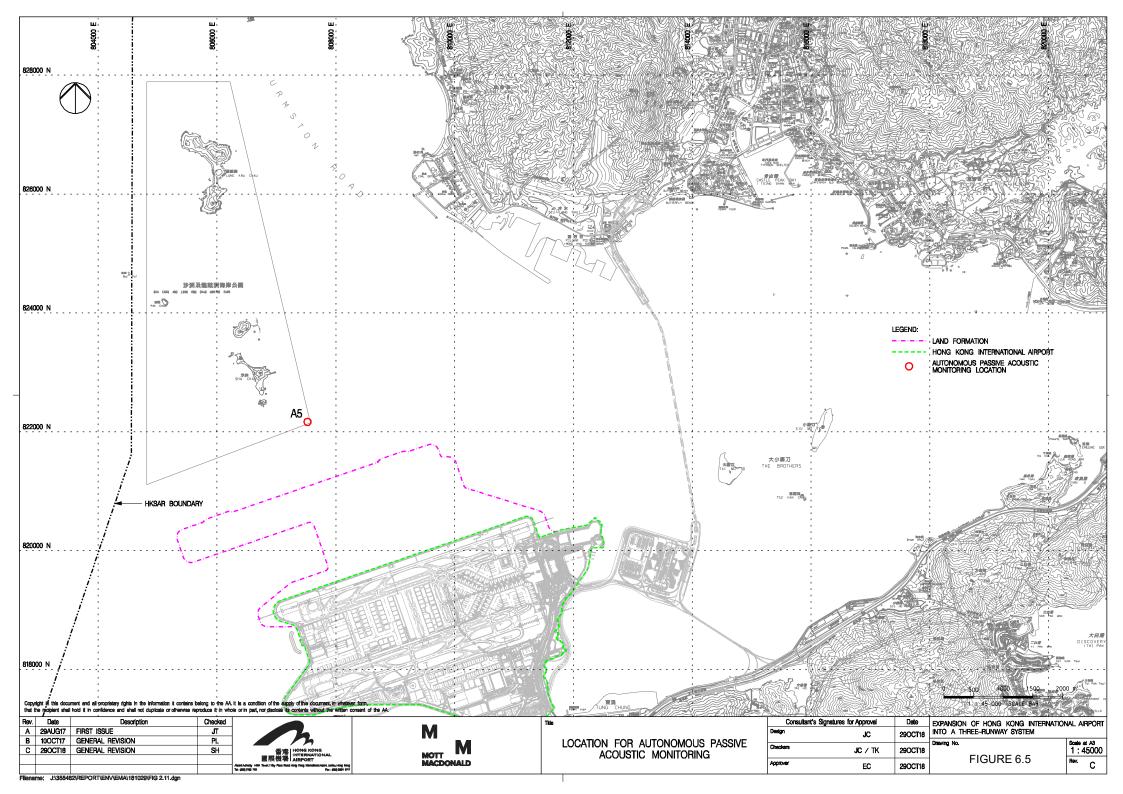












Appendix A. Environmental Mitigation Implementation Schedule (EMIS) for Construction Phase



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	I
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
		 Each and every or metal plates a Unpaved parts of 	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.	Within construction site / Duration of the construction phase	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. 	Within construction site / Duration of the construction phase	1



EM&A Ref.		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	I
		 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 		
		vehicle.	Within construction	
		 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. 	site / Duration of the construction phase	'
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:	Within Concrete Batching Plant / Duration of the construction phase	N/A
	2.1	2.1 -	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 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. 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. 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; 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, every vehicle should be washed to remove any dusty materials from its body and wheels; and Where a vehicle leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels; and 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. Pest 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	Loading, Unloading or Transfer of Dusty Materials All dusty materials should be sprayed with water immediately prior to any loading or transfer operation site / Duration of the so as to keep the dusty material wet. Debris Handling Any debris should be covered entirely by impervious sheeting or stored in a debris collection area sheldered on the top and the three sides; and 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 taliboards. 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. 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; 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, every vehicle should be washed to remove any dusty materials from its body and wheels; and Where a vehicle leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels; and Where a steb boundary adjoins a road, street, service lane or other area accessible to the public, hoading 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. 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 Proces



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion	Mitigation Measures Implemented? ⁴
			■ 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;	of measures	
			• 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.		
			Loading of materials for batching	Within Concrete	N/A
			Concrete truck shall be loaded in such a way as to minimise airborne dust emissions. The following control measures shall be implemented:	Batching Plant / Duration of the construction phase	
			(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	Within Concrete	N/A
			 All practicable measures shall be taken to prevent or minimize the dust emission caused by vehicle movement; and 	Batching Plant / Duration of the	
			All access and route roads within the premises shall be paved and adequately wetted.	construction phase	
			Housekeeping	Within Concrete	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.	Batching Plant / Duration of the construction phase	
5.2.6.6	2.1	-	Best Practices for Asphaltic Concrete Plant	Within Concrete	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:	Batching Plant / Duration of the construction phase	
			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;		



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures	Mitigation Measures
				Timing of completion of measures	Implemented?^
			■ 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	Within Concrete	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; 	Batching Plant / Duration of the construction phase	
			• 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. 	Within Concrete Batching Plant / Duration of the construction phase	
			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	Mitigation Measures Implemented?^
			• All hot bins 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. The air shall be extracted and ducted to a dust collection system to meet the required particulates limiting value; and		
			 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	Within Concrete	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; 	Batching Plant / Duration of the construction phase	
			 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	Within Concrete	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; 	Batching Plant / Duration of the	
			 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; 	construction phase	
			 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	Within Concrete	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.	Batching Plant / Duration of the construction phase	
			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	-	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	Mitigation Measures
				Timing of completion of 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 Batching Plant / Duration of the construction phase	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		
			 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	Within Concrete	N/A
			 Appropriate dust control equipment such as a dust extraction and collection system shall be used during rock drilling activities. 	Batching Plant / Duration of the construction phase	
			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	1
			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	Mitigation Measures
				Timing of completion of measures	Implemented? ⁴
			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	Within the Project site /	1
			■ QPME should be adopted as far as applicable.	During construction phase / Prior to commencement of operation	
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 8.8.1.3	5.1	2.26	 Marine Construction Activities General Measures to be Applied to All Works Areas Barges or hoppers shall not be filled to a level which will cause overflow of materials or pollution of water during loading or transportation; 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; 	Within construction site / Duration of the construction phase Within construction site / Duration of the construction phase	I
			 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 The daily maximum production rates shall not exceed those assumed in the water quality assessment in the EIA report; 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;		I
			 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 of silt curtain has been modified. The details can be referred to Silt Curtain Deployment 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	Within construction site / Duration of the construction phase	NA *(The arrangement of silt curtain has been modified. The details can be referred to Silt Curtain Deployment Plan) For C7a, I
			WSR C7a and C8 prior to commencement of construction; and		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	Within construction	I *(The arrangement
			 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; 	site / Duration of the construction phase	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		N/A
			C7a and C8 prior to commencement of marine filling activities; and		*(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.		1



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures Within construction site / Duration of the construction phase	Mitigation Measures Implemented?^
			Specific Measures to be Applied to the Field Joint Excavation Works for the Submarine Cable Diversion		N/A
			 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 		
			 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	At the existing northern seawall / Duration of the construction phase	N/A
			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.		
8.8.1.5	5.1		Construction of New Stormwater Outfalls and Modifications to Existing Outfalls	Within construction site / Duration of the construction phase	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. 		
8.8.1.6	5.1	2.27	Piling Activities for Construction of New Runway Approach Lights and HKIAAA Marker Beacons	Within construction site / Duration of the construction phase	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.		
			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	Within construction	
			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:	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	Mitigation Measures Implemented?^
				Timing of completion of measures	
			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; 		1
			• 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;		I
			■ 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	I
			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 Implemented?^
				Timing of completion of measures	
			• 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	1
			 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:		
		been carefully planned and developed to minimise the extent of excavation and to maximise the on-site Durin	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; 		1
			 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 	-	I



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 /	1
		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 /	1
		Use of steel or alumi	 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	Mitigation Measures
				Timing of completion of 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	I
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. 		I
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	Mitigation Measures
			Timing of completion of 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	I
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	N/A
			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.		ı



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures	Mitigation Measures
				Timing of completion of 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)
			 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	Breeding season (April	I
			 Conduct ecological survey for Sha Chau egretry to update the latest boundary of the egretry. 	- July) prior to commencement of HDD drilling works at HKIA	



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 and 12.7.2.6	9.1	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	During construction phase at Sheung Sha Chau Island	I
12.7.2.0			location and mooring of flat top barge, if required, will be kept away from the egretry; 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	Griau Islanu	
			The containment pit at the daylighting location shall be covered or camouflaged.		
12.7.2.5	9.1	2.30	Preservation of Nesting Vegetation	During construction	1
			• 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.	phase at Sheung Sha Chau Island	
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	1
			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; 		1



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); 		1
			■ 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.	_	I
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	1
			 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; 		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
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		
			 Unscheduled, on-site audits shall be implemented. 		
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	I



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. 	o. modeli co	
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. 	-	ı
			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	2.3 - 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;	1
				Upon handover and completion of works. –	



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures	Mitigation Measures Implemented?^
				Timing of completion 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;	N/A
				Upon handover and completion of works.	
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;	I
				Upon handover and completion of works. – may be disassembled in phases	
Table 15.6	12.3	-	 CM8 - All existing trees shall be carefully protected during construction. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall 	All existing trees to be retained;	I
			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	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	12.3	-	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 B. Monitoring Schedule

Monitoring Schedule of This Reporting Period

Apr-19

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4	5	6
	Site Inspection	Site Inspection CWD Survey (Vessel)	Site Inspection CWD Survey (Vessel) AR1A, AR2 NM1A, NM4, NM5, NM6	Site Inspection CWD Survey (Land-based)		
		WQ General & Regular DCM mid-ebb: 12:05 mid-flood: 6:21		WQ General & Regular DCM mid-ebb: 12:56 mid-flood: 7:02		WQ General & Regular DCM mid-ebb: 13:47 mid-flood: 7:38
7	8	9	10	11	12	13
	AR2 NM5, NM6	Site Inspection CWD Survey (Vessel) AR1A NM1A, NM4	Site Inspection CWD Survey (Land-based)	Site Inspection CWD Survey (Vessel)	Site Inspection AR1A, AR2	
		WQ General & Regular DCM mid-ebb: 15:25		WQ General & Regular DCM mid-ebb: 16:59		WQ General & Regular DCM mid-ebb: 19:15
14	15	mid-flood: 8:49	47	mid-flood: 9:49	40	mid-flood: 6:37 20
14	15	Site Inspection	Site Inspection CWD Survey (Vessel)	Site Inspection CWD Survey (Vessel) AR1A, AR2 NM1A, NM4, NM5, NM6	19	20
		WQ General & Regular DCM mid-ebb: 11:07 mid-flood: 16:32		WQ General & Regular DCM mid-ebb: 12:24 mid-flood: 18:25		WQ General & Regular DCM mid-ebb: 13:38 mid-flood: 20:11
21	22	23	24	25	26	27
		Site Inspection	Site Inspection CWD Survey (Vessel, Land-based) AR1A, AR2 NM1A, NM4, NM5, NM6	Site Inspection CWD Survey (Vessel)	Site Inspection	
		WQ General & Regular DCM mid-ebb: 15:37 mid-flood: 8:51		WQ General & Regular DCM mid-ebb: 17:09 mid-flood: 9:53		WQ General & Regular DCM mid-ebb: 19:17 mid-flood: 6:40
28	29	30 Site Inspection				
		AR1A, AR2 NM1A, NM4, NM5, NM6				
		WQ General & Regular DCM mid-ebb: 11:04 mid-flood: 16:15				
		Notes:		•		•
		CWD - Chinese White Dolphin	NM1A/AR1A - Man Tung Road Park			
		Air quality and Noise Monitoring Station	NM4 - Ching Chung Hau Po Woon Prin NM5/AR2 - Village House, Tin Sum NM6 - House No. 1, Sha Lo Wan	nary School		
		WQ - Water Quality DCM - Deep Cement Mixing				

Tentative Monitoring Schedule of Next Reporting Period

May-19

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2 Site Inspection	3 Site Inspection CWD Survey (Vessel, Land-based)	4
5	6	7 Site Inspection	8 Site Inspection	WQ General & Regular DCM mid-ebb: 12:00 mid-flood: 17:48 9 Site Inspection	10 Site Inspection	WQ General & Regular DCM mid-ebb: 12:53 mid-flood: 19:12 11
	CWD Survey (Vessel) AR1A, AR2 NM1A, NM4, NM5, NM6	WQ General & Regular DCM mid-ebb: 14:31 mid-flood: 7:48	CWD Survey (Vessel)	CWD Survey (Vessel) WQ General & Regular DCM mid-ebb: 15:57 mid-flood: 8:53	AR1A, AR2	WQ General & Regular DCM mid-ebb: 17:48 mid-flood: 10:22
12	13	14 Site Inspection CWD Survey (Vessel)	Site Inspection CWD Survey (Vessel)	Site Inspection CWD Survey (Vessel) AR1A, AR2 NM1A, NM4, NM5, NM6	17 Site Inspection	18
19	20 CWD Survey (Land-based)	WQ General & Regular DCM mid-ebb: 9:56 mid-flood: 15:17 21 Site Inspection CWD Survey (Vessel, Land-based)	22 Site Inspection	WQ General & Regular DCM mid-ebb: 11:23 mid-flood: 17:27 23 Site Inspection	24 Site Inspection	WQ General & Regular DCM mid-ebb: 12:40 mid-flood: 19:21 25
		WQ General & Regular DCM mid-ebb: 14:37 mid-flood: 7:45	AR1A, AR2 NM1A, NM4, NM5, NM6	WQ General & Regular DCM mid-ebb: 15:58 mid-flood: 8:51		WQ General & Regular DCM mid-ebb: 17:27 mid-flood: 10:05
26	27	28 Site Inspection AR1A, AR2 NM1A, NM4, NM5, NM6	29 Site Inspection	30 Site Inspection	31 Site Inspection	
		WQ General & Regular DCM mid-ebb: 9:34 mid-flood: 14:20 Notes: Contract Number - Site Inspection		WQ General & Regular DCM mid-ebb: 10:54 mid-flood: 16:36		
		CWD - Chinese White Dolphin Air quality and Noise Monitoring Station	NM1A/AR1A - Man Tung Road Park NM4 - Ching Chung Hau Po Woon Pr NM5/AR2 - Village House, Tin Sum NM6 - House No. 1, Sha Lo Wan	imary School		

Appendix C. Monitoring Results

Mott MacDonald Expansion of Hong Kong International Airport into a Three-Runway System
Air Quality Monitoring Results

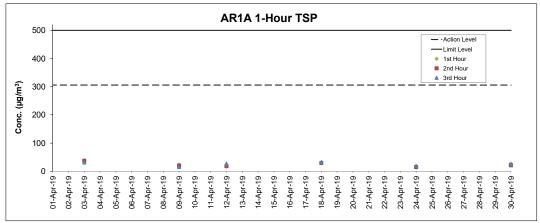
1-hour TSP Results

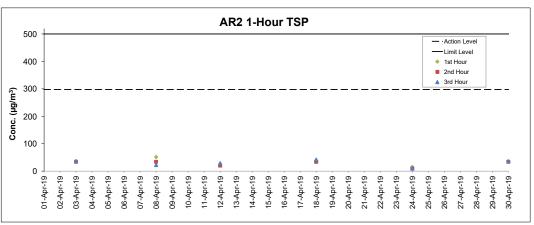
Station: AR1A- Man Tung Road Park

Date	Time	Weather	Wind Speed (m/s)	Wind Direction (deg)	1-hr TSP (μg/m³)	Action Level (μg/m³)	Limit Level (µg/m³)
03-Apr-19	9:33	Sunny	5.6	86	38	306	500
03-Apr-19	10:33	Sunny	6.0	74	37	306	500
03-Apr-19	11:33	Sunny	6.0	104	31	306	500
09-Apr-19	9:00	Sunny	4.2	161	23	306	500
09-Apr-19	10:00	Sunny	4.2	197	20	306	500
09-Apr-19	11:00	Sunny	4.6	150	15	306	500
12-Apr-19	14:58	Cloudy	8.1	107	17	306	500
12-Apr-19	15:58	Cloudy	12.0	88	18	306	500
12-Apr-19	16:58	Cloudy	9.7	87	27	306	500
18-Apr-19	09:20	Cloudy	5.2	112	32	306	500
18-Apr-19	10:20	Cloudy	7.5	94	29	306	500
18-Apr-19	11:20	Cloudy	10.0	115	32	306	500
24-Apr-19	14:55	Sunny	7.1	233	14	306	500
24-Apr-19	15:55	Sunny	5.9	203	15	306	500
24-Apr-19	16:55	Sunny	4.9	219	19	306	500
30-Apr-19	9:11	Cloudy	5.5	199	27	306	500
30-Apr-19	10:11	Cloudy	7.7	207	21	306	500
30-Apr-19	11:11	Cloudy	9.0	230	24	306	500

1-hour TSP Results

Date	Time	14/	\A(:	Wind Direction	4 1 700 / / 3)	Action Level	Limit Level
Date	Time	Weather	Wind Speed (m/s)	(deg)	1-hr TSP (μg/m³)	(μg/m ³)	(µg/m³)
03-Apr-19	9:28	Sunny	5.6	42	33	298	500
03-Apr-19	10:28	Sunny	5.8	91	34	298	500
03-Apr-19	11:28	Sunny	6.0	70	37	298	500
08-Apr-19	9:26	Cloudy	3.0	53	51	298	500
08-Apr-19	10:26	Cloudy	2.1	36	34	298	500
08-Apr-19	11:26	Cloudy	3.1	29	22	298	500
12-Apr-19	9:22	Rainy	7.4	94	23	298	500
12-Apr-19	10:22	Rainy	5.4	106	20	298	500
12-Apr-19	11:22	Rainy	6.7	89	29	298	500
18-Apr-19	9:00	Cloudy	7.5	96	33	298	500
18-Apr-19	10:00	Cloudy	6.3	99	34	298	500
18-Apr-19	11:00	Cloudy	6.7	116	42	298	500
24-Apr-19	9:30	Sunny	3.8	224	15	298	500
24-Apr-19	10:30	Sunny	4.8	236	9	298	500
24-Apr-19	11:30	Sunny	6.8	230	9	298	500
30-Apr-19	9:25	Cloudy	5.4	204	34	298	500
30-Apr-19	10:25	Cloudy	7.4	217	34	298	500
30-Apr-19	11:25	Cloudy	8.7	236	36	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.

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

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

Noise Monitoring Resu	ults	

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

Noise Measurement Results

Station: NM1A- Man Tung Road Park

Date	Weather	Time	Measured	Measured	1 10/4)
Date	vveatilei	riiile	$\mathbf{L}_{10} dB(A)$	$\mathbf{L}_{90}\mathrm{dB}(A)$	L _{eq(30mins)} dB(A)
03-Apr-19	Sunny	10:08	70.8	54.3	
03-Apr-19	Sunny	10:13	75.2	54.1	
03-Apr-19	Sunny	10:18	73.4	56.2	73
03-Apr-19	Sunny	10:23	72.6	55.8] /3
03-Apr-19	Sunny	10:28	72.0	54.3	
03-Apr-19	Sunny	10:33	71.6	54.8	
09-Apr-19	Sunny	09:11	72.4	54.2	
09-Apr-19	Sunny	09:16	74.2	55.1	
09-Apr-19	Sunny	09:21	73.5	55.1	72
09-Apr-19	Sunny	09:26	70.9	53.4	72
09-Apr-19	Sunny	09:31	72.8	54.8	
09-Apr-19	Sunny	09:36	71.5	53.3	
18-Apr-19	Cloudy	09:31	72.7	56.5	
18-Apr-19	Cloudy	09:36	72.4	55.0	
18-Apr-19	Cloudy	09:41	73.3	55.9	72
18-Apr-19	Cloudy	09:46	70.3	53.6] /2
18-Apr-19	Cloudy	09:51	73.3	57.2	
18-Apr-19	Cloudy	09:56	73.2	55.8	
24-Apr-19	Sunny	15:12	72.7	55.2	
24-Apr-19	Sunny	15:17	71.0	52.6	
24-Apr-19	Sunny	15:22	70.5	52.6	71
24-Apr-19	Sunny	15:27	73.3	52.1] /1
24-Apr-19	Sunny	15:32	71.3	52.3	
24-Apr-19	Sunny	15:37	69.6	52.1	
30-Apr-19	Cloudy	09:23	74.1	54.7	
30-Apr-19	Cloudy	09:28	71.9	53.9	
30-Apr-19	Cloudy	09:33	72.0	55.3	72
30-Apr-19	Cloudy	09:38	70.2	53.2] ''
30-Apr-19	Cloudy	09:43	74.2	56.0	İ
30-Apr-19	Cloudy	09:48	72.4	55.8	

Noise Measurement Results

Station: NM4- Ching Chung Hau Po Woon Primary School

			Measured	Measured	
Date	Weather	Time	\mathbf{L}_{10} dB(A)	L ₉₀ dB(A)	L _{eq(30mins)} dB(A)
03-Apr-19	Sunny	11:56	63.4	59.4	
03-Apr-19	Sunny	12:01	62.6	58.7	
03-Apr-19	Sunny	12:06	64.8	59.1	64
03-Apr-19	Sunny	12:11	63.0	59.3	04
03-Apr-19	Sunny	12:16	62.5	58.3	
03-Apr-19	Sunny	12:21	63.6	59.0	
09-Apr-19	Sunny	11:16	62.8	57.8	
09-Apr-19	Sunny	11:21	62.5	58.1	
09-Apr-19	Sunny	11:26	61.6	57.1	63
09-Apr-19	Sunny	11:31	61.1	56.7	03
09-Apr-19	Sunny	11:36	63.1	56.9	
09-Apr-19	Sunny	11:41	62.8	58.1	
18-Apr-19	Cloudy	13:29	65.3	59.8	
18-Apr-19	Cloudy	13:34	63.4	59.0	
18-Apr-19	Cloudy	13:39	64.3	59.3	66
18-Apr-19	Cloudy	13:44	63.6	60.4	
18-Apr-19	Cloudy	13:49	63.5	59.9	
18-Apr-19	Cloudy	13:54	66.3	60.8	
24-Apr-19	Sunny	13:41	60.8	56.6	
24-Apr-19	Sunny	13:46	61.6	56.9	
24-Apr-19	Sunny	13:51	61.4	58.2	63
24-Apr-19	Sunny	13:56	61.5	57.7	03
24-Apr-19	Sunny	14:01	61.0	58.0	
24-Apr-19	Sunny	14:06	61.5	57.0	
30-Apr-19	Cloudy	13:53	66.4	60.1	
30-Apr-19	Cloudy	13:58	64.0	59.4	
30-Apr-19	Cloudy	14:03	64.5	60.1	66
30-Apr-19	Cloudy	14:08	64.2	59.6] 00
30-Apr-19	Cloudy	14:13	66.1	60.7	
30-Apr-19	Cloudy	14:18	65.0	60.2	

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		Measured	Measured	1
Date	weather	Time	$\mathbf{L}_{10}\mathrm{dB}(A)$	L ₉₀ dB(A)	L _{eq(30mins)} dB(A)
03-Apr-19	Sunny	10:44	57.1	49.2	
03-Apr-19	Sunny	10:49	57.0	49.8	
03-Apr-19	Sunny	10:54	56.1	49.7	59
03-Apr-19	Sunny	10:59	60.8	50.6	39
03-Apr-19	Sunny	11:04	59.3	52.0	
03-Apr-19	Sunny	11:09	59.5	49.7	
08-Apr-19	Cloudy	10:04	57.4	50.3	
08-Apr-19	Cloudy	10:09	60.6	52.6	
08-Apr-19	Cloudy	10:14	61.9	46.7	61
08-Apr-19	Cloudy	10:19	53.2	45.6	61
08-Apr-19	Cloudy	10:24	59.5	50.2	
08-Apr-19	Cloudy	10:29	57.5	48.1	
18-Apr-19	Cloudy	09:31	51.0	45.6	
18-Apr-19	Cloudy	09:36	59.9	45.6	
18-Apr-19	Cloudy	09:41	47.7	45.2	F.C.
18-Apr-19	Cloudy	09:46	51.9	45.2	- 56
18-Apr-19	Cloudy	09:51	53.9	45.7	
18-Apr-19	Cloudy	09:56	57.5	48.4	
24-Apr-19	Sunny	10:03	53.2	42.2	
24-Apr-19	Sunny	10:08	48.8	41.3	
24-Apr-19	Sunny	10:13	49.9	43.7	57
24-Apr-19	Sunny	10:18	56.2	45.0	5/
24-Apr-19	Sunny	10:23	52.9	45.7	
24-Apr-19	Sunny	10:28	54.0	44.5	
30-Apr-19	Cloudy	09:30	56.6	44.3	
30-Apr-19	Cloudy	09:35	56.2	45.2	
30-Apr-19	Cloudy	09:40	50.3	44.9	
30-Apr-19	Cloudy	09:45	50.4	44.1	- 53
30-Apr-19	Cloudy	09:50	55.4	42.4	
30-Apr-19	Cloudy	09:55	60.9	43.7	

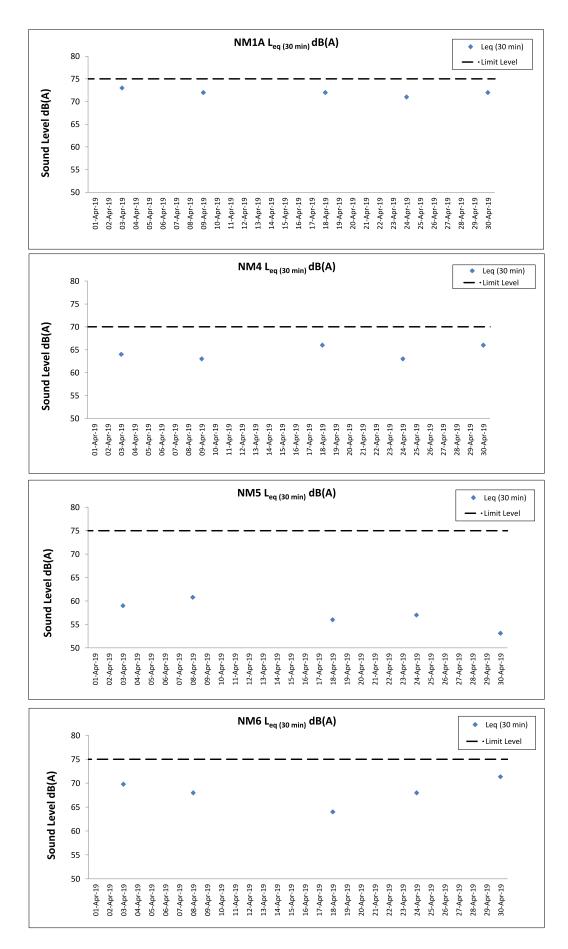
Noise Measurement Results

Station: NM6- House No.1 Sha Lo Wan

Date	Weather	Time	Measured	Measured	1
Date	weather	Time	$\mathbf{L}_{10} dB(A)$	L ₉₀ dB(A)	L _{eq(30mins)} dB(A)
03-Apr-19	Sunny	13:33	70.8	65.2	
03-Apr-19	Sunny	13:38	73.7	56.5	
03-Apr-19	Sunny	13:43	68.4	53.3	70
03-Apr-19	Sunny	13:48	73.5	57.7	70
03-Apr-19	Sunny	13:53	75.1	58.1	
03-Apr-19	Sunny	13:58	74.0	55.2	
08-Apr-19	Cloudy	13:47	69.4	47.2	
08-Apr-19	Cloudy	13:52	72.9	48.5	
08-Apr-19	Cloudy	13:57	64.7	46.8	68
08-Apr-19	Cloudy	14:02	72.7	46.6	08
08-Apr-19	Cloudy	14:07	74.8	48.1	
08-Apr-19	Cloudy	14:12	73.5	48.3	
18-Apr-19	Cloudy	13:25	60.7	50.0	
18-Apr-19	Cloudy	13:30	60.4	49.6	
18-Apr-19	Cloudy	13:35	61.6	50.8	64
18-Apr-19	Cloudy	13:40	63.4	52.4	04
18-Apr-19	Cloudy	13:45	60.3	52.6	
18-Apr-19	Cloudy	13:50	68.8	60.7	
24-Apr-19	Sunny	13:43	74.9	47.4	
24-Apr-19	Sunny	13:48	69.5	46.3	
24-Apr-19	Sunny	13:53	72.9	46.9	68
24-Apr-19	Sunny	13:58	67.5	47.3	
24-Apr-19	Sunny	14:03	68.9	46.0	
24-Apr-19	Sunny	14:08	74.9	46.3	
30-Apr-19	Cloudy	13:33	74.4	52.7	
30-Apr-19	Cloudy	13:38	72.6	52.1	
30-Apr-19	Cloudy	13:43	71.8	52.7	71
30-Apr-19	Cloudy	13:48	73.3	52.0	
30-Apr-19	Cloudy	13:53	74.3	53.2	
30-Apr-19	Cloudy	13:58	73.9	53.4	

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

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



Notes

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

Mott MacDonald Expansion of Hong Kong International Airport into a Three-Runway System
144 4 0 114 14 14 15 D 14
Water Quality Monitoring Results

during Mid-Ebb Tide Water Quality Monitoring Results on 02 April 19 Dissolved Suspended Solids | Total Alkalinity Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) Coordinate Coordinate Monitoring Speed Current Oxygen (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction Value Average Value Average Value Average Value DA Value DA DA DA Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Value (Northing) (Easting) 0.3 148 22.1 <0.2 1.0 Surface 22.1 8.1 30.5 100.4 0.3 161 22.1 8.1 30.5 100.4 1.6 0.8 4.2 0.2 166 22.0 1.2 88 <0.2 0.8 C1 8.4 30.2 100.2 815624 804241 <0.2 0.9 Sunny Moderate 11:11 Middle 22.0 8.1 3.2 4.2 176 8.1 30.2 100.2 7.4 1.2 4 88 <0.2 0.9 7.4 0.1 165 21.9 8.0 30.3 99.7 7.3 6.7 91 <0.2 0.7 8.0 30.3 99.7 7.3 Bottom 21.9 0.1 174 21.9 8.0 30.3 99.6 7.3 6.7 91 <0.2 0.9 1.0 0.1 149 22.2 8.4 25.6 94.8 7.1 6.0 86 <0.2 1.8 Surface 8.4 25.6 94.8 1.0 0.1 156 22.2 8.4 25.6 94.8 7 1 6.1 85 <0.2 19 5.8 0.1 260 22.1 8,4 27.5 94.3 7.0 6.0 3 89 <0.2 1.7 C2 Sunny Moderate 10:23 11.5 Middle 8.4 27.5 94.3 825688 806947 <0.2 279 27.5 6.4 <0.2 1.5 5.8 0.1 22.1 8.4 94.3 7.0 88 7.0 7.1 10.5 0.1 206 22.1 8.4 28.4 95.1 4.0 4 89 <0.2 1.4 Bottom 8.4 28.4 95.2 7.1 215 8.4 95.3 42 10.5 0.1 22.1 28.4 90 <0.2 15 7.2 7.3 2 <0.2 <0.2 1.0 0.2 63 22.0 8.4 29.0 97.8 3.1 85 0.8 Surface 22.0 8.4 29.0 97.9 3.1 5.9 5.9 1.0 87 0.3 65 22.0 8.4 29.0 98.0 1.0 7.3 3 88 89 1.0 5.8 0.2 98 22.0 8.4 25.9 96.7 7.3 <0.2 <0.2 C3 Sunny Moderate 12:16 11.6 Middle 22.1 8.4 25.9 96.7 822125 817804 <0.2 0.9 7.3 5.8 0.3 100 22.1 8.4 25.9 96.6 10.6 109 7.1 8.4 3 90 < 0.2 0.9 0.3 22.2 8.4 29.6 97.1 Bottom 222 8.4 29.6 97.2 7.2 10.6 117 8.4 97.3 8.3 91 <0.2 0.4 22.2 29.6 0.8 1.0 0.0 223 22.0 8.1 30.5 100.2 7.3 4.2 83 <0.2 1.1 Surface 22.1 8.1 30.5 100.3 238 22.1 8.1 30.5 7.3 4.2 3 84 <0.2 1.2 1.0 0.0 100.4 7.3 - | -----817953 807140 IM1 Moderate 11:02 4.3 Middle 88 1.2 Sunny < 0.2 -3.3 0.1 144 22.2 8.1 30.6 7.4 9.6 92 <0.2 1.3 100.8 22.2 Bottom 8.1 30.6 100.8 7.4 154 9.7 <0.2 3.3 0.1 22.2 21.8 8.1 8.1 2.0 83 <0.2 <0.2 0,1 30.7 99.9 7.3 1.6 Surface 21.8 8.1 30.7 99.9 1.0 0.1 21.8 84 1.4 8.0 4 88 <0.2 <0.2 1.7 8.1 30.7 100.0 7.4 818184 IM2 Sunny Moderate 10:56 8.1 Middle 21.7 8.1 30.7 100.1 806152 <0.2 4.1 0.1 99 21.7 8.1 100.1 8.0 88 0.2 108 13.2 <0.2 1.4 8.1 100.5 7.4 Bottom 21.8 8.1 30.7 100.6 7.4 0.2 118 21.8 8.1 30.7 100.6 7.4 13.2 92 <0.2 1.6 8.1 100.4 3.5 3.5 <0.2 30.6 Surface 8.1 30.6 100.4 1.0 0.2 11 21.7 8.1 30.6 7.4 83 <0.2 1.3 7.4 3.8 0.1 17 21.7 8.1 30.6 100.4 7.4 4.0 4 87 <0.2 1.4 Sunny Moderate 10:51 7.5 Middle 100.4 818771 805578 3 14 3.8 0.1 17 21.7 8 1 100.4 7.4 4.2 88 <0.2 6.5 0.1 37 21.5 8.1 30.2 7.5 12.4 4 91 <0.2 1.6 7.5 Bottom 6.5 0.1 39 21.4 8.1 101 3 12.4 4 92 < 0.2 15 1.0 0.2 233 21.8 8.1 8.0 31.0 31.0 99.6 4.1 79 80 <0.2 <0.2 1.2 Surface 21.8 8.0 31.0 99.6 7.3 4.1 4 1.0 0.2 256 21.8 7.3 5 87 88 1.3 4.0 0.2 214 21.6 8.0 31.1 99.4 7.3 3.0 <0.2 IM4 Sunny Moderate 10:42 7.9 Middle 21.6 8.0 31.1 99.4 86 819728 804583 <0.2 1.3 8.0 5 4.0 0.2 214 21.6 31.1 994 7.3 3.1 1.3 6.9 0.2 209 21.4 8.0 28.9 99.0 7.4 1.5 5 91 <0.2 7.4 Bottom 21.4 8.0 28.9 99.1 6.9 0.2 226 21.4 8.0 28.9 1.6 4 92 < 0.2 1.4 3.6 3.5 5.7 1.3 1.0 0.2 306 21.1 8.0 8.0 30.2 30.2 100.2 100.6 7.5 83 <0.2 Surface 21.1 8.0 30.2 100.4 7.5 4 83 <0.2 1.0 0.2 312 21.1 7.4 7.3 1.3 3.6 324 21.7 88 0.2 8.0 30.8 99.3 5 <0.2 10:35 7.1 21.7 820727 804843 <0.2 1.2 IM5 Sunny Moderate Middle 8.0 30.8 99.4 8.0 30.8 99.4 7.3 5.8 5 89 <0.2 1.2 3.6 0.2 328 21.7 21.7 91 <0.2 1.0 6.1 0.1 16 8.0 8.0 30.7 99.6 99.7 7.3 7.3 7.3 5.1 5.2 5 21.7 8.0 30.7 99.7 Bottom 21.7 <0.2 0.1 1.0 268 21.5 4.4 <0.2 0.6 0.3 8.0 26.0 97.3 7.4 83 21.5 8.0 97.3 Surface 26.0 8.0 26.0 97.3 84 <0.2 0.8 281 7.4 4.4 1.0 0.4 21.5 7.4 21.5 3.1 87 3.9 0.1 250 8.0 26.0 97.6 7.4 <0.2 0.8 Moderate 10:30 7.8 Middle 8.0 26.0 97.6 821055 805819 <0.2 IM6 Sunny 21.5 8.0 26.0 3.1 87 <0.2 0.7 3.9 0.2 262 21.5 97.6 6.8 0.1 126 21.5 8.0 26.6 97.8 7.4 4.5 4 <0.2 0.7 21.5 8.0 26.6 97.8 7.4 Bottom 8.0 4.5 0.7 21.5 0.2 247 21.5 4.2 <2 84 <0.2 0.8 8.0 25.6 7.3 Surface 21.5 8.0 25.6 96.5 0.3 252 8.0 25.6 96.5 7.3 4.2 <2 84 <0.2 1.0 21.5 7.3 0.0 267 21.5 7.3 8.6 88 <0.2 0.8 IM7 Sunny Moderate 10:25 7.6 Middle 21.5 8.0 25.8 96.6 821361 806848 <0.2 3.8 0.0 272 21.5 8.0 25.8 96.6 7.3 8.5 <2 88 <0.2 0.8 7.4 7.4 6.6 0.2 247 21.5 8.0 25.7 97.3 17.1 91 <0.2 0.7 8.0 25.7 97.6 248 21.5 8.0 97.8 7.4 17.1 92 <0.2 0.7 1.0 0.1 22.1 8.4 25.7 96.8 3.5 85 <0.2 1.2 Surface 8.4 25.7 96.8 1.0 0.1 210 22.1 8.4 25.7 96.8 7.3 3.5 <2 84 <0.2 1.2 7.3 3.9 0.3 203 22.1 8.4 25.9 97.2 7.3 3.3 3 87 <0.2 1.4 IM8 Moderate 10:51 7.7 Middle 8.4 25.9 97.3 821840 808125 <0.2 1.4 Sunny 3.9 0.3 208 22.1 8.4 25.9 97.4 7.3 3.3 88 <0.2 14 6.7 0.2 262 22.1 8.4 26.3 95.5 7.2 4.9 4 90 <0.2 1.5 Bottom 22.1 8.4 26.3 95.5 7.2 22.1

DA: Depth-Averaged

Water Quality Monitoring Results on					02 April 19	during Mid-	Ebb Tid	е																				
Monitoring	Weather	Sea	Sampling	Water	Compline F	Oonth (m)	Current Speed	Current	Water Ter	mperature (°C)		pН	Salin	ity (ppt)		aturation (%)	Dissolved Oxygen	Turbidity	NTU) S	uspended mg/L)		Total Alk (ppm		Coordinate HK Grid	Coordinate HK Grid	Chromi (µg/L		
Station	Condition	Condition	Time	Depth (m)	Sampling E	pepur (III)	(m/s)	Direction	Value	Average	Value	Average	Value	Average	Value	Average	Value DA	Value	DA	Value	DA	Value	DA	(Northing)	(Easting)	Value	DA Va l ue DA	
					Surface	1.0	0.3	200 206	22.1 22.1	22.1	8.4	8.4	25.7 25.7	25.7	96.4 96.3	96.4	7.3	4.9 4.9	-	2 2		86 85				<0.2	1.6	
IM9	Sunny	Moderate	10:57	7.3	Middle	3.7	0.3	188	22.1	22.1	8.4	8.4	25.8	25.8	96.4	96.4	7.3	4.5	4.3	3	3	89	88	822091	808803	<0.2	<0.2 1.6 1.6	
					Bottom	3.7 6.3	0.4	179 170	22.1	22,1	8.4 8.4	8.4	25.8 26.0	26.0	96.4 95.9	95.9	7.3 7.2 7.2	4.1 3.8		3		88 90				<0.2	1.6	
						6.3	0.3	171 114	22.1		8.4		26.0 25.9		95.8 97.1		7.2	3.8 6.4		3		90 85	_			<0.2	1.6	
					Surface	Surface	1.0	0.5	123	22.1	22.1	8.4	8.4	25.9	25.9	97.1	97.1	7.3	6.4		3		84				<0.2	1.4
IM10	Sunny	Moderate	11:05	7.5	Middle	3.8	0.4	104 104	21.9 21.9	21.9	8.4 8.4	8.4	26.2 26.3	26.2	98.0 98.0	98.0	7.4	4.8 4.8	4.9	3	3	88 89	88	822392	809777	<0.2 <0.2	<0.2 1.5 1.5	
					Bottom	6.5 6.5	0.4	99 104	22.1	22.1	8.4	8.4	26.0 26.0	26.0	96.6 96.7	96.7	7.3 7.3	3.5 3.6		3		90 90				<0.2 <0.2	1.5	
					Surface	1.0	0.5	111	22.4	22.4	8.4	8.4	26.1		98.4 98.4	98.4	7.3	3.1		3		85 85				<0.2 <0.2	1.6	
IM11	Sunny	Moderate	11:16	7.4	Middle	3.7	0.5 0.4	129	22.4	22.2	8.4	8.4	26.6	26.6	97.2	97.3	7.3	6.9	4.7	4	4	88	88	822060	811477	<0.2	<0.2 1.7 1.6	
	,					3.7 6.4	0.4	137 150	22.2		8.4		26.6		97.3 97.2		7.3	6.6 4.3	··· -	3		89 90				<0.2	1.6	
					Bottom	6.4	0.4	157 107	22.2	22.2	8.4	8.4	27.3	27.3	97.3	97.3	7.2	4.6 6.6		3		89 86	_			<0.2 <0.2	1.6	
					Surface	1.0	0.5	110	22.2	22.2	8.4 8.4	8.4	26.1 26.1	26.1	98.2 98.1	98.2	7.4	6.6		3		85				<0.2	1.2	
I M12	Sunny	Moderate	11:24	7.9	Middle	4.0	0.4	115 115	22.2	22.2	8.4	8.4	27.0	27.0	97.3 97.2	97.3	7.3	11.1	9.0	3	4	88 89	88	821449	812054	<0.2	<0.2 2.0 1.6	
					Bottom	6.9	0.3	114 118	22.2	22.2	8.4	8.4	28.1	28.1	96.9 97.0	97.0	7.2 7.2	9.4 9.4		5		91 89				<0.2 <0.2	1.6	
					Surface	1,0	-	-	22.1	22.1	8.4	8.4	27.7		95.8	95.8	7.1	4.7		3		-	İ				-	
SR1A	Sunny	Moderate	11:44	4.8	Middle	1.0	-	-	22.1	-	8.4	_	27.7	_	95.7	_	7.1	4.7	3.9	3	4	-		819982	812663		<u> </u>	
SICIA	Juliny	Woderate	11.44	4.0		2.4 3.8	-	-	22.1		8.4	<u> </u>	28.0		95.8		7.1	3.1	"." F	4	7		-	013302	012003			
					Bottom	3.8	-	-	22.2	22.2	8.4	8.4	27.9	28.0	96.0	95.9	7.1	2.9		4 3		87				<0.2	-	
					Surface	1.0	0.4	93 94	22.0	22.0	8.4	8.4	28.0	27.8	95.9 95.8	95.9	7.1	5.6		4	4	86				<0.2	0.7	
SR2	Sunny	Moderate	11:57	4.7	Middle	-	-	-	-	-	-	-	-	-	-	-		-	5.0	-		-	88	821461	814165	-	<0.2	
					Bottom	3.7	0.3	95 95	22.0 22.0	22.0	8.4	8.4	28.7	28.7	96.1 96.3	96.2	7.1	4.2 4.6		4		90 89				<0.2 <0.2	0.6	
					Surface	1.0	0.2	244	22.1	22.1	8.4	8.4	25.6	25.6	94.6	94.6	7.1	5.0		4		-				-	-	
SR3	Sunny	Moderate	10:45	8.7	Middle	1.0	0.2	261 179	22.1	22.2	8.4 8.4	8.4	25.6 26.5	26.5	94.5 93.6	93.6	7.1 7.1	4.7 8.9	5.7	3	4	-		822127	807556	-		
O NO	Curry	Woderate	10.40	0.7		7.7	0.2	189 66	22.2		8.4 8.4		26.5 25.5		93.5 94.2		7.0	8.9 3.6	··· -	3 6	,	-		OZZ IZI	007000		-	
					Bottom	7.7	0.2	66 67	22.2	22.2	8.4	8.4	25.5 30.5	25.5	94.2	94.2	7.1	3.6 8.9		6		- 1				-	-	
					Surface	1,0	0.3	73	21.8 21.8	21.8	8.0	8.0	30.5	30.5	98.7 98.6	98.7	7.3 7.3 7.3	8.9		5							_	
SR4A	Sunny	Moderate	11:38	7.6	Middle	3.8	0.4	62 66	21.9 22.0	22.0	8.0	8.0	30.4	30.4	98.7 98.7	98.7	7.2	4.9 5.0	5.8	6 5	5		-	817178	807801	-	-	
					Bottom	6.6 6.6	0.3	66 70	22.0 22.0	22.0	8.0 8.0	8.0	30.6 30.5	30.5	98.5 98.3	98.4	7.2 7.2	3.5 3.5		6								
					Surface	1.0	0.2	91	22.1	22.2	8.0	8.0	29.3	29.3	98.8	98.9	7.3	2.3		4		-				- 1		
SR5A	Sunny	Moderate	11:52	3.8	Middle	1.0	0.2	98	22.2	-	8.0	_	29.3	_	99.0	_	7.3 7.3	2.4	2.1	5	5			816597	810709	-		
511071		modorato	11.02	0.0		2.8	0.2	109	22.3		8.0	0.0	30.6	00.0	99.7	00.7	7.3	1.8		6	Ů	-		0.0007	010100	-	-	
					Bottom	2.8	0.2	115 133	22.3	22.3	8.0	8.0	30.6	30.6	99.7 97.2	99.7	7.3 7.3 7.2	1.8		5						-		
					Surface	1.0	0.0	139	21.7	21.7	8.0	8.0	28.7	28.7	97.2	97.2	7.2 7.2	3.5		3						-	-	
SR6	Sunny	Moderate	12:17	4.1	Middle	-	-	-	-	-	-	-	-	-	-	-		-	5.3	-	4	-	-	817914	814678	-	-	
					Bottom	3.1	0.1	160 167	21.8 21.8	21.8	8.0	8.0	28.9	28.9	98.3 98.2	98.3	7.3 7.3	7.2 7.2		4		-				-		
					Surface	1.0	0.6	69 75	22.4	22.4	8.4	8.4	30.3	30.3	95.7	95.7	7.0	2.4	\vdash	<2		-						
SR7	Sunny	Moderate	12:47	16.4	Middle	8.2	0.6	50	22.4 22.4	22.4	8.4 8.4	8.4	30.3	30.3	95.7 95.2	95.2	7.0 6.9 7.0	2.4 1.6	1.7	<2 <2	2			823648	823739	-		
510	Guiny	Moderate	12.77	10.4		8.2 15.4	0.3	51 27	22.4 22.4		8.4 8.4		30.3		95.1 95.2		6.9	1.5 1.1	F	2 <2	-		-	323040	323103			
					Bottom	15.4	0.3	29	22.4	22.4	8.4	8.4	30.5	30.5	95.3	95,3	6.9	1,1		<2		- 1	_			- 1		
					Surface	1.0	-	-	22.3 22.3	22.3	8.5 8.5	8.5	27.2	27.2	99.2 99.2	99.2	7.4	4.3 4.4	E	4							_	
SR8	Sunny	Moderate	11:34	5.2	Middle	-	-	-	-	-		-	-	-	-	-		-	4.3	-	5	\vdash	-	820407	811625	\vdash	-	
					Bottom	4.2	-	-	22.3 22.3	22.3	8.5 8.5	8.5	27.6 27.6	27.6	99.1 99.1	99.1	7.3 7.3	4.2 4.2	F	6						-		
DA: Depth-Ave	1 1				1	4.4		-	44.3		1 0.5		41.0		1 99.1		1.0	4.4		J								

Water Quality Monitoring Results on 02 April 19 during Mid-Flood Tide Dissolved Suspended Solids | Total Alkalinity Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) Coordinate Coordinate Monitoring Speed Current Oxygen (mg/L) (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Direction Station Value Average Value Average Value Average Value DA Value DA DA DA Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Value (Northing) (Easting) 0.1 21.7 <0.2 0.6 Surface 21.7 8.0 30.1 98.9 0.1 59 21.7 8.0 30.1 98.9 7.3 2.6 83 <0.2 0.7 7.3 4.8 0.1 84 21.6 7.3 6.6 88 <0.2 1.0 8.0 30.1 99.0 4 C1 96 21.6 8.0 815628 804227 0.8 Fine 05:42 30.1 99.0 6.2 4 <0.2 Moderate Middle 87 8.0 99.0 7.3 6.6 88 <0.2 0.8 4.8 87 21.6 30.1 4 0.1 8,6 0.2 81 21.6 8.0 7.3 9.3 4 91 <0.2 0.8 30.1 98.8 7.3 Bottom 21.6 8.0 30.1 98.8 8.0 7.3 98.8 0.2 21.6 30.1 94 91 <0.2 0.8 8.6 86 2 <2 2 3 1.0 0.1 96 8.4 8.4 24.2 96.4 22.3 1.6 85 < 0.2 0.9 Surface 22.3 8.4 24.2 96.4 85 7.3 1.6 <0.2 1,1 0.1 96 22.3 96.4 7.3 2.0 5.9 7.3 89 88 2.1 0.1 22.3 8.4 <0.2 24.2 96.6 C2 Cloudy Moderate 06:48 11.8 Middle 224 8.4 24.2 96.7 2.3 88 825678 806925 <0.2 8.4 24.2 5.9 0.1 22.4 96.8 236 10.8 217 3.1 90 <0.2 23.0 25.8 25.8 7.4 3 2.1 0.1 8.4 99.3 Bottom 23.0 8.4 25.8 99.3 74 10.8 0.1 23.0 8.4 99.3 90 <0.2 2.1 225 1.0 0.3 248 21.9 3.8 86 0.8 8.4 30.1 95.3 7.0 <2 <0.2 Surface 21.9 8.4 30.1 95.2 0.4 252 21.9 8.4 30.1 95.1 7.0 4.0 <2 87 <0.2 0.7 1.0 7.0 6,2 0.2 249 22.0 6.9 9.8 3 89 <0.2 0.8 8.4 30.4 94.5 05:15 12.3 822123 817821 C3 Cloudy Moderate Middle 22.0 8.4 30.4 94.5 <0.2 0.8 8.4 30.4 94.5 9.8 88 <0.2 0.2 22.0 11.3 0.2 254 22.0 8.4 30.7 30.7 95.2 95.2 7.0 1.6 90 <0.2 0.7 7.0 Bottom 22.0 8.4 30.7 95.2 278 22.0 8.4 90 1.0 0.0 21.6 8.0 30.4 98.5 7.3 2.6 83 <0.2 1.0 Surface 21.6 8.0 30.4 98.5 1.0 0.0 123 21.6 8.0 30.4 98.5 7.3 2.6 84 <0.2 1.0 ------- | -5.2 817951 Fine Moderate 05:52 Middle <0.2 4.2 0.1 90 21.7 30.4 98.7 98.7 2.6 4 91 <0.2 Bottom 21.7 8.0 30.4 98.7 7.3 0.1 90 21.7 8.0 30.4 7.3 2.5 91 <0.2 0.9 1.0 0.2 341 21.7 8.0 30.7 99.3 7.3 83 <0.2 1.0 Surface 8.0 30.7 99.3 1.0 0.2 357 21.7 8.0 30.7 99.3 7.3 2.5 4 84 <0.2 1.0 2.6 4.3 0.2 22 21.7 8.0 30.7 99.3 7.3 6 88 <0.2 1.0 IM2 Moderate 05:57 8.6 Middle 8.0 30.7 99.3 818163 806179 <0.2 1.0 4.3 0.2 23 21.7 8.0 30.7 99.3 7.3 -5 88 <0.2 1.0 7.6 0.2 45 21.7 8.0 30.7 99.2 7.3 7.3 2.3 6 91 <0.2 1.0 Bottom 21.7 8.0 30.7 99.2 7.6 0.2 45 21.7 8.0 30.7 99.2 73 2.3 6 91 <0.2 1.0 1.0 0.2 350 21.7 8.1 30.9 99.7 2.8 3 83 <0.2 1.0 Surface 21.7 8.1 30.9 99.7 7.3 0.2 322 21.7 8.1 99.7 83 <0.2 1.0 1.0 30.9 7.3 21.7 21.7 2.2 5 6 87 87 4.1 0.1 4 8.0 31.0 99.7 7.3 <0.2 1.0 IM3 Fine Moderate 06:02 8.2 Middle 21.7 8.0 31.0 99.7 87 818760 805575 <0.2 7,3 8.0 99.7 1.0 4 1 0.1 4 31.0 5.7 7.2 0.2 17 21.7 8.0 30.9 99.9 7.3 7.3 6 91 < 0.2 1.1 Bottom 21.7 8.0 30.9 99.9 7.3 5.7 8.0 7.2 0.2 18 21.7 30.9 99.9 92 < 0.2 1.0 324 1.0 0.2 21.8 8.1 31.1 31.1 99.2 7.3 7.3 10.4 83 <0.2 1.1 Surface 21.8 8.1 31.1 99.2 1.0 327 21.8 8.1 3 83 <0.2 0.9 0.3 99.2 10.5 7.3 1.0 7.1 88 4.2 0.2 338 21.8 8.0 31.2 99.2 7.3 3 <0.2 Moderate 06:09 8.4 21.8 8.0 31.2 99.2 88 819701 804608 IM4 Fine Middle < 0.2 4.2 0,2 311 21.8 8.0 31,2 7.3 7.2 4 88 <0.2 7.6 91 <0.2 1.0 7.4 0.2 354 21.8 8.0 7.3 4 21.8 31.1 99.5 7.3 Bottom 8.0 31.1 99.6 7.4 326 21.8 92 <0.2 1.0 0.2 30.8 1.0 0.3 325 21.7 8.1 99.2 6.5 83 <0.2 1.0 Surface 21.7 8.0 99.2 30.8 1.0 0.3 21.7 7.3 6.4 87 <0.2 0.9 343 99.2 7.3 344 7.3 5.2 4 3.8 0.3 21.6 8.0 30.8 99.4 88 <0.2 0.8 IM5 Fine Moderate 06:17 7.6 Middle 21.6 8.0 30.9 99.3 820736 804845 <0.2 3.8 0.3 348 21.5 5.3 91 <0.2 8.0 30.9 98.4 7.2 6.4 <0.2 0.8 21.8 8.0 30.8 98.4 7.2 Bottom 6.6 21.9 8.0 92 0.8 0.2 293 25.8 25.8 2.1 <0.2 8.0 83 Surface 21.5 8.0 25.8 97.5 0.9 1.0 0.2 312 21.5 8.0 7.4 <2 83 7.4 4.0 0.1 327 21.5 8.0 25.8 97.8 7.4 4.0 <2 88 <0.2 0.9 Fine Moderate 7.9 Middle 8.0 25.8 97.8 821074 805814 4.0 0.1 355 21.5 8.0 25.8 97.8 7.4 4.0 88 <0.2 0.9 6.9 0.1 62 21.4 8.0 7.4 91 <0.2 1,1 21.5 7.4 6.9 0.1 66 21.5 8.0 17.7 92 <0.2 0.8 1.0 0.2 244 21.5 8.0 25.7 3.2 83 <0.2 0.9 Surface 21.5 25.7 <0.2 1.0 0,2 248 21.5 8.0 25.7 97.3 7.4 3,2 <2 84 0.8 7.4 9.5 41 0.2 40 21.5 8.0 26.8 97.0 7.3 <2 88 <0.2 8.0 IM7 Fine Moderate 06:29 8.1 Middle 21.5 8.0 26.8 97.0 821365 806816 <0.2 0.8 4.1 0.2 40 21.5 8.0 26.8 97.0 7.3 9.5 2 88 <0.2 0.8 7 1 0.2 69 21.5 8.0 25.7 97.2 7.4 12.6 3 91 <0.2 0.8 Bottom 21.5 8.0 25.7 97.3 7.4 0.3 71 21.5 8.0 12.7 92 < 0.2 0.9 1.0 0.1 22.1 8.4 25.4 96.6 7.3 3.9 3.7 3.8 <2 85 <0.2 1.4 Surface 22 1 8.4 25.4 96.6 84 <0.2 1.0 0.1 22.0 8.4 25.4 96.5 7.3 1.4 7.3 7.3 4 88 <0.2 1.4 3.9 0.1 82 22.0 8.4 25.7 96.6 821843 808119 IM8 Cloudy Moderate 06:21 7.8 Middle 22.0 8.4 25.7 96.8 87 <0.2 1.4 87 <0.2 25.7 96.9 7.3 3.8 3 3.9 0.2 82 22.0 8.4 <0.2 6.8 0.1 63 22.0 8.4 25.8 25.9 96.1 96.1 7.2 7.2 5.8 5.5 4 90 1.4 22 0 8.4 25.9 Bottom 96.1

DA: Depth-Averaged

during Mid-Flood Tide Water Quality Monitoring Results on 02 April 19 Dissolved Suspended Solids | Total Alkalinity Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) Coordinate Coordinate Monitoring Current Oxygen (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction Value Average Value Average Value Average Value DA DA DA DA Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Value Value (Northing) (Easting) 0.0 22.0 <0.2 Surface 22.0 8.4 25.8 96.2 5.1 7.7 7.7 50 22.0 8.4 25.8 0.1 59 22.0 88 <0.2 1.2 7.3 96.3 822103 808821 <0.2 1.2 IM9 Cloudy Moderate 06:15 Middle 22.0 8.4 26.4 0.1 60 22.0 8.4 26.4 96.3 7.2 6 89 <0.2 1.2 6.3 0.1 354 26.7 96.6 7.2 7.2 12.6 10 90 <0.2 1.1 8.4 26.7 96.6 7.2 Bottom 21.9 0.1 354 21.9 8.4 26.7 96.6 12.5 10 89 <0.2 1.2 1.0 0.2 336 21.8 8.4 26.3 96.8 5.1 85 <0.2 1.0 Surface 8.4 26.3 96.8 3 1.0 0.2 342 21.8 8.4 26.3 96.7 7.3 5.3 85 <0.2 1.0 9.7 3.7 0.2 297 21.9 8,4 27.0 96.0 7,2 4 88 <0.2 0.9 IM10 Cloudy Moderate 06:07 7.4 Middle 8.4 27.0 96.0 822371 809781 <0.2 3.7 7.2 5 87 < 0.2 0.2 299 21.9 8.4 27.0 95.9 1.0 8.4 27.9 7.1 6.4 0.3 284 21.9 95.8 4.4 5 89 <0.2 1.0 Bottom 21.9 8.4 27.9 95.8 27 9 95.8 7 1 6.4 0.3 298 21.9 8.4 45 90 <0.2 1.1 28.4 <0.2 1.0 0.4 287 21.9 8.4 95.2 7.1 5.1 86 1.1 Surface 21.9 8.4 28.3 95.2 3 7 1 5.8 1.0 1.0 0.4 301 21.9 8.4 28.3 95.1 85 5.4 5.3 88 89 3.8 0.3 290 21.9 8.4 28.4 94.7 7.0 4 <0.2 1.0 IM11 Cloudy Moderate 05:57 7.6 Middle 21.9 8.4 28.4 94.7 88 822047 811480 <0.2 1.0 8.4 3 3.8 0.3 309 21.9 28.4 94.7 7.0 0.9 3.7 139 7.0 90 < 0.2 6.6 0.0 21.9 8.4 28.6 94.7 4 1.0 Bottom 21.9 8.4 28.6 94.8 7.0 8.4 94.8 3.8 89 <0.2 0.9 6.6 0.0 152 21.9 28.6 1.0 0.2 296 21.8 8.4 28.0 96.3 7.4 85 <0.2 0.7 21.8 8.4 28.0 96.3 Surface 0.2 318 21.8 8.4 28.0 96.2 7.2 7.5 85 <0.2 0.7 1.0 3 7.3 9.8 89 0.8 4.1 0.3 271 21.8 8.4 28.2 97.5 7.3 4 <0.2 821467 812027 M12 Cloudy Moderate 05:49 8.2 Middle 21.8 8.4 28.2 97.5 88 < 0.2 4.1 0.3 274 21.7 8.4 28.2 7.3 9.6 87 <0.2 8.4 3.3 5 90 <0.2 0.9 0.2 263 21.9 28.4 94.9 7.1 Bottom 21.9 8.4 28.4 94.9 7.1 268 21.9 8.4 3.5 7.2 0.2 90 <0.2 0.8 21.9 8.4 29.0 94.0 7.0 4.0 <2 21.9 8.4 94.0 Surface 29.0 1.0 21.9 7.0 4.2 7.0 SR1A Cloudy Moderate 05:37 4.6 Middle 819974 812654 2.3 7.0 7.0 21.9 5.1 8.4 29.1 94.0 Bottom 21.9 8.4 29.1 94.0 21.9 316 <0.2 Surface 21.9 29.0 94.0 1.0 0.2 332 21.9 29.0 94.0 7.0 4.4 86 <0.2 0.8 7.0 -SR2 Cloudy Moderate 05:37 Middle 821452 814162 6.9 7.0 3.8 0.2 331 21.9 8.4 29.1 93.9 6.4 4 88 <0.2 0.8 94.0 Bottom 94.1 3.8 0.2 342 21.9 8.4 20.1 6.4 80 <0.2 0.8 1.0 0.0 73 22,2 8.4 26.5 95.9 95.7 4.6 Surface 22.2 8.4 26.5 95.8 84 26.5 72 1.0 0.0 22.1 46 3 4.3 0.1 113 22.0 8.4 25.4 95.5 7.2 8.5 -SR3 Cloudy Moderate 06:26 8.6 Middle 22.0 8.4 25.4 95.6 822129 807589 95.6 4 -4.3 0.1 116 22.0 8.4 25.5 8.3 ---7.6 0.2 62 22.0 8.4 25.4 95.7 7.2 7.2 3.1 4 7.2 Bottom 22.0 8.4 25.4 95.8 7.6 0.2 63 22.0 8.4 2.5 2.6 3.0 1.0 0.3 199 21.5 8.0 8.0 30.0 97.4 7.2 7.2 Surface 21.5 8.0 30.0 97.4 97.4 4 1.0 0.3 201 21.5 7.2 7.2 5.0 288 0.2 21.5 8.0 29.9 97.4 4 ---SR4A 05:17 9.9 817197 807832 Fine Moderate Middle 21.5 8.0 29.9 97.4 8.0 97.4 7.2 3.0 5 5.0 0.2 296 21.5 29.9 284 21.5 8.0 8,9 0,3 29.9 29.9 97.6 97.6 7.2 7.2 3.3 3.3 7.2 ---21.5 8.0 29.9 97.6 Bottom 8.0 8.9 0.3 289 21.5 1.0 0.2 204 21.4 7.9 29.2 95.7 7.1 6.9 ---21.4 7.9 29.1 95.8 Surface 7.9 29.1 95.8 6.9 210 7.1 4 1.0 0.2 21.4 7.1 ---------SR5A 05:02 4.6 816607 810710 Fine Moderate Middle _ 7.2 7.2 3.6 0.2 207 21.5 7.9 29.2 96.2 10.2 21.5 7.9 29.2 96.2 Bottom 7.9 3.6 0.2 216 1.0 0.1 228 21.3 7.8 7.2 ---Surface 21.3 7.8 28.4 95.5 229 7.8 28.4 95.5 7.2 1.5 3 1.0 0.1 21.3 7.2 SR6 Fine Moderate 04:40 4.8 Middle -817875 814661 7.2 7.2 3.8 0.1 233 21.3 7.8 28.2 95.8 1.2 4 Bottom 21.3 7.8 28.2 95.9 0.1 245 7.8 95.9 1.0 0.1 233 21.8 8.4 91.6 1.7 <2 Surface 91.6 1.0 0.1 247 21.8 8.4 29.0 91.6 6.8 1.7 -6.8 8.4 0.1 284 21.9 8.4 30.6 91.6 6.7 1.3 2 SR7 Moderate 04:46 16.8 Middle 8.4 30.6 91.7 823634 823763 Cloudy 8.4 0.1 285 21.9 8.4 30.6 91.7 6.7 1.3 15.8 0.1 230 21.9 8.4 30.6 91.7 6.7 1.2 <2 Bottom 21.9 8.4 30.6 91.7 6.7 15.8 0.1 241 21,9 8.4 91.7 6.7 1.0 21.9 8.4 29.0 94.4 7.0 3.8 2 Surface 21.9 8.4 29.0 94.4 1.0 21.9 8.4 29.0 94.4 7.0 3.8 7.0 -. -820413 SR8 Cloudy Moderate 05:38 4.7 Middle 811636 . . -3.7 21.9 7.0 3.2 3 8.4 29.0 94.2 -21.9 8.4 29.0 94.2 7.0 21.9

DA: Depth-Averaged

during Mid-Ebb Tide Water Quality Monitoring Results on 04 April 19 Dissolved Suspended Solids | Total Alkalinity Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) Coordinate Coordinate Monitoring Current Oxygen (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction Value Average Value Average Value Average Value DA Value DA DA DA Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Value (Northing) (Easting) 0.2 230 22.9 84 <0.2 Surface 22.9 8.2 28.5 95.5 0.2 237 22.9 8.2 28.5 95.4 7.0 3.7 4.3 0.2 207 23.3 7.0 4.0 88 <0.2 1.1 C1 28.0 96.0 815608 804246 <0.2 Cloudy Moderate 12:13 8.6 Middle 23.4 8.2 6 1.1 4.3 222 23.4 8.2 27.9 96.0 7.0 4.0 6 87 <0.2 1.1 6.9 7.6 0.1 220 23.6 28.9 96.5 4.6 90 <0.2 8.2 28.9 96.5 Bottom 23.6 0.1 231 23.6 8.2 28.9 96.5 6.9 4.6 89 <0.2 1.1 1.0 0.2 105 22.9 8.2 23.5 95.7 7.2 4.4 84 <0.2 2.2 Surface 8.2 23.5 95.8 7 1.0 0.2 110 22.9 8.2 23.5 95.8 7.2 4.6 84 <0.2 2.2 5.7 5.7 0.2 131 22.8 8.2 23.6 96.2 7,2 5.3 5.2 6 88 <0.2 2.1 C2 Cloudy Moderate 11:14 11.4 Middle 8.2 23.6 96.2 825701 806934 <0.2 8.2 7.2 6 <0.2 0.2 142 22.8 23.6 96.2 88 2.1 96.2 96.2 7.2 7.2 4.7 10.4 0.3 147 22.7 8.2 24.1 6 92 <0.2 2.1 Bottom 22.7 8.2 24.1 96.2 147 22.7 8.2 2.1 10.4 0.3 24 1 6 92 <0.2 22.7 22.7 7.2 <0.2 1.0 0.5 63 8.2 28.5 98.1 2.4 85 1.4 Surface 22.7 8.2 28.5 98.1 8.2 85 1.1 1.0 0.6 67 28.5 98.0 2.5 6 7.2 88 89 1.1 22.7 22.7 3.1 5.5 5.5 0.4 82 8.2 28.5 97.5 7 1 6 <0.2 C3 Cloudy Moderate 13:02 11.0 Middle 22.7 8.2 28.5 97.3 822096 817793 <0.2 1.2 8.2 3.1 6 0.4 82 28.5 7.1 10.0 104 8.2 7.1 4.8 6 92 < 0.2 1.2 0.3 22.5 29.3 96.7 Bottom 22.5 8.2 29.3 96.9 7.1 10.0 8.2 97.0 4.8 93 <0.2 1,1 0.4 109 22.5 29.3 116 1.0 0.1 22.8 8.2 29.3 95.0 6.9 5.5 84 <0.2 1.2 Surface 22.8 8.2 29.3 95.0 123 8.2 5.4 85 <0.2 1.1 1.0 22.8 29.3 95.0 6.9 4 0.1 6.9 -- | ------ | 817964 807130 IM1 Cloudy Moderate 12:03 5.2 Middle 87 1.2 < 0.2 -4.2 0.1 180 22.8 8.2 29.3 6.9 10.1 4 90 <0.2 1.1 95.3 Bottom 22.8 8.2 29.3 95.3 6.9 170 1.4 4.2 0.1 22.8 8.2 <0.2 120 22.8 2.9 3.0 84 <0.2 <0.2 1.5 1.5 0,1 8.2 28.0 28.0 95.7 95.7 22.8 8.2 28.0 95.7 Surface 1.0 0.1 122 22.8 7.0 84 7.0 6.3 89 <0.2 <0.2 1.6 22.7 8.2 28.2 95.0 7.0 818168 IM2 Cloudy Moderate 11:57 7.5 Middle 22,7 8.2 28.2 95.0 806154 <0.2 3.8 0.0 180 22.7 8.2 6.8 88 6.9 130 22.6 7.8 <0.2 1.4 8.2 29.5 94.8 Bottom 22.6 8.2 29.5 94.8 0.2 140 22.6 94.8 90 <0.2 1.5 151 27.8 27.8 <0.2 22.7 8.2 96.0 Surface 8.2 27.8 96.0 1.0 0.1 142 22.7 8.2 96.0 7.1 8.8 84 <0.2 1.5 7.1 3.8 0.0 157 22.7 8.2 27.8 95.9 7.1 12.4 5 87 <0.2 1.4 Cloudy Moderate 11:50 7.6 Middle 27.8 95.9 818778 805596 14 3.8 0.0 160 22.7 8,2 7.1 12.4 6 89 <0.2 95.8 95.8 6.6 0.1 180 22.7 8.2 28.2 7.0 4.0 4 90 <0.2 1.4 95.8 7.0 Bottom 6.6 0.1 182 22.7 8.2 28.2 7.0 4.2 80 < 0.2 15 1.0 0.2 22.7 8.2 28.2 95.8 95.8 5.2 84 <0.2 <0.2 1.5 Surface 22.7 8.2 28.2 95.8 1.5 8.2 7.0 5.1 85 1.0 0.2 116 22.7 95.7 95.7 5.7 5.7 5 88 87 1.5 3.7 0.2 152 22.7 8.2 28.2 7.0 <0.2 IM4 Cloudy Moderate 11:40 7.4 Middle 22.7 8.2 28.2 95.7 87 819744 804617 <0.2 8.2 5 3.7 0.2 144 22.7 28.2 7.0 137 7 6.4 0.1 22.7 8.2 8.2 28.4 95.8 95.9 7.0 5.2 89 <0.2 1.5 7.0 Bottom 22.8 8.2 28.3 95.9 6.4 0.1 138 22.8 90 < 0.2 1.4 137 8.3 8.3 4.7 1.0 0.3 22.7 8.2 8.2 29.0 29.0 95.5 7.0 6 7 85 <0.2 1.7 Surface 22 7 8.2 29.0 95.5 147 95.5 7.0 84 <0.2 1.6 1.0 0.3 22,7 7.0 3.7 159 88 22.7 7.0 1.6 0.3 8.2 29.1 95.2 6 <0.2 11:30 7.3 22.7 8.2 95.2 820733 804862 <0.2 1.7 IM5 Cloudy Moderate Middle 29.1 8.2 95.2 7.0 4.4 88 <0.2 0.3 155 22.7 29.1 5 22.7 90 <0.2 1.8 6,3 0,2 121 8.2 8.2 29.2 29.2 95.4 95.5 7.0 7.0 4.9 22.7 8.2 95.5 29.2 Bottom 5.1 90 <0.2 0.2 121 22.7 6.3 1.0 94.2 8.7 84 1.6 0.2 203 22.6 8.2 25.7 7.0 <0.2 226 8.2 94.2 Surface 25.7 8.2 25.7 8.7 84 <0.2 1.6 200 7.0 0.2 22.6 7.0 233 6.6 89 1.7 3.8 0.1 22.7 8.2 25.7 93.9 7.0 <0.2 Moderate 11:23 7.5 22.7 8.2 25.7 93.9 821054 805836 <0.2 IM6 Cloudy Middle 8.2 25.7 93.9 6.6 88 <0.2 1.7 3.8 0.1 235 22.7 6.5 0.1 247 22.7 8.2 25.9 94.1 7.0 8.0 90 <0.2 1.7 22.7 8.2 25.9 94.2 7.0 Bottom 8.0 90 1.7 0.1 248 22. 0.0 270 22.7 25.6 83 <0.2 1.7 8.2 94.0 7.0 4.1 Surface 22.7 8.2 25.6 94.0 286 8.2 25.7 94.0 4.1 84 <0.2 1.6 22.7 7.0 4.0 0.3 190 22.7 4.2 89 <0.2 1.6 IM7 Cloudy Moderate 11:12 7.9 Middle 22.7 8.2 25.7 94.1 821369 806856 <0.2 4.0 0.3 198 22.7 8.2 25.7 94.1 7.0 4.2 7 88 <0.2 1.6 7.0 7.0 6.9 0.3 201 22.7 8.2 25.7 94.2 4.2 8 90 <0.2 1.6 Bottom 8.2 25.7 94.2 0.3 8.2 4.5 80 17 1.0 0.1 157 22.7 8.2 25.4 95.9 7.2 3.9 85 <0.2 1.8 Surface 25.4 96.0 1.0 0.1 161 22.7 8.2 25.4 96.0 7.2 3.9 6 85 <0.2 1.8 7.2 0.2 116 22,7 8.2 25.4 95.9 7.2 3.4 6 89 <0.2 1.9 IM8 Cloudy Moderate 11:41 8.2 Middle 8.2 25.4 95.9 821828 808160 <0.2 1.8 41 0.2 22.7 8.2 25.4 95.8 7.1 3.4 5 89 <0.2 7.2 0.2 75 22.8 8.2 26.1 95.5 7.5 4 92 <0.2 1.7 Bottom 22.9 8.2 26.0 95.5 7.1 23.0

DA: Depth-Averaged

during Mid-Ebb Tide Water Quality Monitoring Results on 04 April 19 Dissolved Suspended Solids | Total Alkalinity Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) Coordinate Coordinate Monitoring Current Oxygen (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction Value Average Value Average Value Average Value DA DA DA DA Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Value Value (Northing) (Easting) 0.4 101 22.7 <0.2 1.8 Surface 22.7 8.2 25.4 96.6 0.4 102 22.7 8.2 25.4 4.1 3.8 0.4 103 22.7 3.2 88 <0.2 1.9 25.2 96.7 822105 808790 <0.2 IM9 Cloudy Moderate 11:48 7.5 Middle 22.7 8.2 6 1.9 0.4 106 22.7 8.2 25.2 96.6 7.2 3.6 4 89 <0.2 1.8 6.5 0.4 56 22.7 26.4 96.4 7.2 5.3 6 92 <0.2 8.2 26.4 96.5 7.2 Bottom 22.7 0.4 57 22.7 8.2 26.4 96.6 7.2 5.3 92 <0.2 19 1.0 0.4 101 22.7 8.2 27.5 97.3 8.2 85 <0.2 1.9 Surface 8.2 27.5 97.4 7 1.0 0.4 102 22.7 8.2 27.5 97.5 7.2 7.7 84 <0.2 17 3.7 0.5 96 22.8 8.2 25.6 97.9 7.3 4.1 9 89 <0.2 1.8 IM10 Cloudy Moderate 11:56 7.3 Middle 8.2 25.6 97.9 822396 809778 <0.2 3.7 8.2 7.3 8 < 0.2 0.5 104 22.8 25.6 97.8 4.0 89 1.8 7.2 6.3 0.3 93 22.8 8.2 25.5 97.2 4.2 8 93 <0.2 1.4 Bottom 8.2 25.5 97.3 7.2 8.2 10 63 0.4 96 22.9 25.5 97.4 3.9 92 <0.2 13 26.7 7.2 <0.2 1.0 0.4 112 22.8 8.2 97.4 5.3 85 1.6 Surface 22.8 8.2 26.7 97.3 8.2 5.0 1.0 0.4 116 22.8 26.7 97.2 5 85 16 7.2 3.6 88 89 97.1 1.6 4.5 0.2 127 22.8 8.2 26.2 4 <0.2 IM11 Cloudy Moderate 12:05 89 Middle 22.8 8.2 26.2 97.2 89 822068 811437 <0.2 1.6 8.2 7.2 4.5 0.2 133 22.8 26.2 97.2 4 7.2 3.6 5 < 0.2 1.6 7.9 0.0 115 22.8 8.2 26.6 97.4 93 Bottom 22.8 8.2 26.6 97.4 7.2 124 8.2 97.4 3.6 93 <0.2 1.6 7.9 0.0 22.8 26.6 1.0 0.5 109 23.0 8.2 27.8 27.8 98.6 3.3 4 84 <0.2 1.4 23.0 8.2 27.8 98.5 Surface 0.5 110 23.0 8.2 98.4 7.2 3.3 85 <0.2 1.4 1.0 4 7.2 117 4.3 4 87 1.3 4.4 0.4 22.8 8.2 27.5 97.8 7.2 <0.2 821478 812058 M12 Cloudy Moderate 12:14 8.7 Middle 22.8 8.2 27.5 97.9 88 < 0.2 4.4 0.4 22.8 8.2 7.2 4.3 4 88 <0.2 128 8.2 27.4 3.4 3 92 <0.2 1.3 0.3 22.9 98.4 7.2 Bottom 22.9 8.2 27.4 98.5 7.2 0.3 129 22.9 8.2 3.4 <0.2 27.9 27.9 22.8 8.2 96.5 96.7 4.3 6 7.1 22.8 8.2 27.9 96.6 Surface 1.0 7.1 4.4 6 22.8 7.1 SR1A Cloudy Moderate 12:31 5.6 Middle 819973 812659 2.8 22.9 3.9 27.9 97.5 7.1 Bottom 22.9 8.2 27.9 97.6 7.1 4.6 22.9 4.0 95 22.8 Surface 22.8 8.3 27.6 98.2 1.0 0.6 96 22.8 98.2 7.2 85 <0.2 1.4 7.2 -SR2 Cloudy Moderate 12:42 4.8 Middle 821444 814184 3.8 0.3 133 22.9 8.3 27.6 98.6 7.2 3.5 6 88 <0.2 1.4 98.6 7.2 Bottom 27.6 988 3.8 0.3 143 22.9 8.2 3.6 88 <0.2 1.4 1.0 0.1 185 22.8 8.2 8.2 24.9 96.0 4.4 Surface 22.8 8.2 24.9 24 9 96.0 72 4.4 1.0 0.2 199 22.7 5 47 0.2 165 22.7 8.2 25.3 96.0 7.2 3.5 -SR3 Cloudy Moderate 11:34 9.4 Middle 22.7 8.2 25.3 96.1 822126 807556 8.2 -4.7 0.2 175 22.7 25.3 96.1 72 3.5 4 7 ---8.4 0.2 83 22.8 8.2 8.2 25.3 96.0 7.2 7.2 4.1 7.2 Bottom 22.8 8.2 25.3 96.1 8.4 0.2 85 22.8 4.1 1.0 0.3 64 22.9 8.2 8.2 29.2 95.8 95.7 7.0 8.5 8.2 Surface 22.9 8.2 29.2 95.8 7.0 1.0 0.3 64 22.9 8 7.0 7.0 4.4 0.3 61 23.0 8.3 29.0 95.6 95.7 9.4 8 ---SR4A 12:27 8.7 95.7 817185 807812 Cloudy Moderate Middle 23.0 8.3 28.9 10.2 8.3 7.0 4.4 0.4 61 23.0 28.9 9.4 9 8.3 6.9 12.8 0.3 60 23.1 29.1 29.1 95.7 95.7 6.9 ---23.1 8.3 29.1 95.7 Bottom 8.3 12.8 0.3 23.1 1.0 0.1 152 23.7 8.2 28.4 97.6 7.0 7.1 ---23.7 8.2 28.3 97.8 Surface 164 28.3 97.9 7.4 8.2 7.0 8 1.0 0.1 23.7 7.0 ---------SR5A 12:42 4.2 816592 810685 Cloudy Moderate Middle _ 7.0 7.0 3.2 0.2 118 23.8 8.3 29.1 98.2 7.6 -23.8 8.3 29.1 98.2 Bottom 0.2 125 23.8 0.3 165 22.9 8.2 7.0 ---Surface 22.9 8.2 28.4 95.5 0.3 174 8.2 28.4 95.6 7.0 4.8 5 1.0 22.9 7.0 SR6 Cloudy Moderate 13:11 4.3 Middle -817893 814664 8.2 3.3 0.0 160 24.8 29.0 98.9 7.0 7.0 5.1 8 Bottom 8.2 29.0 98.9 0.0 165 24.8 8.2 08.0 5.1 1.0 0.5 22.9 30.3 94.8 Surface 94.8 1.0 0.5 86 22.9 8.2 30.3 94.8 6.8 3.0 4 -6.9 7,2 0.2 59 22.8 8.2 30.4 94.9 6.9 2.0 3 SR7 Moderate 13:29 14.4 Middle 8.2 30.4 95.0 823628 823760 Cloudy 0.3 62 22.8 8.2 30.4 95.0 6.9 2.0 8.2 13.4 0.3 15 22.9 30.2 96.1 6.9 1.6 3 Bottom 8.2 30.2 96.2 7.0 13,4 0.3 16 22.9 8.2 7.0 1,8 1.0 22.9 8.3 28.1 98.9 7.2 Surface 22.9 8.3 28.0 98.9 1.0 22.9 8.3 28.0 98.8 7.2 7.0 8 7,2 -. -820401 SR8 Cloudy Moderate 12:22 4.0 Middle 6.2 811642 . . -3.0 23.0 8.3 7.2 7.2 5.5 28.0 98.9 -. 23.0 8.3 28.0 98.9 7.2 3.0 23.0

DA: Depth-Averaged

04 April 19 Water Quality Monitoring Results on during Mid-Flood Tide Dissolved Suspended Solids | Total Alkalinity Salinity (ppt) Turbidity(NTU) Sampling Water Water Temperature (°C) Coordinate Coordinate Monitoring Current Oxygen (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction Value Average Value Average Value Average Value DA Value DA DA DA Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Value (Northing) (Easting) 0.2 22.6 <0.2 1.5 Surface 22.6 8.2 27.9 94.5 0.3 29 22.6 8.2 27.9 94.5 7.0 7.6 <0.2 1.0 7.0 4.1 0.2 20 6.9 8.5 89 <0.2 1.7 22.6 8.2 28.0 94.5 5 07:04 8.2 226 8.2 28.0 815620 804232 <0.2 1.5 C1 94.5 8.6 5 Cloudy Moderate Middle 88 28.0 94.5 6.9 90 <0.2 1.4 22.6 8.2 9.1 6 4.1 0.2 21 7.2 0,1 34 22.6 8.2 9.7 9.2 5 90 <0.2 1.5 28.0 94.3 6.9 6.9 Bottom 22.6 8.2 28.0 94.3 8.2 94.3 0.1 28.0 6.9 90 <0.2 14 72 22.6 1.0 0.3 23.3 23.3 3.1 2.1 22.6 95.8 88 < 0.2 Surface 22.6 8.2 23.3 95.9 3.2 3.0 3.0 8.2 87 95.9 7.3 <0.2 0.3 22.6 6 7.3 5.6 57 7.3 7 91 92 2.3 0.3 22.6 8.2 23.5 23.5 <0.2 96.3 C2 Cloudy Moderate 08:13 11.2 Middle 226 8.2 23.5 96.3 72 92 825666 806952 <0.2 8.2 5.6 0.3 60 22.6 10.2 22.6 22.6 15.0 10 96 <0.2 2.2 0.2 336 8.2 8.2 25.3 25.3 97.3 97.6 7.3 7.3 Bottom 226 8.2 25.3 97.5 73 10.2 339 16.1 10 95 <0.2 0.2 1.0 0.3 271 86 22.4 8.2 6.9 2.8 <0.2 1.4 29.2 94.6 Surface 22.4 8.2 29.2 94.6 0.4 281 22.4 8.2 29.2 94.6 6.9 2.6 5 86 <0.2 1.9 6.9 2.0 5.3 0.3 249 22.4 6.9 5 90 <0.2 1.4 8,2 29.1 94.3 822107 817808 C3 Cloudy Moderate 06:08 10.5 Middle 22.4 8.2 29.1 94.2 <0.2 254 8.2 29.1 94.0 90 <0.2 0.3 22.4 6.8 6.7 9.5 0.3 248 22.4 8.2 8.2 30.1 93.2 93.2 6.8 94 <0.2 1.0 Bottom 22 4 8.2 30.1 93.2 265 22.4 30.1 94 1.0 0.1 32 22.6 8.2 29.0 94.0 6.9 7.2 85 <0.2 1.4 Surface 22.6 8.2 29.0 94.0 0.1 8.2 29.0 94.0 6.9 7.3 10 86 <0.2 1.4 22.6 ------ | -817938 Cloudy Moderate 07:14 5.5 Middle <0.2 6.9 6.9 4.5 0.2 44 22.6 28.9 93.8 10.1 10 90 <0.2 Bottom 8.2 28.9 93.8 0.2 47 22.6 8.2 28.9 93.8 6.9 10.0 10 89 <0.2 1.5 1.0 0.3 22.6 8.2 28.8 95.3 7.0 4.0 4 85 <0.2 1.6 8.2 28.8 95.3 1.0 0.3 22.6 8.2 28.8 95.3 7.0 4.0 4 85 <0.2 1.5 3.7 0.3 16 22.6 8.2 28.7 95.3 7.0 3.9 6 88 <0.2 1.5 IM2 Cloudy Moderate 07:20 7.4 Middle 8.2 28.7 95.3 818147 806186 <0.2 0.3 16 22.6 8.2 28.7 95.2 7.0 3.9 -5 89 <0.2 1.5 8.2 6.4 0.2 11 22.6 28.9 94.6 6.9 6.9 5.4 6 89 <0.2 1.5 Bottom 8.2 28.9 94.6 6.4 0.2 11 22.6 8.2 28.9 94.6 6.9 5.4 89 <0.2 1.4 1.0 0.3 12 22.6 8.2 28.0 95.0 5.4 85 <0.2 1.3 Surface 8.2 28.0 95.0 8.2 5.5 11.1 1.0 0.3 12 7.0 6 86 <0.2 14 22.6 28.0 95.0 7.0 88 89 3.8 0.2 4 22.6 8.2 28.0 94.9 7.0 4 <0.2 1.4 IM3 Cloudy Moderate 07:26 7.6 Middle 22.6 8.2 28.0 94.7 818796 805588 <0.2 8.2 7.0 11.5 3.8 0,2 4 1,4 4 22.6 28 1 94.5 8.2 6.6 0.1 345 22.6 29.4 93.9 6.9 9.3 3 90 < 0.2 1.4 6.9 Bottom 22.6 8.2 29.4 93.9 8.2 6.6 0.1 317 22.6 29.4 93.9 6.9 9.3 89 < 0.2 1.4 1.0 0.3 340 22.6 8.2 8.2 29.1 94.7 94.7 6.9 10.1 84 <0.2 1.3 Surface 22.6 8.2 29.1 94.7 1.0 351 85 <0.2 1.4 0.3 22.6 29.1 6.9 10.5 6.9 8.7 87 1.3 3.9 0.3 348 22.6 8.2 29.1 94.4 6.9 6 <0.2 Moderate 07:34 7.8 22.6 8.2 94.4 819704 804587 IM4 Cloudy Middle 29.1 < 0.2 3.9 0,3 359 22.6 8.2 6.9 8.5 89 <0.2 1.4 29.1 94.4 90 <0.2 1.4 6.8 359 8.2 6.9 8.4 6 0.2 22.6 226 8.2 29.3 94.4 6.9 Bottom 29.3 94.5 6.8 330 8.2 90 <0.2 1.4 0.2 22.6 8.2 1.0 0.4 354 22.6 29.0 95.0 95.0 6.9 7.4 7.4 84 <0.2 1.4 Surface 22.6 8.2 95.0 29.0 1.0 0.4 8.2 84 <0.2 1.4 326 22.6 6.9 6.9 358 8.5 89 0.4 22.6 8.2 29.0 94.8 6.9 6 <0.2 1.4 IM5 Cloudy Moderate 07:41 7.4 Middle 22.6 8.2 29.0 94.8 820756 804863 <0.2 3.7 329 8.5 90 <0.2 0.5 22.6 354 22.6 8.2 29.5 94.4 6.9 11.0 89 <0.2 1.3 22.6 8.2 29.5 94.4 6.9 Bottom 0.3 326 6.9 11.0 90 1.3 6.4 22.6 84 <0.2 22.6 8.2 26.1 26.1 9.4 1.3 Surface 22.6 8.2 26.1 93.7 1.0 0.1 346 22.6 93.7 7.0 9.4 83 7.0 1.3 3.9 0.1 355 22.6 8.2 93.9 7.0 6.1 4 87 <0.2 26.0 Cloudy Moderate 07:50 7.8 Middle 8.2 26.0 94.0 821059 805848 3.9 0.1 327 22.6 8.2 26.0 94.0 7.0 6.6 4 87 <0.2 6.9 6.9 6.8 0.1 49 22.6 8.2 10.5 4 89 <0.2 1.3 6.8 0.1 50 22.6 10.6 QΩ <0.2 13 94.1 1.0 0.1 310 22.7 8.2 25.5 5.2 84 <0.2 1.4 Surface 22.7 94 0 <0.2 1.0 0,1 322 22.7 82 25.6 7.0 5,5 3 85 1.5 7.0 41 0.2 52 22.7 8.2 25.5 94.0 7.0 8.6 4 89 <0.2 1.5 IM7 Cloudy Moderate 07:59 8.2 Middle 22.7 8.2 25.5 94.1 821364 806839 <0.2 1.5 4.1 0.2 53 22.7 8.2 25.6 94 1 7.0 8.6 4 88 <0.2 14 7.2 0,2 82 22.7 8.2 25.7 94.3 7.0 5.7 6 90 <0.2 1.5 Bottom 22.7 8.2 25.7 94.4 7.0 0.3 86 94.5 5.8 90 1.0 0.2 260 22.6 8.2 24.3 96.1 7.2 2.9 6 87 <0.2 1.8 Surface 226 8.2 24.3 96.1 87 2.9 <0.2 2.0 1.0 0.2 263 22.6 8.2 24.3 96.1 7.2 6 7.2 3.9 13 8.2 95.3 92 91 1.9 0.1 22.5 24.4 4 <0.2 821823 808124 IM8 Cloudy Moderate 07:42 7.8 Middle 22.6 8.2 24.4 95.3 3.3 91 <0.2 2.0 3.3 <0.2 8.2 95.2 7.2 5 3.9 13 22.6 24.4 0.1 8.2 7.1 3.7 <0.2 2.1 6.8 0.1 32 22.6 24.5 24.5 95.1 95.2 7.1 5 95 226 8.2 24.5 Bottom 95.2

DA: Depth-Averaged

Water Qua	•	oring Resu	ults on		04 April 19	during Mid-		ide																		
Monitoring	Weather	Sea	Sampling	Water	Sampling I	Denth (m)	Current Speed	Current	Water Te	mperature (°C)		pН	Salir	ity (ppt)		aturation (%)	Dissolved Oxygen	Turbidity	NTU)	Suspende (mg.	d Solids /L)	Total Alkalinity (ppm)	Coordinate HK Grid	Coordinate HK Grid	Chromiu (µg/L)	Mickel (μg/L
Station	Condition	Condition	Time	Depth (m)	Cumping E		(m/s)	Direction	Value	Average	Value	Average		Average	Value	Average	Value DA	Value	DA	Va l ue	DA	Value DA	(Northing)	(Easting)		
					Surface	1.0	0.1	5	22.5 22.5	22.5	8.2	8.2	25.2 25.2	25.2	94.2	94.2	7.1	4.5 4.4	-	6 5		88				1.8
IM9	Cloudy	Moderate	07:33	7.6	Middle	3.8	0.2	62 67	22.6 22.6	22.6	8.2	8.2	24.9	24.9	94.0	94.0	7.0 7.0 7.0	3.2	3.8	5	6	91 91	822070	808823	<0.2	1.7
					Bottom	6.6	0.2	74	22.6	22,6	8.2	8.2	25.2	25.2	93.9	94.0	7.0	3.6	-	7		95			<0.2	1.8
						6.6 1.0	0.2	76 325	22.6		8.2		25.2 25.8		94.0	97.0	7.0	3.6 4.2	_	6 4		95 87			<0.2	1.8
					Surface	1.0 4.1	0.4	333 305	22.5 22.5	22.5	8.2 8.2	8.2	25.8 25.7	25.8	96.9 96.8		7.2 7.2	4.2 3.7	F	4		91 01			<0.2	1.7
IM10	Cloudy	Moderate	07:24	8.1	Middle	4.1	0.5	314	22.5	22.5	8.2	8.2	25.7	25.7	96.7	96.8	7.2	3.8	4.5	6	6	91	822361	809783	<0.2	1.6
					Bottom	7.1 7.1	0.3	297 319	22.5 22.5	22.5	8.2 8.2	8.2	26.9 26.9	26.9	95.9 95.8	95.9	7.1 7.1	5.5 5.6		7 8		95 95			<0.2 <0.2 <0.2 <0.2 <0.2 <0.2 <0.2 <0.2	1.6 1.8
					Surface	1.0	0.2	290 314	22.4	22.4	8.2	8.2	28.3	28.3	95.5 95.4	95.5	7.0	5.9 6.0	F	8		87				1.3
IM11	Cloudy	Moderate	07:13	7.8	Middle	3.9	0.2	275	22.4	22.4	8.2	8.2	28.3	28.3	95.0 94.8	94.9	7.0 7.0 7.0	5.6 5.5	8.0	9	8	91 91	822049	811481	<0.2	4.0
					Bottom	6.8	0.2	298 265	22.4 22.4	22.4	8.2	8.2	28.3	28.3	94.3	94.3	6.9	13.0	E	7		95			<0.2	2.3
						6.8	0.2	285 271	22.4		8.2 8.2		28.3		94.3 96.3		6.9 7.1	11.9 4.0	-	7 5		94 87		<u> </u>		1.2
					Surface	1.0 4.5	0.4	283 262	22.5 22.4	22.5	8.2 8.2	8.2	27.9 27.9	27.9	96.3 95.6	96.3	7.1 7.1	3.9 4.2	-	5 6		87			<0.2	1.4
IM12	Cloudy	Moderate	07:05	8.9	Middle	4.5	0.5	284	22.4	22,4	8.2	8.2	27.9	27.9	95.4	95.5	7.0	4.2	4.5	7	7	91	821469	812049	<0.2	1.4
					Bottom	7.9 7.9	0.4	256 275	22.5 22.5	22.5	8.2 8.2	8.2	28.1	28.1	94.9 94.9	94.9	7.0 7.0	5.3 5.6	-	8		96 95				1.4
					Surface	1.0	-	-	22.4 22.5	22.5	8.2	8.2	28.6 28.6	28.6	95.0 95.0	95.0	7.0	4.0	\neg	6						-
SR1A	Cloudy	Moderate	06:40	5.6	Middle	2.8	-	-	-	-		-		-	-	-	7.0	-	4.8	-	5	-	819973	812663	-	- 🗐 -
					Bottom	4.6	-	-	22.5	22.5	8.2	8.2	28.7		95.4	95.5	7.0 7.0	5.2	Ŀ	4					-	
					Surface	1.0	0.5	306	22.5	22.4	8.2		28.7	28.8	95.6 94.8	94.8	7.0	5.9 4.7		4		87				1.3
						1.0	0.5	317	22.4		8.2	8.2	28.8		94.8	94.0	7.0 7.0	4.6	F	4		87			<0.2	1.2
SR2	Cloudy	Moderate	06:28	4.8	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	4.2	-	5	- 89	821475	814176		0.2
					Bottom	3.8	0.3	309 333	22.4 22.4	22.4	8.2	8.2	28.7	28.7	95.9 96.2	96.1	7.0 7.1	4.0 3.6		6		91			<0.2	1.3
					Surface	1.0	0.2	51 55	22.5 22.5	22.5	8.2	8.2	24.3	24.3	96.3 96.3	96.3	7.2	3.3	-	5 4		-				-
SR3	Cloudy	Moderate	07:51	8.2	Middle	4.1	0.3	91 91	22.5 22.6	22.6	8.2	8.2	24.3	24.3	96.5 96.5	96.5	7.3 7.3	3.7 3.8	3.8	6	5	-	822141	807574	-	· 🗐 -
					Bottom	7.2	0.4	66	22.6	22.6	8.2	8.2	24.3	24.3	96.2	96.2	7.2	4.3		5					-	-
					Surface	7.2 1.0	0.4	66 195	22.6	22,7	8.2	8.2	24.3	29.0	96.1 94.0	94.1	7.2 7.2 6.9	7.7		6 7		-				-
						1.0 4.2	0.4	202 282	22.7 22.6		8.2 8.2		29.0 29.0		94.1 94.1		6.9 6.9	7.6 8.8	F	7 6						-
SR4A	Cloudy	Moderate	06:51	8.4	Middle	4.2	0.3	282	22.6	22.6	8.2	8.2	29.0		94.1	94.1	6.9	9.0	8.7	6	6		817201	807798	-	- 🖃 -
					Bottom	7.4	0.3	287 289	22.7	22.7	8.2	8.2	29.1 29.1	29.1	94.3 94.4	94.4	6.9 6.9	9.5 9.4		6 5						-
					Surface	1.0	0.2	265 280	22.7	22.7	8.2	8.2	28.8	28.8	92.6 92.7	92.7	6.8	4.6 4.6	ŀ	4		-				
SR5A	Cloudy	Moderate	06:34	4.4	Middle	-	-	-	-	-	H	-	H	-	-	-	6.8	-	6.6	-	4	-	816591	810719		- 🗐 -
					Bottom	3.4	0.2	259	22.8	22.8	8.2	8.2	29.2	29.2	92.5	92.5	6.7	8.7		4		-			-	-
					Surface	3.4 1.0	0.2	263 265	22.8	22.4	8.2 8.0	8.0	29.2	28.2	92.5 92.3	92.4	6.7	8.7 3.8		4						
						1.0	0.1	267	22.3		8.0		28.2	20.2	92.4		6.8	3.8		4		\vdash				-
SR6	Cloudy	Moderate	05:59	4.6	Middle	-	-	67	-	-	-	-	28.3	-	-	-	-	-	3.5	5	5		817875	814647		- = -
					Bottom	3.6	0.1	72	22.3 22.3	22,3	8.0	8.0	28.3	28,3	92.6 92.7	92,7	6.8 6.9	3.3		5						
					Surface	1.0	0.1	320 342	22.4	22.4	8.1 8.1	8.1	29.6 29.6	29.6	93.8 93.7	93.8	6.9	2.5	F	4						-
SR7	Cloudy	Moderate	05:42	14.7	Middle	7.4	0.2	180 187	22.4 22.4	22.4	8.1	8.1	29.7 29.7	29.7	93.6 93.5	93.6	6.8 6.8	2.3	3.0	4	4	<u> </u>	823619	823739		- 🗐 -
					Bottom	13.7	0.1	192	22.4	22.4	8.1	8.1	30.4	30.4	93.1	93.2	6.8	4.3	þ	3					-	-
					Surface	13.7	0.1	200	22.4	22.4	8.1	8.2	30.4 28.6	28.6	93.3	95.0	7.0	4.3 3.9	_	6						
						1.0	-	-	22.4		8.2	0.2	28.6	20.0	95.0	53.0	7.0 7.0	4.1	Ţ. F	6		-			-	
SR8	Cloudy	Moderate	06:55	4.8	Middle	-	-	-	-	-	-	-	-	-	-	-		-	3.9	-	6		820368	811602		. 🖃 .
	<u> </u>				Bottom	3.8	-	-	22.4 22.4	22.4	8.2 8.2	8.2	28.7	28.7	95.1 95.0	95.1	7.0 7.0	3.8 3.8		6						-
: Depth-Ave	ea a a d																									

during Mid-Ebb Tide Water Quality Monitoring Results on 06 April 19 Dissolved Suspended Solids | Total Alkalinity Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) Coordinate Coordinate Monitoring Speed Current Oxygen (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction Value Average Value Average Value Average Value DA Value DA DA DA Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Value (Northing) (Easting) 0.2 228 23.3 83 <0.2 Surface 23.3 8.3 23.8 95.4 0.2 228 23.3 8.3 23.8 95.5 6.7 4.1 0.1 217 23.3 4.3 4 87 <0.2 1.5 C1 8.1 23.9 95.6 815619 804255 <0.2 Sunny Moderate 13:26 Middle 23.3 8.3 5.2 0.1 205 23.3 8.3 23.9 95.5 4.4 4 88 <0.2 1.5 7.1 7.1 0.2 265 23.2 24.5 95.4 95.4 4.7 91 <0.2 1.4 8.2 24.5 95.4 Bottom 23,2 0.2 244 23.2 8.2 24.5 4.7 91 <0.2 1.3 1.0 0.3 128 24.1 8.4 23.2 97.6 7.4 85 <0.2 2.0 Surface 8.4 23.2 97.7 1.0 0.3 128 24.1 8.4 23.2 97.7 7.2 7.4 6 85 <0.2 2.0 5.9 0.2 137 24,1 8,4 25.0 98.0 7.1 8.5 8.6 11 88 <0.2 2.0 C2 Fine Moderate 12:05 11.8 Middle 8.4 25.0 98.0 825694 806955 <0.2 11 87 < 0.2 5.9 0.2 147 24.1 8.4 25.0 97.9 7.1 1.9 25.9 97.9 97.9 7.1 7.1 10.8 0.2 110 24.1 8.4 9.0 13 14 90 <0.2 2.0 Bottom 24.2 8.4 25.9 97.9 8.4 8.8 10.8 0.2 24.2 25.9 90 <0.2 1.8 7.2 3 <0.2 1.0 0.6 94 24.1 8.4 26.4 99.4 9.3 86 17 Surface 24.1 8.4 26.4 99.4 86 1.7 1.0 0.6 100 24.0 8.4 26.4 99.4 9.8 7.2 2.3 88 87 1.7 27.0 27.0 4 6.1 0.6 106 23.9 8.4 98.9 <0.2 C3 Fine Moderate 13:30 12.1 Middle 23.9 8.4 27.0 99.0 822124 817797 <0.2 6.1 0.6 23.9 8.4 7.2 99.0 27.6 27.6 7.1 1.8 3 90 < 0.2 1.6 0.4 79 23.9 8.4 99.3 Bottom 23.9 8.4 27.6 99.3 7.2 8.4 1.8 89 <0.2 1.7 0.4 83 23.9 99.3 250 1.0 0.0 23.6 8.2 22.9 94.9 7.1 7.4 83 <0.2 1.6 Surface 23.6 8.2 22.9 94.9 260 23.6 8.2 7.4 83 <0.2 1.6 1.0 0.0 22.9 94.8 7.1 3 7.1 -- | ------817946 807151 IM1 Moderate 12:57 4.1 Middle 85 1.6 Sunny < 0.2 -3.1 0.2 233 23.6 8.2 22.9 22.9 8.4 4 <0.2 1.5 94.8 7.1 Bottom 23.6 8.2 22.9 94.8 7.1 238 <0.2 3.1 0.2 23.6 8.2 8.4 88 259 23.5 8.2 8.2 84 <0.2 <0.2 1.4 1,0 0,2 21.5 21.5 94.7 94.7 3.5 3.5 7.1 23.5 8.2 21.5 94.7 Surface 1.0 0.2 230 23.5 7.1 85 1.3 3.4 4 86 <0.2 <0.2 1.5 0.3 242 23.4 8.2 22.8 94.7 818152 IM2 Sunny Moderate 12:50 6.8 Middle 23.4 8.2 22.8 94.7 806146 <0.2 0.3 259 23.4 8.3 3.4 86 3.4 0.1 250 23.1 7.0 7.0 5.5 <0.2 1.6 8.3 26.2 94.4 Bottom 23.1 8.3 26.2 94.4 5.8 0.1 253 23.1 8.3 5.6 88 <0.2 1.6 206 95.3 95.4 <0.2 23.4 22.2 Surface 8.3 22.2 95.4 1.0 0.4 206 23.2 8.3 7.2 4.2 85 <0.2 1.2 7.1 1.7 3.9 0.2 258 23.1 8.3 27.7 95.4 7.0 4.7 4 86 <0.2 Sunny Moderate 12:44 7.7 Middle 27.7 95.4 818767 805570 3 3.9 0.2 239 23.1 8.3 95.3 7.0 4.7 87 <0.2 7.0 95.3 95.3 0.2 258 23.1 8.3 27.7 7.0 5 87 <0.2 1.8 27.7 95.3 Bottom 6.7 0.2 236 23.1 83 7.0 47 6 80 < 0.2 1.0 1.0 0.2 145 23.3 8.2 24.1 94.7 94.7 3.9 4.0 84 83 <0.2 <0.2 1.1 Surface 23.3 8.2 24.1 94.7 7.0 4 1.0 0.3 149 23.2 237 5 85 86 1.3 3.7 0.2 23.1 8.3 25.5 94.3 7.0 4.2 <0.2 IM4 Sunny Moderate 12:35 7.4 Middle 23.1 8.3 25.5 94.4 86 819711 804593 <0.2 1.3 8.3 94 4 4.2 5 3.7 0.2 239 23.1 25.5 7.0 6.4 0.2 232 23.0 8.3 8.3 28.2 94.8 6.9 6.9 5.9 6 87 <0.2 1.3 6.9 Bottom 23.0 8.3 28.2 94.8 6.4 0.2 222 23.0 94.8 88 < 0.2 7.8 7.9 6.5 1.0 0.1 226 23.2 8.3 8.3 25.9 26.0 94.0 6.9 5 5 83 <0.2 1.2 Surface 23.2 8.3 25.9 94.0 93.9 6.9 81 <0.2 1.0 0.1 241 23.2 6.9 3.7 1.3 249 85 0.2 23.2 8.3 26.6 93.6 93.6 6.9 6 <0.2 12:27 7.3 8.3 93.6 820747 804868 <0.2 1.3 IM5 Sunny Moderate Middle 23.2 26.6 8.3 26.6 6.9 84 <0.2 1.3 0.2 221 23.2 6.5 205 23.2 8.2 8.2 86 <0.2 6,3 0,3 27.4 27.4 93.6 93.6 6.8 6.8 6.3 8 1.4 8.2 93.6 23.2 27.4 Bottom <0.2 0.3 205 23.2 6.3 1.0 8.2 <0.2 1.5 0.1 163 23.3 25.8 93.1 6.9 4.0 82 23.3 8.2 93.2 Surface 25.8 170 8.2 25.8 93.3 6.9 82 <0.2 1.6 23.3 4.0 5 1.0 0.1 6.9 23.3 4.1 84 1.5 4.0 0.0 205 8.2 25.8 93.3 6.9 <0.2 Moderate 12:17 7.9 8.2 25.8 93.3 821073 805826 <0.2 IM6 Sunny Middle 23.3 207 8.2 25.8 4.0 85 <0.2 1.4 4.0 0.0 23.3 93.3 6.9 0.1 204 23.3 8.2 25.8 93.3 93.3 6.9 6.9 4.0 6 87 <0.2 1.4 23.3 8.2 25.8 93.3 Bottom 6.9 4.0 88 0.2 200 23.3 1.0 0.1 23.4 4.9 84 <0.2 1.5 8.2 25.7 93.1 6.8 Surface 23.4 8.2 25.7 93.1 180 8.2 25.7 93.1 6.8 4.9 82 <0.2 1.6 0.1 23.4 6.8 0.1 237 23.4 4.6 86 <0.2 1.4 IM7 Sunny Moderate 12:05 7.1 Middle 23.4 8.2 25.8 93.2 821327 806844 <0.2 3.6 0.1 254 23.4 8.2 25.8 93.2 6.8 4.6 85 <0.2 1.4 6.1 0.2 215 23.3 8.2 25.8 93.2 6.9 6.9 8.6 5 87 <0.2 1.4 Bottom 8.2 25.8 93.2 226 23.3 8.2 25.8 6.0 8.7 84 1.5 97.1 1.0 0.5 191 23.5 8.4 6.7 85 <0.2 2.0 Surface 8.4 22.6 97.0 1.0 0.5 194 23.4 8.4 22.6 96.9 7.3 6.7 4 86 <0.2 2.0 7.3 3.8 0.5 197 23.4 8.4 24,1 96,6 7.2 5.7 4 89 <0.2 1.8 IM8 Fine Moderate 12:30 7.6 Middle 23.4 8.4 24.1 96.7 4 821806 808140 <0.2 1.9 3.8 0.6 198 23.4 8.4 24.1 96.7 7.2 5.6 89 <0.2 1.9 6.6 0.4 184 23.4 8.4 24.7 97.0 7.2 4.4 6 90 <0.2 1.8 Bottom 23.4 8.4 24.7 97.0 7.2 0.4 180 23,4

DA: Depth-Averaged

during Mid-Ebb Tide Water Quality Monitoring Results on 06 April 19 Dissolved Suspended Solids | Total Alkalinity Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) Coordinate Coordinate Monitoring Current Oxygen (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction Value Average Value Average Value DA DA DA DA Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Value Value (Northing) (Easting) 0.6 174 23.6 <0.2 1.9 Surface 23.6 8.3 20.7 96.5 0.6 163 23.6 8.4 20.7 7.3 2.8 3.5 0.6 181 23.5 5.4 88 <0.2 2.2 7.0 23.0 96.7 822089 808823 <0.2 IM9 Fine Moderate 12:36 Middle 23.5 8.4 3 2.1 0.6 173 23.5 8.4 23.0 96.8 7.2 5.7 87 <0.2 2.1 6.0 0.4 165 23.5 24.4 97.2 97.3 5.0 90 <0.2 8.4 24.4 97.3 7.2 Bottom 23.5 0.4 170 23.5 8.4 24.4 72 4.7 ٩n <0.2 2.0 1.0 0.5 101 23.5 8.4 22.6 96.6 4.4 85 <0.2 2.1 Surface 8.4 22.6 96.6 2 1.0 0.5 101 23.5 8.4 22.6 96.6 7.2 4.4 84 <0.2 2.0 3.6 0.7 89 23,5 8,4 23.7 96.7 7,2 5.2 5.6 4 88 <0.2 2.2 IM10 Fine Moderate 12:42 7.1 Middle 8.4 23.7 96.7 822370 809807 <0.2 7.2 3 87 < 0.2 3.6 0.7 96 23.5 8.4 23.7 96.7 2.1 8.4 23.7 97.3 97.3 7.2 7.2 6.1 0.5 86 23.5 11.0 6 91 <0.2 2.0 Bottom 23.5 8.4 23.7 97.3 23.7 22 6.1 0.5 91 23.5 8.4 11.0 6 89 <0.2 106 7.2 <0.2 1.0 0.5 23.6 8.4 24.3 97.1 3.1 85 1.9 Surface 23.6 8.4 24.3 97.1 2.0 1.0 0.6 106 23.6 8.4 24.3 97.1 3.1 4 86 7.2 3.1 3.1 90 88 23.7 23.7 2.0 3.8 0.4 113 8.4 24.9 97.2 7 1 4 <0.2 IM11 Fine Moderate 12:53 7.6 Middle 23.7 8.4 24.9 97.2 88 822055 811461 <0.2 2.0 8.4 3 3.8 115 24.9 97.2 7.1 0.4 3.2 23.7 97.6 97.7 7.1 90 < 0.2 6.6 0.2 130 8.4 25.6 3 2.0 Bottom 23.7 8.4 25.6 97.7 7.1 142 8.4 89 <0.2 6.6 0.2 23.7 25.6 2.0 1.0 0.6 96 23.7 8.4 23.7 97.2 97.3 5.0 86 <0.2 2.0 Surface 23.7 8.4 23.7 97.3 0.6 105 23.7 8.4 7.2 5.3 3 85 <0.2 2.0 1.0 7.2 4.2 88 0.4 23.6 8.4 24.3 97.4 7.2 4 <0.2 2.1 821442 812039 M12 Fine Moderate 13:00 7.4 Middle 23.6 8.4 24.3 97.5 88 2.0 < 0.2 0.4 23.6 8.4 7.2 4.2 89 <0.2 2.1 24.3 6.4 127 8.4 4.1 4 90 <0.2 2.0 0.2 23.6 25.5 97.7 7.2 Bottom 23.6 8.4 25.5 97.8 7.2 133 8.4 6.4 0.3 23.6 3.9 90 <0.2 2.0 23.7 8.4 23.7 97.4 7.2 7.2 9,8 23.7 8.4 23.7 97.4 Surface 1.0 9.6 23.7 7.2 SR1A Fine Moderate 13:09 4.6 Middle 819983 812656 2.3 23.6 4.7 4 8.4 25.8 7.2 Bottom 23.6 8.4 25.8 97.8 7.2 3.6 23.6 99 Surface 23.7 25.7 97.6 1.0 0.5 105 23.7 97.6 4.3 4 86 <0.2 7.1 -SR2 Fine Moderate 13:09 4.3 Middle 821467 814184 23.7 3.3 0.2 122 23.7 8.4 97.5 7.2 10.2 4 88 <0.2 1.7 97.5 7.2 Bottom 97.5 3.3 0.2 133 23.7 8.4 10.0 4 89 <0.2 17 1.0 0.2 118 23.7 8.3 22.0 3.4 Surface 23.7 8.3 22.0 95.2 8.3 22 0 95.1 1.0 0.2 125 23.6 7.1 7.0 7 42 0.3 114 23.3 8.3 24.7 94.2 7.0 -SR3 Fine Moderate 12:24 8.3 Middle 23.3 8.3 24.7 94.2 822147 807549 8.3 7.0 -4.2 0.3 117 23.3 24 7 94.2 7.0 7 -7.3 0.2 96 23.4 8.4 24.8 95.3 95.4 7.0 5.5 Bottom 23.4 8.4 24.8 95.4 7.0 0.3 99 23.4 8.4 24.8 5.5 1.0 0.4 66 23.5 8.2 8.2 22.1 94.9 7.1 8.5 Surface 23.5 8.2 22.1 94.9 94.9 4 1.0 0.4 69 23.5 7.1 8,4 7.1 4.8 3.5 0.4 60 23.6 8.2 22.2 94.8 7.1 4 ---SR4A 13:50 6.9 8.2 817185 807788 Sunny Moderate Middle 23.6 22.2 94.8 8.2 94.8 4 3.5 0.4 65 23.6 4.9 5.9 0.4 66 23,6 8.2 8.2 94.8 94.8 7.1 7.1 5.0 5 8.2 22.4 ---23.6 22.4 94.8 Bottom 5.9 0.4 23.6 22.4 1.0 0.1 50 24.1 8.2 27.0 94.9 6.8 12.0 10 ---24 1 8.2 26.9 94.9 Surface 26.9 94.9 6.8 12.1 53 24.1 8.2 10 1.0 0.1 6.8 ---------SR5A 14:05 3.6 816570 810678 Sunny Calm Middle -6.8 6.8 2.6 0.1 12 24.2 8.2 27.0 95.2 11,1 -24.2 8.2 27.0 95.2 Bottom 6.8 11.1 2.6 0.1 24.2 0.1 24.1 <2 8.2 ---Surface 24.2 8.2 25.5 95.3 24.2 8.2 25.4 95.3 6.9 6.2 <2 1.0 0.1 22 6.9 SR6 Sunny Calm 14:37 3.7 Middle -817916 814685 8.2 25.3 25.3 2.7 0.1 26 24.7 96.4 6.9 6.9 5.7 <2 Bottom 24.7 8.2 96.4 0.1 24.7 8.2 5.7 1.0 0.7 23.3 8.4 28.5 96.5 7.0 Surface 28.5 96.4 1.0 0.8 72 23.2 8.4 28.5 96.3 7.0 3.6 -7.0 8,2 0.4 53 23.1 8.4 29.3 96.1 7.0 6.8 2 SR7 Moderate 13:53 16.4 Middle 8.4 29.3 96.3 823626 823725 Fine 8.2 0.4 56 23.2 8.4 29.2 96.4 7.0 6.8 15.4 0.3 28 23.3 8.4 29.6 96.9 7.0 2.8 2 Bottom 8.4 29.6 97.0 7.0 15.4 0.3 29 23,2 8.4 29.6 7.0 2.9 1.0 23.7 8.4 24.2 96.7 7.1 4.2 Surface 23.8 8.4 24.2 96.7 1.0 23.8 8.4 24.2 96.7 7.1 4.3 4 7.1 ---820405 SR8 Fine Moderate 13:00 5.2 Middle 13 4 811621 . . -4.2 23.8 7.2 7.2 4.3 4 8.4 23.7 97.1 -. 23.8 8.4 23.7 97.2 7.2 23.7 4.2

DA: Depth-Averaged

06 April 19

during Mid-Flood Tide

4.2

42

7.4

7.4

1.0

1.0

4.3

4,3

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Water Quality Monitoring Results on

Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) Coordinate Coordinate Monitoring Speed Current Oxygen (mg/L) (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction Value Average Value Average Value Average Value DA Value DA DA DA Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Value (Northing) (Easting) 0.5 52 23.0 <0.2 2.1 Surface 23.0 8.2 20.5 93.4 0.5 56 23.0 8.2 20.5 93.4 5.7 83 <0.2 7.1 7 1 3.6 0.4 51 7.0 5.2 87 <0.2 2.0 22.9 8.2 23.9 93.7 3 C1 06:57 72 22.9 8.2 23.9 815610 804260 <0.2 1.8 93.8 4 Sunny Moderate Middle 9.5 87 8.2 23.9 93.8 7.0 5.2 87 <0.2 3.6 52 22.9 4 1.8 0.4 6,2 0.3 56 22.9 8.2 93.3 93.4 6.9 17.2 4 92 <0.2 1.6 25.3 6.9 Bottom 23.0 8.2 25.3 93.4 8.2 17.9 6.9 0.3 23.0 25.3 4 92 <0.2 1.5 62 56 1.0 0.2 42 23.1 23.3 8.4 95.8 6.0 86 < 0.2 2.0 Surface 23.3 8.4 23.1 95.9 8.4 7.2 85 2.1 95.9 <0.2 0.3 45 23,3 6.4 7.2 23.2 5.8 8.1 8.2 9 87 88 2.2 0.2 52 <0.2 8.4 24.6 96.4 7.1 C2 Fine Moderate 08:12 11.6 Middle 23.2 8.4 24.6 96.5 8.8 10 87 825678 806961 <0.2 2.2 8.4 96.5 0.2 57 23.2 24.6 5.8 10.6 23.4 23.4 12.2 12.2 18 88 <0.2 2.2 0.2 25.5 25.5 96.6 96.7 7.1 8.4 Bottom 23.4 8.4 25.5 96.7 7.1 10.6 8.4 16 90 <0.2 0.2 1.0 0.7 254 23.1 7.6 85 1.8 8.4 26.6 7.0 <2 <0.2 95.5 Surface 23.1 8.4 26.6 95.5 0.7 261 23.1 8.4 26.6 95.4 7.0 7.8 <2 85 <0.2 7.0 5.8 0.6 248 23.0 7.0 4.6 2 86 <0.2 1.8 8.4 27.8 95.1 C3 822093 817826 Fine Moderate 06:30 11.5 Middle 23.0 8.4 27.8 95.2 <0.2 1.8 248 8.4 4.8 86 <0.2 23.0 10.5 0.5 254 23.0 8.4 28.8 95.5 6.9 7.0 7.0 4.4 89 <0.2 1.8 Bottom 23.0 8.4 28.8 95.6 267 23.0 8.4 28.8 89 1.0 0.8 23.4 8.2 23.2 93.5 7.0 5.0 83 <0.2 1.9 Surface 23.4 8.2 23.2 93.5 1.0 0.8 23.4 8.2 23.2 93.5 7.0 5.1 84 <0.2 1.9 --------- | 817937 Sunny Moderate 07:14 5.5 Middle <0.2 4.5 0.4 23.4 93.6 93.7 4.7 88 <0.2 Bottom 8.2 23.3 93.7 7.0 0.4 23.4 8.2 23.3 7.0 4.7 4 89 <0.2 1.9 1.0 0.2 23.5 8.2 21.9 93.5 7.0 4.0 83 <0.2 1.8 Surface 8.2 21.9 93.6 1.0 0.2 23.5 8.2 21.8 93.6 7.0 4.0 3 85 <0.2 1.8 4.1 0.1 21 23.6 8.2 94.1 7.0 4.1 4 86 <0.2 1.7 23.2 IM2 Sunny Moderate 07:21 8.1 Middle 8.2 23.2 94.1 818169 806154 <0.2 4.1 0.1 22 23.5 8.2 23.2 94.1 7.0 4.2 4 86 <0.2 1.8 24.2 24.1 307 8.2 7.1 0.1 23.3 93.6 7.0 7.0 5.5 4 89 <0.2 1.8 Bottom 23.3 8.2 93.6 7 1 0.1 312 23.3 8.2 24 1 93.6 7.0 5.5 4 88 <0.2 17 1.0 0.5 356 23.3 8.2 93.7 4.1 2 84 <0.2 1.3 Surface 23.3 8.2 21.0 93.8 8.2 0.5 328 21.0 83 <0.2 1.3 1.0 23.3 93.8 7.1 4.1

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804859

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806832

808153

Suspended Solids | Total Alkalinity

DA: Depth-Averaged

IM3

IM4

IM5

IM7

IM8

Sunny

Sunny

Sunny

Sunny

Sunny

Fine

Moderate

Moderate

Moderate

Moderate

Moderate

Moderate

07:27

07:36

07:42

07:48

08:02

8.4

8.6

8.1

8.5

7.4

Middle

Bottom

Surface

Middle

Bottom

Surface

Middle

Bottom

Surface

Middle

Surface

Middle

Bottom

Surface

Middle

Bottom

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

07:49

Water Qua		oring Resu	ults on		06 April 19	during Mid-		ide																		
Monitoring	Weather	Sea	Sampling	Water	Sampling E	\#- (\	Current Speed	Current	Water Te	mperature (°C)		рН	Salir	ity (ppt)		aturation (%)	Dissolved Oxygen	Turbidity	(NTU)	Suspende (mg		Total Alkalinity (ppm)	Coordinate HK Grid	Coordinate HK Grid	Chromiu (µg/L)	
Station	Condition	Condition	Time	Depth (m)	Sampling L	epin (m)	(m/s)	Direction	Value	Average	Value	Average	e Va l ue	Average	Value	Average	Value DA	Value	DA	Va l ue	DA	Value DA	(Northing)	(Easting)		DA Va l ue DA
					Surface	1.0	0.2	50 50	23.2	23.2	8.3 8.3	8.3	22.0	22.0	93.8 93.8	93.8	7.1	4.5 4.6		3		86 85			<0.2	1.9
IM9	Fine	Moderate	07:42	7.2	Middle	3.6	0.3	67	23.2	23.2	8.3	8.3	23.2	23.2	94.2	94.3	7.0	4.1	5.6	5	6	87 88	822100	808801	<0.2	1.8
					Bottom	3.6 6.2	0.3	70 64	23.2	23,2	8.3 8.3	8.3	23.2	24.6	94.3 94.2	94.3	7.1	4.4 7.8		6 10		89 90			<0.2	1.9
					0f	6.2	0.3	66 1	23.2		8.3 8.3		24.6		94.3		7.0	8.0 5.2		9 5		89 85	1	<u> </u>	<0.2	2.0 1.7
					Surface	1.0 3.8	0.3	1 327	23.1 23.1	23.1	8.3 8.3	8.3	20.7	20.7	94.0 95.0	94.0	7.1 7.1	5.6 6.2		4 5		86			<0.2	1.8
I M10	Fine	Moderate	07:35	7.6	Middle	3.8	0.5	327	23.1	23.1	8.3	8.3	23.5	23.5	95.1	95.1	7.1	6.4	6.2	5	7	87	822408	809796	<0.2	1.8
					Bottom	6.6 6.6	0.4	303 308	23.2	23.2	8.3 8.3	8,3	25.4 25.5	25.4	95.5 95.5	95.5	7.1 7.1	7.0 7.0	-	11 10		90 89			<0.2 <0.2	1.6
					Surface	1.0	0.3	293 298	23.2	23.2	8.4	8.4	26.2	26.2	95.2 95.2	95.2	7.0	7.6 8.8	-	5 4		86 85			<0.2	2.0
I M11	Fine	Moderate	07:24	7.4	Middle	3.7	0.3	285 296	23.2	23.2	8.4 8.4	8.4	26.3 26.3	26.3	95.8 96.0	95.9	7.0 7.0 7.1	7.3 7.6	7.2	6	6	88 87 88	822065	811474	<0.2 <	0.2 2.2 2.1
					Bottom	6.4	0.2	256	23.1	23.1	8.4	8.4	26.6	26.6	95.1	95.1	7.0	5.9		6		91			<0.2	2.2
					Surface	1.0	0.2	277 270	23.1	23.3	8.4	8.4	26.6		95.1 95.7	95.7	7.0	5.9 6.6		6 4		90 85			<0.2 <0.2	2.0 1.9
						1.0 4.1	0.6	280 267	23.3		8.4 8.4		26.1 25.7		95.6 95.3		7.0 7.0	6.8		5 8	_	84			<0.2	1.8
I M12	Fine	Moderate	07:19	8.2	Middle	4.1 7.2	0.6	271 251	23.4 23.4	23.4	8.4	8.4	25.7 26.2	25.7	95.3 96.0	95,3	7.0	6.9 7.6	7.0	8	8	89 90	821448	812025	<0.2	0.2 1.8 1.8 1.9
					Bottom	7.2	0.3	253	23.5	23.5	8.4 8.4	8.4	26.2	26.2	96.3	96.2	7.0	7.6		11		89			<0.2	1.8
					Surface	1.0	-	-	23.3	23.3	8.3 8.3	8.3	24.2	24.2	95.3 95.3	95.3	7.1	5.3 5.5		<2 <2						-
SR1A	Fine	Moderate	07:01	4.8	Middle	2.4	-	-	-	-	-	-	-	-	-	-	H '''	-	5.7	-	3		819977	812661		- - -
					Bottom	3.8	-	-	23.3	23.3	8.4 8.4	8.4	25.7 25.6		95.7 95.8	95.8	7.1 7.1	5.9 6.0		4 5						
					Surface	1.0	0.7	312	23.2	23.2	8.4	8.4	25.6		95.8	95.8	7.1	4.0		2		87			<0.2	1.6
SR2	Fine	Moderate	06:48	4.4	Middle	1.0	0.8	319	23.2	-	8.4	_	25.6	_	95.8		7.1	4.0	3.6	2	3	86 88	821441	814144	<0.2	0.2 1.6
ONE	1 110	Woderate	00.40			3.4	0.4	298	23.2		8.4		25.7		95.9		7.1	3.1	"-	4	ľ	89	021441	014144	<0.2	1.7
					Bottom	3.4 1.0	0.4	324 87	23.2	23.2	8.4 8.4	8.4	25.7 21.7	25.7	95.9 95.1	95.9	7.1 7.1	3.1 9.2		4 5		90			<0.2	1.7
					Surface	1.0	0.3	94	23.2	23.2	8.4	8.4	21.7	21.7	95.1	95.1	7.2	9.5		5		-				-
SR3	Fine	Moderate	07:55	8.1	Middle	4.1	0.6	91 93	23.2 23.2	23.2	8.4 8.4	8.4	23.1		95.0 95.0	95.0	7.1	6.3 6.4	7.4	7	7	-	822169	807591	-	- 📋 -
					Bottom	7.1	0.5	70 71	23.2	23.2	8.4	8.4	23.5	23.5	95.2 95.4	95.3	7.1 7.1	6.6 6.2	-	8		-			\vdash	
					Surface	1.0	0.0	34 36	23.2	23,2	8.2 8.2	8.2	25.6 25.6	25.6	92.4 92.4	92.4	6.8	7.0 6.7		9 10						-
SR4A	Sunny	Moderate	06:34	9.6	Middle	4.8	0.0	54	23.1	23.1	8.2	8.2	25.3	25.2	92.1	92.2	6.8	7.8	8.4	9	9		817185	807812		. 🖃 .
					Bottom	4.8 8.6	0.0	54 51	23.1	23.1	8.2 8.2	8.2	25.2 25.5	25.5	92.2 92.2	92.2	6.8	7.8 10.7		9 8					-	
					Surface	8.6 1.0	0.1	51 207	23.1	23.6	8.2 8.2	8.2	25.5 27.0	27.0	92.2 92.1	92.2	6.8	10.6		9		-			-	-
						1.0	0.1	207	23.6		8.2	0.2	27.0		92.2	92.2	6.7	2.6	F	3		-				-
SR5A	Sunny	Moderate	06:18	4.2	Middle	-	-	-	-	-	-	-	-	-	-	-	- 0.7	-	8.6	-	3		816586	810678	-	- = -
					Bottom	3.2 3.2	0.0	242 261	23.5 23.5	23.5	8.2 8.2	8.2	26.9 26.9	20.9	92.2 92.2	92.2	6.7 6.7	14.5 14.5		2						-
					Surface	1.0	0.1	199 200	23.3	23.3	8.1 8.1	8.1	25.5 25.5	25.5	91.2 91.2	91.2	6.7 6.7 6.7	3.3	-	3		-			-	-
SR6	Sunny	Moderate	05:54	4.6	Middle	-	-	-	-	-	-	_	-	-	-	-	- °.′	-	3.3	-	3	<u> </u>	817915	814680	-	- 🗐 -
					Bottom	3.6	0.1	211	23.3	23.3	8.1	8,1	25.7	25.7	91.4 91.6	91,5	6.7	3.4		3					-	-
					Surface	1.0	0.1	222 339	23.0	23.0	8.3	8.3	27.3	27.3	93.6	93.6	6.9	4.5		<2		-			-	-
SR7	Fine	Moderate	06:03	16.7	Middle	1.0 8.4	0.1	312 192	23.0 22.9	22.9	8.3 8.3	8.3	27.3 28.4	28.4	93.6 93.3	93.3	6.9 6.8	4.5 2.8	3.2	<2 2	2		823649	823726	-	. .
OIV.	1 110	woodlate	50.05	10.7		8.4 15.7	0.4	196 215	22.9 22.9		8.3 8.3		28.4		93.3 93.7		6.8	2.8	"	3 <2			023049	023120	-	
					Bottom	15.7	0.1	216	22.9	22,9	8.3	8.3	28.9	28.9	93.9	93.8	6.8	2.3		<2 3		-	1		-	
					Surface	1.0	-	-	23.3	23.4	8.3	8.3	24.2	24.2	96.3	96.3	7.1 7.1	5.0		4						
SR8	Fine	Moderate	07:10	4.7	Middle	-	-	-	-	-	-		-		-	_	-	-	5.1	-	5	-	820368	811626	-	- 🔠 -
					Bottom	3.7	-	-	23.3	23.3	8.3	8.3	25.3 25.3	25.3	96.4 96.4	96.4	7.1 7.1	5.4 5.4		6 7		-				
Δ· Denth-Ave					1	1 5.7			20.0		1 0.0		1 20.0		, 00.4					- '						

during Mid-Ebb Tide Water Quality Monitoring Results on 09 April 19 Dissolved Suspended Solids | Total Alkalinity Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) Hq Coordinate Coordinate Monitoring Current Oxygen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Direction Value Value Average Value Average Value DA Value DA DA DA (Easting) Value DA Value DA Condition Condition Time Depth (m) (m/s) Average Value Value (Northing) 0.1 208 25.5 8.4 1.6 Surface 25.5 8.4 23.7 0.1 200 25.4 8.4 23.7 3.6 <0.2 4.2 0.1 178 24.4 8.4 6.8 88 <0.2 1.6 8.3 105.1 815637 804227 <0.2 C1 Cloudy Moderate 15:00 Middle 24.4 8.4 24.3 4.3 0.1 180 24.4 8.4 24.3 105.0 7.6 6.7 89 <0.2 1.5 0.1 175 24.8 8.4 24.9 104.1 7.5 2.7 90 <0.2 1.5 8.4 24.9 104.1 7.5 Bottom 24.8 0.1 185 24.8 8.4 24.9 104 1 7.5 90 <0.2 1.6 1.0 0.3 122 24.1 8.1 22.9 91.3 6.7 8.4 90 <0.2 2.6 Surface 8.1 22.9 91.1 0.3 130 24.1 8.1 23.0 90.9 6.7 8.5 3 90 <0.2 2.5 6.7 0.3 123 24.0 8.1 24.0 89.7 6.6 9.8 4 93 <0.2 2.6 C2 Sunny Moderate 13:41 14.3 Middle 8.1 24.0 89.9 93 825697 806956 <0.2 5 93 0.3 124 24.0 8.1 24.0 90.0 6.6 9.9 <0.2 2.5 24.6 6.6 13.3 0.1 121 24.0 8.1 90.8 11.3 4 95 <0.2 2.4 Bottom 24.0 8.1 24.6 90.8 0.2 132 24.6 90.8 95 13.3 24 0 8.1 6.7 <0.2 24 97.0 97.0 7.5 7.5 1.0 0.4 68 24.3 8.2 26.9 7.0 89 <0.2 1.6 Surface 24.3 8.2 26.9 97.0 7.0 90 1.0 0.4 68 24.3 8.2 26.9 4 <0.2 1.6 6.8 <0.2 <0.2 <0.2 7.4 7.4 92 94 23.3 30.2 4 7.1 0.1 168 8.3 92.2 6.6 1.6 C3 Sunny Moderate 15:24 14.1 Middle 23.3 8.3 30.2 92.3 93 822111 817814 <0.2 0.1 169 8.3 92.3 6.6 3 1.6 7.5 0.1 23.2 95 13.1 51 8.1 30.6 92.0 6.6 3 1.4 Bottom 23.2 8.1 30.6 92.1 6.6 13.1 8.1 30.6 96 <0.2 0.1 23.2 92.1 6.6 4 1.4 258 1.0 0.3 24.6 8.4 23.3 104.5 7.6 2.5 4 85 <0.2 1.8 Surface 24.6 8.4 23.2 104.5 255 104.5 86 <0.2 0.3 24.6 8.4 23.2 7.6 2.6 4 1.8 1.0 7.6 ------ | 817970 807118 Cloudy Moderate 14:48 5.4 Middle 88 1.8 IM1 <0.2 4.4 0.1 250 24.6 8.4 7.6 2.4 3 90 <0.2 1.8 23.7 104.6 Bottom 24.6 8.4 23.7 104.6 4.4 252 24.6 8.4 2.4 <0.2 1.7 0.4 235 24.6 8.4 85 <0.2 22.3 7.6 2.9 1.7 103.3 24.6 8.4 22.3 103.4 Surface 0.4 237 24.6 7.6 2.9 85 <0.2 1.0 201 2.6 4 88 1.7 0.2 24.5 8.4 7.6 <0.2 22.4 103.5 818163 IM2 Cloudy Moderate 14:42 7.3 Middle 24.5 8.4 22.4 103.5 806186 <0.2 3.7 201 24.5 8.4 2.6 90 <0.2 0.2 22,4 6.3 0.1 247 7.5 7.5 2.6 <0.2 1.7 24.4 8.4 24.1 Bottom 24.4 8.4 24.1 103.1 7.5 0.1 229 24.4 8.4 90 <0.2 1.7 0.5 237 24.8 8.4 22.1 85 <0.2 1.6 Surface 24.8 22.1 103.5 1.0 0.6 238 24.7 8.4 7.6 3.8 85 <0.2 1.6 7.6 3.9 0.3 229 24.5 8.4 103.1 7.6 3.3 4 90 <0.2 1.6 22.3 Cloudy Moderate 14:36 7.7 818766 805597 3.9 0.3 230 24.5 8.4 7.6 3.4 4 89 <0.2 7.4 6.7 0.1 246 24.3 8.4 102.4 3.7 3 90 <0.2 1.6 102.4 7.4 Bottom 6.7 0.1 228 24.3 8.4 25.7 3.4 QΩ < 0.2 1.6 1.0 0.5 213 24.7 8.4 22.5 22.5 103.1 5.5 5 85 <0.2 1.9 Surface 24.7 8.4 103.1 0.5 8.4 7.5 5.5 84 1.0 213 24.7 5.6 <0.2 1.9 3.8 0.4 168 24.7 8.4 22.3 103.0 7.5 4 89 88 Cloudy Moderate 14:27 7.5 Middle 24.7 22.3 103.0 88 819720 804598 <0.2 5 155 207 3.8 6.5 0.4 24.7 8.4 1029 5.5 0.4 24.7 8.4 23.6 102.8 7.5 7.5 4.2 6 90 <0.2 1.9 7.5 Bottom 24.7 8.4 23.6 102.8 6.5 0.4 223 24.7 8.4 90 <0.2 1.8 5.1 5.2 3.5 <0.2 <0.2 1.0 0.6 227 241 24.7 8.4 23.5 23.5 103.8 103.8 7.6 8 7 84 1.8 Surface 24.7 8.4 23.5 103.8 8.4 7.6 85 0.6 24.7 7.6 88 215 5 <0.2 1.8 0.5 24.7 8.4 23.6 103.8 7.5 14:16 7.4 8.4 103.8 820722 804887 IM5 Cloudy Moderate Middle 24.7 23.6 3.9 88 < 0.2 8.4 103.8 6 90 0.5 226 24.7 23.6 7.5 3.5 1.7 <0.2 6,4 0.4 204 24.8 23.7 103.7 103.6 7.5 7.5 3.3 5 90 8.4 8.4 103.7 7.5 Bottom 24.8 23.7 8.4 90 <0.2 6.4 0.4 218 24.8 1.0 271 1.7 0.1 24.5 8.4 24.0 102.5 7.5 6.3 6 84 <0.2 24.5 8.4 102.5 Surface 24.0 8.4 24.0 102.5 85 <0.2 1.8 0.1 281 24.5 7.5 6.3 7.5 7.1 89 1.7 3.8 210 24.6 8.4 23.9 102.7 7.5 5 <0.2 Moderate 14:08 7.6 8.4 23.9 102.8 7.2 821059 805813 < 0.2 IM6 Cloudy Middle 24.6 217 8.4 102.8 7.4 88 <0.2 1.7 3.8 0.1 24.6 23.9 6.6 0.2 242 24.6 8.4 24.0 102.8 7.5 8.2 5 90 <0.2 1.7 24.6 8.4 24.0 102.8 7.5 Bottom 8.4 1.8 0.2 245 24.6 256 24.5 8.4 5.4 85 <0.2 1.8 23.0 Surface 24.6 8.4 23.0 101.8 0.6 259 24.6 8.4 22.9 101.8 5.4 84 <0.2 1.9 7.5 0.7 254 24.7 7.5 90 <0.2 1.9 IM7 Cloudy Moderate 13:56 8.3 Middle 24.7 8.4 22.9 102.4 821358 <0.2 4.2 0.8 256 24.7 8.4 22.9 102.4 7.5 3.0 89 <0.2 1.9 7.5 7.3 0.5 247 24.7 8.4 23.0 3.8 90 <0.2 1.9 Bottom 24.7 8.4 23.0 102.5 0.5 241 24.7 8.4 3.9 90 <0.2 1.8 0.3 264 24.2 8.1 7.0 9.4 90 <0.2 2.3 8.1 23.1 0.3 267 24.2 8.1 23.1 96.1 9.6 4 90 <0.2 2.4 7.0 <0.2 4.3 0.4 280 24.1 8.2 24.8 95.8 7.0 13.1 4 93 <0.2 Moderate 14:10 8.5 Middle 8.2 24.8 95.9 12.2 92 821831 808116 2.4 IM8 Sunny 4.3 0.5 285 24.1 8.2 24.9 95.9 7.0 13.0 3 93 <0.2 2.4 7.5 0.3 280 24.0 8.2 25.8 95.6 6.9 14 1 5 94 < 0.2 2.4 Bottom 24.0 8.2 25.8 95.7 6.9 285 24.0

DA: Depth-Averaged

Water Qua	lity Monit	toring Resu	lts on		09 April 19	during Mid-E	Ebb Tide	е															
Monitoring	Weather	Sea	Sampling	Water			Current Speed	Current	Water Te	mperature (°C)	pН	Salinity (ppt)	DO Saturatio (%)	Dissolved Oxygen	Turbidity	NTU) Si	spended mg/L)		otal Alkalinit (ppm)	Coordinate		Chromiu (µg/L)	
Station	Condition	Condition	Time	Depth (m)	Sampling Dep	th (m)	(m/s)	Direction	Value	Average	Value Average	Value Average	Value Averag		Value	DA V	alue		/alue DA	HK Grid (Northing)	HK Grid (Easting)		DA Va l ue DA
					Surface	1.0	0.4	227	24.2	24.2	8.1 8.1	23.2 23.2	95.1 95.1	7.0	11.1		5		89			<0.2	2.3
IM9	Sunny	Moderate	14:16	7.9	Middle	1.0 4.0	0.4	201 176	24.2 24.0	24.0	8.1 8.2 8.1	23.2 25.8 25.8 25.8	95.0 95.0 94.9	7.0 6.9 7.0	11.2 15.6	14.6	5		92 92 92	822094	808791	<0.2	2.2
INIS	Suriny	Wioderate	14.10	7.5		4.0 6.9	0.5	179 181	24.0 24.0		8.1	25.8	94.8	6.9	16.3 16.9	14.0	5		93 95	022034	000791	<0.2 <0.2	2.2
					Bottom	6.9	0.4	182	24.0	24.0	7.9 7.9	25.9 25.9	95.0	6.9 6.9	16.7		5		95			<0.2	2.2
					Surface	1.0	0.5	188 188	24.2	24.1	8.1 8.1	23.7 23.8	91.6 91.7		9.2		5 6		90			<0.2	2.3
I M10	Sunny	Moderate	14:22	8.0	Middle	4.0	0.4	186	24.1	24.1	8.1	24.2	91.5	6.7	9.4	9.4	5	.	92 03	822368	809813	<0.2	2.2 2.2
	,				B.//	4.0 7.0	0.4	186 180	24.1	04.4	8.1	24.2	91.2	6.7	9.4 9.4		5		94 96			<0.2 <0.2	2.2
					Bottom	7.0	0.1	186	24.1	24.1	7.6	25.4	92.0	6.7	9.4		5	_	96	<u> </u>		<0.2	2.1
					Surface	1.0	0.3	160 163	24.5 24.5	24.5	8.1 8.1	23.5 23.5	95.4 95.3 95.4		8.5 8.6		5	F	89 89			<0.2 <0.2	2.2
I M11	Sunny	Moderate	14:30	8.9	Middle	4.5 4.5	0.3	151	24.3 24.3	24.3	8.1 8.0	25.3 25.4 25.4	94.5 94.3	0.9	8.8 8.7	8.7	6	6	93 93	822045	811457	-0.0	0.2 2.1 2.1
					Bottom	7.9	0.3	152 164	24.3	24.3	7.9 8.0	25.7 25.7	95.0 95.0	0.0	8.7		7		95			<0.2	1.9
						7.9	0.2	165 85	24.3		8.0	25.7	95.0	6.9	8.8 8.7		6		96 89			<0.2	2.1 1.9
					Surface	1.0	0.2	89	24.5	24.4	8.2	25.6	93.5	6.7	8.7		5		90			<0.2	2.0
I M12	Sunny	Moderate	14:36	9.0	Middle	4.5 4.5	0.2	112 113	23.9	23.9	8.2 8.2	26.5 26.5 26.5	91.4 91.4		8.9 8.9	9.0	5 4		93 93	821442	812029	<0.2	0.2 1.8 1.9
					Bottom	8.0	0.2	129	23.8	23.8	7.5	27.0	91.4	6.6	9.3		4		95			<0.2	1.8
					0	8.0 1.0	0.3	139	23.8		7.5	27.0	91.5	6.6	9.3 8.4		5	_	96	1		<0.2	1.8
					Surface	1.0	-	-	24.2	24.2	8.2	25.8 25.8	93.9	6.8	8.4		8	F	-			-	-
SR1A	Sunny	Calm	14:58	4.9	Midd l e	2.5 2.5	-	-	-	•	-	-		H "	-	8.4	-	8		819974	812657	-	- -
					Bottom	3.9	-	-	24.2	24.2	8.2 8.2	25.8 25.8	93.6 93.4 93.5	6.8	8.4 8.4		8		-			-	-
					Surface	1.0	0.3	49	24.3	24.3	8.1	25.8	93.3	6.7	8.5		5		88			<0.2	1.8
						1.0	0.3	51	24.3		8.2	25.8	93.0	6.7	8.5		6		89			<0.2	1.6
SR2	Sunny	Moderate	15:10	5.7	Middle	-	-	-	-	-				-	-	8.7	-	6	- 91	821480	814161	- `	-
					Bottom	4.7	0.2	32 32	24.0	24.0	8.2 8.2	26.3 26.3	92.2 92.1	6.7 6.7	8.8		5		92 93			<0.2	1.8
					Surface	1.0	0.3	61 63	24.4	24.4	8.1 8.1	22.8	96.0 96.1	7.1	8.4		6		-			-	-
SR3	Sunny	Moderate	14:05	9.5	Middle	4.8	0.3	87	24.4	24.3	8.1	22.8	95.5	7.1 7.1	8.4 8.8	9.7	6	5		822159	807550	-	
J SKS	Suriny	Woderate	14.05	9.5		4.8 8.5	0.3 0.5	91 66	24.3 24.2		8.1	23.5	95.5	7.0	8.8 12.0	9./	4	" F		022139	807550	-	
					Bottom	8.5	0.6	69	24.2	24.2	8.3	25.6	95.8	7.0	12.0		4		-			-	-
					Surface	1.0	0.5	80 82	24.7	24.7	8.4 8.4	24.8 24.8	104.7 104.6		3.1		5	-	-			-	-
SR4A	Cloudy	Calm	15:11	8.7	Middle	4.4	0.4	69	24.8	25.4	8.4	24.7	103.1	7.3	4.0	4.1	6	6		817186	807801	-	. 🖃 .
					Datter	7.7	0.4	71 89	26.0 24.7	24.7	8.4	24.4	106.5	7.5 7.5 7.5	4.0 5.3		6	H				-	
					Bottom	7.7	0.4	96	24.7	24.7	8.4	25.0	104.2	7.5	4.9		5		-	<u> </u>		-	
					Surface	1.0	0.2	73 74	25.1 25.2	25.2	8.4 8.4	24.5 24.5	101.6 101.8	7.3	5.0 5.1		5	E	-			-	-
SR5A	Cloudy	Calm	15:24	4.6	Middle		-	-	-	-		<u> </u>		—— ["] "	-	4.3	-	5	ᆗ -	816604	810705	-	- 🖃 -
					Bottom	3.6	0.4	98	25.4	25.4	8.4	24.8	102.4	7.3	3.8		6					-	-
						3.6 1.0	0.4	104 78	25.4 24.9		8.4	24.8	102.4	7.3	3.4 6.3		4	+	-	1		-	
					Surface	1.0	0.2	82	24.9	24.9	8.4	24.5	102.9	7.4 7.4	6.3		4		-			-	-
SR6	Cloudy	Calm	15:52	4.2	Midd l e	-	-	-	-	-		-		H	-	6.5	-	5		817881	814673	-	
					Bottom	3.2	0.1	95 99	24.7 24.7	24.7	8.4 8.4	24.4 24.4	102.5	7.4 7.4	6.8		6		-			-	-
					Surface	1.0	0.6	68	23.5	23.5	8.1	29.8	91.9	6.6	7.8		5		-	1			-
						1.0 7.9	0.6	73 43	23.5		8.1	29.9	91.8	6.6	8.0 8.0	_	6 7	_ F	-			-	-
SR7	Sunny	Moderate	15:53	15.8	Middle	7.9	0.3	46	23.3	23.3	8.2	30.3	90.4	6.5	8.0	7.9	8	7 <u> </u>		823637	823729	-	
					Bottom	14.8 14.8	0.3	20 21	23.3	23.3	8.2 8.2	30.4 30.4	90.6	6.5 6.5	7.8 7.8	\vdash	7	-	-			-	-
					Surface	1.0	-	-	24.3	24.2	8.3	25.9 25.9	93.2	6.7	8.4		4	$\overline{}$	-			-	-
SR8		Calm	14:47	E 4	Middle	1.0	-	-	24.2		8.3	25.9	92.8	6.7	8.4	8.8	3	4	-	820413	811614	-	
SK8	Sunny	caim	14347	5.4		4.4	-	-	-	-	0.0	20.4	00.0		-	°.°	5	*		020413	011014	-	-
					Bottom	4.4	-	-	24.0 24.0	24.0	8.3 8.3	26.1 26.1	93.0 93.4 93.2	6.7 6.8	9.1 9.1		4		-			-	-

Water Quality Monitoring Results on during Mid-Flood Tide 09 April 19 Suspended Solids Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) Coordinate Coordinate Monitoring Current Oxygen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Direction Value Value Average Value Average Value Average Value DA Value DA DA DA (Easting) Value DA Value DA Condition Condition Time Depth (m) (m/s) Average Value Value (Northing) 0.5 54 24.1 1.7 Surface 24.1 8.4 25.1 1.0 0.5 55 24.1 8.4 25.1 101.7 4.1 85 <0.2 1.7 4.4 0.4 58 24.1 6.5 89 1.6 8.4 25.2 101.6 7.4 <0.2 C1 8.8 84 25.2 101.6 815609 804240 16 09:46 24.1 49 88 <0.2 Cloudy Moderate Middle 8.4 101.6 7.4 6.5 88 <0.2 1.4 4.4 0.5 63 24.1 25.2 6 7.8 0.3 55 24.2 100.5 100.4 7.3 7.3 4.0 4.1 90 <0.2 1.5 8.4 25.5 8.4 7.3 Rottom 24.2 25.5 100.5 0.3 24.2 8.4 25.5 90 <0.2 14 7.8 57 343 7.9 8.0 1.0 22.6 22.4 91.6 91.6 2.5 0.4 24.2 8 1 6.8 89 < 0.2 Surface 24.2 8.1 22.5 91.6 8.1 90 <0.2 0.4 352 24.2 6.8 6.7 355 11.4 93 94 2.5 6.4 24.0 24.2 <0.2 0.4 7.8 88.8 6.5 C2 Cloudy Moderate 10:28 12.8 Middle 24.0 7.8 24.2 88.8 93 825700 806931 < 0.2 7.8 88.8 11.5 0.5 327 24.0 6.5 6.4 353 11.8 14.2 14.2 6 95 <0.2 0.3 23.9 6.5 6.5 2.4 7.9 25.5 89.6 6.5 Bottom 23.9 7.9 25.5 89.7 0.3 325 23.9 89.7 96 <0.2 0.7 257 24.0 8.4 89 <0.2 1.0 8.1 1.8 25.5 90.9 6.6 Surface 24.0 8.1 25.5 90.9 0.7 279 24.0 8.1 25.5 90.9 6.6 8.5 6 89 <0.2 1.8 6.5 0.6 255 23.8 10.3 5 92 <0.2 1,9 6,0 8,1 26,7 88.7 6.4 12.0 822105 817782 C3 Cloudy Moderate 08:46 Middle 23.7 8.1 26.7 88.7 92 <0.2 278 23.7 8.1 10.4 93 <0.2 11.0 0.6 272 23.4 29.3 87.9 88.0 6.3 13.6 5 95 <0.2 2.1 1.9 7.9 6.3 Bottom 23.4 29.3 88.0 0.6 23.4 7.9 13.8 1.0 0.8 33 24.3 8.4 7.4 2.8 85 <0.2 1.6 25.2 101.5 Surface 24.3 8.4 25.2 101.5 1.0 0.9 33 24.3 8.4 25.2 101.5 7.4 2.9 4 85 <0.2 1.6 7.4 -- 1 -----5.6 Cloudy Moderate 09:57 Middle 817925 <0.2 4.6 0.4 24.4 8.4 2.1 89 <0.2 1.6 Bottom 24.4 8.4 25.3 101.6 7.4 4.6 0.4 24.4 8.4 25.3 101.6 7.4 2.0 4 88 <0.2 1.6 25.4 1.0 0.2 24.4 8.4 102.8 7.4 5.5 86 <0.2 1.7 8.4 25.4 102.8 1.0 0.2 24.3 8.4 25.4 102.8 7.4 5.8 5 85 <0.2 1.6 102.4 3.6 0.1 27 24.2 8.4 7.4 6.2 3 87 <0.2 1.7 Cloudy IM2 Moderate 10:03 7.2 Middle 8.4 102.4 818151 806179 <0.2 6.0 3.6 0.1 29 24.2 8.4 25.2 102.3 7.4 3 88 <0.2 1.6 7.4 6.2 0.1 300 24.3 8.4 24.8 102.5 3.2 4 90 <0.2 1.7 Bottom 24.3 8.4 24.8 102.5 3.1 6.2 0.1 322 24 3 8.4 24.8 102.4 7.4 QΩ <0.2 1.6 1.0 0.5 351 24.1 8.4 24.7 102.0 7.4 3.9 85 83 <0.2 1.7 Surface 8.4 24.7 101.9 24.7 323 3.9 4 1.0 0.5 24.1 8.4 101.8 7.4 <0.2 4.1 4.1 1.7 3.8 0.4 24.5 8.4 24.8 101.9 7.4 4 88 90 <0.2 IM3 Cloudy Moderate 10:08 7.6 Middle 24.5 8.4 24.8 101.9 88 818762 805592 <0.2 3.8 24.8 4 0.5 24,5 8 4 1019 7.4 <0.2 6.6 0.2 354 24.6 8.4 25.2 101.6 7.3 6.6 4 90 <0.2 1.8 8.4 7.3 Bottom 24.6 25.2 101.6 6.6 0.2 326 24.6 8.4 25.2 101.5 6.6 4 89 < 0.2 1.7 1.0 0.4 34 24.3 8.4 24.8 102.4 7.4 5.5 5.5 2 85 <0.2 1.7 Surface 24.3 8.4 24.8 102.4 24.8 102.4 7.4 86 <0.2 1.0 0.4 36 24.3 8.4 7.4 4.4 88 < 0.2 1.8 0.4 22 24.4 8.4 24.9 102.4 3 10:15 7.4 8.4 102.4 88 819713 804628 IM4 Cloudy Moderate Middle 24.4 24.9 < 0.2 3,7 24.4 8.4 24.9 102.4 7.4 4.6 89 <0.2 0.4 23 3 90 <0.2 1.6 6.4 0.3 24.4 8.4 7.4 7.4 3.1 4 84 25.7 102.4 Bottom 24.4 25.7 1024 6.4 0.3 18 24.4 8.4 3.0 90 <0.2 1.6 0.6 10 24.7 8.4 22.9 103.5 7.6 7.1 84 <0.2 1.6 24.7 8.4 103.5 Surface 22.9 24.7 8.4 85 <0.2 1.0 22.9 7.6 7.6 348 3.8 4 90 3.8 0.5 24.7 8.4 23.2 103.4 7.5 <0.2 1.6 Cloudy Moderate 10:23 7.6 Middle 24.7 8.4 23.2 103.4 820749 804853 < 0.2 3.8 320 24.7 8.4 3.9 89 <0.2 1.6 0.6 23.2 0.4 345 24.7 8.4 24.4 103.1 7.5 3.3 4 89 <0.2 1.6 24.7 8.4 24.4 103.1 7.5 Bottom 347 24.7 8.4 90 6.6 0.4 1.7 8.4 2.9 5 85 <0.2 Surface 24.7 8.4 23.4 103.8 0.5 52 24.7 8.4 23.4 7.5 2.9 85 <0.2 0.3 60 24.8 8.4 7.6 2.6 88 <0.2 1.7 23.5 Cloudy Moderate 10:29 Middle 23.5 103.9 821051 805847 <0.2 3.7 0.4 64 24.8 8.4 23.5 7.6 2.6 4 89 <0.2 6.4 0.3 70 24.8 8.4 4.9 5 90 <0.2 1.6 6.4 0.3 24.8 8.4 90 <0.2 1.0 0.4 68 24.6 8.4 6.3 85 <0.2 1.8 Surface 102.1 1,0 Λ4 69 24.6 8.4 23.0 102.1 7.5 6.3 3 84 <0.2 1.9 7.5 4.1 0.7 54 24.7 8.4 22.9 102.4 7.5 4.9 4 90 <0.2 1.8 Cloudy Moderate 10:34 8.1 Middle 24.7 8.4 102.4 821359 806845 <0.2 4.1 0.7 56 24.7 84 22.9 102 4 4.9 4 88 <0.2 1.6 7 1 0.5 55 24.8 8.4 23.1 102.7 7.5 2.8 4 90 <0.2 1.7 Bottom 24.8 8.4 23.1 102.8 7.5 0.6 56 24.8 8.4 89 <0.2 1.0 0.1 70 24.1 8.1 22.3 90.9 6.7 8.4 89 <0.2 Surface 24.1 8.1 22.2 90.8 6.7 0.1 70 24.1 8.1 22.2 90.6 8.4 3 89 <0.2 2.3 6.7 24.0 8.8 3 94 <0.2 2.3 4.3 0.2 69 7.2 23.4 89.9 6.6 821848 7.2 808153 IM8 Cloudy Moderate 10:06 8.6 Middle 24.0 23.4 89.9 8.9 93 <0.2 2.4 7.3 94 23.5 69 24.0 89.9 6.6 8.9 4.3 0.2 7.6 0.2 89 24.0 6.8 23.8 90.1 6.6 6.6 9.4 3 95 <0.2 2.4 6.8 6.6 Rottom 24.0 23.8 90.2

DA: Depth-Averaged

during Mid-Flood Tide Water Quality Monitoring Results on 09 April 19 Suspended Solids | Total Alkalinity | Coordinate | Coordinate Dissolved Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) pН Monitoring Current Oxygen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Value Average Value Average Value DA Value DA DA DA (Easting) Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Value (Northing) 0.3 24.2 2.4 Surface 24.2 8.1 21.5 93.2 0.3 24.2 8.1 93.1 6.9 <0.2 2.4 6.8 4.0 0.2 27 24.1 8.1 6.7 9.1 92 <0.2 2.4 7.9 91.8 822115 <0.2 IM9 Cloudy Moderate 09:58 Middle 24.1 8.1 23.7 9.1 3 92 808829 2.4 4.0 24.1 8.1 23.7 91.9 6.7 9.1 93 <0.2 2.3 6.8 6.9 0.1 27 24.1 8.1 23.9 93.0 9.5 94 <0.2 2.4 8.1 23.9 93.1 Bottom 24.1 6.9 0.1 27 24.1 8.1 23.9 93.1 6.8 9.5 94 <0.2 2,4 1.0 0.7 315 24.2 8.1 24.1 94.2 6.9 13.8 4 90 <0.2 2.0 Surface 24.2 8.1 24.1 94.3 0.7 315 24.2 8.1 24.1 94.3 6.9 14.0 4 89 <0.2 2.0 6.8 3.8 0.6 308 24.1 8,1 24.5 92.5 6.8 9.4 5 92 92 <0.2 <0.2 Cloudy M10 Moderate 09:51 7.5 Middle 8.1 24.5 92.5 92 822372 809800 9.4 6 3.8 0.7 315 24.1 8.1 24.5 92.4 6.7 <0.2 1.9 6.5 0.5 312 24.1 8.1 25.2 92.3 6.7 11.5 6 95 < 0.2 1.9 Bottom 8.1 25.2 92.4 6.7 6.5 6.7 11.6 96 0.5 326 24.1 8 1 25.2 92.4 5 <0.2 2.0 25.7 25.7 10.6 10.7 1.8 1.0 0.6 304 24.1 7.0 90.9 6.6 89 <0.2 Surface 24.1 7.0 25.7 90.9 317 7.0 0.6 24.1 90.9 6.6 4 89 <0.2 6.6 13.9 92 94 42 0.5 309 23.9 7 1 25.9 89.4 6.5 4 <0.2 1.8 M11 Cloudy Moderate 09:41 8.3 Middle 23.9 7.1 25.9 89.4 93 822048 811469 <0.2 325 4.2 0.6 23.9 7.1 26.0 89.3 6.5 14.9 4 <0.2 2.0 23.7 17.7 6 95 < 0.2 0.3 301 7.2 26.8 89.0 6.5 1.7 Bottom 23.7 7.2 26.8 89.0 6.5 23.7 7.2 17.6 96 7.3 0.3 325 26.8 89.0 6.5 5 < 0.2 10 1.0 0.8 281 24.0 8.1 25.8 91.2 6.6 13.2 88 <0.2 1.8 Surface 24.0 8.1 25.8 91.2 0.8 307 8.1 25.8 91.2 13.4 11 89 <0.2 1.6 24.0 6.6 1.0 6.6 11 93 <0.2 4.1 0.7 286 24.0 8.1 25.9 90.8 6.6 16.1 1.8 821453 812061 M12 Cloudy Moderate 09:35 8.2 Middle 8.1 25.9 90.9 92 24.0 <0.2 0.7 297 24.0 8.1 25.9 90.9 15.8 10 93 <0.2 1.8 4.1 6.6 0.5 286 23.9 8.1 17.4 13 95 <0.2 1.8 26.2 91.4 6.6 Bottom 23.9 8.1 26.2 91.5 6.6 287 6.6 7.2 0.6 23.9 26.2 12 <0.2 1.8 24.2 8.2 24.3 93.9 6.9 8.2 3 -24.2 8.2 24.3 93.8 Surface 8.2 93.6 8.2 1.0 24.2 6.8 6.9 ---SR1A Cloudy Calm 09:16 4.8 Middle 819971 812656 2,4 24.2 8.1 8.2 24.8 95.0 6.9 -Bottom 24.2 8.2 24.8 95.1 6.9 24.2 8.2 69 0.4 340 89 24.0 8.2 92.3 <0.2 1.8 Surface 24.0 8.2 25.3 92.3 1.0 0.4 341 24.0 8.2 6.7 11.7 4 89 <0.2 1.8 6.7 SR2 Cloudy Moderate 09:04 4.3 821461 814161 92.8 6.8 3.3 0.3 347 24.0 8.2 25.4 12.8 5 93 <0.2 1.9 92.9 3.3 0.4 319 24.0 8.2 25.4 12.7 Q3 <0.2 1.8 1.0 0.1 67 24.1 8.1 22.6 91.5 91.6 6.8 8.2 Surface 24.1 8.1 22.5 91.6 0.1 8 1 22.5 24.1 6.8 8.2 8.5 4.6 0.2 76 24.0 8.1 23.3 89.9 6.6 3 SR3 Cloudy Moderate 10:10 9.1 Middle 24.0 23.3 89.8 8.5 822141 807573 3 8.0 4.6 0.2 77 24.0 23.4 89.7 6.6 8.5 8.1 0.3 85 24.0 8.1 89.8 6.6 8.8 4 -Bottom 24.0 8.1 23.5 89.8 6.6 0.3 85 24.0 8.1 89.8 8.8 1.0 0.0 38 24.4 8.4 24.6 24.6 98.9 7.2 7.2 4.1 3 Surface 24 4 8.4 24.6 98.9 98.9 1.0 0.0 39 24.4 8.4 4.1 4 7.2 2.8 4.2 0.0 51 24.4 8.4 24.6 98.8 7.2 3 --SR4A 09:33 8.4 8.4 817209 807821 Cloudy Calm Middle 24.5 24.6 98.8 3.5 98.8 7.2 4.2 0.0 53 24.5 8.4 24.6 2.9 3 -7,4 0.1 59 24.5 8,3 24.7 24.7 99.0 99.0 7.2 7.2 3,5 6 8.3 7.2 --24.5 24.7 99.0 Rottom 8.3 3.4 0.1 64 24.5 1.0 0.4 306 24.6 8.3 24.7 98.0 7.1 3.4 6 --8.3 Surface 24.6 24.7 98.0 8.3 24.7 97.9 7.1 3.4 0.4 314 24.6 5 1.0 -7.1 ---------SR5A 09:17 4.3 816607 810702 Cloudy Calm Middle 4.5 7.1 7.1 3.3 0.3 303 24.6 8.3 24.7 97.6 5.5 6 -24.6 8.3 24.6 97.6 Bottom 8.3 97.5 0.3 320 24.6 206 24.3 8.3 24.6 ---Surface 24.3 8.3 24.6 97.8 1.0 0.1 211 24.3 8.3 24.6 97.8 7.1 3.9 4 7.1 SR6 Cloudy Calm 08:39 4.6 Middle 817895 814668 . 7.1 3.6 0.1 267 24.4 8.3 24.7 97.9 3.5 5 Bottom 24.4 8.3 24.7 97.9 0.1 283 24.4 83 24.7 97 Q 3.5 4 1.0 0.2 291 24.0 7.7 25.4 90.6 6.6 25.4 0.2 292 24.0 7.8 25.4 90.5 6.6 7.7 <2 -6.5 0.3 245 23.5 28.8 87.6 6.3 7.9 <2 SR7 Cloudy Moderate 08:18 15.3 Middle 23.5 7.7 28.8 87.6 823644 823718 0.3 246 23.5 7.7 28.8 87.6 6.3 7.9 <2 14.3 0.2 267 23.3 7.8 29.7 87.1 6.3 7.9 2 Bottom 23.3 7.8 29.7 87.2 6.3 14.3 0.2 271 23.3 7.8 29.7 7.9 24.3 8.2 24.5 92.8 6.8 9.1 Surface 24.3 8.2 24.5 92.9 1.0 24.3 8.2 24.5 92.9 6.8 9.2 4 6.8 ---820368 SR8 Cloudy Calm 09:26 5.2 Middle 3 811624 --4.2 8.3 9.6 3 24.1 25.9 93.7 6.8 -24.2 8.3 25.8 93.9 6.8 24.2 4.2

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-Ebb Tide Water Quality Monitoring Results on 11 April 19 Dissolved Suspended Solids | Total Alkalinity Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) Coordinate Coordinate Monitoring Speed Current Oxygen (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction Value Average Value Average Value Average Value DA Value DA DA DA Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Value (Northing) (Easting) 0.3 143 25.0 <0.2 Surface 25.0 8.1 25.8 107.0 0.3 144 25.0 8.1 25.8 106.9 7.6 4.4 0.3 136 24.9 7.6 5.0 2 90 <0.2 1.4 C1 16:12 26.1 106.3 815614 804245 <0.2 Fine Moderate 8.8 Middle 24.9 8.0 5.8 3 4.4 0.3 136 24.9 8.0 26.1 106.2 7.6 5.2 89 <0.2 1.4 7.4 7.8 0.2 128 25.0 26.4 103.5 7.0 92 <0.2 1.4 8.0 26.4 103.4 Bottom 25.0 0.2 129 25.0 8.0 26.4 103.3 7.4 7.4 93 <0.2 1.3 1.0 0.4 115 25.3 8.4 19.7 102.9 7.6 1.3 <2 88 <0.2 2.6 Surface 8.4 19.7 102.8 1.0 0.4 115 25.2 8.4 19.7 102 6 7.6 1.3 <2 89 <0.2 2.4 6.3 0.6 124 25.0 8,4 21.7 101.4 7.4 1.2 <2 <2 93 <0.2 2.4 C2 Cloudy Moderate 15:20 12.6 Middle 8.4 21.7 101.4 825702 806934 <0.2 <0.2 6.3 0.6 127 25.1 8.4 21.7 101.4 7.4 93 2.3 8.4 101.6 101.6 7.4 7.4 0.6 11.6 0.4 138 25.1 22.9 3 95 <0.2 2.5 Bottom 8.4 22.9 101.6 156 8.4 11.6 0.4 25.1 22.9 96 <0.2 2.4 <2 <2 <2 <2 <0.2 <0.2 2.4 1.0 0.1 60 25.1 8.4 22.9 7.8 3.0 89 Surface 25.1 8.4 22.9 107.0 3.0 3.5 3.1 7.7 1.0 89 0.1 61 25.1 8.4 22.9 106.9 93 93 22.7 22.7 2.4 6.8 0.4 75 25.0 8.4 105.7 <0.2 C3 Cloudy Moderate 17:14 13.5 Middle 25.0 8.4 22.7 105.5 92 822104 817806 <0.2 8.4 7.7 6.8 0.5 89 24.9 105.3 3.2 7.5 7.4 95 < 0.2 2.3 0.2 92 24.6 8.4 26.1 103.8 Bottom 24.6 8.4 26.1 103.8 7.5 12.5 24.6 8.4 95 <0.2 0.2 103 26.1 103.7 2.2 234 1.0 0.2 25.0 8.0 24.2 104.9 7.6 4.5 <2 86 <0.2 2.1 Surface 25.0 8.0 24.2 104.9 236 25.0 104.8 7.5 4.7 <2 87 <0.2 2.1 1.0 0.2 8.0 24.2 7.6 -- | -----817932 807122 IM1 Fine Moderate 16:00 4.6 Middle 89 2.0 < 0.2 --3.6 0.2 256 25.2 8.0 24.2 7.4 4.5 <0.2 2.0 103.1 Bottom 25.2 8.0 103.0 7.4 258 25.2 3.6 0.2 4.4 <0.2 218 25.0 8.1 8.1 4.2 4.1 86 85 <0.2 <0.2 2.0 1.9 0,2 24.0 108.2 7.8 <2 25.0 8.1 24.0 108.2 Surface 1.0 0.2 219 25.0 7.8 <2 7.8 4.3 <2 88 <0.2 <0.2 0.3 232 25.0 8.0 24.0 7.8 2.0 818183 IM2 Fine Moderate 15:54 7.2 Middle 25.0 8.0 24.0 107.9 806152 <0.2 3.6 0.3 232 25.0 8.0 7.8 4.4 <2 87 7.6 7.6 0.3 214 25.0 6.1 90 <0.2 2.0 8.0 24.1 Bottom 25.0 8.0 24.1 104.6 0.3 222 25.0 8.0 24.1 91 <0.2 2.1 157 8.0 23.7 106.6 106.5 <0.2 2.0 Surface 8.0 23.7 106.6 1.0 0.4 148 24.8 8.0 7.7 5.0 <2 86 <0.2 2.1 7.7 3.8 0.2 134 24.8 8.0 23.7 106.2 7.7 4.7 <2 87 <0.2 2.1 Fine Moderate 15:48 7.5 Middle 23.7 106.2 818795 805582 3.8 0.3 144 24.8 8.0 23.7 106.2 7.7 4.8 <2 88 <0.2 2.1 6.5 0.3 182 24.7 8.0 23.9 104.8 7.6 4.9 91 <0.2 2.0 104.6 7.6 Bottom 6.5 0.3 183 24.7 8.0 23.0 104.4 7.6 5.0 QΩ < 0.2 2.1 5.4 5.5 5.7 1.0 0.4 219 24.8 8.0 22.4 103.1 89 90 <0.2 <0.2 2.2 Surface 24.8 8.0 22.4 103.1 7.5 1.0 0.5 219 24.8 103.1 2 87 87 2.2 3.9 0.4 210 24.8 8.0 22.4 104.3 7.6 <0.2 IM4 Fine Moderate 15:39 7.8 Middle 24.8 8.0 22.4 104.4 88 819724 804602 <0.2 2.2 8.0 6.0 3.9 0.5 210 24.8 22 4 104.5 7.6 6.8 0.3 236 24.3 8.0 23.4 104.3 7.6 7.6 6.6 4 86 <0.2 2.2 7.6 Bottom 24.3 8.0 23.4 104.2 8.0 6.8 0.3 223 24.3 6.8 87 < 0.2 5.4 5.6 5.9 1.0 0.8 231 24.4 8.0 8.0 23.7 105.1 89 <0.2 2.2 Surface 24.4 8.0 23.7 105.1 90 <0.2 1.0 0.9 231 24.4 105.1 7.7 87 2.2 3.9 230 7.6 3 0.6 24.5 8.0 23.6 104.7 <0.2 15:30 7.7 8.0 104.7 820725 804865 2.2 IM5 Fine Moderate Middle 24.5 23.6 < 0.2 8.0 23.6 104.7 7.6 3 87 <0.2 3.9 0.7 231 24.5 5.9 7.5 259 24.8 8.0 90 <0.2 2.2 6.7 0.4 23.6 23.6 103.6 103.5 7.5 7.5 4 8.0 24.8 23.6 103.6 Bottom <0.2 2.3 0.4 255 24.8 1.0 238 <0.2 0.4 24.8 8.0 23.2 106.8 7.8 5.6 86 2.3 24.8 8.0 Surface 23.2 106.8 8.0 23.2 106.8 5.6 87 <0.2 2.2 240 24.8 7.8 1.0 0.4 7.8 185 24.8 90 2.2 0.2 8.0 23.1 106.8 7.8 <0.2 Moderate 15:21 7.4 8.0 23.1 106.8 821042 805807 <0.2 2.3 IM6 Fine Middle 24.8 186 8.0 23.1 5.2 89 <0.2 2.4 0.2 24.8 6.4 0.2 178 24.8 8.0 23.3 105.9 105.7 7.7 5.0 4 <0.2 2.4 24.8 8.0 23.3 105.8 7.7 Bottom 177 8.0 91 6.4 0.2 24.8 0.1 220 24.8 21.2 85 <0.2 2.3 8.0 7.6 Surface 24.8 8.0 21.2 103.3 230 24.8 8.0 21.2 103.2 7.6 3.9 84 <0.2 2.4 7.6 4.2 0.3 194 24.8 4.9 87 <0.2 2.6 IM7 Fine Moderate 15:15 8.4 Middle 24.8 8.0 21.3 102.8 821337 806858 <0.2 2.4 4.2 0.3 196 24.8 8.0 21.3 102.7 7.6 4.9 88 <0.2 2.3

8.0

8.0

8.4

8.4

8.4

8.4

8.4

25.4

24.9

8.0

8.4

8.4

8.4

7.3 7.3

7.6

7.5

7.6

7,6

7.6

7.5

4.5

4.5

4.5

4.1

3.3

3.5

4.7

4

4

90

an

90

90

93

93

95

821823

<0.2

<0.2

<0.2

<0.2

<0.2

<0.2

<0.2

808153

2.4

2.4

2.3

2.4

2.4

2.3

2.4

21.8 21.7

20.4

20.9

21.4

21.7

20.5

20.4

20.9

20.9

21.5

100.3

100.0

104.2

104.2

103.7

103.6

102.8

100.2

104.2

103.7

102.7

DA: Depth-Averaged

IM8

Cloudy

Moderate

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

15:49

8.2

7.4

1.0

1.0

4.1

41

7.2

Bottom

Surface

Middle

Bottom

0.3

0.3

0.1

0.1

0.2

0.2

0.3

162

163

196

204

185

187

178

181

25.0

25.2

25.3

25.4

25.4

25.4

24.9

24.9

during Mid-Ebb Tide Water Quality Monitoring Results on 11 April 19 Dissolved Suspended Solids | Total Alkalinity Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) Coordinate Coordinate Monitoring Current Oxygen (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction Value Average Value Average Value Average Value DA DA DA DA Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Value Value (Northing) (Easting) 0.3 159 25.4 <0.2 2.4 Surface 25.4 8.4 20.5 105.0 0.3 161 25.3 8.4 20.5 104 9 4.0 0.3 195 25.3 7.6 8.2 93 <0.2 2.3 7.9 21.4 104.6 822085 808831 <0.2 IM9 Cloudy Moderate 15:55 Middle 25.3 8.4 5.1 3 2.4 4.0 0.3 201 25.3 8.4 21.4 104.5 7.6 8.2 93 <0.2 2.3 6.9 0.3 188 25.1 8.4 22.1 103.7 7.6 95 <0.2 2.4 8.4 22.1 103.7 7.6 Bottom 25.1 6.9 0.4 189 25.1 8.4 22.1 103.7 7.5 2.8 95 <0.2 2.3 1.0 0.4 153 25.1 8.4 21.0 104.6 4.7 4 89 <0.2 2.3 Surface 8.4 21.0 104.5 1.0 0.4 153 25.1 8.4 21.0 104.3 7.6 4.9 5 90 <0.2 2.2 4.1 0.3 169 25.0 8,4 21.8 103,6 7.6 5.7 5.4 4 94 <0.2 2.2 IM10 Cloudy Moderate 16:02 8.2 Middle 8.4 21.8 103.5 822379 809801 <0.2 < 0.2 4.1 0.3 157 25.0 8.4 21.8 103.3 7.5 4 94 2.4 8.4 21.8 7.5 7.4 7.2 0.2 150 25.4 102.6 1.2 4 96 <0.2 2.2 Bottom 8.4 102.5 7.5 151 12 0.2 25.4 8.4 102 4 96 <0.2 22 2 <0.2 2.4 1.0 0.1 170 24.9 8.4 23.9 104.4 7.6 3.5 90 Surface 24.9 8.4 23.9 104.3 3.3 7.5 1.0 0.1 165 24.9 8.4 23.9 104 2 90 7.5 1.4 93 93 2.4 3.6 0.1 143 24.8 8.4 24.5 104.2 7.5 <0.2 IM11 Cloudy Moderate 16:14 7.1 Middle 24.8 8.4 24.5 104.3 93 822052 811459 <0.2 2.3 8.4 3.6 0.1 149 24.8 24.5 7.5 104.4 105 96 < 0.2 2.1 6.1 0.1 26.3 8.4 21.1 107.5 7.7 1.1 Bottom 26.3 8.4 21.1 107.4 7.7 8.4 1.0 96 <0.2 6.1 0.1 26.3 21.1 2.2 127 1.0 0.1 24.5 8.4 24.8 24.8 100.5 100.3 4.8 89 <0.2 2.2 Surface 24.5 8.4 100.4 131 24.5 8.4 7.3 4.8 89 <0.2 2.3 1.0 0.1 7.3 3.8 92 2.3 4.8 0.1 123 24.5 8.4 25.3 99.7 7.2 3 <0.2 821455 812064 M12 Cloudy Moderate 16:22 9.5 Middle 24.6 8.4 25.3 99.9 92 2.3 < 0.2 4.8 0.1 128 24.6 8.4 25.3 7.2 4.1 3 93 <0.2 8.5 151 24.7 8.4 1.4 95 <0.2 2.4 0.2 25.3 101.3 7.3 3 Bottom 24 7 8.4 25.3 101.4 7.3 24.7 8.4 8.5 0.2 162 1.4 95 <0.2 2.3 1.2 25.0 8.4 22.5 104.9 7.6 25.0 8.4 105.0 Surface 22.5 1.0 7.6 25.0 7.6 SR1A Cloudy Calm 16:43 4.6 Middle 819974 812661 2.3 7.6 7.6 25.0 22.7 0.8 8.4 Bottom 25.0 8.4 22.7 105.1 25.0 159 88 25.0 Surface 25.1 22.5 105.0 1.0 0.3 140 25.1 105.0 7.6 1.0 88 <0.2 2.3 7.6 -SR2 Cloudy Moderate 16:55 5.4 Middle 821465 814178 4.4 0.1 139 25.0 8.4 22.6 105.0 7.6 1.7 4 93 <0.2 2.5 105.0 7.6 Bottom 4.4 0.2 141 25.0 8.4 105.0 7.6 1.8 4 Q3 <0.2 2.4 1.0 0.1 174 25.5 8.4 21.0 103.7 103.8 1.5 Surface 25.5 8.4 103.8 21.0 8.4 1.5 1.0 0.1 181 25.5 7.5 3 44 0.2 171 26.3 8.4 19.6 104.4 7.6 1.6 -SR3 Cloudy Moderate 15:44 8.7 Middle 26.3 8.4 19.6 104.3 822156 807569 3 7.7 0.3 172 26.2 8.4 196 104 1 7.5 1.5 ----0.3 178 24.9 8.4 103.1 7.5 7.5 2.4 3 Bottom 24.9 8.4 22.2 103.1 7.5 0.3 178 24.9 8.4 5.2 5.8 5.0 1.0 0.5 59 24.5 8.1 8.1 25.1 25.1 105.1 7.6 Surface 24.5 8.1 25.1 105.0 1.0 0.5 59 24.5 104.9 7.6 7.6 4.7 0.5 68 24.5 8.1 25.3 104.7 7.6 3 ---SR4A Fine 16:24 9.3 8.1 817185 807825 Calm Middle 24.5 25.3 104.6 8.1 104.5 7.5 4.7 0.5 73 24.5 25.3 5.4 4 27.1 27.1 105.1 8,3 0.5 63 8.1 7.3 7.3 7.3 8.9 9.7 4 8.1 24.5 ---27.1 24.4 105.1 Bottom 8.1 24.4 8.3 0.5 1.0 116 24.8 0.3 8.0 24.5 103.4 7.5 5.6 ---24.8 8.0 24.5 103.4 Surface 24.5 6.2 118 8.0 103.3 7.5 4 1.0 0.3 24.8 7.5 --------SR5A 16:39 4.2 816579 810675 Fine Calm Middle 3.2 0.3 111 26.2 8.0 24.7 102.6 7.2 7.6 -26.2 8.0 24.7 102.5 7.2 Bottom 8.0 0.3 113 26.2 0.0 24.8 23.2 7.6 ---Surface 24.8 8.0 23.2 104.5 0.0 100 24.8 8.0 23.2 104.4 7.6 4.0 2 1.0 7.6 SR6 Fine Calm 17:05 4.5 Middle 817908 814662 24.5 3.5 0.1 171 25.7 8.0 102.3 7.3 7.3 5.1 3 Bottom 8.0 102.2 0.1 174 25.7 8.0 24.5 5.1 1.0 0.2 24.3 8.4 26.5 103.7 Surface 1.0 0.2 97 24.3 8.4 26.5 103.7 7.5 2.1 -7.6 8.4 0.1 100 25.7 8.4 22.9 106.8 7.7 4.5 3 SR7 Moderate 17:44 16.8 Middle 8.4 22.9 106.7 823629 823757 Cloudy 8.4 0.1 109 25.7 8.4 23.0 106.5 7.6 4.4 4 15.8 0.1 55 24.3 8.4 27.2 102.7 7.4 8.2 3 Bottom 24.3 8.4 27.2 102.7 7.4 15.8 0.1 59 24.3 8.4 7.4 8.3 4 1.0 25.1 8.4 22.6 104.8 7.6 6.6 Surface 25.2 8.4 22.5 104.8 1.0 25.2 8.4 22.5 104.8 7.6 6.5 2 7.6 -. -820383 SR8 Cloudy Moderate 16:32 5.4 Middle 2 811626 . . -4.4 25.2 3.6 8.4 22.9 104.8 7.6 -. 25.2 8.4 22.9 104.8 7.6 4.4 25.2

DA: Depth-Averaged

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring Water Quality Monitoring Results on 11 April 19 during

during Mid-Flood Tide

Montoning Sampling Depth (m) Speed Current (%) Oxygen (mg/L) (ppm) HK Grid HK Grid (ug/L) Station	Water Qua	lity Monit	oring Resu	its on		11 April 19	during Mid-	Flood Ti	de																				
Column C		Weather	Sea	Sampling	Water	Sampling Dep	oth (m)			Water Te	mperature (°C)		рН	Salin	nity (ppt)	DOS	aturation (%)			Turbidity(NTU)								m Nickel (μg/L)
Column Mailan Column C	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)	Va l ue D	DA Va l ue DA
Pro						Surface					24.7		8.0		24.0		104.6		-		-								
Second Property Second Pro	C1	Fine	Moderate	09:42	8.6	Middle	4.3	0.1		24.7	24.7	8.0	8.0	24.0	24.0	104.2	104.2	7.6	7.6	8.4	8.5		3	90	90	815617	804226	<0.2	2.7 2.8
Color Colo						D-#					04.4		0.0		24.0		404.0		7.4		H								
Second Color Col						Bottom		0.1	20	24.4	24.4	8.0	8.0	24.8	24.8	101.1		7.3	7.4	12.6				93				<0.2	2.8
Care Care						Surface	1.0		9		25.5		8.4		19.7		103.2	7.6	76		E			89					4.4
Column C	C2	Cloudy	Moderate	10:55	12.3	Middle					25.1		8.4		21.0		101.8				4.0		3		93	825676	806961		0.2 2.3 3.0
Column C						Bottom	11.3	0.3	332	24.9	24.9	8.4	8.4	22.4	22,4	101.2	101.2	7.4	7.4	4.7	ļ	3		96				<0.2	2.3
Cal Clearly Nederate Cal Clearly Nederate Cal						Surface					24.7		8.4	_	22.6	101.5	101.5	-	_								<u> </u>		2.8
Martin M																			7.4		F							<0.2	2.0
Section Color Co	C3	Cloudy	Moderate	09:09	13.7	Middle	6.9	0.5	278	24.5	24.5	8.3	8.3	23.2	23.2	100.4	100.5	7.3		4.0	5.5	3	3	93	92	822097	817805	<0.2	2.9
Mail Fire Moderate De51 S.5 Mode De51 S.5 De51 De5						Bottom					24.6		8,3		24,2		100,3		7.3		-								
Mile						Surface					24.8		8.0		23.8		105.2		\neg		F								
Bottom 4.3 6.3 539 629 629 639 629 639 629 639 629 639 629 639 629 639 629 639 639 639 639 639 639 639 639 639 63	IM1	Fine	Moderate	09:51	5.3	Middle					-	-	_	-	_	-		-	7.6	-	5.3	-	2	-	87	817969	807149	<n< td=""><td>12 🗀 24</td></n<>	12 🗀 24
Marcine Marc							4.3		338		24.0		0.0	_	22.0		400.4		7.5		-							-	
Fire Moderate Description Property						Bottom						8.0		23.8		103.0		7.5	7.5									<0.2	2.4
Mile Fire Moderate 10.03 7.7 Minde 3.9 0.0 1 2.0 2.5 0.0 0						Surface	1.0	0.3	356	24.5	24.5	8.0	8.0	23.8	23.8	105.0	105.0	7.7	7.6	4.9		2		85				<0.2	1.8
Bottom B	IM2	Fine	Moderate	09:57	7.7	Midd l e					24.5		8.0		23.9		103.8		-		4.9		3		88	818159	806181		
MS Fine Moderate 10.03 7.5 Mode 1.0 0.1 32 24.8 24.9 8.0 0.0 23.5 23.5 105.7 17.7 4.5 4.8 4.9 4.0 4.						Bottom					24.7		8.0		24.0		102.3	7.4	7.4		F	_						<0.2	2.1
Mode Mode						Surface	1.0	0.1	32	24.9	24.9	8.0	8.0	23.5	23.5	105.7	105.7	7.7	\neg	4.5		<2		85				<0.2	2.0
Moderate 10.11 Moderate	11.40	F:	Madada	40.00	7.5														7.7		47				07	040007	005500	<0.2	20
Marting Mart	INS	rine	Woderate	10:03	7.5	Middle	3.8	0.2		24.8		8.0		23.5		105.0		7.6	_	4.8	4.7	<2	2	86	01	010007	005560	<0.2	2.0
Moderate 10.11 8.0 Moderate 10.11 8.0 Moderate 10.11 8.0 Moderate 10.11 8.0 Moderate 10.11 8.0 Moderate 10.11 8.0 Moderate 10.11 8.0 Moderate 10.11 8.0 Moderate 10.11 8.0 Moderate 10.11 8.0 Moderate 10.11 8.0 Moderate 10.11 8.0 Moderate 10.11 8.0 Moderate 10.12 Moderate						Bottom	6.5	0.1	353	24.7	24.7	8.0	8.0	23.6	23.6	102.8	102.9	7.5	7.5	4.7		2		90				<0.2	1.7
Middle						Surface					24.7		8.0		22.6		103.8		7.		-								
Bottom Fine Moderate 10:18 Fine Fine Fine Fine Moderate 10:18 Fine Fine Fine Fine Moderate 10:18 Fine Fine Fine Fine Fine Fine Fine Fine	IM4	Fine	Moderate	10:11	8.0	Middle					24.6		8.0		22.7		103.7		′.°		7.1		2		87	819713	804609		1.7
No. No.						Bottom	7.0	0.4	17	24.5	24.5	8.0	8.0	23.5	23.5	101.7	101.7	7.4	7.4	11.7	þ	2		90				<0.2	1.6
Moderate 10:18 Fine Moderate 10:18 Fine Moderate 10:18 Fine Moderate 10:26 Fine Moderate 10:30 Fine Fine Fine Fine Fine Moderate 10:30 Fine F																													
Michael Mich														22.0				7.5	7.5		F							c0.2	1.8
Moderate Fine Moderate 10:32 Fine Fine Moderate 10:32 Fine Fine Moderate 10:32 Fine Fine Moderate 10:32 Fine Moderate 10:32 Fine Fine Fine Moderate 10:32 Fine Fine Moderate 10:32 Fine Fine Fine Moderate 10:32 Fine Fine Fine Moderate 10:32 Fine Fine Fine Fine Fine Fine Moderate 10:32 Fine Fi	IM5	Fine	Moderate	10:18	7.1	Middle	3.6	0.8	327	25.0	25.0	8.0	8.0	22,1	22.1	103.2	103.2	7.5		5.7	6.1	3	3	84	87	820751	804864	<0.2	1.6
Moderate 10:26 7.4 Middle 3.7 0.5 345 24.7 24.8 8.0 8.0 22.2 22.2 102.1 102.1 7.5 6.3 6.4 3.7 3.7 3.5						Bottom					24.8		8.0	22.9	22.9		102.1	7.4	7.4		-								1.6
Moderate 10:26 7.4 Middle 3.7 0.5 3.45 24.8 24.8 8.0 8.0 22.2 22.2 102.1 102.1 7.5 7.5 6.4 6.3 3 3 86 87 821077 805836 \frac{\cdot 0.2}{\cdot 0.2} \frac{\cdot 0.2}{\cdot 0.2} \frac{1.9}{\cdot						Surface	1.0	0.6	345		24.7		8.0		22,1		102,6	7.5	T	5.2	1							<0.2	1.8
Surface 10.32 Fine Moderate 10.32 Rottom Ro	IM6	Fine	Moderate	10:26	7.4	Middle	3.7	0.5	345	24.7	24.8	8.0	8.0	22.2	22.2	102.1	102.1	7.5	7.5	6.4	6.8	3	3	86	87	821077	805836	<0.2	1.9 1.8
No. Surface 10.0 0.0 286 25.0 25.0 8.0 8.0 8.0 21.1 21.1 103.4 103.4 7.6 4.1 4.2 2.2 8.5 8.0 8.0 21.1 21.1 103.4 103.4 7.6 4.1 4.2 4.2 8.5 8.0 8.0 8.0 21.1 21.1 103.4 103.4 7.6 4.1 4.2 4.2 8.5 8.0 8.0 8.0 8.0 21.1 21.1 103.4 103.4 7.6 4.1 4.2 4.2 8.5																			7.4						-			<0.2	2.0
Moderate 10:32 7.9 Middle 4.0 0.2 8.3 25.0 25.0 8.0 8.0 21.1 21.1 103.3 10.3 7.6 7.6 4.1 4.2 4.5 2 8.4 4.5 2 3 8.5 8.6 8.0 8.0 8.0 21.1 10.3						Bottom	6.4	0.4		24.8	24.8	8.0	8.0	22.9		100.7		7.3	7.4	9.0				90				<0.2	1.6
Moderate 10:32 7.9 Middle 4.0 0.2 83 25.0 25.0 8.0 8.0 21.1 10:33 10:33 7.6 4.2 4.5 2 3 85 86 821360 806855 \cdot						Surface	1.0	0.0	306	25.0	25.0	8.0	8.0	21.1	21,1	103.4	103.4	7.6	7.6	4.1	E	<2		84				<0.2	1.8
Bottom 6.9 0.4 83 24.7 24.7 8.0 8.0 21.8 21.8 21.8 21.8 21.8 21.8 21.8 21.8	IM7	Fine	Moderate	10:32	7.9	Middle					25.0		8.0		21.1		103.3				4.5		3		86	821360	806855		
Surface 1.0 0.1 327 24.9 24.9 8.4 8.4 20.8 20.8 103.3 103.3 7.6 1.5 1.7 3 9.8 21814 808122 40.2 2.2 2.2 2.2 2.0 8.4 8.4 8.4 20.5 21.3 103.3 103.3 7.6 1.5 1.7 3 9.9 9.8 21814 808122 40.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2						Bottom	6.9	0.4	83	24.7	24.7	8.0	8.0	21,8	21.8	102.0	101.9	7.5	7.5	5.1	þ	3		88				<0.2	1.5
IM8 Cloudy Moderate 10:30 8.0 Middle 4.0 0.1 331 24.9 8.4 8.4 20.8 1032 7.6 7.6 2.1 3 3 99 94 821814 808122 40.2 40.2 40.2 40.2 40.2 40.2 40.2 40							1.0	0.1	327	24.9	24.9	8.4		20.8		103.3		7.6	_	1.9		2		89				<0.2	3.2
Indication of the control of the con																			7.6		. F							<0.2	2.2
	IM8	Cloudy	Moderate	10:30	8.0	Middle	4.0	0.1	311	24.9	24.9	8.4	8.4	21.3	21.3	103.3		7.6		1.6	1.7	3	3	94	93	821814	808122	<0.2	2.0
						Bottom					25.4		8.4		20.5				7.7										

during Mid-Flood Tide Water Quality Monitoring Results on 11 April 19 Dissolved Suspended Solids | Total Alkalinity Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) Coordinate Coordinate Monitoring Current Oxygen (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction Value Average Value Average Value Average Value DA DA DA DA Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Value Value (Northing) (Easting) 0.0 348 25.1 <0.2 Surface 25.1 8.4 20.3 103.5 351 25.1 8.4 20.3 103 4 7.6 5.6 3.8 0.0 254 25.3 3.0 93 <0.2 3.3 7.6 102.8 822117 808791 <0.2 IM9 Cloudy Moderate 10:26 Middle 25.3 8.4 20.7 5.0 3 2.4 0.0 263 25.3 8.4 20.7 102.7 7.5 2.7 93 <0.2 3.5 7.6 6.6 0.1 199 25.1 21.3 103.4 6.6 95 <0.2 8.4 21.3 103.4 Bottom 25.1 0.1 210 25.0 8.4 21.3 103.3 7.6 6.7 96 <0.2 19 21.8 1.0 0.5 313 25.3 8.4 103.0 1.9 90 <0.2 2.2 Surface 8.4 102.9 1.0 0.6 344 25.2 8.4 102 7 7.5 2.0 <2 90 <0.2 2.1 3.9 0.5 306 25.0 8,4 22.0 101,6 7.4 10.1 2 91 <0.2 2.0 IM10 Cloudy Moderate 10:17 7.8 Middle 8.4 22.0 101.7 822371 809796 <0.2 9.7 < 0.2 3.9 0.5 328 25.0 8.4 22.0 101.7 7.4 93 2.2 22.7 7.4 6.8 0.3 291 24.7 8.4 101.1 1.8 3 94 <0.2 1.8 Bottom 24.7 8.4 22.7 101.0 7.4 6.8 0.4 305 24.7 8.4 100.9 1.8 95 <0.2 1.8 <2 <2 <0.2 1.0 0.6 292 24.9 8.4 21.3 102.1 7.5 7.9 89 1.8 Surface 24.9 8.4 21.3 102.0 7.8 3.5 3.4 7.5 1.0 0.6 302 24.9 8.4 21.3 101.8 90 1.8 93 92 24.7 24.7 2 2.2 4.3 0.4 287 8.4 23.2 100.1 <0.2 IM11 Cloudy Moderate 10:06 8.6 Middle 24.7 8.4 23.2 100.1 92 822067 811458 <0.2 2.0 4.3 0.4 308 8.4 23.2 7.3 100.0 7.1 7.1 7.1 3 95 < 0.2 2.2 7.6 0.2 269 24.5 8.4 24.9 98.4 Bottom 24.5 8.4 24.9 98.4 7.1 8.4 98.4 95 <0.2 2.1 7.6 0.2 276 24.5 24.9 1.0 0.5 280 25.1 8.4 21.4 21.5 21.5 102.3 1.8 <2 89 <0.2 1.9 25.1 8.4 102.2 Surface 0.6 294 25.0 8.4 102.1 7.5 1.9 <2 90 <0.2 1.9 1.0 7.5 2.0 <2 93 1.8 4.1 0.6 268 24.9 8.4 22.4 101.6 7.4 <0.2 821464 812036 M12 Cloudy Moderate 09:59 8.2 Middle 24.9 8.4 22.4 101.6 93 1.9 < 0.2 4.1 0.6 279 24.9 8.4 7.4 1.9 <2 94 <0.2 22.4 0.3 298 24.9 8.4 100.8 7.3 2.6 95 <0.2 2.2 22.8 Bottom 24.9 8.4 22.8 100.8 7.3 8.4 7.2 0.3 302 24.9 2.6 95 <0.2 2.0 25.0 8.4 21.1 7.6 1,5 <2 25.0 8.4 21.1 103.3 Surface 1.0 7.6 1.5 <2 25.0 7.6 SR1A Cloudy Calm 09:45 4.8 Middle 819982 812660 2.4 7.6 7.6 25.0 1.0 <2 8.4 20.9 103.1 Bottom 25.0 8.4 20.9 103.0 25.0 7.6 312 89 Surface 25.0 22.8 1.0 0.3 320 24.9 7.4 89 <0.2 3.4 7.4 -SR2 Cloudy Moderate 09:31 5.4 Middle 821463 814157 8.4 22.8 101.6 4.4 0.2 256 25.0 7.4 4.7 3 93 <0.2 2.0 7.4 Bottom 4.4 0.2 268 25.1 8.4 7.4 40 9.4 1.0 0.1 270 25.3 8.4 103.9 103.8 1.4 Surface 25.3 8.4 103.9 8.4 1.4 1.0 0.1 291 25.2 20.3 7.6 3 44 0.1 293 25.1 8.4 20.4 103.6 7.6 1.2 -SR3 Cloudy Moderate 10:36 8.8 Middle 25.1 8.4 103.6 822160 807586 3 4.4 0.1 313 25.1 8.4 20.4 1036 7.6 1.1 ----7.8 0.1 64 25.1 8.4 21.0 103.7 7.6 7.6 0.8 3 Bottom 25.1 8.4 21.0 103.7 7.6 0.1 25.1 8.4 0.8 5.8 5.7 7.1 1.0 0.3 248 24.6 8.0 8.0 24.2 101.7 101.8 7.4 Surface 24.6 8.0 24.2 101.8 1.0 0.3 258 24.6 7.4 7.4 256 4.6 0.3 24.6 8.0 24.2 101.4 7.4 4 ---SR4A Fine 09:30 9.1 101.4 817194 807820 Calm Middle 24.6 8.0 24.2 8.0 7.8 3 4.6 0.3 263 24.6 24.2 7.3 8.1 0.2 260 24.6 8.0 8.0 99.6 99.4 7.2 7.2 8.4 4 25.4 7.2 ---24 6 8.0 25.4 99.5 Bottom 25.4 8.6 0.3 278 24.6 1.0 0.2 308 25.0 7.9 24.6 100.5 7.2 4.5 ---25.0 7.9 24.6 100.5 Surface 7.9 24.6 2 322 100.4 7,2 4.9 1.0 0.2 25.0 7.2 ---------SR5A 09:15 3.9 816583 810687 Fine Calm Middle 2.9 0.2 328 25.2 7.9 24.6 99.5 7.1 5.5 25.2 7.9 24.6 99.4 7.1 Bottom 7.9 7.1 2.9 0.2 25.2 0.1 211 24.7 7.9 23.8 7.3 ---Surface 24.7 7.9 23.8 100.4 211 24.7 7.9 23.8 100.4 7.3 4.6 2 1.0 0.1 7.3 SR6 Fine Calm 08:46 4.2 Middle 817889 814676 7.9 23.8 3.2 0.1 219 24.7 100.5 7.3 7.3 4.0 Bottom 7.9 100.5 0.1 225 24.7 7.0 100.5 3.9 1.0 0.1 287 24.7 1.9 Surface 101.7 1.0 0.1 295 24.7 8.3 23.2 101.7 7.4 2.2 <2 -7.4 8,2 0.1 213 24.6 8.3 23.5 101.6 7.4 2,5 2 SR7 Moderate 08:38 16.3 Middle 8.3 23.5 101.6 823633 823732 Cloudy 8.2 0.1 213 24.6 8.3 23.5 101.5 7.4 2.5 15.3 0.2 267 24.4 8.3 25.5 99.0 7.2 1.3 3 Bottom 8.3 25.5 99.0 7,2 15.3 0.2 269 24.4 8.3 1.3 1.0 24.9 8.4 21.5 102.0 7.5 6.1 Surface 24.9 8.4 21.5 102.0 1.0 24.9 8.4 21.5 102.0 7.5 6.3 2 7.5 -. -820380 SR8 Cloudy Calm 09:55 5.3 Middle 3 811606 . . -4.3 24.9 7.4 3.4 3 8.4 21.8 101.4 -25.0 8.4 21.8 101.2 7.4 4.3 25.0

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

Water Quality Monitoring Results on 13 April 19 during Mid-Ebb Tide Suspended Solids Total Alkalinity Coordinate Coordinate DO Saturation Current Speed Dissolved Chromium Weather Sea Sampling Water Water Temperature (°C) На Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Monitoring Oxygen (µg/L) Sampling Depth (m) (mg/L) (ppm) HK Grid HK Grid Direction Value DA DA (Easting) Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Average Value DA Value DA Value (Northing) 16.8 0.1 172 175 22.8 29.0 99.7 83 < 0.2 Surface 22.8 8.1 29.0 99.7 0.1 22.8 8.1 16.8 <2 83 0.8 99.7 <0.2 167 13.5 2 2 2 87 <0.2 0.9 3.9 0.1 22,7 99.3 8.1 29.0 Rough 815627 804255 C1 Cloudy 18:37 7.7 Middle 22.7 8.0 29.0 99.3 13.6 2 <0.2 3.9 0.1 168 22.7 8.0 7.2 13.5 87 <0.2 0.0 188 22.8 8.0 28.9 7.3 10.6 91 <0.2 1.0 Bottom 22.8 8.0 28.9 99.8 7.3 6.7 0.0 195 22.8 8.0 99.7 10.6 91 <0.2 1.0 1.0 152 84 Surface 3 0.3 155 23.8 8.4 22.4 100 1 74 5.8 2.2 84 <0.2 2.0 <2 87 86 6.1 0.2 128 23.8 8.4 22.3 100.4 7.5 <0.2 2.0 C2 Cloudy Rough 17:35 12.1 Middle 8.4 22.3 100.4 86 825672 806951 2.0 2.3 1.3 1.1 6.1 0.2 129 23.8 8.4 22.3 100.4 7.5 <0.2 2.0 11.1 0.0 210 23.8 8.4 8.4 22.3 100.9 7.5 5 88 <0.2 2.0 8.4 22.3 101.1 7.5 Bottom 23.8 0.0 216 88 1.0 0.4 71 23.3 85 <0.2 1.2 8.5 7.4 8.1 2 Surface 23.3 8.5 27.8 27.7 101.1 1.0 0.4 23.3 8.5 101. 7.4 8.1 5.2 2 85 <0.2 0.9 0.4 83 23.1 8.5 87 <0.2 0.9 28.3 817821 СЗ Cloudy Rough 19:48 11.8 Middle 23.1 8.5 28.4 101.4 4.8 87 822113 5.9 0.4 93 23.1 8.5 28.4 101. 5.4 86 <0.2 0.8 10.8 0.4 105 23.1 8.5 0.9 2 89 <0.2 0.9 7.4 Bottom 8.5 28.4 101.8 7.4 10.8 0.4 120 23.2 28.4 101.8 0.9 88 <0.2 0.9 1.0 0.2 248 22.9 8.1 29.0 99.5 7.2 12.7 <2 83 <0.2 0.8 Surface 22.9 8.1 29.0 99.5 <2 1.0 0.2 220 22.9 8.1 29.0 99.5 7.2 12.8 83 <0.2 1.0 7.2 -18:15 817936 807150 0.9 IM1 Cloudy Rough 5.2 Middle <2 86 <0.2 4.2 0.2 229 22.9 8.0 28.9 99.4 7.2 7.2 9.9 <2 88 0.8 22.9 8.0 28.9 99.4 7.2 Bottom 22.9 <2 <0.2 0.2 219 23.0 8.1 28.9 101.2 7.4 83 <0.2 Surface 23.0 8.1 28.9 101.2 2 2 2 1.0 0.3 222 23.0 8.1 28.9 101. 7.4 7.2 83 <0.2 0.8 3.9 0.2 249 22.9 100.9 12.1 88 <0.2 0.7 Cloudy Rough 18:08 7.8 Middle 8.1 100.9 818176 806176 0.8 3.9 0.2 221 22.9 8.1 100 12.1 88 <0.2 0.6 6.8 0.2 212 22.9 8.0 28.9 101. 7.4 10.1 3 91 <0.2 0.8 Bottom 8.0 101.1 7.4 230 22.9 228 22.9 228 22.9 215 22.8 8.0 101 74 6.8 0.2 28.9 10.1 92 <0.2 0.8 0.3 9.2 84 0.7 1.0 8.1 8.1 28.8 28.8 4 100.7 7.3 7.3 <0.2 Surface 22.9 8.1 28.8 100.7 100.7 9.3 84 <0.2 0.4 4 7.3 4 88 <0.2 0.7 0.3 8.1 8.0 7.3 7.3 100.2 3.9 29.1 805607 0.7 IM3 Cloudy Rough 18:01 7.7 Middle 22.8 8.0 29.1 100.2 11.5 818802 < 0.2 0.3 223 22.8 100.2 10.7 229 22.9 91 <0.2 0.8 6.7 0.2 8.0 29.0 100.4 7.3 14.6 3 Bottom 22.9 8.0 29.0 100.4 7.3 6.7 22.9 8.0 29.0 100.4 7.3 14.6 92 <0.2 0.8 1.0 0.7 213 22.7 8.1 28.5 99.4 7.3 14.9 3 84 <0.2 0.7 Surface 8.1 28.5 99.3 1.0 0.7 242 22.7 8.1 28.5 99.2 7.3 15.0 3 84 <0.2 0.8 7.3 22.9 22.9 0.9 3.8 0.4 202 8.1 28.4 99.5 7.3 6.1 3 88 <0.2 IM4 Cloudy Rough 17:51 7.5 Middle 8.1 28.5 99.5 9.9 819733 804606 0.9 221 8.1 4 <0.2 3.8 0.4 28.5 99 4 8.7 8.7 1.0 6.5 0.3 212 22.9 8.0 28,4 99.8 7.3 3 91 92 <0.2 Bottom 22.9 8.0 28.4 100.0 7.3 6.5 0.3 226 22.9 229 23.2 8.0 28.4 100.1 3 <0.2 1.0 0.3 8.0 26.4 99.3 7.3 12.0 3 83 <0.2 1.1 Surface 23.2 8.0 26.4 99.3 0.3 210 23.2 8.0 26.4 99.3 7.3 12.0 3 83 <0.2 0.9 1,0 7.3 4.2 0.3 232 23.1 7.3 12.0 3 87 87 <0.2 1.0 8.0 26.5 Rough 17:43 8.4 Middle 99.1 820721 804866 IM5 Cloudy 23.1 8.0 26.5 0.3 233 23.1 12.0 <0.2 7.4 0.1 206 23,1 8.0 27.0 99.5 14.1 4 91 <0.2 7.3 Bottom 27.0 99.6 7.4 0.1 192 23.1 99.6 14.2 4 92 < 0.2 1.0 1.0 0.5 189 23.2 8.0 25.8 99.1 7.3 7.3 16.3 5 84 <0.2 1.2 Surface 8.0 25.8 99.1 84 0.5 199 23.2 8.0 25.8 99.0 16.2 4 <0.2 1.1 4.3 0.4 183 23.3 8.0 25.7 99.3 7.3 16.6 3 87 88 <0.2 1.3 17:37 99.4 821059 805844 12 IM6 Cloudy Rough 8.6 Middle 23,3 8.0 25,7 16 1 88 < 0.2 180 23.3 4.3 0.4 8.0 25.7 99.4 7.3 17.0 <0.2 7.6 0.2 183 23.1 8.0 25.9 26.0 100.1 7.4 15.2 4 91 <0.2 1.4 25.9 100.2 74 Bottom 8.0 23.1 8.0 15.2 91 199 3 <0.2 1.2 0.2 23.0 0.4 154 23.5 8.0 25.5 25.5 7.3 7.4 7.2 83 <0.2 1.5 1.0 98.7 98.7 7.2 7.3 Surface 23.5 8.0 25.5 98.7 0.4 158 23.5 3 83 <0.2 4.2 0.2 174 23.5 4 88 <0.2 1.2 8.0 M7 17:30 8.3 8.0 25.5 98.7 821340 806839 Cloudy Rough Middle 4.2 181 23.5 8.0 25.5 98.7 7.3 7.2 3 88 <0.2 1,1 7.3 0.1 200 23.4 8.0 25.7 98.8 9.9 4 91 <0.2 1.1 Bottom 8.0 25.7 98.8 7.3 0.1 209 23.4 8.0 25.7 98.8 7.3 9.9 4 91 <0.2 1.0 1.9 1.9 3.2 3.2 1.5 23.6 23.6 1.0 1.0 0.4 160 8.4 24.8 7.4 2 84 85 <0.2 Surface 23.6 8.4 24.8 101.0 1.0 0.4 166 8.4 24.8 <0.2 7.4 2 2 2 <0.2 2.1 1.9 0,2 164 23,5 100.8 7,4 88 3.6 8,4 24.8 IM8 Cloudy Rough 18:13 72 Middle 23.5 8.4 24.8 100.8 2.2 2 821850 808125 < 0.2 17 87 174 23.5 136 23.4 24.8 7.4 88 3.6 0.2 8.4 100.8 0.1 8.4 7.5 89 <0.2 1.9 25.0 101.5 23.4 8.4 25.0 101.5 7.5 Bottom 137 23.3

DA: Depth-Averaged

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring Water Quality Monitoring Results on 13 April 19 during Mid-Ebb Tide Suspended Solids | Total Alkalinity | Coordinate | Coordinate Current Speed DO Saturation Dissolved Chromium Weather Sampling Water Water Temperature (°C) На Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Monitoring Oxygen (µg/L) Sampling Depth (m) HK Grid HK Grid Direction Value DA DA (Easting) Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Average Value DA Value DA Value (Northing) 0.4 181 23.5 24.9 100.€ 7.4 < 0.2 23.5 8.5 24.9 100.7 Surface 0.4 185 23.5 8.5 7.4 5.4 85 0.8 24.9 100.7 <0.2 166 9.2 4 87 <0.2 0.8 3.4 0.3 23.5 101. 7.4 8.4 25.0 808799 IM9 Cloudy Rough 18:23 6.8 Middle 23.5 8.4 25.0 101.0 5.6 3 822095 <0.2 3 3.4 0.3 181 23.5 8.4 7.4 9.2 86 <0.2 0.1 126 23.3 8.5 25.3 7.5 1.8 89 <0.2 0.8 Bottom 23.3 8.5 25.3 101.0 7.5 5.8 0.1 137 23.2 1.9 90 <0.2 8.0 1.0 0.4 Surface 1.0 0.4 118 23.3 8.4 25.0 100 74 7.7 4 83 <0.2 1.1 5.8 3.7 0.2 105 23.3 8.4 25.3 100.7 7.4 3 87 <0.2 0.9 IM10 Cloudy Rough 18:35 7.3 Middle 8.4 25.3 100.7 6.8 822391 809812 3.7 0.2 106 23.3 8.4 25.3 100.6 7.4 5.8 3 86 < 0.2 6.8 6.3 0.2 168 23.3 8.4 8.4 25.4 25.5 100.9 7.4 3 90 88 <0.2 1.0 7.4 Bottom 23.3 8.4 25.4 100.9 170 129 23.4 0.3 7.1 84 1.7 1.0 8.4 7.3 <2 <0.2 Surface 23.5 8.4 25.6 25.6 99.7 1.0 0.3 123 23.5 8.4 25.6 7.3 7.1 <2 85 <0.2 1.8 0.2 127 23.3 <2 89 88 <0.2 2.0 8.4 26.1 IM11 Cloudy Rough 18:51 7.4 Middle 23.2 8.4 26.2 102.1 822075 811450 3.7 0.2 127 23.1 8.4 26.2 4.2 <2 <0.2 6.4 133 23.1 8.4 2.1 3 87 <0.2 1.7 Bottom 8.4 25.8 101.3 7.5 23.1 64 0.3 138 23.1 25.8 101 4 88 <0.2 1.8 1.0 0.4 130 23.4 8.4 26.0 99.5 7.3 6.8 4 85 <0.2 1.7 Surface 23.4 8.4 26.0 99.6 3 2 3 1.6 1.9 1.7 141 23.4 6.8 5.0 1.0 0.4 8.4 26.0 99.6 7.3 84 < 0.2 87 3.8 0.1 147 8.4 26.1 99.8 7.3 <0.2 821470 19:03 812031 IM12 Cloudy Rough 7.6 Middle 23.3 8.4 26.2 99.8 3 87 5.0 88 0,1 152 23.2 7,3 3.8 8.4 26,2 99.8 1.3 6.6 0.0 166 23.2 8.5 100. 2 89 <0.2 1.8 26.7 7.3 8.5 100.2 7.4 Bottom 23.2 26.7 23.2 0.0 23.2 8.4 26.2 99.2 9.9 Surface 23.2 8.4 26.2 99.2 1.0 8.4 99.2 7.3 9.9 4 23.2 26.2 7.3 2.4 SR1A Cloudy Rough 19:18 4.8 Middle 819978 812665 2.4 3.8 23.2 8.4 26.6 99.8 7.3 1.4 2 Bottom 23.2 8.4 26.6 100.0 7.3 23.2 8.4 100.1 15 3.8 26.6 22.8 22.9 122 2.1 1.0 25.2 25.1 7.2 85 8.4 < 0.2 Surface 22.9 8.4 25.1 97.2 130 8.4 97.2 3 85 1.6 1.0 0.3 <0.2 72 ----814167 -SR2 Cloudy Rough 19:18 4.6 Middle 1.6 821476 < 0.2 1.6 3.6 164 1.2 87 <0.2 1.6 23.2 2 Bottom 23.2 8.4 26.7 98.4 7.2 3.6 177 8.4 26.7 98.4 7.2 1,1 88 <0.2 1.6 0.3 161 23.4 8.5 24.2 101.4 3.6 Surface 8.5 24.2 101.4 1.0 0.3 172 23.4 8.5 24.2 101.4 7.5 3.6 2 2 4.1 0.2 161 23.4 8.5 101 7.5 3.1 SR3 Cloudy Rough 18:05 8.1 Middle 8.5 24.4 101.5 2.6 822167 807563 174 23.4 8.5 41 0.2 24.4 101 1.0 7,1 0,2 207 23.4 8.5 24.2 101 5 7.5 3 Bottom 23.4 8.5 24.2 101.6 7.5 192 7.1 0.2 23.4 8.5 24.2 2 131 1.0 0.1 22.9 8.1 29.0 99.7 13.3 4 Surface 22.9 8.1 29.0 99.7 0.1 146 22.9 8.1 29.0 99.7 7.3 13.3 3 1,0 -7.3 4.3 7.3 17.8 3 -0.1 22.9 8.1 Rough 18:55 8.6 Middle 99.8 817169 807819 SR4A Cloudy 22.9 8.1 29.0 22.9 17.8 7.6 0.2 22.9 8.1 100.5 17.8 4 7.3 Bottom 8.0 29.0 100.5 22.9 100. 17.8 1.0 0.0 131 23.0 8.1 26.7 98.2 7.2 12.6 3 Surface 23.0 8.0 26.7 98.2 1.0 0.0 125 23.0 8.0 26.7 98.2 7.2 12.7 3 72 810718 SR5A Cloudy Rough 19:14 4.7 Middle 14 2 816571 3.7 0.1 150 23.1 8.0 8.0 26.9 26.9 98.1 15.7 15.7 4 -98.2 72 Bottom 26.9 23.1 98.2 158 0.2 23.1

8.0 8.0

8.0

8.0

8.4 8.4

8.5

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8.5

8.4

8.4 8.4

22.8

23.1

23.3

23.2

23.2

23.4

23.4

27.4

26.9

26.9

29.2

29,5

29.5

29.5

26.1

29.1

27.4

26.9

29.1

29.5

29.5

26.1

26.1

97.5

94.6

94.7

98.1

98.2

100,0

100.

99.2

99.3

100.4

8.0

8.0

8.4

8.5

8.5

8.4

8.4 26.1

8.8

8.8

11.0

11.0

3.3

2.0

5.6

5.6

7.3

3

4

4

3

3

3

3

6

6

29

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817921

823614

820372

814672

823737

811629

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-

-

7.2

6.9

6.9

7.1

7.2

7.2

6.9

7.2 3.6 3.6 2.0

7.2

7.3

97.5

94.7

98.2

100.0

100.5

99.2

99.3

0.1

0.1

0.0

0.0

0.1

0.1

0,2

0.2

0.1

0.1

1.0

3.3

3.3

1.0

8.2

8.2

15.4

15.4

1.0

1.0

4.2

Surface

Middle

Bottom

Surface

Middle

Bottom

Surface

Middle

Bottom

126 22.8

140

136

138

307

325

87

198

200 23,2

22.7

23.1

23.1

23.3

23.2

23.2

23.4

23.4

23.4

23.2

DA: Depth-Averaged

SR7

SR8

Cloudy

Cloudy

Cloudy

Rough

Rough

Rough

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

19:35

20:25

19:03

4.3

16.4

5.2

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

Water Quality Monitoring Results on 13 April 19 during Mid-Flood Tide Suspended Solids | Total Alkalinity | Coordinate | Coordinate Current Speed DO Saturation Dissolved Chromium Weather Sampling Water Water Temperature (°C) На Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Monitoring Oxygen (µg/L) Sampling Depth (m) HK Grid HK Grid Direction Value DA Value DA (Easting) Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Average Value DA Value DA (Northing) 0.1 22.9 29.2 99.1 7.2 11.6 1.0 330 84 <0.2 1.9 22.9 8.1 29.1 99.1 Surface 84 1.0 0.1 0 22.9 8.1 29.1 99.0 7.2 11.6 3 < 0.2 1.9 4.5 0.1 21 22.9 8.1 29.1 98.9 7.2 11.6 3 88 <0.2 1.9 C1 Cloudy Rough 05:57 8.9 Middle 22.9 8.1 29.1 98.9 12 7 815613 804256 < 0.2 2.0 4.5 0.1 22 22.9 8.1 29.1 98.8 7.2 11.7 4 88 <0.2 2.1 7.9 0.1 26 23.0 8.0 29.2 98.6 7.2 14.9 3 91 <0.2 2.1 Bottom 23.0 8.0 29.1 98.5 7.2 7.9 0.1 23.0 8.0 29.1 98.3 7.1 14.9 91 < 0.2 2.1 231 23.8 236 23.8 8.4 8.4 2.1 1.0 0.3 22.9 100.2 7.4 4.7 6 85 <0.2 Surface 23.8 8.4 22.9 100.2 4.8 84 0.3 22.9 100.2 7.4 5 <0.2 1.0 2.0 6.1 0.2 220 23.9 8.4 22.9 100,0 7.4 4 87 <0.2 2.2 8.4 825671 806940 C2 Cloudy 07:11 12 2 Middle 24.0 22.9 100.0 2.0 Rough 26 87 < 0.2 1.9 87 <0.2 1.9 235 24.0 8.4 7.4 4 6.1 0.2 22.9 100. 4 87 2.2 11.2 0.1 24.3 8.4 22.8 100.2 7.4 <0.2 24.4 8.4 22.8 100.2 7.4 Bottom 11,2 0.1 56 24.4 8.4 100.2 1.3 89 2.0 1.0 0.3 336 23.5 8.4 5.8 83 <0.2 Surface 8.4 27.7 98.7 0.3 359 23.5 8.4 98.7 5.8 4 84 <0.2 1.6 5.7 0.0 243 23.5 8.4 98.7 2.1 4 86 85 <0.2 1.5 СЗ Cloudy Moderate 05:35 11.3 Middle 98.7 86 822094 817822 2.1 1.4 5.7 0.0 252 23.5 8.4 27.8 98.6 7.1 3 < 0.2 8.4 8.4 5.0 3 1.6 10.3 0.1 114 23.5 28.1 98.6 98.6 7.1 88 <0.2 Bottom 23.5 8.4 28.1 98.6 7.1 88 10.3 0.1 114 23.5 22 22.8 83 1.0 0.1 7.2 7.2 7.1 < 0.2 1.0 8.1 29.3 99.6 4 22.8 Surface 8.1 29.3 99.6 8.1 29.3 7.1 83 <0.2 1.0 0.1 22 22.8 99.6 3 0.8 7.2 06:35 4.6 ------817928 807124 --0.9 IM1 Cloudy Rough Middle 86 22.8 8.1 7.2 89 <0.2 0.8 3.6 Bottom 22.8 8.1 29.3 99.4 7.2 0.1 22.8 29.3 99.4 89 <0.2 1.0 0.1 308 23.0 9.4 4 84 <0.2 1.0 Surface 23.0 8.1 29.1 100.8 1.0 0.1 326 23.0 22.9 8.1 29.1 100 7 7.3 9.4 8.2 4 84 <0.2 0.8 7.3 88 87 4 <0.2 <0.2 0.8 41 0.1 350 8.1 29.2 100.5 7.3 IM2 Cloudy Rough 06:40 8.2 Middle 22.9 8.1 29,2 100.5 10.3 87 818151 806181 <0.2 0.8 0.1 354 22.9 8.1 29.2 7.3 8.2 3 4 1 100.5 22.9 22.8 8.1 13.1 4 87 < 0.2 0.1 61 29.2 100.3 7.3 0.8 Bottom 22.9 8.1 29.2 100.2 7.3 0.1 66 8.1 29.2 100.1 13.2 91 <0.2 0.7 1.0 295 23.0 83 <0.2 0.8 29,2 3 8.1 Surface 23.0 8.1 29.2 100.7 1.0 0.2 305 23.0 8.1 29.2 7.8 84 <0.2 0.8 3 3 4.2 310 8.1 100.5 12.9 85 <0.2 0.7 818776 Cloudy 06:45 8.3 Middle 100.5 805609 Rough 23.0 8.1 29.1 4.2 0.2 311 22.9 29.1 100. 12.9 85 <0.2 7.3 0.1 323 22.9 100.2 8.1 5 91 <0.2 0.9 Bottom 100.3 7.3 29,1 0.1 347 22.9 8.0 29.1 100 8.1 4 91 <0.2 0.9 1.0 0.3 305 22.8 8.1 28.8 99.7 10.8 4 84 <0.2 0.8 Surface 8.1 28.9 99.7 84 0.3 333 22.8 8.1 28.9 99.6 7.3 10.8 4 <0.2 1.0 7.3 4.2 0.3 311 22.8 22.8 8.1 8.1 28.9 28.9 99.5 99.5 7.2 6.8 4 5 87 88 <0.2 <0.2 1.0 99.5 819727 804609 IM4 Cloudy Rough 06:54 8.4 Middle 22.8 8.1 28.9 8.4 < 0.2 0.3 311 4.2 7.4 0.1 335 22.8 8.1 28.9 7.2 7.2 7.6 3 91 <0.2 1.0 99.4 8.1 28.9 99.4 7.2 Bottom 22.8 28.9 91 <0.2 0.1 22.8 1.0 0.1 308 23.1 8.1 7.2 7.2 7.6 83 <0.2 1.4 26.9 Surface 23.1 8.1 26.9 98.7 1.0 0.1 311 23.1 8.1 26.9 98.7 7.6 84 <0.2 1.3 4.0 339 23.0 8.1 8.1 98.6 7.2 7.2 9.1 3 88 89 <0.2 1.6 IM5 07:01 Middle 8.1 27.6 98.6 820725 804865 Cloudy Rough 8.0 4.0 0.1 355 23.0 27.6 98.5 9.1 3 <0.2 7.0 0.1 316 22,9 8.1 28,4 98.3 7,2 8,1 3 91 <0.2 1,4 Bottom 8.1 28.4 98.3 7.2 7.2 91 0.1 322 22.9 8.1 28.4 98.3 8.1 4 < 0.2 1.2 1.0 0.3 83 1.5 1.5 283 23.4 8.1 25.7 99.1 7.3 10.7 3 <0.2 Surface 23.4 8,1 25.7 99.3 25.8 7.3 83 8.1 99.4 10.8 3 <0.2 1.0 0.4 283 23.4 7.3 17.0 89 89 0.2 319 23.2 330 23.1 4 <0.2 1.6 1.6 3.8 8.1 25.9 99.4 IM6 Cloudy Rough 07:08 7.5 Middle 23.2 8.1 26.0 99.4 821071 805840 88 8.1 <0.2 3.8 0.2 17.0 2 91 <0.2 1.7 6.5 0.1 83 22,7 8.1 27.9 98.4 7.2 8.3 Bottom 22.7 8.1 27.9 98.5 7.2 6.5 0.1 22.7 98.5 8.2 91 1.4 243 98.4 84 8.0 1.6 Surface 8.0 25.7 1.0 0.5 249 23.4 8.0 25.7 98.4 7.4 4 84 <0.2 1.4 7.2 3.6 0.3 231 23.4 8.0 25.7 98.6 7.2 9.6 <2 88 <0.2 1.4 M7 Cloudy Rough 07:18 7.2 Middle 23.4 8.0 25.7 98.6 10,5 821331 806821 < 0.2 23.4 23.3 <2 <0.2 1.5 3.6 0.3 248 8.0 25.7 98.6 7.2 9.6 88 92 0.2 342 8.0 8.0 14.4 1.5 6.2 25.8 99.2 7.3 Bottom 23.3 8.0 25.8 99.3 7.3 92 0.2 25.8 99.3 14.3 <2 1.5 6.2 315 23.3 < 0.2 234 1.5 1.5 1.0 0.3 23.8 8.4 8.4 25.0 25.0 100.0 7.3 3 85 <0.2 2.1 1.9 Surface 23.8 8.4 25.0 100.0 0.3 242 99.9 84 <0.2 23.8 7.3 261 23.8 7.3 1.3 3 87 1.9 3.8 0.2 8.4 25.0 100.0 <0.2 06:45 7.6 Middle 23.8 8.4 25.0 100.1 1.3 821847 808122 <0.2 2.0 IM8 Cloudy Rough 281 8.4 25.0 100.1 7.3 1.3 2 86 <0.2 3.8 23.8 0.1 308 23.8 8.4 89 <0.2 2.0 8.4 24.9 101.4 7.4 0.1 310 23.8 8.4 24.9 90 DA: Depth-Averaged

Water Quality Monitoring Results on 13 April 19 during Mid-Flood Tide Suspended Solids | Total Alkalinity | Coordinate | Coordinate Current Speed DO Saturation Dissolved Chromium Nickel (µg/L) Weather Sampling Water Water Temperature (°C) На Salinity (ppt) Turbidity(NTU) Monitoring Oxygen (µg/L) Sampling Depth (m) HK Grid HK Grid Direction Value DA Value DA (Easting) Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Average Value DA Value DA (Northing) 0.3 23.9 24.8 100.8 265 7.4 85 < 0.2 23.9 8.4 24.8 100.8 Surface 281 8.2 84 1.5 0.3 24.8 7.4 <0.2 23.9 8.4 253 3.8 3 87 <0.2 0.3 23.8 100.6 7.4 1.6 8.4 24.9 822117 808797 IM9 Cloudy Rough 06:39 7.3 Middle 23.8 8.4 24.9 100.6 5.0 <0.2 3.8 3.7 0.3 267 23.8 8.4 5 88 <0.2 1.8 6.3 0.2 244 23.8 8.5 24.9 7.4 4 89 <0.2 1.6 Bottom 23.8 8.5 24.9 101.0 7.4 0.2 249 23.8 2.8 88 <0.2 1.4 Surface 5.7 3.7 1.0 0.3 271 23.8 8.5 24.8 101 74 4 85 <0.2 1.5 3.7 0.3 254 23.9 8.5 24.8 101.2 7.4 3 87 <0.2 1.8 1.6 IM10 Cloudy Rough 06:32 7.4 Middle 8.5 24.8 101.2 3.8 87 822395 809782 15 3.7 0.3 267 23.9 8.5 24.8 101. 7.4 3.7 3 86 < 0.2 1.8 6.4 0.2 261 24.1 8.5 8.5 24.8 24.7 100.4 7.3 3 89 <0.2 1.4 100.4 7.3 Bottom 24.2 8.5 24.7 286 24.2 100.4 6.4 0.2 233 23.8 85 1.6 1.0 8.4 25.1 25.1 7.3 3.2 6 <0.2 Surface 23.8 8.4 25.1 99.6 1.0 0.2 238 23.8 8.4 99.6 7.3 3.1 85 <0.2 1.4 3.8 0.1 254 23.8 6 87 <0.2 1.5 8.4 25.1 IM11 Cloudy Rough 06:21 7.5 Middle 23.8 8.4 25.1 99.7 3.2 822040 811467 <0.2 0.1 264 23.8 8.4 25.1 99.7 3.4 86 <0.2 1.4 6.5 244 24.0 8.4 3.1 91 <0.2 1.6 Bottom 8.4 25.1 100.2 7.3 6.5 0.1 258 24.0 25.1 100.3 4 89 <0.2 16 1.0 0.1 206 23.7 8.4 25.9 99.9 7.3 4.7 84 <0.2 1.4 Surface 23.7 8.4 25.9 99.9 224 154 23.7 4.5 83 87 1.0 0.1 8.4 25.9 99.9 7.3 4 < 0.2 1.6 0.1 4.2 8.4 100.0 7.3 5 <0.2 1.4 821481 06:13 812043 IM12 Cloudy Rough 8.3 Middle 23.7 8.4 25.2 100.0 4.0 87 4.1 88 155 23.7 7,3 4 4.2 0.1 8.4 25,2 99.9 7.3 0.0 58 23.7 99.9 3.3 4 90 <0.2 1.4 8.4 25.2 7.3 8.4 7.3 Bottom 23.7 25.2 99.9 23.7 0.0 63 23.2 8.4 26.6 100.7 7.4 Surface 23.2 26.6 100.7 8.4 1.0 8.4 100.6 7.4 1.9 3 23.1 26.6 2.4 SR1A Cloudy Rough 06:00 4.7 Middle 819979 812660 2.4 3.7 23.6 8.4 26.3 7.3 4.1 <2 Bottom 23.6 8.4 26.3 99.8 7.3 23.6 8.4 99.8 3.7 26.3 41 298 23.5 23.5 1.2 1.0 26.4 26.4 87 1.5 8.4 7.3 7.3 < 0.2 Surface 23.5 8.4 26.4 100.0 8.4 3 85 1.2 1.0 0.1 322 100.0 <0.2 7.3 ---814147 SR2 Cloudy Moderate 06:00 4.5 Middle 0.9 821482 < 0.2 1.3 7.4 7.5 3.5 23.4 88 <0.2 1.4 3 Bottom 23.4 8.4 26.6 101.8 104 8.4 26.7 101.9 7.5 0.7 89 <0.2 1,2 0.4 234 23.8 8.4 100.6 Surface 8.4 24.7 100.6 1.0 0.4 239 23.8 8.4 24.7 100.6 7.4 6.8 3 <2 4.2 0.3 237 23.8 8.4 100.8 7.4 1.6 SR3 Cloudy Rough 06:51 8.3 Middle 8.4 24.7 100.8 3.2 822154 807584 23.8 8.4 24.7 74 42 0.4 238 100.8 1.5 1.5 <2 7,3 0.1 330 23.8 8.4 24.7 100.9 7.4 Bottom 23.8 8.4 24.7 101.0 7.4 7.3 0.1 334 23.7 8.4 24.7 7.4 <2 184 1.0 0.1 23.1 8.1 29.0 99.1 8.8 Surface 23.2 8.1 29.0 99.1 0.1 191 23,2 8.1 29.0 99.1 7.2 8.8 2 1,0 -7.2 4.8 7.9 7.9 3 0.0 23.2 28.5 Rough 05:37 9.6 Middle 817183 807811 SR4A Cloudy 23.2 8.1 28.5 99.2 0.0 23.2 8.6 0.1 23.2 8.1 28.5 9.1 3 7.2 Bottom 8.1 99.1 64 23.2 99.1 9.1 1.0 0.1 8 23.4 8.0 25.9 96.4 7.1 8.1 2 Surface 23.4 8.0 1.0 0.1 23.4 8.0 25.9 96.4 7.1 8.1 SR5A Cloudy Rough 05:20 3,6 Middle 816579 810693 2.6 0.1 294 23.4 8.0 8.0 26.3 26.3 96.5 7.3 7.3 2 -7.1 Bottom 26.3 96.6 23.4 295 2.6 0.1 23.4 213 23.2 7.7 9.4 1.0 0,1 93.5 6.9 Surface 23.2 7.7 25.2 93.5 224 23.2 25.2 93.5 6.9 0.1 -04:53 3.2 Middle 817912 814670 SR6 Cloudy Rough 0.1 238 23.2 25.5 93.8 6.9 8.5 Bottom 23.2 7.6 25.5 93.9 6.9 0.1 257 23.2 7.6 25.5 93.9 6.9 8.6 0.2 23.2 8.3 8.3 0.7 247 28.9 96.8 7.0 Surface 23.2 8.3 28.9 96.8 1.0 249 28.9 96.8 4 -7.0 1.0 1.0 1.5 2 2 3 8.3 0,3 253 7.0 23.2 8,3 28.9 96.5 --SR7 Cloudy Moderate 05:01 16.5 Middle 23.2 8.3 28.9 96.5 823636 823740 257 23.2 8.3 7.0 8.3 0.3 28.9 96.5 15.5 0.1 23.2 8.3 96.2 7.0 29.1 8.3 7.0 Bottom 23.2 29.1 96.2 15,5 0.1 251 23.2 8.3 29.1 7.0 1.5 1.0 23.7 8.4 Surface 23.7 8.4 25.4 100.7 1.0 23.7 100.8 1.6 4 SR8 Cloudy Rough 06:13 5.0 Middle 820394 811604 1.2 2 23.7 8.4 8.4 8.4 25.2 4.0 101.9 Bottom 23.7 25.3 101.9 7.5

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

during Mid-Ebb Tide Water Quality Monitoring Results on 16 April 19 Dissolved Suspended Solids | Total Alkalinity Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) Coordinate Coordinate Monitoring Speed Current Oxygen (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction Value Average Value Average Value Average Value DA Value DA DA DA Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Value (Northing) (Easting) 0.3 236 23.4 84 <0.2 Surface 23.4 8.2 28.2 90.8 0.3 255 23.4 8.2 28.2 90.8 6.6 11.4 4.6 0.4 185 23.5 6.5 5.8 88 <0.2 1.9 C1 11:23 9.2 29.4 90.2 815640 804227 <0.2 Rainy Rough Middle 23.5 8.2 9.3 5 4.6 0.4 193 23.5 8.2 29.4 90.2 6.5 5.8 4 89 <0.2 1.2 8.2 0.1 252 23.5 29.6 93.6 6.7 10.8 91 <0.2 8.2 29.6 93.6 6.7 Bottom 23.5 0.1 261 23.5 8.2 29.6 93.6 6.7 10.8 91 <0.2 1.2 21.0 1.0 0.6 181 22.9 7.9 93.0 7.1 3.0 2 88 <0.2 2.7 Surface 7.9 93.0 1.0 0.7 189 22.9 7.9 93.0 7.1 3.3 89 <0.2 2.8 4.5 0.3 163 23.0 7.9 7.9 23,1 94.5 7.1 4.0 5 92 <0.2 2.6 C2 Rainy Rough 12:49 8.9 Middle 7.9 23.1 94.9 825663 806967 <0.2 4 92 <0.2 4.5 0.3 165 23.0 23.1 95.2 7.2 4.2 2.6 7.8 7.8 95.0 95.1 7.1 7.1 7.9 0.0 152 159 23.0 23.5 8.6 5 94 <0.2 2.5 Bottom 7.8 23.5 95.1 23.5 8.6 7.9 0.0 23.0 94 <0.2 2.5 7.9 7.9 2 <0.2 <0.2 1.0 0.5 22.6 28.5 95.6 7.0 4.1 88 1.1 Surface 22.6 7.9 28.5 95.7 7.0 4.1 8.7 8.7 89 1.2 1.0 0.6 77 22.5 28.6 95.8 7.0 93 93 3 1.4 6.7 0.4 85 22.5 7.8 7.8 28.5 95.2 7.0 <0.2 C3 Rainy Rough 10:48 13.3 Middle 22.5 7.8 28.5 95.3 92 822116 817798 <0.2 1.3 0.4 91 22.5 28.5 95.4 7.0 1.2 94 < 0.2 1.4 0.4 91 22.6 7.7 29.4 92.6 6.8 6.8 Bottom 226 7.7 29.4 92.7 12.3 94 <0.2 1.3 0.4 99 22.6 29.4 92.8 6.8 165 1.0 0.4 23.4 8.1 28.1 94.4 6.8 9.9 83 <0.2 1.2 Surface 23.4 8.1 28.1 94.4 167 23.4 8.1 28.1 84 <0.2 1.2 1.0 94.4 6.8 9.9 4 0.4 6.8 -- | -------817972 807151 IM1 Rough 11:48 5.4 Middle 88 1.3 Rainv < 0.2 -4.4 0.2 247 23.3 8.1 28.2 97.7 97.7 7.1 9.5 5 <0.2 1.3 Bottom 23.3 8.1 28.2 97.7 7.1 7.1 9.5 <0.2 4.4 0.2 253 23.3 184 23.5 8.1 8.1 83 <0.2 <0.2 1.3 0.3 29.7 29.7 90.4 90.5 6.5 8.6 23.5 8.1 29.7 90.5 Surface 1.0 0.3 23.5 6.5 8.6 84 196 6.5 161 8.4 88 <0.2 <0.2 1.3 0.2 23.5 8.1 29.8 6.5 90.6 818163 IM2 Rainv Rough 11:54 7.6 Middle 23.5 8.1 29.8 90.7 806179 <0.2 3.8 0.2 170 23.5 8.1 8.4 90 6.5 0.1 23.5 <0.2 1.3 8.1 29.8 90.9 9.2 Bottom 23.5 8.1 29.8 90.9 6.6 0.1 178 23.5 8.1 92 <0.2 1.3 235 90.4 90.4 <0.2 23.5 29.5 Surface 8.1 29.5 90.4 1.0 0.4 236 23.5 8.1 29.5 6.5 11.0 11 84 <0.2 1.2 6.5 1.2 3.7 0.3 227 23.5 8.1 29.5 90.3 6.5 11.1 11 88 <0.2 IM3 Rainy Rough 12:02 7.4 Middle 29.5 90.3 818780 805579 3.7 0.3 240 23.5 8 1 29.6 6.5 11.5 10 89 <0.2 90.3 6.5 6.5 6.4 0.1 190 23.5 8.1 29.6 11.9 11 91 <0.2 1.2 90.3 Bottom 6.4 0.1 200 23.5 8.1 20.6 12.4 10 92 < 0.2 13 1.0 0.7 183 23.5 8.1 29.4 90.8 6.5 10.6 84 <0.2 <0.2 1.3 Surface 23.5 8.1 29.5 90.9 91.0 85 1.0 0.8 186 23.5 29.5 6.5 10.7 3 6.5 182 10.7 88 89 1.3 3.8 0.6 23.5 8.1 29.5 91.0 6.5 4 <0.2 IM4 Rainy Rough 12:14 7.6 Middle 23.5 8.1 29.5 90.9 10.8 89 819719 804609 <0.2 1.3 8.1 90.8 10.8 4 3.8 0.7 187 23.5 29.5 6.5 6.6 0.4 165 23.5 8.1 29.5 90.7 90.6 6.5 6.5 10.8 4 92 <0.2 1.2 6.5 Bottom 23.5 8.1 29.5 90.7 8.1 6.6 0.4 168 23.5 11.0 93 < 0.2 1.3 1.0 1.0 241 23.5 8.1 8.1 29.5 29.5 95.9 6.9 12.9 84 <0.2 1.3 Surface 23.5 8.1 29.5 95.9 95.9 6.9 12.9 4 85 <0.2 1.4 1.0 1.0 255 23.5 7.0 231 89 3.6 10.3 1.3 0.9 23.2 8.3 27.8 95.9 95.9 7.0 3 <0.2 12:21 7.1 8.3 95.9 820727 804852 <0.2 1.3 IM5 Rainy Rough Middle 23.2 27.8 8.3 27.8 7.0 10.3 89 <0.2 1.3 3.6 1.0 252 23.2 0.7 236 23.5 8.2 8.2 6.6 10.5 91 <0.2 6.1 28.0 28.0 90.7 90.8 6.6 6.6 2 1.4 8.2 23.5 28.0 90.8 Bottom 10.6 93 <0.2 1.3 0.8 248 23.5 1.0 <0.2 0.8 242 23.4 8.1 28.3 94.6 94.6 6.8 13.9 85 1.4 23.4 8 1 94.6 Surface 28.3 8.1 28.3 6.8 13.9 86 <0.2 1.2 259 1.0 0.8 23.4 6.8 23.5 88 1.3 3.8 0.9 243 8.1 27.9 91.8 6.7 11.9 <0.2 12:29 7.6 8.1 27.9 91.8 821072 805840 <0.2 IM6 Rainv Rough Middle 23.5 12.9 8.1 27.9 91.8 11.9 90 <0.2 1.3 3.8 0.9 252 23.5 6.6 0.6 221 23.5 8.2 29.3 93.7 93.7 6.7 12.8 92 <0.2 1.4 23.5 8.2 29.3 93.7 6.7 Bottom 6.7 12.8 6.6 239 23.5 0.8 257 23.5 10.7 86 <0.2 1.4 8.1 28.9 6.9 Surface 23.5 8.1 28.9 95.4 0.9 275 8.1 28.9 95.4 6.9 10.7 85 <0.2 1.4 23.5 6.8 3.9 0.9 246 23.4 11.0 87 <0.2 1.4 IM7 Rainy Rough 12:36 7.8 Middle 23.4 8.1 25.4 91.6 821345 806847 <0.2 3.9 0.9 257 23.4 8.1 25.4 91.6 6.7 11.0 89 <0.2 1.2 6.7 6.7 8.1 6.8 0.6 223 23.5 28.3 92.5 14.6 91 <0.2 1.3 Bottom 8.1 28.3 92,5 0.7 238 23.5 8 1 28.3 14.6 92 1.0 0.3 187 22.9 7.9 93.7 7.1 1.6 88 <0.2 1.8 Surface 7.9 23.2 93.8 1.0 0.3 205 22.9 7.9 23.2 93.8 7.1 1.6 4 89 <0.2 1.8 7,1 3.8 0.2 206 22.9 7.9 23.7 94.1 7.1 2.8 3 93 <0.2 1.8 IM8 Rainy Moderate 12:31 7.6 Middle 7.9 23.7 94.2 821815 808137 <0.2 1.8 3.8 0.2 209 22.9 7.9 23.7 94.2 7.1 2.8 94 <0.2 1.7 6.6 0.2 245 22.9 7.9 23.9 95.0 7.6 95 <0.2 17 Bottom 22.9 7.8 23.9 95.1 7.1 22.9

DA: Depth-Averaged

during Mid-Ebb Tide Water Quality Monitoring Results on 16 April 19 Dissolved Suspended Solids | Total Alkalinity Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) Coordinate Coordinate Monitoring Current Oxygen (mg/L) (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction Value Average Value Average Value Average Value DA DA DA DA Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Value Value (Northing) (Easting) 0.3 109 23.0 <0.2 1.8 Surface 23.0 7.9 23.6 93.1 0.3 109 23.0 23.6 7.0 1.8 3.4 0.2 104 23.0 7.7 93 <0.2 1.8 94.8 822070 808826 <0.2 IM9 Rainy Moderate 12:25 6.8 Middle 23.0 7.9 24.0 111 23.0 7.9 24.0 94.8 4 94 <0.2 1.7 7.1 7.1 5.8 0.2 99 22.9 24.3 94.4 3.6 95 <0.2 1.8 7.8 24.3 94.6 Bottom 0.2 105 22.9 7.8 24.3 94.8 3.8 95 <0.2 1.6 1.0 0.7 125 23.0 7.9 22.7 94.1 7.1 4.5 <2 89 <0.2 1.5 Surface 7.9 22.7 94.2 7.9 1.0 0.7 134 23.0 22.7 94.2 7.1 4.8 <2 90 <0.2 16 3.6 0.5 105 23.0 7.9 7.9 23.6 94.7 7.1 4.9 2 93 <0.2 1.6 IM10 Rainy Rough 12:16 7.1 Middle 7.9 23.6 94.9 822397 809807 <0.2 < 0.2 3.6 0.6 23.0 23.6 95.0 7.1 4.9 94 1.6 7.8 7.8 94.7 95.0 7.0 7.1 7.6 7.5 6.1 0.3 91 23.0 24.8 4 95 <0.2 1.6 Bottom 7.8 24.8 94.9 93 6.1 0.3 23.0 24.8 95 <0.2 1.6 7.9 7.9 25.0 3 <0.2 1.0 0.6 122 23.0 94.0 7.0 3.7 88 1.6 Surface 23.0 7.9 25.0 94.0 3.7 5.8 5.9 7.0 1.8 1.0 0.7 128 23.0 25.0 94.0 89 7.0 94.7 5 4 93 93 4.4 0.5 118 23.0 7.9 7.9 25.2 7.0 <0.2 1.6 IM11 Rainy Rough 12:02 8.7 Middle 23.0 7.9 25.2 94.8 92 822069 811455 <0.2 1.6 4.4 0.5 120 23.0 25.2 94.9 7.0 1.6 7.2 7.3 7.1 8 < 0.2 1.6 0.3 102 22.9 7.8 25.4 95.9 95 Bottom 22.9 7.8 25.4 96.0 7.1 110 7.8 95 <0.2 1.6 0.3 22.9 25.4 106 1.0 0.7 22.6 7.9 25.0 94.7 7.1 2.0 89 <0.2 1.6 Surface 22.6 7.9 25.0 94.9 0.7 108 22.6 7.9 25.0 95.0 7.1 2.0 89 <0.2 1.5 1.0 7.2 105 4.3 92 1.6 4.3 0.6 22.9 7.9 24.9 96.3 7.2 <0.2 821445 812028 M12 Rough 11:54 8.5 Middle 22.9 7.9 24.9 96.4 92 Rainv < 0.2 4.3 0.6 109 22.8 25.0 7.2 4.3 93 <0.2 0.3 93 2.9 94 <0.2 1.5 22.8 24.5 94.6 7.1 5 Bottom 22.8 7.7 24.5 94.7 7.1 7.7 7.5 0.4 93 22.8 2.9 <0.2 7.9 7.8 22.8 24.7 94.9 3.9 7.1 22.8 7.8 24.7 95.1 Surface 1.0 7.1 3.9 22.8 7.1 SR1A Rainv Moderate 11:32 4.8 Middle 819982 812662 2.4 22.7 6.1 25.0 95.4 7.1 Bottom 7.5 25.0 95.6 7.2 22.7 105 89 22.5 <0.2 Surface 22.5 7.7 24.8 94.0 1.0 0.5 114 22.5 24.8 93.8 7.0 8.7 90 <0.2 1.4 7.1 -SR2 Rainy Moderate 11:17 5.2 Middle 821449 814187 4.2 0.2 134 22.5 7.5 27.4 94.3 7.0 2.4 92 <0.2 1.6 94.5 7.0 Bottom 7.4 94.7 4.2 0.2 146 22.5 27.4 7.0 92 <0.2 15 1.0 0.5 190 23.0 23.4 94.2 9.3 Surface 23.0 7.9 23.4 94.2 94.2 9.3 4 1.0 0.5 206 23.0 7.1 4.3 0.2 219 22.9 7.9 24.0 94.0 7.0 3.4 4 -SR3 Rainy Moderate 12:38 8.5 Middle 22.9 7.9 24.0 94.0 822136 807569 4 4.3 0.3 226 22.9 24.0 94.0 7.0 3.3 ----7.5 0.1 278 22.9 7.9 7.9 24.6 94.8 7.1 4.3 5 Bottom 22.9 7.9 24.6 94.9 7.1 0.2 293 22.9 24.6 7.1 4.3 4 1.0 0.0 76 23.4 8.2 8.2 27.8 27.8 91.6 6.6 10.0 Surface 23.4 8.2 27.8 91.6 91.6 10.0 1.0 0.0 80 23.4 6.6 4 6.6 4.4 0.1 31 23.5 8.3 28.6 91.5 6.6 4 ---SR4A 11:04 8.8 817168 807804 Rainy Moderate Middle 23.5 8.3 28.6 91.5 8.3 28.6 91.5 4 4.4 0.1 33 23.5 6.6 6.7 12.0 7,8 0.1 212 23.5 8.4 8.4 92.5 92.5 3 8.4 28,9 6.7 ---23.5 28.9 92.5 Bottom 28.9 12.0 0.1 23.5 220 149 1.0 0.1 23.3 8.2 27.7 92.4 6.7 10.8 ---23.3 8.2 27.7 92.4 Surface 156 8.2 92.4 6.7 10.8 6 1.0 0.1 23.3 -6.7 ---------SR5A 10:46 4.6 816612 810696 Rainv Moderate Middle 12.5 _ 7.0 7.0 3.6 0.1 156 23.3 8.3 27.9 96.0 14.1 -23.3 8.3 27.9 96.0 Bottom 7.0 14.1 3.6 0.1 23.3 1.0 0.0 23.3 6.5 ---Surface 23.3 8.1 27.0 88.7 0.0 95 8.1 27.0 88.7 6.5 9.5 1.0 23.3 6.5 SR6 Rainy Moderate 10:12 4.1 Middle --817901 814648 27.1 89.7 89.7 3.1 0.1 85 23.4 8.1 6.5 6.5 9.6 4 Bottom 8.1 89.7 0.1 88 23.4 8 1 9.6 1.0 0.4 22.6 30.4 91.2 6.6 Surface 1.0 0.5 65 22.6 7.9 30.5 91.1 6.6 5.3 <2 -6.6 8.4 0.3 34 22.5 7.8 30.6 91.1 6.6 1,4 <2 SR7 Rainy Rough 10:10 16.7 Middle 7.8 30.6 91.0 <2 823656 823720 8.4 0.3 22.5 7.8 30.6 90.9 6.6 1.4 <2 6.6 15.7 0.2 22.5 7.8 30.8 90.5 4.1 <2 Bottom 22.5 7.8 30.8 90.5 15.7 0.3 22.5 7.8 90.4 6.6 4 1 1.0 22.8 7.9 24.0 94.0 7.0 4.4 Surface 22.8 7.9 24.0 94.1 1.0 22.8 7.9 24.0 94.1 7.1 4.6 4 7.1 -. -820392 SR8 Rainy Moderate 11:44 5.3 Middle 6 811604 . . -4.3 22.8 7.9 7.1 7.3 24.7 95.1 -. 22.8 7.9 24.7 95.3 7.1 4.3 22.8

DA: Depth-Averaged

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring Water Quality Monitoring Results on 16 April 19 during

during Mid-Flood Tide

Water Qua	lity Monit	oring Resu	ılts on		16 April 19	during Mid-	Flood T	ide																					
Monitoring	Weather	Sea	Sampling	Water	Sampling Dep	th (m)	Current Speed	Current	Water Te	emperature (°C)		рН	Sali	nity (ppt)	DOS	aturation (%)	Disso Oxy		Turbidity(NTU)	Suspende (mg		Total A	kalinity m)	Coordinate HK Grid	Coordinate HK Grid	Chromium (µg/L)	Nickel (µg	/L)
Station	Condition	Condition	Time	Depth (m)	Cumping Dop		(m/s)	Direction	Value	Average		Averag	Value	Average		Average		DA	Va l ue	DA	Value	DA	Value	DA	(Northing)	(Easting)	Va l ue DA		ıΑ
					Surface	1.0	0.1	53 64	23.5	23.5	7.9	7.9	27.6	27.6	90.9	90.9	6.6	0.0	8.2 8.2	-	4		86 86				<0.2	1.7	
C1	Rainy	Rough	15:58	8.4	Middle	4.2 4.2	0.1	86 89	23.5 23.5	23.5	8.0	8.0	28.1	28.1	91.2 91.2	91.2	6.6 6.6	6.6	7.7	7.6	4	4	89 90	89	815621	804259	<0.2	1.8	.8
					Bottom	7.4	0.0	69	23.5	23.5	8.0	8.0	28.9	28.9	91,1	91.1	6.6	6.6	6.8	ŀ	5		91				<0.2	1.7	
						7.4	0.0	68	23.5		8.0 7.9		28.9		91.1		6.6 7.3		6.8 3.5		5		91 88				<0.2	1.8	\dashv
					Surface	1.0	0.5	78 34	22.9 23.0	22.9	7.9 7.9	7.9	21.1	21.0	96.6 93.6	96.5	7.4	7.2	3.6 5.8	- [3		89 92				<0.2	2.7	
C2	Rainy	Rough	14:50	8.7	Middle	4.4	0.3	36	23.0	23.0	7.9	7.9	22.8	22.8	93.5	93.6	7.0		5.8	4.2	4	4	93	92	825692	806946	<0.2	2.6	.6
					Bottom	7.7	0.1	26 24	22.9 22.9	22.9	7.9	7.9	23.3	23,3	93.3	93.4	7.0	7.0	3.2 3.4	-	5 5		94 94				<0.2 <0.2	2.6	
					Surface	1.0	0.3	282 288	22.9 22.9	22.9	7.9	7.9	27.4	27.4	93.8	93.8	6.9		3.1 3.1	-	3		88 88				<0.2	1.3	
C3	Rainy	Rough	16:23	9.5	Middle	4.8	0.3	279	22.9	22.9	7.9		27.4	27.4	93.9	94.0	6.9	6.9	3.8	2.8	3	4	92	92	822091	817789	<0.2	1.3	.3
					Bottom	4.8 8.5	0.3	303 278	22.9 22.6	22.6	7.9 7.9	7.0	27.4 27.8	27.8	94.1 96.1	96.1	6.9 7.1	7.1	3.8 1.5		4		93 94				<0.2 <0.2	1.4	
						1.0	0.2	283 70	22.5	23.5	7.8		27.8 25.6	25.6	96.1	91.1	7.1 6.7		1.5 11.2		5		94 84			<u> </u>	<0.2	1.4	\dashv
					Surface	1.0	0.2	74	23.5	23.5	8.1	8.1	25.6	25.6	91.1	91.1	6.7	6.7	11.2	F	4		85				<0.2	1.8	
IM1	Rainy	Rough	15:36	5.4	Middle	-	-	-	-	-	-	-	-	1 -	-	-	-		-	12.8	-	5	-	89	817963	807117	<0.2	T 1	.8
					Bottom	4.4	0.1	23 24	23.5 23.5	23.5	8.1 8.1	8.1	27.8 27.8	27.8	91.3 91.3	91.3	6.6	6.6	14.4 14.4		6 5		92 94				<0.2 <0.2	1.8	
					Surface	1.0	0.2	44	23.5	23.5	8.0	8.0	28.0	28.0	92.2	92.4	6.7		9.6 9.6	-	4 5		84 86				<0.2	1.9	
IM2	Rainy	Rough	15:31	7.2	Middle	3.6 3.6	0.1	53 55	23.5 23.5	23.5	8.1	8.1	24.0	24.0	91.5 91.5	91.5	6.8	6.8	9.9 9.9	10.5	6 5	5	88 90	89	818139	806174	<0.2	4.0	.6
					Bottom	6.2	0.0	41	23.5	23.5	8.0	8.0	25.3	25.3	92.2	92.2	6.8	6.8	12.0		6		92				<0.2	1.4	
					Surface	1.0	0.0	43 68	23.5	23.5	8.0	8.1	25.3	28.7	92.2	94.2	6.8		12.0 11.1		6 8		93 85				<0.2 <0.2	1.5	\dashv
						1.0 3.8	0.2	64 63	23.5 23.5		8.1		28.7		94.2		6.8	6.8	11.1 7.4		7	_	86 88				<0.2	1.6	
IM3	Rainy	Rough	15:22	7,6	Middle	3.8 6.6	0.2	68 87	23.5 23.5	23,5	8.0 8.1	8.0	23.9 26.3	23.9	90.4 90.6	90.4	6.7 6.6		7.4 9.2	9.2	7	7	90 91	89	818779	805570	<0.2 <0.2 <0.2	1.5	.5
					Bottom	6.6	0.1	84	23.5	23.5	8.1	8.1	26.3	26.3	90.6	90.6	6.6	6.6	9.2		7		93				<0.2	1.5	
					Surface	1.0	0.8	64 57	23.5 23.5	23.5	8.1	8.1	28.1	28.1	90.0	90.0	6.5 6.5	6.6	7.9 7.9	ŀ	4 5		84 86				<0.2 <0.2	1.5	
IM4	Rainy	Rough	15:15	7.5	Middle	3.8	0.5	64 68	23.5 23.5	23.5	8.1	8.1	24.0	24.0	90.2	90.2	6.7	0.0	10.1 10.1	9.1	4	5	88 90	89	819703	804594	<0.2	1.5	.5
					Bottom	6.5	0.6	81 92	23.5	23.5	8.1	8.1	24.6	24.6	90.2	90.2	6.7	6.7	9.2		5		92				<0.2	1.5	
					Surface	1.0	0.9	45	23.5	23.5	8.1		28.4	28.4	90.1	90.1	6.5		8.2		4		84				<0.2	1.5	=
IM5	Rainy	Pough	15:08	7.4	Middle	1.0 3.7	1.0	52 44	23.5 23.5	23.5	8.1	8.1	28.4	23.8	90.1 90.5	90.5	6.5 6.7	6.6	8.2 8.7	9.3	4 5	4	86 88	89	820733	804867	<0.2 <0.2 <0.2	1.5	.5
INIS	IXally	Rough	15.00	7.4		3.7 6.4	0.9	44 20	23.5 23.5		8.1 8.1		23.8 26.6		90.5		6.7 6.6		8.7 11.0	3.5	4	,	90 91	03	020733	004007	<0.2 <0.2	1.4	۱
					Bottom	6.4	0.7	22 46	23.5	23.5	8.1	8.1	26.6 27.4	26.6	90.5	90.5	6.6	6.6	11.0 9.3		4		92 84				<0.2	1.3	닉
					Surface	1.0	0.9	50	23.5	23.5	8.1	8.1	27.4	27.4	90.6	90,6	6.6	6.7	9.3		4		85				<0.2	1.5	
IM6	Rainy	Rough	14:56	7.3	Middle	3.7	0.9	39 36	23.5 23.5	23.5	8.1	8.1	24.1	24.1	91.0	91.0	6.7		9.2 9.2	9.7	5 5	4	87 89	89	821041	805850	<0.2 <0.2	1.4	.5
					Bottom	6.3	0.6	23 23	23.5 23.5	23.5	8.1		24.6	24.6	92.9 92.9	92.9	6.9	6.9	10.5 10.5	F	4		93 94				<0.2	1.4	
					Surface	1.0	0.8	51 53	23.5	23.5	8.0	8.0	28.1	28.1	94.4	94.4	6.8		10.4		4		83 84				<0.2 <0.2	1.4	T
IM7	Rainy	Rough	14:47	8.4	Middle	4.2	0.9	44	23.4	23.4	8.1	8.1	24.4	24.4	92.2	92.2	6.8	6.8	10.5	10.7	4	5	87	88	821363	806826	<0.2	1.4	.4
		· · g· ·				4.2 7.4	1.0 0.6	47 24	23.4	23.5	8.1		24.4	27.4	92.2 92.7	92.7	6.8 6.7	6.7	10.5 11.3		3 6	-	88 92	-			<0.2 <0.2	1.3	
					Bottom	7.4	0.6	25 28	23.5		8.1 7.9	8.1	27.4		92.7		6.7 7.1	6.7	11.3 2.1		6		93 89				<0.2	1.4	4
					Surface	1.0	0.5	27	23.1	23.1	7.9	7.9	22.4	22.4	94.1	94.1	7.1	7.1	2.2	ļ	3		90				<0.2	2.8	
IM8	Rainy	Moderate	15:05	7.1	Middle	3.6	0.3	21 22	23.1	23.1	7.9 7.9	7.9	23.1	23.1	95.2 95.6	95.4	7.1		3.4	4.3	4	4	91 92	92	821826	808132	<0.2 <0.2	2.7	8.8
					Bottom	6.1	0.2	23 21	23.0 22.9	23.0	7.9	7.9	23.8	23.9	96.3 96.7	96.5	7.2	7.2	7.3 7.1	F	4		95 95				<0.2	2.7	
DΔ: Denth-Δve					•	•												_											_

during Mid-Flood Tide Water Quality Monitoring Results on 16 April 19 Dissolved Suspended Solids | Total Alkalinity Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) Coordinate Coordinate Monitoring Current Oxygen (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction Value Average Value Average Value Average Value DA DA DA DA Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Value Value (Northing) (Easting) 0.3 23.1 <0.2 2.8 Surface 23.1 7.9 21.7 94.1 0.3 13 23.1 21.7 94.0 6.5 3.4 0.2 18 23.1 2.1 92 <0.2 2.8 15:12 23.2 95.3 822093 808800 <0.2 2.8 IM9 Rainy Moderate 6.8 Middle 23.1 7.9 19 23.1 7.9 23.2 95.5 7.2 2.2 93 <0.2 2.7 7.4 5.8 0.0 36 22.7 23.5 97.8 5.5 95 <0.2 2.8 7.8 23.5 97.9 Bottom 0.0 35 22.6 7.8 23.5 97.9 7.4 5.4 95 <0.2 2.8 1.0 0.3 323 23.0 7.9 24.1 95.5 89 <0.2 2.4 Surface 7.9 24.1 95.6 7.9 3 1.0 0.3 331 23.0 24.1 95.7 7.2 3.2 90 <0.2 2.4 3,2 0.2 320 23.0 7.9 7.9 24.4 94.1 7.0 2.0 4 93 <0.2 2.4 IM10 Rainv Moderate 15:20 6.4 Middle 7.9 24.4 94.3 822398 809815 <0.2 3.2 < 0.2 0.3 324 23.0 24.4 94.4 7.0 93 2.4 7.9 7.9 96.2 96.7 7.2 7.2 5.4 0.2 308 22.9 24.8 5.6 3 95 <0.2 2.4 Bottom 7.9 24.8 96.5 311 5.8 5.4 0.2 22.8 24.8 96 <0.2 2.4 7.9 7.9 3 <0.2 1.0 0.3 275 23.0 24.6 94.6 7.1 5.7 89 2.5 Surface 23.0 7.9 24.6 94.7 5.7 7 1 2.5 1.0 0.4 279 22.9 24.6 94.8 90 3.1 93 94 7.9 7.9 2.5 0.2 300 22.9 25.0 95.8 7 1 4 <0.2 IM11 Rainy Moderate 15:30 8.3 Middle 7.9 25.0 95.9 93 822068 811442 <0.2 2.5 4.2 0.2 304 22.9 25.0 7.1 4 5.0 7.2 4 95 < 0.2 2.5 0.1 335 22.6 7.9 25.5 96.5 Bottom 226 7.9 25.5 96.7 7.2 7.9 96.8 4.6 95 <0.2 7.3 0.1 336 22.5 25.5 2.4 24.3 1.0 0.4 269 23.1 7.9 95.2 7.1 4.4 89 <0.2 2.1 Surface 23.1 7.9 95.3 266 23.1 7.9 95.3 7.1 89 <0.2 2.0 1.0 0.4 24.3 4.6 3 7.2 3.3 92 4.1 0.2 318 22.9 7.9 25.2 97.9 7.3 4 <0.2 2.0 821456 812061 M12 Moderate 15:37 8.1 Middle 22.9 7.9 25.2 98.0 92 2.1 Rainv < 0.2 4.1 0.2 320 22.8 25.2 7.3 5 93 <0.2 2.1 297 7.9 4.9 4 93 <0.2 2.2 0.1 22.6 25.4 97.2 7.3 Bottom 22.5 7.9 25.5 97.3 7.3 4.7 7.1 0.1 301 22.4 <0.2 23.0 8.0 25.4 96.2 7,1 5.9 23.0 8.0 96.4 Surface 25.4 1.0 7.2 5.9 23.0 7.2 SR1A Rainv Moderate 15:58 4.7 Middle 819971 812663 2.4 22.8 25.7 9.1 98.0 7.3 Bottom 22.8 7.9 25.7 98.1 7.3 22.7 88 22.9 <0.2 2.0 Surface 22.9 8.0 25.7 96.1 1.0 0.1 78 22.9 8.0 89 <0.2 2.1 7.1 -SR2 Rainy Moderate 16:10 4.9 Middle 821460 814162 77 7.2 7.2 3.8 3.9 0.0 23.0 8.0 24.6 96.0 4 93 <0.2 2.0 96.0 Bottom 95 Q 7.1 3.9 0.0 85 23.0 8.0 24.6 Q3 1.0 0.6 23.0 21.7 94.0 3.0 Surface 23.0 7.9 21.7 94.0 93.9 3.0 4 1.0 0.6 13 23.0 7.1 4.7 4.3 0.3 21 23.1 7.9 23.5 94.4 7.1 6 -SR3 Rainy Moderate 14:58 8.6 Middle 23.1 7.9 23.5 94.6 822139 807568 94.7 4.9 6 -4.3 0.4 24 23.1 23.5 7 1 ---7.6 0.3 21 23.0 7.9 7.9 24.2 94.4 7.0 5.4 6 Bottom 23.0 7.9 24.2 94.8 7.1 7.6 0.3 23.0 5.4 1.0 0.3 267 23.5 8.1 8.1 27.8 27.8 91.9 6.7 10.1 Surface 23.5 8.1 27.8 91.9 91.9 10.1 5 1.0 0.3 277 23.5 6.7 6.7 252 11.5 4.6 0.3 23.5 8.1 28.8 92.9 92.9 6.7 6 ---SR4A 16:22 9.1 8.1 817204 807791 Rainy Moderate Middle 23.5 28.8 92.9 10.6 8.1 28.8 11.5 4.6 0.3 273 23.5 6.7 5 265 7.1 10.3 8.1 0.1 23.5 8.2 8.2 29.6 29.6 98.3 98.3 7.1 6 8.2 ---23.5 29.6 98.3 Bottom 10.3 0.1 285 23.5 1.0 0.3 283 23.5 8.2 28.8 95.5 6.9 9.1 6 ---23.5 8.2 28.8 95.7 Surface 28.8 95.9 6.9 9.1 287 8.2 6 1.0 0.3 23.5 6.9 ---------SR5A 16:54 4.6 816585 810715 Rainv Moderate Middle -6.9 7.0 3.6 0.3 281 23.5 8.2 28.9 96.4 9.0 23.5 8.2 29.0 97.4 Bottom 7.1 3.6 0.3 303 23.5 1.0 0.1 276 23.4 6.8 ---Surface 23.4 8.1 28.6 94.7 278 8.2 28.6 94.8 6.8 5 1.0 0.1 23.4 9.1 6.8 SR6 Rainy Moderate 17:22 4.2 Middle 817903 814646 3.2 0.1 288 23.4 8.2 28.7 95.0 6.9 6.9 9.1 4 Bottom 23.4 8.2 28.7 95.1 0.1 296 23.5 8.2 28.8 9.1 1.0 0.1 22.9 94.2 6.8 Surface 1.0 0.2 233 22.9 8.0 29.1 94.3 6.9 1,1 -6.9 8,2 0.2 182 22.9 8.0 29.1 94.5 6.9 4.6 2 SR7 Rainy Rough 16:57 16.4 Middle 8.0 29.1 94.5 823634 823721 8.2 0.2 198 22.9 8.0 29.1 94.5 6.9 4.6 15.4 0.0 321 22.9 7.9 29.1 93.8 6.8 5.2 2 Bottom 7.9 29.1 93.8 6.8 15.4 0.0 352 22,9 7.9 29.1 93.8 6.8 5.2 1.0 23.0 7.9 25.4 95.5 7.1 8.4 Surface 23.0 7.9 25.4 95.5 1.0 22.9 7.9 25.4 95.5 7.1 8.4 4 7.1 ---820366 SR8 Rainy Moderate 15:49 5.1 Middle 5 811610 . . -4.1 22.7 7.9 7.2 7.2 6.8 5 25.8 96.9 -. 22.6 7.9 25.8 97.0 7.2 4.1 22.5

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during Mid-Ebb Tide Water Quality Monitoring Results on 18 April 19 Dissolved Suspended Solids | Total Alkalinity Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) Coordinate Coordinate Monitoring Speed Current Oxygen (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction Value Average Value Average Value Average Value DA Va**l**ue DA DA DA Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Value (Northing) (Easting) 0.5 228 23.4 <0.2 Surface 23.4 7.9 25.1 93.9 0.5 249 23.4 7.9 25.1 93.9 6.9 6,9 0.4 209 23.5 6.9 5.5 84 <0.2 1.7 C1 8.1 25.1 94.0 815617 804265 <0.2 Cloudy Moderate 12:23 Middle 23.5 8.0 5.7 9 1.6 0.4 226 23.5 8.0 25.1 94.0 6.9 5.3 10 84 <0.2 1.6 6.9 6.9 0.4 203 23.9 24.6 94.7 94.6 5.3 87 <0.2 1.6 7.9 24.6 94.7 Bottom 23.9 7.9 0.4 208 23.9 24.6 6.9 3.6 10 87 <0.2 1.6 21.2 1.0 1.0 172 23.9 8.2 96.1 7.2 8.3 83 <0.2 2.2 Surface 8.2 96.2 8.2 1.0 1.0 176 23.9 21.2 96.3 7.2 8.2 5 84 <0.2 2.3 5.6 0.6 163 23.9 8.2 21.2 97.3 7.3 8.5 8.7 4 87 <0.2 2.3 C2 Rainy Rough 13:26 11.2 Middle 8.2 21.2 97.5 825682 806939 <0.2 0.7 8.2 7.3 5 < 0.2 5.6 23.9 21.2 97.7 88 2.0 21.3 7.5 7.5 10.2 0.2 139 23.7 8.2 99.9 6.9 7 89 <0.2 2.2 Bottom 23.7 8.2 100.1 7.5 149 23.7 8.2 10.2 0.2 100.2 6.9 6 89 <0.2 22 7.1 2.7 2.5 5.8 5.8 <0.2 2.1 1.0 0.4 58 23.8 8.2 26.9 98.6 83 Surface 23.8 8.2 26.9 98.8 8.2 7.2 1.0 0.5 62 23.8 26.9 98.9 5 84 5 5 85 85 2.3 6.2 0.3 97 23.8 8.2 26.3 95.6 <0.2 C3 Cloudy Moderate 11:15 12.4 Middle 23.8 8.2 26.3 95.8 822102 817824 <0.2 2.2 8.2 7.0 0.3 98 23.8 26.3 11.4 101 7.0 6.0 6 87 < 0.2 2.2 0.4 23.9 8.2 26.7 96.0 Bottom 23.9 8.2 26.7 96.0 7.0 11.4 110 8.2 6.0 87 <0.2 0.4 23.9 26.7 96.0 2.2 183 1.0 0.2 23.4 7.8 25.4 94.0 6.9 4.9 10 81 <0.2 1.7 Surface 23.4 7.8 25.4 94.0 185 23.4 7.8 25.4 82 <0.2 1.6 1.0 0.2 93.9 6.9 4.9 10 6.9 -- | ------- | 817941 807126 IM1 Moderate 12:34 5.2 Middle 10 84 1.7 Rainv < 0.2 -4.2 0.3 175 23.5 7.9 25.3 25.3 6.9 3.4 9 86 <0.2 1.6 93.8 Bottom 23.5 7.9 25.3 93.8 6.9 176 23.5 87 4.2 0.3 3.4 <0.2 225 23.4 24.8 80 <0.2 <0.2 1.6 1.7 0,2 7.9 7.9 93.5 93.5 6.9 8.9 23.4 7.9 24.8 93.5 Surface 1.0 0.3 237 23.4 6.9 8.9 13 80 6.9 24.7 24.7 8.5 13 83 <0.2 <0.2 1.7 0.1 222 23.4 93.4 6.9 818172 IM2 Rainv Moderate 12:39 7.6 Middle 23.5 7.9 93.4 806189 <0.2 3.8 0.1 223 23.5 7.9 8.5 13 83 6.9 6.9 8.0 0.1 321 23.6 14 <0.2 1.7 25.1 93.6 Bottom 23.6 7.9 25.1 93.6 6.6 0.1 321 23.6 7 Q 13 86 <0.2 1.7 208 25.1 93.5 93.5 80 <0.2 23.4 Surface 7.9 25.1 93.5 1.0 0.3 213 23.4 79 6.9 8.0 12 80 <0.2 1.7 6.9 7.7 1.7 3.7 0.2 172 23.4 7.8 25.1 93.4 6.9 13 83 <0.2 IM3 Rainy Moderate 12:45 7.3 Middle 7.8 25.1 93.4 83 818792 805610 3.7 0.2 179 23.4 7.8 25.1 93.4 6.9 7.8 13 83 <0.2 93.6 93.7 6.9 6.9 8.9 6.9 8.6 6.3 0.3 134 23.5 8.0 25.1 13 85 <0.2 1.6 93.7 Bottom 6.3 0.3 145 23.5 8.0 25.1 13 85 < 0.2 17 1.0 8.0 184 23.4 24.6 93.8 93.8 6.9 7.9 7.8 11 80 <0.2 <0.2 1.6 Surface 23.4 7.9 24.6 93.8 10 79 1.5 1.0 0.8 197 23.4 6.9 6.9 10 1.6 1.6 3.6 0.7 166 23.4 7.9 24.8 94.0 6.9 6.9 82 82 <0.2 IM4 Rainy Moderate 12:54 7.1 Middle 23.4 7.9 24.8 94.0 82 819747 804597 <0.2 7.9 94.0 11 3.6 0.8 166 23.4 24.8 6.9 7.3 6.1 0.6 149 23.4 7.8 7.8 25.0 94.1 6.9 6.9 10.3 13 85 <0.2 1.6 6.9 Bottom 23.4 7.8 25.0 94.2 6.1 0.6 159 23.4 94.2 10.2 12 85 < 0.2 1.5 7.3 7.4 5.9 1.0 0.9 249 23.6 7.9 7.9 24.1 94.4 7.0 8 80 <0.2 1.6 Surface 23.6 7.9 24.1 94.5 94.5 7.0 79 <0.2 1.6 1.0 0.9 272 23.6 9 7.0 83 7.9 7.0 10 1.5 3.4 0.8 232 23.5 23.9 94.3 <0.2 13:07 6.8 7.9 94.3 820722 804878 <0.2 IM5 Rainy Moderate Middle 23.5 23.9 83 1.6 23.9 94.3 7.0 83 <0.2 1.5 3.4 0.9 253 23.5 6.0 9 5.8 23.8 7.8 7.8 7.0 7.0 7.0 <0.2 0.7 229 24.5 24.5 95.3 95.3 10 86 1.6 7.8 23.8 24.5 95.3 Bottom 86 <0.2 1.6 5.8 0.8 239 23.8 1.0 215 7.9 <0.2 0.8 23.7 22.1 94.2 94.2 7.0 4.3 80 1.6 23.7 79 94.2 Surface 22.1 80 <0.2 1.5 236 23.7 7.0 4.1 4 1.0 0.8 7.0 197 2.9 83 1.6 3.5 23.6 7.9 21.6 93.9 7.0 6 <0.2 13:16 6.9 7.9 21.6 93.9 821062 805820 <0.2 IM6 Rainv Moderate Middle 23.6 201 7.9 21.6 93.9 2.9 83 <0.2 3.5 0.7 23.6 6 6.9 6.9 5.9 0.6 191 23.7 7.9 24.1 94.1 6.0 10 86 <0.2 1.5 23.7 7.9 94.1 Bottom 7.9 86 1.8 23.7 1.0 0.8 221 23.6 7.9 79 <0.2 1.6 23.0 94.1 7.0 5.1 Surface 23.6 7.9 23.0 94.1 0.9 232 23.6 7.9 23.0 94.1 5.1 78 <0.2 1.6 0.8 206 23.6 3.8 82 <0.2 1.6 IM7 Rainy Moderate 13:22 7.4 Middle 23.6 7.9 22.1 94.6 821350 806848 <0.2 0.9 210 23.6 7.9 22.1 94.6 4.1 4 82 <0.2 1.5 7.9 6.4 0.7 192 23.5 23.6 94.1 7.0 7.0 6.8 10 85 <0.2 1.6 Bottom 7.9 23.6 94.2 0.7 206 23.5 23.6 04.2 6.9 85 1.6 1.0 0.1 232 23.7 8.2 21.6 97.9 4.7 84 <0.2 2.1 Surface 21.6 98.0 1.0 0.1 239 23.7 8.2 21.6 98.0 7.3 4.3 5 84 <0.2 2.0 7.3 3.8 0.1 187 23.8 8.2 21.6 98.0 7,3 5.9 5.2 5 87 <0.2 2.0 IM8 Cloudy Moderate 12:51 7.6 Middle 8.2 21.6 98.1 6.2 821821 808148 <0.2 2.0 3.8 0.1 189 23.7 8.2 21.6 98.2 7.3 6 89 <0.2 2.0 6.6 0.1 190 23.8 8.2 21.6 95.7 7.2 8.6 5 88 <0.2 2.1 Bottom 23.8 8.2 21.6 95.8 7.2 0.1 23,8

DA: Depth-Averaged

during Mid-Ebb Tide Water Quality Monitoring Results on 18 April 19 Dissolved Suspended Solids | Total Alkalinity Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) Coordinate Coordinate Monitoring Current Oxygen (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction Value Average Value Average Value Average Value DA DA DA DA Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Value Value (Northing) (Easting) 0.2 114 23.8 <0.2 2.0 Surface 23.8 8.2 21.5 96.1 119 23.8 8.2 21.5 9.4 3.6 0.3 113 23.8 8.4 4 87 <0.2 2.0 7.2 21.5 95.9 822099 808822 <0.2 IM9 Cloudy Moderate 12:45 Middle 23.8 8.2 8.0 6 2.0 0.4 121 23.8 8.2 21.5 95.9 7.2 8.4 5 86 <0.2 2.1 6.2 0.3 99 23.8 21.5 96.6 6.2 88 <0.2 1.9 8.2 21.5 96.7 7.2 Bottom 23.8 0.3 104 23.8 8.2 21.5 96.8 7.2 6.4 89 <0.2 2.0 21.0 21.0 97.2 1.0 0.5 117 23.9 8.2 4.9 4 84 <0.2 2.2 Surface 8.2 97.3 1.0 0.5 125 23.9 8.2 97.4 7.3 4.9 5 85 <0.2 2.0 3.7 0.6 122 23.9 8.2 20.9 96.9 7.3 9.0 4 87 <0.2 2.0 IM10 Cloudy Moderate 12:36 7.4 Middle 8.2 20.9 97.0 822404 809798 <0.2 3.7 8.2 9.0 5 < 0.2 0.7 132 23.9 20.9 97.0 7.3 88 2.1 21.1 96.6 96.7 7.2 6.4 0.6 102 23.9 8.2 5.0 5 89 <0.2 2.1 Bottom 8.2 21,1 96.7 7.2 8.2 21.1 5.0 2.0 6.4 0.6 23.9 88 <0.2 126 96.1 7.2 <0.2 2.0 1.0 0.7 23.9 8.2 21.6 8.0 83 Surface 23.9 8.2 21.6 96.1 8.0 7.6 7.6 0.7 127 8.2 1.0 23.9 21.6 96.1 6 84 7.2 21.4 85 87 2.1 3.8 0.6 118 23.9 8.2 95.3 7 1 <0.2 IM11 Cloudy Moderate 12:25 7.6 Middle 23.9 8.2 95.3 6 86 822063 811443 <0.2 2.1 8.2 6 3.8 0.6 120 23.9 95.2 7.1 21.4 21.3 7.1 8.1 87 < 0.2 2.1 6.6 0.3 109 23.9 8.2 95.7 6 Bottom 23.9 8.2 21.3 95.8 7.2 109 8.2 95.8 8.8 88 <0.2 6.6 0.4 23.9 21.3 2.2 105 1.0 0.6 23.9 8.2 21.4 21.4 94.8 7.7 6 84 <0.2 2.0 23.9 8.2 94.8 Surface 0.7 105 23.9 8.2 94.8 7.1 7.7 83 <0.2 2.2 1.0 5 7.1 107 5.0 5.2 85 4.1 0.7 23.9 8.2 21.5 95.4 7.1 5 <0.2 2.0 821440 812037 M12 Cloudy Moderate 12:15 8.2 Middle 23.9 8.2 21.5 95.4 85 2.1 < 0.2 4.1 0.7 112 23.9 8.2 21.5 7.1 6 86 <0.2 0.5 104 8.2 6.1 <0.2 2.0 23.9 21.4 94.8 7.1 6 Bottom 23.9 8.2 21.4 94.9 7.1 106 7.2 0.5 23.9 8.2 6.3 <0.2 23.8 8.2 23.8 95.7 95.7 5,9 7.1 23.8 8.2 23.8 95.7 Surface 1.0 7.1 5.9 10 23.8 7.1 SR1A Cloudy Moderate 11:54 4.6 Middle 819975 812665 2.3 23.8 6.2 8.2 23.9 96.8 7.1 Bottom 23.8 8.2 23.8 96.9 7.1 3.6 23.8 105 23.8 22.4 <0.2 Surface 23.8 8.2 22.4 95.3 1.0 0.6 112 23.8 95.3 4.6 4 85 <0.2 2.2 7.1 -SR2 Cloudy Moderate 11:40 4.2 Middle 821460 814167 3.2 0.3 112 23.9 8.2 22.4 96.2 7.1 9.0 12 87 <0.2 2.0 96.3 7.2 Bottom 96.3 3.2 0.3 121 23.9 8.2 22.4 7.2 8.8 11 87 <0.2 1.0 0.3 253 23.8 8.2 21.1 98.7 7.6 7.6 Surface 23.8 8.2 21.1 98.7 82 98.6 74 1.0 0.3 276 23.8 10.9 7 42 0.2 240 23.9 8.2 21.1 97.2 7.3 -SR3 Rainy Rough 12:57 8.3 Middle 23.9 8.2 21.1 97.3 822130 807548 8.2 97.3 6 -4.2 0.2 256 23.9 21 1 7.3 10.9 -7.3 0.2 239 23.8 8.2 8.2 21.2 99.0 7.4 11.4 5 Bottom 23.8 8.2 21.2 99.2 7.4 0.2 243 23.8 1.0 0.1 238 23.5 7.9 7.9 24.6 94.6 7.0 13.1 Surface 23.5 7.9 24.6 94.6 24.6 94.6 7.0 13.1 1.0 0.1 242 23.5 8 7.0 6.7 4.7 7.0 0.0 23.6 7.8 24.6 94.4 8 ---SR4A 12:12 9.3 817176 807811 Cloudy Calm Middle 23.6 7.8 24.6 94.4 10.3 187 94.4 7.0 7.2 4.7 0.0 23.6 24.6 8 7.8 7.8 6.9 11.1 8,3 0,1 261 23.8 93.8 93.8 6.9 9 24.6 ---23.8 7.8 24.6 93.8 Bottom 24.6 10.7 8.3 0.1 278 23.8 1.0 0.1 91 23.5 7.9 24.5 93.9 6.9 9.1 ---23.5 79 24.5 94.0 Surface 7.9 24.5 94.0 6.9 94 9.3 9 1.0 0.1 23.5 6.9 ---------SR5A 11:56 3.8 816588 810681 Cloudy Calm Middle -6.9 6.9 2.8 0.1 58 23.7 8.1 24.4 93.0 8.1 -23.7 8.1 24.4 93.0 Bottom 8.1 6.9 2.8 0.1 23.7 0.1 23.6 23.7 6.9 ---Surface 23.6 7.9 23.7 93.8 82 7.9 23.7 93.8 7.0 4.1 3 1.0 0.1 23.6 7.0 SR6 Cloudy Calm 11:25 4.3 Middle -817895 814639 23.7 3.3 0.0 300 23.7 7.8 94.2 7.0 7.0 6.0 4 Bottom 7.8 94.2 313 23.7 7.8 04.2 5.5 94.1 1.0 0.5 23.5 28.6 8.9 Surface 28.6 94.1 1.0 0.5 76 23.5 8.1 28.6 94.0 6.8 9.1 3 -6.8 8.4 0.2 40 23.6 8.1 28.2 94.5 6.8 11.5 4 SR7 Moderate 10:41 16.8 Middle 8.1 28.1 94.5 10.5 823648 823743 Cloudy 8.4 0.2 41 23.6 8.1 28.1 94.5 6.8 11.5 3 15.8 0.2 31 23.7 8.1 28.2 94.3 6.8 11.1 4 Bottom 8.1 28.1 94.4 6.8 15.8 0.2 23.7 8.1 94 4 6.8 11.1 1.0 23.9 8.2 22.7 95.0 7.0 11.5 Surface 23.9 8.2 22.7 95.0 1.0 23.9 8.2 22.7 95.0 7.0 11.4 5 7.0 ---820388 SR8 Cloudy Moderate 12:05 5.1 Middle 811610 . . -10.8 4.1 23.9 8.2 7.1 4 22.7 95.5 -. 23.9 8.2 22.7 95.6 7.1 4.1 23.9

DA: Depth-Average

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring Water Quality Monitoring Results on 18 April 19 during

during Mid-Flood Tide

Water Qua	lity Monit	oring Resu	its on		18 April 19	during Mid-	Flood T	de																				
Monitoring Station	Weather	Sea	Sampling	Water	Sampling Dep	th (m)	Current Speed	Current Direction	Water Te	mperature (°C)		рН	Salir	nity (ppt)	DO S	aturation (%)	Dissol Oxyg		Turbidity(VTU)	Suspende (mg/		Total A		Coordinate HK Grid	Coordinate HK Grid	Chromiur (µg/L)	m 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	Value	DA	(Northing)	(Easting)	Va l ue D	DA Value DA
					Surface	1.0	0.3	66 67	23.5	23.5	8.0	8.0	25.2 25.2	25.2	94.8	94.9	7.0		5.3	H	7		80 81				<0.2	1.6
C1	Rainy	Moderate	17:30	7.9	Middle	4.0	0.4	52	23.6	23.6	7.9	7.9	25.1	25.1	95.1	95.1	7.0	7.0	5.2	5.5	7	7	84	84	815634	804242	<0.2	1.7
	1 (6.11)	moderate	11.00	1.0	madio	4.0 6.9	0.4	50 99	23.6		7.9 7.9		25.1 25.0		95.1 94.8		7.0 6.9	\rightarrow	5.2 5.9	-	7 8		83 87		0,000,	001212	<0.2	1.6
					Bottom	6.9	0.3	96	24.0	24.0	7.9	7.9	24.9	25.0	94.8	94.8	6.9	6.9	5.7		7		86				<0.2	1.8
					Surface	1.0	0.8	14 12	23.9	23.9	8.2 8.2	8.2	21.2	21.2	95.6 95.8	95.7	7.2	-	10.0 9.9	H	10 12		84 84				<0.2	2.3
C2	Rainy	Rough	16:47	11.4	Middle	5.7	0.5	14	23.8	23.8	8.2	8.2	21.2	21.2	97.2	97.5	7.3	7.3	8.0	8.0	12	11	88	87	825670	806921	<0.2	0.2 2.2 2.3
		ŭ				5.7 10.4	0.5	12 15	23.8		8.2 8.2		21.2		97.7 99.5		7.3 7.5		8.8 5.9	H	11		87 89				<0.2	2.4
					Bottom	10.4	0.1	16	23.5	23,6	8.2	8,2	21.3	21,3	99.9	99.7	7.5	7.5	5.3	_	11		89				<0.2	2.2
					Surface	1.0	0.3	244 244	23.7	23.7	8.2	8.2	24.5	24.5	95.7 95.7	95.7	7.0	7,	8.1 8.1	H	7		85 84				<0.2	2.0
СЗ	Cloudy	Moderate	18:25	12.1	Middle	6.1	0.2	309 315	23.8 23.8	23.8	8.2 8.2	8.2	24.2	24.2	95.9 95.9	95.9	7.1	7.1	9.0 9.3	9.2	6	8	87 89	87	822111	817815	<0.2	0.2 2.0 2.1
					Bottom	11.1	0.2	278	23.8	23.8	8.2	8.2	24.2	24.2	97.4	97.6	7.2	7.2	10.6	E	8		89				<0.2	2.4
						11,1	0.2	286 67	23.7		8.2 7.9		24.2		97.8 95.0		7.2	7.2	10.1 9.4	_	10 8		90 83				<0.2	1.8
					Surface	1.0	0.2	58	23.4	23.4	7.9	7.9	25.1	25.1	95.0	95.0	7.0	7.0	9.4	Ė	8		83				<0.2	1.6
IM1	Rainy	Moderate	17:21	5.1	Midd l e	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.6	-	8	-	85	817963	807151		0.2 1.7
					Bottom	4.1	0.1	68	23.4	23.4	7.9	7.9	25.2	25.2	95.4	95.4	7.0	7.0	5.8		9		88				<0.2	1.4
					Surface	1.0	0.1	71 51	23.4	23.5	7.9 8.0	8.0	25.2	24.4	95.4 95.1	95.1	7.0	\dashv	5.7 8.6	\rightarrow	8		87 81				<0.2	1.8
						1.0	0.3	54 54	23.5 23.5		8.0 7.9		24.4		95.1 94.9		7.0	7.0	8.3 4.8	F	9 7		81 84				<0.2	1.6
IM2	Rainy	Moderate	17:16	7.7	Middle	3.9	0.3	55	23.5	23.5	7.9	7.9	24.6	24.6	94.9	94.9	7.0		4.7	5.8	7	7	84	84	818158	806149	<0.2	1.8
					Bottom	6.7	0.2	63 64	23.5	23.5	7.9	7.9	24.7	24.7	95.1 95.2	95.2	7.0	7.0	4.2	H	7		87 87				<0.2	1.7
					Surface	1.0	0.5	57	23.5	23.5	8.0	8.0	23.8	23.8	94.2	94.2	7.0		9.2		12		81				<0.2	1.8
IM3	Rainy	Moderate	17:09	7.4	Midd l e	1.0 3.7	0.5	55 48	23.5 23.4	23.4	8.0	8.0	23.8	24,9	94.2	93.9	7.0 6.9	7.0	9.2	10.9	13 18	17	81 84	84	818785	805581	<0.2	0.2
INIO	Ixamy	Moderate	17.00	7.4	Wilde	3.7 6.4	0.4	47 44	23.4		8.0 7.9		24.9 25.1		93.9 94.1		6.9 6.9		10.1 13.9	10.3 F	16 21	"	84 87	-	010703	000001	<0.2	1.6
					Bottom	6.4	0.2	45	23.4	23.4	7.9	7.9	25.1	25.1	94.2	94.2	6.9	6.9	14.0		20		87				<0.2	1.7
					Surface	1.0	0.9	48 45	23.6	23.6	8.0	8.0	24.4	24.4	94.4	94.5	7.0		16.0 15.8	\vdash	18 19		80 80				<0.2	1.9
IM4	Rainy	Moderate	16:59	7.5	Middle	3.8	0.9	68	23.6	23.6	8.0	8.0	24.3	24.3	94.8	94.8	7.0	7.0	14.2	14.4	20	19	84 84	84	819713	804614	<0.2	1.8
					Bottom	3.8 6.5	1.0 0.7	75 62	23.6 23.6	23.6	8.0 8.0	8.0	24.3	24.3	94.8 94.6	94.6	7.0	7.0	14.2 13.2	E	19 18		87				<0.2	1.8
						6.5 1.0	0.7	68 21	23.6 23.8		8.0 7.9		24.3		94.6 94.9		7.0	7.0	13.1 4.4		19 8		87 80				<0.2	1.9
					Surface	1.0	1.0	22	23.8	23.8	7.9	7.9	22.7	22.7	94.9	94.9	7.0	7.0	4.5	Ė	9		81				<0.2	1.8
IM5	Rainy	Moderate	16:53	7.1	Middle	3.6	0.8	22	23.6	23.6	7.9	7.9	23.2	23.2	94.1	94.2	7.0	-	6.2	5.2	10 11	10	83	83	820748	804848	<0.2	0.2 1.9 1.8
					Bottom	6.1	0.7	26	23.6	23.6	7.9	7.9	23.1	23.1	94.4	94.4	7.0	7.0	4.9	F	10		86				<0.2	1.8
					Surface	6.1 1.0	0.7	25 21	23.6	23.8	7.9	7.9	23.1	22.6	94.4 94.6	94.6	7.0	_	5.1 4.1	_	9		86 80				<0.2	1.9 1.6
						1.0 3.4	0.9	22 19	23.8 23.6		7.9 7.9		22.6		94.6 94.0		7.0	7.0	4.4	F	8		80 83				<0.2	1.8
IM6	Rainy	Moderate	16:49	6.8	Middle	3.4	0.8	19	23.6	23.6	7.9	7.9	22.5	22.5	94.0	94.0	7.0		4.6	5.1	8	10	84	83	821072	805849	<0.2	1.8
					Bottom	5.8 5.8	0.7	18 20	23.7	23.7	7.9	7.9	23.3	23.3	94.1	94.2	7.0	7.0	6.6	- 1	14 13		86 86				<0.2	1.7
					Surface	1.0	0.9	26	23.8	23.8	7.9	7.9	22.7	22.7	94.9	94.9	7.1	\neg	4.7		8		80				<0.2	1.7
IM7	Painy	Moderate	16:41	7.7	Middle	1.0 3.9	1.0	25 13	23.7	23.7	7.9 7.9	7.9	22.7	22.5	94.8 94.4	94.4	7.0	7.0	4.7 5.0	4.7	7	7	79 83	83	821335	806825	<0.2	1.6 1.6 1.6
IM/	Rainy	iviouerate	10:41	1.1	iviidale	3.9 6.7	0.8	12 17	23.7 23.6		7.9		22.5		94.4		7.0	_	5.1	*.′	6	′	83 86	03	021333	000825	<0.2 <0.2	1.6 1.6
					Bottom	6.7	0.7	18	23.6	23.6	7.9 7.9	7.9	23.2	23.2	94.2 94.3	94.3	7.0	7.0	4.5 4.5		8		86				<0.2	1.7
					Surface	1.0	0.3	28 27	24.0	24.0	8.2 8.2	8.2	21.5	21.5	96.0 96.0	96.0	7.1		6.3 6.3	F	9		84 85				<0.2	2.4
IM8	Rainy	Moderate	17:19	7.4	Middle	3.7	0.4	16	24.0	24.0	8.2	8.2	21.5	21.5	96.9	96.9	7.2	7.2	6.5	7.3	8	9	87	87	821828	808144	<0.2	0.2 2.3 2.3
		_				3.7 6.4	0.4	16 23	24.0		8.2 8.2		21.5		96.8 97.2		7.2	7.0	6.5 9.1	-	9		87 89				<0.2	2.2
					Bottom	6.4	0.2	25	24.0	24.0	8.2	8.2	21.5	21.5	97.5	97.4	7.3	7.3	9.2		10		88				<0.2	2.2

during Mid-Flood Tide Water Quality Monitoring Results on 18 April 19 Dissolved Suspended Solids | Total Alkalinity Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) Coordinate Coordinate Monitoring Current Oxygen (mg/L) (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction Value Average Value Average Value Average Value DA DA DA DA Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Value Value (Northing) (Easting) 0.4 345 24.0 <0.2 Surface 24.0 8.2 21.4 96.7 0.4 344 24.0 8.2 21.4 6.3 10 3.5 0.3 333 24.0 10.0 11 87 <0.2 2.2 17:27 7.0 21.4 96.6 822107 808811 <0.2 2.3 IM9 Rainy Moderate Middle 24.0 8.2 11 0.3 341 24.0 8.2 21.4 96.6 7.2 10.0 10 88 <0.2 2.5 6.0 0.2 281 23.7 21.6 100.1 7.5 4.5 11 87 <0.2 2.6 8.2 21.6 100.2 7.5 Bottom 23.7 0.2 287 23.7 8.2 21.6 100.3 7.5 4.0 10 89 <0.2 2.4 1.0 0.7 330 24.0 8.2 21.5 95.9 7.4 85 <0.2 2.4 Surface 8.2 21.5 96.0 1.0 0.8 335 24.0 8.2 21.5 96.0 7.2 8.3 6 85 <0.2 2.3 3.7 0.6 319 24.0 8.2 21.5 96.6 7,2 8.5 7 88 <0.2 2.2 IM10 Rainv Moderate 17:37 7.4 Middle 8.2 21.5 96.8 822373 809809 <0.2 3.7 8.2 7.2 8.9 6 87 < 0.2 0.7 327 24.0 21.5 97.0 2.2 7.4 7.4 6.4 0.5 302 23.9 8.2 98.7 9.5 8 87 <0.2 2.2 Bottom 8.2 21.5 98.9 299 8.2 99.1 9.5 6.4 0.6 23.9 21.5 R 89 <0.2 22 21.7 7.1 7.1 7.7 7.7 <0.2 2.4 1.0 0.6 262 24.0 8.2 95.2 7.1 84 Surface 24.0 8.2 21.7 95.2 0.7 8.2 21.7 7 1 7 1.0 264 24.0 95.2 85 7 88 89 21.6 2.2 3.9 0.7 274 24.0 8.2 95.1 7 1 <0.2 IM11 Rainy Moderate 17:45 7.8 Middle 24.0 8.2 21.6 95.1 87 822033 811457 <0.2 2.3 8.2 3.9 0.7 276 24.0 21.6 95.1 7.1 21.7 8.0 0.5 7.1 88 < 0.2 2.5 6.8 275 24.0 8.2 95.6 Bottom 24 0 8.2 21.7 95.8 7.1 8.2 21.7 95.9 8.0 90 <0.2 6.8 0.5 268 24.0 2.2 21.6 1.0 0.5 265 23.9 8.2 96.1 7.0 8 84 <0.2 2.3 Surface 23.9 8.2 96.1 0.5 267 23.9 8.2 21.6 7.2 6.9 84 <0.2 2.2 1.0 96.1 8 7.2 7.1 87 2.3 4.1 0.6 271 23.9 8.2 21.8 95.8 7.1 8 <0.2 821478 812068 M12 Moderate 17:52 8.2 Middle 23.9 8.2 21.8 95.9 87 2.3 Rainv < 0.2 4.1 0.6 265 23.9 8.2 21.8 7.1 7.1 10 87 <0.2 0.3 296 8.2 6.9 89 <0.2 2.2 23.9 21.8 96.6 8.1 Bottom 23.9 8.2 97.3 77 301 6.7 7.2 0.3 23.9 8.2 89 <0.2 2.3 23.9 8.2 22.1 97.5 97.6 7.2 7.2 6,4 23.9 8.2 22.1 97.6 Surface 1.0 6.4 23.9 7.2 2.4 SR1A Cloudy Moderate 18:04 4.7 Middle 819975 812659 2.4 23.9 6.3 8.2 22.1 98.2 7.3 Bottom 23.9 8.2 22.1 98.3 7.3 23.9 296 23.9 22.1 <0.2 Surface 23.9 8.2 22.1 97.2 1.0 0.4 288 23.9 97.2 7.2 12 84 <0.2 2.4 7.2 -SR2 Cloudy Moderate 18:05 4.3 Middle 821442 814166 7 3.3 0.3 297 23.9 8.2 22.1 97.2 7.2 12.5 88 <0.2 2.1 97.2 7.2 Bottom 97.1 3.3 0.3 281 23.9 8.2 12.5 88 <0.2 23 1.0 0.6 23 23.9 8.2 8.2 21.8 95.6 95.5 11.3 12 Surface 23.9 8.2 21.8 95.6 14 1.0 0.7 23.9 7.1 11.3 14 12 42 0.6 20 24.0 8.2 21.8 95.7 7.1 9.6 -SR3 Rainy Rough 17:12 8.4 Middle 24.0 8.2 21.8 95.9 10.6 13 822138 807584 8.2 96.0 -4.2 0.6 22 24.0 21.8 7 1 9.8 13 ---7.4 0.4 24 23.9 8.2 8.2 21.9 97.4 97.7 7.3 7.3 10.9 7.3 Bottom 23.9 8.2 21.9 97.6 0.4 23.9 10.9 14 6.8 6.7 7.5 12 12 1.0 0.6 239 23.5 7.9 7.9 24.8 94.3 6.9 Surface 23.5 7.9 24.8 94.3 24.8 94.3 1.0 0.6 257 23.5 6.9 7.0 233 4.3 0.6 23.6 7.9 24.7 94.6 7.0 10 ---SR4A 17:44 8.6 94.7 817189 807791 Rainy Calm Middle 23.6 7.9 24.7 11 94.7 7.0 4.3 0.6 239 23.6 24.7 7.5 9 237 7.9 7.9 7.0 10 7,6 0.4 23.7 25.0 25.0 95.5 95.5 7.0 5.9 6.0 ---23.7 7.9 25.0 95.5 Bottom 10 0.4 248 23.7 1.0 11 0.2 289 23.6 7.9 24.5 95.2 7.0 6.4 ---23.6 79 24.5 95.4 Surface 7.9 24.5 95.6 317 7.0 6.3 10 1.0 0.2 23.6 7.0 ---------SR5A 18:03 3.5 816594 810715 Rainv Calm Middle 11 _ 2.5 0.2 295 23.8 7.9 24.8 96.8 7.1 6.0 11 23.8 7.9 24.8 96.8 7.1 Bottom 7.9 7.1 2.5 0.2 312 23.8 0.0 248 23.5 7.9 24.5 93.0 6.9 6.2 ---Surface 23.5 7.9 24.5 93.1 0.0 248 7.9 24.5 93.1 6.9 8 1.0 23.5 6.1 6.9 SR6 Rainy Calm 18:37 3.9 Middle 817884 814639 24.5 7.9 2.9 0.0 229 23.5 93.6 6.9 6.9 3.3 9 Bottom 7.9 93.7 230 23.5 7.0 24.5 3.4 1.0 0.4 278 23.8 24.0 Surface 24.0 1.0 0.4 281 23.8 8.2 24.0 96.4 7.1 -7.2 8.4 0.3 275 23.8 8.2 24,1 97.3 7.2 6.4 8 SR7 Moderate 18:53 16.7 Middle 8.2 24.1 97.5 823644 823760 Cloudy 8.4 0.3 278 23.8 8.2 24 1 97.6 7.2 6.3 8 8.2 15.7 0.2 279 23.8 24.1 99.4 7.3 3.9 7 Bottom 8.2 24.1 99.5 7.3 15.7 0.2 283 23,8 8.2 24 1 99.6 7.3 3.7 1.0 23.9 8.2 22.5 98.0 7.3 9.8 10 Surface 23.9 8.2 22.5 98.2 1.0 23.9 8.2 22.5 98.4 7.3 9.2 12 7.3 -. -820378 SR8 Cloudy Moderate 18:04 5.2 Middle 9 811645 . . -4.2 23.7 8.2 7.4 7.5 5.3 22.6 100.0 -. 23.7 8.2 22.7 100.1 7.5 4.2 23,6

DA: Depth-Averaged

during Mid-Ebb Tide Water Quality Monitoring Results on 20 April 19 Dissolved Suspended Solids | Total Alkalinity Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) Coordinate Coordinate Monitoring Speed Current Oxygen (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction Value Average Value Average Value Average Value DA Value DA DA DA Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Value (Northing) (Easting) 0.4 170 24.4 83 <0.2 Surface 24.4 8.4 23.9 98.1 0.4 175 24.4 8.4 23.9 98.0 12.9 14 0.3 168 24.4 11.4 15 88 <0.2 1.4 C1 12:40 8.2 24.3 96.8 15 815620 804248 <0.2 Cloudy Moderate Middle 24.4 8.4 1.5 0.4 169 24.4 8.4 24.3 96.8 7.0 11.4 14 88 <0.2 1.5 0.3 159 24.4 25.2 96.4 7.0 20.8 17 91 <0.2 1.4 8.4 25.2 96.4 7.0 Bottom 24.4 0.3 164 24.4 8.4 25.2 96.4 7.0 20.9 17 92 <0.2 1.4 1.0 0.5 147 23.8 7.9 20.2 91.6 6.9 6.7 14 85 <0.2 2.4 Surface 7.9 19.9 91.4 1.0 0.5 147 23.7 7.9 19.7 91.1 6.9 6.8 14 85 <0.2 2.4 6.9 4.8 0.5 198 23.8 7.9 7.9 19.7 91.2 6.9 7.0 7.8 16 90 <0.2 2.4 C2 Cloudy Moderate 11:53 9.6 Middle 7.9 20.0 91.5 825661 806941 <0.2 16 90 <0.2 4.8 0.5 200 24.0 20.2 91.8 6.9 2.4 207 215 7.9 7.9 91.7 91.4 8.6 0.5 24.0 20.3 6.9 9.4 16 17 94 <0.2 2.3 Bottom 7.9 20.2 91.6 6.9 6.9 9.2 8.6 0.5 23.8 20.1 93 <0.2 2.4 7.9 7.9 <0.2 1.0 0.5 62 23.6 23.4 91.8 6.8 6.3 13 86 19 Surface 23.6 7.9 23.4 91.8 13 1.0 1.8 0.6 66 23.6 23.4 91.8 6.8 6.1 86 6.8 5.5 6.2 90 90 23.5 23.5 14 1.8 6.2 0.3 93 23.2 92.1 6.9 <0.2 C3 Rainv Moderate 13:32 12.3 Middle 23.5 7.9 23.2 92.1 15 822107 817799 <0.2 1.9 7.9 15 0.3 23.2 92.0 6.8 96 17 67 10.6 < 0.2 0.2 23.4 7.9 25.6 91.7 6.8 6.8 94 2.0 Bottom 23.4 7.9 25.6 91.8 11.3 7.9 10.6 94 <0.2 0.2 23.4 25.6 91.9 6.8 2.0 168 14 1.0 0.1 24.2 8.4 24.5 97.0 7.1 14.3 83 <0.2 2.0 Surface 24.2 8.4 24.5 97.0 177 24.2 97.0 14 84 <0.2 1.9 1.0 8.4 7.1 14.3 0.1 24.5 7.1 -- | -------817935 807108 IM1 Cloudy Moderate 13:06 5.3 Middle 87 2.0 < 0.2 -4.3 0.2 179 25.4 8.4 23.5 23.5 12.1 14 <0.2 2.0 99.0 7.1 Bottom 25.4 8.4 23.5 99.0 7.1 184 25.4 8.4 91 4.3 0.2 15 <0.2 2.0 24.2 8.4 8.4 83 <0.2 <0.2 1.8 0,1 24.0 98,6 7.2 7.2 10,2 24.2 8.4 24.0 98.6 Surface 1.0 0.1 149 24.2 10.2 13 83 7.2 14.0 14 <0.2 <0.2 1.8 24.2 8.4 24.0 98.5 88 818183 IM2 Rainv Moderate 13:11 7.8 Middle 24.2 8.4 24.0 98.5 806169 <0.2 3.9 0.2 178 24.2 8.4 14.1 14 88 0.2 179 24.1 7.1 7.1 18.4 15 <0.2 1.9 8.4 24.6 Bottom 24.1 8.4 24.6 97.1 6.8 0.2 186 24.1 8.4 24.6 18.4 16 93 <0.2 1.9 70 8.4 23.7 97.8 97.8 <0.2 Surface 24.2 23.7 97.8 1.0 0.3 74 24.2 8.4 7.2 13.2 11 84 <0.2 2.4 7.2 3.9 0.1 177 24.0 8.5 24.8 7.1 9.3 12 88 <0.2 2.3 96.6 Rainy Moderate 13:17 7.7 Middle 24.8 818783 805571 3.9 0.2 187 24.0 8.5 24.8 7.1 9.4 11 88 <0.2 0.1 214 24.0 8.5 96.4 7.0 10.2 14 91 <0.2 2.3 7.0 Bottom 96.4 6.7 0.1 229 24.0 8.5 7.0 10.2 14 91 < 0.2 1.0 0.1 125 24.1 8.5 24.2 98.3 9.1 16 83 87 <0.2 <0.2 2.4 Surface 24.1 8.5 24.2 98.3 8.5 98.2 72 9.1 1.0 0.1 128 24.1 15 22 88 88 2.4 3.8 0.2 129 23.9 8.5 26.0 97.2 7.1 21.8 <0.2 IM4 Rainy Moderate 13:25 7.6 Middle 23.9 8.5 26.0 97.2 88 819705 804613 <0.2 2.3 8.5 97.2 23 3.8 0.2 140 23.9 26.0 7 1 21.9 6.6 0.2 168 23.9 8.5 8.5 26.9 97.2 97.3 7.0 13.6 23 91 <0.2 2.2 7.0 Bottom 23.9 8.5 26.9 97.3 6.6 0.2 181 23.9 13.7 24 91 < 0.2 1.0 0.2 114 24.4 8.4 8.4 24.0 98.1 7.2 7.2 16.9 14 83 <0.2 2.6 Surface 24.4 8.4 24.0 98.1 98.1 16.9 14 88 <0.2 1.0 0.2 129 24.4 7.2 2.3 3.9 133 9.6 15 88 0.0 24.3 8.4 24.4 97.8 7.1 <0.2 13:34 7.7 8.4 97.8 820726 804847 <0.2 2.5 IM5 Rainy Moderate Middle 24.3 24.4 8.5 97.8 16 88 <0.2 3.9 0.0 135 24.3 24.4 7.1 9.7 177 24.2 17 91 <0.2 2.6 6.7 0.2 8.5 8.5 24.9 24.9 97.3 97.3 7.1 7.1 11.5 8.5 24.2 24.9 97.3 Bottom 183 11.5 <0.2 0.2 24.2 1.0 11 <0.2 0.2 121 24.0 8.4 20.3 96.0 7.2 10.4 83 2.4 24 0 8.4 Surface 20.3 96.0 8.4 20.3 95.9 10.4 88 <0.2 2.4 125 23.9 10 1.0 0.2 154 18.6 2.4 4.1 0.0 23.9 8.4 23.9 95.8 7.0 15 88 <0.2 Moderate 13:41 8.1 8.4 23.9 95.8 821044 805838 <0.2 2.4 IM6 Rainv Middle 23.9 168 8.4 23.9 95.8 18.6 14 88 <0.2 2.4 4.1 0.0 23.9 7.1 0.1 203 24.0 8.5 24.5 96.0 7.0 15.8 18 <0.2 2.4 24.0 8.5 24.5 96.0 7.0 Bottom 8.5 15.9 19 91 0.1 210 24.0 1.0 0.2 168 24.1 18.6 83 <0.2 2.4 8.3 94.5 7.1 Surface 24.1 8.3 18.6 94.5 7.2 171 8.3 18.6 94.4 84 <0.2 2.5 24.1 0.1 159 24.0 88 <0.2 2.5 IM7 Rainy Moderate 13:48 8.2 Middle 24.0 8.4 19.4 94.2 821348 <0.2 2.7 0.1 161 24.0 8.4 19.4 94.2 6.4 9 88 <0.2 2.5 21.6 95.6 7.1 7.2 0.2 210 24.1 8.4 13.9 14 91 <0.2 2.4 Bottom 8.4 95.7 217 24.1 8.4 21.6 14.0 14 0.1 1.0 0.2 165 23.6 7.9 20.9 90.3 6.8 5.3 10 86 <0.2 2.5 Surface 7.9 20.8 90.4 1.0 0.2 170 23.6 7.9 20.8 90.4 6.8 5.3 11 86 <0.2 2.5 6.9 4.2 0.3 23.7 7.9 20,6 91.3 6.9 5.3 14 91 <0.2 2.4 IM8 Cloudy Moderate 12:15 8.3 Middle 23.7 7.9 20.6 91.5 14 821808 808121 <0.2 2.5 4.2 0.3 181 23.7 7.9 20.6 91.6 6.9 5.5 14 90 <0.2 2.4 7.3 0.2 153 23.6 7.9 23.9 93.8 6.9 11.5 16 94 <0.2 2.6 Bottom 23.6 7.9 23.9 93.9 6.9 155 23.6

DA: Depth-Averaged

during Mid-Ebb Tide Water Quality Monitoring Results on 20 April 19 Dissolved Suspended Solids | Total Alkalinity Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) Coordinate Coordinate Monitoring Current Oxygen (mg/L) (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction Value Average Value Average Value Average Value DA DA DA DA Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Value Value (Northing) (Easting) 0.4 143 23.6 <0.2 2.5 Surface 23.6 7.9 20.4 91.0 156 23.6 20.4 6.9 10 6,9 4.4 0.4 117 23.5 6.9 5.1 10 90 <0.2 2.4 12:22 8.7 822092 808813 <0.2 IM9 Cloudy Moderate Middle 23.5 7.9 20.2 91.4 9.2 11 2.3 4.4 0.4 127 23.5 7.9 20.2 91.4 6.9 5.7 10 91 <0.2 2.6 6.8 0.4 103 23.5 23.4 91.6 91.7 17.0 13 94 <0.2 7.9 23.4 91.7 Bottom 0.4 105 23.5 79 23.4 6.8 16.9 13 94 <0.2 19 21.3 1.0 0.8 133 23.5 7.9 90.9 6.8 5.3 10 86 <0.2 2.4 Surface 7.9 91.0 1.0 0.9 135 23.5 7.9 21.3 91.0 6.8 5.3 10 86 <0.2 2.4 6.9 4.2 0.7 115 23.6 7.9 7.9 21.2 91.5 6.9 5.9 11 91 <0.2 2.4 IM10 Cloudy Moderate 12:28 8.4 Middle 7.9 21.2 91.5 12 822388 809783 <0.2 < 0.2 4.2 0.8 125 23.6 21.2 91.5 6.9 6.0 10 90 2.3 7.9 7.9 23.0 6.8 7.4 0.6 103 23.5 91.3 8.1 14 94 <0.2 2.1 Bottom 23.5 7.9 23.0 91.4 110 23.0 91.5 2.0 7.4 0.6 23.5 8.2 15 94 <0.2 7.9 7.9 <0.2 2.3 1.0 0.8 101 23.6 21.8 91.4 6.8 11.4 21 85 Surface 23.6 7.9 21.8 91.5 22 1.0 0.8 109 23.6 21.8 91.5 6.8 11.6 86 6.9 21 22 90 91 15.7 2.4 3.9 0.7 111 23.5 22.0 92.2 6.9 <0.2 IM11 Cloudy Moderate 12:40 7.8 Middle 23.5 7.9 22.0 92.3 22 90 822069 811479 <0.2 2.3 7.9 3.9 0.7 116 23.5 22.0 92.3 6.9 14.6 17.6 23 < 0.2 2.4 6.8 0.6 112 23.4 7.9 22.1 91.5 6.9 6.9 94 Bottom 23.4 7.9 22.1 91.5 7.9 17.5 95 <0.2 6.8 0.7 120 23.4 22.1 91.5 6.9 22 2.4 21.1 114 1.0 0.7 23.5 7.9 91.4 91.4 6.9 8.4 18 86 <0.2 2.4 23.5 7.9 91.4 Surface 0.8 123 23.5 7.9 21.1 8.2 19 90 <0.2 2.3 1.0 6.9 6.9 10.9 18 90 4.1 0.4 23.6 7.9 21.7 91.5 6.9 <0.2 2.1 821445 812033 M12 Moderate 12:48 8.2 Middle 23.6 7.9 21.7 91.5 20 2.2 Rainv < 0.2 4.1 0.4 23.6 21.7 6.9 10.9 19 90 <0.2 65 7.9 13.9 21 94 <0.2 2.2 0.3 23.5 22.5 92.1 6.9 Bottom 23.5 7.9 22.5 92.2 6.9 7.2 0.4 66 23.5 22 <0.2 2.0 23.8 7.9 7.9 21.1 92.7 92.7 7.6 23.8 7.9 21.1 92.7 Surface 1.0 7.0 7.6 13 23.7 7.0 SR1A Rainv Moderate 13:03 5.5 Middle 819977 812660 2.8 23.6 9.1 15 21.1 93.0 7.0 Bottom 23.6 7.9 21.1 93.1 7.0 23.6 15 96 23.6 22.3 86 <0.2 Surface 23.6 7.9 22.3 92.2 1.0 0.8 98 23.6 7.9 92.2 6.9 7.9 18 86 <0.2 3.0 6.9 -SR2 Rainy Moderate 13:14 4.4 Middle 821455 814166 7.9 6.9 6.9 3.4 0.6 92 23.6 22.6 92.3 9.2 18 91 <0.2 2.3 7.9 92.4 Bottom 92.5 3.4 0.6 93 23.6 9.2 10 QΩ <0.2 1.0 0,1 210 23.6 20.4 89.8 6.8 5.8 5.7 Surface 23.6 7.9 89.8 20.4 89.8 13 1.0 0.1 224 23.6 6.8 6.8 4.3 0.1 172 23.7 7.9 19.9 90.4 6.8 5.1 16 -SR3 Cloudy Moderate 12:09 8.6 Middle 23.7 7.9 19.9 90.6 17 822151 807551 90.7 16 4.3 0.1 176 23.7 199 6.9 5.0 --7.6 0.1 91 23.5 7.9 7.9 23.0 92.2 6.9 6.9 12.7 22 6.9 Bottom 23.5 7.9 23.0 92.3 7.6 0.1 94 23.5 13.9 1.0 0.4 63 24.4 8.4 8.4 23.5 96.2 7.0 12.1 16 Surface 24.4 8.4 23.5 96.2 96.2 12.1 1.0 0.4 66 24.4 7.0 16 7.0 7.0 13.8 4.8 0.3 59 24.4 8.4 24.3 95.5 95.5 20 ---SR4A 12:28 9.6 8.4 817192 807831 Cloudy Moderate Middle 24.4 24.3 95.5 20 7.0 13.9 4.8 0.3 59 24.4 8.4 24.3 20 7.0 16.9 8,6 0.2 58 24.4 8.4 24.7 96.1 96.1 7.0 24 8.4 ---24.4 24.7 96.1 Bottom 8.4 17.0 8.6 0.2 24.4 23 1.0 0.1 112 24.0 8.4 23.8 94.3 6.9 10.6 12 ---8.4 24.0 23.8 94.3 Surface 114 23.8 94.3 6.9 12 8.4 10.6 1.0 0.1 24.0 6.9 ---------SR5A 12:09 4.5 13 816597 810687 Cloudy Moderate Middle _ 10.6 6.9 6.9 3.5 0.3 121 24.0 8.4 23.7 94.4 10.5 14 -24.0 8.4 23.8 94.5 Bottom 6.9 10.6 0.3 131 24.0 1.0 0.1 182 23.9 8.2 7.1 ---Surface 23.9 8.2 21.9 95.1 191 8.2 21.9 95.0 4.4 1.0 0.1 23.8 7.1 7.1 SR6 Cloudy Moderate 11:54 4.7 Middle -817905 814660 22.4 3.7 0.0 146 23.8 8.2 93.8 7.0 7.0 11.0 12 Bottom 8.2 93.8 0.0 147 23.8 8.2 03.8 11.0 12 1.0 1.2 23.5 24.3 92.9 4.3 Surface 24.3 92.9 1.0 1.2 79 23.5 7.9 24.3 92.9 6.9 4.1 8 -6.9 24.3 7,4 8.0 91 23.5 7.9 92,6 6.8 3.0 9 SR7 Moderate 13:56 14.8 Middle 7.9 24.3 92.5 823619 823762 Rainy 7.4 0.8 93 23.5 7.9 24.3 92.4 6.8 3.1 10 13.8 0.4 132 23.4 7.9 26.1 92.2 6.8 4.2 10 Bottom 7.9 26.1 92.3 6.8 13,8 0.4 138 23.4 7.9 26.1 6.8 4.5 10 1.0 23.7 7.9 21.4 92.7 6.9 8.0 14 Surface 23.7 7.9 21.4 92.8 1.0 23.7 7.9 21.4 92.8 7.0 8.3 14 7.0 -. -820370 SR8 Rainy Moderate 12:54 4.8 Middle 15 811604 -. -16 3.8 23.7 7.9 7.0 7.0 8.9 21.6 93.6 -. 23.7 7.9 21.6 93.8 7.0 3.8 23.7

DA: Depth-Averaged

Water Quality Monitoring Results on 20 April 19 during Mid-Flood Tide Dissolved Suspended Solids | Total Alkalinity Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) Coordinate Coordinate Monitoring Speed Current Oxygen (mg/L) (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction Value Average Value Average Value Average Value DA Value DA DA DA Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Value (Northing) (Easting) 0.1 24.4 <0.2 1.6 Surface 24.4 8.4 24.7 98.0 0.1 30 24.4 8.4 24.7 98.0 12.9 15 <0.2 7.1 4.3 99 13.8 87 <0.2 1.6 0.1 24.4 8.4 24.7 98.0 7.1 20 C1 20:07 8.6 84 24.7 20 815611 804235 <0.2 1.7 Middle 24.4 98.0 Rainv Moderate 134 89 8.4 24.7 98.0 13.9 19 89 <0.2 1.8 4.3 105 24.4 7.1 0.1 7.6 0,1 184 24.4 8.4 8.4 7.1 13.5 23 91 <0.2 1.6 24.8 98.1 24.4 8.4 7.1 Bottom 24.8 98.1 98.1 13.5 0.1 24.8 24 93 <0.2 1.7 7.6 193 24.4 1.0 0.1 20.5 23.5 6.9 10.4 87 < 0.2 2.6 Surface 23.5 7.9 20.5 92.0 7.0 10.5 15 88 <0.2 2.6 0.1 106 23.5 92.0 7.0 15 16 5.8 7.9 7.9 8.0 8.7 91 91 2.8 0.5 69 23.7 7.0 <0.2 19.4 92.0 C2 Cloudy Moderate 20:56 11.5 Middle 23.7 7.9 19.4 92.0 10.9 16 91 825689 806950 <0.2 5.8 0.5 74 23.7 19.4 92.0 10.5 14.0 16 95 <0.2 0.6 52 23.5 7.9 7.9 20.9 91.6 91.6 6.9 2.5 6.9 Bottom 23.5 7.9 20.9 91.6 10.5 0.6 23.5 14.0 96 <0.2 2.4 1.0 0.3 256 23.3 87 1.8 7.9 26.5 6.7 2.4 <0.2 91.0 Surface 23.3 7.9 26.5 91.0 0.3 271 23.3 26.5 90.9 6.7 2.4 8 88 <0.2 1.8 1.0 6.7 3.2 5.4 0.5 266 23.3 7.9 6.7 12 91 <0.2 2.5 27.3 91,6 C3 19:01 12 822088 817803 Rainv Moderate 10.8 Middle 23.3 7.9 27.3 91.6 <0.2 2.1 0.5 13 91 <0.2 23.3 9.8 0.3 277 23.2 7.9 7.9 28.5 90.5 90.6 6.6 7.5 7.4 15 95 <0.2 1.6 6.6 Bottom 23.2 7.9 28.5 90.6 288 28.5 94 1.0 0.2 353 24.2 8.4 24.2 98.0 7.2 8.2 19 85 <0.2 1.6 Surface 24.2 8.4 24.2 98.0 1.0 0.3 325 24.2 8.4 24.2 97.9 7.2 8.2 19 86 <0.2 1.6 --------3.8 817966 Rainy Moderate 19:22 Middle <0.2 2.8 0.1 209 24.2 24.4 97.7 97.7 8.9 21 91 <0.2 Bottom 24.2 8.4 24.4 97.7 7.1 0.1 212 24.2 8.4 24.4 7 1 8.9 22 92 <0.2 1.9 1.0 0.4 359 24.2 8.4 24.2 98.2 7.2 6.9 12 86 <0.2 1.6 Surface 8.4 24.2 98.2 1.0 0.4 330 24.2 8.4 24.2 98.2 7.2 6.9 13 86 <0.2 1.6 24.2 3.8 0.2 27 24.2 8.4 98.0 7.2 6.6 15 89 <0.2 1.6 IM2 Rainy Moderate 19:17 7.5 Middle 8.4 98.0 818172 806172 <0.2 6.7 0.2 24.2 8.4 24.2 98.0 7.2 15 90 <0.2 1.6 7.1 6.5 0.2 24.3 8.4 24.5 98.0 11.4 15 91 <0.2 1.6 Bottom 24.3 8.4 24.5 98.0 6.5 0.2 24.3 8.4 24.5 97 Q 7 1 113 16 91 <0.2 1.6 1.0 0.4 24.1 8.4 23.3 97.5 9.3 14 84 <0.2 2.1 Surface 8.4 23.2 97.5 7.2 8.4 23.2 9.3 15 86 <0.2 19 1.0 0.4 38 24.1 97.5 7.2 9.2 15 15 88 90 4.1 0.2 16 24.1 8.4 24.1 97.4 7.1 <0.2 1.8 IM3 Rainy Moderate 19:08 8.1 Middle 24.1 8.4 24.1 97.4 818792 805577 <0.2 0,2 16 8.4 7 1 16 4 1 24.1 24 1 97 4 7.1 0.1 42 24.0 8.5 26.1 96.7 7.0 10.7 19 91 < 0.2 1.7 7.0 Bottom 24.0 8.5 26.1 96.8 8.5 96.8 7.0 18 1.9 7.1 0.1 42 24.0 26.1 10.8 92 < 0.2 8.5 1.0 0.2 23 24.3 24.6 98.0 7.1 12.5 19 84 <0.2 2.8 Surface 24.3 8.5 24.5 98.0 1.0 24.3 8.5 12.5 85 <0.2 1.8 0.3 23 24.5 98.0 18 15.2 87 1.9 4.0 0.3 15 24.3 8.5 25.4 98.1 7.1 22 <0.2 Moderate 18:57 8.0 24.3 8.5 25.4 98.1 21 819717 804586 2.0 IM4 Rainv Middle 15.3 89 < 0.2 4.0 0,3 16 24.3 8.5 7.1 15.2 22 89 <0.2 2.0 25.4 345 18.0 <0.2 1.8 0.1 24.2 8.5 7.0 22 93 24.2 8.5 26.0 97.2 97.2 7.0 Bottom 26.0 7.0 355 24.2 18.0 22 94 <0.2 0.2 8.4 1.0 0.5 24.4 23.7 23.7 98.2 98.2 6.4 19 83 <0.2 1.5 Surface 24.4 8.4 98.2 1.0 0.5 24.4 7.2 6.4 20 84 <0.2 1.5 7.2 8.2 19 87 3.9 0.3 24.3 8.4 23.7 97.9 7.2 <0.2 1.4 IM5 Rainv Moderate 18:46 7.8 Middle 24.3 8.4 23.7 97.9 820722 804864 <0.2 3.9 24.3 8.2 20 88 <0.2 0.4 24.2 8.5 25.7 97.6 7.1 15.0 21 92 <0.2 1.4 24.2 8.5 25.7 97.6 7.1 Bottom 6.8 0.3 24.2 8.5 15.1 93 22 306 21.6 21.6 84 <0.2 1.6 1.6 8.4 14.7 Surface 24.0 8.4 21.6 95.6 84 1.0 0.1 308 24.0 8.4 7.1 14.7 11 1.7 0.1 24.0 8.4 95.8 8.2 14 88 <0.2 22.1 Rainy Moderate 7.6 Middle 22.1 95.9 821074 805840 3.8 0.1 37 24.0 8.4 22.1 95.9 7.1 8.2 15 92 <0.2 7.1 6,6 0.3 26 24.0 8.4 24.4 19.4 17 92 <0.2 1.6 6.6 0.3 24.0 8.4 10.3 16 0.3 <0.2 15 1.0 0.2 315 23.9 8.3 18.4 8.0 83 <0.2 1.7 Surface 95.1 95.1 1.0 0,2 335 23.9 83 18.4 7,2 8,1 12 84 <0.2 2.0 7.2 12 1.8 4.0 0.2 51 24.0 8.4 19.5 95.0 7.2 6.4 88 <0.2 IM7 Rainy Moderate 18:29 7.9 Middle 24.0 8.4 19.5 95.1 821360 806817 <0.2 1.8 4.0 0.2 54 24.0 8.4 19.5 95.1 7.2 6.5 13 88 <0.2 6.9 0.2 91 24.0 8.4 22.1 95.5 7.1 11,3 20 91 <0.2 1.7 Bottom 24.0 8.4 22.1 95.5 7.1 6.9 0.2 93 24.0 8.4 11.4 19 92 < 0.2 1.0 0.3 63 23.4 7.9 19.5 90.7 6.9 4.8 16 88 <0.2 2.4 Surface 23.4 7.9 19.5 90.8 <0.2 90.8 4.9 5.2 16 1.0 0.3 66 23.4 19.5 6.9 88 2.4 7.0 0.5 23.4 7.9 19 91 2.4 4.0 81 19.3 92.1 7.0 <0.2 821833 808122 IM8 Rainy Moderate 20:30 8.0 Middle 23.4 7.9 19.3 92.3 19 92 <0.2 2.4 5.3 92 7.9 92.5 19 0.6 87 23.4 19.3 7.1 4.0 7.9 7.9 7.2 <0.2 2.2 7.0 0.4 69 23.4 20.3 7.0 20 95 92.0 23.4 7.9 7.0 Bottom 20.3 92.1

DA: Depth-Averaged

Water Quality Monitoring Results on 20 April 19 during Mid-Flood Tide Dissolved Suspended Solids | Total Alkalinity Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) Coordinate Coordinate Monitoring Current Oxygen (mg/L) (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction Value Average Value Average Value Average Value DA DA DA DA Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Value Value (Northing) (Easting) 0.2 23.4 <0.2 Surface 23.4 7.9 19.8 90.1 0.2 23.4 19.8 6.9 6.3 3.8 0.3 62 23.4 6.9 6.3 12 91 <0.2 2.3 7.6 90.5 12 822074 808789 <0.2 2.3 IM9 Rainy Moderate 20:23 Middle 23.4 7.9 19.8 0.3 23.4 7.9 19.8 90.6 6.9 6.4 12 92 <0.2 2.8 6.9 6.6 0.3 64 23.3 91.5 19.0 14 95 <0.2 7.9 21.9 91.6 Bottom 0.3 66 23.3 7.9 21.9 91.6 6.9 19.0 12 95 <0.2 19 21.1 1.0 0.4 72 23.4 7.9 89.8 6.8 9.7 16 87 <0.2 2.2 Surface 7.9 89.8 1.0 0.4 72 23.4 7.9 21.1 89.8 6.8 10.0 16 88 <0.2 2.2 6.8 4.2 0.3 35 23.3 7.9 7.9 20.6 90.3 6.8 10.9 18 17 92 <0.2 2.2 IM10 Rainv Moderate 20:16 8.4 Middle 7.9 20.6 90.5 822386 809775 <0.2 91 < 0.2 4.2 0.3 36 23.3 20.6 90.6 6.9 10.2 2.2 7.9 7.9 21.5 21.5 91.2 91.3 6.9 7.4 0.1 326 23.3 12.2 18 95 < 0.2 2.0 Bottom 7.9 21.5 91.3 337 19 7.4 0.1 23.3 12.4 96 <0.2 2.0 7.9 7.9 <0.2 1.0 0.3 283 23.3 24.0 91.4 6.8 11.5 13 87 1.8 Surface 23.3 7.9 24.0 91.4 14 1.7 1.0 0.3 283 23.3 24.0 91.4 6.8 11.5 88 6.8 17 276 277 23.3 7.9 7.9 13.4 91 92 1.8 4.5 0.2 23.9 91.7 6.8 <0.2 IM11 Rainy Moderate 20:03 89 Middle 23.3 7.9 23.9 91.8 17 92 822065 811483 <0.2 1.8 17 4.5 0.2 23.9 6.8 14.0 91.8 165 17.6 20 < 0.2 7.9 0.2 23.4 7.9 7.9 24.0 92.0 6.8 6.8 95 Bottom 23.4 7.9 24.0 92.1 166 17.9 20 96 1.8 7.9 0.2 23.4 24.0 92.1 6.8 < 0.2 269 1.0 0.2 23.4 7.9 23.9 91.5 6.8 7.3 13 87 <0.2 2.0 23.4 7.9 23.9 91.5 Surface 0.2 270 23.4 7.9 23.9 91.5 6.8 7.2 14 88 <0.2 1.8 1.0 6.8 7.2 17 92 1.9 4.2 0.2 276 23.5 7.9 23.8 91.8 6.8 <0.2 821449 812023 M12 Moderate 19:56 8.3 Middle 23.5 7.9 23.8 91.8 92 1.9 Rainv < 0.2 4.2 0.3 23.5 23.8 6.8 16 92 <0.2 299 188 7.9 24.3 19.9 18 95 <0.2 1.8 0.2 23.3 91.4 6.8 Bottom 23.3 7.9 91.5 6.8 7.3 192 23.3 96 <0.2 0.2 23.5 7.9 7.9 23.8 90.8 6.7 8.5 23.5 7.9 23.8 90.8 Surface 1.0 6.7 8.4 14 23.5 6.7 SR1A Rainv Moderate 19:34 5.6 Middle 819977 812662 2.8 23.5 11.1 18 24.0 90.6 6.7 Bottom 23.5 7.9 24.0 90.6 6.7 4.6 23.5 6.7 11.0 18 111 23.4 Surface 23.4 7.9 23.8 90.8 1.0 0.1 121 23.4 7.9 90.8 6.7 16 87 <0.2 2.2 6.7 -SR2 Rainy Moderate 19:20 Middle 821451 814158 7.9 6.8 6.8 3.6 0.2 323 23.5 23.9 91.1 9.5 18 91 <0.2 1.9 7.9 91.1 Bottom 91.1 3.6 0.2 351 23.5 23.0 9.5 18 91 <0.2 2.2 1.0 0.3 151 23.3 16.9 89.4 6.9 2.7 Surface 23.3 7.8 16.9 16.9 89.4 1.0 0.3 163 23.3 6.9 6.9 44 0.3 98 23.3 7.8 17.0 89.0 6.9 4.9 8 -SR3 Rainy Moderate 20:37 8.8 Middle 23.3 7.8 17.0 89.0 822137 807585 17.0 9 4.4 0.3 100 23.3 89.0 6.9 5.2 ----7.8 0.6 74 23.4 7.9 7.9 18.9 88.7 88.7 6.8 6.1 11 Bottom 23.4 7.9 18.9 88.7 6.8 0.6 23.4 6.1 12 1.0 0.4 84 24.3 8.4 8.4 24.8 97.6 7.1 9.4 20 20 Surface 24.3 8.4 24.8 97.6 24.8 97.6 1.0 0.4 88 24.3 7.1 9.4 4.0 0.5 90 24.3 8.4 24.8 96.9 7.1 10.4 22 ---SR4A 20:33 7.9 8.4 22 817178 807831 Rainy Moderate Middle 24.3 24.8 96.9 10.3 96.9 10.5 22 4.0 0.5 96 24.3 8.4 24.8 7.0 11.0 25 6,9 0.5 74 24,2 8.4 25.2 25.2 96.7 96.8 7.0 8.4 ---24.2 25.2 96.8 Bottom 8.4 11.1 6.9 0.5 24.2 1.0 0.1 291 24.2 8.4 23.8 97.1 7.1 12.5 18 ---8.4 24.2 23.8 97.1 Surface 8.4 23.8 97.0 17 288 7.1 12.6 1.0 0.1 24.2 7.1 ---------SR5A 20:48 3.7 19 816581 810679 Rainv Moderate Middle 12.8 _ 7.0 7.0 0.2 208 24.2 8.4 24.1 95.3 13.1 19 24.2 8.4 24.1 95.4 Bottom 8.4 13.0 0.3 208 24.2 20 338 24.0 21.9 94.5 7.0 ---Surface 24.0 8.4 21.9 94.4 346 24.0 8.4 21.9 94.3 7.0 4.5 1.0 0.2 7.0 SR6 Rainy Moderate 21:14 3.6 Middle -817910 814645 22.9 22.9 2.6 0.1 287 24.2 8.4 93.1 6.9 6.9 7.0 13 Bottom 8.4 93.2 0.1 295 24.2 8.4 12 1.0 0.1 296 23.1 89.2 4.7 14 Surface 27.7 1.0 0.1 316 23.1 7.9 27.7 89.3 6.5 5.0 14 -6.5 7.3 0.3 283 23.1 7.9 28.6 89.4 6.5 7.2 7.4 17 SR7 Moderate 18:33 14.6 Middle 7.9 28.6 89.4 823641 823761 Rainy 0.4 286 23.1 7.9 28.6 89.4 6.5 16 6.6 13.6 0.2 256 23.1 7.8 28.4 90.5 6.4 18 Bottom 7.8 28.4 90.6 13,6 0.2 257 23.1 7.8 28.4 6.6 6,5 18 1.0 23.4 7.9 23.7 90.7 6.7 17 Surface 23.4 7.9 23.7 90.8 17 1.0 23.4 7.9 23.7 90.8 6.7 7.9 6.7 -. -820377 SR8 Rainy Moderate 19:43 4.3 Middle 18 811640 . . -20 3.3 23.5 7.9 7.4 24.0 90.6 6.7 -23.5 7.9 24.0 90.6 6.7 3.3 23.5

DA: Depth-Average

during Mid-Ebb Tide Water Quality Monitoring Results on 23 April 19 Dissolved Suspended Solids | Total Alkalinity Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) Coordinate Coordinate Monitoring Speed Current Oxygen (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction Value Average Value Average Value Average Value DA Value DA DA DA Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Value (Northing) (Easting) 0.1 122 25.0 <0.2 3.8 Surface 25.0 8.0 15.0 83.7 0.1 147 25.0 8.0 15.0 83.8 5.6 0.1 165 25.0 6.4 5.3 93 <0.2 3.5 C1 8.1 84.4 815633 804267 <0.2 Sunny Moderate 15:08 Middle 25.0 8.1 15.1 6.3 6 3.6 0.1 166 25.0 8.1 15.1 84.5 6.4 5.3 6 93 <0.2 3.6 6.5 0.1 157 24.9 18.1 86.8 7.8 93 <0.2 3.4 8.1 18.1 86.9 Bottom 24.9 0.1 157 24.9 8.1 18.1 87.0 6.5 7.9 94 <0.2 3.6 1.0 0.4 119 23.9 13.3 81.0 6.3 2 83 <0.2 3.8 Surface 7.7 13.3 81.1 7.7 1.0 0.4 120 23.9 13.3 81.1 6.3 3.3 84 <0.2 3.9 6.5 4.1 0.4 152 23.9 7.7 14.9 85.4 6.6 12.2 2 88 <0.2 3.9 C2 Sunny Calm 13:56 8.1 Middle 7.7 14.9 85.6 825666 806933 <0.2 85.7 < 0.2 3.8 4.1 0.5 153 23.9 14.9 6.6 12.2 88 7.7 6.6 2.0 7.1 0.3 158 24.2 11.9 83.9 3 91 <0.2 3.8 Bottom 24.2 7.7 11.9 83.9 159 83.9 0.3 24.2 11 9 91 <0.2 3.8 17.8 7.9 7.9 <2 <2 <0.2 <0.2 1.0 0.3 131 25.5 94.1 7.0 12 1 84 3.2 Surface 25.5 7.9 17.8 94.1 7.0 17.8 12.2 84 3.4 1.0 0.3 136 25.4 94.0 6.9 3.9 4.0 88 88 23.1 2 6.5 0.2 143 24.4 92.8 6.8 <0.2 3.4 C3 Sunny Calm 15:37 12.9 Middle 24.4 7.9 23.1 92.8 88 822118 817826 <0.2 3.0 6.5 7.9 0.3 144 24.4 23.2 92.8 6.8 3.4 11.9 168 6.7 1.6 91 < 0.2 0.1 24.2 7.9 25.1 92.7 2.2 Bottom 24.2 7.9 25.1 92.8 6.8 11.9 174 7.9 1.6 91 <0.2 0.1 24.2 25.1 92.9 2.3 238 1.0 0.2 27.1 8.0 15.3 89.5 6.5 4.0 89 <0.2 3.5 Surface 27.1 8.0 15.3 89.3 241 27.0 15.3 90 <0.2 3.5 1.0 0.2 8.0 89.1 6.5 4.0 4 6.5 -- | ------817957 807145 IM1 Moderate 14:48 5.8 Middle 3.5 Sunny < 0.2 -6.6 4.8 0.1 175 26.2 8.0 13.6 3.8 4 92 <0.2 3.6 88.1 Bottom 26.2 8.0 13.6 88.2 182 26.1 93 4.8 0.1 <0.2 262 25.4 7.9 7.9 88 <0.2 <0.2 3.5 3.5 0,2 12.2 12.2 83.1 83.3 6.4 3,5 25.4 7.9 12.2 83.2 Surface 1.0 0.2 263 25.4 6.4 3.6 89 6.4 4.1 92 <0.2 <0.2 0.3 252 25.3 8.0 82.9 6.3 3.6 12.4 818140 IM2 Sunny Moderate 14:42 8.4 Middle 25.3 8.0 12.4 82.8 806162 <0.2 4.2 0.3 253 25.3 8.0 4.2 93 0.5 124 25.3 6.3 4.5 4 <0.2 3.5 8.0 13.3 82.4 Bottom 25.3 8.0 13.3 82.5 0.5 124 25.3 8.0 6.3 94 <0.2 3.6 222 79.8 80.0 89 <0.2 25.4 Surface 7.9 10.8 79.9 1.0 0.4 228 25.4 79 10.8 6.2 3.9 89 <0.2 3.3 6.3 4.2 0.5 228 25.4 7.9 10.9 81.7 6.3 4.0 3 92 <0.2 3.4 Sunny Moderate 14:35 8.3 Middle 10.9 82.0 818762 805585 4.2 0.5 229 25.5 7.9 10.9 82,3 6.3 4.0 4 92 <0.2 3.0 85.7 86.3 6.5 6.6 7.3 0.4 120 25.5 8.0 13.9 3.7 5 94 <0.2 3.1 86.0 Bottom 13.9 7.3 0.4 120 25.4 8.0 13.0 3.4 Q3 < 0.2 3.0 1.0 0.7 208 25.5 7.9 8.0 11.1 83.0 83.2 6.4 4.2 4.2 3 88 <0.2 <0.2 2.8 Surface 25.5 7.9 11.1 83.1 0.7 89 1.0 208 25.4 6.4 6.5 3.1 4.3 0.6 216 25.4 8.0 12.0 84.5 6.5 4.2 4 93 <0.2 IM4 Sunny Moderate 14:26 8.6 Middle 25.4 8.0 12.0 84.7 92 819705 804609 <0.2 3.2 8.0 84.9 4 94 4.3 0.7 227 25.4 12 0 6.5 4.6 7.6 0.5 149 25.1 8.1 18.5 87.9 88.1 6.5 6.6 6.5 6 94 <0.2 3.4 6.6 Bottom 25.1 8.1 18.5 88.0 8.1 7.6 0.6 153 25.1 5.9 94 < 0.2 3.4 5.0 5.1 4.6 1.0 0.9 222 24.6 7.9 7.9 12.0 12.0 80.3 80.4 6.2 88 <0.2 3.7 Surface 24.6 7.9 12.0 80.4 6.3 3 89 <0.2 3.6 1.0 0.9 229 24.6 6.3 214 90 4.2 0.8 24.6 8.0 11.9 81.4 81.7 6.3 4 <0.2 3.6 14:15 8.3 81.6 820753 804856 <0.2 3.6 IM5 Sunny Moderate Middle 24.6 8.0 11.9 8.0 11.9 4 91 <0.2 4.2 0.8 215 24.6 6.4 4.8 165 94 <0.2 3.6 7,3 0,6 24.7 8.0 8.0 14.5 14.5 84.5 84.8 6.5 6.5 6.5 6.2 5.7 6 24.7 84.7 8.0 14.5 Bottom 24.7 94 <0.2 0.6 1.0 0.5 200 26.0 8.1 15.2 88.1 6.6 4.4 88 <0.2 3.9 25.9 88.0 Surface 8.1 15.2 8.1 15.2 87.9 6.6 88 <0.2 4.0 211 25.8 4.4 0.6 6.6 25.2 4.5 92 3.5 0.3 212 8.1 17.6 86.5 6.5 6 <0.2 4.1 Moderate 14:02 6.9 8.1 17.6 86.5 821072 805835 <0.2 3.9 IM6 Sunny Middle 25.2 8.1 17.6 86.5 4.6 92 <0.2 3.5 0.3 208 25.1 6.5 6.5 5.9 0.3 207 25.0 8.1 18.1 86.6 86.7 5.2 6 93 <0.2 3.7 25.0 8.1 18.1 86.7 Bottom 8.1 6.5 94 3.8 0.3 25.0 1.0 0.5 193 24.7 89 <0.2 3.7 6.4 6.1 Surface 24.7 8.1 17.6 85.3 0.6 199 24.7 8.1 17.6 85.3 6.4 6.0 89 <0.2 3.6 0.4 213 24.7 93 <0.2 3.4 IM7 Sunny Moderate 13:57 7.4 Middle 24.7 8.1 17.7 85.7 821370 806830 <0.2 0.4 214 24.7 8.1 17.7 85.7 6.4 6.1 6 93 <0.2 3.4 6.4 0.3 168 24.7 8.2 19.0 87.2 6.5 6.5 12.0 6 95 <0.2 3.4 Bottom 24.7 8.2 19.0 87.3 160 24.7 19.0 12.0 95 3.4 1.0 0.3 188 24.8 9.8 78.9 6.2 88 <0.2 3.5 Surface 7.7 1.0 0.3 186 24.8 7.7 9.8 79.1 6.2 2.3 87 <0.2 3.4 6.4 0.4 185 24.1 12.2 83.6 6.6 13.1 4 91 <0.2 3.3 IM8 Calm 14:21 8.2 Middle 24.1 7.7 12.2 83.8 821811 808119 <0.2 3.4 Sunny 41 0.4 183 24.1 7.8 12.2 84.0 6.6 13.1 4 91 <0.2 3.2 7.2 0.5 24.0 7.8 14.9 86.4 6.7 18.1 5 92 <0.2 3.4 Bottom 24.0 7.8 14.9 86.7 6.7 177 24.0

DA: Depth-Averaged

during Mid-Ebb Tide Water Quality Monitoring Results on 23 April 19 Dissolved Suspended Solids | Total Alkalinity Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) Coordinate Coordinate Monitoring Current Oxygen (mg/L) (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction Value Average Value Average Value Average Value DA DA DA DA Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Value Value (Northing) (Easting) 0.3 179 24.3 <0.2 3.4 Surface 24.3 7.7 11.8 83.9 0.3 178 24.3 11.8 84.0 6.6 13.2 4.0 0.5 181 24.2 5.2 85 <0.2 3.6 7.9 12.7 822081 808814 <0.2 IM9 Sunny Calm 14:26 Middle 24.2 7.7 83.5 3.5 4.0 0.5 183 24.2 7.7 12.7 83.5 6.5 5.3 85 <0.2 3.4 6.4 6.5 6.9 0.4 173 24.2 7.7 15.3 83.8 4.3 91 <0.2 3.4 7.7 15.3 83.8 Bottom 24.2 6.9 0.4 178 24.2 15.3 83.8 6.5 4.2 92 <0.2 3.4 1.0 0.4 58 24.3 11.3 82.6 6.5 5.4 83 <0.2 3.3 Surface 7.7 11.3 82.8 7.7 1.0 0.4 61 24.2 11.3 82.9 6.5 5.4 4 88 <0.2 3.3 6.6 3.9 0.3 46 24,2 7.7 11.9 84.6 6,6 3.8 3 91 <0.2 3.5 IM10 Sunny Calm 14:32 7.8 Middle 7.7 11.9 84.7 822384 809771 <0.2 3.9 < 0.2 3.8 3.9 0.3 50 24.2 11.9 84.7 6.6 4 92 7.7 6.4 6.8 0.2 44 24.3 13.4 82.8 3.5 6 92 <0.2 3.6 Bottom 24.3 7.7 13.4 82.9 3.6 3.7 6.8 0.2 46 24.3 13.4 83.0 6 92 <0.2 24.7 24.7 7.8 7.8 <0.2 1.0 0.2 62 16.9 89.6 6.8 13.5 83 2.9 Surface 24.7 7.8 16.9 89.7 4 3.1 1.0 0.2 66 16.9 89.8 6.8 13.5 83 6.8 88 88 7.8 7.8 15.4 3.0 4.1 0.1 69 24.1 19.0 89.1 6.7 6 <0.2 IM11 Sunny Calm 14:43 8.1 Middle 24.1 7.8 19.0 89.1 12 1 6 88 822076 811471 <0.2 3.0 4.1 0.1 63 24.1 19.0 89.1 6.7 15.4 6 86.7 86.7 6.5 6.5 7.4 7.3 < 0.2 3.0 0.1 39 24.0 7.8 20.6 6.5 91 Bottom 24.0 7.8 20.6 86.7 7.8 92 <0.2 0.1 40 24.0 20.6 8 3.0 1.0 0.1 89 24.9 7.8 16.9 90.6 6.8 15.3 4 83 <0.2 3.0 24.9 7.8 90.6 Surface 16.9 24.9 7.8 16.9 90.6 6.8 15.3 84 <0.2 3.0 1.0 0.1 82 5 6.7 4.6 88 3.9 0.1 24.1 7.9 20.6 87.1 6.5 6 <0.2 3.1 7.7 821447 812058 M12 Calm 14:50 Middle 24.1 7.9 87.1 88 3.1 Sunny 20.6 < 0.2 3.9 0.1 24.1 20.6 6.5 4.7 6 88 <0.2 102 7.9 8.4 92 <0.2 3.0 0.1 23.9 22.4 89.1 6.6 8 Bottom 23.9 7.9 22.4 89.2 6.6 108 6.7 0.1 23.9 8.4 <0.2 3.2 24.7 7.8 7.8 16.8 89.2 6.7 13.9 24.7 7.8 89.1 Surface 16.8 1.0 6.7 14.0 24.6 6.7 SR1A Sunny Calm 15:10 3.7 Middle 819978 812654 1.9 24.3 9.6 7.8 19.0 91.3 6.9 Bottom 24.3 7.8 19.0 91.5 6.9 24.3 6.0 88 24.6 89.4 <0.2 Surface 24.6 7.8 16.9 89.3 1.0 0.4 22 24.6 6.7 4 88 <0.2 2.8 6.8 SR2 Sunny Calm 15:20 4.0 Middle 821477 814166 7.8 7.8 88.3 88.3 6.6 6.6 3.0 0.4 59 24.4 18.3 3.2 6 92 <0.2 2.8 88.3 Bottom 3.0 3.0 0.4 55 24.4 18.3 Q3 <0.2 2.8 1.0 0.2 94 24.9 9.2 78.7 78.7 6.2 7.1 7.1 Surface 24.9 7.6 78.7 92 1.0 0.2 96 24 9 6.2 6.4 7.7 4.0 0.4 126 24.3 12.1 83.1 6.5 3.0 6 -SR3 Sunny Calm 14:15 8.0 Middle 24.3 7.7 12.1 83.2 822153 807589 83.3 4.0 0.4 122 24.3 12 1 6.5 3.0 -7 ---7.0 0.5 166 24.2 7.8 7.8 14.2 85.7 86.6 6.6 6.7 3.9 6.7 Bottom 24.2 7.8 14.2 86.2 0.5 167 24.2 1.0 0.5 59 25.2 8.1 8.1 15.3 15.3 85.6 6.5 6.0 5.9 6 Surface 25.3 8.1 15.3 85.8 85.9 1.0 0.6 64 25.3 6.5 6 6.6 5.4 4.7 0.5 63 25.4 8.1 14.8 87.1 6.6 6 ---SR4A 15:19 9.4 87.2 817194 807823 Sunny Moderate Middle 25.4 8.1 14.8 8.1 14.8 87.3 6.6 4.7 0.5 63 25.4 5.3 8.0 6.8 4.9 8,4 0.5 54 28,1 15.0 15.0 94.5 94.6 6.8 8 ---28.1 8.0 15.0 94.6 Bottom 8.0 4.8 8.4 0.5 28.0 1.0 0.2 106 26.0 8.1 16.3 87.9 88.0 6.5 6.1 ---26.1 8.1 16.3 88.0 Surface 113 16.3 7 8.1 6.5 5.9 1.0 0.2 26.1 6.5 ---------SR5A 15:32 5.6 816589 810678 Sunny Calm Middle -6.6 6.7 4.6 0.2 114 26.4 8.1 16.2 90.1 4.9 -26.4 8.1 16.2 90.3 Bottom 8.1 6.7 4.5 4.6 0.2 121 26.4 1.0 0.1 60 27.6 90.3 6.5 ---Surface 27.6 8.1 15.6 90.3 62 8.1 15.6 90.2 6.5 3.1 1.0 0.1 27.6 5 6.5 SR6 Sunny Calm 15:57 4.9 Middle -817905 814650 15.7 3.9 0.0 88 27.4 8.1 90.9 6.6 6.6 3.8 5 Bottom 27.4 8.1 15.7 91.1 90 27.4 8 1 6.6 4.0 1.0 0.3 102 24.2 25.1 92.2 6.7 1.5 Surface 25.1 1.0 0.3 107 24.2 7.9 25.1 92.2 6.7 1.5 4 -6.7 9,3 0.2 105 24.0 7.9 23.7 91.1 6.7 5.9 4 SR7 Calm 16:04 18.6 Middle 24.0 7.9 23.7 91.1 823650 823761 Sunny 9.3 0.2 115 24.0 7.9 23.7 91.1 6.7 5.9 5 6.6 17.6 0.2 93 24.0 7.9 26.1 91.2 6.0 6 Bottom 24.0 7.9 26.1 91.3 17.6 0.2 95 24.0 7.9 91.3 6.6 6.0 1.0 24.8 7.8 16.9 89.8 6.8 1.8 Surface 24.8 7.8 17.0 89.6 1.0 24.7 7.8 17.0 89.4 6.8 1.9 2 6.8 ---820401 SR8 Sunny Calm 15:03 3.9 Middle 4 811646 . . -2.9 7.8 17.0 17.1 2.2 5 24.6 89.0 6.7 -. 24.6 7.8 17.1 88.9 6.7 2.9 24.5

DA: Depth-Averaged

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring Water Quality Monitoring Results on 23 April 19 during

during Mid-Flood Tide

Water Qua	lity Monit	oring Resu	its on		23 April 19	during Mid-	Flood I	ae																				
Monitoring	Weather	Sea	Sampling	Water	Sampling Dep	th (m)	Current Speed	Current	Water Te	emperature (°C)		рН	Salir	nity (ppt)	DOS	aturation (%)	Dissol Oxyge		Turbidity(NTU)	Suspende (mg/		Total Al		Coordinate HK Grid	Coordinate HK Grid	Chromiun (µg/L)	n 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	Value	DA	(Northing)	(Easting)	Va l ue D	A Value DA
					Surface	1.0	0.3	7	24.9 25.1	25.0	8.0	8.0	12.0	12.0	79.1 79.2	79.2	6.1	-	4.2	-	3 <2		88 89				<0.2	3.0
C1	Fine	Moderate	08:49	8.8	Middle	4.4	0.3	33	25.3	25.3	8.1	8.1	16.7	16.7	84.2	84.2	6.3	6.2	4.8	4.7	5	4	92	92	815622	804225	<0.2	3.2 3.1
						7.8	0.3	33 50	25.2 24.7		8.1 7.9		16.7 13.8		84.2 80.5		6.3 6.2		4.8 4.9	H	5 5		93 94				<0.2	3.2
					Bottom	7.8	0.4	53	24.7	24.7	7.9	7.9	13.8	13.8	80.7	80.6	6.2	6.2	4.9		5		94				<0.2	3.1
					Surface	1.0	0.4	15 15	24.2 24.2	24.2	7.7	7.7	10.9	10.9	81.4 81.4	81.4	6.4	6.4	2.4	L	3		83 84			1	<0.2	3.4
C2	Sunny	Moderate	10:20	8.7	Middle	4.4	0.4	355 327	24.1	24.1	7.7	7.7	13.1	13.1	81.2 81.3	81.3	6.3	·	2.0	2.8	3 4	4	88 88	88	825672	806962	<0.2 <0.2	3.5 3.5
					Bottom	7.7	0.3	1	24.2	24,2	7.7	7.7	14.9	14.9	83.6	83.7	6.4	6.4	3.9		4		91				<0.2	3.6
					Surface	7.7	0.3	249	24.2	24.5	7.7	7.8	14.9	15.1	83.7 84.5	84.5	6.4		3.9 1.8		5		92 83				<0.2	3.6
					Surface	1.0 5.2	0.5 0.8	268 254	24.5 24.4		7.8 7.8		15.1 16.1		84.4 84.5		6.5	6.5	1.8	F	<2 3		83 88			1	<0.2	3.1
C3	Sunny	Calm	08:35	10.4	Middle	5.2	0.8	269	24.4	24.4	7.8	7.8	16.1	16.1	84.7	84.6	6.5		2.3	4.2	4	3	88	88	822097	817804	<0.2	3.2
					Bottom	9.4	0.5	286 298	24.5 24.5	24.5	7.8	7.8	16.5 16.5	16.5	85.1 85.1	85.1	6.5 6.5	6.5	8.6 8.5	-	4		92 93			1	<0.2	3.1
	İ				Surface	1.0	0.6	13 13	25.0 25.0	25.0	7.9 7.9	7.9	12.3	12.3	81.2 81.4	81.3	6.3 6.3		3.4	F	4		89 89				<0.2	3.6
IM1	Fine	Calm	08:57	5.6	Midd l e	- 1.0	-	-	25.0	_	_	_	12.3		01.4	_	-	6.3	3.4	3.3	-	5	-	91	817969	807118	<u> </u>	37
					Bottom	4.6	0.1	277	25.1	25.1	8.0		12.5	40.5	83.6	00.0	6.4		3.3		6	-	92	-			<0.2	3.7
					Bottom	4.6 1.0	0.1	302 18	25.1 25.0		8.0 7.9	8.0	12.5	12.5	83.9 80.3	83.8	6.4	6.4	3.3 3.6		5 4		93 89				<0.2	3.8
					Surface	1.0	0.5	18	25.0	25.0	7.9	7.9	12.1	12.1	80.4	80.4	6.2	6.3	3.6		5		89			1	<0.2	3.6
IM2	Fine	Moderate	09:03	7.9	Middle	4.0	0.4	6	24.9 24.8	24.9	8.0	8.0	12.0	12.0	81.6 81.8	81.7	6.3	-	3.8	3.6	4 5	5	92 93	92	818178	806158	<0.2 <0.2	3.6 3.6
					Bottom	6.9	0.4	16 16	24.7 24.7	24.7	8.0	8.0	14.9	14.9	83.2 83.5	83.4	6.4	6.4	3.4	F	6		94 94			1	<0.2	3.6 3.5
					Surface	1.0	0.4	39	25.0	25.0	7.9	7.9	11.3	11.3	80.7	80.8	6.3		4.2		5		88				<0.2	3.6
IM3	Fine	Moderate	09:08	8.5	Middle	1.0 4.3	0.5	39 38	25.0 25.0	25.0	7.9 7.9	7.9	11.3	11,2	80.8 81.6	81,6	6.3	6.3	4.3 4.6	44	4 5	6	88 93	92	818806	805593	<0.2	3.6
IMS	rine	Moderate	09:08	6.5	Middle	4.3 7.5	0.5 0.4	41 24	24.9 24.7		8.0 8.0		11.2		81.6 82.7		6.3	_	5.1 4.0	*.* F	6 8	0	93 94	92	010000	005593	<0.2 <0.2	3.6
					Bottom	7.5	0.4	25	24.7	24.7	8.0	8.0	14.4	14.4	82.9	82.8	6.4	6.4	4.1		7		95				<0.2	3.7
					Surface	1.0	0.5	18 18	24.6 24.6	24.6	8.0	8.0	13.4	13.4	79.5 79.6	79.6	6.1	6.2	4.0	-	5		89 89			1	<0.2	3.8
IM4	Fine	Moderate	09:13	8.2	Middle	4.1	0.5 0.6	10 10	24.6 24.6	24.6	8.0 8.0	8.0	13.6 13.6	13.6	80.1 80.3	80.2	6.2 6.2	0.2	4.2 4.2	4.0	6	6	93 94	93	819716	804591	<0.2 <0	3.5 3.6
					Bottom	7.2	0.3	352	24.7	24.7	8.0	8.0	15.6	15.6	80.9	81.0	6.2	6.2	3.7	þ	7		95			1	<0.2	3.5
					Surface	7.2	0.4	324 9	24.7	24.8	8.0	8.0	15.6	14.1	81.1	80.5	6.2		3.7		6 5		95 89				<0.2	3.8
						1.0 4.3	0.7	9 11	24.8 24.8		8.0 8.0		14.1		80.5 81.3		6.0	6.2	3.7 4.1	F	5 4		88 93			1	<0.2	3.6
IM5	Fine	Moderate	09:21	8.6	Middle	4.3	0.8	11	24.8	24.8	8.0	8.0	13.8	13.8	81.7	81.5	6.3		4.1	3.9	6	5	93	92	820738	804853	<0.2	3.6
					Bottom	7.6	0.5	351 323	25.0 25.0	25.0	8.0	8.0	16.1	16.1	84.7 84.9	84.8	6.4	6.4	3.8 4.0	H	5 5		94 94			1	<0.2	3.6
					Surface	1.0	1.2	31 32	24.7 24.7	24,7	8.1 8.1	8,1	15.5 15.5	15,5	81.7 81.8	81.8	6.2 6.2	-	3.9 3.9	F	4 5		89 89				<0.2	3.6
IM6	Fine	Moderate	09:29	7.8	Middle	3.9	0.9	29	24.6	24.6	8.1	8.1	15.4	15.4	82.5	82.5	6.3	6.3	3.9	3.9	5	5	94	93	821041	805827	<0.2	3.5
					Bottom	3.9 6.8	0.9	31 29	24.6 24.5	24.5	8.1 8.1	8.1	15.4 15.8	15.8	82.5 82.7	82.9	6.3	6.3	3.9 3.8	H	6		94 95			1	<0.2	3.6
						6.8	0.9	30 25	24.5		8.1		15.8 17.7		83.0 85.1		6.3 6.4	0.5	4.2 6.4		6 5		95 88				<0.2	3.8
					Surface	1.0	0.7	25	24,7	24.7	8.1	8.1	17.7	17.7	85.1	85.1	6.4	6.4	6.2	þ	6		89			1	<0.2	3.8
IM7	Fine	Moderate	09:35	7.6	Middle	3.8	0.4	23 24	24.7	24.7	8.1	8.1	17.6 17.6	17.6	84.7	84.7	6.4	ŀ	5.6 5.7	6.1	6	6	92 93	92	821329	806848	<0.2 <0	3.7
					Bottom	6.6	0.2	5	24.7 24.8	24.8	8.1	8.1	18.0	18.0	85.1 85.3	85.2	6.4	6.4	6.2 6.5	F	7		94 94			1	<0.2	3.5
					Surface	1.0	0.2	62	24.2	24.2	7.6	7.6	10.4	10.4	80.4	80.4	6.4	\dashv	2.5		3		83				<0.2	3.4
10.40		Moderate	00.50	0.7		1.0 4.4	0.2	63 114	24.1		7.6 7.7		10.4		80.3 79.6		6.4	6.4	2.5	[}	3	4	84 87	87	821816	900400	<0.2	3.5
IM8	Sunny	Moderate	09:56	8.7	Middle	4.4 7.7	0.1	116 91	23.9 24.1	23.9	7.7	7.7	10.8 12.7	10.8	79.7 81.5	79.7	6.3	_	2.1	5.2	4 5	4	88 91	87	821816	808163	<0.2 <0.2	3.4 3.6 3.4
					Bottom	7.7	0.2	91	24.1	24.1	7.7	7.7	12.7	12.7	81.6	81.6	6.4	6.4	11.0		4		91				<0.2	3.5

during Mid-Flood Tide Water Quality Monitoring Results on 23 April 19 Dissolved Suspended Solids | Total Alkalinity Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) Coordinate Coordinate Monitoring Current Oxygen (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction Value Average Value Average Value Average Value DA DA DA DA Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Value Value (Northing) (Easting) 0.2 24.3 11.6 <0.2 3.2 Surface 24.3 7.6 11.6 82.0 0.2 82 24.3 11.6 82.0 1.9 3.5 4.0 0.2 77 24.3 2.4 4 88 <0.2 3.4 7.9 81.9 822093 808807 <0.2 3.4 IM9 Sunny Moderate 09:50 Middle 24.3 7.7 11.6 5.3 5 4.0 83 24.3 7.7 11.6 81.9 6.4 2.5 5 88 <0.2 3.6 6.4 6.9 0.1 90 24.3 7.7 82.1 11.6 91 <0.2 3.4 7.7 12.2 82.2 Bottom 24.3 0.1 94 24.3 12.2 82.3 6.4 11.6 92 <0.2 3.5 1.0 0.8 311 24.4 7.8 14.6 86.4 6.6 1.2 79 <0.2 3.0 Surface 7.8 14.6 86.5 1.0 0.8 313 24.4 7.8 14.6 86.5 6.7 1.2 4 84 <0.2 2.9 6.6 4.4 0.8 307 24.3 7.8 7.8 15.4 85.6 6.6 3.9 3.9 4 87 <0.2 2.8 IM10 Sunny Moderate 09:42 8.7 Middle 7.8 15.4 85.6 822374 809774 <0.2 < 0.2 4.4 0.8 322 24.3 15.4 85.5 6.6 89 3.0 7.8 7.8 6.6 7.7 0.6 318 24.3 15.4 85.5 4.2 6 91 <0.2 2.8 Bottom 24.3 7.8 15.4 85.6 85.6 42 0.7 333 24.3 15.4 6 91 <0.2 2.8 14.8 7.8 7.8 3 <0.2 2.9 3.0 1.0 0.6 279 24.3 86.5 6.7 1.1 83 Surface 24.3 7.8 14.8 86.6 6.7 1.0 0.6 282 24.3 14.8 86.6 84 6.7 7.6 7.7 87 87 24.2 24.2 7.8 7.8 4.2 0.5 290 16.6 87.0 6.6 3 <0.2 2.8 IM11 Sunny Moderate 09:33 8.3 Middle 24.2 7.8 16.6 87.0 87 822060 811471 <0.2 3.0 4.2 0.5 302 16.6 87.0 6.6 4 3.0 18.2 6 < 0.2 0.2 310 24.1 7.8 18.4 86.7 6.6 6.6 91 3.0 Bottom 24.1 7.8 18.4 86.9 7.8 18.2 91 <0.2 7.3 0.2 313 24.1 18.4 6.6 6 3.0 1.0 0.7 261 24.2 7.8 15.7 15.7 86.2 6.6 5.8 83 <0.2 3.3 24.2 7.8 15.7 86.2 Surface 0.7 280 24.2 7.8 86.2 6.6 5.8 83 <0.2 3.1 1.0 4 6.6 8.8 8.7 87 4.0 0.5 264 24.2 7.8 17.6 86.5 6.6 4 <0.2 3.3 821473 812059 M12 Calm 09:27 7.9 Middle 24.2 7.8 17.6 86.5 87 3.2 Sunny < 0.2 4.0 0.6 271 24.1 7.8 6.6 6 87 <0.2 3.2 6.9 0.3 24.2 7.8 19.4 85.6 85.7 11.4 <0.2 3.3 302 6.4 Bottom 24.2 7.8 19.4 85.7 6.4 6.4 6.9 0.4 323 24.2 <0.2 3.2 24.5 7.8 7.8 13.9 88.2 6.8 7.3 24.5 7.8 13.9 88.2 Surface 1.0 6.8 7.4 24.5 6.8 SR1A Sunny Calm 09:07 4.6 Middle 819973 812654 2.3 6.8 24.5 10.3 7.8 15.4 88.5 Bottom 24.5 7.8 15.4 88.6 24.5 6.8 10.3 326 Surface 24.3 7.8 16.3 1.0 0.8 337 24.3 16.3 6.7 2.5 4 84 <0.2 3.3 6.7 -SR2 Sunny Calm 08:53 5.2 Middle 821448 814173 7.8 7.8 17.7 87.2 87.3 6.6 6.6 4.2 0.4 342 24.3 2.7 5 88 <0.2 3.2 17.7 87.3 Bottom 4.2 0.4 358 24.3 6 80 <0.2 3.4 1.0 0.0 264 23.9 11.1 6.3 2.4 Surface 23.9 7.6 11.1 79.4 79.4 2.4 1.0 0.0 268 23.9 6.3 6.4 7.7 49 0.3 104 24.1 13.0 82.8 6.5 3.5 5 -SR3 Sunny Moderate 10:02 9.8 Middle 24.1 7.7 13.0 82.9 3.2 822136 807581 83.0 6 4.9 0.4 108 24.0 13.0 6.5 3.5 ----8.8 0.5 77 24.0 7.7 13.0 83.3 83.5 6.5 6.5 3.6 6 Bottom 24.0 7.7 13.0 83.4 6.5 8.8 0.5 24.0 5.8 5.8 6.2 1.0 0.2 252 24.9 8.1 8.1 18.5 85.8 6.4 6 7 Surface 25.0 8.1 18.5 85.9 18.5 85.9 6.4 1.0 0.2 270 25.0 6.4 130 4.8 0.1 25.3 8.1 18.3 86.5 6.4 8 ---SR4A 08:19 9.5 8.1 817184 807824 Fine Moderate Middle 25.3 18.2 86.5 8.1 18.2 86.5 4.8 0.1 134 25.3 6.4 6.3 8.0 8,5 0.1 16 25.3 18.5 18.5 87.2 87.4 6.5 5.2 8 6.5 ---25.3 8.0 18.5 87.3 Bottom 8.0 0.1 25.3 1.0 357 0.1 25.6 8.1 87.7 6.5 4.8 ---25.7 8.1 17.2 87.8 Surface 17.2 87.8 7 358 8.1 6.5 4.8 1.0 0.1 25.7 6.5 ---------SR5A 08:04 5.4 816570 810682 Fine Calm Middle -6.5 4.4 0.1 48 26.0 8.1 88.4 3.3 26.0 8.1 17.0 88.5 Bottom 8.1 17.0 6.5 4.4 0.1 26.0 1.0 0.1 238 25.1 7.8 83.1 6.3 ---Surface 25.1 7.8 14.8 83.1 249 25.1 7.8 14.8 83.1 6.3 3.1 6 1.0 0.2 6.3 SR6 Fine Moderate 07:30 4.7 Middle 817889 814668 14.7 3.7 0.1 216 25.1 7.8 83.6 6.3 6.3 3.5 6 Bottom 7.8 14.7 83.6 0.1 233 25.1 7.8 14.7 83.6 1.0 0.3 24.4 15.7 88.3 6.8 Surface 15.7 88.3 1.0 0.3 182 24.4 7.8 15.7 88.3 6.8 5.9 4 -6.8 8.4 0.1 270 24.3 7.8 15.6 88.2 6.8 1,6 5 SR7 Calm 08:09 16.7 Middle 24.3 7.8 15.6 88.2 823659 823730 Sunny 8.4 0.1 275 24.3 7.8 15.6 88.2 6.8 1.6 4 15.7 0.1 236 24.2 7.8 16.7 88.0 6.7 2.3 6 Bottom 24.2 7.8 16.7 88.3 6.8 15.7 0.1 239 24.2 7.8 88.5 6.8 2.3 4 1.0 24.3 7.8 14.6 86.3 6.7 Surface 24.3 7.8 14.6 86.2 1.0 24.3 7.8 14.6 86.1 6.6 7.1 8 6.7 -. -820375 SR8 Sunny Calm 09:17 4.3 Middle 8.2 10 811601 . . -12 3.3 24.2 7.8 9.3 18.7 85.7 6.5 -. 24.2 7.8 18.7 85.8 6.5 24.2

DA: Depth-Averaged

during Mid-Ebb Tide Water Quality Monitoring Results on 25 April 19 Dissolved Suspended Solids | Total Alkalinity Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) Coordinate Coordinate Monitoring Speed Current Oxygen (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction Value Average Value Average Value Average Value DA Value DA DA DA Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Value (Northing) (Easting) 0.3 120 26.9 <0.2 2.8 Surface 26.9 8.3 14.7 95.8 0.3 122 26.9 8.3 14.8 7.2 10.9 4.3 0.3 147 26.8 13.2 92 <0.2 2.6 C1 16:32 13.6 95.6 815596 804237 <0.2 Fine Moderate 8.6 Middle 26.8 8.3 2.6 4.3 0.4 156 26.9 8.3 13.6 95.6 7.1 14.1 93 <0.2 2.6 7.1 7.6 0.4 129 27.0 13.3 95.6 9.3 93 <0.2 8.3 13.3 95.6 Bottom 27.0 0.4 133 27.1 8.3 13.3 95.5 9,4 <2 94 <0.2 2.4 1.0 0.5 154 25.6 8.0 12.5 86.8 6.6 4.2 3 84 <0.2 3.1 Surface 8.0 12.5 86.9 1.0 0.5 156 25.6 8.0 12.5 87.0 6.6 4.3 83 <0.2 3.0 6.6 5.8 0.5 129 25.3 8.1 14.8 85.8 6.5 7.3 7.2 3 <2 87 <0.2 3.0 C2 Fine Moderate 15:29 11.6 Middle 8.1 14.8 85.8 825668 806959 <0.2 < 0.2 3.2 5.8 0.5 130 25.3 8.1 14.8 85.8 6.5 86 8.0 6.4 2.6 10.6 0.3 144 25.7 17.6 86.2 <2 89 <0.2 3.1 Bottom 25.7 8.0 17.6 86.3 151 25.7 8.0 27 10.6 0.3 17.6 86.4 89 <0.2 <2 <2 <2 <2 <0.2 <0.2 2.4 1.0 0.2 77 25.6 8.2 14.6 94.0 7.1 5.5 85 Surface 25.6 8.2 14.6 94.1 8.2 5.5 85 1.0 0.2 83 25.6 14.6 94 1 7.1 7.0 2.2 86 85 25.4 25.4 2.5 6.1 0.2 119 8.2 20.1 93.0 6.8 <0.2 C3 Fine Moderate 17:23 12.1 Middle 25.4 8.2 20.0 93.3 <2 87 822097 817813 <0.2 2.5 8.2 6.1 0.2 120 20.0 93.5 6.9 <2 6.2 0.5 153 25.4 91.7 91.7 6.7 90 <0.2 8.2 21.5 6.7 2.4 Bottom 25.4 8.2 21.5 91.7 156 8.2 <2 89 <0.2 0.5 25.4 21.5 2.5 216 1.0 0.2 26.3 8.1 11.0 91.6 7.0 11.0 <2 87 <0.2 3.6 Surface 26.3 8.1 11.0 91.6 227 8.1 11.0 7.0 11.3 88 <0.2 3.3 1.0 0.2 26.3 91.6 2 7.0 -- | -------817954 807155 IM1 Fine Calm 16:09 5.6 Middle 90 3.6 < 0.2 -4.6 0.3 233 26.5 8.2 11.3 11.3 7.1 12.4 <2 92 <0.2 3.6 93.7 Bottom 26.5 8.2 11.3 94.1 7.1 234 26.5 7.1 4.6 0.3 8.2 12.8 <0.2 3.8 205 26.5 8.1 8.1 13,8 <2 3 88 <0.2 <0.2 3.4 3.2 0,2 11.3 90.6 90.6 6.8 26.5 8.1 11.3 90.6 Surface 1.0 0.2 221 26.5 6.8 14.8 89 6.9 10.5 92 <0.2 <0.2 0.3 254 26.5 8.1 6.9 3.3 11.0 91.1 818169 IM2 Fine Moderate 16:03 7.9 Middle 26.5 8.1 11.0 91.3 806178 <0.2 4.0 0.3 258 26.5 8.1 10.7 92 0.4 237 26.4 7.0 7.0 10.8 <2 <0.2 3.2 8.2 12.1 93.1 Bottom 26.4 8.2 12.1 93.3 6.9 0.4 238 26.4 93.5 11.2 94 <0.2 3.3 251 91.3 90.8 86 <0.2 26.3 Surface 8.1 12.5 91.1 1.0 0.3 239 26.3 8.1 6.8 15.2 <2 88 <0.2 3.5 6.9 4.2 0.3 247 26.5 8.1 90.8 6.9 11.8 93 <0.2 3.3 11.1 Fine Moderate 15:58 8.3 Middle 11.1 90.9 818786 805592 4.2 0.4 252 26.5 8 1 11.0 6.9 12.1 3 92 <0.2 3.3 7.1 13.3 8.1 7.3 0.4 216 26.8 10.7 93.5 94 <0.2 3.4 10.7 93.8 Bottom 94.0 7.3 0.4 205 26.8 8.2 10.7 7.1 13.6 9.4 < 0.2 3.2 1.0 0.5 230 26.6 8.2 13.6 13.6 6.9 9.8 87 <0.2 <0.2 3.1 Surface 26.6 8.2 13.6 92.7 92.7 9.8 4 88 1.0 0.5 227 26.6 6.9 6.9 2 92 93 3.2 3.3 4.3 0.3 255 26.7 8.2 14.1 92.7 6.9 9.8 <0.2 IM4 Fine Moderate 15:50 8.6 Middle 26.7 8.2 14.1 92.7 10.5 91 819712 804589 <0.2 3.2 8.2 92.6 9.7 4.3 0.4 255 26.7 14.1 6.9 7.6 0.2 244 26.9 8.2 8.2 13.3 93.4 6.9 11.8 5 93 <0.2 3.1 7.0 Bottom 26.9 8.2 13.3 93.7 7.6 0.2 226 26.9 12.3 94 < 0.2 3.2 1.0 0.6 216 26.6 8.2 8.2 14.9 14.9 93.3 6.9 11.7 87 <0.2 3.6 Surface 26.5 8.2 14.9 93.4 93.4 6.9 12.3 3 88 <0.2 1.0 0.6 217 26.5 3.3 6.9 92 93 3.9 10.4 3.2 3.1 0.6 222 26.4 8.2 15.4 93.2 93.2 6.9 3 <0.2 15:40 7.7 8.2 93.2 820716 804849 <0.2 3.3 IM5 Fine Moderate Middle 26.4 15.3 12.2 8.2 15.3 6.9 10.8 3 <0.2 3.9 0.7 203 26.5 6.9 13.4 93 <0.2 6.7 0.4 194 26.5 8.2 8.2 14.8 14.8 93.5 93.7 6.9 6.9 3 3.2 8.2 93.6 26.6 14.8 Bottom 180 14.4 93 <0.2 3.1 0.4 26.6 1.0 0.5 200 27.0 8.2 15.0 94.1 6.9 9.3 88 <0.2 3.3 26.9 94.1 Surface 8.2 15.0 189 8.2 15.0 6.9 9.2 88 <0.2 3.5 26.9 1.0 0.5 6.9 92 3.8 0.3 193 26.8 8.2 15.2 93.9 6.9 <0.2 3.5 Moderate 15:33 7.5 8.2 15.2 93.8 821075 805849 <0.2 IM6 Fine Middle 26.7 190 8.2 15.3 93.6 9.5 <2 92 <0.2 3.3 3.8 0.3 26.7 6.5 0.4 171 26.7 8.2 15.1 94.4 94.2 6.9 6.9 12.2 94 <0.2 3.3 26.7 8.2 15.1 94.3 Bottom 174 6.9 12.9 94 0.4 26.8 0.3 188 26.3 91.6 91.7 87 <0.2 3.5 8.3 6.8 Surface 26.3 8.3 16.0 91.7 0.4 175 26.3 8.3 16.0 6.8 10.4 87 <0.2 3.3 6.8 0.4 177 26.3 10.0 93 <0.2 3.5 IM7 Fine Moderate 15:25 7.0 Middle 26.3 8.3 16.1 91.6 821355 806814 <0.2 3.4 0.4 182 26.3 8.3 16.1 91.5 6.8 10.3 93 <0.2 3.3 91.7 6.0 0.4 173 26.5 8.4 16.0 6.7 6.7 8.7 3 94 <0.2 3.2 Bottom 8.4 16.0 91.7 0.4 26.5 8.4 16.1 8.3 0.4 3.3 8.0 1.0 0.2 61 25.8 88.3 6.8 3.6 84 <0.2 3.4 Surface 11.0 88.3 1.0 0.2 61 25.8 8.0 11.0 88.3 6.8 3.5 4 84 <0.2 3.5 6.8 3.8 0.2 78 25.5 8.0 12,5 87.2 6.7 6.0 5 6 88 <0.2 3.4 IM8 Fine Moderate 16:17 7.6 Middle 8.0 12.5 87.2 87 821836 808162 <0.2 3.4 3.8 0.2 79 25.5 8.0 12.5 87.2 6.7 6.0 89 <0.2 3.4 6.6 6.6 0.2 79 25.1 8.1 17.8 87.9 8.7 90 <0.2 3.4 Bottom 25.1 8.1 17.8 88.0 25.1

DA: Depth-Averaged

Monitoring	Weather	Sea														struction.	Discotused			Cuananda	d Calida	Total Alkalinity				
0		Sea	Sampling	Water	Sampling D	epth (m)	Current Speed	Current	Water Ten	nperature (°C)	1	Н	Salir	ity (ppt)		aturation %)	Dissolved Oxygen	Turbidity(NTU)	Suspende (mg/		(ppm)	Coordinate HK Grid	Coordinate HK Grid	Chromiui (µg/L)	Nickel (µg/L
Station	Condition	Condition	Time	Depth (m)			(m/s)	Direction	Value	Average		Average	Value	Average		Average	Va l ue DA	Value	DA	Value	DA	Value DA	(Northing)	(Easting)		DA Va l ue DA
					Surface	1.0	0.2	70 72	25.7 25.7	25.7	8.1	8.1	11.2	11.2	90.7	90.9	7.0	7.9 7.1	-	3		84 85			<0.2	3.4
IM9	Fine	Moderate	16:24	7.2	Middle	3.6	0.4	55 59	25.4	25.4	8.1	8.1	14.1	14.1	87.1 87.0	87.1	6.6 6.6	6.3 6.3	6.4	6	8	88 86 87	822076	808820	<0.2	0.2 3.5 3.5
					Bottom	3.6 6.2	0.4	65	25.3 25.6	25.7	8.1 8.1	8.1	17.3	17.3	87.0	87.2	6.4	5.5	Ŀ	14		90			<0.2	3.5
						1.0	0.2	66 80	25.7 25.7		8.1 8.1		17.2		87.3 89.0		6.5 0.3 6.8	5.5 4.3	_	13		90 84			<0.2	3.5
					Surface	1.0	0.4	82	25.7	25.7	8.1	8.1	12.1	12.1	88.7	88.9	6.8	4.4	ļ	3		82			<0.2	3.2
I M10	Fine	Moderate	16:31	7.3	Middle	3.7	0.4	87 88	25.5 25.5	25.5	8.1 8.1	8.1	13.8 13.8	13.8	88.2 88.1	88.2	6.7 6.7	4.6 4.6	4.6	6 5	5	87 86	822378	809789	<0.2	0.2 3.4 3.3
					Bottom	6.3	0.3	72 72	25.5 25.5	25.5	8.1	8.1	16.1 16.1	16.1	88.0 88.0	88.0	6.6 6.6	4.8 4.8	ŀ	5		90 89			<0.2	3.3
					Surface	1.0	0.2	115	25.9	25.9	8.1	8.1	14.2	14.2	94.4	94.6	7.1	6.2		2		84			<0.2	3.2
IM11	Fine	Moderate	16:40	7.4	Midd l e	1.0 3.7	0.2	101 102	25.9 25.9	25.9	8.1 8.1	8.1	14.2 14.6		94.7 91.6	91.8	7.1 6.9 7.0	6.7 4.0	5.6	<2 3	3	90 87	822043	811453	<0.2	0.2 3.4 3.4
IIVI I	1 110	Woderate	10.40	7		3.7 6.4	0.4	103 131	25.9 25.7		8.1 8.1		14.6 15.6		91.9 91.3		6.9	4.0 6.2	3.0 F	<2 4	,	87 90	022043	011433	<0.2	3.4
					Bottom	6.4	0.1	132	25.7	25.7	8.1	8.1	15.6	15.6	91.3	91.3	6.8	6.2		3		89			<0.2	3.4
					Surface	1.0	0.1	131 133	25.8 25.8	25.8	8.2	8.2	15.5 15.5	15.5	91.5 91.5	91.5	6.8	3.0 3.1	ŀ	3		84			<0.2	3.4
I M12	Fine	Moderate	16:51	8.2	Middle	4.1	0.2	164 158	25.8 25.8	25,8	8.2 8.1	8.1	16.1	16.1	91.2 91.2	91.2	6.8 6.8	4.3 4.3	3.8	3 <2	2	88 88	821436	812033	<0.2	0.2 3.2 3.3
					Bottom	7.2	0.1	97	25.5	25.5	8.2	8.2	17.3	17.3	90.8	90.9	6.7	3.9	ļ	2		90			<0.2	3.3
					Surface	7.2	0.1	104	25.5 25.5	25.5	8.2	8.2	17.3		90.9	91.1	6.8	4.0 2.8		2 <2		90			<0.2	3.4
0044	_		47.05	4.7		1.0	-	-	25.5		8.2	- OLE	16.8	10.0	91.0	0111	6.8	2.8		2		-	040000		-	-
SR1A	Fine	Moderate	17:05	4.7	Middle	2.4	-		25.5	-	8.2	-	17.3	-	91.2	-	6.8	2.3	2.5	<2	2		819982	812660		
					Bottom	3.7	-		25.4	25.5	8.2	8.2	17.3	17.3	91.4	91.3	6.8	2.2		2					-	-
					Surface	1.0	0.4	65 63	25.5 25.5	25.5	8.2	8.2	16.8 16.8	16.8	90.7	90.8	6.8	2.8 2.6	ŀ	3		84 85			<0.2	3.2 3.2
SR2	Fine	Moderate	17:11	4.3	Middle	-	-	-	-	-	-	-	-	-	-	-	6.8	-	2.5	-	4	- 86	821471	814188		0.2 3.3
					Bottom	3.3	0.3	71	25.5	25.5	8.2	8.2	17.2	17.2	91.1	91.2	6.8	2.4	Ŀ	3		87			<0.2	3.3
					Surface	1.0	0.3	62 169	25.5 25.7	25.7	8.2	8.1	17.2		91.2 91.0	91.1	6.8 7.0	2.4 4.3		4		88		<u> </u>	<0.2	3.4
						1.0 4.2	0.2	173 174	25.7 25.6		8.1 8.2		11.5 14.4		91.2 87.2		7.0 6.6 6.8	4.4 4.9	F	3 4		-				. = .
SR3	Fine	Moderate	16:10	8.3	Middle	4.2	0.2	178	25.6	25.6	8.2	8.2	14.4	14.4	87.3	87.3	6.6	4.9	4.8	5	5		822143	807594	-	-
					Bottom	7.3	0.3	162 164	25.6 25.6	25.6	8.2	8.2	18.4	18.4	89.4 89.5	89.5	6.6 6.6	5.3 5.1	H	6		-				-
					Surface	1.0	0.7	56 58	26.7 26.7	26,7	8.2 8.2	8.2	13.7		95.7 95.6	95.7	7.1	12.9 13.0	-	4		-				
SR4A	Fine	Moderate	16:42	9.3	Midd l e	4.7	0.6	64	26.6	26.7	8.2	8.2	13.7	13.7	95.4	95.4	7.1	10.8	11.1	3	4		817180	807820	-	
					Bottom	4.7 8.3	0.6	66 64	26.7 27.1	27.1	8.2 8.2	8.2	13.7 13.6	13.6	95.4 96.0	96.0	7.1 7.1	11.0 9.4	Ŀ	3						
						8.3 1.0	0.6	66 139	27.1		8.2		13.6		96.0 98.3		7.1	9.4 12.7		3		-				-
					Surface	1.0	0.5	148	28.9	28.9	8.2	8.2	14.3	14.4	97.8	98.1	7.0 7.0	13.3	F	4					-	-
SR5A	Fine	Calm	16:55	5.6	Middle	-	-	-	-	-		-	-	-		-	- "	-	13.3	-	3	<u> </u>	816615	810695	-	- 💾 -
					Bottom	4.6 4.6	0.3	139 148	29.5 29.6	29.6	8.2	8.2	13.5	13.5	98.3 97.8	98.1	7.0 6.9 7.0	13.5 13.5	ŀ	3		-				-
	ĺ				Surface	1.0	0.1	152 156	27.8 27.8	27.8	8.2	8.2	15.8 15.7	15.7	96.5 96.6	96.6	6.9 7.0 7.0	9.3 9.4	ŀ	4 3		-				-
SR6	Fine	Calm	17:20	4.9	Middle	-	-	-	-	-	-	_	-	_		_	- '."	-	10.7	-	3		817921	814642	-	
						3.9	0.1	177	30.2		8.2	0.0	15.5	15.5	97.6	97.6	6.8	12.0	-	3		-				
					Bottom	3.9 1.0	0.1	181 41	30.0 25.4	30.1	8.2	8,2	15.5		97.6 93.4		6.8	12.2 4.7		3		-		1	-	-
					Surface	1.0	0.2	43	25.4	25.4	8.3	8.3	20.8	20.8	93.4	93.4	6.8	4.7	E	2		-			-	-
SR7	Fine	Moderate	17:51	16.2	Midd l e	8.1 8.1	0.2	109 113	25.2 25.2	25.2	8.3 8.3	8.3	22.4	22.4	93.0 93.0	93.0	6.7	8.0 8.0	5.0	5 5	3	-	823622	823737	-	-
					Bottom	15.2 15.2	0.1	73 76	25.1 25.1	25.1	8.3	8.3	24.6	24.6	91.9 91.9	91.9	6.6 6.6	2.2	F	3 <2		-			-	-
					Surface	1.0	-	•	25.7	25.7	8.1	8.1	15.4		90.4	90.4	6.8	3.2		3		-				
SR8	Fine	Moderate	16:56	5.0	Middle	1.0	-	-	25.7		8.1		15.4		90.3		6.8	3.4	2.9	2	3		820376	811621	-	. .
SINO	riile	wouerate	10.50	5.0	ivildale	-	-		25.7	25.7	8.1	8.1	17.2	17.2	90.7	90.8	6.7 6.7	2.6	2.9	3	3		0203/6	011021	-	· 🗐 ·
	1		1 1		Bottom	4.0																				

during Mid-Flood Tide Water Quality Monitoring Results on 25 April 19 Dissolved Suspended Solids | Total Alkalinity Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) Coordinate Coordinate Monitoring Speed Current Oxygen (mg/L) (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction Value Average Value Average Value Average Value DA Value DA DA DA Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Value (Northing) (Easting) 0.4 25.9 <0.2 3.0 Surface 25.9 8.2 13.5 90.0 0.4 61 25.9 8.3 13.5 90.0 6.9 12.2 <0.2 3.2 6.9 4.3 30 25.9 9.4 88 <0.2 3.0 0.3 8.3 14.7 89.7 6.8 3 C1 8.6 8.3 14.7 815613 804234 <0.2 3.0 Fine 10:00 25.9 89.8 3 Moderate Middle 10.1 88 14.7 89.8 6.8 89 <0.2 4.3 25.9 8.3 9.3 3 3.0 0.3 31 7.6 0.2 22 25.8 8.4 8.4 9.1 9.1 <2 89 <0.2 3.0 14.4 89.8 6.7 6.8 Bottom 25.8 8.4 14.4 89.9 6.8 0.3 25.8 14.4 90.0 90 <0.2 29 7.6 22 1.0 347 0.5 25.7 8.0 10.8 46 86 < 0.2 3.9 Surface 25.7 8.0 10.8 87.4 8.0 85 25.7 10.8 87.5 4.8 <0.2 3.6 0.5 319 6.7 6.7 25.5 25.5 5.0 3 5.8 86 86 3.2 0.5 329 8.1 <0.2 14.4 88.0 6.6 C2 Fine Moderate 10:50 11.6 Middle 25.5 8.1 14.4 88.1 87 825701 806939 <0.2 8.1 0.5 14.4 88.1 6.6 5.8 342 10.6 346 25.2 3.5 3.5 88 <0.2 0.3 85.9 86.0 6.4 3.4 8.1 19.0 6.4 Bottom 25.2 8.1 19.0 86.0 10.6 0.4 318 25.2 8.1 19.0 89 <0.2 3.2 1.0 289 25.5 10.9 83 2.7 0.3 8.1 13.5 87.4 6.6 <0.2 Surface 25.5 8.1 13.5 87.5 0.3 313 25.5 8.1 13.5 87.5 6.6 10.2 84 <0.2 2.8 6.6 5.9 0.2 242 25.5 8.1 87.3 6.6 2.8 2 86 <0.2 3.0 14.9 C3 09:03 822107 817786 Fine Moderate 11.9 Middle 25.5 8.1 14.9 87.5 <0.2 2.9 0.3 244 14.9 86 <0.2 25.5 10.9 0.3 280 25.6 8.1 17.7 17.7 88.1 88.1 6.5 6.5 2.2 89 <0.2 3.1 Bottom 25.6 8.1 17.7 88.1 10.9 297 25.6 8.1 1.0 0.0 32 26.1 8.2 13.7 13.7 91.8 7.0 9.3 87 <0.2 3.0 Surface 26.1 8.2 13.7 91.9 1.0 0.0 26.1 8.2 92.0 7.0 9.2 87 <0.2 2.8 --------817944 Fine Calm 10:08 5.8 Middle 807129 <0.2 2.9 4.8 0.2 338 26.3 92.5 90 <0.2 12.3 Bottom 26.3 8.3 12.3 92.7 7.0 4.8 0.2 311 26.3 8.3 12.3 92.9 7.0 9.1 89 <0.2 2.8 1.0 0.4 28 25.7 8.2 12.7 91.3 6.9 9.8 87 <0.2 2.8 Surface 8.2 12.7 91.5 1.0 0.4 29 25.7 8.2 12.7 91.6 7.0 9.8 <2 88 <0.2 2.8 9.8 9.7 2 <2 4.0 0.4 25.7 8.2 12.8 91.6 7.0 88 <0.2 2.9 IM2 Moderate 10:15 7.9 Middle 8.2 12.8 91.6 818166 806164 <0.2 4.0 0.4 25.7 8.2 12.8 91.5 7.0 88 <0.2 2.7 93.1 93.7 6.9 0.3 17 26.1 8.3 12.6 7.0 7.1 9.6 <2 89 <0.2 2.6 Bottom 26.1 8.3 12.6 93.4 6.9 0.3 17 26.1 83 12.6 7 1 9.6 <2 89 <0.2 2.7 15.9 1.0 0.4 335 26.2 8.2 90.6 6.9 9.5 2 <2 87 <0.2 2.9 Surface 8.2 15.9 90.7 8.2 9.4 88 <0.2 2.8 1.0 0.4 351 26.1 15.9 90.8 6.9 6.9 15.6 9.6 9.6 3 88 87 4.0 0.3 353 26.1 8.2 90.6 6.9 <0.2 2.8 IM3 Fine Moderate 10:21 8.0 Middle 26.1 8.2 15.6 90.6 818798 805614 <0.2 2.8 8.2 4.0 0,3 325 26.1 2.8 15.6 90.6 6.9 <2 7.0 0.2 351 26.2 8.2 14.3 91.7 7.0 9.8 90 < 0.2 2.8 7.0 Bottom 26.2 8.2 14.3 91.8 8.2 7.0 0.2 323 26.2 14.3 91.9 7.0 9.8 <2 89 < 0.2 2.9 1.0 0.4 343 26.1 8.2 8.2 90.7 6.8 9,9 <2 86 <0.2 2.8 Surface 26.1 8.2 13.3 90.9 1.0 316 26.1 13.3 6.8 10.0 87 <0.2 3.0 0.4 91.0 6.9 9.7 <2 88 2.8 4.1 0.5 358 26.2 8.2 12.3 92.3 7.0 <0.2 Moderate 10:27 8.1 8.2 92.5 88 819719 804600 2.9 IM4 Fine Middle 26.3 12.3 < 0.2 4,1 0.5 329 26,3 8.2 12.3 7.0 9.7 2 88 <0.2 92,6 347 <2 89 <0.2 0.4 26.5 8.2 9.9 2.9 26.5 8.2 11.4 94.4 7.1 7.1 Bottom 11.4 94.5 7.1 359 26.5 8.2 9.9 90 <0.2 3.0 0.4 8.2 1.0 0.5 356 26.7 13.0 91.9 91.9 6.9 9.1 <2 87 <0.2 2.7 Surface 26.7 8.2 91.9 13.0 1.0 0.6 328 26.7 8.2 9.1 <2 87 <0.2 2.6 6.9 6.9 10.2 3 3.8 0.7 343 26.7 8.2 12.8 91.6 6.8 88 <0.2 2.6 IM5 Fine Moderate 10:38 7.6 Middle 26.7 8.2 12.8 91.5 10.2 820746 804856 <0.2 2.7 3.8 0.7 345 26.7 8.2 10.4 89 <0.2 0.4 26.8 8.2 13.5 93.2 6.9 11.1 89 <0.2 2.7 26.8 8.2 13.5 93.1 6.9 Bottom 6.6 0.5 14 26.8 6.9 11.1 90 2.8 40 10.4 86 <0.2 2.6 2.8 26.6 8.2 14.9 91.8 Surface 26.5 8.2 14.9 91.9 1.0 0.8 40 26.5 8.2 14.9 6.8 10.5 85 6.8 0.5 40 26.5 8.2 92.1 6.8 10.3 4 88 <0.2 2.7 15.1 Fine Moderate Middle 15.1 92.2 821046 805826 <0.2 3.4 0.5 42 26.5 8.2 15.1 92.2 6.8 10.4 4 89 <0.2 2.8 6.8 6.9 9.8 5,8 0.3 62 26.8 8.2 14.9 4 90 <0.2 2.9 5.8 0.3 66 26.8 90 <0.2 2.8 1.0 0.3 26.3 8.3 15.9 91.6 6.8 9.5 86 <0.2 2.8 Surface 91.7 91.7 <0.2 1.0 0.3 39 26.3 83 15.9 6.8 9.8 3 87 2.9 6.8 3 3.7 0.3 41 26.4 8.2 15.9 91.7 6.8 9.2 88 <0.2 2.8 IM7 Fine Moderate 10:49 7.3 Middle 26.4 8.2 15.9 91.7 821370 806814 <0.2 2.9 3.7 0.4 43 26.4 8.2 15.9 91.7 6.8 9.3 3 89 <0.2 2.8 6.3 0.4 39 26.7 8.2 15.7 92.9 6.8 9.3 3 89 <0.2 3,1 Bottom 26.7 8.2 15.7 93.0 6.8 6.3 0.4 39 26.8 8.2 6.8 9.2 90 1.0 0.3 265 25.4 8.0 11.6 88.1 6.8 4.9 86 <0.2 3.4 Surface 25.4 8.0 11.6 88.1 11.6 88.1 1.0 0.3 270 25.4 8.0 6.8 4.9 85 < 0.2 3.2 6.7 3.8 25.5 9.3 2 86 3.6 3.6 0.2 262 8.0 12.8 86.8 6.6 <0.2 821828 808124 IM8 Fine Moderate 10:25 7.6 Middle 25.5 8.0 12.8 87.0 6.7 87 <0.2 3.5 85 <0.2 12.8 87.1 3.8 270 25.5 8.0 6.6 8.1 0.2 8.2 <0.2 6.6 0.1 110 25.0 18.9 18.8 86.7 87.0 6.4 6.5 6.5 6.6 5 88 3.5 8.2 Bottom 25.0 18.8 86.9

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during Mid-Flood Tide Water Quality Monitoring Results on 25 April 19 Dissolved Suspended Solids | Total Alkalinity Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) Coordinate Coordinate Monitoring Current Oxygen (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction Value Average Value Average Value Average Value DA DA DA DA Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Value Value (Northing) (Easting) 0.3 239 25.5 <0.2 3.3 Surface 25.5 8.0 10.2 87.4 0.3 257 25.5 8.0 10.2 87.5 6.8 3.2 0.3 264 25.5 6.6 4.7 86 <0.2 3.3 7.3 822102 808796 <0.2 IM9 Fine Moderate 10:19 Middle 25.6 8.0 11.3 86.2 3.4 0.3 25.6 8.0 11.3 86.3 6.6 4.7 88 <0.2 3.6 6.3 0.1 274 25.4 14.8 86.5 6.5 11.3 87 <0.2 3.4 86.6 6.5 Bottom 25.4 8.1 14.8 0.1 297 25.3 8.1 14.8 86.7 6.5 11.0 89 <0.2 3.5 1.0 0.3 306 25.5 8.0 11.1 86.9 6.7 4.2 84 <0.2 3.4 Surface 8.0 11.1 87.0 3 1.0 0.3 325 25.5 8.0 11.1 87.0 6.7 4.6 86 <0.2 3.1 3.7 0.4 312 25.5 8,1 12.8 86.5 6.6 7.9 7.9 2 <2 86 <0.2 3.3 IM10 Fine Moderate 10:12 7.4 Middle 8.1 12.7 86.6 822385 809770 <0.2 3.7 < 0.2 3.0 0.4 312 25.6 8.1 12.7 86.7 6.6 85 6.5 6.5 5.7 5.7 6.4 0.3 303 25.3 8.1 16.6 87.0 4 90 <0.2 3.3 Bottom 8.1 16.6 87.0 311 8.2 87 O 6.4 0.3 25.3 16.6 88 <0.2 33 2 <0.2 1.0 0.2 325 25.4 8.1 13.1 87.0 6.6 49 86 3.3 Surface 25.4 8.1 13.1 87.0 8.1 1.0 0.3 334 25.4 13.1 87.0 6.6 4.9 85 3.4 6.6 8.0 8.2 86 85 25.4 25.4 13.1 3.1 3.5 3.8 0.3 300 81 87.2 6.6 <0.2 IM11 Fine Moderate 10:02 7.6 Middle 25.4 8.1 13.1 87.3 87 822044 811476 <0.2 3.4 3.8 0.3 320 8.1 13.1 87.3 6.6 <2 25.2 13.7 9.6 90 < 0.2 3.4 6.6 0.3 303 8.1 86.2 6.6 6.6 Bottom 25.2 8.1 13.7 86.2 8.1 9.6 88 <0.2 6.6 0.3 315 25.2 86.1 6.6 3.5 1.0 0.2 307 25.7 8.1 12.1 12.1 89.4 6.8 5.8 85 <0.2 3.3 Surface 25.7 8.1 89.4 12.1 0.2 320 25.7 8.1 89.3 6.8 6.1 <2 83 <0.2 3.3 1.0 6.7 86 4.2 0.4 289 25.5 8.1 13.2 87.4 6.6 6.1 3 <0.2 3.4 821477 812068 M12 Moderate 09:54 8.3 Middle 25.5 8.1 13.2 87.5 87 Fine < 0.2 4.2 0.4 316 25.5 8.1 6.4 88 <0.2 3.4 25.0 8.6 89 <0.2 3.4 0.3 290 8.1 19.7 86.2 6.4 Bottom 25.0 8.1 19.7 86.3 6.4 7.3 0.3 311 25.0 8.6 88 <0.2 3.4 25.9 8.1 8.1 13.6 89.0 6.7 3.9 2 <2 25.9 8.1 13.6 89.1 Surface 1.0 6.7 3.9 25.9 6.7 2.4 SR1A Fine Moderate 09:36 4.7 Middle 819982 812658 2.4 6.5 26.0 8.2 16.6 88.2 Bottom 26.0 8.1 16.6 88.3 26.0 347 87.7 87.7 Surface 25.6 8.1 13.0 1.0 0.2 319 25.6 6.7 85 <0.2 3.3 6.7 -SR2 Fine Moderate 09:23 4.3 Middle 821480 814165 6.3 6.3 3.3 0.2 342 25.5 8.1 16.2 84.8 5.7 3 89 <0.2 3.2 84.8 Bottom 84.8 5.8 3.3 0.2 315 25.5 8.1 16.2 80 3 3 1.0 0.2 268 25.4 8.0 88.8 6.8 6.7 Surface 25.4 8.0 11.7 89.1 8.0 89.3 6.5 1.0 0.2 293 25.4 6.9 6.8 88.3 88.5 7.2 42 0.2 285 25.4 8.0 12.9 6.7 4 -SR3 Fine Moderate 10:30 8.4 Middle 25.4 8.0 12.9 88.4 822155 807563 8.0 3 4.2 0.2 291 25.4 129 6.8 7.5 ----7.4 0.1 12 25.0 8.1 18.7 86.6 86.7 6.4 9.2 4 Bottom 25.1 8.1 18.7 86.7 6.4 8.1 0.1 25.1 1.0 0.2 262 25.8 8.4 8.4 16.9 86.8 6.4 9.9 10.2 Surface 25.8 8.4 16.9 86.4 16.9 86.0 6.4 1.0 0.2 285 25.8 6.2 251 12.8 2 <2 4.4 0.1 25.4 8.4 18.3 81.7 6.0 ---SR4A Fine 09:45 8.8 8.4 817193 807813 Calm Middle 25.4 18.3 81.5 18.4 81.2 6.0 12.8 4.4 0.1 265 25.3 8.4 264 <2 7,8 0.1 24.4 8.5 8.5 26.4 26.5 78.9 78.9 5.7 5.7 13,1 5.7 ---24.4 8.5 26.4 78.9 Bottom 13.1 0.1 265 24.4 1.0 0.2 316 25.7 8.3 17.8 84.5 6.2 10.3 2 ---25.7 8.3 17.8 84.4 Surface 17.7 84.3 6.2 334 25.7 8.3 10.4 1.0 0.2 6.2 ---------SR5A 09:30 5.2 816594 810705 Fine Calm Middle -6.1 6.1 4.2 0.2 307 25.4 8.3 19.2 82.9 11.5 25.4 8.3 19.2 83.0 Bottom 6.1 11.7 0.2 326 25.4 1.0 0.0 26.0 8.2 15.2 ---Surface 26.0 8.2 15.2 89.7 0.0 26.0 8.2 15.2 89.7 6.7 10.7 2 1.0 6.7 SR6 Fine Calm 09:01 4.5 Middle -817916 814652 8.2 3.5 0.0 307 26.0 15.2 89.6 6.7 6.7 9.1 <2 Bottom 8.2 15.2 89.6 311 26.0 8.2 9.1 1.0 0.2 218 25.7 15.2 88.7 6.6 Surface 15.2 88.8 1.0 0.2 219 25.7 8.1 15.2 88.8 6.6 3.6 -6.6 8,2 0.0 243 25.8 8.1 15.5 88.7 6.6 2.9 <2 SR7 Moderate 08:31 16.4 Middle 8.1 15.5 88.7 823627 823761 Fine 8.2 0.0 244 25.9 8.1 15.5 88.6 6.6 2.9 <2 6.6 15.7 15.4 0.0 293 25.9 8.1 88.6 2.0 <2 Bottom 8.1 15.7 88.6 15.4 0.0 302 25.9 8.1 88.6 6.6 2.0 1.0 25.5 8.1 13.3 86.4 6.6 5.4 Surface 25.5 8.1 13.3 86.4 1.0 25.5 8.1 13.3 86.3 6.6 5.4 3 6.6 -. -820411 SR8 Fine Moderate 09:46 5.1 Middle 4 811644 . . -4.1 25.5 8.1 5.3 4 15.4 86.0 6.5 -25.5 8.1 15.4 86.0 6.5 4.1 25.5

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during Mid-Ebb Tide Water Quality Monitoring Results on 27 April 19 Dissolved Suspended Solids | Total Alkalinity Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) Coordinate Coordinate Monitoring Speed Current Oxygen (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction Value Average Value Average Value Average Value DA Value DA DA DA Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Value (Northing) (Easting) 0.2 152 24.7 <0.2 2.4 Surface 24.7 8.1 25.1 100.0 0.2 156 24.7 8.1 25.1 99.9 7.2 5.9 4.3 0.1 143 24.5 5.2 88 <0.2 2.1 C1 18:29 26.1 97.9 815607 804235 <0.2 Cloudy Rough 8.6 Middle 24.5 8.0 5 2.1 4.3 0.1 145 24.4 8.0 26.1 97.9 7.0 5.2 4 88 <0.2 1.9 6.6 7.6 0.1 147 24.0 29.7 92.4 92.4 1.5 92 <0.2 7.9 29.7 92.4 Bottom 24.0 0.1 145 24.0 7.9 29.7 6.6 1.5 91 <0.2 2.0 1.0 0.3 172 25.7 8.1 17.6 102.8 7.6 4 83 <0.2 2.9 Surface 8.1 17.6 102.8 1.0 0.3 182 25.7 8.1 17.6 102.8 7.6 2.7 4 84 <0.2 2.6 4.0 0.2 153 25.7 8,1 17.6 103,0 7.6 2.7 3 87 <0.2 2.2 C2 Rainy Rough 17:36 7.9 Middle 8.1 17.6 103.1 825698 806949 <0.2 25.7 4 <0.2 4.0 0.2 169 8.1 17.6 103.1 7.6 88 2.4 8.1 17.6 17.6 7.6 7.6 6.9 0.1 154 25.7 103.3 2.3 3 92 <0.2 2.7 Bottom 25.7 8.1 17.6 103.3 7.6 159 25.7 8.1 103.3 24 27 6.9 0.1 93 <0.2 157 2.2 <0.2 1.0 0.2 25.6 8.2 19.5 118.1 8.6 83 2.6 Surface 25.7 8.2 19.5 118.1 8.2 1.0 25.7 84 26 0.2 169 19.5 118 1 8.6 4 8.6 2.0 88 89 2.7 25.7 25.7 117.9 117.5 4 0.3 128 8.2 19.5 8.6 <0.2 <0.2 C3 Cloudy Rough 19:56 14.6 Middle 25.7 8.2 19.5 117.7 822112 817804 <0.2 2.5 7.3 8.2 0.3 129 19.5 8.6 4 13.6 25.3 8.2 7.8 7.8 11.9 4 92 < 0.2 2.5 0.2 121 22.3 107.4 Bottom 25.3 8.2 22.3 107.4 7.8 13.6 25.3 8.2 11.9 92 <0.2 0.2 127 22.3 2.4 1.0 0.1 279 24.1 7.9 28.1 93.1 6.7 7.3 9 85 <0.2 1.8 Surface 24.1 7.9 28.1 93.2 297 24.0 7.9 28.1 7.3 84 <0.2 1.5 1.0 93.3 6.7 8 0.1 6.7 -- | ------817970 807127 IM1 Rough 18:20 5.4 Middle 88 1.6 Rainv < 0.2 -6.6 6.7 4.4 0.1 102 23.9 7.9 29.3 92.9 7.9 6 90 <0.2 1.4 Bottom 23.9 7.9 29.3 93.1 102 7.0 4.4 0.1 23.9 <0.2 1.6 255 24.2 8.0 8.0 25.7 25.7 85 <0.2 <0.2 0,1 96.5 96.7 7.0 5.3 2.4 24.2 8.0 25.7 96.6 Surface 1.0 0.1 226 24.2 7.0 5.3 84 2.4 6.9 255 27.7 27.7 94.4 94.7 4.7 90 <0.2 <0.2 2.4 0.1 24.1 8.0 6.8 6 818174 IM2 Rainv Rough 18:14 7.2 Middle 24.1 8.0 27.7 94.6 806170 <0.2 3.6 0.1 265 24.1 8.0 4.7 87 6.5 0.1 132 24.0 3.2 <0.2 2.3 7.9 28.3 90.5 Bottom 24.0 7.9 28.3 90.5 0.1 134 24.0 7.9 92 <0.2 228 8.0 97.5 97.5 <0.2 19.6 Surface 8.0 19.6 97.5 1.0 0.1 233 24.7 8.0 19.6 7.3 2.9 83 <0.2 2.3 7.2 3.7 3.8 0.1 240 24.3 8.0 24.4 7.0 8 90 <0.2 2.4 96.3 IM3 Rainy Rough 18:07 7.6 Middle 24.4 96.6 818805 805607 3.7 3.8 0.1 251 24.3 8.0 24.4 7.1 6 88 <0.2 7.9 93.5 93.8 6.7 6.6 0.2 109 24.5 27.8 5.0 6 89 <0.2 2.2 6.7 Bottom 7 Q 27.8 6.6 0.2 112 24.6 5.0 6 92 < 0.2 1.0 0.1 214 24.0 8.0 28.2 6.7 1.9 84 82 <0.2 <0.2 2.1 Surface 24.0 8.0 28.2 93.4 1.0 0.1 229 24.0 6.7 2.0 5 6.8 89 88 2.3 3.7 0.2 261 24.6 8.0 24.3 94.0 6.8 5.9 4 <0.2 IM4 Rainy Rough 17:57 7.4 Middle 24.7 8.0 24.3 94.2 3.2 88 819747 804587 <0.2 8.0 94.3 4 3.7 0.2 263 24.7 24.3 6.8 5.6 6.4 0.0 266 24.5 8.0 21.1 94.1 7.0 2.0 5 90 <0.2 2.0 7.0 Bottom 24.5 8.0 21.2 94.0 6.4 0.0 269 24.4 92 < 0.2 1.9 2.0 2.9 1.0 0.4 207 24.0 8.0 8.0 28.2 28.2 93.3 6.7 85 <0.2 2.7 Surface 24.0 8.0 28.2 93.4 93.4 6.7 83 <0.2 1.0 0.5 209 24.0 6 6.9 189 89 2.8 3.8 7.0 0.2 24.5 8.0 18.6 93.3 5 <0.2 17:43 7.5 8.0 93.2 820756 804874 2.8 IM5 Rainy Rough Middle 24.5 18.6 < 0.2 8.0 18.6 7.0 5 89 <0.2 3.8 0.2 201 24.4 2.8 205 7.9 7.9 90 <0.2 2.8 6,5 0.2 24.2 25.1 25.2 88.2 88.0 6.4 6.4 2.2 5 7.9 88.1 24.2 25.1 Bottom <0.2 0.2 220 24.1 1.0 186 93.2 <0.2 0.4 24.9 7.9 22.4 6.8 2.8 85 2.6 24 9 79 93.1 Surface 22.4 7.9 22.5 92.9 6.8 2.9 84 <0.2 2.8 190 24.8 1.0 0.4 6.8 167 24.3 2.9 90 3.8 0.1 8.0 21.1 91.6 6.8 6 <0.2 2.4 17:42 7.6 Middle 8.0 21.1 91.7 821080 805827 <0.2 2.7 IM6 Rainv Rough 24.3 178 8.0 21.1 91.7 3.0 89 <0.2 3.8 0.1 24.3 27.4 6.6 0.1 212 24.5 7.9 7.9 92.5 6.6 6.0 5 93 <0.2 2.9 24.6 7.9 27.3 92.7 Bottom 6.6 0.1 232 24.6 0.4 171 24.6 7.9 85 <0.2 2.9 20.9 Surface 24.6 7.9 20.9 96.6 182 24.6 7.9 20.9 96.8 9.8 84 <0.2 2.7 6.9 24.6 0.2 194 24.2 88 <0.2 3.2 IM7 Rainy Rough 17:34 8.1 Middle 24.2 7.9 92.5 821363 806820 <0.2 3.2 0.2 201 24.2 7.9 24.6 92.5 6.7 9.4 87 <0.2 3.4 7.9 7.1 0.1 142 24.1 26.8 89.6 6.5 6.5 6.7 5 90 <0.2 3.4 Bottom 24.1 7.9 26.8 89.7 0.1 144 24.1 26.8 6.7 an 3.6 1.0 0.3 145 25.3 8.0 19.3 93.2 6.9 3.5 84 <0.2 2.9 Surface 19.3 93.3 1.0 0.3 152 25.3 8.0 19.3 93.3 6.9 3.5 6 85 <0.2 2.8 6.9 4,4 0.3 154 25.3 8.0 19.3 93.3 6.9 3.7 4 5 87 <0.2 2.8 IM8 Rainy Rough 18:14 8.7 Middle 8.0 19.3 93.4 821820 808134 <0.2 2.8 4.4 0.3 155 25.3 8.0 19.3 93.4 6.9 89 <0.2 2.8 0.2 131 25.3 8.0 19.8 94.0 6.9 3.5 4 93 <0.2 2.6 Bottom 25.3 8.0 19.8 94.3 7.0 131 25.3

DA: Depth-Averaged

during Mid-Ebb Tide Water Quality Monitoring Results on 27 April 19 Dissolved Suspended Solids | Total Alkalinity Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) Coordinate Coordinate Monitoring Current Oxygen (mg/L) (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction Value Average Value Average Value Average Value DA DA DA DA Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Value Value (Northing) (Easting) 0.1 159 25.3 <0.2 2.9 Surface 25.3 8.0 19.0 95.7 0.1 171 25.3 8.0 19.0 3.5 3.6 0.1 141 25.3 7.0 3.6 4 88 <0.2 3.0 7.2 95.4 822116 808831 <0.2 IM9 Rainy Rough 18:31 Middle 25.3 8.0 19.0 5 2.9 0.1 143 25.3 8.0 19.0 95.3 7.0 3.6 6 90 <0.2 3.0 6.9 6.2 0.1 166 25.2 8.0 19.6 93.9 91 <0.2 2.8 8.0 94.0 Bottom 25.2 19.6 0.1 167 25.2 8.0 19.6 94.0 6.9 5.1 92 <0.2 2.9 1.0 0.1 122 25.4 8.0 18.5 97.9 7.2 6.4 84 <0.2 2.9 Surface 8.0 18.5 97.9 1.0 0.2 122 25.4 8.0 18.5 97.9 7.2 6.4 6 86 <0.2 3.1 3.9 0.1 161 25.4 8.0 18.6 96.2 7.1 3.9 6 88 <0.2 2.8 IM10 Rainy Rough 18:41 7.7 Middle 8.0 18.6 96.1 822379 809772 <0.2 5 < 0.2 3.9 0.1 171 25.3 8.0 18.6 96.0 7.1 4.0 90 3.1 19.3 7.0 7.0 6.7 0.1 162 25.3 8.0 95.6 4.2 92 <0.2 3.0 Bottom 8.0 19.3 95.6 162 8.0 95.6 29 6.7 0.1 25.3 193 41 6 93 <0.2 165 17.7 17.7 <0.2 1.0 0.1 25.7 8.1 104.1 3.1 85 3.0 Surface 25.7 8.1 17.7 104.2 25.7 7.7 8.1 3.2 3.1 1.0 0.1 104 2 4 86 2.9 88 90 25.7 25.7 17.7 17.7 3.8 0.2 161 81 104.8 6 <0.2 3.1 IM11 Rainy Rough 18:54 7.5 Middle 25.7 8.1 17.7 104.8 89 822060 811475 <0.2 3.1 7.7 3.8 0.2 8.1 4 3.1 104.8 18.1 156 25.6 3.4 6 < 0.2 3.0 6.5 0.2 8.1 103.9 7.7 91 Bottom 25.6 8.1 18.1 103.9 7.7 177 8.1 3.3 93 <0.2 6.5 0.2 25.6 18.1 3.1 160 1.0 0.2 25.7 8.1 18.9 107.4 7.9 2.9 5 84 <0.2 3.1 Surface 25.8 8.1 107.4 18.9 0.3 176 25.8 8.1 18.9 7.9 2.8 86 <0.2 3.0 1.0 6 7.9 3.5 88 0.0 25.8 8.1 18.9 7.9 4 <0.2 3.2 821471 812060 M12 Rough 19:15 7.4 Middle 25.8 8.1 107.3 89 3.0 Rainv 18.9 < 0.2 0.0 178 25.7 8.1 18.9 7.9 90 <0.2 6.4 128 25.7 18.9 107.1 7.8 4.5 4 92 <0.2 2.6 0.1 8.2 Bottom 25.7 8.2 18.9 107.0 7.8 25.7 6.4 0.1 131 8.2 4.5 93 <0.2 25.9 8.1 8.1 18.5 7.8 4,4 25.9 8.1 18.5 105.8 Surface 1.0 7.8 4.4 25.9 7.8 SR1A Cloudy Rough 19:30 3.9 Middle 819981 812655 2.0 7.6 7.6 25.8 4.8 4 8.1 18.7 Bottom 25.8 8.1 18.7 103.8 2.9 25.8 7.6 76 2,5 <0.2 Surface 25.8 8.1 18.8 108.6 1.0 0.1 85 25.8 18.8 108.6 8.0 2.6 84 <0.2 3.2 8.0 SR2 Cloudy Rough 19:31 4.0 Middle 821461 814153 108.0 3.0 0.1 82 25.7 8.1 18.8 7.9 5.6 4 89 <0.2 3.1 108.0 7.9 Bottom 3.0 0.1 96 25.7 8.1 18.8 7.0 5.6 91 3.4 1.0 0.4 145 25.4 8.0 18.9 94.3 Surface 25.4 8.0 18.9 94.3 18.9 94.3 3.1 4 1.0 0.4 163 25.4 7.0 3.8 0.3 196 25.3 8.0 19.1 93.5 6.9 3.5 4 -SR3 Rainy Rough 17:58 7.6 Middle 25.3 8.0 19.1 93.5 822150 807577 8.0 93.4 4 3.8 0.3 205 25.3 19 1 6.9 3.5 ----6.6 0.0 154 25.3 8.0 19.8 93.5 6.9 6.9 3.2 4 Bottom 25.3 8.0 19.8 93.6 6.9 6.6 0.0 157 25.3 8.0 1.0 0.1 46 25.6 8.3 8.3 18.1 112.8 112.3 8.3 9.1 8.9 Surface 25.6 8.3 18.1 112.6 18.1 1.0 0.1 52 25.6 8.3 6 7.7 4.1 0.2 53 24.4 8.0 26.1 98.1 7.1 9.6 6 ---SR4A 18:40 8.1 817208 807796 Cloudy Moderate Middle 24.4 8.0 26.1 98.1 98.1 4.1 0.2 56 24.4 8.0 26.1 7.1 9.4 5 7.1 0.2 30 24.5 7.9 7.9 26.6 26.5 97.7 97.8 7.0 7.0 6.5 4 ---24 6 7.9 26.6 97.8 Bottom 0.2 24.6 1.0 17.7 0.1 33 25.7 8.3 116.5 8.6 3.0 ---25.7 8.3 17.7 116.3 Surface 17.8 116.1 7 33 8.3 8.6 3,1 1.0 0.1 25.6 8.6 ---------SR5A 18:58 4.6 816615 810708 Cloudy Moderate Middle 2.8 -7.3 7.3 3.6 0.1 95 25.0 8.0 22.7 100.7 2.5 25.0 8.0 22.7 100.6 Bottom 8.0 100.5 7.3 3.6 0.1 25.0 1.0 0.0 115 25.2 8.0 ---Surface 25.2 8.1 18.3 107.2 0.0 124 25.2 8.1 18.3 106.8 7.9 1.8 6 1.0 8.0 SR6 Cloudy Moderate 19:31 4.2 Middle 817919 814643 21.9 98.3 3.2 0.0 85 25.0 8.0 7.2 7.2 4.4 6 Bottom 8.0 98.5 0.0 80 25.1 8.0 4.4 1.0 0.1 168 25.2 23.5 8.1 Surface 23.5 112.9 1.0 0.1 178 25.2 8.2 23.5 112.8 8.1 2.5 5 -8.1 8,8 0.2 68 25.1 8.2 23.7 8.0 3.3 4 SR7 Cloudy Rough 20:32 17.6 Middle 8.2 23.7 111.4 823652 823726 8.8 0.2 69 25.0 8.2 23.7 8.0 3.3 4 8.1 16.6 0.1 154 24.9 26.1 104.4 7.5 1.7 3 Bottom 24.9 8.1 26.1 104.3 7.5 16.6 0.1 161 24.9 8.1 104 2 7.4 1,8 4 1.0 25.7 8.1 18.9 108.0 7.9 2.1 4 Surface 25.7 8.1 18.9 108.0 1.0 25.7 8.1 18.9 108.0 7.9 2.1 5 7.9 ---820380 SR8 Cloudy Rough 19:30 3.8 Middle 4 811615 . . -2.8 25.7 8.1 2.9 4 18.9 107.7 7.9 -. 25.7 8.1 18.9 107.7 7.9 2.8 25.7

DA: Depth-Averaged

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring Water Quality Monitoring Results on 27 April 19 during

during Mid-Flood Tide

Water Qua	lity Monit	oring Resu	ilts on		27 April 19	during Mid-	Flood T	ide																				
Monitoring	Weather	Sea	Sampling	Water	Sampling Dep	th (m)	Current Speed	Current	Water Te	mperature (°C)		рН	Salir	nity (ppt)		aturation (%)	Disso Oxyg		Turbidity(NTU)	Suspende mg.		Total A		Coordinate HK Grid	Coordinate HK Grid	Chromium (µg/L)	Nickel (µg/l
Station	Condition	Condition	Time	Depth (m)	Jampung 2 sp		(m/s)	Direction	Value	Average		Averag	e Va l ue	Average	Value	Average	Value	DA	Va l ue	DA	Value	DA	Va l ue	DA	(Northing)	(Easting)	Value DA	
					Surface	1.0	0.1	319 333	24.5 24.5	24.5	8.0	8.0	23.6	23.6	95.0 94.7	94.9	6.9	6.9	7.1 7.1	H	4		84 85				<0.2	2.3
C1	Cloudy	Moderate	06:31	8.3	Middle	4.2 4.2	0.1	17 17	24.4 24.3	24.4	8.0	8.0	25.6 25.6	25.6	94.0	94.0	6.8 6.8	0.9	2.8 2.9	4.2	4 5	4	88 87	87	815638	804270	<0.2	2.1
					Bottom	7.3	0.1	75	24.3	24.3	8.0	8.0	28.1	28.1	93.9	94.0	6.7	6.7	2.7		4		89				<0.2	1.9
						7.3	0.1	75 62	24.3		8.0		28.1 17.9		94.0	102.4	6.7 7.6		2.8 3.0		5 3		90 84				<0.2	2.0
					Surface	1.0	0.3	67 15	25.7 25.7	25.7	8.1 8.1	8.1	17.9 17.6	17.9	102.5 103.0		7.6 7.6	7.6	3.0 2.4	F	4		84 88				<0.2	2.8
C2	Cloudy	Moderate	07:39	8.0	Middle	4.0	0.2	17	25.7	25.7	8.1	8.1	17.6	17.6	102.9	103.0	7.6		2.4	3.1	4	4	89	88	825672	806935	<0.2	2.8
					Bottom	7.0	0.0	24 26	25.6 25.6	25.6	8.0	8.0	18.3	18.3	101.3 101.3	101.3	7.5 7.5	7.5	4.1 4.0		4		91 92				<0.2 <0.2	2.4
					Surface	1.0	0.0	257 269	25.3 25.3	25.3	8.0	8.0	19.4	19.4	99.8	99.8	7.4		1.5 1.5	-	3		83 83				<0.2	2.7
C3	Cloudy	Moderate	05:36	12.9	Middle	6.5 6.5	0.4	263 283	25.3 25.3	25.3	8.0	8.0	20.2	20.2	99.4 99.4	99.4	7.3	7.3	1.4 1.5	1.5	<2 3	3	88 89	88	822095	817798	<0.2	2.0
					Bottom	11.9	0.4	281	25.3	25.3	8.0	8.0	20.6	20,6	99.3	99.3	7.3	7.3	1.5		3		91				<0.2	2.6
					Surface	11.9	0.1	282 279	25.3 24.3	24.3	8.0		20.6		99.3	92.3	7.3 6.6		1.5 2.8		6		91 85				<0.2 <0.2	2.6 1.5
						1.0	0.1	297	24.3		8.0	0.0	27.5	27.5	92.3	32.5	6.6	6,6	2.9		5		84				<0.2	1.6
IM1	Cloudy	Moderate	06:39	5.6	Middle	-	-	2	-	-	-	_	- 00.4		-	-	- 0.7		3.1	3.0	- 4	5	89	87	817951	807115	<0.2	1.5
					Bottom	4.6 4.6	0.1 0.1	2	24.3 24.3	24.3	8.0	8.0	28.1	28.1	93.3 93.5	93.4	6.7 6.7	6.7	3.2		6		90				<0.2	1.6
					Surface	1.0	0.2	355 327	24.3	24.3	8.0	8.0	25.8	25.8	95.2 95.2	95.2	6.9	6.9	5.6 5.6	-	5 6		85 83	.			<0.2	1.8
IM2	Cloudy	Moderate	06:46	7.6	Middle	3.8	0.0	255 265	24.3 24.3	24.3	8.0	8.0	26.1 26.1	26.1	95.9 96.2	96.1	6.9 7.0	0.9	8.4 8.4	5.4	6	6	88 90	88	818162	806159	<0.2 <0.2	1.7
					Bottom	6.6	0.1	32	23.9	23.9	8.0	8.0	29.3	29.3	92.1	92.2	6.6	6.6	2.1	ļ	5		89 90				<0.2	1.6
					Surface	1.0	0.1	34 47	23.9 24.3	24.3	8.0	8.0	29.3	20.5	92.3 96.3	96.3	7.2		2.2 4.5		5 5		85				<0.2	1.7
IM3	Cloudy	Moderate	06:53	7.8	Middle	1.0 3.9	0.1	50 40	24.3 24.0	24.0	8.0	8.0	20.5	23,6	96.2 92.8	92.8	7.2 6.8	7.0	4.4 3.2	3.4	6	5	83 88	88	818778	805612	<0.2	1.7
IWIS	Cloudy	Woderate	00.55	7.0		3.9 6.8	0.2	44 22	23.9 23.8		8.0 8.0		23.6 29.0		92.7 92.8		6.8 6.6	_	3.2 2.6	3.4	5 6	3	87 90	00	010770	803012	<0.2 <0.2	1.7
					Bottom	6.8	0.2	23	23.8	23.8	8.0	8.0	29.0	29.0	93.1	93.0	6.7	6.7	2.6		5		92				<0.2	1.7
					Surface	1.0	0.1 0.1	10 11	24.5 24.5	24.5	8.0 8.0	8.0	23.1	23.1	95.9 95.9	95.9	7.0	6.9	8.6 8.6		6 7		84 85				<0.2 <0.2	1.8
IM4	Cloudy	Moderate	07:01	7.4	Middle	3.7	0.2	88 93	24.3 24.3	24.3	8.0	8.0	24.6	24.6	93.7 93.7	93.7	6.8		7.0 7.0	6.8	5 5	8	88 87	87	819739	804610	<0.2	2.0
					Bottom	6.4 6.4	0.1	83 87	23.8 23.8	23.8	8.0	8.0	28.8	28.9	93.4 93.6	93.5	6.7	6.7	4.9 4.9	F	13 14		90 90				<0.2	1.8
					Surface	1.0	0.3	20	24.6	24.6	8.0	8.0	19.6	19.6	95.0	95.2	7.1		8.2		9		83				<0.2	2.1
IM5	Cloudy	Moderate	07:09	7.5	Midd l e	1.0 3.8	0.4	20 11	24.6 24.4	24.4	8.0	8.0	19.7 21.8	21.8	95.3 95.6	95.8	7.1	7.1	8.2 6.2	5.7	7	7	85 88	88	820720	804871	<0.2 <0.2 <0.2	1.9 2.0
	,				Bottom	3.8 6.5	0.1	11 23	24.3 24.0	24.0	8.0	8.0	21.8 28.6	28.6	95.9 91.3	91.4	7.1 6.5	6.5	6.2 2.7		6		88 90	- 1			<0.2 <0.2	1.9
						6.5	0.2	23 12	24.0		8.0		28.6		91.5 92.4		6.5	0.0	2.7		6		92 83				<0.2	2.1
					Surface	1.0	0.4	11	24.6	24,6	8.0	8.0	21.1	21,1	92.3	92.4	6.8	6.8	2.0		4		85 90				<0.2	2.1
IM6	Cloudy	Moderate	07:16	7.8	Middle	3.9	0.1	17 20	24.5 24.5	24.5	8.0	8.0	22.8	22.8	92.5 92.6	92.6	6.8		2.4	2.4	4 5	5	89	88	821058	805819	<0.2 <0.2	2.0
					Bottom	6.8	0.1	0	24.2	24.2	7.9	7.9	27.6 27.6	27.6	93.8 94.2	94.0	6.7 6.8	6.8	2.8	-	5 5		89 90				<0.2 <0.2	2.7
					Surface	1.0	0.3	10 10	24.5 24.4	24.5	7.9 7.9	7.9	22.7	22.7	92.7 93.3	93.0	6.8		5.1 5.1		6 5		84 84				<0.2 <0.2	2.7
IM7	Cloudy	Moderate	07:21	8.0	Middle	4.0	0.3	12	24.2	24.2	7.9	7.9	25.2	25.2	90.2	90.4	6.6	6.7	4.6	4.7	6	6	89	88	821366	806827	<0.2	2.6
					Bottom	4.0 7.0	0.3	12 4	24.2 24.1	24.1	7.9 7.9	7.9	25.2 25.7	25.7	90.5 92.9	93.0	6.6 6.7	6.8	4.8 4.2	Ŀ	6		88 90				<0.2 <0.2	2.7
						7.0	0.0	338	24.1 25.2		7.9		25.7 19.1		93.1		6.8	0.0	4.6 9.5		6 8		92 83			<u> </u>	<0.2	2.7
					Surface	1.0	0.2	328 355	25.2 25.2	25.2	7.9	7.9	19.1	19.1	89.7 89.9	89.7	6.6	6.6	9.4	ļ	8 5		84 88				<0.2	2.4
IM8	Cloudy	Moderate	07:11	8.1	Middle	4.1	0.1	345	25.2	25.2	7.9	7.9	19.0	19.0	89.9	89.9	6.6		4.6	6.2	6	7	88	88	821849	808118	<0.2	2.4
					Bottom	7.1	0.2	346 327	25.2 25.2	25.2	7.9	7.9	19.0	19.0	89.8 89.8	89.8	6.6	6.6	4.5 4.5		7 6		92 92				<0.2 <0.2	2.4
DΔ: Denth-Δve																_		_				_						

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 27 April 19 during Mid-Flood Tide Dissolved Suspended Solids | Total Alkalinity Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Water Temperature (°C) Coordinate Coordinate Monitoring Current Oxygen (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction Value Average Value Average Value Average Value DA DA DA DA Value DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Value Value (Northing) (Easting) 0.1 311 25.3 <0.2 Surface 25.3 8.0 18.3 93.0 0.1 316 25.3 8.0 18.3 93.0 6.9 4.7 6,8 4.0 0.3 323 25.3 4.2 88 <0.2 2.4 07:05 822106 808790 <0.2 IM9 Cloudy Moderate 8.0 Middle 25.3 8.0 18.9 91.0 5.2 6 2.4 4.0 0.3 325 25.3 8.0 18.9 91.0 6.7 4.3 6 88 <0.2 2.4 7.0 0.2 353 25.2 8.0 19.4 91.0 91.1 6.7 6.5 92 <0.2 2.5 8.0 91.1 6.7 Bottom 25.2 19.4 0.2 356 25.2 8.0 19.4 6.7 6.5 92 <0.2 2.5 1.0 0.0 291 25.4 8.0 18.0 93.7 6.9 21.4 84 <0.2 2.4 Surface 8.0 18.0 93.7 1.0 0.0 298 25.4 8.0 18.0 93.7 6.9 21.3 4 84 <0.2 2.3 7.0 4.2 0.2 301 25.4 8.0 17.8 94.5 7.0 4.4 6 89 <0.2 2.4 IM10 Cloudy Moderate 06:58 8.4 Middle 8.0 17.8 94.5 822403 809806 <0.2 5 < 0.2 4.2 0.2 305 25.4 8.0 17.8 94.4 7.0 4.4 89 2.5 7.4 0.1 347 25.3 8.0 18.6 93.2 6.9 13.5 4 93 <0.2 2.4 Bottom 8.0 18.6 93.3 6.9 358 8.0 93.3 6.9 7.4 0.1 25.3 18.6 13.5 93 <0.2 23 2 <0.2 1.0 0.1 268 25.6 8.0 16.9 100.2 7.4 2.3 83 2.5 Surface 25.6 8.0 16.9 100.2 2.5 8.0 1.0 0.1 272 25.6 16.9 100.2 7.4 2.3 84 2.5 2 <2 88 88 25.6 25.5 17.1 17.1 2.4 4.4 0.1 246 80 98.3 <0.2 IM11 Cloudy Moderate 06:48 8.7 Middle 25.6 8.0 17.1 98.2 88 822033 811477 <0.2 2.5 4.4 0.1 255 8.0 7.3 15.9 <2 25.5 7.2 < 0.2 2.6 0.1 287 8.0 17.9 97.5 92 Bottom 25.5 8.0 17.9 97.5 7.2 8.0 16.0 <2 93 <0.2 0.1 292 25.5 2.5 1.0 0.0 256 25.6 8.0 16.3 98.5 2.6 5 83 <0.2 2.4 25.6 8.0 98.5 Surface 16.3 267 25.6 8.0 16.3 98.5 7.3 2.6 83 <0.2 2.5 1.0 0.0 4 7.3 3 88 4.3 0.2 270 25.6 8.0 16.6 97.9 7.3 2.6 <0.2 2.5 821437 812065 M12 Cloudy Moderate 06:41 8.6 Middle 25.6 8.0 97.8 87 2.5 16.6 < 0.2 4.3 0.2 255 25.6 8.0 7.3 2.6 89 <0.2 2.4 275 6.9 4.5 <0.2 2.5 0.1 25.3 8.0 20.3 94.4 Bottom 25.3 8.0 20.3 94.5 6.9 278 25.3 7.6 0.1 4.5 88 <0.2 2.4 25.7 8.0 16.9 98.8 2,4 <2 25.7 8.0 98.8 Surface 16.9 1.0 7.3 2.4 25.7 7.3 SR1A Cloudy Moderate 06:14 5.3 Middle 819971 812658 25.6 2.3 8.0 16.9 99.1 7.4 Bottom 25.6 8.0 16.9 99.1 7.4 25.6 231 Surface 25.6 8.0 17.4 99.0 1.0 0.0 232 25.6 8.0 99.0 7.3 84 <0.2 2.4 7.3 -SR2 Cloudy Moderate 06:00 5.8 Middle 821445 814146 98.7 98.7 4.8 0.1 229 25.6 8.0 17.1 7.3 7.5 4 92 <0.2 2.4 17.1 98.7 7.3 Bottom 17.1 7.5 4.8 0.2 241 25.6 8.0 7.3 92 2.4 1.0 0.3 24 25.2 18.6 6.8 5.0 Surface 25.2 7.9 18.6 18.6 91.4 5.0 10 1.0 0.3 25.2 6.8 6.8 41 0.3 22 25.2 7.9 18.5 91.9 6.8 5.4 8 -SR3 Cloudy Moderate 07:17 8.2 Middle 25.2 7.9 18.5 91.9 822136 807549 7.9 91.8 9 4.1 0.3 23 25.2 18.5 6.8 5.3 ----7.2 0.2 27 25.1 8.0 20.1 90.4 6.7 6.7 8.6 6 6.7 Bottom 25.1 8.0 20.1 90.5 0.2 25.1 8.0 8.5 2.5 2.6 2.7 1.0 0.1 215 24.8 8.0 8.0 21.8 97.4 7.1 Surface 24.8 8.0 21.8 97.3 97.2 1.0 0.1 224 24.8 7.1 6 281 4.3 0.1 24.7 8.0 21.9 96.7 7.1 4 ---SR4A 06:22 8.6 817192 807832 Cloudy Moderate Middle 24.7 8.0 21.9 96.7 96.7 2.7 6 4.3 0.2 286 24.7 8.0 21.9 7.1 7.1 3.7 3.8 7,6 0,2 224 24.6 8.0 97.7 98.0 7.1 10 24.1 ---24 6 8.0 24.1 97.9 Bottom 8.0 24.1 0.2 231 24.6 1.0 17.1 0.1 317 25.6 8.1 109.2 8.1 2.0 ---25.6 8.1 17.1 109.2 Surface 109.1 2.0 320 8.1 8.1 6 1.0 0.1 25.6 8.1 --------SR5A 06:04 4.6 816596 810672 Cloudy Moderate Middle 2.2 7.6 7.6 3.6 0.1 224 25.4 8.0 19.8 103.2 2.4 25.4 8.0 19.8 103.2 Bottom 7.6 3.6 0.1 224 25.4 2.4 1.0 0.1 252 25.0 7.8 92.0 ---Surface 25.0 7.8 17.8 91.7 256 7.8 17.8 91.4 6.8 3.2 6 1.0 0.1 25.0 6.9 SR6 Cloudy Moderate 05:36 4.3 Middle 817916 814675 21.2 3.3 0.1 289 24.9 7.8 85.0 6.2 6.3 3.4 9 Bottom 7.8 85.1 0.1 303 24.9 7.8 3.4 10 1.0 0.1 275 24.8 26.4 97.2 6.9 Surface 26.4 1.0 0.1 291 24.8 7.9 26.4 97.2 6.9 1.8 -6.9 10.4 0,1 241 24.8 7.9 26.5 96.3 6.9 1,7 3 SR7 Moderate 05:03 20.7 Middle 7.9 26.5 96.3 823621 823757 Cloudy 10.4 0.1 251 24.8 7.9 26.5 96.2 6.9 1.7 19.7 0.1 228 24.6 7.8 27.9 93.2 6.6 2.2 3 Bottom 7.8 27.9 93.2 6.6 19.7 0.1 224 24.6 7.8 6.6 4 1.0 25.6 8.0 17.0 98.8 7.3 Surface 25.6 8.0 17.0 98.8 1.0 25.6 8.0 17.0 98.8 7.3 2.1 4 7.3 ---820406 SR8 Cloudy Moderate 06:29 4.9 Middle 47 3 811613 . . -3.9 25.7 8.0 16.8 7.3 7.3 7.2 3 98.8 -. 25.7 8.0 16.8 98.8 7.3 25.7 3.9

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 Water Quality Monitoring Results on 30 April 19 during N

Water Qua	lity Monit	oring Resu	ults on		30 April 19	during Mid-E		e																				
Monitoring	Weather	Sea	Sampling	Water	Sampling Dep	th (m)	Current Speed	Current	Water Te	mperature (°C) F	Н	Salin	ity (ppt)	DOS	aturation (%)		olved /gen	Turbidity(NTU	Suspend (m	ed Solids g/L)	Total All		Coordinate HK Grid	Coordinate HK Grid	Chromium (µg/L)	Nicke	l (µg/L)
Station	Condition	Condition	Time	Depth (m)		()	(m/s)	Direction	Value	Average	Value	Average	Value	Average	e Value	Average	Value	DA	Value DA	Value	DA	Value	DA	(Northing)	(Easting)	Value DA	Value	DA
					Surface	1.0	0.2	183 189	26.0 26.0	26.0	8.2	8.2	14.8	14.8	103.7	103.6	7.7		11.2	6		83 83				<0.2	1.7	
C1	Rainy	Rough	10:24	8.7	Middle	4.4	0.1	213	25.3	25.3	8.1	8.1	23.0	23.0	93.2	93.1	6.7	7.2	8.4	8	10	87	87	815609	804239	<0.2	2.0	1.9
0.	runy	rtougn	10.24	0.1		4.4 7.7	0.1	229 168	25.3 25.1		8.1 8.1		23.0 27.8		93.0 92.7		6.7		10.6	9 16		87 92	1	0.0000	001200	<0.2	2.0	
					Bottom	7.7	0.2	179	25.1	25.1	8.1	8.1	27.8	27.8	92.8	92.8	6.5	6.5	10.7	14		92				<0.2	2.0	
					Surface	1.0	0.3	270 272	25.7 25.7	25.7	7.9	7.9	14.7	14.7	92.8 92.8	92.8	7.0	l	10.7	7		85 85	1			<0.2	2.9 3.0	
C2	Rainy	Rough	12:37	11.5	Middle	5.8	0.2	255	25.1	25.1	7.9	7.9	21.0	21.0	81.0	81.0	5.9	6.5	14.7	6	6	86	87	825678	806921	<0.2	2 3.3	3.3
					Bottom	5.8 10.5	0.2	279 157	25.1 24.9	24.9	7.9 7.8	7.8	21.0 26.2	26.2	81.0 82.7	82.7	5.9 5.9	5.9	14.7	6		86 89	ı			<0.2 <0.2	3.2	
						10.5	0.1	165 93	24.9 25.8		7.8 8.0		26.2 14.2		82.7 101.7		5.9 7.7	3.5	19.0 9.2	6		89 84	-			<0.2 <0.2	3.8 2.1	_
					Surface	1.0	0.4	101	25.8	25.8	8.0	8.0	14.2	14.2	101.7	101.7	7.7	72	9.2	5		85	ı			<0.2	2.0	1
С3	Cloudy	Moderate	10:12	12.3	Middle	6.2 6.2	0.2	338 354	25.1 25.1	25.1	7.9 7.9	7.9	23.0	23.0	91.5 91.5	91.5	6.6	-	8.0 8.4	5	5	88 89	88	822127	817821	<0.2	2 2.1	2.1
					Bottom	11.3	0.1	112	24.8	24.8	7.9	7.9	28.2	28.2	90.5	90.5	6.4	6.4	8.0	5		90	ı			<0.2	2.0	1
					Surface	11.3	0.1	116 179	24.8 25.5	25.5	7.9 8.2	8.2	28.2 16.2	16.2	90.5 98.3	98.1	6.4 7.3		6.1	7		89 83	$\overline{}$			<0.2 <0.2	2.2	
					Surface	1.0	0.1	185	25.5	25.5	8.2	0.2	16.2	10.2	97.9	90.1	7.3	7.3	6.1	7		84	ı			<0.2	2.1	-
IM1	Rainy	Rough	10:36	5.2	Middle	-	-		-	-	-	-	-	-	-	-	-		- 8.1		7	-	86	817937	807111	- <0.2	-	2.2
					Bottom	4.2	0.3	163 178	25.2 25.2	25.2	8.1	8.1	26.0 26.0	26.0	92.4 92.5	92.5	6.6	6.6	10.1	6		88 89	ı			<0.2	2.1	
					Surface	1.0	0.2	197	25.6	25.6	8.2	8.2	14.5	14.5	100.0	100.0	7.5		6.0	6		83	Ħ			<0.2	2.4	
IM2	D. t.		10:43	7.8	Middle	1.0 3.9	0.2	198 143	25.6 25.5	05.5	8.2 8.1	0.4	14.5 16.3	40.0	99.9 98.1	00.0	7.5	7.4	6.0	7	7	88 88	88	818160	806146	<0.2	2.4	
IMZ	Rainy	Rough	10:43	7.8	ivildale	3.9 6.8	0.2	155 152	25.5 25.1	25.5	8.1 8.1	8.1	16.3 24.8	16.3	98.2 92.1	98.2	7.3 6.6		6.6 8.2	7	′	88 91	88	818160	806146	<0.2 <0.2	2.3	2.3
					Bottom	6.8	0.2	154	25.1	25.1	8.1	8.1	24.8	24.8	92.2	92.2	6.6	6.6	8.1	9		92				<0.2	2.1	
					Surface	1.0	0.4	221	25.4 25.4	25.4	8.1 8.1	8.1	13.5	13.5	97.3 97.3	97.3	7.4	-	7.1	6		83 84	ı			<0.2	2.1	-
IM3	Rainy	Rough	10:52	8.1	Middle	4.1	0.3	226	25.3	25.3	8.1	8.1	14.0	14.0	96.8	96.8	7.4	7.4	7.6	7	7	88	88	818794	805594	<0.2	2.0	2.0
	,					4.1 7.1	0.3	234 199	25.2 24.5	24.5	8.1 8.0	8.0	14.0 20.7	20.7	96.8 98.7	98.8	7.4	7.0	7.6	7		88 91	1			<0.2	1.9	
					Bottom	7.1 1.0	0.3	203 225	24.5 25.5		8.0 8.1	0.0	20.8		98.9 97.4		7.3 7.5	7.3	3.5 7.5	8		91 83	$\vdash \vdash$			<0.2	1.9	
					Surface	1.0	0.6	227	25.5	25.5	8.1	8.1	11.5	11.5	97.3	97.4	7.5	7.4	7.5	7		83	ı			<0.2	2.1	
IM4	Rainy	Rough	11:06	8.2	Middle	4.1 4.1	0.6	235 244	25.3 25.3	25.3	8.1 8.1	8.1	14.0	14.0	94.7	94.5	7.2	ł F	8.8 8.9 9.1	8	8	88 88	87	819714	804621	<0.2	2.1	2.1
					Bottom	7.2	0.4	234	25.2	25.2	8.1	8.1	18.7	18.7	93.5	93.5	6.9	6.9	10.9	10		91	l l			<0.2	2.2	<u> </u>
					Surface	7.2 1.0	0.4	242 266	25.2 25.5	25.5	8.1	8.1	18.7 9.8	9.8	93.5 97.3	97.3	6.9 7.5		10.9 6.8	5		91 83	=			<0.2 <0.2	2.2	
					Surface	1.0 4.0	0.5 0.2	286 243	25.5 25.4	25.5	8.1 8.1	0.1	9.8 10.7		97.3 97.2	91.3	7.5 7.5	7.5	6.8	6 7		84 87	ı			<0.2	2.2	1
IM5	Rainy	Rough	11:21	7.9	Middle	4.0	0.2	254	25.4	25.4	8.1	8.1	10.7	10.7	97.2	97.2	7.5		6.3	7	6	87	87	820726	804879	<0.2	2.1	2.2
					Bottom	6.9	0.1	200 204	25.4 25.4	25.4	8.1	8.1	10.7	10.7	98.4	98.5	7.6	7.6	5.6 5.0	- 6 - 5		91 91	ı			<0.2	2.1	
					Surface	1.0	0.4	271	25.8	25.8	8.2	8.2	14.3	14.3	104.4	104.3	7.8		5.7	5		83				<0.2	2.5	
IM6	Rainy	Rough	11:36	8.3	Middle	1.0 4.2	0.4	281 264	25.8 25.7	25.7	8.2 8.2	8.2	14.3 14.4	14.4	104.2 102.6	102.5	7.8	7.8	5.7 6.2 6.0	5 6	6	84 87	87	821071	805846	<0.2	2.6	2.6
livio	Rainy	Rougn	11.30	0.3		4.2 7.3	0.1 0.1	269 211	25.7 25.6		8.2 8.2		14.5 17.1		102.4 102.3		7.7 7.6		6.2	7	0	88 91	07	021071	003040	<0.2	2.8	2.0
					Bottom	7.3	0.1	214	25.6	25.6	8.2	8.2	17.1	17.1	102.3	102.3	7.6	7.6	6.1	7		91				<0.2	2.4	1
					Surface	1.0	0.5 0.5	265 287	25.9 25.9	25.9	8.2	8.2	14.4	14.4	105.2	105.2	7.9	-	5.7 5.8	6		84 85	ı			<0.2	2.7	-
IM7	Rainy	Rough	11:53	8.0	Middle	4.0	0.2	200	25.7	25.7	8.2	8.2	14.6	14.6	104.3	104.3	7.8	7.9	4.9	8	7	87	88	821355	806824	<0.2	3.0	2.7
		•				4.0 7.0	0.2	211 246	25.7 25.7		8.2 8.2		14.6 14.6		104.3 103.5	103.5	7.8	7.0	6.5	7		88 91				<0.2	2.9	1
					Bottom	7.0	0.1	249	25.7	25.7	8.2	8.2	14.6	14.6	103.5	103.5	7.8	7.8	6.6	7		92	 			<0.2	2.4	<u> </u>
					Surface	1.0	0.6	99 104	25.6 25.6	25.6	7.9	7.9	14.7	14.7	94.9	94.9	7.1	7.0	9.7 9.7	6		84 86				<0.2	2.1	1
IM8	Rainy	Rough	12:05	7.6	Middle	3.8 3.8	0.5 0.5	100 106	25.4 25.4	25.4	7.9 7.9	7.9	16.8 16.8	16.8	93.0 93.0	93.0	6.9 6.9	1.0	9.3 9.3	4	4	89 88	88	821815	808146	<0.2 <0.2	2.2	2.1
					Bottom	6.6	0.5	79	25.4	25.4	7.9	7.9	21.6	21.6	94.9	94.9	6.9	6.9	9.5	3		89				<0.2	2.1	1
					Dottom	6.6	0.5	81	25.4	20.7	7.9		21.6	21.0	94.9	0 7.0	6.9	5.5	9.5	4		89	ш			<0.2	2.1	

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 boilded and underlined

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

Water Qua			ults on		30 April 19	during Mid-E		e																	
Monitoring	Weather	Sea	Sampling	Water	Sampling Dep	ath (m)	Current Speed	Current	Water Te	mperature (°0	c) pH	Sali	nity (ppt)		aturation (%)	Dissolved Oxygen	Turbidity(NTU		led Solids g/L)	Total Al (pp		Coordinate HK Grid	Coordinate HK Grid	Chromium (µg/L)	Nickel (µg/l
Station	Condition	Condition	Time	Depth (m)	Camping De	var (iii)	(m/s)	Direction	Value	Average	Value Avera	ge Value	Averag	e Value	Average	Value DA	Value DA	Value	DA	Value	DA	(Northing)	(Easting)	Value DA	Value DA
					Surface	1.0	0.7 0.7	86 88	25.6 25.6	25.6	8.0	14.5 14.5	14.5	91.5 91.5	91.5	6.9	9.8 9.8	5 6		84 85				<0.2 <0.2	2.0
IM9	Rainv	Rough	11:57	7.2	Middle	3.6	0.7	95	25.4	25.4	8.1	19.5	19.5	84.4	84.4	6.2	9.3	7	6	85	86	822093	808828	<0.2	2.2
	· tuniy	rtougn	11.01			3.6 6.2	0.7	100 80	25.4 25.0		8.1	19.5 24.3		84.4 84.3		6.2	9.3	6	-	85 88	00	022000	000020	<0.2 <0.2	2.2
					Bottom	6.2	0.4	84	25.0	25.0	8.1	24.3	24.3	84.3	84.3	6.1	9.5	6		89				<0.2	2.2
					Surface	1.0	0.7	100 108	25.6 25.6	25.6	7.9 7.9	14.0	14.0	92.0 92.0	92.0	7.0	10.0	6		85 85				<0.2	2.0
IM10	Rainy	Rough	11:42	7.9	Middle	4.0 4.0	0.5	96	25.2	25.2	7.9	22.3	22.3	85.5	85.5	6.2	9.3	6 5	6	88	88	822399	809808	<0.2	2.2
					Bottom	6.9	0.5	96 90	25.2 25.0	25.0	7.9 7.9 7.9	22.3 27.1	27.2	85.5 87.9	88.1	6.2 6.2 6.3	9.3 9.5	6	İ	89 89				<0.2 <0.2	2.2
						6.9 1.0	0.3	92 103	25.0 25.6		7.9	27.2		93.0		6.3 0.3 7.0	9.5	6		90 85				<0.2 <0.2	2.0
					Surface	1.0	0.7	104	25.6	25.6	7.9	14.6	14.6	93.0	93.0	7.0	10.3	6	İ	85				<0.2	2.2
IM11	Rainy	Rough	11:26	7.6	Middle	3.8	0.7	104 104	25.4 25.4	25.4	7.9 7.9	20.3	20.3	88.1 88.1	88.1	6.4	10.3	5 7 6	7	85 85	87	822061	811465	<0.2	2 2.1 2.2
					Bottom	6.6 6.6	0.2	116	24.9 24.9	24.9	7.8 7.8	25.2	25.3	84.4 84.4	84.4	6.1 6.1	10.9	6 7		89 90				<0.2 <0.2	2.2
					Surface	1.0	0.5	126 87	25.7	25.7	7.9	13.9	13.9	89.1	89.1	6.7	11.0	8		84				<0.2	2.3
						1.0 4.2	0.5	88 113	25.7 25.2		7.9	13.9		89.1 82.5		6.7		8 7		85 85				<0.2	2.2
IM12	Rainy	Moderate	11:18	8.3	Middle	4.2	0.6	120	25.2	25.2	7.8	20.4	20.4	82.5	82.5	6.1	10.7	8	8	89	87	821455	812024	<0.2	2.2
					Bottom	7.3 7.3	0.1	143 149	25.0 25.0	25.0	7.8 7.8	24.7	24.7	82.5 82.5	82.5	5.9 5.9	10.7	8	1	89 90				<0.2 <0.2	2.1
					Surface	1.0		-	25.7 25.7	25.7	8.0	15.4 15.4	15.4	101.1 101.1	101.1	7.6 7.6	10.4	6		-				-	1
SR1A	Cloudy	Moderate	10:58	4.7	Middle	2.4	-	-	-		-	-		-		- 7.6	- 10		6	-		819971	812664	-	
511.71	oloddy	moderate	10.00			2.4 3.7	-	-	25.7		8.0	17.9		100.0		7.4	10.1	- 6	•	-		0.007.1	012001	-	-
					Bottom	3.7 1.0	0.3	105	25.7 25.8	25.7	8.0	17.9	17.9	100.0 97.7	100.0	7.4 7.4 7.4	10.1	7		- 85				<0.2	2.2
					Surface	1.0	0.3	105	25.8	25.8	7.9 7.9	13.0	13.0	97.7	97.7	7.4 7.4	10.7	7		85				<0.2	2.2
SR2	Cloudy	Moderate	10:43	5.0	Middle	-	-	-	-	-	-	-	-	-	-	- /	- 10.	-	7	-	87	821457	814184	- <0.2	2 - 2.3
					Bottom	4.0 4.0	0.1	141	25.6	25.6	8.0 8.0	16.8 16.8	16.8	95.4 95.4	95.4	7.1 7.1	11.1 11.1	6 7	İ	88				<0.2	2.4
					Surface	1.0	0.1 0.6	144 197	25.6 25.6	25.6	8.0 8.0 7.9 7.9	14.7	14.7	94.0	94.0	7.1	9.9	4		- 88				-	2.4
						1.0 4.1	0.6	202 178	25.6 25.3		7.9	14.7	-	94.0 85.1		7.1 6.3	9.9	5		-				-	-
SR3	Rainy	Rough	12:12	8.2	Middle	4.1	0.5	177	25.3	25.3	7.9	17.3	17.3	85.1	85.1	6.3	10.3	6	5	-	-	822145	807585		- 1
					Bottom	7.2 7.2	0.3	189 192	25.1 25.1	25.1	7.8 7.8	25.1 25.1	25.1	87.2 87.2	87.2	6.2 6.2	12.5	5 6		-				-	-
					Surface	1.0	0.1	80 82	25.9 25.9	25.9	8.1 8.1	12.9 12.9	12.9	102.2	102.2	7.7	4.7	4		-				-	-
SR4A	Rainy	Rough	10:03	9.6	Middle	4.8	0.2	65	25.2	25.2	8.1	23.0	23.0	94.7	94.7	6.8	12.9	7	8	-	_	817181	807793		-
	,	9				4.8 8.6	0.3	68 64	25.2 25.0		8.1	23.0		94.7 92.4		6.8	12.9	7 14		-				-	
					Bottom	8.6 1.0	0.3	66 112	25.0 26.1	25.0	8.1 8.3 8.3	26.8 14.7	26.8	92.4 113.5	92.4	6.6	13.2 5.2	14 5		-				-	-
					Surface	1.0	0.0	117	26.1	26.1	8.3	14.7	14.7	113.4	113.5	8.5 8.5 8.5	E 4	5						-	-
SR5A	Misty	Rough	09:40	4.1	Middle	-	-	-	-	-	-	-	-	-	-	-	7.9	-	9	-	-	816573	810702	-	-
					Bottom	3.1 3.1	0.1	120 127	26.1 26.1	26.1	8.3 8.3	17.6 17.6	17.6	112.8 112.6	112.7	8.3 8.3	10.7 10.7	13 14	Ī	-				-	-
					Surface	1.0	0.1	26	25.7	25.7	8.2	17.8	17.8	105.2	105.2	7.8	3.1	6						-	-
						1.0	0.1	28	25.7		8.2	17.8	17.0	105.1	100.2	7.8		7		-				-	-
SR6	Misty	Rough	09:23	4.3	Middle	-	-	-	-	-		-	-	-	-	-	- 5.4	-	8	-	-	817885	814654		
					Bottom	3.3	0.0	5	25.7 25.7	25.7	8.2 8.2	19.2 19.2	19.2	101.1	101.1	7.4 7.4	7.8 7.8	10 9						-	-
					Surface	1.0	0.2	90 94	25.0 25.0	25.0	8.0	25.7 25.7	25.7	86.4 86.4	86.4	6.2	8.0	2		-				-	-
SR7	Rainy	Moderate	09:27	16.9	Middle	8.5	0.2	84	24.7	24.7	7.9	29.2	29.2	77.9	77.9	5.5	8.5	4	4	-	_	823638	823764	<u> </u>	
		-			D-**	8.5 15.9	0.2	88 120	24.7 24.4		7.9	29.2		77.9 81.2		5.5	9.0	3 5	1	-				-	
					Bottom	15.9 1.0	0.0	121	24.4	24.4	8.0	31.6	31.6	81.3	81.3	5.7	9.0 12.7	6	1	-				-	
					Surface	1.0	-		25.9 25.9	25.9	8.0 8.0	15.6 15.6	15.6	92.4 92.4	92.4	6.9 6.9	12.7	12 13	1	-				-	-
SR8	Cloudy	Moderate	11:09	5.0	Middle	-	-	-	-	-		-	-	-	-	- 0.9	- 12.	3 -	13	-	-	820377	811601		-
					Bottom	4.0	-	-	25.5	25.5	7.9 7.9	19.1	19.1	93.6	93.6	6.9	12.8	12	Ī	-				-	-
			1		L	4.0	-	-	25.5		7.9	19.1		93.6		6.9	12.8	13		-				-	

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 April 19 during N

30 April 19 during Mid-Flood Tide

Water Qua	ality Monit	oring Resu	ults on		30 April 19	during Mid-l		ide																			
Monitoring	Weather	Sea	Sampling	Water	Sampling Dep	th (m)	Current Speed	Current	Water Te	mperature (°C)	pН	Salin	ity (ppt)	DO S	aturation (%)	Dissolved Oxygen	Turbidity(NTU)	Suspend (m	ed Solids g/L)	Total A (pp		Coordinate HK Grid	Coordinate HK Grid	Chromium (µg/L)	Nickel	(µg/L)
Station	Condition	Condition	Time	Depth (m)	Camping Bep		(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	0.1	157 170	24.0 24.0	24.0	8.1 8.1	8.1	31.3	31.3	93.0	93.0	6.7	11.8 11.8	7		83 84				<0.2	1.8	
C1	Cloudy	Rough	15:34	7.9	Middle	4.0	0.2	144	24.0	24.0	8.1	8.1	31.3	31.4	93.1	93.2	6.7	7.2	7	7	87	87	815612	804235	<0.2	1.6	1.7
	,					4.0 6.9	0.2	148 80	24.0 24.0		8.1 8.1		31.4 31.4		93.2 93.3		6.7	7.2	7		87 91				<0.2	1.7	i
					Bottom	6.9	0.1	87	24.0	24.0	8.1	8.1	31.4	31.4	93.3	93.3	6.7	10.2	6		92				<0.2	1.6	
					Surface	1.0	0.3	68 69	25.0 24.9	25.0	7.9 7.9	7.9	14.7	14.7	97.7 97.8	97.8	7.4 7.3	8.6 8.6	4 5		85 85				<0.2	1.8	i
C2	Cloudy	Rough	14:31	11.6	Middle	5.8 5.8	0.2	92 97	25.2 25.3	25.3	7.9 7.9	7.9	22.2	22.2	97.7 97.6	97.7	7.1	7.9 7.8	6	6	90 89	89	825665	806952	<0.2	2.1	2.0
					Bottom	10.6	0.0	70	25.5	25.5	7.9	7.9	28.8	28.8	97.6	97.6	6.8	7.0	6		93				<0.2	2.2	i
					Confess	10.6 1.0	0.0	72 298	25.5 24.7	24.7	7.9	7.0	28.8 16.4		97.6 97.3	97.4	6.8 7.4	7.0 12.2	7		94 84				<0.2 <0.2	2.0	
					Surface	1.0 6.1	0.0 0.4	298 264	24.6 24.4	24.7	7.8 7.9	7.8	16.4 20.6	16.4	97.5 95.6	97.4	7.4 7.1	12.5	6		84 88				<0.2	2.0	
C3	Cloudy	Moderate	16:41	12.2	Middle	6.1	0.4	285	24.5	24.5	7.9	7.9	20.6	20.6	95.7	95.7	7.1	14.2	7	6	89	87	822103	817800	<0.2	2.2	2.1
					Bottom	11.2 11.2	0.1	285 306	25.0 25.0	25.0	7.8 7.8	7.8	24.1	23.9	97.1 97.1	97.1	7.0 7.0	9.9	5 6		90 89				<0.2	2.0	
					Surface	1.0 1.0	0.1 0.1	43 44	24.0 24.0	24.0	8.1 8.1	8.1	31.3 31.3	31.3	93.7 93.8	93.8	6.7	8.5 8.5	8 9		84 85				<0.2 <0.2	2.0	
IM1	Cloudy	Rough	15:16	3.6	Middle	1.0	-	-	-	_	-		-		93.6		6.7	- 8.6	-	7	-	88	817945	807132	- <0.2	,	2.1
	Cioudy	rtougii	13.10	5.0		2.6	0.1	- 61	24.0		8.1	-	31.3		95.1		6.9	8.7	- 6	,	91	- 00	017343	007 132	<0.2	2.1	2.1
					Bottom	2.6	0.1	65	24.0	24.0	8.1	8.1	31.3	31.3	95.1	95.1	6.9	8.8	6		91				<0.2	2.1	
					Surface	1.0	0.3	40 41	24.0 24.0	24.0	8.1 8.1	8.1	31.2 31.2	31.2	95.3 95.3	95.3	6.9 6.9 6.9	9.4	7		84 88				<0.2	2.1	
IM2	Cloudy	Rough	15:09	8.1	Middle	4.1 4.1	0.0	43 45	24.0 24.0	24.0	8.1 8.1	8.1	31.2	31.2	95.5 95.6	95.6	6.9	11.3 11.3	7	7	88 89	89	818139	806182	<0.2	2.0	2.0
					Bottom	7.1	0.1	92	24.0	24.0	8.0	8.0	31.2	31.2	94.6	94.6	6.9	9.2	6		91				<0.2	1.9	
						7.1 1.0	0.1	98 49	24.0		8.0		31.2		94.5 94.2		6.9	9.2 15.3	6		92 83				<0.2 <0.2	2.0	
					Surface	1.0	0.2	44 52	24.0 24.0	24.0	8.0	8.0	31.0 31.0	31.0	94.2 94.4	94.2	6.8 6.9	15.3	7 6		83 88				<0.2	2.1	
IM3	Cloudy	Rough	15:03	7.5	Middle	3.8	0.2	54	24.0	24.0	8.0	8.0	31.0	31.0	94.4	94.4	6.9	12.8	7	7	88	87	818781	805601	<0.2	2.2	2.2
					Bottom	6.5 6.5	0.2	127 126	24.0 24.0	24.0	8.0	8.0	31.0	31.0	93.4	93.4	6.8	11.8 11.9	7 6		91 91				<0.2	2.2	
					Surface	1.0	0.1	37	24.0	24.0	8.0	8.0	31.0 31.0	31.0	93.3 93.3	93.3	6.8	10.2	7		83 84				<0.2 <0.2	2.4	
IM4	Cloudy	Rough	14:54	7.7	Middle	3.9	0.2	39 95	24.0 24.0	24.0	8.0	8.0	31.0	31.0	93.5	93.6	6.8	15.3	6	6	88	88	819725	804590	<0.2	2.5	2.4
IIVI4	Cioudy	Rougii	14.34	1.1		3.9 6.7	0.2	103 88	24.0 24.0		8.0		31.0 31.0		93.6 91.5		6.8	15.3	7	0	88 91	- 00	019725	804390	<0.2	2.4	2.4
					Bottom	6.7	0.1	89	24.0	24.0	8.0	8.0	31.0	31.0	91.6	91.6	6.7	12.3	6		92				<0.2	2.4	
					Surface	1.0	0.3	54 56	24.0 24.0	24.0	8.0	8.0	30.9	30.9	92.9 93.0	93.0	6.8	9.5 9.6	5		83 84				<0.2	2.5	i
IM5	Cloudy	Rough	14:47	7.9	Middle	4.0	0.1	89 89	24.0 24.0	24.0	8.0	8.0	31.0 31.0	31.0	93.4 93.5	93.5	6.8	11.2 11.3	6 5	5	88 88	88	820738	804864	<0.2 <0.2	2.5	2.4
					Bottom	6.9	0.2	100	24.0	24.0	7.9	7.9	30.9	31.0	94.0	94.0	6.8	11.2	4		91				<0.2	2.3	i
					Surface	6.9 1.0	0.2	113 40	24.0	24.0	7.9 7.9	7.9	31.0	31.0	94.0 88.9	88.9	6.8	11.2 6.3	5		91 83				<0.2 <0.2	2.4	
					Surface	1.0 3.9	0.4 0.1	42 15	24.0 24.0	24.0	7.9 8.0	7.9	31.0 31.0		88.9 89.1		6.5 6.5	6.3 7.0	5 4		83 87				<0.2	2.3	i
IM6	Cloudy	Rough	14:41	7.8	Middle	3.9	0.1	15	24.0	24.0	8.0	8.0	31.0	31.0	89.2	89.2	6.5	7.1	4	4	87	87	821044	805814	<0.2	2.1	2.2
					Bottom	6.8	0.1	9	24.0 24.0	24.0	8.0	8.0	31.0	31.0	89.7 90.1	89.9	6.6	6.2	4		91 92				<0.2	1.9	i
					Surface	1.0	0.3	27	24.1	24.1	7.9	7.9	30.7	30.7	88.1	88.1	6.4	5.9	5		83				<0.2	1.9	
IM7	Cloudy	Rough	14:34	7.6	Middle	3.8	0.3	28 27	24.1 24.1	24.0	7.9 7.9	7.9	30.8	30.8	88.1 87.9	87.9	6.4 6.4	5.9 6.7 5.9	6	6	84 88	88	821337	806813	<0.2	1.9	1.9
avir	Cioudy	rvoagri	17.04	7.0		3.8 6.6	0.3	29 11	24.0 24.0		7.9 7.9		30.8		87.9 87.8		6.4	6.7 5.1	5 5	J	91 92	- 00	02 1331	000013	<0.2	2.0	1.5
					Bottom	6.6	0.0	11	24.0	24.0	7.9	7.9	30.9	30.9	87.8	87.8	6.4	5.1	6		92				<0.2	1.8	
					Surface	1.0	0.2	330 331	25.3 25.2	25.3	7.9 7.9	7.9	15.5 15.5	15.5	97.2 97.3	97.3	7.3	13.2	5 5		85 85				<0.2	1.8	i .
IM8	Cloudy	Rough	15:08	7.4	Middle	3.7 3.7	0.1 0.1	265 270	25.0 25.0	25.0	7.9 7.9	7.9	16.8 16.8	16.8	96.7 96.7	96.7	7.3 7.3	12.7 13.3	6	6	88 89	88	821836	808132	<0.2 <0.2	2.0	1.9
					Bottom	6.4	0.2	253	25.1	25.1	7.9	7.9	25.8	25.8	93.8	93.8	6.7	10.7	6		89	1			<0.2	1.9	
					Dottom	6.4	0.2	255	25.1	20.1	7.9		25.8	20.0	93.8	00.0	6.7	10.8	5		91				<0.2	2.1	

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

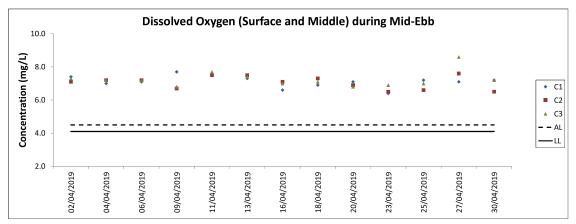
Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring

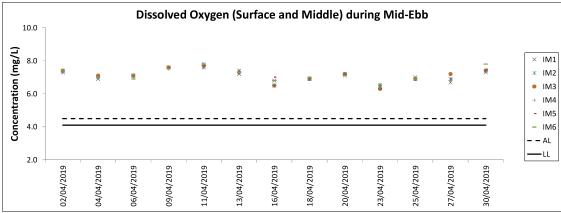
Water Quality Monitoring Results on during Mid-Flood Tide 30 April 19 DO Saturation Dissolved Suspended Solids Total Alkalinity Chromium Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Nickel (µg/L) Sampling Water Monitoring Speed Current Oxygen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Direction Value DA Condition Time Value Value Average Value Average Value Average Value DA Value DA Value DA (Easting) Value DA Value DA Condition Depth (m) (m/s) Average (Northing) 14.4 95.3 282 24.8 14.6 2.0 Surface 24.8 7.9 95.4 0.1 295 24.7 7.9 14.2 7.3 10.4 85 <0.2 3.7 0.3 228 24.9 95.0 95.0 10.3 1.8 7.9 18.1 95.0 808825 <0.2 IM9 Cloudy Rough 15:18 7.3 Middle 24.9 89 822095 1.9 3.7 0.3 236 24.9 7.9 18.1 7 1 10.2 5 90 <0.2 1.8 6.3 0.2 255 25.5 7.9 24.0 98.0 7.0 8.2 5 90 <0.2 1.8 7.9 24.0 98.1 Bottom 25.5 6.3 0.2 258 25.5 79 24 0 98.1 7.0 8.9 6 93 <0.2 1.9 265 1.0 0.0 25.0 12.9 98.4 10.8 85 < 0.2 1.8 Surface 7.9 12.9 98.4 98.3 1.0 0.0 277 24.9 7.9 12.9 7.6 11.1 5 85 < 0.2 1.9 3.8 0.2 261 24.9 7.9 19.5 96.4 7.1 8.8 6 89 <0.2 1.8 IM10 Cloudy Rough 15:26 7.6 Middle 7.9 19.2 96.5 89 822367 809812 <0.2 3.8 0.2 266 24.9 7.9 19.0 96.6 7.2 8.8 5 90 <0.2 1.8 6.6 0.1 244 24.6 7.9 23.7 95.2 6.9 9.5 4 93 < 0.2 1.8 Bottom 7.9 23.7 95.3 1.9 6.6 0.1 250 24.6 79 23.7 95.3 6.9 9.5 5 <0.2 93 <0.2 2.0 1.0 0.1 266 24.7 7.9 13.7 96.2 7.4 13.2 85 Surface 24.7 7.9 13.5 96.3 13.2 0.1 280 24.6 7.9 13.2 7.4 6 96.3 85 15.0 <0.2 0.1 254 5 89 1.7 3.9 24.6 7.9 19.3 95.2 7.1 IM11 Cloudy Rough 15:39 7.8 Middle 24.6 7.9 19.3 95.2 89 822046 811449 <0.2 1.9 3.9 7.9 7.1 14.6 90 0.1 261 24.6 19.3 95.1 4 282 <0.2 6.8 24.5 95.4 95.5 9.4 5 2.0 0.1 8.0 24.3 6.9 93 Bottom 24.5 8.0 24.1 95.5 6.8 0.1 282 24.5 8.0 23.9 7.0 9.3 5 93 <0.2 1.8 247 1.0 0.0 24.8 7.9 13.0 95.5 12.9 85 <0.2 1.8 Surface 24.8 7.9 13.0 95.6 1.0 0.0 229 24.8 12.9 5 89 <0.2 1.8 4.1 24.7 10.7 5 <0.2 2.1 0.2 291 21.3 96.0 90 821450 812053 IM12 Cloudy Moderate 15:48 8.1 Middle 24.7 7.9 21.1 96.0 90 1.9 < 0.2 0.2 293 24.7 8.0 20.9 10.7 6 91 <0.2 7.1 272 24.9 8.0 26.1 97.0 6.9 14.1 4 <0.2 1.8 25.0 7.9 26.2 96.5 6.9 Rottom 7.1 0.1 280 25.0 7.9 26.2 96.0 6.8 14.1 2.0 25.1 7.8 7.8 9.4 20.6 96.2 96.5 Surface 25.1 7.8 20.6 96.4 1.0 25.1 9.2 4 2.5 SR1A Cloudy Moderate 16:07 4.9 Middle 819974 812664 2.5 3.9 24.8 95.1 8.5 4 Bottom 24.8 7.8 13.3 95.2 3.9 24.8 7.8 13.1 7.3 9.7 4 95.8 1.0 0.0 232 24.8 7.8 13.7 14.3 <0.2 Surface 24.8 7.8 13.7 96.0 1.0 0.0 234 24.7 7.8 13.7 96.1 7.4 13.1 3 86 <0.2 1.8 SR2 Moderate 16:22 4.8 Middle 821475 814169 <0.2 Cloudy 3.8 0.1 212 24.4 8.0 15.9 15.4 95.7 96.0 11.2 4 89 <0.2 2.0 225 8.0 7.3 11.6 3.8 0.2 24.4 4 90 <0.2 2.0 1.0 0.4 23 24.8 7.9 13.2 96.4 7.4 10.6 4 Surface 24.8 7.9 13.0 96.5 79 12.8 96.5 7.5 10.6 1.0 0.4 24 24.7 7.8 4.3 24.9 22.0 22.0 96.3 96.6 5 6 0.3 24 7.9 7.0 SR3 Cloudy 15:02 8.6 Middle 22.0 96.5 822132 807588 Rough 7.9 4.3 0.3 25 24.9 7.2 7.6 0.2 28 25.2 7.9 26.8 26.8 26.8 97.1 6.9 6 Bottom 25.2 7.9 97.1 6.9 7.9 7.6 0.2 25.2 1.0 24.0 12.1 0.1 211 8.0 30.3 94.4 6.8 6 Surface 24.0 8.0 30.3 94.4 8.0 94.4 12.1 1.0 0.1 212 24.0 30.4 6.8 5 30.5 4.2 0.2 286 23.9 15.1 6 6.8 8.0 8.0 30.5 -SR4A 16:13 94.9 817196 807823 Cloudy Rough 8.4 Middle 23.9 4.2 288 8.0 15.1 6 0.2 23.9 7.4 0.2 232 23.9 8.1 30.5 30.5 93.0 6.7 14.9 5 8.1 93.0 6.7 23.9 Rottom 7.4 8.1 15.0 0.2 243 23.9 1.0 0.1 210 24.1 8.1 7.3 8.1 30.2 30.2 95.7 95.8 6.9 24.1 95.8 Surface 1.0 223 24.1 6.9 7.2 0.1 5 . SR5A Cloudy Rough 16:32 34 Middle 816578 810685 2.4 0.1 208 24.1 8.0 30.3 94.3 94.2 6.8 6.5 24.1 30.3 94.3 6.8 Bottom 8.0 6.8 6.6 6 2.4 228 24.1 1.0 0.1 255 24.6 31.4 96.8 96.9 4.2 Surface 24.6 8.1 31.4 96.9 1.0 0.1 256 24.6 8.1 31.4 7.0 4.3 7 SR6 Cloudy Rough 17:11 3.6 Middle 817899 814683 2.6 0.1 264 24.8 8.1 32.2 95.6 6.9 5.2 6 24.8 8.1 32.2 95.6 2.6 0.1 268 24.8 8.1 32.2 95.6 6.0 5.2 1.0 0.1 271 24.7 8.0 18.8 88.3 6.6 9.5 18.8 Surface 88.4 1.0 0.1 280 24.6 8.0 18.8 88.5 6.6 9.5 6 8.4 0.1 244 24.4 8.0 22.3 86.6 6.4 7.8 7.8 5 5 SR7 Moderate 17:11 16.8 Middle 24.5 8.0 22.3 86.7 823613 823755 Cloudy 8.4 0.1 257 24.5 8.0 22.3 86.7 6.4 15.8 0.1 286 25.0 7.9 30.8 88.1 6.1 8.6 5 Bottom 7.9 30.8 88.1 15.8 0.1 288 25.0 7.9 30.8 88 1 6.1 8.6 6 1.0 24.8 7.9 18.5 95.5 7.1 14.5 6 Surface 24.8 7.9 18.5 95.6 1.0 24.7 7.9 18.5 95.7 7.2 14.5 5 -16:00 820384 811617 SR8 Cloudy Moderate 5.2 Middle 6 --23.3 4.2 25.1 6 7.8 95.9 6.9 9.2 25.1 7.8 23.1 96.0

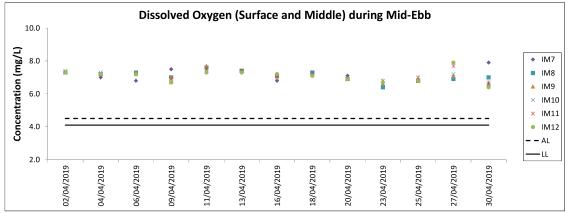
DA: Depth-Averaged

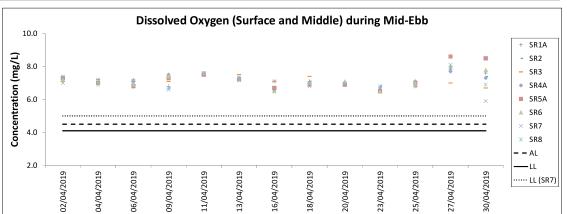
Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

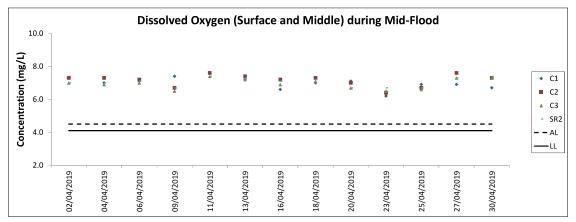
Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

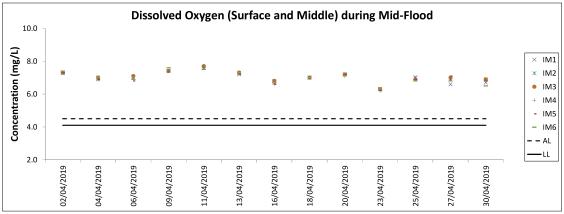


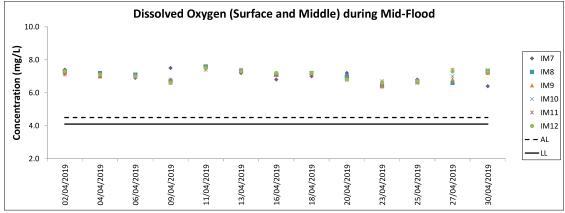


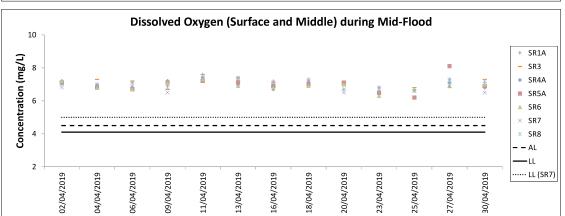


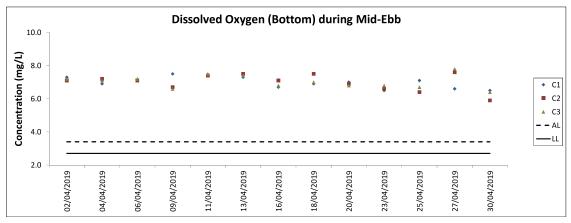


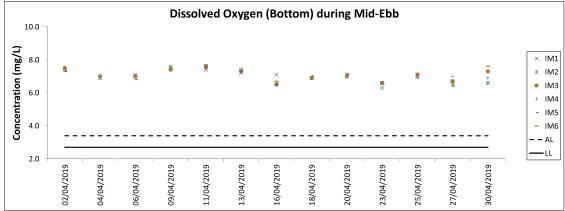


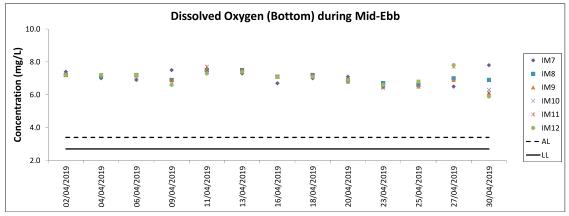


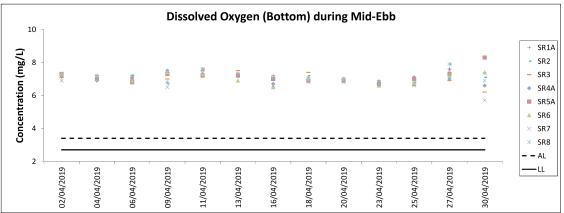


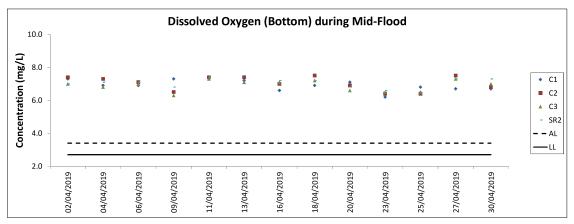


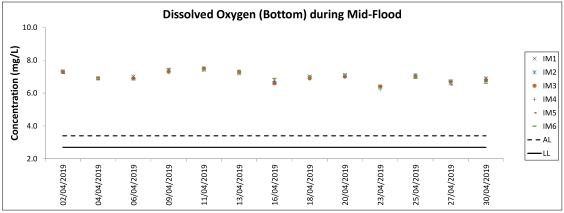


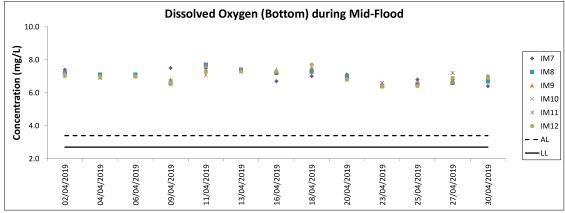


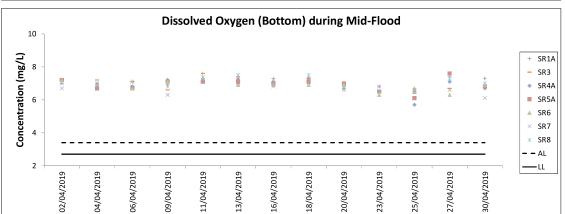


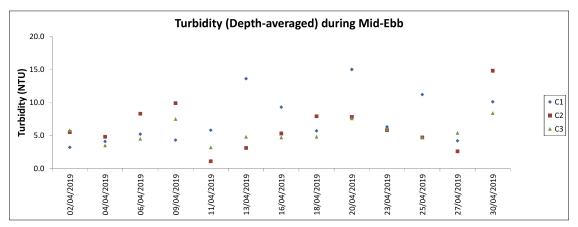


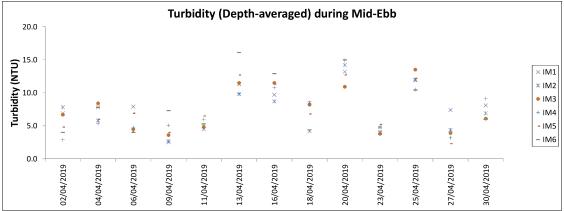


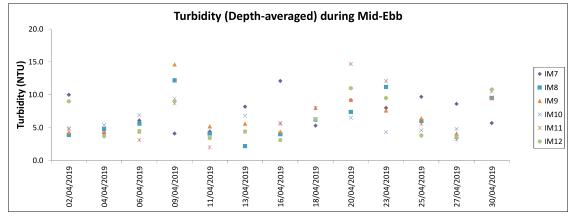


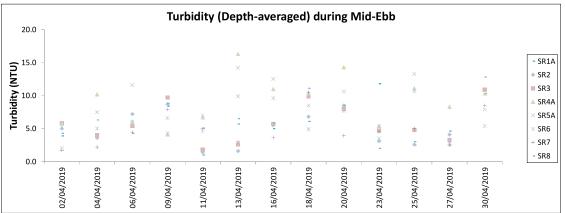




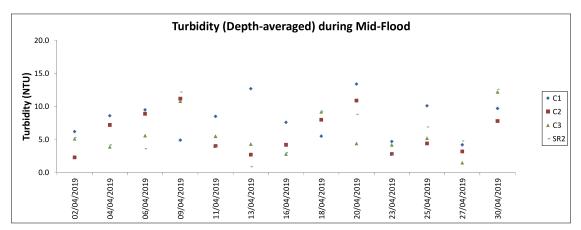


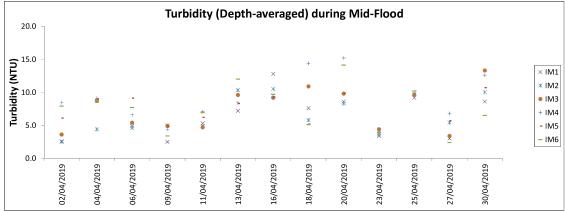


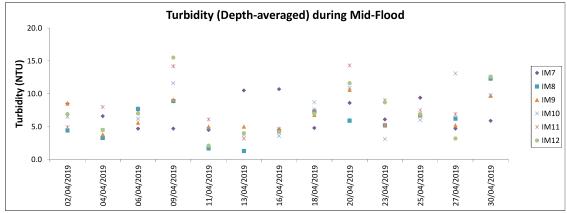


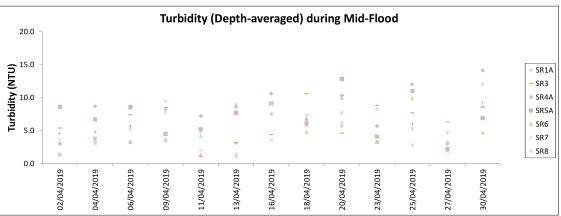


Note: The Action and Limit Level of turbidity can be referred to Table 4.2 of the monthly EM&A report.

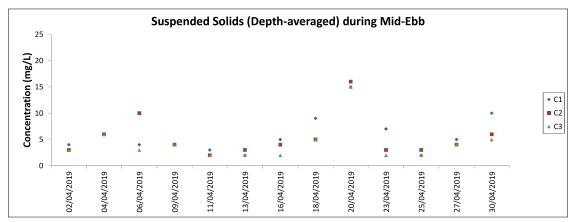


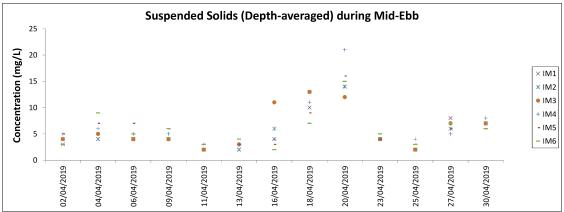


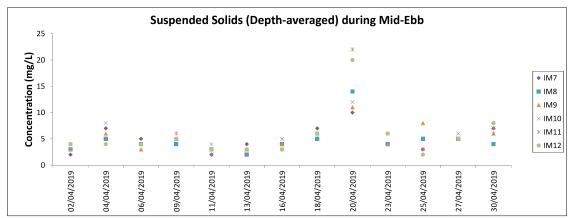


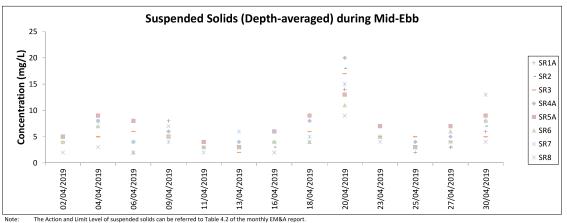


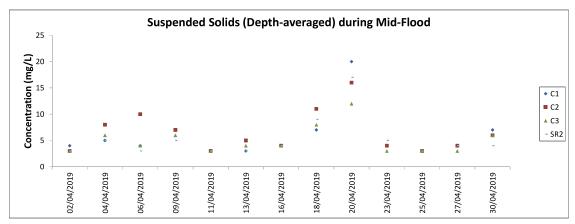
Note: The Action and Limit Level of turbidity can be referred to Table 4.2 of the monthly EM&A report.

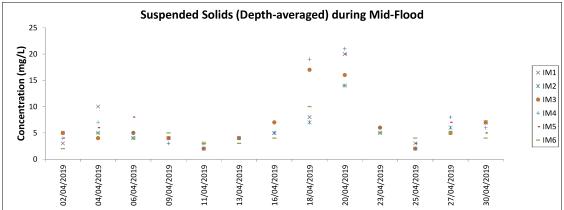


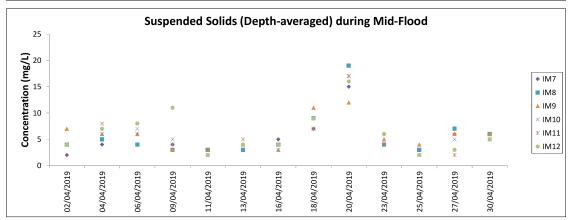


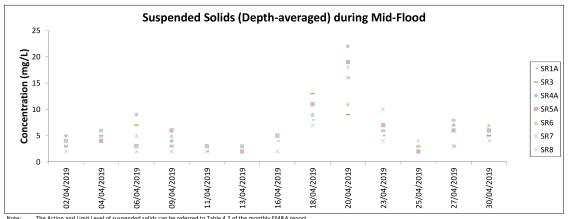


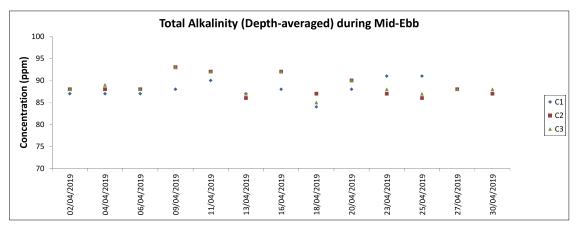


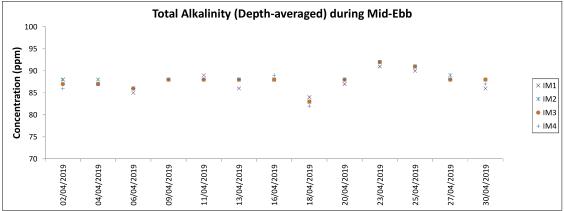


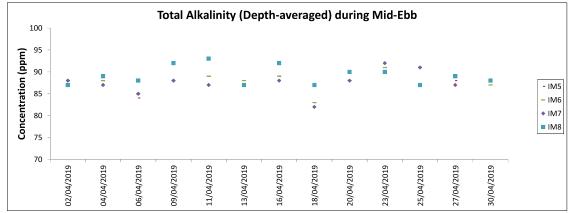


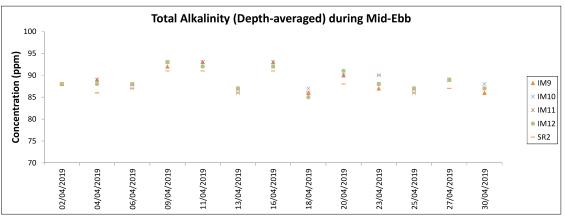




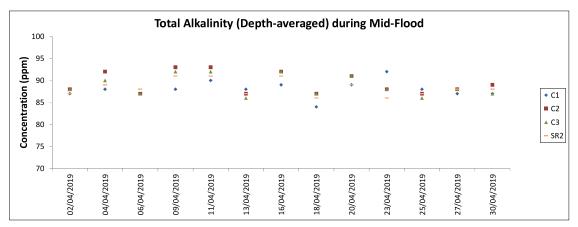


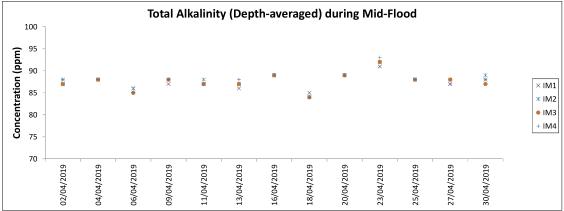


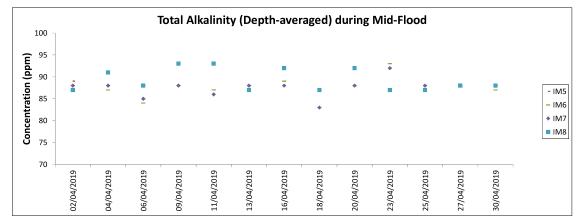


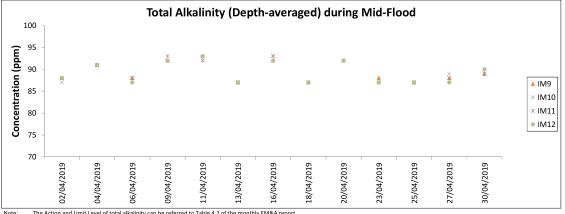


Note: The Action and Limit Level of total alkalinity can be referred to Table 4.2 of the monthly EM&A report

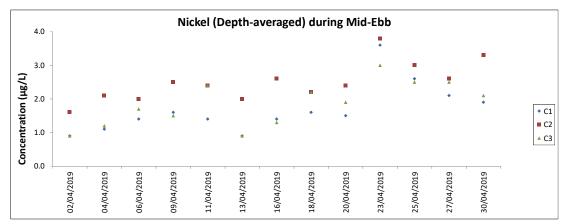


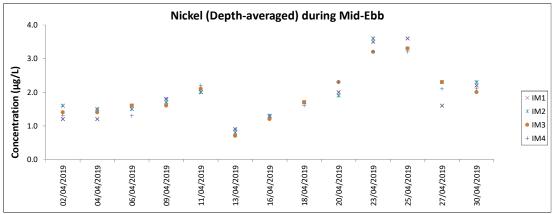


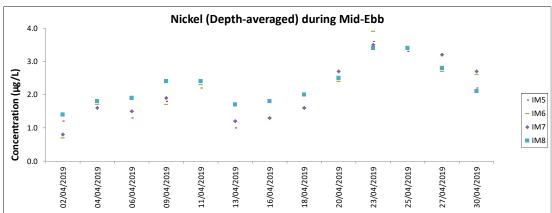


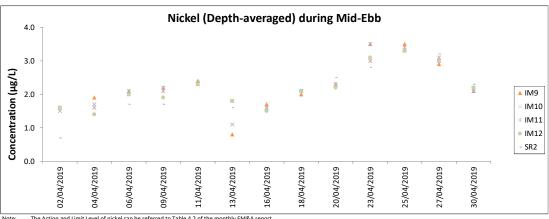


Note: The Action and Limit Level of total alkalinity can be referred to Table 4.2 of the monthly EM&A report

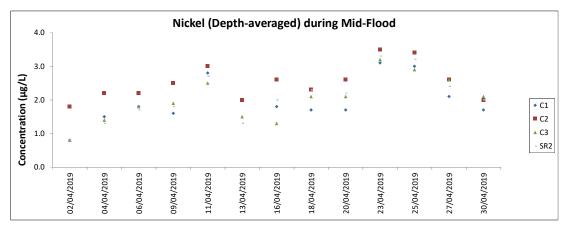


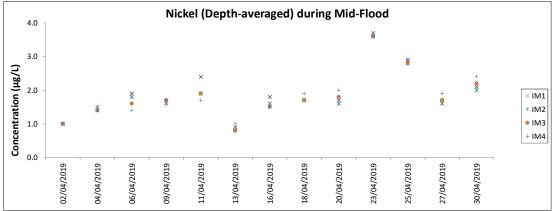


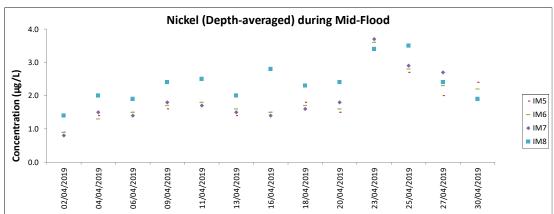


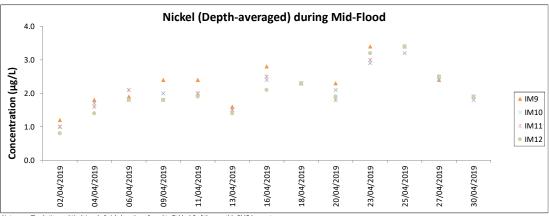


te: The Action and Limit Level of nickel can be referred to Table 4.2 of the monthly EM&A report. All chromium results in the reporting period was below the reporting limit 0.2 µg/L.









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.

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

CWD Small Vessel Line-transect Survey

Survey Effort Data

DATE	AREA	BEAU	KM SEARCHED	SEASON	VESSEL	TYPE	P/S
11-Feb-19	NWL	3	56.030	WINTER	32166	3RS ET	Р
11-Feb-19	NWL	4	5.200	WINTER	32166	3RS ET	Р
11-Feb-19	NWL	5	1.800	WINTER	32166	3RS ET	Р
11-Feb-19	NWL	3	9.170	WINTER	32166	3RS ET	S
11-Feb-19	NWL	4	3.300	WINTER	32166	3RS ET	S
12-Feb-19	NEL	1	24.190	WINTER	32166	3RS ET	Р
12-Feb-19	NEL	2	12.260	WINTER	32166	3RS ET	Р
12-Feb-19	NEL	3	1.200	WINTER	32166	3RS ET	Р
12-Feb-19	NEL	1	6.760	WINTER	32166	3RS ET	S
12-Feb-19	NEL	2	2.690	WINTER	32166	3RS ET	S
13-Feb-19	AW	2	5.048	WINTER	32166	3RS ET	Р
13-Feb-19	WL	1	1.980	WINTER	32166	3RS ET	Р
13-Feb-19	WL	2	18.238	WINTER	32166	3RS ET	Р
13-Feb-19	WL	1	1.410	WINTER	32166	3RS ET	S
13-Feb-19	WL	2	7.462	WINTER	32166	3RS ET	S
18-Feb-19	NEL	3	15.320	WINTER	32166	3RS ET	Р
18-Feb-19	NEL	4	12.170	WINTER	32166	3RS ET	Р
18-Feb-19	NEL	5	9.810	WINTER	32166	3RS ET	Р
18-Feb-19	NEL	3	8.270	WINTER	32166	3RS ET	S
18-Feb-19	NEL	4	1.930	WINTER	32166	3RS ET	S
20-Feb-19	SWL	2	41.440	WINTER	32166	3RS ET	Р
20-Feb-19	SWL	3	11.900	WINTER	32166	3RS ET	Р
20-Feb-19	SWL	2	15.540	WINTER	32166	3RS ET	S
20-Feb-19	SWL	3	1.100	WINTER	32166	3RS ET	S
21-Feb-19	SWL	2	9.600	WINTER	32166	3RS ET	Р
21-Feb-19	SWL	3	44.290	WINTER	32166	3RS ET	Р
21-Feb-19	SWL	4	1.000	WINTER	32166	3RS ET	Р
21-Feb-19	SWL	2	5.100	WINTER	32166	3RS ET	S
21-Feb-19	SWL	3	10.810	WINTER	32166	3RS ET	S
22-Feb-19	NWL	2	15.900	WINTER	32166	3RS ET	Р
22-Feb-19	NWL	3	43.000	WINTER	32166	3RS ET	Р
22-Feb-19	NWL	4	4.900	WINTER	32166	3RS ET	Р
22-Feb-19	NWL	2	4.100	WINTER	32166	3RS ET	S
22-Feb-19	NWL	3	3.500	WINTER	32166	3RS ET	S
22-Feb-19	NWL	4	3.700	WINTER	32166	3RS ET	S
26-Feb-19	AW	3	2.920	WINTER	32166	3RS ET	Р
26-Feb-19	AW	4	1.950	WINTER	32166	3RS ET	Р
26-Feb-19	WL	2	5.060	WINTER	32166	3RS ET	Р
26-Feb-19	WL	3	12.840	WINTER	32166	3RS ET	Р
26-Feb-19	WL	4	2.280	WINTER	32166	3RS ET	Р
26-Feb-19	WL	2	3.960	WINTER	32166	3RS ET	S
26-Feb-19	WL	3	6.840	WINTER	32166	3RS ET	S
6-Mar-19	NWL	2	7.760	SPRING	32166	3RS ET	Р
6-Mar-19	NWL	3	45.090	SPRING	32166	3RS ET	Р
6-Mar-19	NWL	4	9.860	SPRING	32166	3RS ET	Р
6-Mar-19	NWL	2	2.390	SPRING	32166	3RS ET	S
6-Mar-19	NWL	3	9.400	SPRING	32166	3RS ET	S
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DATE	AREA	BEAU	KM SEARCHED	SEASON	VESSEL	TYPE	P/S
8-Mar-19	NEL	2	7.210	SPRING	32166	3RS ET	Р
8-Mar-19	NEL	3	15.470	SPRING	32166	3RS ET	Р
8-Mar-19	NEL	4	14.300	SPRING	32166	3RS ET	Р
8-Mar-19	NEL	2	1.100	SPRING	32166	3RS ET	S
8-Mar-19	NEL	3	9.020	SPRING	32166	3RS ET	S
12-Mar-19	AW	2	4.790	SPRING	32166	3RS ET	Р
12-Mar-19	WL	2	17.206	SPRING	32166	3RS ET	Р
12-Mar-19	WL	3	1.200	SPRING	32166	3RS ET	Р
12-Mar-19	WL	2	8.012	SPRING	32166	3RS ET	S
12-Mar-19	WL	3	0.890	SPRING	32166	3RS ET	S
13-Mar-19	NWL	2	25.190	SPRING	32166	3RS ET	Р
13-Mar-19	NWL	3	37.650	SPRING	32166	3RS ET	Р
13-Mar-19	NWL	2	9.060	SPRING	32166	3RS ET	S
13-Mar-19	NWL	3	2.600	SPRING	32166	3RS ET	S
15-Mar-19	NEL	2	22.660	SPRING	32166	3RS ET	P
15-Mar-19	NEL	3	15.030	SPRING	32166	3RS ET	Р
15-Mar-19	NEL	2	8.010	SPRING	32166	3RS ET	S
15-Mar-19	NEL	3	1.700	SPRING	32166	3RS ET	S
21-Mar-19	SWL	1	6.680	SPRING	32166	3RS ET	P
21-Mar-19	SWL	2	49.790	SPRING	32166	3RS ET	<u>.</u> Р
21-Mar-19	SWL	3	4.000	SPRING	32166	3RS ET	P
21-Mar-19	SWL	2	9.960	SPRING	32166	3RS ET	S
22-Mar-19	SWL	1	3.850	SPRING	32166	3RS ET	P
22-Mar-19	SWL	2	56.301	SPRING	32166	3RS ET	<u>.</u> Р
22-Mar-19	SWL	2	9.689	SPRING	32166	3RS ET	S
25-Mar-19	AW	3	4.650	SPRING	32166	3RS ET	P
25-Mar-19	WL	2	3.400	SPRING	32166	3RS ET	Р
25-Mar-19	WL	3	12.070	SPRING	32166	3RS ET	P
25-Mar-19	WL	4	4.800	SPRING	32166	3RS ET	Р
25-Mar-19	WL	2	4.640	SPRING	32166	3RS ET	S
25-Mar-19	WL	3	6.190	SPRING	32166	3RS ET	S
2-Apr-19	NEL	2	3.760	SPRING	32166	3RS ET	P
2-Apr-19	NEL	3	32.560	SPRING	32166	3RS ET	Р
2-Apr-19	NEL	4	1.300	SPRING	32166	3RS ET	Р
2-Apr-19	NEL	2	2.950	SPRING	32166	3RS ET	S
2-Apr-19	NEL	3	6.330	SPRING	32166	3RS ET	S
3-Apr-19	AW	3	4.860	SPRING	32166	3RS ET	P
3-Apr-19	WL	2	16.868	SPRING	32166	3RS ET	P
3-Apr-19	WL	3	6.320	SPRING	32166	3RS ET	P
3-Apr-19	WL	2	5.681	SPRING	32166	3RS ET	S
3-Apr-19	WL	3	3.930	SPRING	32166	3RS ET	S
9-Apr-19	SWL	2	4.100	SPRING	32166	3RS ET	P
9-Apr-19	SWL	3	50.530	SPRING	32166	3RS ET	P
9-Apr-19 9-Apr-19	SWL	4	1.000	SPRING	32166	3RS ET	P
9-Apr-19 9-Apr-19	SWL	2	1.200	SPRING	32166	3RS ET	S
9-Apr-19 9-Apr-19	SWL	3	13.470	SPRING	32166	3RS ET	S
9-Apr-19 11-Apr-19	SWL	2	50.110	SPRING	32166	3RS ET	P
11-Apr-19 11-Apr-19	SWL	3	5.000	SPRING	32166	3RS ET	P
·			†				
11-Apr-19	SWL	2	13.420	SPRING	32166	3RS ET	S

DATE	AREA	BEAU	KM SEARCHED	SEASON	VESSEL	TYPE	P/S
11-Apr-19	SWL	3	2.340	SPRING	32166	3RS ET	S
17-Apr-19	AW	2	4.700	SPRING	32166	3RS ET	Р
17-Apr-19	WL	1	3.160	SPRING	32166	3RS ET	Р
17-Apr-19	WL	2	6.754	SPRING	32166	3RS ET	Р
17-Apr-19	WL	3	13.978	SPRING	32166	3RS ET	Р
17-Apr-19	WL	1	2.450	SPRING	32166	3RS ET	S
17-Apr-19	WL	2	2.196	SPRING	32166	3RS ET	S
17-Apr-19	WL	3	3.312	SPRING	32166	3RS ET	S
18-Apr-19	NEL	2	3.820	SPRING	32166	3RS ET	Р
18-Apr-19	NEL	3	32.970	SPRING	32166	3RS ET	Р
18-Apr-19	NEL	2	3.510	SPRING	32166	3RS ET	S
18-Apr-19	NEL	3	6.500	SPRING	32166	3RS ET	S
24-Apr-19	NWL	2	24.330	SPRING	32166	3RS ET	Р
24-Apr-19	NWL	3	38.410	SPRING	32166	3RS ET	Р
24-Apr-19	NWL	2	7.110	SPRING	32166	3RS ET	S
24-Apr-19	NWL	3	5.150	SPRING	32166	3RS ET	S
25-Apr-19	NWL	2	15.581	SPRING	32166	3RS ET	Р
25-Apr-19	NWL	3	45.251	SPRING	32166	3RS ET	Р
25-Apr-19	NWL	4	1.100	SPRING	32166	3RS ET	Р
25-Apr-19	NWL	2	4.530	SPRING	32166	3RS ET	S
25-Apr-19	NWL	3	7.379	SPRING	32166	3RS ET	S

Notes: CWD monitoring survey data of the two preceding survey months (i.e. February 2019 and March 2019) 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-Feb-19	1	1153	CWD	2	NWL	3	1	ON	3RS ET	22.4017	113.8877	WINTER	NONE	Р
13-Feb-19	1	0941	CWD	6	AW	2	77	ON	3RS ET	22.2907	113.8745	WINTER	NONE	Р
13-Feb-19	2	1042	CWD	2	WL	2	114	ON	3RS ET	22.2690	113.8480	WINTER	NONE	Р
13-Feb-19	3	1203	CWD	1	WL	2	1	ON	3RS ET	22.2074	113.8406	WINTER	GILLNETTER	S
20-Feb-19	1	1033	FP	2	SWL	2	7	ON	3RS ET	22.2022	113.9362	WINTER	NONE	Р
20-Feb-19	2	1511	CWD	1	SWL	2	127	ON	3RS ET	22.1862	113.8488	WINTER	NONE	Р
21-Feb-19	1	1313	FP	2	SWL	2	3	ON	3RS ET	22.1482	113.8935	WINTER	NONE	S
26-Feb-19	1	1031	CWD	2	WL	3	64	ON	3RS ET	22.2603	113.8506	WINTER	NONE	Р
06-Mar-19	1	1204	CWD	3	NWL	2	244	ON	3RS ET	22.3957	113.8876	SPRING	NONE	Р
12-Mar-19	1	1014	CWD	1	WL	2	434	ON	3RS ET	22.2760	113.8506	SPRING	NONE	S
12-Mar-19	2	1026	CWD	5	WL	2	9	ON	3RS ET	22.2718	113.8455	SPRING	NONE	S
12-Mar-19	3	1051	CWD	11	WL	2	313	ON	3RS ET	22.2684	113.8518	SPRING	NONE	Р
12-Mar-19	4	1137	CWD	1	WL	2	53	ON	3RS ET	22.2412	113.8370	SPRING	NONE	Р
12-Mar-19	5	1216	CWD	4	WL	2	295	ON	3RS ET	22.2142	113.8286	SPRING	NONE	Р
13-Mar-19	1	1032	CWD	2	NWL	2	76	ON	3RS ET	22.2866	113.8699	SPRING	NONE	Р
21-Mar-19	1	1039	FP	6	SWL	1	230	ON	3RS ET	22.1842	113.9354	SPRING	NONE	Р
21-Mar-19	2	1220	FP	3	SWL	2	103	ON	3RS ET	22.1539	113.9068	SPRING	NONE	Р
22-Mar-19	1	1032	FP	3	SWL	2	81	ON	3RS ET	22.1998	113.9356	SPRING	NONE	Р
22-Mar-19	2	1041	FP	5	SWL	2	103	ON	3RS ET	22.1822	113.9365	SPRING	NONE	Р
22-Mar-19	3	1114	FP	9	SWL	2	296	ON	3RS ET	22.1637	113.9278	SPRING	NONE	Р
22-Mar-19	4	1207	FP	2	SWL	2	2	ON	3RS ET	22.1482	113.9175	SPRING	NONE	Р
22-Mar-19	5	1413	FP	1	SWL	2	199	ON	3RS ET	22.1820	113.8780	SPRING	NONE	Р
22-Mar-19	6	1425	FP	1	SWL	2	45	ON	3RS ET	22.1766	113.8781	SPRING	NONE	Р
22-Mar-19	7	1433	FP	2	SWL	2	70	ON	3RS ET	22.1626	113.8784	SPRING	NONE	Р
22-Mar-19	8	1447	FP	4	SWL	2	85	ON	3RS ET	22.1710	113.8688	SPRING	NONE	Р
25-Mar-19	1	1052	CWD	6	WL	2	206	ON	3RS ET	22.2504	113.8372	SPRING	NONE	Р
3-Apr-19	1	1028	CWD	1	WL	2	355	ON	3RS ET	22.2658	113.8586	SPRING	NONE	S
3-Apr-19	2	1043	CWD	1	WL	2	202	ON	3RS ET	22.2603	113.8457	SPRING	NONE	Р
3-Apr-19	3	1148	CWD	21	WL	3	728	ON	3RS ET	22.2187	113.8197	SPRING	PAIR TRAWLER	s
11-Apr-19	1	1041	FP	4	SWL	3	256	ON	3RS ET	22.1688	113.8569	SPRING	NONE	S
17-Apr-19	1	1043	CWD	3	WL	2	195	ON	3RS ET	22.2499	113.8366	SPRING	NONE	Р

DATE	STG#	TIME	CWD/FP	GP SZ	AREA	BEAU	PSD	EFFORT	TYPE	DEC LAT	DEC LON	SEASON	BOAT ASSOC.	P/S
17-Apr-19	2	1059	CWD	1	WL	2	474	ON	3RS ET	22.2413	113.8370	SPRING	NONE	Р
17-Apr-19	3	1114	CWD	2	WL	2	567	ON	3RS ET	22.2390	113.8271	SPRING	NONE	S
17-Apr-19	4	1127	CWD	4	WL	2	55	ON	3RS ET	22.2358	113.8250	SPRING	NONE	S
17-Apr-19	5	1143	CWD	3	WL	2	224	ON	3RS ET	22.2322	113.8308	SPRING	NONE	Р
17-Apr-19	6	1200	CWD	4	WL	3	246	ON	3RS ET	22.2230	113.8306	SPRING	NONE	Р
24-Apr-19	1	1038	CWD	1	NWL	3	33	ON	3RS ET	22.2711	113.8716	SPRING	NONE	S
25-Apr-19	1	0946	CWD	3	NWL	2	182	ON	3RS ET	22.3854	113.8697	SPRING	NONE	Р
25-Apr-19	2	1000	CWD	2	NWL	2	319	ON	3RS ET	22.3797	113.8705	SPRING	NONE	Р
25-Apr-19	3	1055	CWD	3	NWL	3	473	ON	3RS ET	22.2795	113.8699	SPRING	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 (i.e. February 2019 and March 2019) 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 April 2019 encounter rates STG and ANI in the whole survey area (NEL, NWL, AW, WL, SWL):

A total of 454.520 km of survey effort was collected under Beaufort Sea State 3 or below with favourable visibility; total no. of 13 on-effort sightings and total number of 49 dolphins from on-effort sightings were collected under such condition. Calculation of the encounter rates in April 2019 are shown as below:

$$STG = \frac{13}{454.520} \times 100 = 2.86$$

Encounter Rate by Number of Dolphins (ANI) in April 2019

$$ANI = \frac{49}{454.520} \times 100 = 10.78$$

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

A total of 1285.106 km of survey effort was collected under Beaufort Sea State 3 or below with favourable visibility; total no. of 27 on-effort sightings and total number of 96 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)

$$STG = \frac{27}{1285,106} \times 100 = 2.10$$

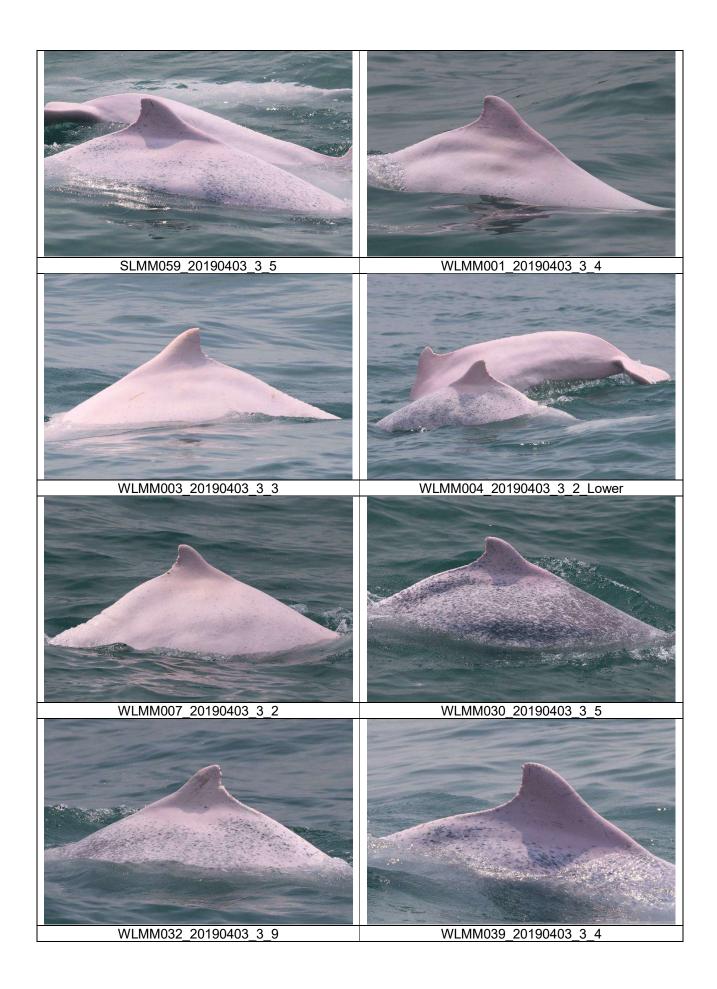
Running Quarterly Encounter Rate by Number of Dolphins (ANI)

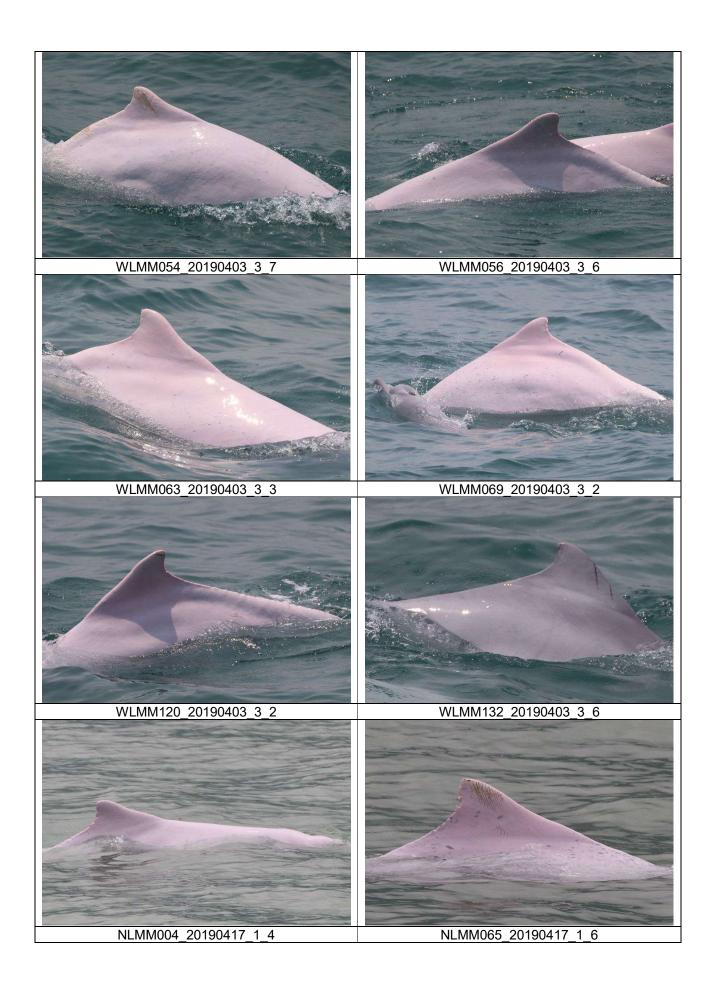
$$ANI = \frac{96}{1285.106} \times 100 = 7.47$$

CWD Small Vessel Line-transect Survey

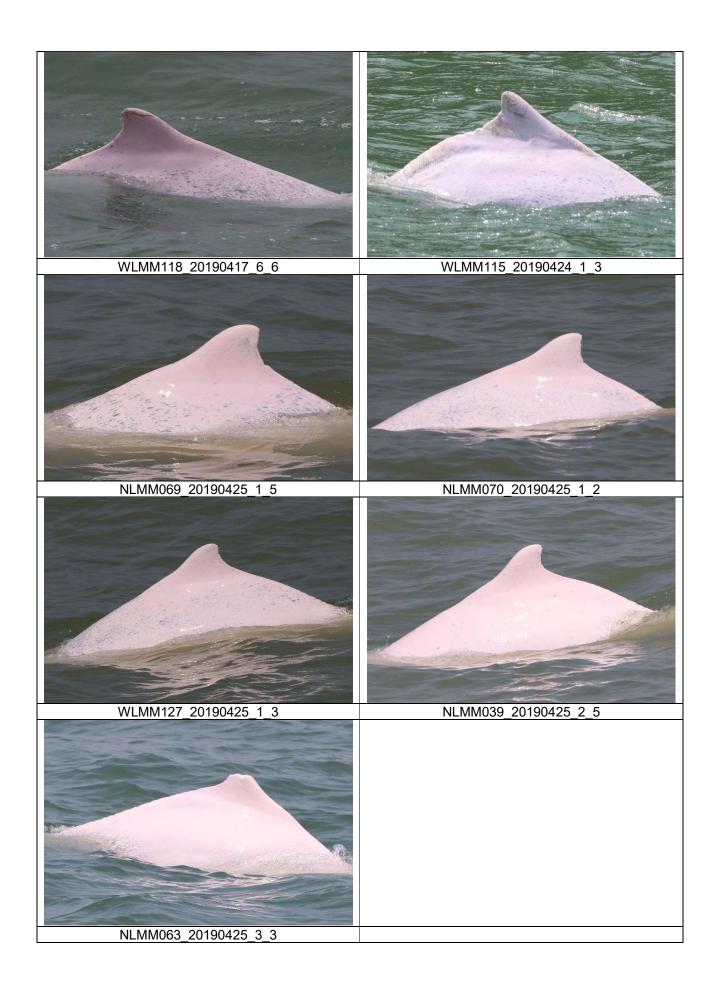
Photo Identification











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
4/Apr/19	Lung Kwu Chau	8:50	14:50	6:00	2-3	3	1	1
10/Apr/19	Lung Kwu Chau	8:53	14:53	6:00	2	2	0	-
24/Apr/19	Sha Chau	9:04	15:04	6:00	2	2	0	-

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

Appendix D. 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 under APCO	Site Office	397151	Receipt acknowledged by EPD on 15 Jan 2016
		Stockpiling Area	398015	Receipt acknowledged by EPD on 18 Jan 2016
	Discharge License under WPCO	Stockpiling Area	WT00024250- 2016	Approved on 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
3201	Notification of Construction Work under APCO	Works area of 3201	406004	Receipt acknowledged by EPD on 10 Aug 2016
	Construction Noise Permit (General Works)	Works area of 3201	GW-RS0130-19	Valid until 13 Aug 2019
	Discharge License under WPCO	Works area of 3201	WT00032628- 2018	Valid from to 19 Dec 2018 to 31 Dec 2023
	Registration as Chemical Waste Producer	Works area of 3201	WPN 5213-951- P3231-01	Completion of Registration on 9 Sep 2016
	Bill Account for disposal		A/C 7025760	Approval granted from EPD on 31 Aug 2016
3202	Notification of Construction Work under APCO	Works area of 3202	439729	Receipt acknowledged by EPD on 23 Nov 2018
	Registration as Chemical Waste Producer	Works area of 3202	WPN 5213-951- S3967-01	Registration was updated on 23 May 2017
	Discharge License under WPCO	Works area of 3202	WT00028293- 2017	Valid from 12 Jun 2017 to 30 Jun 2022
	Bill Account for disposal		A/C 7025739	Approval granted from EPD on 31 August 2016
3203	Notification of Construction Work under APCO	Works area of 3203	407053	Receipt acknowledged by EPD on 2 Sep 2016
	Construction Noise Permit (General Works)	Works area of 3203	GW-RS0949-18	Valid until 19 Apr 2019
	Registration as Chemical Waste Producer	Works area of 3203	WPN 5213-951- S3954-01	Registration was updated on 12 Dec 2016
	Discharge License under WPCO	Works area of 3203	WT00028251- 2017	Valid from 9 Jun 2017 to 30 Jun 2022

Contract No.	Description	Location	Permit/ Reference No.	Status
	Bill Account for disposal		A/C 7025846	Approval granted from EPD on 9 Sep 2016
3204	Notification of Construction Work under APCO	Works area of 3204	406446	Receipt acknowledged by EPD on 19 Aug 2016
	Registration as Chemical Waste Producer	Works Area of 3204	WPN 5213-951- C4102-01	Completion of Registration on 15 Sep 2016
		Site Office of 3204	WPN 5213-951- C4102-02	Completion of Registration on 17 Mar 2017
	Discharge License under WPCO	Works area of 3204	WT00028245- 2017	Valid from 5 Jun 2017 to 30 Jun 2022
	Bill Account for disposal		A/C 7025969	Approval granted from EPD on 21 Sep 2016
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 Works Area of Permit (General 3205		GW-RS0132-19	Superseded by GW-RS0303-19 on 10 Apr 2019
	Works)		GW-RS0303-19	Valid until 9 Oct 2019
	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 under APCO	Works area of 3206	409237	Receipt acknowledged by EPD on 25 Oct 2016
	Registration as Chemical Waste Producer	Site office of 3206	WPN 5213-951- Completion of Registration on 18 Nov 2016 Z4035-01	
		Works area of 3206	WPN 5213-951- Z4035-02	Completion of Registration on 18 Nov 2016
	Construction Noise Permit (General	Works Area of 3206	GW-RS0187-19	Superseded by GW-RS0352-19 on 29 Apr 2019
	Works)		GW-RS0352-19	Valid until 28 Oct 2019
	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
	Bill Account for disposal	Works area of 3301	A/C 7027728	Approval granted from EPD on 8 May 2017
	Construction Noise Works area of Permit (General 3301		GW-RS0923-18	Valid until 11 Apr 2019
	Works)	(Cable ducting works)	GW-RS0266-19	Valid from 12 Apr 2019 to 11 Oct 2019

Contract No.	Description	Location	Permit/ Reference No.	Status
		Works area of 3301	GW-RS0937-18	Valid until 11 Apr 2019
		3301	GW-RS0267-19	Valid from 12 Apr 2019 to 11 Oct 2019
3302	Notification of Construction Work under APCO	Works area of 3302	440222	Receipt acknowledged by EPD on 10 Dec 2018
		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
	Bill Account for disposal	Works area of 3302	A/C 7032881	Approval granted from EPD on 8 Jan 2019
	Construction Noise Permit (General Works)	Works area of 3302	GW-RS0096-19	Valid until 10 Aug 2019
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
	Registration as Chemical Waste Producer	Works area of 3402	WPN 5213-951- W1172-05	Registration was updated on 25 Feb 2019
	Bill Account for disposal	Works area of 3402	A/C 7032577	Approval granted from EPD on 27 Nov 2018
	Construction Noise Permit (General Works)	Works area of 3402	GW-RS0207-19	Valid until 14 Aug 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-RS0184-19	Valid until 4 Sep 2019
3502	Notification of Construction Work under APCO	Works area of 3502	437766	Receipt acknowledged by EPD on 26 Sep 2018
	Registration as Chemical Waste Producer	Works area of 3502	WPN 5213-951- B2520-01	Completion of Registration on 3 Jul 2017
	Bill Account for disposal	Works area of 3502	A/C 7028050	Approval granted from EPD on 21 Jun 2017
	Construction Noise Permit (General Works)	Works area of 3502	GW-RS0191-19	Valid until 10 Sep 2019
3503	Notification of Construction Work under APCO	Works area of 3503	435180	Receipt acknowledged by EPD on 29 Jun 2018
		Stockpiling area of 3503	439777	Receipt acknowledged by EPD on 26 Nov 2018

Contract No.	Description	Location	Permit/ Reference No.	Status
	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 Permit (General	Works area of 3503	GW-RS0045-19	Valid until 20 Jul 2019
	Works)	Stockpiling area of 3503	GW-RS1031-18	Valid until 13 May 2019
3602	Notification of Construction Work under APCO	Works area of 3602	421278	Receipt acknowledged by EPD on 18 Sep 2017
	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
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-RS1098-18	Superseded by GW-RS0313-19 on 26 Apr 2019
			GW-RS0313-19	Valid until 25 Oct 2019
3801	Notification of Construction Work under APCO	Works area of 3801	418345	Receipt acknowledged by EPD on 26 Jun 2017
			430372	Receipt acknowledged by EPD on 2 Feb 2018
			435652	Receipt acknowledged by EPD on 16 Jul 2018
	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 Permit (General Works)	Works and stockpiling area of 3801	GW-RS0068-19	Valid until 24 Jul 2019
	,	Works area of 3801 (Drill and grouting works)	GW-RS0245-19	Valid until 26 Jun 2019

Appendix E. Cumulative Statistics on Exceedances, Environmental Complaints, Notification of Summons and Status of Prosecution

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 Prosecution

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

Appendix F. Data of SkyPier HSF Movements to/from Zhuhai and Macau (between 1 and 30 April 2019)

<u>Data of SkyPier HSF Movements to/from Zhuhai and Macau (between 1 and 30 April 2019)</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)
01-Apr	08:15	8S210	XZM	Arrival	13	-	-
01-Apr	08:53	3A061	YFT	Arrival	12.2	-	-
01-Apr	10:39	8S212	XZM	Arrival	11.9	-	-
01-Apr	10:43	3A081	ZUI	Arrival	13.1	-	-
01-Apr	11:00	8S121	XZM	Departure	11.6	-	-
01-Apr	11:07	3A063	YFT	Arrival	11.9	-	-
01-Apr	12:15	3A168	YFT	Departure	12.8	-	-
01-Apr	12:19	3A181	ZUI	Departure	12.7	-	-
01-Apr	12:40	8S215	XZM	Arrival	12.7	-	-
01-Apr	12:54	3A064	YFT	Arrival	12.9	-	-
01-Apr	13:12	8S123	XZM	Departure	12.4	-	-
01-Apr	13:42	3A082	ZUI	Arrival	12	-	-
01-Apr	14:14	3A164	YFT	Departure	12.9	-	-
01-Apr	14:21	3A182	ZUI	Departure	11.9	-	-
01-Apr	15:03	3A065	YFT	Arrival	12.3	-	-
01-Apr	16:13	3A167	YFT	Departure	12.5	-	-
01-Apr	16:35	8S218	XZM	Arrival	11.2	-	-
01-Apr	16:47	3A083	ZUI	Arrival	12	-	-
01-Apr	16:57	3A067	YFT	Arrival	12.7	-	-
01-Apr	17:03	3A183	ZUI	Departure	13.5	-	-
01-Apr	17:07	8S126	XZM	Departure	12.4	-	-
01-Apr	18:57	3A166	YFT	Departure	13.5	-	-
01-Apr	19:53	3A084	ZUI	Arrival	12.8	-	-
01-Apr	20:12	3A185	ZUI	Departure	13.2	-	-
01-Apr	20:44	8S2113	XZM	Arrival	12.8	-	-
01-Apr	22:11	8S520	XZM	Departure	11	-	-
02-Apr	08:20	8S210	XZM	Arrival	11.6	-	-
02-Apr	08:53	3A061	YFT	Arrival	12.9	-	-
02-Apr	10:30	8S212	XZM	Arrival	13.2	-	-
02-Apr	10:45	3A081	ZUI	Arrival	12.9	-	-
02-Apr	11:06	8S121	XZM	Departure	12.9	-	-
02-Apr	11:10	3A063	YFT	Arrival	11.5	-	-
02-Apr	12:12	3A181	ZUI	Departure	12.7	=	-
02-Apr	12:21	3A168	YFT	Departure	12.1	-	-
02-Apr	12:35	8S215	XZM	Arrival	12.4	-	-
02-Apr	12:57	3A064	YFT	Arrival	12.2	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [XZM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUL - 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)
02-Apr	13:15	8S123	XZM	Departure	12.2	-	-
02-Apr	13:42	3A082	ZUI	Arrival	12.7	-	-
02-Apr	14:14	3A164	YFT	Departure	12.4	-	-
02-Apr	14:16	3A182	ZUI	Departure	12.8	-	-
02-Apr	14:55	3A065	YFT	Arrival	11.1	-	-
02-Apr	16:13	3A167	YFT	Departure	12.1	-	-
02-Apr	16:40	8S218	XZM	Arrival	12.1	-	-
02-Apr	16:43	3A083	ZUI	Arrival	12.1	-	-
02-Apr	16:57	3A067	YFT	Arrival	12.1	-	-
02-Apr	17:02	3A183	ZUI	Departure	13.4	-	-
02-Apr	17:05	8S126	XZM	Departure	13.2	-	-
02-Apr	19:03	3A166	YFT	Departure	13.1	-	-
02-Apr	19:53	3A084	ZUI	Arrival	12.7	-	-
02-Apr	20:06	3A185	ZUI	Departure	13.7	-	-
02-Apr	20:51	8S2113	XZM	Arrival	11.4	-	-
02-Apr	22:13	8S520	XZM	Departure	12.8	-	-
03-Apr	08:23	8S210	XZM	Arrival	10.1	-	-
03-Apr	08:53	3A061	YFT	Arrival	11.7	-	-
03-Apr	10:35	8S212	XZM	Arrival	12.4	-	-
03-Apr	10:48	3A081	ZUI	Arrival	13	-	-
03-Apr	10:57	3A063	YFT	Arrival	12.1	-	-
03-Apr	11:21	8S121	XZM	Departure	11.5	-	-
03-Apr	12:13	3A168	YFT	Departure	10.8	-	-
03-Apr	12:15	3A181	ZUI	Departure	13	-	-
03-Apr	12:41	8S215	XZM	Arrival	12.2	-	-
03-Apr	12:54	3A064	YFT	Arrival	12.1	<= 5	< 1min
03-Apr	13:16	8S123	XZM	Departure	12.6	-	-
03-Apr	13:39	3A082	ZUI	Arrival	13.1	-	-
03-Apr	14:11	3A182	ZUI	Departure	12.5	-	-
03-Apr	14:12	3A164	YFT	Departure	11.7	-	-
03-Apr	15:17	3A065	YFT	Arrival	12.1	-	-
03-Apr	16:17	3A167	YFT	Departure	12.8	-	-
03-Apr	16:41	8S218	XZM	Arrival	12.1	-	-
03-Apr	16:42	3A083	ZUI	Arrival	12.3	-	-
03-Apr	16:58	3A067	YFT	Arrival	11.9	-	-
03-Apr	17:01	3A183	ZUI	Departure	13.5	-	-
03-Apr	17:06	8S126	XZM	Departure	12.1	-	-
03-Apr	19:00	3A166	YFT	Departure	12.5	-	-
03-Apr	19:53	3A084	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)
03-Apr	20:06	3A185	ZUI	Departure	13.7	-	-
03-Apr	20:52	8S2113	XZM	Arrival	11.8	-	-
03-Apr	22:13	8S520	XZM	Departure	12.2	-	-
04-Apr	08:21	8S210	XZM	Arrival	11.7	-	-
04-Apr	08:57	3A061	YFT	Arrival	11.9	-	-
04-Apr	10:32	8S212	XZM	Arrival	13.1	-	-
04-Apr	10:46	3A081	ZUI	Arrival	12.8	-	-
04-Apr	10:55	3A063	YFT	Arrival	11.4	-	-
04-Apr	11:05	8S121	XZM	Departure	13.6	-	-
04-Apr	12:10	3A168	YFT	Departure	11.5	-	-
04-Apr	12:11	3A181	ZUI	Departure	12.6	-	-
04-Apr	12:33	8S215	XZM	Arrival	12.6	-	-
04-Apr	12:55	3A064	YFT	Arrival	11.6	-	-
04-Apr	13:15	8S123	XZM	Departure	12.7	-	-
04-Apr	13:40	3A082	ZUI	Arrival	12.7	-	-
04-Apr	14:16	3A182	ZUI	Departure	12.4	-	-
04-Apr	14:18	3A164	YFT	Departure	12.2	-	-
04-Apr	14:54	3A065	YFT	Arrival	11.3	-	-
04-Apr	16:16	3A167	YFT	Departure	11.6	-	-
04-Apr	16:39	8S218	XZM	Arrival	12.7	-	-
04-Apr	16:43	3A083	ZUI	Arrival	13	-	-
04-Apr	17:01	3A067	YFT	Arrival	12.2	-	-
04-Apr	17:03	3A183	ZUI	Departure	13	-	-
04-Apr	17:04	8S126	XZM	Departure	13	-	-
04-Apr	19:11	3A166	YFT	Departure	12	-	-
04-Apr	19:52	3A084	ZUI	Arrival	12.3	-	-
04-Apr	20:19	3A185	ZUI	Departure	13.7	-	-
04-Apr	20:58	8S2113	XZM	Arrival	11.4	-	-
04-Apr	22:13	8S520	XZM	Departure	13.4	-	-
05-Apr	08:22	8S210	XZM	Arrival	12.1	-	-
05-Apr	08:52	3A061	YFT	Arrival	12.3	-	-
05-Apr	10:36	8S212	XZM	Arrival	13.1	-	-
05-Apr	10:47	3A081	ZUI	Arrival	13	-	-
05-Apr	10:54	3A063	YFT	Arrival	11.5	-	-
05-Apr	11:02	8S121	XZM	Departure	13.6	-	-
05-Apr	12:12	3A181	ZUI	Departure	12.3	-	-
05-Apr	12:13	3A168	YFT	Departure	8.2 **	-	-
05-Apr	12:35	8S215	XZM	Arrival	13	-	-
05-Apr	12:54	3A064	YFT	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)
05-Apr	13:16	8S123	XZM	Departure	12.4	-	-
05-Apr	13:44	3A082	ZUI	Arrival	12.9	-	-
05-Apr	14:17	3A164	YFT	Departure	13.1	-	-
05-Apr	14:19	3A182	ZUI	Departure	11.6	-	-
05-Apr	14:56	3A065	YFT	Arrival	11.3	-	-
05-Apr	16:13	3A167	YFT	Departure	10.9	-	-
05-Apr	16:33	8S218	XZM	Arrival	12.2	-	-
05-Apr	16:41	3A083	ZUI	Arrival	13.2	-	-
05-Apr	16:55	3A067	YFT	Arrival	12.5	-	-
05-Apr	16:58	3A183	ZUI	Departure	12.6	-	-
05-Apr	16:59	8S126	XZM	Departure	12.8	-	-
05-Apr	19:03	3A166	YFT	Departure	12.5	-	-
05-Apr	19:51	3A084	ZUI	Arrival	12.5	-	-
05-Apr	20:04	3A185	ZUI	Departure	13.8	-	-
05-Apr	20:52	8S2113	XZM	Arrival	12.9	-	-
05-Apr	22:08	8S520	XZM	Departure	12.9	-	-
06-Apr	08:14	8S210	XZM	Arrival	12.1	-	-
06-Apr	09:01	3A061	YFT	Arrival	11.7	-	-
06-Apr	10:39	8S212	XZM	Arrival	12	-	-
06-Apr	10:44	3A081	ZUI	Arrival	13.1	-	-
06-Apr	10:56	3A063	YFT	Arrival	11.6	-	-
06-Apr	11:04	8S121	XZM	Departure	12.3	-	-
06-Apr	12:13	3A181	ZUI	Departure	12.3	-	-
06-Apr	12:17	3A168	YFT	Departure	10	-	-
06-Apr	12:30	8S215	XZM	Arrival	13.2	-	-
06-Apr	12:53	3A064	YFT	Arrival	11.8	-	-
06-Apr	13:17	8S123	XZM	Departure	12.7	-	-
06-Apr	13:42	3A082	ZUI	Arrival	12	-	-
06-Apr	14:09	3A182	ZUI	Departure	11.8	-	-
06-Apr	14:16	3A164	YFT	Departure	11.2	-	-
06-Apr	14:58	3A065	YFT	Arrival	11.2	-	-
06-Apr	16:15	3A167	YFT	Departure	11.9	-	-
06-Apr	16:36	8S218	XZM	Arrival	12.5	-	-
06-Apr	16:41	3A083	ZUI	Arrival	13	-	-
06-Apr	16:54	3A067	YFT	Arrival	11.6	-	-
06-Apr	16:58	3A183	ZUI	Departure	12.4	-	-
06-Apr	17:00	8S126	XZM	Departure	13.2	-	-
06-Apr	19:06	3A166	YFT	Departure	13.2	<u>-</u>	-
06-Apr	19:52	3A084	ZUI	Arrival	11.7	-	-

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)
06-Apr	20:03	3A185	ZUI	Departure	13.6	-	-
06-Apr	20:48	8S2113	XZM	Arrival	11.7	-	-
06-Apr	22:13	8S520	XZM	Departure	10.9	-	-
07-Apr	08:22	8S210	XZM	Arrival	11.4	-	-
07-Apr	08:56	3A061	YFT	Arrival	11.9	-	-
07-Apr	10:39	8S212	XZM	Arrival	11.7	-	-
07-Apr	10:44	3A081	ZUI	Arrival	13.1	-	-
07-Apr	10:55	3A063	YFT	Arrival	12.4	-	-
07-Apr	11:07	8S121	XZM	Departure	12.9	-	-
07-Apr	12:19	3A181	ZUI	Departure	12.3	-	-
07-Apr	12:25	3A168	YFT	Departure	12.1	-	-
07-Apr	12:39	8S215	XZM	Arrival	11.5	-	-
07-Apr	12:55	3A064	YFT	Arrival	12.1	-	-
07-Apr	13:25	8S123	XZM	Departure	12.5	-	-
07-Apr	13:46	3A082	ZUI	Arrival	12.7	-	-
07-Apr	14:17	3A164	YFT	Departure	12.2	-	-
07-Apr	14:21	3A182	ZUI	Departure	11.9	-	-
07-Apr	14:54	3A065	YFT	Arrival	12.5	-	-
07-Apr	16:18	3A167	YFT	Departure	12.4	-	-
07-Apr	16:38	8S218	XZM	Arrival	12	-	-
07-Apr	16:51	3A083	ZUI	Arrival	13	-	-
07-Apr	17:01	3A067	YFT	Arrival	11.9	-	-
07-Apr	17:06	3A183	ZUI	Departure	12.1	-	-
07-Apr	17:08	8S126	XZM	Departure	12.5	-	-
07-Apr	19:03	3A166	YFT	Departure	12.8	-	-
07-Apr	19:53	3A084	ZUI	Arrival	12.6	-	-
07-Apr	20:06	3A185	ZUI	Departure	13.2	-	-
07-Apr	20:51	8S2113	XZM	Arrival	11.7	-	-
07-Apr	22:13	8S520	XZM	Departure	12.1	-	-
08-Apr	08:19	8S210	XZM	Arrival	12	i	-
08-Apr	08:55	3A061	YFT	Arrival	12	-	-
08-Apr	10:36	8S212	XZM	Arrival	12.3	-	-
08-Apr	10:42	3A081	ZUI	Arrival	13	-	-
08-Apr	10:51	3A063	YFT	Arrival	11.2	-	-
08-Apr	10:59	8S121	XZM	Departure	12.7	-	-
08-Apr	12:14	3A181	ZUI	Departure	12.4	-	=
08-Apr	12:16	3A168	YFT	Departure	11	-	-
08-Apr	12:38	8S215	XZM	Arrival	12	-	-
08-Apr	12:54	3A064	YFT	Arrival	12.6	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [XZM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUL - 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)
08-Apr	13:12	8S123	XZM	Departure	10.5	-	-
08-Apr	13:39	3A082	ZUI	Arrival	12.2	-	-
08-Apr	14:19	3A182	ZUI	Departure	12.9	-	-
08-Apr	14:19	3A164	YFT	Departure	12.5	-	-
08-Apr	14:55	3A065	YFT	Arrival	12.5	-	-
08-Apr	16:23	3A167	YFT	Departure	12.2	-	-
08-Apr	16:49	8S218	XZM	Arrival	12.5	-	-
08-Apr	16:52	3A083	ZUI	Arrival	12.9	-	-
08-Apr	16:58	3A067	YFT	Arrival	12.3	-	-
08-Apr	17:06	3A183	ZUI	Departure	12.2	-	-
08-Apr	17:08	8S126	XZM	Departure	12	-	-
08-Apr	18:58	3A166	YFT	Departure	12	-	-
08-Apr	19:53	3A084	ZUI	Arrival	12.7	-	-
08-Apr	20:06	3A185	ZUI	Departure	13.7	-	-
08-Apr	20:49	8S2113	XZM	Arrival	11.7	-	-
08-Apr	22:10	8S520	XZM	Departure	13	<= 5	< 1min
09-Apr	08:15	8S210	XZM	Arrival	12.1	-	-
09-Apr	08:52	3A061	YFT	Arrival	11.2	-	-
09-Apr	10:39	8S212	XZM	Arrival	12.5	-	-
09-Apr	10:46	3A081	ZUI	Arrival	12.4	-	-
09-Apr	10:55	3A063	YFT	Arrival	11.5	-	-
09-Apr	11:07	8S121	XZM	Departure	12.6	-	-
09-Apr	12:13	3A181	ZUI	Departure	10.7	-	-
09-Apr	12:14	3A168	YFT	Departure	11.5	-	-
09-Apr	12:39	8S215	XZM	Arrival	11.6	-	-
09-Apr	12:54	3A064	YFT	Arrival	12.1	-	-
09-Apr	13:18	8S123	XZM	Departure	12.1	-	-
09-Apr	13:40	3A082	ZUI	Arrival	13.1	-	-
09-Apr	14:12	3A182	ZUI	Departure	13.4	-	-
09-Apr	14:17	3A164	YFT	Departure	11.8	-	-
09-Apr	14:56	3A065	YFT	Arrival	12.7	-	-
09-Apr	16:16	3A167	YFT	Departure	11.5	-	-
09-Apr	16:38	3A083	ZUI	Arrival	12.1	-	-
09-Apr	16:44	8S218	XZM	Arrival	12.3	-	-
09-Apr	16:54	3A067	YFT	Arrival	12.5	-	-
09-Apr	17:05	3A183	ZUI	Departure	12	-	-
09-Apr	17:07	8S126	XZM	Departure	12.8	-	-
09-Apr	19:05	3A166	YFT	Departure	12.9	-	-
09-Apr	19:59	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)
09-Apr	20:12	3A185	ZUI	Departure	12.8	-	-
09-Apr	20:44	8S2113	XZM	Arrival	11.7	-	-
09-Apr	22:13	8S520	XZM	Departure	12.6	-	-
10-Apr	08:12	8S210	XZM	Arrival	12.3	-	-
10-Apr	08:52	3A061	YFT	Arrival	11.8	-	-
10-Apr	10:05	3A081	ZUI	Arrival	12.4	-	-
10-Apr	10:33	8S212	XZM	Arrival	13.1	-	-
10-Apr	10:35	3A181	ZUI	Departure	13.4	-	-
10-Apr	10:55	3A063	YFT	Arrival	12.1	-	-
10-Apr	11:03	8S121	XZM	Departure	12.2	-	-
10-Apr	12:13	3A168	YFT	Departure	12	-	-
10-Apr	12:40	8S215	XZM	Arrival	13.7	-	-
10-Apr	12:55	3A064	YFT	Arrival	13.3	-	-
10-Apr	13:16	8S123	XZM	Departure	14	-	-
10-Apr	13:54	3A082	ZUI	Arrival	13.2	-	-
10-Apr	14:13	3A182	ZUI	Departure	12.4	-	-
10-Apr	14:14	3A164	YFT	Departure	12.7	-	-
10-Apr	14:56	3A065	YFT	Arrival	12.9	-	-
10-Apr	16:13	3A167	YFT	Departure	13.9	-	-
10-Apr	16:47	8S218	XZM	Arrival	11.7	-	-
10-Apr	16:56	3A083	ZUI	Arrival	13.4	-	-
10-Apr	16:58	3A067	YFT	Arrival	13.1	-	-
10-Apr	17:12	8S126	XZM	Departure	13.9	-	-
10-Apr	17:17	3A183	ZUI	Departure	12.4	-	-
10-Apr	19:06	3A166	YFT	Departure	12.1	-	-
10-Apr	20:40	3A084	ZUI	Arrival	12.7	-	-
10-Apr	20:47	8S2113	XZM	Arrival	12.3	-	-
10-Apr	21:02	3A185	ZUI	Departure	13.1	-	-
10-Apr	22:20	8S520	XZM	Departure	12	-	-
11-Apr	08:24	8S210	XZM	Arrival	11.3	-	-
11-Apr	08:57	3A061	YFT	Arrival	11.9	-	-
11-Apr	10:00	3A081	ZUI	Arrival	13.1	-	-
11-Apr	10:15	3A181	ZUI	Departure	12.9	-	-
11-Apr	10:33	8S212	XZM	Arrival	12.5	-	-
11-Apr	10:57	3A063	YFT	Arrival	12	-	-
11-Apr	11:04	8S121	XZM	Departure	12.6	=	=
11-Apr	12:19	3A168	YFT	Departure	12	-	-
11-Apr	12:45	8S215	XZM	Arrival	11.9	-	-
11-Apr	12:51	3A064	YFT	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)
11-Apr	13:17	8S123	XZM	Departure	12.3	-	-
11-Apr	13:43	3A082	ZUI	Arrival	12.8	-	-
11-Apr	14:13	3A182	ZUI	Departure	12.3	-	-
11-Apr	14:16	3A164	YFT	Departure	12.7	-	-
11-Apr	14:56	3A065	YFT	Arrival	12.3	-	-
11-Apr	16:13	3A167	YFT	Departure	12	-	-
11-Apr	16:44	8S218	XZM	Arrival	12.7	-	-
11-Apr	16:49	3A083	ZUI	Arrival	11.3	-	-
11-Apr	16:52	3A067	YFT	Arrival	13.7	-	-
11-Apr	17:17	3A183	ZUI	Departure	13.1	-	-
11-Apr	17:17	8S126	XZM	Departure	12.9	-	-
11-Apr	18:58	3A166	YFT	Departure	12.4	-	-
11-Apr	20:43	3A084	ZUI	Arrival	12.7	-	-
11-Apr	20:50	8S2113	XZM	Arrival	12.4	-	-
11-Apr	20:57	3A185	ZUI	Departure	12.5	-	-
11-Apr	22:11	8S520	XZM	Departure	11.9	-	-
12-Apr	08:21	8S210	XZM	Arrival	12.2	-	-
12-Apr	08:57	3A061	YFT	Arrival	11.7	-	-
12-Apr	10:00	3A081	ZUI	Arrival	12.5	-	-
12-Apr	10:28	3A181	ZUI	Departure	13.4	-	-
12-Apr	10:37	8S212	XZM	Arrival	12.2	-	-
12-Apr	11:01	3A063	YFT	Arrival	11.9	-	-
12-Apr	11:09	8S121	XZM	Departure	12.2	-	-
12-Apr	12:16	3A168	YFT	Departure	12.7	-	-
12-Apr	12:41	8S215	XZM	Arrival	11.6	-	-
12-Apr	13:01	3A064	YFT	Arrival	12	-	-
12-Apr	13:18	8S123	XZM	Departure	11.9	-	-
12-Apr	13:59	3A082	ZUI	Arrival	12.8	-	-
12-Apr	14:14	3A182	ZUI	Departure	13.7	-	-
12-Apr	14:17	3A164	YFT	Departure	12.4	-	-
12-Apr	14:56	3A065	YFT	Arrival	11.7	-	-
12-Apr	16:16	3A167	YFT	Departure	12.8	i	-
12-Apr	16:39	8S218	XZM	Arrival	12.6	-	-
12-Apr	16:58	3A083	ZUI	Arrival	13	-	-
12-Apr	16:59	3A067	YFT	Arrival	11.8	-	-
12-Apr	17:02	8S126	XZM	Departure	12.5	-	=
12-Apr	17:20	3A183	ZUI	Departure	13	-	-
12-Apr	19:04	3A166	YFT	Departure	12.5	-	-
12-Apr	20:47	3A084	ZUI	Arrival	13.1	-	-

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)
12-Apr	20:54	8S2113	XZM	Arrival	11.8	-	-
12-Apr	20:59	3A185	ZUI	Departure	12.7	-	-
12-Apr	22:14	8S520	XZM	Departure	12.4	-	-
13-Apr	08:17	8S210	XZM	Arrival	11.9	-	-
13-Apr	08:58	3A061	YFT	Arrival	12	-	-
13-Apr	09:59	3A081	ZUI	Arrival	12.9	-	-
13-Apr	10:27	3A181	ZUI	Departure	13.5	-	-
13-Apr	10:33	8S212	XZM	Arrival	12.3	-	-
13-Apr	10:55	3A063	YFT	Arrival	12	-	-
13-Apr	11:01	8S121	XZM	Departure	12.5	-	-
13-Apr	12:19	3A168	YFT	Departure	13.4	-	-
13-Apr	12:33	8S215	XZM	Arrival	12.8	-	-
13-Apr	12:54	3A064	YFT	Arrival	12.5	-	-
13-Apr	13:10	8S123	XZM	Departure	12.8	-	-
13-Apr	13:41	3A082	ZUI	Arrival	12.7	-	-
13-Apr	14:16	3A182	ZUI	Departure	13.2	-	-
13-Apr	14:17	3A164	YFT	Departure	12.4	-	-
13-Apr	14:54	3A065	YFT	Arrival	13	-	-
13-Apr	16:17	3A167	YFT	Departure	12.7	-	-
13-Apr	16:39	8S218	XZM	Arrival	12.9	-	-
13-Apr	16:58	3A083	ZUI	Arrival	13	-	-
13-Apr	16:59	3A067	YFT	Arrival	12	-	-
13-Apr	17:04	8S126	XZM	Departure	12.8	-	-
13-Apr	17:18	3A183	ZUI	Departure	12.4	-	-
13-Apr	19:03	3A166	YFT	Departure	12	-	-
13-Apr	20:38	3A084	ZUI	Arrival	13.1	<= 5	< 1min
13-Apr	20:47	8S2113	XZM	Arrival	12.7	-	-
13-Apr	20:55	3A185	ZUI	Departure	11.3	-	-
13-Apr	22:11	8S520	XZM	Departure	10.1	-	-
14-Apr	08:19	8S210	XZM	Arrival	13.6	-	-
14-Apr	08:52	3A061	YFT	Arrival	13	-	-
14-Apr	10:08	3A081	ZUI	Arrival	12.8	-	-
14-Apr	10:28	8S212	XZM	Arrival	12.3	-	-
14-Apr	10:38	3A181	ZUI	Departure	12.9	-	-
14-Apr	10:58	3A063	YFT	Arrival	11.5	-	-
14-Apr	11:03	8S121	XZM	Departure	12.6	=	=
14-Apr	12:15	3A168	YFT	Departure	0.0 **	-	-
14-Apr	12:45	8S215	XZM	Arrival	12.6	1	-
14-Apr	12:54	3A064	YFT	Arrival	13	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [XZM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUL - 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-Apr	13:16	8S123	XZM	Departure	12.3	-	-
14-Apr	14:02	3A082	ZUI	Arrival	11.9	-	-
14-Apr	14:19	3A182	ZUI	Departure	13.8	-	-
14-Apr	14:24	3A164	YFT	Departure	12.7	-	-
14-Apr	14:59	3A065	YFT	Arrival	11.4	-	-
14-Apr	16:15	3A167	YFT	Departure	11.5	-	-
14-Apr	16:38	8S218	XZM	Arrival	12.6	-	-
14-Apr	16:57	3A067	YFT	Arrival	12.7	-	-
14-Apr	16:59	3A083	ZUI	Arrival	12.7	-	-
14-Apr	17:06	8S126	XZM	Departure	12.6	-	-
14-Apr	17:17	3A183	ZUI	Departure	13.2	-	-
14-Apr	18:54	3A166	YFT	Departure	11.6	-	-
14-Apr	20:42	3A084	ZUI	Arrival	13	-	-
14-Apr	20:57	8S2113	XZM	Arrival	12	-	-
14-Apr	20:59	3A185	ZUI	Departure	12.5	-	-
14-Apr	22:11	8S520	XZM	Departure	11.8	-	-
15-Apr	08:17	8S210	XZM	Arrival	12.3	-	-
15-Apr	09:03	3A061	YFT	Arrival	11.5	-	-
15-Apr	10:04	3A081	ZUI	Arrival	11.9	-	-
15-Apr	10:33	3A181	ZUI	Departure	13.3	-	-
15-Apr	10:37	8S212	XZM	Arrival	11.8	-	-
15-Apr	10:58	3A063	YFT	Arrival	12.9	-	-
15-Apr	11:04	8S121	XZM	Departure	13.2	<= 5	< 1min
15-Apr	12:26	3A168	YFT	Departure	13.5	-	-
15-Apr	12:41	8S215	XZM	Arrival	11.7	-	-
15-Apr	13:07	3A064	YFT	Arrival	11.6	-	-
15-Apr	13:16	8S123	XZM	Departure	12.4	-	-
15-Apr	14:01	3A082	ZUI	Arrival	12.5	-	-
15-Apr	14:15	3A182	ZUI	Departure	13.9	-	-
15-Apr	14:17	3A164	YFT	Departure	12.3	-	-
15-Apr	15:00	3A065	YFT	Arrival	12.7	-	-
15-Apr	15:09	3A162	YFT	Departure	12.3	-	-
15-Apr	16:11	3A163	YFT	Departure	12.1	-	-
15-Apr	16:42	3A167	YFT	Departure	12.7	-	-
15-Apr	16:50	8S218	XZM	Arrival	10.7	-	-
15-Apr	17:02	3A083	ZUI	Arrival	12	-	-
15-Apr	17:08	3A067	YFT	Arrival	11.2	-	-
15-Apr	17:12	8S126	XZM	Departure	12.5	-	-
15-Apr	17:25	3A183	ZUI	Departure	13.5	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [XZM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUL - 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)
15-Apr	18:57	3A166	YFT	Departure	11.6	-	-
15-Apr	20:45	3A084	ZUI	Arrival	13	-	-
15-Apr	20:46	8S2113	XZM	Arrival	13.1	-	-
15-Apr	20:56	3A185	ZUI	Departure	13.1	-	-
15-Apr	22:10	8S520	XZM	Departure	12	-	-
16-Apr	08:18	8S210	XZM	Arrival	11.8	-	-
16-Apr	08:55	3A061	YFT	Arrival	12.2**	-	-
16-Apr	09:57	3A081	ZUI	Arrival	12.6	-	-
16-Apr	10:27	3A181	ZUI	Departure	12.6	-	-
16-Apr	10:32	8S212	XZM	Arrival	12.4	-	-
16-Apr	11:00	3A063	YFT	Arrival	11.5	-	-
16-Apr	11:05	8S121	XZM	Departure	12.1	-	-
16-Apr	12:12	3A168	YFT	Departure	11.3	-	-
16-Apr	12:42	8S215	XZM	Arrival	12.9	-	-
16-Apr	12:54	3A064	YFT	Arrival	13	-	-
16-Apr	13:09	8S123	XZM	Departure	12.8	-	-
16-Apr	13:41	3A082	ZUI	Arrival	12.5	-	-
16-Apr	14:16	3A164	YFT	Departure	12.7	-	-
16-Apr	14:17	3A182	ZUI	Departure	12.1	-	-
16-Apr	14:59	3A065	YFT	Arrival	11.2	-	-
16-Apr	16:17	3A167	YFT	Departure	11.6	-	-
16-Apr	16:41	8S218	XZM	Arrival	11.9	-	-
16-Apr	16:57	3A083	ZUI	Arrival	11.9	-	-
16-Apr	17:03	8S126	XZM	Departure	13	-	-
16-Apr	17:03	3A067	YFT	Arrival	12.6	-	-
16-Apr	17:17	3A183	ZUI	Departure	13.7	-	-
16-Apr	18:56	3A166	YFT	Departure	12.5	-	-
16-Apr	20:39	3A084	ZUI	Arrival	12.7	-	-
16-Apr	20:53	8S2113	XZM	Arrival	11.4	-	-
16-Apr	20:56	3A185	ZUI	Departure	12.6	-	-
16-Apr	22:12	8S520	XZM	Departure	12.9	-	-
17-Apr	08:20	8S210	XZM	Arrival	12.7	-	-
17-Apr	08:58	3A061	YFT	Arrival	12.1	-	-
17-Apr	10:07	3A081	ZUI	Arrival	12.9	-	-
17-Apr	10:38	3A181	ZUI	Departure	12.7	-	-
17-Apr	10:39	8S212	XZM	Arrival	11.8	-	-
17-Apr	11:03	3A063	YFT	Arrival	12.5	-	-
17-Apr	11:11	8S121	XZM	Departure	12.2	-	-
17-Apr	12:22	3A168	YFT	Departure	11.5	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [XZM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUL - 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)
17-Apr	12:35	8S215	XZM	Arrival	12.7	-	-
17-Apr	12:57	3A064	YFT	Arrival	11.6	-	-
17-Apr	13:14	8S123	XZM	Departure	11.1	-	-
17-Apr	13:59	3A082	ZUI	Arrival	12.7	-	-
17-Apr	14:12	3A164	YFT	Departure	11.5	-	-
17-Apr	14:14	3A182	ZUI	Departure	11.6	-	-
17-Apr	15:09	3A065	YFT	Arrival	12.2	-	-
17-Apr	16:15	3A167	YFT	Departure	12.9	-	-
17-Apr	16:38	8S218	XZM	Arrival	11.7	-	-
17-Apr	16:58	3A083	ZUI	Arrival	12.7	-	-
17-Apr	17:00	3A067	YFT	Arrival	11.6	-	-
17-Apr	17:01	8S126	XZM	Departure	13	-	-
17-Apr	17:21	3A183	ZUI	Departure	13.8	-	-
17-Apr	18:58	3A166	YFT	Departure	13.3	-	-
17-Apr	20:37	3A084	ZUI	Arrival	12.5	-	-
17-Apr	20:44	8S2113	XZM	Arrival	12.8	-	-
17-Apr	20:58	3A185	ZUI	Departure	13	-	-
17-Apr	22:10	8S520	XZM	Departure	12.6	-	-
18-Apr	08:17	8S210	XZM	Arrival	12.1	-	-
18-Apr	08:53	3A061	YFT	Arrival	11.5	-	-
18-Apr	09:53	3A081	ZUI	Arrival	13.1	-	-
18-Apr	10:31	3A181	ZUI	Departure	12.9	-	-
18-Apr	10:35	8S212	XZM	Arrival	11.9	-	-
18-Apr	10:55	3A063	YFT	Arrival	12.2	-	-
18-Apr	11:00	8S121	XZM	Departure	13.2	-	-
18-Apr	12:19	3A168	YFT	Departure	11	-	-
18-Apr	12:40	8S215	XZM	Arrival	12.2	-	-
18-Apr	12:55	3A064	YFT	Arrival	11.8	-	-
18-Apr	13:15	8S123	XZM	Departure	12.1	-	-
18-Apr	13:59	3A082	ZUI	Arrival	12.9	-	-
18-Apr	14:13	3A164	YFT	Departure	12	-	-
18-Apr	14:13	3A182	ZUI	Departure	12	-	-
18-Apr	14:59	3A065	YFT	Arrival	11.7	-	-
18-Apr	16:25	3A167	YFT	Departure	11.6	-	-
18-Apr	16:38	8S218	XZM	Arrival	12.4	-	-
18-Apr	16:55	3A067	YFT	Arrival	12.1	-	-
18-Apr	17:01	3A083	ZUI	Arrival	11.7	-	-
18-Apr	17:03	8S126	XZM	Departure	13	=	=
18-Apr	17:16	3A183	ZUI	Departure	13.5	<u>-</u>	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [XZM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUL- 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)
18-Apr	19:00	3A166	YFT	Departure	12.6	-	-
18-Apr	20:36	3A084	ZUI	Arrival	12.5	-	-
18-Apr	20:50	8S2113	XZM	Arrival	12.4	-	-
18-Apr	20:55	3A185	ZUI	Departure	13.7	-	-
18-Apr	22:12	8S520	XZM	Departure	11.9	-	-
19-Apr	08:15	8S210	XZM	Arrival	12.6	-	-
19-Apr	08:53	3A061	YFT	Arrival	12.7	-	-
19-Apr	10:01	3A081	ZUI	Arrival	12.9	-	-
19-Apr	10:31	8S212	XZM	Arrival	11.6	-	-
19-Apr	10:38	3A181	ZUI	Departure	12.7	-	-
19-Apr	10:55	3A063	YFT	Arrival	13	-	-
19-Apr	11:00	8S121	XZM	Departure	13	-	-
19-Apr	12:14	3A168	YFT	Departure	13.1	-	-
19-Apr	12:38	8S215	XZM	Arrival	13.5	-	-
19-Apr	12:53	3A064	YFT	Arrival	12.1	-	-
19-Apr	13:16	8S123	XZM	Departure	13.5	-	-
19-Apr	13:57	3A082	ZUI	Arrival	12.8	-	-
19-Apr	14:14	3A182	ZUI	Departure	11.6	-	-
19-Apr	14:58	3A065	YFT	Arrival	12.4	<= 5	< 1min
19-Apr	16:13	3A167	YFT	Departure	12.7	-	-
19-Apr	16:30	8S218	XZM	Arrival	11.4	-	-
19-Apr	16:50	3A067	YFT	Arrival	11.9	-	-
19-Apr	16:58	3A083	ZUI	Arrival	12.4	-	-
19-Apr	17:01	8S126	XZM	Departure	13.8	-	-
19-Apr	17:15	3A183	ZUI	Departure	12.8	-	-
19-Apr	18:55	3A166	YFT	Departure	10.1	-	-
19-Apr	20:35	3A084	ZUI	Arrival	11.9	-	-
19-Apr	20:47	8S2113	XZM	Arrival	12	-	-
19-Apr	20:58	3A185	ZUI	Departure	13.1	-	-
19-Apr	22:11	8S520	XZM	Departure	12.6	-	-
20-Apr	08:19	8S210	XZM	Arrival	12.1	-	-
20-Apr	08:57	3A061	YFT	Arrival	11.6	1	-
20-Apr	09:56	3A081	ZUI	Arrival	12.9	-	-
20-Apr	10:28	3A181	ZUI	Departure	13.1	-	-
20-Apr	10:32	8S212	XZM	Arrival	12.5	-	-
20-Apr	10:55	3A063	YFT	Arrival	11.6	-	-
20-Apr	11:06	8S121	XZM	Departure	12.8	-	-
20-Apr	12:17	3A168	YFT	Departure	10.6	1	-
20-Apr	12:32	8S215	XZM	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)
20-Apr	12:54	3A064	YFT	Arrival	12.9	-	-
20-Apr	13:12	8S123	XZM	Departure	12.4	-	-
20-Apr	14:00	3A082	ZUI	Arrival	13.4	-	-
20-Apr	14:42	3A164	YFT	Departure	12.7	-	-
20-Apr	15:01	3A065	YFT	Arrival	11.1	-	-
20-Apr	15:09	3A182	ZUI	Departure	11.3	-	-
20-Apr	16:16	3A167	YFT	Departure	12	-	-
20-Apr	16:34	8S218	XZM	Arrival	11.9	-	-
20-Apr	16:55	3A067	YFT	Arrival	12	-	-
20-Apr	17:02	3A083	ZUI	Arrival	11.9	-	-
20-Apr	17:08	8S126	XZM	Departure	12.4	-	-
20-Apr	17:24	3A183	ZUI	Departure	13.1	-	-
20-Apr	18:58	3A166	YFT	Departure	11.7	-	-
20-Apr	20:43	3A084	ZUI	Arrival	12.3	-	-
20-Apr	20:51	8S2113	XZM	Arrival	12	-	-
20-Apr	20:56	3A185	ZUI	Departure	13.2	-	-
20-Apr	22:12	8S520	XZM	Departure	11.8	-	-
21-Apr	08:20	8S210	XZM	Arrival	10.7	-	-
21-Apr	08:55	3A061	YFT	Arrival	11.5	-	-
21-Apr	09:59	3A081	ZUI	Arrival	12.7	-	-
21-Apr	10:27	3A181	ZUI	Departure	13.4	-	-
21-Apr	10:37	8S212	XZM	Arrival	12.4	-	-
21-Apr	11:01	8S121	XZM	Departure	12.7	-	-
21-Apr	11:01	3A063	YFT	Arrival	11.2	-	-
21-Apr	12:15	3A168	YFT	Departure	12.3	-	-
21-Apr	12:39	8S215	XZM	Arrival	12.2	-	-
21-Apr	12:55	3A064	YFT	Arrival	12	-	-
21-Apr	13:16	8S123	XZM	Departure	11.9	-	-
21-Apr	13:56	3A082	ZUI	Arrival	13.8	-	-
21-Apr	14:16	3A182	ZUI	Departure	12.7	-	-
21-Apr	14:17	3A164	YFT	Departure	12	-	-
21-Apr	14:58	3A065	YFT	Arrival	12.1	1	-
21-Apr	16:14	3A167	YFT	Departure	12.1	-	-
21-Apr	16:40	8S218	XZM	Arrival	12.3	-	-
21-Apr	16:59	3A083	ZUI	Arrival	13.3	-	-
21-Apr	17:00	3A067	YFT	Arrival	11.8	-	-
21-Apr	17:03	8S126	XZM	Departure	12	-	-
21-Apr	17:17	3A183	ZUI	Departure	11.5	-	-
21-Apr	19:01	3A166	YFT	Departure	11.7	-	-

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)
21-Apr	20:38	3A084	ZUI	Arrival	12	-	-
21-Apr	20:51	8S2113	XZM	Arrival	12.1	-	-
21-Apr	20:54	3A185	ZUI	Departure	13.6	-	-
21-Apr	22:09	8S520	XZM	Departure	12.8	-	-
22-Apr	08:18	8S210	XZM	Arrival	11.2	-	-
22-Apr	08:54	3A061	YFT	Arrival	11.7	-	-
22-Apr	09:59	3A081	ZUI	Arrival	12.5	-	-
22-Apr	10:28	3A181	ZUI	Departure	13.7	_	-
22-Apr	10:32	8S212	XZM	Arrival	12.5	-	-
22-Apr	10:55	3A063	YFT	Arrival	12.9	-	-
22-Apr	11:02	8S121	XZM	Departure	12.8	-	-
22-Apr	12:17	3A168	YFT	Departure	12	-	-
22-Apr	12:33	8S215	XZM	Arrival	13.3	-	-
22-Apr	12:57	3A064	YFT	Arrival	12.2	-	-
22-Apr	13:15	8S123	XZM	Departure	13.4	-	-
22-Apr	13:57	3A082	ZUI	Arrival	13.3	-	-
22-Apr	14:14	3A164	YFT	Departure	12.5	-	-
22-Apr	14:33	3A182	ZUI	Departure	12.3	-	-
22-Apr	15:07	3A065	YFT	Arrival	11.7	-	-
22-Apr	16:16	3A167	YFT	Departure	12.5	-	-
22-Apr	16:33	8S218	XZM	Arrival	12.5	<= 5	< 1min
22-Apr	16:42	3A083	ZUI	Arrival	13.3	-	-
22-Apr	17:00	8S126	XZM	Departure	12.5	-	-
22-Apr	17:03	3A067	YFT	Arrival	11.9	-	-
22-Apr	17:18	3A183	ZUI	Departure	13.5	-	-
22-Apr	19:02	3A166	YFT	Departure	11.5	-	-
22-Apr	20:02	3A169	YFT	Departure	11.9	-	-
22-Apr	20:43	3A084	ZUI	Arrival	11.9	-	-
22-Apr	20:54	8S2113	XZM	Arrival	0.0 **	-	-
22-Apr	21:03	3A185	ZUI	Departure	13.1	-	-
22-Apr	22:11	8S520	XZM	Departure	12.5	-	-
23-Apr	08:21	8S210	XZM	Arrival	13	-	-
23-Apr	09:05	3A061	YFT	Arrival	13.2	-	-
23-Apr	10:12	3A081	ZUI	Arrival	12.1	-	-
23-Apr	10:36	8S212	XZM	Arrival	12.6	-	-
23-Apr	10:40	3A181	ZUI	Departure	13.1	-	=
23-Apr	10:49	3A063	YFT	Arrival	12.3	-	-
23-Apr	10:57	8S121	XZM	Departure	12.8	-	-
23-Apr	12:15	3A168	YFT	Departure	10.8	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [XZM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUL- 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-Apr	12:32	8S215	XZM	Arrival	12.1	-	-
23-Apr	12:57	3A064	YFT	Arrival	11.6	-	-
23-Apr	13:13	8S123	XZM	Departure	11.3	-	-
23-Apr	13:59	3A082	ZUI	Arrival	13.2	-	-
23-Apr	14:13	3A164	YFT	Departure	11.4	-	-
23-Apr	14:13	3A182	ZUI	Departure	12.3	-	-
23-Apr	14:56	3A065	YFT	Arrival	13.2	-	-
23-Apr	16:15	3A167	YFT	Departure	13.2	-	-
23-Apr	16:39	8S218	XZM	Arrival	12.2	-	-
23-Apr	17:00	3A083	ZUI	Arrival	12.5	-	-
23-Apr	17:01	8S126	XZM	Departure	11.9	-	-
23-Apr	17:06	3A067	YFT	Arrival	12.4	-	-
23-Apr	17:19	3A183	ZUI	Departure	11.2	-	-
23-Apr	18:58	3A166	YFT	Departure	13.7	-	-
23-Apr	20:42	3A084	ZUI	Arrival	12.1	-	-
23-Apr	20:47	8S2113	XZM	Arrival	11.9	-	-
23-Apr	21:08	3A185	ZUI	Departure	12.8	-	-
23-Apr	22:14	8S520	XZM	Departure	12.8	-	-
24-Apr	08:14	8S210	XZM	Arrival	12.6	-	-
24-Apr	08:52	3A061	YFT	Arrival	11.4	-	-
24-Apr	10:03	3A081	ZUI	Arrival	13.1	-	-
24-Apr	10:34	8S212	XZM	Arrival	12.4	-	-
24-Apr	10:39	3A181	ZUI	Departure	12.5	-	-
24-Apr	10:58	3A063	YFT	Arrival	12.7	-	-
24-Apr	11:03	8S121	XZM	Departure	12.5	-	-
24-Apr	12:20	3A168	YFT	Departure	12	-	-
24-Apr	12:50	8S215	XZM	Arrival	12.3	-	-
24-Apr	13:09	3A064	YFT	Arrival	13	-	-
24-Apr	13:19	8S123	XZM	Departure	13.8	-	-
24-Apr	13:56	3A082	ZUI	Arrival	13.3	-	-
24-Apr	14:17	3A164	YFT	Departure	13.7	-	-
24-Apr	14:18	3A182	ZUI	Departure	12.7	-	-
24-Apr	15:01	3A065	YFT	Arrival	12.3	-	-
24-Apr	16:11	3A167	YFT	Departure	13.3	-	-
24-Apr	16:45	8S218	XZM	Arrival	12.9	-	-
24-Apr	17:02	8S126	XZM	Departure	12.6	-	-
24-Apr	17:03	3A083	ZUI	Arrival	12.6	-	-
24-Apr	17:08	3A067	YFT	Arrival	12.8	-	-
24-Apr	17:19	3A183	ZUI	Departure	11.7	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [XZM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUL - 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)
24-Apr	18:59	3A166	YFT	Departure	13.1	-	-
24-Apr	20:38	3A084	ZUI	Arrival	12.3	-	-
24-Apr	20:47	8S2113	XZM	Arrival	13.1	-	-
24-Apr	20:58	3A185	ZUI	Departure	12.3	-	-
24-Apr	22:11	8S520	XZM	Departure	12.6	-	-
25-Apr	08:16	8S210	XZM	Arrival	11.9	-	-
25-Apr	08:56	3A061	YFT	Arrival	11.8	-	-
25-Apr	10:02	3A081	ZUI	Arrival	12.5	-	-
25-Apr	10:29	8S212	XZM	Arrival	11.9	-	-
25-Apr	10:33	3A181	ZUI	Departure	13.9	-	-
25-Apr	10:55	3A063	YFT	Arrival	11.3	-	-
25-Apr	11:04	8S121	XZM	Departure	12	-	-
25-Apr	12:16	3A168	YFT	Departure	12.1	-	-
25-Apr	12:37	8S215	XZM	Arrival	11.4	-	-
25-Apr	12:56	3A064	YFT	Arrival	11.6	-	-
25-Apr	13:18	8S123	XZM	Departure	12.5	-	-
25-Apr	13:41	3A082	ZUI	Arrival	11.8	-	-
25-Apr	14:15	3A182	ZUI	Departure	13.2	-	-
25-Apr	14:26	3A164	YFT	Departure	12.1	-	-
25-Apr	14:55	3A065	YFT	Arrival	11.9	-	-
25-Apr	16:21	3A167	YFT	Departure	13.6	-	-
25-Apr	16:40	8S218	XZM	Arrival	11.9	-	-
25-Apr	16:41	3A083	ZUI	Arrival	12.7	-	-
25-Apr	17:01	8S126	XZM	Departure	12.7	-	-
25-Apr	17:06	3A067	YFT	Arrival	12	-	-
25-Apr	17:25	3A183	ZUI	Departure	13	-	-
25-Apr	18:57	3A166	YFT	Departure	12.8	-	-
25-Apr	20:37	3A084	ZUI	Arrival	12.3	-	-
25-Apr	20:49	8S2113	XZM	Arrival	11.7	-	-
25-Apr	20:58	3A185	ZUI	Departure	12.4	-	-
25-Apr	22:13	8S520	XZM	Departure	11.4	-	-
26-Apr	08:14	8S210	XZM	Arrival	13	-	-
26-Apr	08:57	3A061	YFT	Arrival	12.7	-	-
26-Apr	10:01	3A081	ZUI	Arrival	12.7	-	-
26-Apr	10:19	3A181	ZUI	Departure	13.3	-	-
26-Apr	10:31	8S212	XZM	Arrival	12	-	-
26-Apr	10:59	3A063	YFT	Arrival	10.8	-	-
26-Apr	11:25	8S121	XZM	Departure	12.7	-	-
26-Apr	12:10	3A168	YFT	Departure	12.4	-	-

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-Apr	12:35	8S215	XZM	Arrival	12.1	-	-
26-Apr	12:54	3A064	YFT	Arrival	12.2	-	-
26-Apr	13:13	8S123	XZM	Departure	12.4	-	-
26-Apr	13:56	3A082	ZUI	Arrival	12.8	-	-
26-Apr	14:10	3A164	YFT	Departure	12.6	-	-
26-Apr	14:13	3A182	ZUI	Departure	13.3	-	-
26-Apr	15:02	3A065	YFT	Arrival	11.9	-	-
26-Apr	16:14	3A167	YFT	Departure	12.2	-	-
26-Apr	16:34	8S218	XZM	Arrival	12.2	-	-
26-Apr	16:56	3A067	YFT	Arrival	13.3	-	-
26-Apr	16:57	3A083	ZUI	Arrival	12.9	-	-
26-Apr	17:01	8S126	XZM	Departure	12.7	-	-
26-Apr	17:19	3A183	ZUI	Departure	12.6	-	-
26-Apr	18:59	3A166	YFT	Departure	12.7	-	-
26-Apr	20:41	3A084	ZUI	Arrival	12.5	-	-
26-Apr	20:52	8S2113	XZM	Arrival	12.3	-	-
26-Apr	20:56	3A185	ZUI	Departure	12	-	-
26-Apr	22:07	8S520	XZM	Departure	11.4	-	-
27-Apr	08:16	8S210	XZM	Arrival	11.7	-	-
27-Apr	08:59	3A061	YFT	Arrival	11.7	-	-
27-Apr	10:05	3A081	ZUI	Arrival	12.5	-	-
27-Apr	10:33	8S212	XZM	Arrival	12.2	-	-
27-Apr	10:37	3A181	ZUI	Departure	12.9	-	-
27-Apr	10:55	8S121	XZM	Departure	12.6	-	-
27-Apr	10:56	3A063	YFT	Arrival	12.6	-	-
27-Apr	12:09	3A168	YFT	Departure	12.8	-	-
27-Apr	12:40	8S215	XZM	Arrival	11.9	-	-
27-Apr	12:51	3A064	YFT	Arrival	12.7	-	-
27-Apr	13:24	8S123	XZM	Departure	13.2	-	-
27-Apr	13:58	3A082	ZUI	Arrival	12.6	-	-
27-Apr	14:13	3A164	YFT	Departure	11.9	-	-
27-Apr	14:14	3A182	ZUI	Departure	13.2	-	-
27-Apr	15:03	3A065	YFT	Arrival	13	-	-
27-Apr	16:17	3A167	YFT	Departure	13	-	-
27-Apr	16:35	8S218	XZM	Arrival	12.6	-	-
27-Apr	16:58	3A067	YFT	Arrival	12.9	=	=
27-Apr	17:01	3A083	ZUI	Arrival	13.2	-	-
27-Apr	17:13	8S126	XZM	Departure	13.3	=	=
27-Apr	17:20	3A183	ZUI	Departure	12.5	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [XZM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUL - 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)
27-Apr	19:08	3A166	YFT	Departure	12.8	-	-
27-Apr	20:39	3A084	ZUI	Arrival	12.9	-	-
27-Apr	20:52	8S2113	XZM	Arrival	13	-	-
27-Apr	20:53	3A185	ZUI	Departure	12.3	-	-
27-Apr	22:09	8S520	XZM	Departure	11.5	-	-
28-Apr	08:16	8S210	XZM	Arrival	13	-	-
28-Apr	08:55	3A061	YFT	Arrival	12.1	-	-
28-Apr	10:06	3A081	ZUI	Arrival	13.1	-	-
28-Apr	10:35	8S212	XZM	Arrival	12.4	-	-
28-Apr	10:36	3A181	ZUI	Departure	12.6	-	-
28-Apr	10:56	3A063	YFT	Arrival	11	-	-
28-Apr	11:01	8S121	XZM	Departure	12.5	-	-
28-Apr	12:15	3A168	YFT	Departure	11.4	-	-
28-Apr	12:34	8S215	XZM	Arrival	13.1	-	-
28-Apr	12:57	3A064	YFT	Arrival	11.8	-	-
28-Apr	13:13	8S123	XZM	Departure	13.7	-	-
28-Apr	14:00	3A082	ZUI	Arrival	12.9	-	-
28-Apr	14:15	3A164	YFT	Departure	12.3	-	-
28-Apr	14:16	3A182	ZUI	Departure	13	-	-
28-Apr	14:58	3A065	YFT	Arrival	11.4	-	-
28-Apr	16:15	3A167	YFT	Departure	11	-	-
28-Apr	16:32	8S218	XZM	Arrival	13.3	-	-
28-Apr	16:50	3A083	ZUI	Arrival	0.0 **	-	-
28-Apr	16:59	3A067	YFT	Arrival	12.6	-	-
28-Apr	17:01	8S126	XZM	Departure	13.3	-	-
28-Apr	17:14	3A183	ZUI	Departure	13.6	-	-
28-Apr	19:01	3A166	YFT	Departure	13.2	-	-
28-Apr	20:26	3A084	ZUI	Arrival	13.2	-	-
28-Apr	20:51	8S2113	XZM	Arrival	12.7	-	-
28-Apr	20:54	3A185	ZUI	Departure	12.5	1	-
28-Apr	22:12	8S520	XZM	Departure	11.9	-	-
29-Apr	08:21	8S210	XZM	Arrival	11.3	-	-
29-Apr	09:03	3A061	YFT	Arrival	12.9	-	-
29-Apr	09:51	3A081	ZUI	Arrival	12.9	<= 5	< 6min
29-Apr	10:16	3A181	ZUI	Departure	12.2	-	-
29-Apr	10:36	8S212	XZM	Arrival	12.1	=	=
29-Apr	10:58	3A063	YFT	Arrival	11.7	-	-
29-Apr	11:15	8S121	XZM	Departure	12.9	1	-
29-Apr	12:21	3A168	YFT	Departure	11.1	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [XZM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUL- 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)
29-Apr	12:34	8S215	XZM	Arrival	12.5	-	-
29-Apr	12:56	3A064	YFT	Arrival	11.9	-	-
29-Apr	13:14	8S123	XZM	Departure	12.8	-	-
29-Apr	13:40	3A082	ZUI	Arrival	11.9	-	-
29-Apr	14:18	3A182	ZUI	Departure	13.2	-	-
29-Apr	14:18	3A164	YFT	Departure	12.6	-	-
29-Apr	14:58	3A065	YFT	Arrival	11.6	-	-
29-Apr	16:16	3A167	YFT	Departure	12	-	-
29-Apr	16:35	8S218	XZM	Arrival	12.3	-	-
29-Apr	16:45	3A083	ZUI	Arrival	12.7	-	-
29-Apr	16:57	8S126	XZM	Departure	12.7	-	-
29-Apr	17:03	3A067	YFT	Arrival	12.1	-	-
29-Apr	17:21	3A183	ZUI	Departure	13.2	-	-
29-Apr	18:59	3A166	YFT	Departure	11.3	-	-
29-Apr	20:39	3A084	ZUI	Arrival	12.1	-	-
29-Apr	20:45	8S2113	XZM	Arrival	13.3	-	-
29-Apr	21:03	3A185	ZUI	Departure	13.1	-	-
29-Apr	22:09	8S520	XZM	Departure	12.4	-	-
30-Apr	08:21	8S210	XZM	Arrival	11.8	-	-
30-Apr	08:59	3A061	YFT	Arrival	12.1	-	-
30-Apr	09:55	3A081	ZUI	Arrival	12	-	-
30-Apr	10:18	3A181	ZUI	Departure	13.1	-	-
30-Apr	10:32	8S212	XZM	Arrival	11.7	-	-
30-Apr	10:53	3A063	YFT	Arrival	12.8	-	-
30-Apr	11:03	8S121	XZM	Departure	12.7	-	-
30-Apr	12:11	3A168	YFT	Departure	8.4	-	-
30-Apr	12:38	8S215	XZM	Arrival	12.3	-	-
30-Apr	13:04	3A064	YFT	Arrival	12	-	-
30-Apr	13:19	8S123	XZM	Departure	12.3	-	-
30-Apr	13:39	3A082	ZUI	Arrival	12.3	-	-
30-Apr	14:13	3A164	YFT	Departure	12.3	-	-
30-Apr	14:16	3A182	ZUI	Departure	12.7	-	-
30-Apr	15:09	3A065	YFT	Arrival	12.7	-	-
30-Apr	16:15	3A167	YFT	Departure	13.4	-	-
30-Apr	16:43	8S218	XZM	Arrival	12.8	-	-
30-Apr	16:47	3A083	ZUI	Arrival	12.3	-	-
30-Apr	16:59	3A067	YFT	Arrival	11.8	-	-
30-Apr	17:02	8S126	XZM	Departure	12.5	-	-
30-Apr	17:15	3A183	ZUI	Departure	13.1	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [XZM - Macao (Maritime Ferry Terminal) YFT - Macao (Taipa) ZUL - 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)
30-Apr	18:58	3A166	YFT	Departure	11.7	-	-
30-Apr	20:27	3A084	ZUI	Arrival	12.8	-	-
30-Apr	20:50	8S2113	XZM	Arrival	12.6	-	-
30-Apr	20:54	3A185	ZUI	Departure	12.5	-	-
30-Apr	22:10	8S520	XZM	Departure	10.6	-	-

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

Follow-up on instantaneous speeding

Referring to the data of SkyPier HSF movements in April 2019, 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 7 HSF movements of which the durations of all instantaneous speeding cases were less than one minute. The AIS data and ferry operators' responses showed the cases were due to local strong water. The captains had reduced speed and maintained the speed at less than 15 knots after the incidents.

Three HSFs with insufficient transmission of AIS data, and two HSFs with no transmission of AIS data were received in April 2019. Vessel captains were requested to provide the AIS plots to indicate the vessels entered the SCZ though the gate access points with no speeding in the SCZ.