

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

Construction Phase Monthly EM&A Report No.61 (For January 2021)

February 2021

Airport Authority Hong Kong

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This Monthly EM&A Report No. 61 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 11 February 2021



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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, Environmental Compliance

11 February 2021

Dear Sir,

Contract No. 3102 **3RS Independent Environmental Checker Consultancy Services**

Submission of Monthly EM&A Report No. 61 (January 2021)

Reference is made to the Environmental Team's submission of the Monthly EM&A Report No. 61 under Condition 3.5 of the Environmental Permit No. EP-489/2014 certified by the ET Leader on 11 February 2021.

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.

while

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		
BMP	Brothers Marine Park		
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		
MTCC	Marine Traffic Control Centre		
MMHK	Mott MacDonald Hong Kong Limited		
MMWP	Marine Mammal Watching Plan		
MSS	Maritime Surveillance System		
MTRMP-CAV	Marine Travel Routes and Management Plan for Construction		
	and Associated Vessel		
NEL	Northeast Lantau		
NWL	Northwest Lantau		
PAM	Passive Acoustic Monitoring		

PM	Project Manager		
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 61st Construction Phase Monthly EM&A Report for the Project which summarises the monitoring results and audit findings of the EM&A programme during the reporting period from 1 to 31 January 2021.

Key Activities in the Reporting Period

The key activities of the Project carried out in the reporting period included reclamation works and land-based works. Works in the reclamation areas included marine filling, seawall and facilities construction, together with runway and associated works. Land-based works on existing airport island involved mainly airfield works, foundation and substructure work for Terminal 2 expansion, modification and tunnel work for Automated People Mover (APM) and Baggage Handling System (BHS), and preparation work for utilities, with activities include site establishment, site office construction, road and drainage works, cable ducting, demolition, piling, and excavation works.

EM&A Activities Conducted in the Reporting Period

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

Monitoring Activities	Number of Sessions
1-hour Total Suspended Particulates (TSP) air quality monitoring	30
Noise monitoring	16
Water quality monitoring	13
Vessel line-transect surveys for Chinese White Dolphin (CWD) monitoring	2
Land-based theodolite tracking survey effort for CWD monitoring	2

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

Snapshots of EM&A Activities in the Reporting Period



Impact Water Quality Monitoring conducted by ET



Impact Air Quality Monitoring conducted by ET in Tin Sum Village House



On-site Checking of Dolphin Exclusion Zone (DEZ) Monitoring Log Record Sheet

Results of Impact Monitoring

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

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

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

Summary of Upcoming Key Issues

Reclamation Works:

Contract 3206 Main Reclamation Works

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

Airfield Works:

Contract 3301 North Runway Crossover Taxiway

- Cable ducting works; and
- Subgrade compaction and paving works.

Contract 3302 Eastern Vehicular Tunnel Advance Works

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

Contract 3303 Third Runway and Associated Works

- Footing and utilities work;
- Pilling work;
- Construction of approach light; and
- Cable laying and ducting works.

Contract 3307 Fire Training Facility

- Excavation; and
- Drainage works.

Third Runway Concourse:

Contract 3403 New Integrated Airport Centres Building and Civil Works

- Architectural, Builder's Work and Finishing works;
- Temporary work for roof lifting; and
- Underground utilities construction.

Contract 3405 Third Runway Concourse Foundation and Substructure Works

- Plant mobilisation;
- Pre-drilling; and
- Pilling work.

Terminal 2 Expansion:

Contract 3503 Terminal 2 Foundation and Substructure Works

- T2 re-configuration;
- Excavation works;
- Utilities road work; and
- Piling and structure works.

Contract 3508 Terminal 2 Expansion Works

- Excavation and footing construction;
- Temporary road construction;
- Pilling work;
- Pre-drilling; and
- Builders' works.

Automated People Mover (APM) and Baggage Handling System (BHS):

Contract 3601 New Automated People Mover System (TRC Line)

Concreting work and rebar fixing.

Contract 3602 Existing APM System Modification Works

- Modification works at APM depot; and
- Concreting work.

Construction Support (Facilities):

Contract 3721 Construction Support Infrastructure Works

- Excavation and backfilling;
- · Laying of drainage pipes and ducts; and
- Road works.

Contract 3722 Construction Support Facilities

- Foundation works;
- Erection of superstructure; and
- Site establishment.

Airport Support Infrastructure:

Contract 3801 APM and BHS Tunnels on Existing Airport Island

- Construction of box culvert, working platform and ventilation ducts;
- Cofferdam for shaft; and
- Site clearance.

Contract 3802 APM and BHS Tunnels and Related Works

- Installation of storm drain pipes;
- Pre-drilling;
- Foundation works; and
- Site establishment.

Construction Support (Services / Licences):

Contract 3901A/ B Concrete Batching Facility

- Installation of plant equipment; and
- Plant operation.

Summary Table

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

	Yes	No	Details	Analysis / Recommendation / Remedial Actions
Breach of Limit Level^		√	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 dust issue was received on 25 Jan 2021.	The complaint is under investigation. Findings will be reported in the next Monthly EM&A Report.
			A complaint regarding dust issue was received on 25 Jan 2021.	The complaint is under investigation. Findings will be reported in the next Monthly EM&A Report.
			A complaint regarding refuelling was received on 25 Jan 2021.	The complaint is under investigation. Findings will be reported in the next Monthly EM&A Report.
Notification of any summons and status of prosecutions		V	No notification of summons or prosecution was received.	Nil
Change that affect the EM&A		V	There was no change to the construction works that may affect the EM&A.	Nil

Note

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

1 Introduction

1.1 Background

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

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

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

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

The updated overall phasing programme of all construction works was presented in Appendix A of the Construction Phase Monthly EM&A Report No. 7 and the contract information was presented in Appendix A of Construction Phase Monthly EM&A Report No. 58.

1.2 Scope of this Report

This is the 61st Construction Phase Monthly EM&A Report for the Project which summarises the key findings of the EM&A programme during the reporting period from 1 to 31 January 2021.

1.3 Project Organisation

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

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

Table 1.1: Contact Information of Key Personnel

Party	Position	Name	Telephone
Project Manager's Representative (Airport Authority Hong Kong)	Principal Manager, Environmental Compliance, Sustainability	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
Reclamation Works:			
Party	Position	Name	Telephone
Contract 3206 Main Reclamation Works	Project Manager	Alan Mong	3763 1352
(ZHEC-CCCC-CDC Joint Venture)	Environmental Officer	Kwai Fung Wong	3763 1452
Airfield Works:			
Party	Position	Name	Telephone
Contract 3301 North Runway Crossover Taxiway	Deputy Project Director	Kin Hang Chung	9800 0048
(FJT-CHEC-ZHEC Joint Venture)	Environmental Officer	Joe Wong	6182 0351
Contract 3302 Eastern Vehicular Tunnel Advance Works	Project Manager	Dickey Yau	5699 4503
(China Road and Bridge Corporation)	Environmental Officer	Dennis Ho	5645 0563
Contract 3303 Third Runway and Associated	Project Manager	Andrew Keung	6277 6628
Works (SAPR Joint Venture)	Environmental Officer	Max Chin	6447 5707
Contract 3307 Fire Training Facility	Project Manager	Steven Meredith	6109 1813
(Paul Y. Construction	Environmental Officer	Albert Chan	9700 1083

Company Limited)

Third Runway Concourse:

Party	Position	Name	Telephone
Contract 3403 New	Project Manager	Alice Leung	9220 3162
Integrated Airport Centres Building and Civil Works (Sun Fook Kong Construction Limited)	Environmental Officer	Alpha Chia	9626 1114
Contract 3405 Third Runway Concourse Foundation and	Project Manager	Francis Choi	9423 3469
Substructure Works (China Road and Bridge Corporation – Bachy Soletanche Group Limited – LT Sambo Co., Ltd. Joint Venture)	Environmental Officer	Jacky Lai	9028 8975

Terminal 2 (T2) Expansion:

Party	Position	Name	Telephone	
Contract 3503 Terminal 2 Foundation and	Project Manager	Eric Wu	3973 1718	
Substructure Works (Leighton – Chun Wo Joint Venture)	Environmental Officer	Gomez Yuen	9098 7807	
Contract 3508 Terminal 2 Expansion Works	Project Director	Richard Ellis	6201 5637	
(Gammon Engineering & Construction Company Limited)	Environmental Officer	Gena Tsang	9511 2283	

Automated People Mover (APM) and Baggage Handling System (BHS):

Party	Position	Name	Telephone
Contract 3601 New Automated People Mover System (TRC Line)	Project Manager	Hongdan Wei	158 6180 9450
(CRRC Puzhen Bombardier Transportation Systems Limited and CRRC Nanjing Puzhen Co., Ltd. Joint Venture)	Environmental Officer	Jasmine Tso	5968 6926
Contract 3602 Existing APM System Modification Works	Project Manager	Kunihiro Tatecho	9755 0351
(Niigata Transys Co., Ltd.)	Environmental Officer	Yolanda Gao	5399 3509
Contract 3603 3RS Baggage	Project Manager	K C Ho	9272 9626
Handling System (VISH Consortium)	Environmental Officer	Eric Ha	9215 3432

Construction Support (Facilities):

Party	Position	Name	Telephone
Contract 3721 Construction Support Infrastructure Works	Site Agent	Thomas Lui	9011 5340
(China State Construction Engineering (Hong Kong) Ltd.)	Environmental Officer	Xavier Lam	9493 2944
Contract 3722 Western Support Area – Construction Support	Deputy Project Director	Philip Kong	9049 3161
Facilities (Tapbo Construction Company Limited and Konwo Modular House Limited Joint Venture)	Environmental Officer	Sampson Lo	9752 9118

Airport Support Infrastructure:

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	Federick Wong	9842 2703	
Contract 3802 APM and BHS Tunnels and Related	Project Director	John Adams	6111 6989	
Works (Gammon Engineering & Construction Company Limited)	Environmental Officer	Andy Leung	9489 0035	

Construction Support (Services / Licences):

Party	Position	Name	Telephone
Contract 3901A Concrete	Project Manager	Benedict Wong	9553 2806
Batching Facility (K. Wah Concrete Company Limited)	Environmental Officer	C P Fung	9874 2872
Contract 3901B Concrete Batching Facility (Gammon Construction Limited)	Senior Project Manager	Gabriel Chan	2435 3260
	Environmental Officer	Rex Wong	2695 6319

1.4 Summary of Construction Works

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

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

1.5 Summary of EM&A Programme Requirements

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

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

Parameters	Status
Air Quality	
Baseline Monitoring	The baseline air quality monitoring result has been reported in Baseline Monitoring Report and submitted to EPD under EP Condition 3.4.
Impact Monitoring	On-going
Noise	
Baseline Monitoring	The baseline noise monitoring result has been reported in Baseline Monitoring Report and submitted to EPD under EP Condition 3.4.
Impact Monitoring	On-going 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	Due to the completion of all marine-based DCM works within December 2020, regular DCM monitoring is ceased at all monitoring stations starting from 14 January 2021 and would be resumed if there are marine-based DCM works in the coming future.
Sewerage and Sewage Treatment	
Methodology for carrying out annual sewage flow monitoring for concerned gravity sewer	The proposed methodology of the annual sewage flow monitoring will be prepared and submitted to EPD at least one year before commencement of operation of 3RS.
Details of the routine H ₂ S monitoring system for the sewerage system of 3RS	The details of the routine H ₂ S monitoring system will be prepared and submitted to EPD at least one year before commencement of operation of 3RS.
Waste Management	
Waste Monitoring	On-going
Land Contamination	
Supplementary Contamination Assessment Plan (CAP)	The Supplementary CAP was submitted to EPD pursuant to EP Condition 2.20.
Contamination Assessment Report (CAR) for Golf Course	The CAR for Golf Course was submitted to EPD.
	The CARs for Terminal 2 Emergency Power Supply System Nos.1 (Volumes 1 and 2), 2, 3, 4 and 5 were 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.

Parameters	Status
Post-Translocation Coral Monitoring	The post-translocation monitoring programme according to the Coral Translocation Plan was completed in April 2018.
Chinese White Dolphins (CWD)	
Vessel Survey, Land-based Theodolite Tracking and Passive Acoustic Monitoring (PAM)	
Baseline Monitoring	Baseline CWD results were reported in the CWD Baseline Monitoring Report and submitted to EPD in accordance with EP Condition 3.4.
Impact Monitoring	On-going
Landscape & Visual	
Landscape & Visual Plan	The Landscape & Visual Plan was submitted to EPD under EP Condition 2.18
Baseline Monitoring	The baseline landscape & visual monitoring result has been reported in Baseline Monitoring Report and submitted to EPD under EP Condition 3.4.
Impact Monitoring	On-going
Environmental Auditing	
Regular site inspection	On-going
Marine Mammal Watching Plan (MMWP) implementation measures	On-going Control of the control of t
Dolphin Exclusion Zone (DEZ) Plan implementation measures	On-going
SkyPier High Speed Ferries (HSF) implementation measures	On-going Control of the control of t
Construction and Associated Vessels Implementation measures	On-going
Complaint Hotline and Email channel	On-going
Environmental Log Book	On-going

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

The EM&A programme also involved weekly site inspections and related auditing conducted by the ET for checking the implementation of the required environmental mitigation measures recommended in the approved EIA Report. To promote the environmental awareness and enhance the environmental performance of the contractors, environmental trainings and regular environmental management meetings were conducted during the reporting period, which are summarised as below:

- Two skipper training session provided by ET: 6 and 20 January 2021;
- Sixteen environmental management meetings for EM&A review with works contracts: 7, 8, 12, 15, 18, 20, 21, 26, 27, 28 and 29 January 2021.

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-2 (Serial No. 296098)	20 Oct 2020	Monthly EM&A Report No. 58, Appendix E
	SIBATA LD-3B-1 (Serial No. 597337)	27 May 2020	Monthly EM&A Report No. 57, Appendix D

2.3 Monitoring Methodology

2.3.1 Measuring Procedure

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

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

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

2.3.2 Maintenance and Calibration

The portable direct reading dust meter is calibrated every year against high volume sampler (HVS) to check the validity and accuracy of the results measured by direct reading method. The calibration record of the HVS provided in Appendix E of Construction Phase Monthly EM&A Report No. 58, and the calibration certificates of portable direct reading dust meters listed in **Table 2.3** are valid in the reporting period.

2.4 Summary of Monitoring Results

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

The air quality monitoring results in the reporting period are summarised 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	16 - 78	306	500
AR2	16 - 78	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 was observed at the monitoring stations during the monitoring sessions. As the sensitive receivers were far away from the construction activities, with the implementation of dust control measures, there was no adverse impact at the sensitive receivers attributable to the works of the Project.

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
M		

Note:

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

3.1 Action and Limit Levels

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

Table 3.2: Action and Limit Levels for Noise Monitoring

Monitoring Stations	Time Period	Action Level	Limit Level, 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	75dB(A) ⁽¹⁾

Note

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

3.2 Monitoring Equipment

Noise monitoring was performed using sound level meter at each designated monitoring station. The sound level meters deployed comply with the International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1) specifications. Acoustic calibrator was used to check the sound level meters by a known sound pressure level for field measurement. Details of equipment used in the reporting period are given in **Table 3.3**.

Table 3.3: Noise Monitoring Equipment

Equipment	Brand and Model	Last Calibration Date	Calibration Certificate Provided in
Integrated Sound Level Meter	Rion NL-52 (Serial No. 00998505)	24 Mar 2020	Monthly EM&A Report No. 52, Appendix D
	Rion NL-52 (Serial No. 01287679)	21 Jun 2020	Monthly EM&A Report No. 54, Appendix E
Acoustic Calibrator	Casella CEL-120/1 (Serial No. 2383737)	12 Sep 2020	Monthly EM&A Report No. 57, Appendix D
	Castle GA607 (Serial No. 040162)	4 Jul 2020	Monthly EM&A Report No. 55, Appendix D

3.3 Monitoring Methodology

3.3.1 Monitoring Procedure

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

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

3.3.2 Maintenance and Calibration

The maintenance and calibration procedures are summarised below:

- a. The microphone head of the sound level meter was cleaned with soft cloth at regular intervals
- b. The meter and calibrator were sent to the supplier or laboratory accredited under Hong Kong Laboratory Accreditation Scheme (HOKLAS) to check and calibrate at yearly intervals.

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

3.4 Summary of Monitoring Results

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

The noise monitoring results in the reporting period are summarised 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 (30mins)	Leq (30mins)	
NM1A ⁽¹⁾	64 - 73	75	
NM4 ⁽¹⁾	60 - 61	70 ⁽²⁾	
NM5 ⁽¹⁾	53 - 67	75	
NM6 ⁽¹⁾	62 - 68	75	

Notes:

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

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

3.5 Conclusion

As the construction activities were far away from the monitoring stations, major sources of noise dominating the monitoring stations observed during the construction noise impact monitoring were traffic noise near NM1A and aircraft noise near 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.

Due to the completion of all marine-based DCM works within December 2020, regular DCM monitoring was ceased at all monitoring stations starting from 14 January 2021 and would be resumed if there are marine-based DCM works in the coming future.

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

Monitoring Station	Description Co		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⁾	

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

Notes:

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

4.1 Action and Limit Levels

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

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

Parameter	s	Action Level (AL)		Limit Level (LL)	
	Limit Levels for genera	I water quality mon	itoring and regular	DCM monitoring	
General Water Quality Monitoring	SR1A & SR8) DO in mg/l (Surface, Surface and Middle Middle & Bottom) 4.5mg/l			Surface and Middle 4.1mg/l 5mg/l for Fish Culture Zone (SR7) only Bottom 2.7mg/l	
		Bottom 3.4mg/l			
	Suspended Solids (SS) in mg/l	23	or 120% of upstream control station at the same tide of the same day, whichever is higher	37	or 130% of upstream control
	Turbidity in NTU	22.6		36.1	station at the same tide of the
Regular	Total Alkalinity in ppm	95		99	same day,
DCM Monitoring ⁽⁶⁾	Representative Heavy Metals for regular DCM monitoring (Chromium) in µg/l	0.2		0.2	whichever is higher
	Representative Heavy Metals for regular DCM monitoring (Nickel) in µg/I	3.2		3.6	_
Action and I	Limit Levels SR1A				
SS (mg/l))		33		42	
Action and I	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 (http://env.threerunwaysystem.com/en/ep-submissions.html)
- (5) The Action and Limit Levels for the two representative heavy metals chosen will be the same as that for the intensive DCM monitoring.
- (6) Due to the completion of all marine-based DCM works within December 2020, regular DCM monitoring was ceased at all monitoring stations starting from 14 January 2021 and would be resumed if there are marinebased DCM works in the coming future.

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

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

Note:

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

4.2 Monitoring Equipment

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

Table 4.4: Water Quality Monitoring Equipment

Equipment	Brand and Model	Last Calibration Date	Calibration Certificate Provided in
Multifunctional Meter (measurement of DO, pH, temperature, salinity and turbidity)	YSI 6920V2 (Serial No. 0001C6A7)	22 Oct 2020 ⁽¹⁾	Monthly EM&A Report No. 58, Appendix E
	YSI ProDSS (Serial No. 17E100747)	22 Oct 2020 (1)	Monthly EM&A Report No. 58, Appendix E
	YSI ProDSS (Serial No. 17H105557)	2 Dec 2020	Monthly EM&A Report No. 60, Appendix D
	YSI ProDSS (Serial No. 18A104824)	2 Dec 2020	Monthly EM&A Report No. 60, Appendix D
	YSI ProDSS (Serial No. 15M100005)	18 Jan 2021	Appendix D
	YSI ProDSS (Serial No. 16H104234)	18 Jan 2021	Appendix D
Digital Titrator (measurement of total alkalinity)	Titrette Bottle-top Burette, 50ml (Serial No. 10N64701)	30 Nov 2020	Monthly EM&A Report No. 60, Appendix D

Note:

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

⁽¹⁾ The monitoring equipment was not used in the reporting period after the expiry date of the calibration certificate.

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

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

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

4.3.3 Laboratory Measurement / Analysis

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

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

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

4.4 Summary of Monitoring Results

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

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

For chromium, one of the testing results triggered the corresponding Action Level, and investigation was conducted accordingly.

Table 4.7 presents the summary of the chromium compliance status at IM stations during midflood for the reporting period.

IM1 IM2 IM3 IM4 IM5 IM6 IM7 IM8 IM9 IM10 IM11 IM12 02/01/2021 05/01/2021 07/01/2021 09/01/2021 12/01/2021 14/01/2021 16/01/2021 19/01/2021 21/01/2021 23/01/2021 26/01/2021 28/01/2021 30/01/2021 No. of result triggering Action 0 0 0 0 0 0 0 0 0 or Limit Level

Table 4.7: Summary of Chromium Compliance Status (Mid-Flood Tide)

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

One of the monitoring results triggered the corresponding Action Level on 2 January 2021. In accordance with Event and Action Plan stipulated in the Manual, IEC and Contractor were informed when the corresponding Action Level was triggered.

The case occurred at a monitoring station upstream of the Project during flood tide. Chromium is one of the DCM regular monitoring parameters. However, no DCM work was conducted when monitoring was carried out at this monitoring station. Therefore, the case was considered unlikely due to the Project.

4.5 Conclusion

During the reporting period, it is noted that the vast majority of monitoring results were within their corresponding Action and Limit Levels, while only one result triggered the corresponding Action Level, and investigation was conducted accordingly.

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

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

In the meantime, the contractors were reminded to implement and maintain all mitigation measures during weekly site inspection and regular environmental management meetings. These include maintaining mitigation measures properly for reclamation works including 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 have taken actions to implement the recommended measures. Waste management audits were carried out by ET according to the requirement of the Waste Management Plan, Updated EM&A Manual and the implementation schedule of the waste management mitigation measures in **Appendix A**.

Based on updated information provided by contractors, construction waste generated in the reporting period is summarised in **Table 5.2**. Proactive measures have been undertaken during the re-configuration of T2 building. The contractor has established the recycling strategy for C&D materials with proper planning and design to maximize recycling and reuse. Dedicated recyclers were employed for different kinds of recyclable materials by the contractor, and ET and IEC have carried out site visit to recyclers' facilities to review recycling process. Recycling materials before leaving the site are weighted by a weight bridge and monitored by CCTV system. Dedicated areas for sorting of materials are established on site. Recyclable materials such as steel, reinforcement bar, structural steel, aluminum, copper, other metals and glass are sorted on-site and transported off-site for recycling. ET and IEC have carried out site audits regularly and reviewed the trip ticket system.

Table 5.2: Construction Waste Statistics

		Reused in the Project	C&D Material Reused in other Projects (m³)	Transferred to	Chemical Waste (kg)	Chemical Waste (I)	General Refuse (tonne)
January 2021 ⁽²⁾⁽³⁾	10,125	29,692	0	5,780	0	0	1,696

Notes:

- (1) C&D refers to Construction and Demolition.
- (2) Metals, paper and/or plastics were recycled in the reporting period.
- (3) The data was based on the information provided by contractors up to the submission date of this Monthly EM&A Report, and might be updated in the forthcoming Monthly EM&A Report.

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.

Along with the design and construction progress, further development on the treatment level/details and the re-use mode for marine sediment generated from 3RS Project has been conducted according to the EIA recommendation.

5.3 Marine Sediment Management

Marine sediment is managed according to the EIA Report, Updated EM&A Manual and Waste Management Plan of the Project. The sampling process, storage conditions of the excavated marine sediment, treatment process, final backfilling location as well as associated records were inspected and checked by ET and verified by IEC to ensure they were in compliance with the requirements as stipulated in the Waste Management Plan.

Sampling works for marine sediment generated from the reclaimed land area was on-going during the reporting period. The details of the marine sediment sampling, treatment and backfilling will be reported in the subsequent EM&A Reports upon completion.

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.

6.1 Action and Limit Levels

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

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

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

Notes: (referring to the baseline monitoring report)

- (1) Action Level running quarterly encounter rates STG & ANI of this month will be calculated from the reporting period and the two 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 following the waypoints set for construction phase monitoring as proposed in the Manual are 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
waypoint	Lasting	NE		Lasting	Northing
1S	813525	820900	6N	818568	824433
1N	813525	824657	7S	819532	821420
2S	814556	818449	7S 7N	819532	824209
2S 2N	814559	824768	8S	820451	822125
3S			8N		
3N	815542 815542	818807 824882	9S	820451 821504	823671 822371
4S					
	816506	819480	9N	821504	823761
4N	816506	824859	10S	822513	823268
5S	817537	820220	10N	822513	824321
5N	817537	824613	118	823477	823402
6S	818568	820735	11N	823477	824613
10	00.1071	NV		22251	004705
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
		Α	W		
1W	804733	818205	2W	805045	816912
1E	806708	818017	2E	805960	816633
		W	'L		
1W	800600	805450	7W	800400	811450
1E	801760	805450	7E	802400	811450
2W	800300	806450	8W	800800	812450
2E	801750	806450	8E	802900	812450
3W	799600	807450	9W	801500	813550
3E	801500	807450	9E	803120	813550
4W	799400	808450	10W	801880	814500
4E	801430	808450	10E	803700	814500
5W	799500	809450	11W	802860	815500
5E	801300	809450	12S/11E	803750	815500
6W	799800	810450	12N	803750	818500
6E	801400	810450			
		SV	VL		
18	802494	803961	6S	807467	801137
1N	802494	806174	6N	807467	808458
28	803489	803280	7S	808553	800329
2S 2N	803489	806720	7S 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, AW, WL and SWL areas as proposed in the Manual, which are consistent with the AFCD long-term monitoring programme (except AW). There are two types of transect lines:

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

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

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

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

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

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

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

6.3.2 Photo Identification

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

When CWDs were observed, the survey team was taken off-effort, the dolphins were approached and photographed for photo-ID information (using a Canon 7D [or similar] camera and long 300 mm+ telephoto lens). The survey team attempted to photograph 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 Project during the baseline monitoring stage.

6.3.3 Land-based Theodolite Tracking Survey

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

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

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

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

6.4 Monitoring Results and Observations

6.4.1 Small Vessel Line-transect Survey

Survey Effort

Within this reporting period, two complete sets of small vessel line-transect surveys were conducted on the 11, 12, 15, 18, 19, 20, 26 and 27 January 2021, covering all transects in NEL, NWL, AW, WL and SWL survey areas for twice.

A total of around 441.35km of survey effort was collected from these surveys and around 97.4% of the survey effort was being conducted under favourable weather condition (i.e. Beaufort Sea State 3 or below with favourable visibility). Details of the survey effort are given in **Appendix C**.

Sighting Distribution

In January 2021, 18 sightings with 75 dolphins were sighted. All these sightings are on-effort records under favourable weather condition (i.e. Beaufort Sea State 3 or below with favourable visibility). Details of cetacean sightings are presented in **Appendix C**.

Distribution of all CWD sightings recorded in January 2021 is illustrated in **Figure 6.3**. In NWL including AW transects, the majority of the sightings was around Sha Chau and Lung Kwu Chau Marine Park. In WL, CWD sightings were clustered at the waters around Tai O and Fan Lau. In SWL, most CWD sightings were recorded at the relatively off-shore waters of the central and western part of the survey area. No sightings of CWD were recorded in NEL.

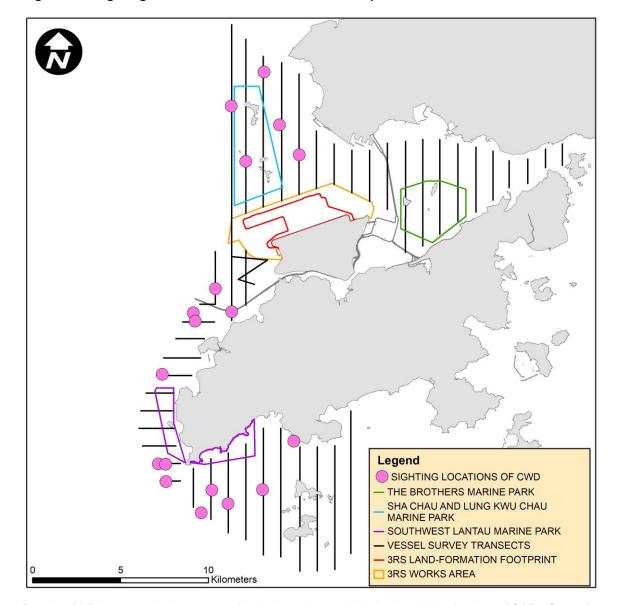


Figure 6.3: Sightings Distribution of Chinese White Dolphins

Remarks: (1) Please note that there are 18 pink circles on the map indicating the sighting locations of CWDs. Some of them were very close to each other and therefore may appear overlapped on this distribution map. (2) Marine park excludes land area and the landward boundary generally follows the high water mark along the coastline.

Encounter Rate

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

Encounter Rate by Number of Dolphin Sightings (STG)

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

Encounter Rate by Number of Dolphins (ANI)

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

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

In January 2021, a total of around 429.99 km of survey effort were conducted under Beaufort Sea State 3 or below with favourable visibility, whilst a total number of 18 on-effort sightings with 75 dolphins were sighted under such condition. Calculation of the encounter rates for the month are shown in **Appendix C**.

For the running quarter of the reporting period (i.e., from November 2020 to January 2021), a total of around 1229.77 km of survey effort were conducted under Beaufort Sea State 3 or below with favourable visibility, whilst a total number of 47 on-effort sightings and a total number of 146 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 January 2021 and during the running quarter are presented in **Table 6.4** below and compared with the Action Level. The running quarterly encounter rates STG and ANI remain above the Action Level, thus the Action Level is not triggered.

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

	Encounter Rate (STG)	Encounter Rate (ANI)
January 2021	4.19	17.44
Running Quarter from November 2020 to January 2021 ⁽¹⁾	3.82	11.87
Action Level	Running quarterly ⁽¹⁾ STG < 1.86 & ANI < 9.35	

Note: (1) Running quarterly encounter rates STG & ANI were calculated from data collected in the reporting period and the two preceding survey months, i.e. the data from November 2020 to January 2021, containing six sets of transect surveys for all monitoring areas. Action Level will be triggered if both STG and ANI fall below the criteria.

Group Size

In January 2021, 18 groups of 75 dolphins in total were sighted, and the average group size of CWDs was 4.2 dolphins per group. Sightings with medium group size (i.e. 3-9 dolphins) are dominant. There was one CWD sighting with large group size (i.e. 10 or more dolphins) recorded which was spotted in NWL.

Activities and Association with Fishing Boats

Three sightings of CWDs were recorded engaging in feeding activities in January 2021. One of these sightings was observed in association with operating gillnetter in SWL during the reporting period.

Mother-calf Pair

In January 2021, four CWD sightings were recorded with the presence of mother-and-unspotted juvenile pair(s).

6.4.2 Photo Identification

In January 2021, a total number of 41 different CWD individuals were identified for totally 60 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 ID	Date of Sighting (dd-mmm-yy)	Sighting Group No.	Area	Individual ID	Date of Sighting (dd-mmm-yy)	Sighting Group No.	Area
NLMM001	19-Jan-21	1	NWL	SLMM066	26-Jan-21	8	SWL
NLMM009	19-Jan-21	2	NWL	WLMM001	20-Jan-21	1	NWL
		3	NWL		27-Jan-21	1	WL
		4	NWL			3	WL
NLMM020	20-Jan-21	2	NWL	WLMM006	18-Jan-21	2	WL
NLMM021	19-Jan-21	2	NWL	WLMM008	27-Jan-21	5	WL
		3	NWL	WLMM028	18-Jan-21	2	WL
NLMM023	19-Jan-21	1	NWL	WLMM029	18-Jan-21	2	WL
	20-Jan-21	2	NWL	WLMM040	27-Jan-21	5	WL
NLMM027	19-Jan-21	1	NWL	WLMM052	20-Jan-21	2	NWL
NLMM039	20-Jan-21	2	NWL	WLMM055	27-Jan-21	1	WL
NLMM052	19-Jan-21	1	NWL			3	WL
	20-Jan-21	2	NWL	WLMM067	20-Jan-21	1	NWL
NLMM055	19-Jan-21	1	NWL	WLMM071	19-Jan-21	1	NWL
NLMM063	19-Jan-21	1	NWL		20-Jan-21	1	NWL
NLMM075	19-Jan-21	1	NWL	WLMM079	20-Jan-21	1	NWL
NLMM076	20-Jan-21	1	NWL	WLMM107	20-Jan-21	1	NWL
SLMM012	15-Jan-21	2	SWL		27-Jan-21	1	WL
SLMM014	15-Jan-21	3	SWL			3	WL
SLMM022	27-Jan-21	5	WL	WLMM114	15-Jan-21	2	SWL
SLMM031	18-Jan-21	2	WL		27-Jan-21	5	WL
	26-Jan-21	8	SWL	WLMM131	26-Jan-21	8	SWL
SLMM035	27-Jan-21	5	WL		27-Jan-21	4	WL
SLMM037	15-Jan-21	2	SWL	WLMM136	20-Jan-21	2	NWL
SLMM049	27-Jan-21	5	WL	WLMM141	20-Jan-21	1	NWL
SLMM052	27-Jan-21	5	WL	WLMM147	20-Jan-21	1	NWL
SLMM058	20-Jan-21	1	NWL	WLMM149	20-Jan-21	1	NWL
	27-Jan-21	1	WL		27-Jan-21	1	WL
		3	WL			3	WL
SLMM060	26-Jan-21	2	SWL	<u> </u>			
		7	SWL				

6.4.3 Land-based Theodolite Tracking Survey

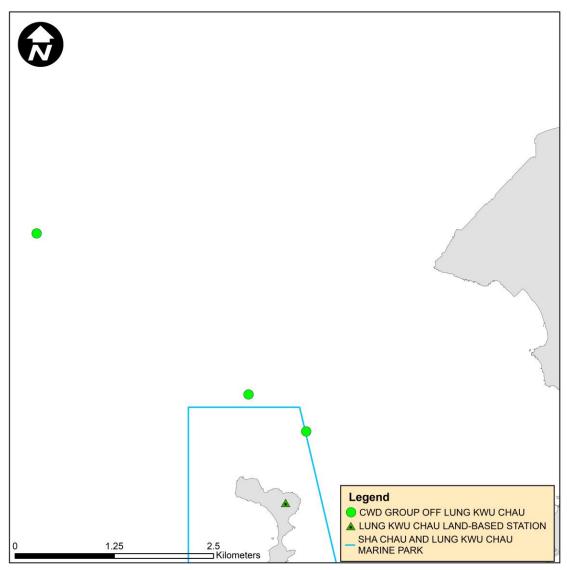
Survey Effort

Land-based theodolite tracking surveys were conducted at LKC on 15 January 2021 and at SC on 27 January 2021, with a total of two days of land-based theodolite tracking survey effort accomplished in this reporting period. Three CWD groups were tracked from Lung Kwu Chau station during the survey. Information of survey effort and CWD groups are presented in **Table 6.6**. Details of the survey effort are presented in **Appendix C**. The first sighting locations of CWD group tracked at LKC station during land-based theodolite tracking survey in January 2021 were depicted in **Figure 6.4**. No CWD group was sighted from SC station in this reporting month.

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

Land-based Station	No. of Survey Sessions	Survey Effort (hh:mm)	No. of CWD Groups Sighted	CWD Group Sighting per Survey Hour
Lung Kwu Chau	1	6:00	3	0.5
Sha Chau	1	6:00	0	0
TOTAL	2	12:00	3	0.25

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



Remark: Marine park excludes land area and the landward boundary generally follows the high water mark along the coastline.

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 14 January 2021 for annual data analysis. Acoustic data would be reviewed to give an indication of CWDs occurrence patterns and to obtain anthropogenic noise information simultaneously. To improve the length of deployments, speed of data gathering, and

efficiency in data analysis, the C-POD and its successor the F-POD which can record the click trains of cetaceans automatically has been proposed in replacement of the previous EAR at the same location. The C-POD has also been adopted by the AFCD for data collection on night-time usage of dolphins at the SCLKCMP and the BMP. The F-POD has been deployed on 30 December 2020 and positioned at south of Sha Chau Island inside the SCLKCMP (**Figure 6.5**). Analysis would involve use of proprietary software for objective automated data analyses and experienced analysts to perform visual validation for assessment of dolphin detection. As the period of data collection and analysis takes about 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 and bored piling, in which dolphin observers were deployed by contractor in accordance with the MMWP. Overall, 2 to 4 dolphin observation stations and teams of at least two dolphin observers were deployed by the contractors for continuous monitoring of the DEZ for bored piling and seawall construction works 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 703 individuals being trained and the training records kept by the ET. From the contractors' MMWP observation records, no dolphin or other marine mammals were observed within or around the Silt curtains. As for DEZ monitoring records, no dolphin or other marine mammals were observed within or around the DEZs in this reporting month. These contractors' records were also audited by the ET during site inspection.

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

6.7 Timing of Reporting CWD Monitoring Results

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

6.8 Summary of CWD Monitoring

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

7 Environmental Site Inspection and Audit

7.1 Environmental Site Inspection

Site inspections of the construction works were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures for the Project. The weekly site inspection schedule of the construction works is provided in **Appendix 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 recommended mitigation measures where necessary in order to advise contractors on environmental improvement, awareness and on-site enhancement measures. The observations were made with reference to the following information during the site inspections:

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

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

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 Landscape and Visual Mitigation Measures

Implementation of applicable landscape and visual mitigation measures (reference to the environmental protection measures CM1 – CM10 in **Appendix A**) was monitored in accordance with the Manual. All measures undertaken by both the contractor and the landscape contractor during the construction phase and first year of the operation phase shall be audited by a landscape architect, as a member of the ET, on a regular basis to ensure compliance with the

intended aims of the measures. Site inspections shall be undertaken at least once every two months during the operation phase.

The implementation status of the environmental protection measures are summarized below in **Table 7.1**. Examples of landscape and visual mitigation measures are shown in **Table 7.2**. The monitoring programme for detailed design, construction, establishment works and long term management (10 years) stages is presented in **Table 7.3**. Event and Action Plan for Landscape and Visual impacts is stated in **Table 7.4**.

Table 7.1: Landscape and Visual - Construction Phase Audit Summary

Table 7.1: Landscape and Visual – Construction Phase Audit Summary				
Landscape and Visual Mitigation Measures during Construction	Implementation Status	Relevant Contract(s) in the Reporting Period		
CM1- The construction area and contractor's temporary works areas shall be minimised to avoid impacts on adjacent landscape.	The implementation of mitigation measures were checked by ET during weekly site inspection and clarified by the Contractors during the monthly Environmental Management Meetings. Implementation of the measures CM5, CM6 and CM7 by			
CM2 – Reduction of construction period to practical minimum.	Contractors was observed.			
CM3 – Phasing of the construction stage to reduce visual impacts during the construction phase.				
CM4 – Construction traffic (land and sea) including construction plants, construction vessels and barges shall be kept to a practical minimum.				
CM5 – Erection of decorative mesh screens or construction hoardings around works areas in visually unobtrusive colours.				
CM6 – Avoidance of excessive height and bulk of site buildings and structures				
CM7 – Control of night-time lighting by hooding all lights and through minimisation of night working periods				
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 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	Tree Protection Specifications have been provided in the relevant Contract Specifications respectively for implementation by the Contractors under the Project. The Contractors' performance on the implementation of the trees maintenance and protection measures were observed and checked by the ET weekly during construction period.	3302, 3503, 3602, 3801 3508, 3802 (To be implemented)		

Landscape and Visual Mitigation Measures during Construction

Implementation Status

Relevant Contract(s) in the Reporting Period

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 necessary tree root and crown preparation periods shall be allowed in the project programme

Tree Transplanting Specifications have been provided in the relevant Contract Specifications respectively for implementation by the Contractors under the Project where trees will unavoidably be affected by the construction works.

3503, 3801

3508, 3802 (To be implemented)

The Contractors were required to submit Method Statements for tree transplanting prior to the transplanting works. Tree inspections were conducted by ET to check the tree transplanting works implemented by the Contractors on site.

The Contractors' performance on the implementation of trees maintenance and protection measures on transplanted trees were observed and checked by the ET bi-monthly during the 12-month establishment period after the completion of each batch of transplanting works.

Long-term management of the transplanted trees were currently monitored by ET annually.

CM 10 – Land formation works shall be followed with advanced hydroseeding around taxiways and runways as soon as practical To be implemented around taxiways and runways as soon as To be implemented practicable.

Table 7.2: Examples of Landscape and Visual Mitigation Measures in the Reporting Period



Erection of site hoardings around works area in unobtrusive colors (CM5)



Avoidance of excessive height and bulk of site buildings (CM6)



Control of night-time lighting by hooding and minimisation of night working period (CM7)



General view of Tree Protection Zone for retained tree (CM8)



General view of a transplanted tree (CM9)

In accordance with the EM&A Manual, all existing trees shall be protected carefully during construction. Trees unavoidably affected by the works shall be transplanted where practical. In this reporting period, the updated cumulative total number of retained and transplanted trees under the Project were 118 and 11, respectively. Details of the retained trees, transplanted trees and to-be-transplanted trees under the Project are summarized in **Table 7.5** and respectively. Photos of transplanted trees are presented in **Table 7.7**.

Details of the retained trees are to be discussed in the Quarterly EM&A report.

Table 7.3: Monitoring Programme for Landscape and Visual

Stage	Monitoring Task	Monitoring Report	Form of Approval	Frequency
Detailed Design	Checking of design works against the recommendations of the landscape and visual impact assessments within the EIA shall be undertaken during detailed design and tender stage, to ensure that they fulfil the intention of the mitigation measures. Any changes to the design, including design changes on site shall also be checked.	Report by AAHK / PM confirming that the design conforms to requirements of EP.	Approved by Client	At the end of the Detailed Design Phase
Construction	Checking of the contractor's operations during the construction period.	Report on Contractor's compliance, by ET	Counter signature of report by IEC	Weekly
Establishment Works	Checking of the planting works during the twelve-month Establishment Period after completion of the construction works.	Report on Contractor's compliance, by ET	Counter signature of report by IEC	Every two months
Long Term Management (10 year)	Monitoring of the long- term management of the planting works in the period up to 10 years after completion of the construction works.	Report on Compliance by ET or Maintenance Agency as appropriate	Counter signature of report by Management Agency	Annually

Table 7.4: Event and Action Plan for Landscape and Visual

Event Action	Action					
Level	ET	IEC	AAHK / PM	Contractor		
Design Check	Check final design conforms to the requirements of EP and prepare report.	Check report. Recommend remedial design if necessary.	Undertake remedial if design necessary.			
Non-conformity on one occasion	Identify source. Inform IEC and AAHK / PM.	Check report. Check Contractor's working method.	Notify Contractor. Ensure remedial measures are	Amend working methods to prevent recurrence of non-		
	Discuss remedial actions with IEC, AAHK / PM and Contractor.	Discuss with ET and Contractor on possible remedial measures.	properly implemented.	conformity.		

Event Action		Action				
Level	ET	IEC	AAHK/PM	Contractor		
	Monitor remedial actions until rectification has been completed.	Advise AAHK / PM on effectiveness of proposed remedial measures. Check implementation of remedial measures.		Rectify damage and undertake additional action necessary.		
Repeated Non- conformity	Identify source. Inform IEC and AAHK / PM. Increase monitoring frequency. Discuss remedial actions with IEC, AAHK / PM and Contractor. Monitor remedial actions until rectification has been completed. If non-conformity stops, cease additional monitoring.	Check monitoring report. Check Contractor's working method. Discuss with ET and Contractor on possible remedial measures. Advise AAHK / PM on effectiveness of proposed remedial measures. Supervise implementation of remedial measures.	Notify Contractor. Ensure remedial measures area properly implemented.	Amend working methods to prevent recurrence of non-conformity. Rectify damage and undertake additional action necessary.		

Table 7.5: Summary of the Number of Retained, Transplanted and To-be-transplanted Trees in the Reporting Period

Existing					
Contract	Retain (nos.)	Transplan	Transplanted (nos.)		
		Establishment Period	Maintenance Period	(nos.)	
3302	9	0	0	0	
3503	19	9	0	0	
3602	2	0	0	0	
3801	88	0	5	0	
Sub-total	118	9	5	0	
Provisional					
Contract	Retain (nos.)	Transplan	ted (nos.)	To-be-transplanted (nos.)	
3508 ⁽¹⁾	155	0	ı	22	
Sub-total	155	0	ı	22	
Grand Total	273	14	1	22	
Notoo:					

Notes:

Summary of the updated transplanted trees and photos are presented in **Table 7.6** and **Table 7.7** respectively.

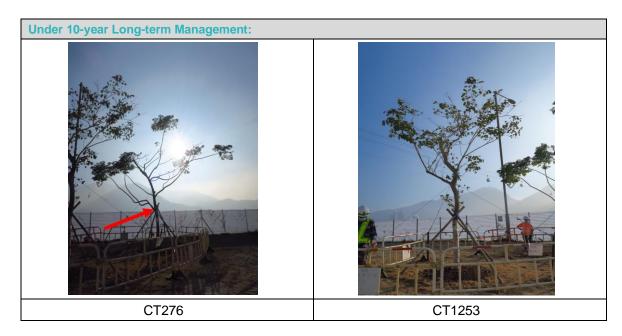
⁽¹⁾ Actual tree number is subject to confirmation after initial tree survey is conducted by the Contractor.

Table 7.6: Summary of the Transplanted Trees Updated in the Reporting Period

Tree ID	Transplant Date	Management Stage	Management Agency	Remarks
CT276	3 May 2018	Establishment period 4 May 2018 – May 2019	Contract 3801	NA
		Maintenance period Jun 2019 – May 2028	Southern Landside Petrol Filling Station	_
CT1253	4 May 2018	Establishment period 5 May 2018 – May 2019	Contract 3801	
		Maintenance period Jun 2019 – May 2028	Southern Landside Petrol Filling Station	
T835	22 Jan 2020	Establishment period 23 Jan 2020 – Jan 2021	Contract 3503	NA
T836	13 Dec 2019	Establishment period 14 Dec 2020 – Jan 2021	Contract 3503	
T838	22 Jan 2020	Establishment period 23 Jan 2020 – Jan 2021	Contract 3503	
T812	21 Dec 2020	Establishment period 22 Dec 2020 – Dec 2021	Contract 3503	
T814	20 Dec 2020	Establishment period 21 Dec 2020 – Dec 2021	Contract 3503	
T815	15 Dec 2020	Establishment period 16 Dec 2020 – Dec 2021	Contract 3503	
T829	18 Dec 2020	Establishment period 19 Dec 2020 – Dec 2021	Contract 3503	
T830	14 Dec 2020	Establishment period 15 Dec 2020 – Dec 2021	Contract 3503	
T831	19 Dec 2020	Establishment period 20 Dec 2020 – Dec 2021	Contract 3503	
CT1194	4 May 2018	Establishment period 5 May 2018 – May 2019	Contract 3801	Uprooted and collapsed due to damage by Typhoon Higos on 18 Aug 2020. Tree
		Maintenance period Jun 2019 – May 2028	Southern Landside Petrol Filling Station	 removal was conducted as recommended by Contractor's tree specialist.
CT1794	3 May 2018	Establishment period 4 May 2018 – May 2019	Contract 3801	The tree within the land parcel was acquired by the government for construction of emergency hospital to
		Maintenance period Jun 2019 – May 2028	AsiaWorld-Expo	handle COVID19 pandemic at AsiaWorld- Expo. The tree was felled.
CT1795	3 May 2018	Establishment period 4 May 2018 – May 2019	Contract 3801	The tree within the land parcel was acquired by the government for
		Maintenance period Jun 2019 – May 2028	AsiaWorld-Expo	—construction of emergency hospital to handle COVID19 pandemic at AsiaWorld- Expo E. The tree was felled.

Table 7.7: Photos of the Existing Transplanted Trees in the Reporting Period





7.3 Land Contamination Assessment

The Supplementary CAP was submitted to EPD pursuant to EP Condition 2.20. The CARs for Golf Course and T2 Emergency Power Supply System Nos.1 (Volumes 1 and 2), 2, 3, 4 and 5 were submitted to EPD in accordance with EP Condition 1.9 and the Supplementary CAP in which no land contamination issues were identified. EPD has issued no further comment for all the CARs and required ET to submit additional photos for sides and bottom of some of sampling points after the removal of pipelines to reaffirm no leakage from the pipelines concerned. Afterwards, the potential land contamination concern of two concerned systems will be closed.

7.4 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.

Due to the COVID-19 pandemic, all SkyPier HSF services to/from Zhuhai and Macau have been suspended from 25 March 2020 until further notice. No ferry movement between HKIA SkyPier and Zhuhai and Macau was recorded in January 2021. Key audit findings for the SkyPier HSFs travelling to/from Zhuhai and Macau against the requirements of the SkyPier Plan during the reporting period are summarised in **Table 7.8**.

The daily movement of all SkyPier HSFs, including those not using the diverted route, in this reporting period (i.e., 2 to 3 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.

As informed by CLP Power, the construction works of the Hong Kong Offshore LNG Terminal Project may affect the route diversion operation of the SkyPier HSFs in Q1 2021. The captains were informed on the issue and ET will continue to closely monitor the implementation of the SkyPier Plan in the period.

Table 7.8: Summary of Key Audit Findings against the SkyPier Plan

Requirements in the SkyPier Plan	1 to 31 January 2021
Total number of ferry movements recorded and audited	0
Use diverted route and enter / leave SCZ through Gate Access Points	0 deviation
Daily Cap (including all SkyPier HSFs)	2 to 3 daily movement (within the maximum daily cap - 125 daily movements)

7.5 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 May 2020 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.
- Five skipper training sessions were held by contractors' Environmental Officers.
 Competency tests were subsequently conducted with the trained skippers by ET. The list of all trained skippers was properly recorded and maintained by ET.
- In this reporting period, 19 skippers were trained by ET and 6 skippers was trained by contractors' Environmental Officers. In total, 1691 skippers were trained from August 2016 to January 2021.
- The MSS automatically recorded deviation cases such as speeding, entering no entry zone and not travelling through the designated gate. ET conducted checking to ensure the MSS records deviation cases accurately.
- Deviations such as speeding in the works area, entered no entry zone, and entering from non-designated gates were identified. All the concerned contractors were reminded to comply with the requirements of the MTRMP-CAV during the bi-weekly MTCC audit.
- Three-month rolling programmes (one month record and three months forecast) for construction vessel activities were received from the contractors in order to help maintain the number of construction and associated vessels on site to a practicable minimal level.

7.6 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 seawall construction and bored piling according to their Method Statement for DEZ Monitoring that followed the specifications and requirements of the DEZ Plan.

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

7.7 Status of Submissions under Environmental Permits

The current status of submissions under the EP up to the reporting period is presented in **Table 7.9**.

Table 7.9: 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	

7.8 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 E**.

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

7.9.1 Complaints

Two complaints were received on 25 January 2021 regarding dust issue and both were being investigated by ET in accordance with the Manual and the Complaint Management Plan of the Project. Findings of investigation will be reported in the next Monthly EM&A Report.

A complaint was received on 25 January 2021 regarding refuelling and was being investigated by ET in accordance with the Manual and the Complaint Management Plan of the Project. Findings of investigation will be reported in the next Monthly EM&A Report.

7.9.2 Notifications of Summons or Status of Prosecution

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

7.9.3 Cumulative Statistics

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

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:

Reclamation Works:

Contract 3206 Main Reclamation Works

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

Airfield Works:

Contract 3301 North Runway Crossover Taxiway

- Cable ducting works; and
- Subgrade compaction and paving works.

Contract 3302 Eastern Vehicular Tunnel Advance Works

- Cable laying and ducting works;
- Trench excavation works;
- Backfilling and reinstatement works; and
- · Piling and structure works;

Contract 3303 Third Runway and Associated Works

- Footing and utilities work;
- Pilling work;
- · Construction of approach light; and
- Cable laying and ducting works.

Contract 3307 Fire Training Facility

- Excavation; and
- Drainage works.

Third Runway Concourse:

Contract 3403 New Integrated Airport Centres Building and Civil Works

- Architectural, Builder's Work and Finishing works;
- Temporary work for roof lifting; and
- Underground utilities construction.

Contract 3405 Third Runway Concourse Foundation and Substructure Works

Plant mobilisation;

- Pre-drilling; and
- · Pilling work.

Terminal 2 Expansion:

Contract 3503 Terminal 2 Foundation and Substructure Works

- T2 re-configuration;
- Excavation works;
- Utilities and road work; and
- Piling and structure works.

Contract 3508 Terminal 2 Expansion Works

- Excavation and footing construction;
- Temporary road construction;
- Pilling work;
- Pre-drilling; and
- Builders' works.

<u>Automated People Mover (APM) and Baggage Handling System (BHS):</u>

Contract 3601 New Automated People Mover System (TRC Line)

Concreting work and rebar fixing.

Contract 3602 Existing APM System Modification Works

- Modification works at APM depot; and
- Concreting work.

Construction Support (Facilities):

Contract 3721 Construction Support Infrastructure Works

- Excavation and backfilling; and
- Laying of drainage pipes and ducts; and
- Road works.

Contract 3722 Construction Support Facilities

- Foundation works;
- Erection of superstructure; and
- Site Establishment.

Airport Support Infrastructure:

Contract 3801 APM and BHS Tunnels on Existing Airport Island

- Construction of box culvert, working platform and ventilation ducts;
- Cofferdam for shaft; and
- Site clearance.

Contract 3802 APM and BHS Tunnels and Related Works

- Installation of storm drain pipes;
- Pre-drilling;
- Foundation works; and
- Site establishment.

Construction Support (Services / Licenses):

Contract 3901A/ B Concrete Batching Facility

- Installation of plant equipment; and
- Plant operation.

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), seawall construction and bored pilling for approach lights;
- Implementation of MMWP for silt curtain deployment;
- Sorting, recycling, storage and disposal of general refuse and construction waste;
- Reuse of treated marine sediments from piling and excavation works;
- 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-based works. Works in the reclamation areas included DCM works, marine filling, seawall and facilities construction, together with runway and associated works. Land-based works on existing airport island involved mainly airfield works, foundation and substructure work for Terminal 2 expansion, modification and tunnel work for APM and BHS systems, and preparation work for utilities, with activities include site establishment, site office construction, road and drainage works, cable ducting, demolition of existing facilities, piling, and excavation works.

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

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

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

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

On the implementation of the SkyPier Plan, due to the COVID-19 pandemic, all SkyPier HSF services to/from Zhuhai and Macau have been suspended from 25 March 2020 until further notice. No HSF movement between HKIA SkyPier and Zhuhai and Macau was recorded during the reporting period. Therefore, no deviation was recorded in the HSF monitoring in the reporting period. The daily movements of all SkyPier HSFs in the reporting period, including those not using the diverted route, were in the range of 2 to 3 daily movements, which are within the maximum daily cap of 125 daily movements.

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

Figures

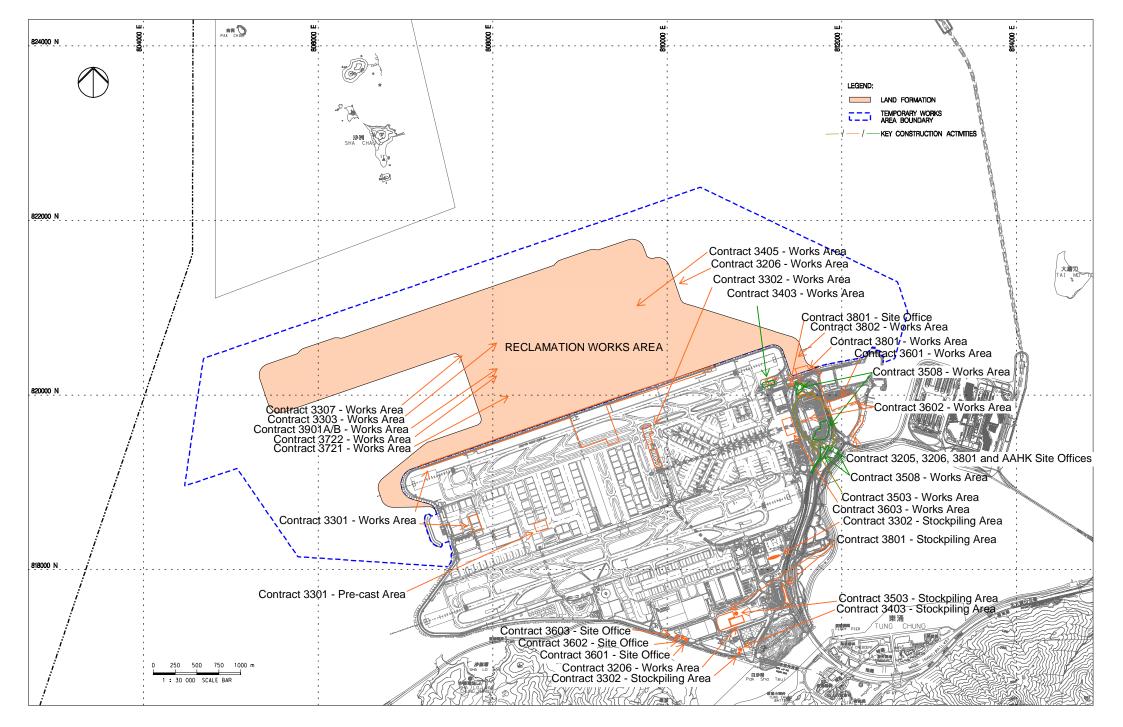
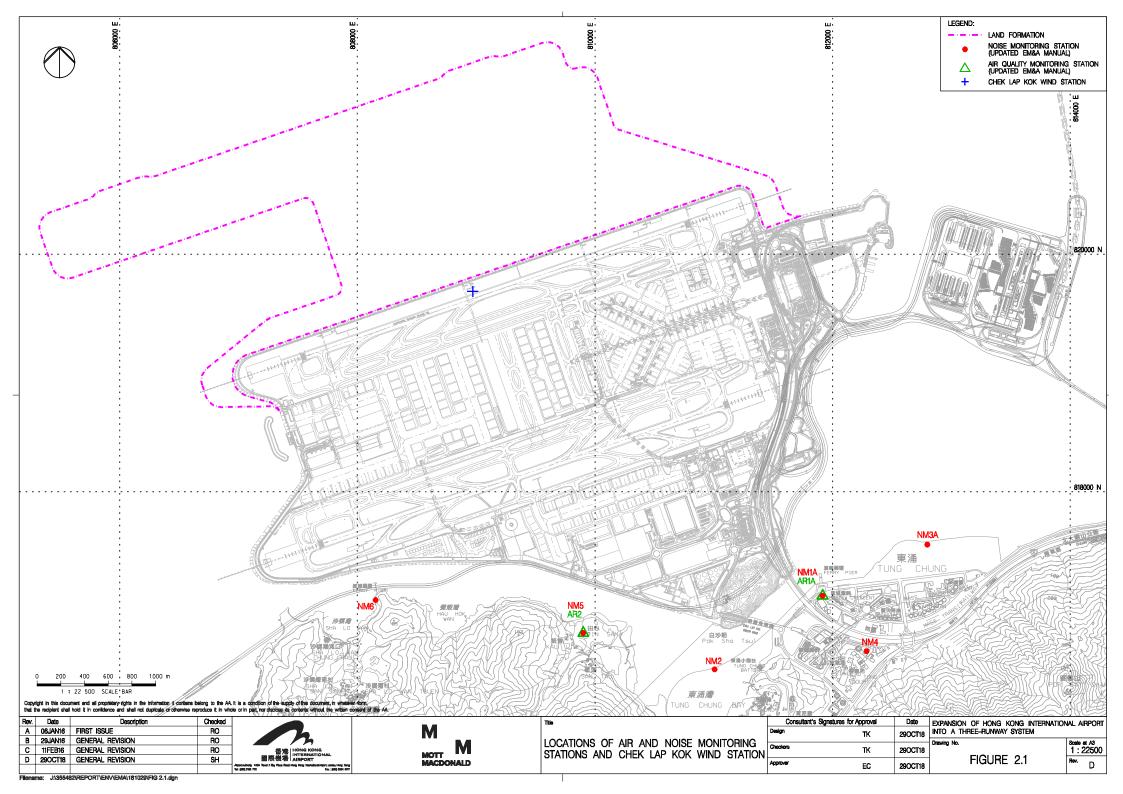
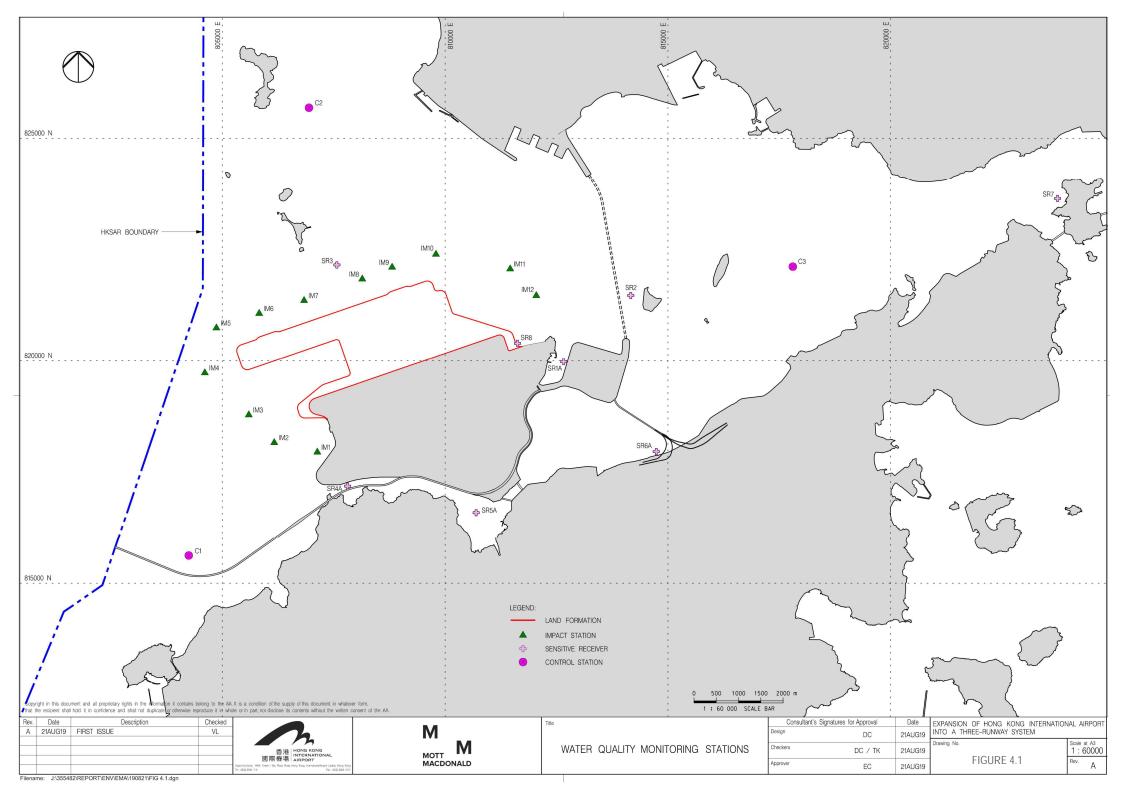
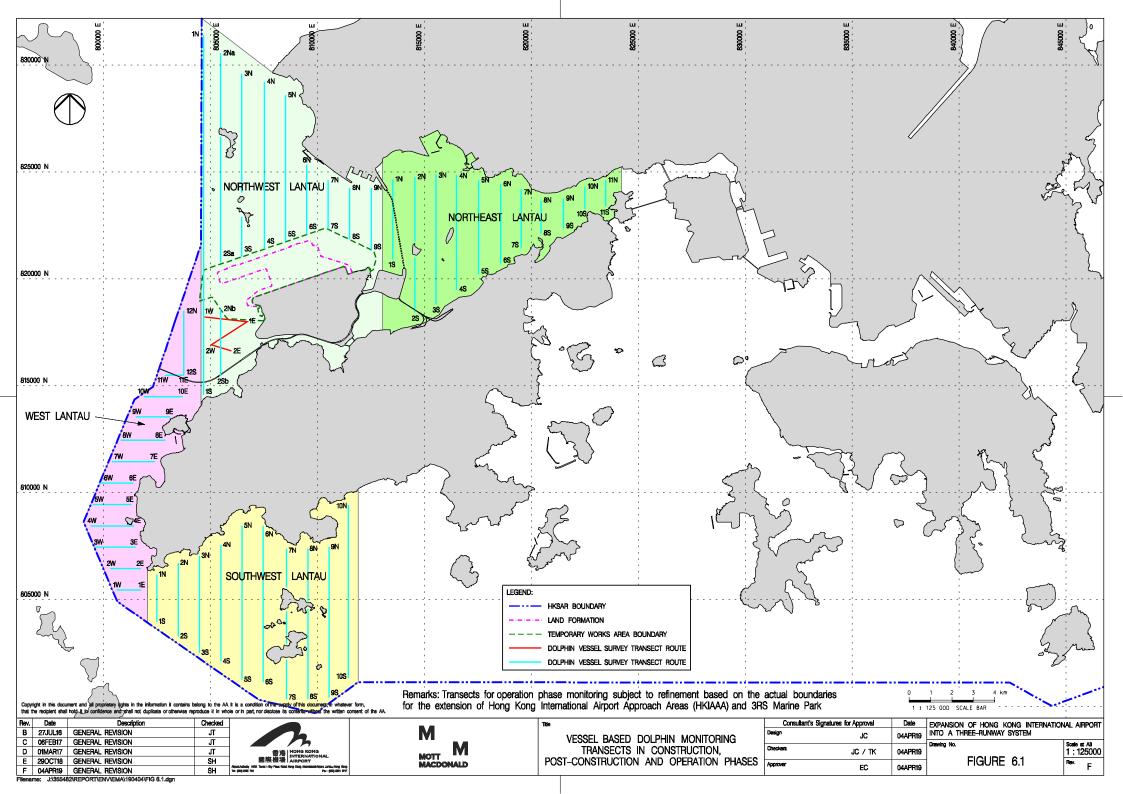
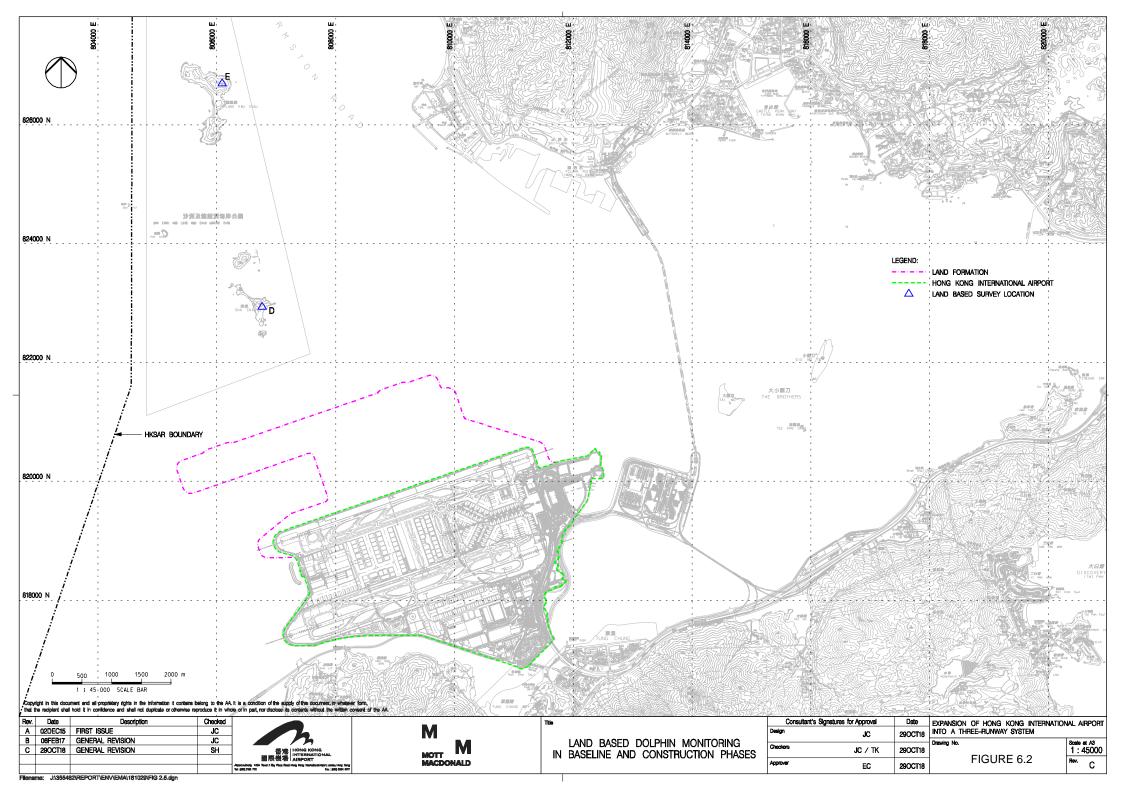


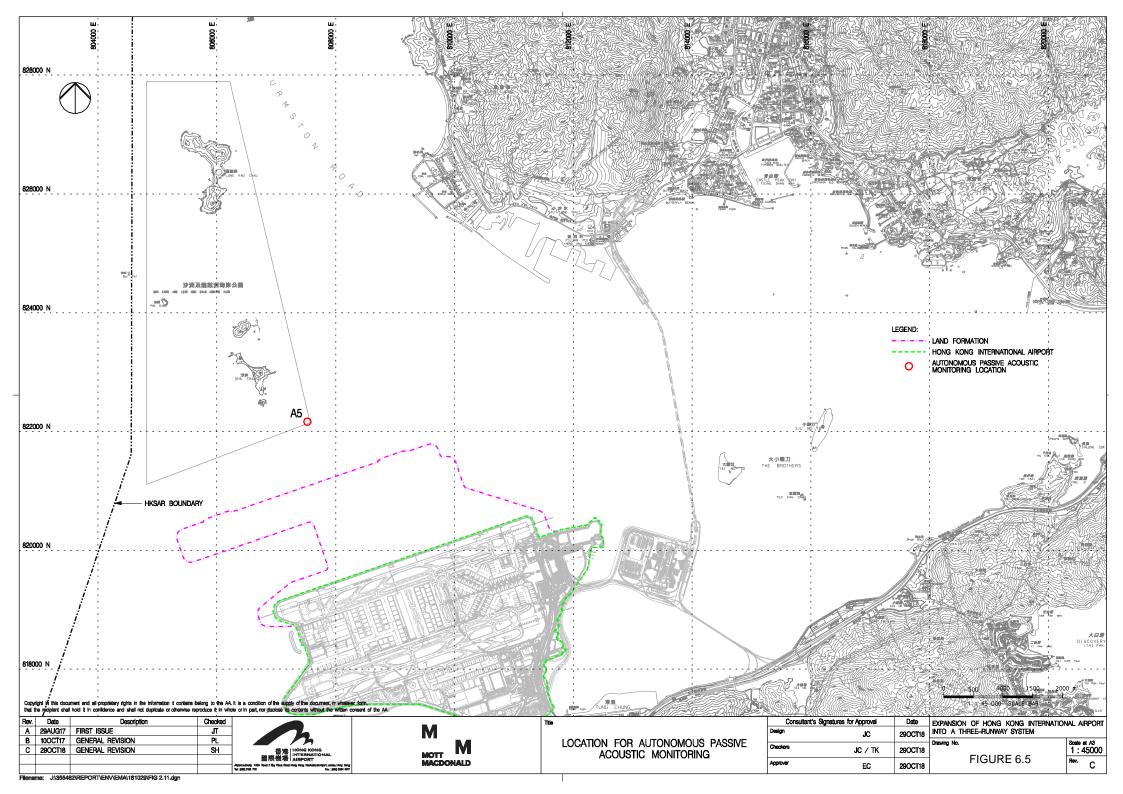
FIGURE 1.1 LOCATIONS OF KEY CONSTRUCTION ACTIVITIES











Appendix A. 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
			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

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



EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures	Mitigation Measures Implemented?^
			Timing of completion of measures	
		Loading, Unloading or Transfer of Dusty Materials • All dusty materials should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material wet.	Within construction site / Duration of the construction phase	I
		Debris Handling • Any debris should be covered entirely by impervious sheeting or stored in a debris collection area sheltered on the top and the three sides; and	Within construction site / Duration of the construction phase	1
		 Before debris is dumped into a chute, water should be sprayed so that it remains wet when it is dumped. Transport of Dusty Materials Vehicle used for transporting dusty materials/spoils should be covered with tarpaulin or similar material. The cover should extend over the edges of the sides and tailboards. 	Within construction site / Duration of the construction phase	1
		Wheel washing Vehicle wheel washing facilities should be provided at each construction site exit. Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels.	Within construction site / Duration of the construction phase	I
		Use of vehicles The speed of the trucks within the site should be controlled to about 10km/hour in order to reduce adverse dust impacts and secure the safe movement around the site;	Within construction site / Duration of the construction phase	I
		 Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels; and 	,	
		• Where a vehicle leaving the construction site is carrying a load of dusty materials, the load should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle.		
		Site hoarding • Where a site boundary adjoins a road, street, service lane or other area accessible to the public, hoarding of not less than 2.4m high from ground level should be provided along the entire length of that portion of the site boundary except for a site entrance or exit.	Within construction site / Duration of the construction phase	I
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	I
	Ref.	Ref. Condition	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. 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 tallboards. 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 vehicle leaving the construction site is carrying a load of dusty materials, the load should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle. Site hoarding Where a site boundary adjoins a road, street, service lane or other area accessible to the public, hoarding of not less than 2.4m high from ground level should be provided along the entire length of that portion of the site boundary except for a site entrance or exit. Best Practices for Concrete Batching	Loading, Unloading or Transfer of Dusty Materials * All dusty materials should be sprayed with water immediately prior to any loading or transfer operation of measures Debris Handling



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			• The loading, unloading, handling, transfer or storage of cement, pulverised fuel ash (PFA) and/or other equally dusty materials shall be carried in a totally enclosed system acceptable to EPD. All dust-laden air or waste gas generated by the process operations shall be properly extracted and vented to fabric filtering system to meet the required emission limit;		
			 Cement, PFA and/or other equally dusty materials shall be stored in storage silo fitted with audible high level alarms to warn of over-filling. The high-level alarm indicators shall be interlocked with the material filling line such that in the event of the silo approaching an overfilling condition, an audible alarm will operate, and after 1 minute or less the material filling line will be closed; 		
			 Vents of all silos shall be fitted with fabric filtering system to meet the required emission limit; 		
			 Vents of cement/PFA weighing scale shall be fitted with fabric filtering system to meet the required emission limit; and 		
			 Seating of pressure relief valves of all silos shall be checked, and the valves re-seated if necessary, before each delivery. 		
			Other raw materials	Within Concrete	I
			 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	Mitigation Measures Implemented?^
				of measures	
			 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	I
			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	
			(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	construction phase	
			(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	1
			 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	1
			 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;	1;	

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



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented? ⁴
			■ The flue gas exit temperature shall not be less than the acid dew point; and		
			 Release of the chimney shall be directed vertically upwards and not be restricted or deflected. 		
			Cold feed side	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	
			• 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;	construction phase	
			• 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 Timing of completion of measures	Mitigation Measures Implemented?^
			Crushers		
			• The outlet of all primary crushers, and both inlet and outlet of all secondary and tertiary crushers, if not installed inside a reasonably dust tight housing, shall be enclosed and ducted to a dust extraction and collection system such as a fabric filter;		
			 The inlet hopper of the primary crushers shall be enclosed on top and 3 sides to contain the emissions during dumping of rocks from trucks. The rock while still on the trucks shall be wetted before dumping; 		
			 Water sprayers shall be installed and operated in strategic locations at the feeding inlet of crushers; and 		
			 Crusher enclosures shall be rigid and be fitted with self-closing doors and close-fitting entrances and exits. Where conveyors pass through the crusher enclosures, flexible covers shall be installed at entries and exits of the conveyors to the enclosure. 		
			Vibratory screens and grizzlies	Within Concrete 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	Mitigation Measures Implemented?^
				Timing of completion of measures	implemented?"
			Storage piles and bins	Within Concrete	N/A
			 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. 	Batching Plant / Duration of the construction phase	
			 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	1
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?^
			 plant known to emit noise strongly in one direction, should, where possible, be orientated to direct noise away from the NSRs; 		
			 mobile plant should be sited as far away from NSRs as possible; and 		
			 material stockpiles and other structures to be effectively utilised, where practicable, to screen noise from on-site construction activities. 		
7.5.6	4.3	Adoption of QPME QPME should be adopted as far as applicable.	Adoption of QPME	Within the Project site /	
			During construction phase / Prior to commencement of operation		
7.5.6	4.3	- Use of Movable Noise Barriers	Within the Project site /	1	
			 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. 	During construction phase / Prior to commencement of operation	
7.5.6	4.3	-	Use of Noise Enclosure/ Acoustic Shed	Within the Project site /	1
			 Noise enclosure or acoustic shed should be used to cover stationary PME such as air compressor and generator. 	During construction phase / Prior to commencement of operation	
			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; The works shall not cause foam, oil, grease, litter or other objectionable matter to be present in the 	Within construction site / Duration of the construction phase	
			 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; 	Within construction site / Duration of the construction phase	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 Si Curtain Deployment Plan)
			■ The Silt Curtain Deployment Plan shall be implemented.	-	I



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			Specific Measures to be Applied to Land Formation Activities prior to Commencement of Marine Filling Works Double layer 'Type III' silt curtains to be applied around the active eastern works areas prior to commencement of sand blanket laying activities. The silt curtains shall be configured to minimise SS release during ebb tides. A silt curtain efficiency test shall be conducted to validate the performance of the silt curtains; Double layer silt curtains to enclose WSRs C7a and silt screens installed at the intake points for both WSR C7a and C8 prior to commencement of construction; and	Within construction site / Duration of the construction phase	N/A *(The arrangement of silt curtain has been modified. The details can be referred to Silt Curtain Deployment Plan) For C7a, I For C8, I *(The requirement of silt curtain / screen has been modified. The details can be referred to Silt Curtain Deployment Plan)
			■ The silt curtains and silt screens should be regularly checked and maintained.	-	I
			 Specific Measures to be Applied to Land Formation Activities during Marine Filling Works Double layer 'Type II' or 'Type III' silt curtains to be applied around the eastern openings between partially completed seawalls prior to commencement of marine filling activities. The silt curtains shall be configured to minimise SS release during ebb tides; 	Within construction site / Duration of the construction phase	I *(The arrangement of silt curtain has been modified. The details can be referred to Silt Curtain Deployment Plan)
			 Double layer silt curtains to be applied at the south-western opening prior to commencement of marine filling activities; 		N/A *(The arrangement of silt curtain has been modified. The details can be referred to Silt Curtain Deployment Plan)
			 Double layer silt curtain to enclose WSR C7a and silt screens installed at the intake points for both WSR C7a and C8 prior to commencement of marine filling activities; and 		N/A *(The requirement of silt curtain / screen has been modified. The details can be referred to Silt Curtain Deployment Plan)
			The silt curtains and silt screens should be regularly checked and maintained.		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 the Field Joint Excavation Works for the Submarine Cable Diversion	Within construction	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 	site / Duration of the construction phase	
			 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	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.	northern seawall / Duration of the construction phase	
8.8.1.5	5.1	-	Construction of New Stormwater Outfalls and Modifications to Existing Outfalls	Within construction	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. 	site / Duration of the construction phase	
8.8.1.6	5.1	2.27	Piling Activities for Construction of New Runway Approach Lights and HKIAAA Marker Beacons	Within construction	1
8.8.1.7			Silt curtains shall be deployed around the piling activities to completely enclose the piling works and care should be taken to avoid spillage of excavated materials into the surrounding marine environment.	site / Duration of the construction phase	
			For construction of the eastern approach lights at the CMPs		1
			 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 	-	ı



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			drainage system should be undertaken by the Contractors prior to the commencement of construction (for works areas located on the existing Airport island) or as soon as the new land is completed (for works areas located on the new landform);		
			Sand/silt removal facilities such as sand/silt traps and sediment basins should be provided to remove sand/silt particles from runoff to meet the requirements of the TM-DSS standards under the WPCO. The design of efficient silt removal facilities should make reference to the guidelines in Appendix A1 of ProPECC Note PN 1/94. Sizes may vary depending upon the flow rate. The detailed design of the sand/silt traps should be undertaken by the Contractors prior to the commencement of construction;	_	1
			 All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly during rainstorms. Deposited silt and grit should be regularly removed, at the onset of and after each rainstorm to ensure that these facilities are functioning properly; 	_	I
			 Measures should be taken to minimize the ingress of site drainage into excavations. If excavation of trenches in wet periods is necessary, they should be dug and backfilled in short sections wherever practicable. Water pumped out from foundation excavations should be discharged into storm drains via silt removal facilities; 		I
			• In the event that contaminated groundwater is identified at excavation areas, this should be treated on- site 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	_	I
			• 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
			Timing of completion of measures	Implemented?^	
			• Oils and fuels should only be stored in designated areas which have pollution prevention facilities. To prevent spillage of fuels and solvents to any nearby storm water drain, all fuel tanks and storage areas should be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank. The bund should be drained of rainwater after a rain event.		
8.8.1.12	5.1	2.28	Drilling Activities for the Submarine Aviation Fuel Pipelines	Within construction	1
8.8.1.13			To prevent potential water quality impacts at Sha Chau, the following measures shall be applied:	site / During	
			 A 'zero-discharge' policy shall be applied for all activities to be conducted at Sha Chau; 	construction phase	
			 No bulk storage of chemicals shall be permitted; and 		
			 A containment pit shall be constructed around the drill holes. This containment pit shall be lined with impermeable lining and bunded on the outside to prevent inflow from off-site areas. 		
			At the airport island side of the drilling works, the following measures shall be applied for treatment of wastewater:	Within construction site / During	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:		
			• The relevant construction methods (particularly for the tunnel works) and construction programme have been carefully planned and developed to minimise the extent of excavation and to maximise the on-site reuse of inert C&D materials generated by the project as far as practicable. Temporary stockpiling areas will also be provided to facilitate on-site reuse of inert C&D materials;	Project Site Area / During design and construction phase	1
			 Priority should be given to collect and reuse suitable inert C&D materials generated from other concurrent projects and the Government's PFRF as fill materials for the proposed land formation works; 		I
			 Only non-dredged ground improvement methods should be adopted in order to completely avoid the need for dredging and disposal of marine sediment for the proposed land formation work; 	•	I
			 Excavation work for constructing the APM tunnels, BHS tunnels and airside tunnels will not be down to the CMPs beneath the fill materials in order to avoid excavating any sediments; and 	•	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
			 Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site; 	Construction Phase	
			 Training of site personnel in proper waste management and chemical waste handling procedures; 		
			 Provision of sufficient waste disposal points and regular collection for disposal; 		
			 Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks by tarpaulin/similar material or by transporting wastes in enclosed containers. The cover should be extended over the edges of the sides and tailboards; 		
			 Stockpiles of C&D materials should be kept wet or covered by impervious sheets to avoid wind-blown dust; 		
			 All dusty materials including C&D materials should be sprayed with water immediately prior to any loading transfer operation so as to keep the dusty material wet during material handling at the barging points/ stockpile areas; 		
			 C&D materials to be delivered to and from the project site by barges or by trucks should be kept wet or covered to avoid wind-blown dust; 		
			 The speed of the trucks including dump trucks carrying C&D or waste materials within the site should be controlled to about 10 km/hour in order to reduce the adverse dust impact and secure the safe movement around the site; and 		
			To avoid or minimise dust emission during transport of C&D or waste materials within the site, each and every main temporary access should be paved with concrete, bituminous hardcore materials or metal plates and kept clear of dusty materials. Unpaved parts of the road should be sprayed with water or a dust suppression chemical so as to keep the entire road surface wet.		
10.5.1.3	7.1	-	The following practices should be performed to achieve waste reduction include:	Project Site Area /	1
			 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 Implemented?^
				Timing of completion of measures	implementou i
			 Encourage collection of aluminium cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the work force; 		
			 Any unused chemicals or those with remaining functional capacity should be collected for reused as far as practicable; 		
			 Proper storage and site practices to minimise the potential for damage or contamination of construction materials; and 		
			 Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste. 		
10.5.1.5	7.1		 Inert and non-inert C&D materials should be handled and stored separately to avoid mixing the two types of materials. 	Project Site Area / Construction Phase	1
10.5.1.5	7.1	-	 Any recyclable materials should be segregated from the non-inert C&D materials for collection by reputable licensed recyclers whereas the non-recyclable waste materials should be disposed of at the designated landfill site by a reputable licensed waste collector. 	Project Site Area / Construction Phase	I
10.5.1.6	7.1	-	 A trip-ticket system promulgated shall be developed in order to monitor the off-site delivery of surplus inert C&D materials that could not be reused on-site for the proposed land formation work at the PFRF and to control fly tipping. 	Project Site Area / Construction Phase	I
10.5.1.6	7.1	2.32	 The Contractor should prepare and implement a Waste Management Plan detailing various waste arising and waste management practices. 	Construction Phase	1
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	1
			Land Contamination – Construction Phase		
11.10.1.2	8.1	2.32	For areas inaccessible during site reconnaissance survey	Project Site Area	
to 11.10.1.3			• Further site reconnaissance would be conducted once the areas are accessible in order to identify any land contamination concern for the areas.	inaccessible during site reconnaissance / Prior to Construction Phase	I
			 Subject to further site reconnaissance findings, a supplementary Contamination Assessment Plan (CAP) for additional site investigation (SI) (if necessary) may be prepared and submitted to EPD for endorsement prior to the commencement of SI at these areas. 	-	ı



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			• After completion of SI, the Contamination Assessment Report (CAR) will be prepared and submitted to EPD for approval prior to start of the proposed construction works at the golf course, the underground and above-ground fuel storage tank areas, emergency power generation units, airside petrol filling station and fuel tank room.		I *(CAR for golf course and Terminal 2 Emergency Power Supply System Nos.1, 2, 3, 4 and 5)
			Should remediation be required, Remediation Action Plan (RAP) and Remediation Report (RR) will be prepared for EPD's approval prior to commencement of the proposed remediation and any construction works respectively.		N/A
11.8.1.2	8.1	-	If contaminated soil is identified, the following mitigation measures are for the excavation and transportation of contaminated materials (if any):	Project Site Area / Construction Phase	N/A
			 To minimize the incidents of construction workers coming in contact with any contaminated materials, bulk earth-moving excavation equipment should be employed; 		
			 Contact with contaminated materials can be minimised by wearing appropriate clothing and personal protective equipment such as gloves and masks (especially when working directly with contaminated material), provision of washing facilities and prohibition of smoking and eating on site; 		
			 Stockpiling of contaminated excavated materials on site should be avoided as far as possible; 		
			 The use of any contaminated soil for landscaping purpose should be avoided unless pre-treatment was carried out; 		
			 Vehicles containing any excavated materials should be suitably covered to reduce dust emissions and/or release of contaminated wastewater; 		
			 Truck bodies and tailgates should be sealed to prevent any discharge; 		
			 Only licensed waste haulers should be used to collect and transport contaminated material to treatment/disposal site and should be equipped with tracking system to avoid fly tipping; 		
			 Speed control for trucks carrying contaminated materials should be exercised. 8km/h is the recommended speed limit; 		
			 Strictly observe all relevant regulations in relation to waste handling, such as Waste Disposal Ordinance (Cap 354), Waste Disposal (Chemical Waste) (General) Regulation (Cap 354) and obtain all necessary permits where required; and 		
			 Maintain records of waste generation and disposal quantities and disposal arrangements. 		
			Terrestrial Ecological – Construction Phase		
12.10.1.1	9.2	2.14	Pre-construction Egretry Survey Conduct ecological survey for Sha Chau egretry to update the latest boundary of the egretry.	Breeding season (April - July) prior to	I



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures	Mitigation Measures Implemented?^
				Timing of completion of measures	implemented?**
				HDD drilling works at HKIA	
12.7.2.3	9.1	2.30	Avoidance and Minimisation of Direct Impact to Egretry	During construction	1
and 12.7.2.6			 The daylighting location will avoid direct encroachment to the Sheung Sha Chau egretry. The daylighting location and mooring of flat top barge, if required, will be kept away from the egretry; 	phase at Sheung Sha Chau Island	
			 In any event, controls such as demarcation of construction site boundary and confining the lighting within the site will be practised to minimise disturbance to off-site habitat at Sheung Sha Chau Island; and 		
			The containment pit at the daylighting location shall be covered or camouflaged.		
12.7.2.5	9.1	2.30	Preservation of Nesting Vegetation	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	9.1	2.30	Timing the Pipe Connection Works outside Ardeid's Breeding Season	During construction	I
and 12.7.2.6			 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. 	phase at Sheung Sha Chau Island	
12.10.1.1	9.3	-	Ecological Monitoring	at Sheung Sha Chau	1
			 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. 	Island	
			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	-	-	Minimisation of Land Formation Area	Land formation	I
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 to completion of construction	
13.11.1.7	-	2.31	Use of Construction Methods with Minimal Risk/Disturbance	During construction	
to 13.11.1.10			 Use of non-dredge method for the main land formation and ancillary works including the diversion of the aviation fuel pipeline to the AFRF; 	phase at marine works area	1



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures	Mitigation Measures Implemented?
				Timing of completion of measures	implemented?
			 Use of Deep Cement Mixing (DCM) method instead of conventional seabed dredging for the land formation works to reduce the risk of negative impacts through the elevation of suspended solids and contaminants on CWDs, fisheries and the marine environment; 		I
			 Use of bored piling in short duration to form the new approach lights and marker beacons for the new runway; 		1
			 Avoid bored piling during CWD peak calving season (Mar to Jun); 	-	I
			■ Prohibition of underwater percussive piling; and	-	I
			 Use of horizontal directional drilling (HDD) method and water jetting methods for placement of submarine cables and pipelines to minimise the disturbance to the CWDs and other marine ecological resources. 		I
13.11.2.1		-	Mitigation for Indirect Disturbance due to Deterioration of Water Quality	All works area during	
o 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	I
			 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 	_	1
			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.		ı
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



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures	Mitigation Measures
				Timing of completion of measures	Implemented?^
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
13.11.5.4 to 13.11.5.13	10.3.1	-	 SkyPier High Speed Ferries' Speed Restrictions and Route Diversions 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 A maximum of 10 knots will be enforced through the designated SCLKC Marine Park area at all times. 	Area between the footprint and SCLKC Marine Park during construction phase	I
			The ET will audit various parameters including actual daily numbers of HSFs, compliance with the 15-knot speed limit in the speed control zone and diversion compliance for SkyPier HSFs operating to / from Zhuhai and Macau; and The effectiveness of the CWD mitigation measures after implementation of initial six month SkyPier HSF diversion and speed restriction will be reviewed.	Area between the footprint and SCLKC Marine Park during construction phase	I
13.11.5.14 to 13.11.5.18	10.3.1	2.31	Dolphin Exclusion Zone Establishment of a 24 hr Dolphin Exclusion Zone (DEZ) with a 250 m radius around the land formation works areas;	Marine waters around land formation works area during construction phase	ı
			 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 	_	1
			 A DEZ would also be implemented during bored piling work but as a precautionary measure only. 		[
13.11.5.19	10.4	2.31	Acoustic Decoupling of Construction Equipment 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 Specific acoustic decoupling measures shall be specified during the detailed design of the project for use during the land formation works.	Around coastal works area during construction phase	I
13.11.5.20	10.6.1	2.29	Spill Response Plan	Construction phase	1
10.11.0.20	10.0.1	۷.۷۶	Opin Neaponae i idii	Construction phase	1



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			 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. 	or modelines	
13.11.5.21	10.6.1	-	Construction Vessel Speed Limits and Skipper Training	All areas north and	1
to 13.11.5.23			 A speed limit of 10 knots should be strictly observed for construction vessels at areas with the highest CWD densities; and 	west of Lantau Island during construction	
			 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. 	phase	
			Fisheries Impact – Construction Phase		
14.9.1.2 to	-		Minimisation of Land Formation Area	Land formation	I
14.9.1.5			 Minimise the overall size of the land formation needed for the additional facilities to minimise the overall loss of habitat for fisheries resources. 	footprint / during detailed design phase to completion of construction	
14.9.1.6	-	-	Use of Construction Methods with Minimal Risk/Disturbance	During construction	
			 Use of non-dredge method for the main land formation and ancillary works including the diversion of the aviation fuel pipeline to the AFRF; 	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 		I
			 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	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. 		



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures	Mitigation Measures
				Timing of completion of measures	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 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
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 	_	1
			 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. 		1
			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; Upon handover and completion of works.	I
Table 15.6	12.3	-	CM2 - Reduction of construction period to practical minimum.	All works areas for duration of works; Upon handover and completion of works.	I
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; Upon handover and completion of works.	I
Table 15.6	12.3	-	CM4 - Construction traffic (land and sea) including construction plants, construction vessels and barges should be kept to a practical minimum.	All works areas for duration of works; Upon handover and completion of works.	I



EIA Ref.	Ref. EM&A EP Environmental Protection Measures Ref. Condition		Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^	
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; Upon handover and completion of works. – may be disassembled in phases	I
Table 15.6	12.3	-	CM6 - Avoidance of excessive height and bulk of site buildings and structures.	New passenger concourse, terminal 2 expansion and other proposed airport related buildings and structures under the project; Upon handover and	I
T.I. 450	10.0			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; Upon handover and completion of works. – may be disassembled in phases	ı
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 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.	All existing trees to be retained; Upon handover and completion of works.	I
Table 15.6	12.3	-	CM9 - Trees unavoidably affected by the works shall be transplanted where practical. A detailed Tree Transplanting Specification shall be provided in the Contract Specification, if applicable. Sufficient time for necessary tree root and crown preparation periods shall be allowed in the project programme.	All existing trees to be affected by the works; Upon handover and completion of works.	1
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



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures	Mitigation Measures Implemented?^
				Timing of completion of measures	
				Upon handover and completion of works.	
			Cultural Heritage Impact – Construction Phase		
			Not applicable.		
			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

Jan-21

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	WQ General & Regular DCM mid-ebb: 15:13 mid-flood: 10:08
3	Site Inspection NM4, NM6	5 Site Inspection AR1A, AR2 NM1A, NM5 WQ General & Regular DCM mid-ebb: 17:52 mid-flood: 12:2'		7 Site Inspection WQ General & Regular DCM mid-ebb: 6:44 mid-flood: 13:66	8 Site Inspection	WQ General & Regular DCM mid-ebb: 9:42 mid-flood: 15:25
10	Site Inspection CWD Survey (Vessel) AR1A, AR2 NM1A, NM5	Site Inspection CWD Survey (Vessel) NM4, NM6 WQ General & Regular DCM mid-ebb: 12:45 mid-flood: 7:28		NQ General & Regular DCM mid-ebb: 14:08 mid-flood: 8:56	15 Site Inspection	AR1A, AR2 WQ General & Regular DCM mid-ebb: 15:29 mid-flood: 10:13
17	18 Site Inspection CWD Survey (Vessel, Land-baed)	Site Inspection CWD Survey (Vessel) WQ General & Regular DCM mid-ebb: 17:48 mid-flood: 12:00	20 CWD Survey (Vessel)	Site Inspection NM4, NM6 WQ General & Regular DCM mid-ebb: 5:49 mid-flood: 13:13	Site Inspection AR1A, AR2 NM1A, NM5	WQ General & Regular DCM mid-ebb: 8:25 mid-flood: 14:21
24	Site Inspection CWD Survey (Vessel, Land-baed)	Site Inspection CWD Survey (Vessel) WQ General & Regular DCM mid-ebb: 11:36 mid-flood: 6:47		Site Inspection AR1A, AR2 NM1A, NM5 WQ General & Regular DCM mid-ebb: 13:00 mid-flood: 7:56	Site Inspection NM4, NM6	WQ General & Regular DCM mid-ebb: 14:18 mid-flood: 9:03
31		Notes: CWD - Chinese White Dolphin Air quality and Noise Monitoring Station WQ - Water Quality DCM - Deep Cement Mixing	NM1A/AR1A - Man Tung Road Park NM4 - Ching Chung Hau Po Woon Prim NM5/AR2 - Village House, Tin Sum NM6 - House No. 1, Sha Lo Wan			·

Tentative Monitoring Schedule of Next Reporting Period

Feb-21

			10021			
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1 Site Inspection	2 Site Inspection	3 Site Inspection	4 Site Inspection	5 Site Inspection	6
		AR1A, AR2 NM1A, NM5	NM4, NM6		CWD Survey (Vessel)	AR1A, AR2
		WQ General & Regular DCM mid-ebb: 16:2 mid-flood: 10:4		WQ General & Regular DCM mid-ebb: 18:21 mid-flood: 12:00		WQ General & Regular DCM mid-ebb: 8:02 mid-flood: 13:40
7	8 Site Inspection	9 Site Inspection	10	11 Site Inspection	12	13
	CWD Survey (Vessel)	CWD Survey (Vessel, Land-based)		AR1A, AR2		
			NM4, NM6	NM1A, NM5		
		WQ General & Regular DCM mid-ebb: 11:5 mid-flood: 16:4		WQ General & Regular DCM mid-ebb: 13:18 mid-flood: 7:59		WQ General & Regular DCM mid-ebb: 14:28 mid-flood: 9:02
14	15	16	17	18	19	20
		Site Inspection CWD Survey (Vessel)	Site Inspection CWD Survey (Vessel)	Site Inspection	Site Inspection	
		NM4, NM6	AR1A, AR2 NM1A, NM5			
		WQ General & Regular DCM mid-ebb: 16:0	00	WQ General & Regular DCM mid-ebb: 17:20		WQ General & Regular DCM mid-ebb: 19:41
		mid-flood: 10:0		mid-flood: 10:49		mid-flood: 11:43
21	Site Inspection	23 Site Inspection	24	25 Site Inspection	26 Site Inspection	27
	CWD Survey (Vessel, Land-based)	CWD Survey (Vessel) AR1A, AR2 NM1A, NM5	CWD Survey (Vessel) NM4, NM6			
		WQ General & Regular DCM	NIVI4, NIVIO	WQ General & Regular DCM		WQ General & Regular DCM
		mid-ebb: 22:5 mid-flood: 10:3		mid-ebb: 12:08 mid-flood: 6:57		mid-ebb: 13:21 mid-flood: 7:55
28						
		Notes:				
		CWD - Chinese White Dolphin	NM1A/AR1A - Man Tung Road Park			
		Air quality and Noise Monitoring Station	NM4 - Ching Chung Hau Po Woon Prima NM5/AR2 - Village House, Tin Sum	ary School		
		WQ - Water Quality DCM - Deep Cement Mixing	NM6 - House No. 1, Sha Lo Wan			

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

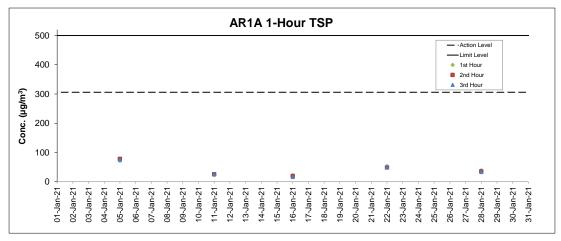
Station: AR1A- Man Tung Road Park

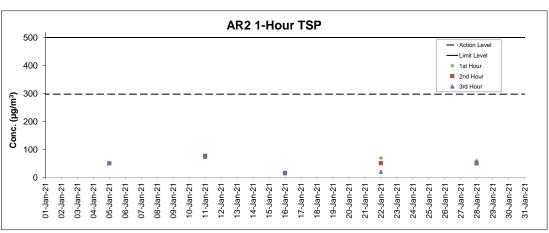
Date	Time	Weather	Wind Speed (m/s)	Wind Direction (deg)	1-hr TSP (μg/m³)	Action Level (μg/m³)	Limit Level (µg/m³)
5-Jan-21	13:06	Cloudy	4.2	303	71	306	500
5-Jan-21	14:06	Cloudy	4.2	298	78	306	500
5-Jan-21	15:06	Cloudy	3.3	284	75	306	500
11-Jan-21	10:00	Cloudy	6.9	357	23	306	500
11-Jan-21	11:00	Cloudy	5.8	351	25	306	500
11-Jan-21	12:00	Cloudy	6.4	2	26	306	500
16-Jan-21	9:27	Sunny	3.3	65	22	306	500
16-Jan-21	10:27	Sunny	5.3	87	19	306	500
16-Jan-21	11:27	Sunny	5.0	89	16	306	500
22-Jan-21	13:22	Cloudy	4.2	313	53	306	500
22-Jan-21	14:22	Cloudy	1.4	Variable	48	306	500
22-Jan-21	15:22	Cloudy	4.2	274	49	306	500
28-Jan-21	13:31	Cloudy	5.0	303	39	306	500
28-Jan-21	14:31	Cloudy	8.1	313	35	306	500
28-Jan-21	15:31	Cloudy	7.5	314	33	306	500

1-hour TSP Results

Station: AR2- Village House, Tin Sum

D-4-	T 1	M/	140 - 1 Co 1 (/-)	Wind Direction	, 3	Action Level	Limit Level
Date	Time	Weather	Wind Speed (m/s)	(deg)	1-hr TSP (μg/m³)	(μg/m³)	(μg/m ³)
5-Jan-21	13:35	Sunny	3.9	307	51	298	500
5-Jan-21	14:35	Sunny	3.3	291	51	298	500
5-Jan-21	15:35	Sunny	3.3	262	51	298	500
11-Jan-21	13:08	Cloudy	6.9	7	77	298	500
11-Jan-21	14:08	Cloudy	7.8	11	78	298	500
11-Jan-21	15:08	Cloudy	6.7	9	74	298	500
16-Jan-21	13:13	Sunny	9.2	94	18	298	500
16-Jan-21	14:13	Sunny	8.9	90	17	298	500
16-Jan-21	15:13	Sunny	9.4	94	16	298	500
22-Jan-21	12:26	Sunny	3.1	297	70	298	500
22-Jan-21	13:26	Sunny	4.4	309	52	298	500
22-Jan-21	14:26	Sunny	1.7	86	21	298	500
28-Jan-21	9:39	Cloudy	1.4	Variable	60	298	500
28-Jan-21	10:39	Cloudy	3.3	55	51	298	500
28-Jan-21	11:39	Cloudy	1.7	356	55	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/QC 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
Date	weather	Time	L ₁₀ dB(A)	L ₉₀ dB(A)	L _{eq(30mins)} dB(A)
5-Jan-21	Cloudy	13:33	67.3	59.0	
5-Jan-21	Cloudy	13:38	69.3	58.1	
5-Jan-21	Cloudy	13:43	63.3	57.9	68
5-Jan-21	Cloudy	13:48	66.4	59.3	00
5-Jan-21	Cloudy	13:53	65.4	61.0	
5-Jan-21	Cloudy	13:58	68.4	59.3	
11-Jan-21	Cloudy	10:29	74.0	55.4	
11-Jan-21	Cloudy	10:34	72.4	55.7	
11-Jan-21	Cloudy	10:39	72.8	54.9	73
11-Jan-21	Cloudy	10:44	74.5	53.5	73
11-Jan-21	Cloudy	10:49	72.9	53.2	
11-Jan-21	Cloudy	10:54	73.2	54.6	
22-Jan-21	Cloudy	8:35	67.2	56.0	
22-Jan-21	Cloudy	8:40	67.0	56.4	
22-Jan-21	Cloudy	8:45	65.3	57.6	67
22-Jan-21	Cloudy	8:50	65.3	57.1	67
22-Jan-21	Cloudy	8:55	65.2	57.2	
22-Jan-21	Cloudy	9:00	60.2	56.8	
28-Jan-21	Cloudy	13:29	62.3	54.9	
28-Jan-21	Cloudy	13:34	61.6	54.8	
28-Jan-21	Cloudy	13:39	63.3	54.9	64
28-Jan-21	Cloudy	13:44	67.1	58.5	04
28-Jan-21	Cloudy	13:49	58.1	51.3	
28-Jan-21	Cloudy	13:54	60.1	52.8	

Noise Measurement Results

Station: NM4- Ching Chung Hau Po Woon Primary School

			Measured	Measured	
Date	Weather	Time	$\mathbf{L}_{10}\mathrm{dB}(\mathrm{A})$	L ₉₀ dB(A)	L _{eq(30mins)} dB(A)
4-Jan-21	Cloudy	13:09	60.6	53.2	
4-Jan-21	Cloudy	13:14	60.9	54.3	Ī
4-Jan-21	Cloudy	13:19	59.0	53.1	61
4-Jan-21	Cloudy	13:24	60.2	54.8	61
4-Jan-21	Cloudy	13:29	60.0	53.1	
4-Jan-21	Cloudy	13:34	59.7	53.6	
12-Jan-21	Cloudy	13:17	59.1	53.8	
12-Jan-21	Cloudy	13:22	60.1	53.6	
12-Jan-21	Cloudy	13:27	61.2	53.6	60
12-Jan-21	Cloudy	13:32	59.5	53.2	00
12-Jan-21	Cloudy	13:37	59.7	53.1	
12-Jan-21	Cloudy	13:42	58.6	51.9	
21-Jan-21	Cloudy	13:08	58.9	48.5	
21-Jan-21	Cloudy	13:13	55.5	48.3	
21-Jan-21	Cloudy	13:18	56.5	47.4	60
21-Jan-21	Cloudy	13:23	53.5	48.5	
21-Jan-21	Cloudy	13:28	55.2	47.9	
21-Jan-21	Cloudy	13:33	59.7	47.4	
29-Jan-21	Sunny	13:15	61.7	55.8	
29-Jan-21	Sunny	13:20	58.9	54.5	
29-Jan-21	Sunny	13:25	60.9	54.4	61
29-Jan-21	Sunny	13:30	59.7	53.8	01
29-Jan-21	Sunny	13:35	61.1	54.5	
29-Jan-21	Sunny	13:40	61.3	54.7	

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

5.			Measured	Measured	
Date	Weather	Time	L ₁₀ dB(A)	$\mathbf{L}_{90}\mathrm{dB}(A)$	L _{eq(30mins)} dB(A)
5-Jan-21	Sunny	13:35	51.3	43.5	
5-Jan-21	Sunny	13:40	48.6	44.1	
5-Jan-21	Sunny	13:45	52.0	43.7	57
5-Jan-21	Sunny	13:50	51.6	45.1] 3/
5-Jan-21	Sunny	13:55	52.9	44.9	
5-Jan-21	Sunny	14:00	60.0	44.7	
11-Jan-21	Cloudy	13:11	56.3	49.0	
11-Jan-21	Cloudy	13:16	58.2	49.9	
11-Jan-21	Cloudy	13:21	56.9	49.4	67
11-Jan-21	Cloudy	13:26	57.8	46.9	67
11-Jan-21	Cloudy	13:31	66.9	48.2	
11-Jan-21	Cloudy	13:36	58.7	48.5	
22-Jan-21	Sunny	12:26	50.6	43.5	
22-Jan-21	Sunny	12:31	61.4	44.6	
22-Jan-21	Sunny	12:36	47.4	43.7	53
22-Jan-21	Sunny	12:41	47.6	44.4	33
22-Jan-21	Sunny	12:46	60.4	44.1	
22-Jan-21	Sunny	12:51	46.4	43.5	
28-Jan-21	Cloudy	10:00	54.3	51.0	
28-Jan-21	Cloudy	10:05	59.3	51.6	
28-Jan-21	Cloudy	10:10	55.9	47.0	59
28-Jan-21	Cloudy	10:15	54.7	46.1] 39
28-Jan-21	Cloudy	10:20	60.8	44.8	
28-Jan-21	Cloudy	10:25	50.5	46.1	

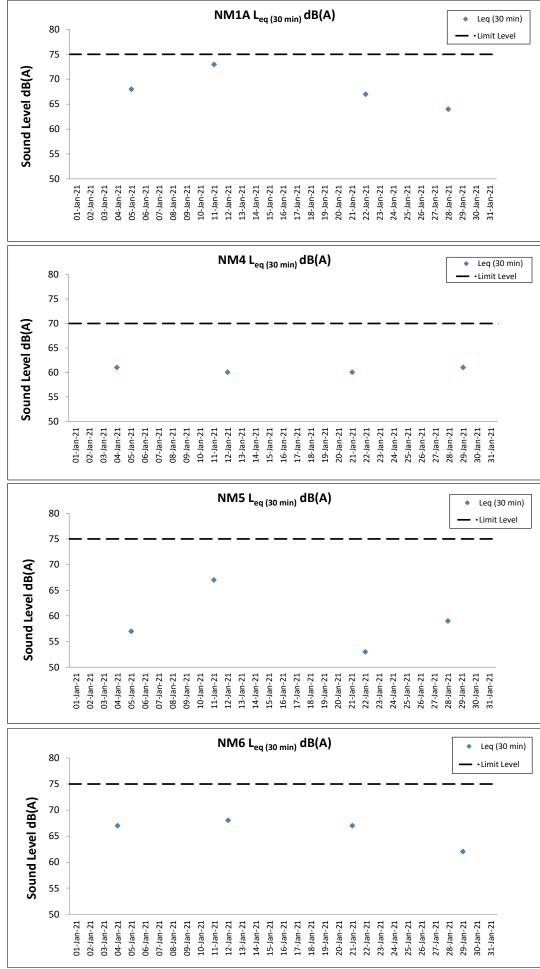
Noise Measurement Results

Station: NM6- House No.1 Sha Lo Wan

Date	Weather	Time	Measured	Measured	I 40(A)
Date	vveatilei	Time	L ₁₀ dB(A)	L ₉₀ dB(A)	L _{eq(30mins)} dB(A)
4-Jan-21	Cloudy	15:46	59.8	54.3	
4-Jan-21	Cloudy	15:51	59.6	54.3	
4-Jan-21	Cloudy	15:56	66.1	54.1	67
4-Jan-21	Cloudy	16:01	70.6	59.6	07
4-Jan-21	Cloudy	16:06	69.3	59.6	
4-Jan-21	Cloudy	16:11	65.0	54.7	
12-Jan-21	Cloudy	15:49	68.3	56.9	
12-Jan-21	Cloudy	15:54	67.1	57.2	
12-Jan-21	Cloudy	15:59	71.0	56.8	68
12-Jan-21	Cloudy	16:04	67.9	58.5	08
12-Jan-21	Cloudy	16:09	67.8	56.1	
12-Jan-21	Cloudy	16:14	64.6	56.8	
21-Jan-21	Cloudy	15:46	65.4	57.0	
21-Jan-21	Cloudy	15:51	69.2	61.0	
21-Jan-21	Cloudy	15:56	68.8	57.4	67
21-Jan-21	Cloudy	16:01	64.4	54.6	67
21-Jan-21	Cloudy	16:06	64.3	55.4	
21-Jan-21	Cloudy	16:11	63.6	55.4	
29-Jan-21	Sunny	15:38	59.5	49.7	
29-Jan-21	Sunny	15:43	76.0	58.5	
29-Jan-21	Sunny	15:48	71.4	46.5	62
29-Jan-21	Sunny	15:53	53.7	43.6	02
29-Jan-21	Sunny	15:58	61.4	45.3	
29-Jan-21	Sunny	16:03	64.2	52.2	

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

Water Quality Monitoring Results	S
Water Quality Monitoring Results	S

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

Water Quality Monitoring Results on 02 January 21 during Mid-Ebb Tide DO Saturation Dissolved Suspended Solids Total Alkalinity Chromium Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Current Speed Oxvaen (mg/L) (maga) Sampling Depth (m) HK Grid HK Grid Station Direction Condition Time Depth (m) (m/s) Average Value Average Average Value Average Value DA Value DA Value DA Value DA (Northing) Value DA Value DA Condition Value Value (Easting) 17.7 0.4 8.1 31.7 102.0 1.0 0.4 304 17.7 15.1 12 11___ 43 0.4 290 17.6 8.1 31.6 102. 8.1 16.0 91 <0.2 0.5 31.6 102.5 804259 C1 Fine Moderate 14:38 8.1 90 815636 0.5 4.3 0.4 316 17.6 8.1 31.6 102.5 8.1 16.0 11 91 <0.2 0.4 7.6 0.3 293 17.6 8.1 31.6 105.0 8.3 16.8 11 92 <0.2 0.5 Bottom 8.1 31.6 105.0 8.3 7.6 0.3 316 17.6 8.1 31.6 105.0 8.3 16.8 11 92 <0.2 0.4 1.0 0.2 135 16.7 8.2 30.3 99.7 8.1 8 87 0.2 1.3 Surface 8.2 30.3 99.7 1.0 0.2 147 16.7 8.2 30.3 99.7 8.1 8.1 8 86 0.2 1.3 6.2 0.5 154 16.6 8.2 30.4 99.2 8.1 8.7 8.7 8 89 89 <0.2 1.2 C2 Fine Moderate 13:29 12.3 Middle 8.2 30.4 99.2 825702 806938 6.2 0.5 158 8.2 8.1 16.6 30.4 99.2 11.3 0.5 144 16.6 8.2 8.8 10 1.2 30.4 99.9 8.1 91 < 0.2 Bottom 16.6 8.2 30.4 99.9 8.1 1.2 11.3 0.5 148 16.6 8.2 30.4 gg g 8.9 10 90 **-**0 2 0.4 286 1.0 8.1 4.6 4 30.4 7.6 < 0.2 0.5 Surface 17.7 8.1 30.4 95.1 0.6 1.0 17.7 95.1 7.6 4.6 4 87 <0.2 0.4 288 8.1 30.4 5.2 0.6 0.5 0.6 17.8 5 5 89 90 <0.2 257 282 7.4 5.9 8.1 30.5 93.4 93.4 C3 Fine Moderate 15:39 11.8 Middle 8.1 30.5 93.4 89 822086 817793 0.6 17.8 0.2 30.5 <0.2 10.8 0.1 120 17.8 8.1 30.5 93.0 7.4 5.9 6 91 17.8 8.1 7.4 Bottom 30.5 93.0 10.8 0.1 121 17.8 8.1 30.5 93.0 7.4 5.9 6 91 <0.2 0.5 0.1 17.4 8 8.1 31.3 8.4 <0.2 0.7 Surface 17.4 8.1 31.3 105.9 1.0 0.1 143 17.4 8.1 31.3 105.9 8.4 6.9 8 87 <0.2 0.6 8.4 807134 IM1 Fine Moderate 14:16 4.9 Middle 88 817956 0.6 3.9 0.1 311 17.3 8.1 8.5 7.0 10 89 <0.2 0.6 Bottom 17.3 8.1 31.3 107 1 8.5 3.9 0.1 330 17.3 8.1 31.3 8.5 7.0 10 0.5 0.5 273 17.3 8.1 31.3 8.2 9.8 89 <0.2 0.6 Surface 17.3 8.1 31.3 102.7 1.0 0.5 294 17.3 8.2 9.8 11 90 <0.2 0.6 0.5 0.6 3.4 0.4 275 17.3 9.8 11 <0.2 <0.2 <0.2 8.2 90 806177 Fine Moderate 14:09 Middle 17.3 8.1 31.3 102.9 818184 0.4 17.3 9.8 11 90 91 3.4 296 5.8 0.3 272 17.3 8.1 31.4 8.3 9.7 12 Bottom 17.3 8.1 31.4 103.9 8.3 83 5.8 0.4 286 17.3 8.1 31 4 9.7 12 91 <0.2 0.7 0.5 1.0 0.4 301 17.3 8.1 31.3 10.5 15 88 <0.2 8.2 Surface 8.1 31.3 102.5 1.0 0.4 301 17.3 8.1 31.3 8.2 10.4 14 88 <0.2 0.5 0.5 0.6 0.5 3.6 0.4 292 17.2 8.1 31.4 11.4 12 90 <0.2 IM3 Moderate 14:01 7.1 Middle 8.1 103.0 818778 805597 13 10 <0.2 3.6 0.4 305 17.2 31.4 11.4 91 6.1 296 8.4 8.4 91 0.3 17.2 8.1 31.4 104 10.6 105.0 10.7 6.1 0.3 305 17.2 8.1 31 4 10 <0.2 105 91 1.0 0.3 262 17.3 8.1 31.3 101 8.1 8.1 10.9 13 87 <0.2 0.5 Surface 17.3 8.1 31.3 101.9 87 1.0 17.3 8 1 10.9 13 <0.2 0.3 264 31.3 3.8 255 11.0 12 12 89 90 0.5 0.3 17.2 8.1 31.3 8.2 <0.2 IM4 Moderate 13:52 7.5 Middle 17.2 8.1 102.2 819725 804623 11.0 17.2 8.1 3.8 0.3 263 31.3 11 10 6.5 6.5 0.3 252 17.2 17.2 8.1 8.1 31.4 104. 104.3 8.3 11.5 11.5 91 <0.2 0.7 8.3 Rottom 17.2 8.1 31.4 0.3 274 91 14 0.6 1.0 0.2 255 17.3 14.1 87 8.1 31.4 101. 8.1 <0.2 Surface 17.3 8.1 31.4 101.6 17.3 8.1 31.4 8.1 14.1 13 <0.2 0.5 1.0 0.2 279 101. 87 3.7 0.2 247 17.3 15.9 12 90 <0.2 0.6 8.1 31.4 8.1 IM5 13:43 7.4 17.3 8.1 31.4 102.1 820753 804885 Fine Moderate Middle 90 3.7 264 17.3 8.1 31.4 16.0 12 90 < 0.2 0.6 0.2 <0.2 0.5 16.9 16.9 6.4 0.2 232 232 17.2 8.1 31.4 103.1 8.2 11 91 17.2 8.1 8.2 Bottom 31.4 6.4 0.2 17.2 0.6 0.6 0.5 0.6 258 1.0 0.2 17.2 8.1 31.3 8.2 10.3 10 86 <0.2 102. Surface 17.2 8.1 31.3 102.4 1.0 0.2 259 17.2 8.1 31.3 8.2 10.3 10 88 <0.2 3.7 0.2 258 17.2 31.3 8.2 11.4 10 <0.2 13:35 7.3 Middle 17.2 8.1 31.3 102.5 89 821052 805838 IM6 Fine Moderate 3.7 0.2 259 17.2 8.1 31.3 8.2 11.4 10 90 <0.2 0.6 6.3 0.1 238 17.2 31.3 8.3 13.5 9 90 <0.2 Bottom 17.2 8.1 31.3 103.8 8.3 0.1 249 17.2 8.1 13.5 1.0 0.2 275 17.2 8.1 31.3 9.9 11 86 <0.2 0.5 Surface 17.2 8.1 31.3 101.4 1.0 0.2 297 17.2 8.1 31.3 101 8.1 9.9 11 87 <0.2 0.6 89 0.6 4.3 0.2 216 17.2 31.3 8.1 10.4 10 <0.2 IM7 Fine Moderate 13:28 Middle 17.2 8.1 31.3 101.7 821366 806856 <0.2 4.3 0.2 216 17.2 8.1 31.3 8.1 10.4 10 90 7.6 0.3 163 17.2 8.0 31.3 8.1 12.1 9 91 <0.2 0.5 8.0 31.3 101.6 7.6 0.3 176 17.2 8.0 31.3 8 1 12.1 9 91 <0.2 0.6 1.0 0.3 57 17.0 8.1 30.1 99.4 8.0 7.3 86 < 0.2 0.9 99.4 Surface 8.1 30.1 0.7 1.0 0.3 61 17.0 8.1 30.1 99.4 8.0 7.3 7 85 <0.2 3.8 0.2 66 16.9 8.1 30.2 99.7 99.7 8.1 7.5 8 88 85 <0.2 0.8 IM8 Fine Moderate 13:51 7.6 Middle 16.9 8.1 30.2 99.7 87 821838 808156 7.5 3.8 0.2 70 16.9 8.1 30.2 8.1 < 0.2 6.6 0.2 64 16.7 8.1 30.3 99.7 8.1 7.4 9 90 < 0.2 0.8 8.1 Bottom 16.7 30.3 99.8

DA: Depth-Averaged

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

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

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

Water Quality Monitoring Results on 02 January 21 during Mid-Ebb Tide DO Saturation Suspended Solids Total Alkalinity Chromium Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Speed Current Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Time (m/s) Average Value Average Average Value Average Value DA Value DA Value DA Value DA Value DA Value DA Condition Condition Depth (m) Value Value (Northing) (Easting) 0.3 Surface 8.1 30.1 97.5 1.0 30.1 97.5 7.9 7.5 7.8 3.6 0.3 81 17.0 8.1 30.1 99.1 8.0 9 88 <0.2 0.7 99.1 IM9 Fine Moderate 13:58 7.2 8.1 30.1 822095 808826 8.0 3.6 0.3 86 17.0 8.1 30.1 99.1 8.0 7.8 9 88 <0.2 0.7 6.2 0.3 79 16.9 8.1 30.2 101.1 8.2 7.7 8 90 <0.2 0.9 Bottom 16.9 8.0 30.2 101.2 8.2 6.2 0.3 85 16.9 8.0 30.2 101 2 8.2 7.7 8 90 <0.2 0.8 1.0 0.2 17.2 8.1 30.0 97.2 7.8 7.6 10 85 < 0.2 0.6 Surface 8.1 30.0 97.2 1.0 0.2 103 17.2 8.1 30.0 97.2 7.8 7.6 10 84 <0.2 0.6 3.8 0.2 85 17.1 8.1 30.1 97.2 7.8 7.4 7.4 8 89 89 <0.2 0.8 IM10 Moderate 14:05 7.6 Middle 8.1 30.1 97.2 822400 809794 17.1 97.2 7.8 3.8 0.2 90 8.1 30.1 6.6 17.0 6.9 0.7 0.2 47 8.1 30.1 97.6 7.9 7 90 < 0.2 Bottom 17.0 8.1 30.1 97.6 7.9 7 0.6 97.6 6.6 0.2 51 17.0 8.1 30.1 79 7.0 90 **-**0 2 0.0 17.2 6.7 1.0 0.6 8.1 30.2 4 Surface 17.2 8.1 30.2 98.1 1.0 17.2 98.1 7.9 6.7 85 < 0.2 0.0 73 8.1 30.2 4 7.0 6 7 0.7 0.6 0.6 7.9 7.9 88 89 4.5 8.1 30.2 98.2 98.3 <0.2 IM11 Fine Moderate 14:16 8.9 Middle 17.1 8.1 30.2 98.3 88 822035 811445 0.6 4.5 17.1 0.0 77 30.2 7.9 0.0 38 17.1 8.2 30.2 99.5 8.0 6.9 8 90 <0.2 17.1 8.2 8.0 Bottom 30.2 99.5 7.9 0.0 38 17.1 8.2 30.2 99.5 8.0 6.9 9 90 <0.2 0.6 0.2 17.3 <0.2 98.3 6 30.2 0.6 Surface 17.3 8.1 98.3 30.2 1.0 0.2 142 17.3 8.1 30.2 98.3 6.0 6 85 <0.2 0.7 0.7 4.3 140 17.2 7.9 6.0 8 88 <0.2 0.1 8.1 30.2 97.9 812055 IM12 Fine Moderate 14:23 8.6 Middle 17.2 8.1 30.2 97.9 821474 4.3 144 17.2 8.1 6.0 89 <0.2 0.1 0.1 160 17.1 8.1 30.2 98.4 7.9 5.8 8 90 <0.2 0.7 17.1 8.1 98.4 7.9 Rottom 30.2 7.6 0.1 167 17.1 8.1 30.2 98.4 7.9 5.8 0.7 16.9 8.1 30.0 98.9 5.3 4 8.0 Surface 16.9 8.1 98.9 30.0 1.0 16.9 30.0 98.9 8.0 5.3 4 8.0 2.5 Fine Calm 15:01 5.0 Middle 819983 812655 2.5 4 0 16.9 8.1 30.0 99.3 8.0 5.3 6 Bottom 16.9 8.1 30.0 99.3 8.0 4 0 16.9 8 1 30.0 99.3 8.0 5.3 6 1.0 0.0 132 17.2 8.1 30.2 98.9 7.9 5.8 8 87 <0.2 0.7 Surface 17.2 8.1 30.2 98.9 1.0 0.0 137 17.2 8.1 30.2 98.9 7.9 5.8 8 87 < 0.2 0.7 7.9 SR2 Moderate 15:18 4.5 Middle 821441 814182 3.5 151 99.6 99.7 5.8 7 89 0.7 0.1 17.2 8 1 8.0 <0.2 99.7 Bottom 5.8 3.5 17.2 8.1 30.2 6 0.7 0.1 161 89 r0 2 1.0 0.3 115 17 1 8.1 30.0 96.7 96.7 7.8 7.8 8.0 9 Surface 17.1 8.1 30.0 96.7 17 1 8 1 q 1.0 0.3 116 30.0 8.0 4.4 8.6 8.6 8 0.3 109 17.0 8.1 30.1 94.8 7.6 SR3 Moderate 13:47 Middle 17.0 94.8 822162 807558 94.8 112 17.0 8.1 30.1 4.4 0.3 7.7 8 0.3 83 16.8 16.8 8.1 8.1 30.1 81.8 81.5 6.6 11.5 11.4 Bottom 16.8 8.1 30.1 81.7 6.6 30.1 0.3 85 1.0 0.5 17.3 254 8.1 31.4 103.5 8.2 10.9 7 Surface 17.3 8.1 31.4 103.5 1.0 17.3 8.1 31.4 8.2 0.5 269 103. 10.9 8 4.5 250 17.3 12.5 10 0.2 8.1 31.4 . 103.1 8.2 SR4A 17.3 8.1 31.4 103.1 817199 807830 Fine Moderate 15:00 9.0 Middle 4.5 17.3 8.1 31.4 12.5 10 0.2 270 8.0 0.0 233 239 17.2 8.1 31.4 12.2 12.2 12 12 8.1 104.3 104.3 8.3 8.3 17.2 31.4 Rottom 8.0 0.0 17.2 104. 1.0 0.2 122 17.6 8.1 31.0 8.4 10.7 9 106.2 17.6 8.1 31.0 106.2 Surface 1.0 0.3 126 17.6 8.1 8.4 10.7 9 SR5A 15:16 3.8 Middle 816603 810682 Fine Moderate 2.8 0.3 125 17.3 106.9 8.5 9.9 12 Bottom 17.3 8.1 31.1 106.9 8.5 0.3 134 17.3 8.1 31.1 8.5 9.9 12 2.8 1.0 0.1 41 17.6 8.1 30.9 104.3 11.6 Surface 17.6 8.1 30.9 104.3 1.0 0.1 44 17.6 8.1 30.9 104.3 8.3 11.6 9 SR6A Fine Moderate 15:43 Middle 817970 814731 3.7 0.1 277 17.5 30.9 8.4 11.4 10 Bottom 17.5 8.1 30.9 105.6 8.4 3.7 0.1 291 17.5 8 1 30.9 8.4 11.4 10 1.0 0.6 61 17.8 8.1 30.5 94.6 7.5 4.8 94.6 Surface 8.1 30.5 1.0 0.7 62 17.8 8.1 30.5 94.6 7.5 4.8 6 8.2 0.2 14 17.8 8.1 30.5 94.0 7.4 4.7 6 SR7 Fine Moderate 16:14 16.4 Middle 8.1 30.5 94.0 823633 823733 4.7 8.2 0.2 14 17.8 8.1 30.5 94.0 7.4 15.4 0.2 55 17.8 8.1 30.5 94.7 7.5 5.6 4 Bottom 17.8 8.1 30.5 94.7 15.4 0.2 59 17.8 8.1 30.5 94.7 7.5 5.6 4 1.0 17.1 8.1 30.2 100.6 8.1 6.1 8 Surface 17.1 8.1 30.2 100.6 1.0 17.1 8.1 30.2 100.6 8.1 6.1 8 . . 811635 820397 SR8 Fine Moderate 14:34 4.9 Middle -3.9 16.9 6.4 10 8.2 30.2 8.2 16.9 8.2 30.2 101.5 8.2

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

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

Water Quality Monitoring Results on 02 January 21 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids Total Alkalinity Chromium Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Current Speed Oxvaen (mg/L) (maga) Sampling Depth (m) HK Grid HK Grid Station Direction Condition Time Depth (m) (m/s) Average Value Average Average Value Average Value DA Value DA Value DA Value DA Value DA Value DA Condition Value Value (Northing) (Easting) 17.0 0.1 141 Surface 17.0 8.2 30.4 100.0 1.0 0.1 141 17.0 30.4 100.0 8.0 13.0 86 <0.2 0.8 109 17.0 13.6 14 0.6 89 <0.2 C1 8.2 30.6 99.7 804243 10:40 8.0 Middle 17.0 89 815632 Fine Moderate 0.8 17.0 8.2 30.6 99.7 8.0 13.8 14 90 <0.2 0.8 4.0 0.1 112 7.0 0.0 41 16.9 8.1 30.8 100.6 8.1 20.0 19 90 <0.2 0.8 8.1 8 1 Bottom 16.9 30.8 100.6 8.1 19.6 0.8 16.9 30.8 18 7.0 0.0 42 8.1 100. 90 < 0.2 1.0 0.3 0.6 0.6 0.6 0.7 < 0.2 8.1 Surface 17.0 8.1 29.8 95.8 17.0 7.8 7.5 12 8.1 95.8 87 1.0 0.3 322 29.8 <0.2 6.1 0.4 16.9 8.1 29.8 7.8 89 96.1 C2 Fine Moderate 11:45 12.1 Middle 16.9 8.1 29.8 96.1 89 825695 806967 0.6 29.8 96.1 7.8 7.8 11 89 <0.2 6.1 0.4 28 16.9 8.1 11.1 0.4 346 16.8 8.1 7.8 10.7 10 90 <0.2 0.6 29.9 96.2 8.1 96.3 7.8 Bottom 16.8 29.9 11.1 0.4 318 16.8 8.1 29.9 96.3 10.5 10 90 <0.2 0.6 1.0 0.3 241 6.7 9 88 <0.2 0.6 Surface 17.0 8.1 30.3 96.1 1.0 0.3 256 17.0 8.1 30.3 96.1 7.7 6.6 8 88 <0.2 0.8 6.9 10 0.8 5.7 0.4 17.0 8.1 7.7 90 90 <0.2 252 30.3 95.9 C3 817815 Fine Rough 09:21 11.4 Middle 17.0 8.1 30.3 95.9 90 822116 0.7 0.4 17.0 10.4 0.4 266 17.0 30.3 97.5 7.9 9.8 10 92 <0.2 0.7 Bottom 17.0 8.1 30.3 97.7 7.9 10.4 0.4 271 17.0 8 1 30.3 97.8 7 9 9.6 10 0.8 1.0 0.2 17.1 8.2 30.7 3.9 85 <0.2 1.0 Surface 17.2 8.2 30.7 101.1 1.0 17.2 8.2 30.7 101 8.1 4.0 7 86 <0.2 1.1 0.2 807112 IM1 Fine Moderate 11:00 Middle 817966 3.8 0.1 345 17 1 8.2 30.8 101 8.1 5.3 8 89 < 0.2 13 Bottom 17.1 8.2 30.8 101.1 3.8 0.1 356 17 1 8.2 30.8 101 1 8.1 5.3 8 90 <0.2 1.2 10.5 1.0 0.2 136 17.3 8.2 30.6 99.6 8.0 5 86 < 0.2 0.8 Surface 8.2 30.6 99.6 1.0 0.2 146 17.3 8.2 30.6 99.6 8.0 10.6 5 86 <0.2 0.8 3.4 0.2 122 17.2 8.2 30.6 99.5 8.0 11.9 6 89 0.3 0.9 IM2 Moderate 11:08 6.7 Middle 8.2 30.6 99.5 89 818165 806171 6 7 1.0 0.9 0.9 3.4 0.2 132 17.2 8.2 30.6 99.5 8.0 11.0 90 0.3 5.7 0.1 113 17.2 8 1 30.7 99.8 8.0 12.5 90 <0.2 8.1 30.7 99.9 8.0 5.7 121 17.2 12.5 6 0.2 8 1 30.7 99.9 8.0 91 <0.2 1.0 0.1 137 17.3 8.1 30.6 99.7 8.0 12 1 q 87 < 0.2 11 Surface 17.3 8.1 30.6 99.7 1.0 146 99.7 12.3 9 87 1.2 0.2 17.3 8.1 30.6 8.0 <0.2 1.4 1.4 1.3 12.5 12.3 15.7 136 17.1 8.0 12 <0.2 3.5 0.2 8.1 30.6 100.1 90 IM3 Fine Moderate 11:16 7.0 Middle 17.1 8.1 30.6 100.2 12 90 818798 805615 12 14 144 17.1 90 91 3.5 0.2 8.1 30.6 100. 8.0 <0.2 121 17.1 6.0 0.2 8.1 30.7 100.7 8.1 Rottom 17.1 8.1 30.7 100.8 6.0 0.2 126 17.1 8.1 30.7 100.8 8.1 15.4 14 <0.2 1.2 92 17.2 17 1.0 0.0 1.0 62 8.1 30.5 99.3 8.0 12.2 87 <0.2 Surface 17.2 8.1 30.5 99.3 0.0 12.3 17 88 <0.2 1.1 <0.2 <0.2 0.2 4.0 17.1 16.3 16 1.2 69 90 0.1 8.1 30.5 99.4 8.0 IM4 Fine Moderate 11:25 8.0 Middle 17.1 8.1 30.5 99.4 90 819747 804590 4.0 0.1 73 17.1 8.1 99.4 8.0 16.4 16 90 30.5 84 17.1 17.7 15 91 1.3 0.1 30.6 99.9 8.0 17.1 8.1 Bottom 30.6 99.9 8.0 7.0 0.1 88 17.1 30.6 17.8 15 0.2 1.2 1.1 1.0 0.1 107 17.2 8.1 30.5 15.6 18 86 0.3 99.7 8.0 Surface 17.2 8.1 99.7 30.5 1.0 0.1 117 17.2 30.5 99.7 8.0 15.7 18 86 0.3 3.7 0.0 107 17.1 17.9 16 <0.2 1.1 8.1 8.1 90 IM5 11:32 7.4 Middle 17.1 8.1 30.5 101.2 820753 804848 Fine Moderate 3.7 112 17.1 17.9 17 <0.2 0.0 1.3 6.4 0.1 82 17.1 8.1 8.1 30.5 8.2 18.4 14 91 <0.2 17.1 8.1 102.6 8.2 Bottom 30.5 6.4 0.1 83 17 1 30.5 18.5 14 91 <0.2 1.0 0.1 196 17.2 8.2 30.7 4.6 10 86 <0.2 1.1 Surface 17.2 8.2 30.7 101.6 1.0 0.1 213 17.2 8.2 30.7 8.1 4.6 10 86 <0.2 1.2 3.7 0.1 177 17.2 30.7 8.1 4.6 9 89 0.2 Fine Moderate 11:39 Middle 17.2 8.2 30.7 101.7 821070 805810 0.3 3.7 0.1 193 17.2 8.2 30.7 101 8.2 4.6 9 89 5.1 5.5 0.9 6.4 0.1 138 17.0 8.1 30.7 8.2 7 91 <0.2 102.0 8.2 6.4 0.1 141 17.0 8 1 30.7 91 r0 2 1.1 0.2 1.0 0.3 237 17 1 8.2 30.7 99.8 8.1 9.3 8 88 Surface 17.1 99.9 8 1 9.2 9.4 1.0 0.4 249 17 1 82 30.7 99 9 8 88 8 <0.2 1.0 4.2 209 89 0.2 17.1 8.2 30.7 101.1 8.2 IM7 Moderate 11:50 Middle 17.1 8.2 30.7 101.1 821341 806812 90 4.2 0.2 222 17.1 8.2 30.7 8.2 9.7 9 7.3 0.2 141 17.1 8.2 30.7 101. 8.2 9.6 9 91 <0.2 1.0 Bottom 17.1 8.2 30.7 101.1 8.2 7.3 0.2 152 17.1 30.7 9.6 <0.2 0.9 1.0 0.2 55 17.1 8.1 30.1 95.7 7.7 7.9 5 86 < 0.2 0.7 Surface 17.2 8.1 30.1 95.7 30.1 95.7 7.7 17.2 8.1 7.9 <0.2 1.0 0.2 58 5 86 0.6 17.0 8.1 30.1 96.0 7.7 8.3 8 89 <0.2 3.8 0.2 54 17.0 8.1 96.0 821853 808123 IM8 Fine Moderate 11:16 7.5 Middle 30.1 88 0.6 96.0 7.7 30.1 8.3 88 3.8 55 17.0 8.1 9 0.2 90 0.7 6.5 0.1 44 16.8 8.0 30.1 96.7 96.8 7.8 7.8 8.2 8.2 10 <0.2 16.8 8.0 30.1 96.8 7.8 Rottom

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 02 January 21 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids Total Alkalinity Chromium Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Speed Current Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Time (m/s) Average Value Average Average Value Average Value DA Value DA Value DA Value DA Value DA Value DA Condition Condition Depth (m) Value Value (Northing) (Easting) 0.2 Surface 8.1 30.2 97.4 1.0 88 16.7 97.4 7.9 6.5 7.2 3.4 0.2 92 16.6 8.1 30.2 97.3 7.9 7 89 <0.2 0.8 97.3 808805 IM9 Fine Moderate 11:09 8.1 30.2 822106 3.4 0.2 98 16.6 8.1 30.2 97.3 7.9 7.2 7 88 <0.2 0.7 5.8 0.2 88 16.6 8.1 30.2 98.9 8.0 7.2 7 90 <0.2 0.7 Bottom 16.6 8.1 30.2 99.1 5.8 0.2 92 16.6 8.1 30.2 99.2 8.1 7.3 7 90 <0.2 0.8 16.8 1.0 0.4 317 8.2 30.2 97.4 7.9 7.9 10 < 0.2 0.8 Surface 8.2 30.2 97.4 <0.2 1.0 0.4 328 16.8 8.2 30.2 97.4 7.9 7.9 10 87 0.7 3.9 0.4 323 16.7 8.1 30.2 97.4 7.9 9.4 9.6 9 89 88 <0.2 0.8 IM10 Moderate 11:01 7.7 Middle 8.1 30.2 97.4 822377 809803 3.9 16.7 8.1 7.9 < 0.2 0.4 349 30.2 97.4 6.7 0.4 16.7 8.2 11.5 7 0.8 318 30.2 97.8 7.9 89 < 0.2 Bottom 16.7 8.2 30.2 97.9 7.9 7 6.7 7.9 0.4 329 16.7 8.2 97.9 11.4 90 30.2 **-**0 2 1.0 0.5 318 16.9 0.7 8.1 9.6 0.4 Surface 8.1 30.3 97.3 9.5 10.6 10.5 1.0 97.3 7.9 87 0.3 0.5 328 16.9 8.1 30.3 9 0.8 0.7 0.6 12 13 88 89 16.8 7.9 7.9 <0.2 4.2 8.1 97.6 IM11 Fine Moderate 10:50 8.3 Middle 8.1 30.3 97.7 12 88 822044 811459 0.7 327 16.8 0.5 8.1 30.3 7.3 14 <0.2 0.4 323 16.8 8.1 30.3 100.4 8.1 12.2 89 16.8 8.1 100.5 8.1 Bottom 30.3 7.3 0.4 344 16.8 8.1 30.3 100.6 8.1 12.2 13 89 <0.2 0.7 0.4 16.9 11.2 18 <0.2 30.3 96.9 0.6 Surface 16.9 8.2 96.9 30.3 1.0 0.5 309 16.9 8.2 30.3 96.9 11.3 18 86 <0.2 0.6 0.7 4.2 0.4 288 16.8 7.8 13.7 16 89 <0.2 8.1 30.3 97.0 821477 812047 IM12 Fine Moderate 10:45 8.4 Middle 16.8 8.1 30.3 97.0 4.2 7.4 16.8 8.1 13.7 16 88 <0.2 0.4 301 0.4 294 16.8 8.2 30.3 97.3 7.9 7.9 14.6 13 91 <0.2 0.6 16.8 8.2 97.4 7.9 Rottom 30.3 7.4 0.4 314 16.8 8.2 30.3 97.4 14.6 13 0.6 1.0 16.7 8.1 30.1 95.4 5.5 9 7.7 Surface 16.7 8.1 95.4 30.1 1.0 16.7 95.4 5.5 8 2.4 Fine Moderate 10:05 Middle 819979 812654 2.4 3.7 16.7 8.1 30.1 96.7 7.8 5.9 6 Bottom 16.7 8.1 30.1 96.8 7.9 7.9 3.7 16.7 8 1 30.1 96.9 5.9 6 1.0 0.2 95 16.7 8.1 30.3 97.3 7.9 11.6 17 88 <0.2 0.6 Surface 16.7 8.1 30.3 97.3 1.0 0.2 99 16.7 8.1 30.3 97.3 7.9 11.5 17 88 < 0.2 0.5 SR2 Moderate 09:46 3.8 Middle 821475 814144 2.8 102 16.7 14 7 13 91 0.2 8.2 98.4 8.0 <0.2 0.5 Bottom 16.7 98.5 15.0 2.8 104 8.2 30.3 13 0.6 0.2 90 r0 2 1.0 0.1 51 17.3 8.1 30.0 96.1 96.1 7.7 8.4 10 Surface 17.3 8.1 30.0 96.1 8 1 17.3 30.0 10 1.0 0.1 53 8.4 10 4.3 9.2 9.3 0.1 47 17.1 8.1 30.0 95.5 7.7 SR3 Moderate 11:23 Middle 17.1 95.6 822137 807569 95.6 10 4.3 17.1 8.1 30.0 0.2 49 7.6 7.6 0.1 17.1 17.1 8.0 30.0 97.5 97.7 7.8 9.6 9.6 8 Bottom 17.1 8.0 30.0 97.6 7.9 0.1 36 1.0 17.0 0.1 221 8.2 30.4 98.4 7.9 3.4 7 Surface 17.0 8.2 30.4 98.4 1.0 17.0 8.2 30.4 98.4 7.9 0.1 234 3.4 6 4.5 0.2 16.9 7.9 4.2 8 63 . 8.2 30.4 98.4 SR4A 10:14 8.2 98.4 817209 807809 Fine Moderate Middle 16.9 30.4 4.5 64 16.9 8.2 30.4 98.4 4.2 8 0.2 98.9 98.9 4.3 4.2 7.9 0.1 69 16.8 8.1 30.6 8.0 9 8.1 98.9 8.0 Bottom 16.8 30.6 7.9 0.1 16.8 30.6 1.0 0.1 26 17.1 8.2 30.3 7.9 11.2 9 98.6 Surface 17.1 8.2 30.3 98.6 1.0 0.1 17.1 8.2 98.6 7.9 11.2 10 SR5A 09:56 3.2 Middle 816608 810706 Fine Moderate 2.2 0.1 17.1 98.7 7.9 11.1 13 Bottom 17.1 8.2 30.4 98.7 7.9 0.1 17.0 30.4 98.7 7.9 11.5 13 2.2 1.0 0.1 201 17.2 8.1 30.3 97.3 7.8 4.7 9 Surface 17.2 8.1 30.3 97.3 1.0 0.1 219 17.2 8.1 30.3 97.3 7.8 4.7 8 SR6A Fine Moderate 09:24 Middle 817976 814735 3.7 0.1 223 17.2 7.8 4.6 10 8.1 30.3 97.3 7.8 3.7 0.1 240 17.2 8 1 30.3 97.3 4.6 10 1.0 0.0 116 17.6 8.0 30.5 93.5 10.2 12 93.5 Surface 30.5 1.0 0.0 116 17.6 8.0 30.5 93.5 7.4 10.4 12 7.8 0.1 184 17.6 8.0 30.6 93.5 7.4 9.9 10.0 11 SR7 Moderate 08:50 15.6 Middle 8.0 30.6 93.5 823659 823725 Fine 10 7.8 0.1 191 17.6 8.0 30.6 93.5 7.4 14.6 0.1 76 17.6 8.0 30.6 93.5 7.4 10.3 9 Bottom 8.0 30.6 93.5 14.6 0.1 77 17.6 8.0 30.6 93.5 7.4 10.4 9 1.0 16.7 8.1 30.2 97.7 7.9 6.8 9 Surface 16.7 8.1 30.2 97.7 97.7 7.9 1.0 16.7 8.1 30.2 6.8 9 . . 820401 811609 SR8 Fine Moderate 10:34 4.6 Middle -3.6 16.6 9.2 8 8.2 30.2 99.3 8.1 Bottom 16.6 8.2 30.2 99.4 8.1

DA: Depth-Averaged

Water Quality Monitoring Results on 05 January 21 during Mid-Ebb Tide Turbidity(NTU) Suspended Solids Total Alkalinity DO Saturation Dissolved Chromium Salinity (ppt) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Current Speed Oxvaen (mg/L) (maga) Sampling Depth (m) HK Grid HK Grid Station Direction Condition Time Depth (m) (m/s) Average Value Average Average Value Average Value DA Value DA Value DA Value DA (Northing) Value DA Value DA Condition Value Value (Easting) 0.2 8.1 101.8 1.0 46 17.2 6.1 84 0.9 1.0 43 0.0 108 17.3 8.1 30.3 100.7 8.1 8.3 8 88 <0.2 100.8 804246 C1 Sunny Calm 18:01 8.1 30.3 8.2 815640 0.9 4.3 0.0 114 17.3 8.1 30.3 100.8 8.1 8.3 8 88 <0.2 0.9 7.6 0.0 140 17.3 8.1 30.4 100.7 8.1 10.4 7 93 <0.2 0.9 Bottom 8.1 30.4 100.7 7.6 0.0 152 17.3 8.1 30.4 100.7 8.1 10.4 6 93 <0.2 0.9 1.0 0.3 17.8 8.3 31.5 103. 8.2 4.2 87 < 0.2 0.8 Surface 8.3 31.5 103.5 87 <0.2 1.0 0.3 17.8 8.3 31.5 8.2 4.2 7 0.8 5.8 0.3 13 17.8 8.3 31.7 8.1 5.5 5.5 6 89 90 <0.2 0.8 C2 Fine Moderate 16:08 11.6 Middle 8.3 31.7 102.5 825669 806930 5.8 13 8.3 0.3 17.8 31.7 8.1 10.6 0.2 17.8 8.3 5.3 93 1.0 51 31.8 101. 8.0 4 < 0.2 Bottom 17.8 8.3 31.8 101.5 8.0 0.9 5.3 10.6 0.2 54 17.8 8.3 31.8 101 8.0 4 94 <0.2 1.0 0.3 18.0 8.3 86 96.6 7.6 < 0.2 Surface 18.0 8.3 31.9 96.6 2.0 2.3 2.3 1.1 1.0 7.6 5 86 <0.2 0.4 95 18.0 8.3 31.9 96.6 1.0 18.1 5 5 89 89 <0.2 7.5 7.5 6.3 89 8.2 96.0 96.0 C3 Fine Moderate 18:12 12.6 Middle 18.1 8.2 32.0 96.0 89 822121 817804 1.0 18.1 0.3 8.2 5 <0.2 11.6 0.2 88 18.1 8.2 32.1 96.9 7.6 2.2 90 18.1 8.2 7.6 Bottom 32.1 96.9 11.6 0.2 95 18.1 8.2 32.1 96.9 7.6 2.2 4 91 <0.2 0.9 0.0 357 17.5 84 8.1 29.5 106.7 8.6 5 <0.2 0.9 Surface 17.5 8.1 29.5 106.7 1.0 0.0 328 17.5 8.1 29.5 106.7 8.6 7.7 5 84 <0.2 0.8 8.6 807111 IM1 Sunny Calm 17:39 5.1 Middle 88 817936 0.9 4.1 0.0 216 17.3 8.1 29.6 8.6 5.4 6 91 <0.2 0.9 Bottom 17.3 8.1 29.6 106.6 8.6 4.1 0.0 218 17.3 8.1 29.6 8.6 5.5 0.9 0.1 358 17.2 8.1 29.6 8.3 8.3 7.4 5 85 <0.2 1.0 Surface 17.2 8.1 29.6 102.9 1.0 0.1 329 17.2 7.4 5 85 <0.2 0.8 0.8 0.8 3.6 0.1 291 17.1 8.6 6 89 <0.2 <0.2 <0.2 8.3 102.6 806158 Sunnv Calm 17:31 Middle 8.1 29.7 818182 0.1 316 17.1 8.6 6 7 3.6 6.1 0.1 259 17.1 8.1 29.9 8.3 7.8 92 Bottom 17.1 8.1 29.9 103.1 8.3 83 6.1 0.1 275 17 1 8.1 29.9 7.8 7 92 <0.2 0.8 1.0 1.0 0.2 23 17.3 8.1 29.5 8.3 6.4 4 85 <0.2 Surface 8.1 29.5 103.1 1.0 0.2 25 17.3 8.1 29.5 8.3 6.4 4 84 <0.2 0.9 0.9 0.9 1.0 3.7 0.1 36 17.2 8.1 8.3 6.6 5 89 <0.2 IM3 Sunny 17:25 7.3 Middle 102.6 818786 805608 89 93 <0.2 3.7 0.1 17.2 6.6 63 297 8.3 8.3 6 0.1 17 1 8.1 30.0 8.2 102.1 8.2 17 1 0.1 318 8.1 30.0 6 <0.2 63 93 1.0 0.2 8 17 1 8.1 29.3 8.2 8.2 6.6 4 82 <0.2 0.9 Surface 17.1 8.1 29.3 101.6 6.6 7.2 7.3 7.7 7.8 82 1.0 17 1 8 1 4 <0.2 0.2 29.3 4.1 332 5 5 89 89 0.9 0.1 17.0 8.1 29.7 8.1 <0.2 IM4 Sunny Calm 17:15 8.2 Middle 17.0 8.1 29.7 100.4 819716 804586 8.1 4.1 0.1 339 17.0 8.1 29.7 5 5 7.2 0.1 303 17.0 17.0 8.1 8.1 29.9 29.9 8.1 8.1 93 93 <0.2 0.9 Rottom 17.0 8.1 29.9 100.8 8 1 0.1 330 17.1 7.9 0.8 1.0 0.3 84 8.1 29.7 101. 8.2 5 <0.2 Surface 17.1 8.1 29.7 101.1 1.0 17.0 8.1 29.7 8.2 8.5 <0.2 0.9 0.4 5 84 3.6 0.3 17.0 8.8 5 88 <0.2 0.9 8.1 8.1 29.7 IM5 17:02 7.2 17.0 8.1 29.7 100.9 820734 804848 Sunny Calm Middle 3.6 17.0 8.1 8.1 8.8 5 88 < 0.2 0.8 0.3 <0.2 0.9 9.0 8.9 6.2 0.2 17.0 8.1 29.7 93 92 17.0 8.1 101.2 8.2 8.2 5 Bottom 29.7 0.3 17.0 29.7 0.9 0.9 0.8 0.9 1.0 0.1 281 17.3 8.1 29.6 8.3 5.2 6 85 <0.2 103.7 Surface 17.3 8.1 29.6 103.7 1.0 0.1 293 17.3 8.1 29.6 103. 8.3 5.2 6 86 <0.2 3.8 0.0 329 17.1 8.1 29.8 8.3 5.4 6 88 <0.2 16:54 7.6 Middle 17.1 8.1 29.8 102.9 89 821043 805835 IM6 Sunny Calm 3.8 0.0 339 17.1 8.1 29.8 8.3 5.5 6 88 <0.2 0.9 6.6 0.1 17.1 30.0 102.5 8.3 6.1 6 93 <0.2 Bottom 17.1 8.1 30.0 102.5 8.3 6.6 0.1 17.1 8.1 6.7 1.0 0.1 169 17.3 8.1 29.7 5.7 85 <0.2 0.9 Surface 17.3 8.1 29.7 103.2 1.0 0.1 184 17.3 8.1 29.7 103. 8.3 5.7 6 84 <0.2 0.9 7 89 0.9 4.8 0.1 197 17.1 8.1 29.9 8.2 6.1 <0.2 IM7 Sunny Calm 16:46 9.6 Middle 17.1 8.1 29.9 101.9 821326 806843 <0.2 4.8 0.1 199 17.1 8.1 29.9 6.1 89 8.6 0.1 234 17.1 8.1 30.0 8.1 8.5 7 93 <0.2 0.9 8.1 30.0 101.2 8.6 0.1 247 17.1 8 1 30.0 8 1 8.8 93 <0.2 0.8 1.0 0.3 88 17.8 8.3 30.9 104 (8.2 2.5 84 < 0.2 0.8 Surface 8.3 30.9 0.8 1.0 0.3 88 17.8 8.3 30.9 103.9 8.2 2.4 2 85 <0.2 3.8 0.2 89 17.8 8.3 31.0 103.6 8.2 2.8 4 88 <0.2 0.8 IM8 Fine Moderate 16:35 7.6 Middle 17.8 8.3 31.0 103.6 821848 808120 88 3.8 0.2 90 17.8 8.3 31.0 103.6 8.2 2.8 < 0.2 6.6 0.2 65 17.8 8.3 31.3 102.4 8.1 3.3 4 93 <0.2 0.8 8.3 Bottom 17.8 31.3 102.4

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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 05 January 21 during Mid-Ebb Tide DO Saturation Suspended Solids Total Alkalinity Chromium Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Speed Current Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Time (m/s) Average Average Value Average Value DA Value DA Value DA Value DA Value DA Value DA Condition Condition Depth (m) Value Value Average Value (Northing) (Easting) 0.2 Surface 8.2 30.9 17.7 3.0 2.9 3.5 0.2 56 17.6 8.2 31.0 8.0 4 88 <0.2 0.9 101.4 808826 IM9 Fine Moderate 16:43 7.0 17.6 8.2 31.0 822082 0.9 3.5 0.2 57 17.6 8.2 31.0 101. 8.0 2.9 4 87 <0.2 0.8 6.0 0.3 43 17.7 8.2 31.0 101.1 8.0 3.0 3 89 <0.2 1.0 Bottom 17.7 8.2 31.0 101.1 8.0 6.0 0.3 43 17.7 8.2 31.0 101 1 8.0 3.0 3 90 <0.2 0.9 1.0 0.3 66 17.8 8.3 31.0 103. 8.2 2.4 85 < 0.2 0.9 Surface 8.3 31.0 103.7 1.0 0.3 69 17.8 8.3 31.0 8.2 2.4 2 86 <0.2 0.9 4.2 0.2 62 17.7 8.3 8.1 2.9 3 89 90 <0.2 0.8 IM10 Moderate 16:49 8.4 Middle 8.3 31.2 102.9 822385 809813 4.2 < 0.2 0.2 64 17.7 8.3 31.2 8.1 17.7 8.3 0.8 7.4 0.1 46 31.5 8.0 2.8 4 93 < 0.2 Bottom 17.7 8.3 31.5 101.6 8.0 3 0.9 7.4 0.1 17.7 8.3 31.5 8.0 2.8 92 48 101 **-**0 2 1.0 0.1 153 17.8 8.3 31.6 8.1 1.1 Surface 17.8 8.3 31.6 103.0 1.1 1.0 2.3 87 < 0.2 0.1 162 17.8 8.3 31.6 8.1 4 2.5 2.5 1.0 17.8 8.0 3 90 89 <0.2 3.9 8.3 31.6 IM11 Fine Moderate 17:00 7.7 Middle 8.3 31.6 102.0 89 822042 811469 1.0 100 17.8 0.1 8.3 31.6 1.0 6.7 0.1 87 17.8 8.3 31.6 8.0 2.6 2 92 <0.2 17.8 101.8 8.0 Bottom 8.3 31.6 6.7 0.1 89 17.8 8.3 31.6 101. 8.0 2.6 2 90 <0.2 0.9 0.1 140 17.8 4 <0.2 8.3 31.6 0.9 Surface 17.8 8.3 31.6 103.2 1.0 0.1 147 17.8 8.3 31.6 8.1 2.9 4 85 <0.2 1.0 4.2 0.1 151 17.8 8.0 2.4 5 86 <0.2 1.0 8.3 31.6 812031 IM12 Fine Moderate 17:07 8.3 Middle 17.8 8.3 31.6 102.2 821447 159 17.8 8.3 2.4 4 88 <0.2 1.1 4.2 7.3 0.1 0.1 139 17.7 8.3 31.6 2.5 5 90 <0.2 1.0 8.0 17.7 8.3 31.6 101 4 8.0 Rottom 7.3 0.1 145 17.7 8.3 31.6 8.0 1.1 1.0 17.8 8.3 31.7 2.9 6 8.1 Surface 17.8 8.3 31.7 102.9 1.0 17.8 8.1 2.9 6 2.5 Fine Moderate 17:37 Middle 819980 812663 2.5 3.9 17 9 8.3 8.0 3.1 5 Bottom 17.9 8.3 31.8 102.4 8.0 3.9 17 9 83 31.8 8.0 3.1 5 1.0 0.1 59 17.7 8.3 31.7 8.0 2.6 89 <0.2 1.0 Surface 17.7 8.3 31.7 101.4 1.0 0.1 61 17.7 8.3 31.7 8.0 2.6 5 88 < 0.2 1.0 8.0 SR2 Moderate 17:51 4.2 Middle 821484 814149 32 2.6 91 0.1 68 17.7 8.3 8.0 3 <0.2 8.0 101.0 Bottom 2.6 17.7 31.7 3 1.0 3.2 0.1 71 83 90 r0 2 1.0 0.5 71 17.9 8.3 30.9 8.2 8.2 2.8 5 Surface 17.9 8.3 30.9 103.5 17 9 83 1.0 0.6 73 30.9 2.8 6 4.2 3.5 3.5 4 0.5 64 17.8 8.3 31.0 8.1 SR3 Moderate 16:28 Middle 17.8 8.3 31.0 103.0 822166 807590 8.1 4 4.2 17.8 8.3 0.5 68 4.7 4.7 3 7.4 0.4 69 17.7 17.7 8.3 8.3 31.2 102.5 8.1 Bottom 17.7 8.3 31.2 8.1 0.5 31.2 1.0 17.3 5.6 0.3 69 8.1 29.4 105. 8.5 4 Surface 17.3 8.1 29.4 105.4 1.0 17.3 8.1 29.4 8.5 5 0.3 75 5.6 4.6 17.2 5.7 5 0.2 8.1 . 29.6 8.4 SR4A 18:23 17.2 8.1 29.6 104.0 817182 807801 Sunny Calm 9.2 Middle 4.6 17.2 8.1 29.6 8.4 5.7 5 0.2 5.9 8.2 17.2 8.1 29.6 0.2 50 8.1 103.9 8.4 84 5 17.2 29.6 Rottom 0.2 53 17.2 29.6 6 1.0 0.0 45 17.3 8.1 30.3 7.7 4 104.0 8.3 17.3 8.1 30.3 104.0 Surface 1.0 0.0 17.3 8.1 8.3 7.6 4 45 SR5A 18:39 4.1 Middle 816611 810708 Sunny Calm 3.1 0.1 318 17.3 30.3 8.3 7.7 Bottom 17.3 8.1 30.3 103.6 8.3 0.1 17.3 8.1 30.3 8.3 7.7 3.1 333 1.0 0.0 17.6 8.2 30.2 104. 12.1 Surface 17.6 8.2 30.2 104.1 1.0 0.0 28 17.6 8.2 30.2 104.1 8.3 12.1 9 SR6A Sunny Calm 19:07 4.3 Middle 817986 814722 3.3 0.0 17.6 8.3 12.5 6 Bottom 8.2 30.2 103.7 8.3 3.3 0.0 125 17.6 30.2 12.4 6 1.0 0.2 50 18.2 8.2 32.1 95.6 7.5 3.3 4 95.6 Surface 32.1 1.0 0.2 54 18.2 8.2 32.1 95.6 7.5 3.3 4 8.4 0.3 50 18.2 8.2 32.1 94.5 7.4 2.7 4 SR7 Moderate 18:44 16.8 Middle 8.2 32.1 94.5 823619 823762 Fine 2.7 8.4 0.3 50 18.2 8.2 32.1 94.5 7.4 4 15.8 0.3 28 18.2 8.2 32.1 94.1 7.3 2.6 3 Bottom 18.2 8.2 32.1 94.1 15.8 0.3 18.2 8.2 32.1 94.1 7.3 2.6 3 1.0 17.8 8.3 31.6 104.3 8.2 10.4 5 Surface 17.8 8.3 31.6 104.3 1.0 17.8 8.3 31.6 104.2 8.2 10.6 5 -. 820382 811641 SR8 Fine Moderate 17:16 4.8 Middle -3.8 17.8 11.2 5 8.3 31.6 102.6 8.1 17.8 8.3 31.6 102.6

DA: Depth-Average

Water Quality Monitoring Results on 05 January 21 during Mid-Flood Tide Turbidity(NTU) Suspended Solids Total Alkalinity DO Saturation Dissolved Chromium Salinity (ppt) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Current Speed Oxvaen (mg/L) (maga) Sampling Depth (m) HK Grid HK Grid Station Direction Condition Time Depth (m) (m/s) Average Value Average Average Value Average Value DA Value DA Value DA Value DA (Northing) Value DA Value DA Condition Value Value (Easting) 17.0 0.3 Surface 17.0 8.1 29.3 100.0 1.0 0.3 44 17.0 29.3 100.0 8.1 6.9 6 86 <0.2 0.7 17.0 9.8 88 0.7 0.3 29.7 6 <0.2 C1 17.0 8 1 29.7 99.2 804260 Calm 12:28 8.2 Middle 89 815629 Cloudy 0.7 4.1 17.0 8.1 29.7 99.2 8.0 9.2 6 87 <0.2 0.7 0.3 36 7.2 0.3 30 17.0 8.1 29.9 98.9 8.0 9.8 6 93 <0.2 0.7 8.1 8.0 Bottom 17.0 29.9 98.9 98.9 8.0 10.8 0.7 17.0 <0.2 7.2 0.3 8.1 6 93 1.0 0.2 87 0.8 0.8 0.8 < 0.2 8.2 Surface 17.8 8.2 30.8 100.8 2.7 17.8 8.2 30.8 8.0 86 1.0 3 <0.2 17.7 88 6.0 0.2 8.2 8.0 23 30.9 C2 Fine Moderate 13:19 12 0 Middle 17.7 8.2 30.9 100.6 89 825658 806955 0.8 17.7 8.2 30.9 100. 8.0 4.4 4 89 <0.2 6.0 0.3 23 11.0 0.2 35 17.7 8.2 31.2 99.8 7.9 6.0 5 91 <0.2 0.9 17.7 8.2 31.2 99.8 7.9 Bottom 11.0 0.2 35 17.7 8.2 31.2 99.8 6.0 5 91 <0.2 0.8 1.0 0.3 17.6 8.2 4 86 <0.2 1.0 Surface 17.6 8.2 31.5 100.0 1.0 0.3 270 17.6 8.2 31.5 100.0 7.9 2.7 4 87 <0.2 0.9 4.6 5 0.9 5.7 0.4 271 17.6 7.9 91 91 <0.2 8.3 31.7 99.4 C3 11:10 817816 Fine Moderate 11.4 Middle 17.6 8.3 31.7 99.4 90 822090 0.9 0.4 275 17.6 10.4 0.3 278 17.6 8.3 99.6 7.9 6.4 5 93 <0.2 1.0 Bottom 17.6 8.3 31.7 99.6 7.9 10.4 0.3 280 17.6 8.3 31.7 99.6 7 9 6.4 6 93 0.9 1.0 0.1 326 17.2 30.1 6.0 85 <0.2 0.8 Surface 17.2 8.1 30.1 102.8 1.0 0.1 341 17.2 8.1 30.1 102. 8.3 6.0 6 85 <0.2 0.9 IM1 Cloudy Calm 12:47 4.1 Middle 817966 3.1 0.1 299 17.2 8.1 30.1 102.8 8.3 6.1 8 94 < 0.2 0.8 Bottom 17.2 8.1 30.1 102.8 8.3 3.1 0.1 324 17.2 8.1 30.1 102.8 8.3 6.1 8 93 <0.2 0.9 1.0 85 0.3 17.1 8.1 29.3 8.2 6.7 8 < 0.2 1.0 Surface 8.1 29.3 101.4 1.0 0.3 17.1 8.1 29.3 101.4 8.2 6.7 8 85 <0.2 0.9 7.4 3.4 0.2 351 16.9 8.1 29.9 8.1 7 90 <0.2 0.9 IM2 Cloudy Calm 12:56 6.8 Middle 8.1 29.9 100.5 818182 806148 7.5 7 <0.2 0.9 0.9 1.0 3.4 0.2 323 16.9 8.1 29.9 8.1 89 325 7.8 7 5.8 0.2 16.9 8 1 30.1 100 8.1 93 <0.2 8.1 30.1 100.5 353 8.1 7.7 5.8 0.2 16.9 8 1 30.1 100 5 6 93 <0.2 1.0 0.3 350 17.0 8.1 29.6 100.4 8 1 7.4 86 < 0.2 1.0 Surface 8.1 29.6 100.4 1.0 1.0 7.4 7 86 <0.2 0.2 0.2 <0.2 0.3 322 17.0 8.1 100.3 8.1 29.6 1.0 1.0 1.0 3.6 16.9 8.9 7 89 0.3 319 8.1 29.9 99.7 8.1 IM3 Cloudy Calm 13:04 7.2 Middle 16.9 8.1 29.9 99.7 89 818802 805587 6 16.9 99.7 8.1 9.0 89 92 3.6 0.3 321 8.1 29.9 16.9 6.2 0.3 305 8.1 29.9 99.8 8.1 9.8 Rottom 16.9 8.1 29.9 99.8 6.2 0.3 330 16.9 8.1 99.8 8.1 9.8 6 0.9 29.9 92 <0.2 0.8 1.0 0.5 353 17.0 7.1 8.1 29.3 100.2 8.1 7 86 <0.2 Surface 17.0 8.1 29.3 100.2 1.0 0.5 325 7.1 86 <0.2 0.8 0.9 1.0 340 16.9 7.5 89 <0.2 4.2 0.4 6 8.1 29.9 99.9 8.1 IM4 Cloudy Calm 13:13 8.3 Middle 16.9 8.1 29.9 99.9 819716 804628 4.2 7.3 0.4 313 16.9 8.1 99.9 8.1 7.6 89 <0.2 29.9 6 0.3 337 16.9 7.4 6 93 29.9 8.1 8.1 Bottom 16.9 29.9 100.0 7.3 0.4 337 16.9 29.9 7.3 6 93 <0.2 0.9 7.6 0.9 1.0 0.6 12 17.0 8.1 29.6 6 85 <0.2 8.2 Surface 17.0 8.1 29.6 101.1 1.0 17.0 8.2 7.6 6 86 <0.2 0.6 8.2 3.8 0.5 11 17.0 8.4 6 88 <0.2 0.9 8.1 8.1 IM5 Calm 13:20 7.6 Middle 17.0 8.1 29.7 100.8 820711 804846 Cloudy 3.8 17.0 8.5 88 <0.2 0.6 0.9 6.6 0.4 17.0 8.1 8.1 29.8 8.2 9.4 9.3 93 <0.2 17.0 8.1 29.8 101.7 8.2 Bottom 6.6 0.4 11 17.0 29.8 94 < 0.2 1.0 0.1 40 17.2 8.1 29.5 4.8 6 82 <0.2 0.9 8.2 Surface 17.2 8.1 29.5 101.9 1.0 0.1 40 17.2 8.1 29.5 8.2 4.8 6 83 <0.2 0.8 3.7 0.1 67 17.1 8.1 6.3 6 90 <0.2 Cloudy Calm 13:28 7.3 Middle 17.1 8.1 29.9 101.8 821051 805807 <0.2 3.7 0.1 69 17.1 8.1 29.9 8.2 6.4 5 89 6.1 6.1 0.9 6.3 0.1 48 17.1 8.1 30.0 8.2 4 91 <0.2 101.9 8.2 63 0.1 49 17 1 8 1 30.0 4 91 0.8 0.9 0.9 0.9 1.0 0.1 182 17 1 8.1 29.4 8.2 5.3 85 <0.2 Surface 17.1 8.1 100.8 8.2 5.3 5.9 1.0 0.1 188 17 1 8 1 29 4 100 85 <0.2 5 4.2 161 8.1 89 <0.2 0.1 17.1 29.5 101.3 8.2 IM7 Cloudy Calm 13:37 8.4 Middle 17.1 8.1 101.2 821353 806846 89 4.2 0.1 173 17.1 8.1 29.5 8.2 5.9 5 7.4 0.2 142 17.1 8.1 30.1 8.2 8.0 3 93 <0.2 0.9 Bottom 17.1 8.1 30.1 101.6 8.2 7.4 0.2 149 17.1 8.1 30.1 8.0 <0.2 0.9 1.0 0.1 102 17.6 8.2 30.8 100.4 8.0 2.4 8 87 < 0.2 0.9 Surface 17.6 8.2 30.8 100.4 30.8 17.6 8.2 87 <0.2 1.0 0.1 106 100. 2.4 7 0.8 17.6 8.2 30.8 2.4 7 92 91 <0.2 3.8 0.1 75 100.2 8.0 17.6 8.2 30.8 100.2 821843 808134 IM8 Fine Moderate 12:51 7.5 Middle 90 8.0 8.0 2.4 3.8 0.1 80 17.6 8.2 30.8 100. 7 2.9 2.9 92 0.9 6.5 0.0 54 17.6 8.2 31.0 99.9 99.9 7.9 7.9 7 <0.2 17.6 8.2 31.0 99.9 7.9 Rottom

Water Quality Monitoring Results on 05 January 21 during Mid-Flood Tide Turbidity(NTU) Suspended Solids Total Alkalinity DO Saturation Chromium Salinity (ppt) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Speed Current Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Time (m/s) Average Average Value Average Value DA Value DA Value DA Value DA Value DA Value DA Condition Condition Depth (m) Value Value Average Value (Northing) (Easting) 17.7 0.1 Surface 8.3 31.3 101.4 1.0 0.1 146 17.7 3.1 3.5 0.1 152 17.7 8.3 31.3 8.0 3.3 8 90 <0.2 0.9 101.0 808788 IM9 Fine Moderate 12:45 8.3 31.3 822103 0.9 3.5 0.1 160 17.7 8.3 31.3 101.0 8.0 3.3 8 90 <0.2 0.9 6.0 0.1 149 17.6 8.3 31.3 100.5 7.9 3.5 8 91 <0.2 0.9 Bottom 17.6 8.3 31.3 100.5 7.9 6.0 0.1 150 17.6 8.3 31.3 100.5 79 3.5 8 91 <0.2 0.8 3.7 1.0 0.3 311 17.5 8.3 31.5 8.0 10 86 < 0.2 0.9 Surface 8.3 31.5 101.1 <0.2 1.0 0.4 323 17.5 8.3 31.5 101. 8.0 3.7 10 87 0.9 3.9 0.3 299 17.5 8.3 31.5 8.0 4.0 9 90 90 <0.2 0.9 IM10 Moderate 12:37 7.8 Middle 8.3 31.5 100.8 822399 809807 3.9 4.0 <0.2 0.3 300 17.5 8.3 31.5 100. 8.0 6.8 17.5 8.3 3.8 8 0.9 0.3 302 31.5 100. 8.0 89 < 0.2 Bottom 17.5 8.3 31.5 100.8 8.0 8 6.8 0.3 311 17.5 8.3 31.5 100.8 8.0 3.8 90 **-**0 2 0.5 288 17.6 10 1.0 0.8 8.3 7.9 Surface 17.6 8.3 31.6 100.4 6.5 7.3 7.3 0.8 1.0 289 7.9 10 86 <0.2 0.5 17.6 8.3 31.6 100.4 0.8 0.9 0.9 8 <0.2 17.6 7.9 7.9 89 89 3.8 288 311 99.9 99.9 IM11 Fine Moderate 12:27 7.6 Middle 8.3 31.7 99.9 88 822071 811461 0.8 17.6 0.3 8.3 7.9 <0.2 6.6 0.3 292 17.6 8.3 31.7 100.4 7.9 8 90 17.6 8.3 7.9 Bottom 31.7 100.4 6.6 0.3 309 17.6 8.3 31.7 100.4 7.9 7.9 8 90 <0.2 0.8 0.5 17.6 <0.2 9 0.8 8.3 31.6 8.0 Surface 17.6 8.3 31.6 101.2 1.0 0.5 315 17.6 8.3 31.6 101.2 8.0 6.9 9 87 <0.2 0.9 0.8 4.1 0.5 309 17.6 8.0 9.8 8 89 <0.2 8.3 31.6 100. 821437 812064 IM12 Fine Moderate 12:20 8.1 Middle 17.6 8.3 31.6 100.9 4.1 17.6 8.3 9.8 8 90 <0.2 0.5 316 0.4 302 17.6 8.3 31.6 7.9 7.9 10.6 6 92 <0.2 0.9 17.6 8.3 31.6 100.2 7.9 Rottom 7.1 0.4 303 17.6 8.3 31.6 10.7 0.8 1.0 17.8 8.3 31.8 6.2 8 7.9 7.9 Surface 17.8 8.3 31.8 100.7 1.0 17.8 6.2 8 2.7 Fine Moderate 11:49 Middle 819976 812660 2.7 4.3 17.8 8.3 7.9 8.5 6 Bottom 17.8 8.3 31.8 100.5 7.9 7.9 4.3 17.8 83 31.8 100 8.5 6 1.0 0.0 119 17.6 8.3 31.5 100.9 8.0 5.0 6 90 <0.2 0.9 Surface 17.6 8.3 31.5 100.9 1.0 0.0 129 17.6 8.3 31.5 100.5 8.0 5.1 6 90 < 0.2 0.8 8.0 SR2 Moderate 11:31 4.4 Middle 821474 814187 3.4 5.6 91 0.0 78 17.5 8.3 8.0 5 <0.2 0.9 100.7 Bottom 5.6 3.4 0.0 17.5 83 31.5 - 5 0.9 84 92 r0 2 1.0 0.0 68 17.8 8.2 30.8 100.3 7.9 7.9 2.8 8 Surface 17.8 8.2 30.8 100.3 8.2 17.8 30.8 100 2.8 1.0 0.0 74 8 4.3 4.8 6 0.1 23 17.6 8.2 30.8 98.9 7.8 SR3 Moderate 12:57 Middle 17.6 98.9 822145 807564 98.9 7.8 4.8 4.3 17.6 8.2 30.8 0.1 24 7.5 7.5 0.1 42 17.6 17.6 8.2 8.2 30.8 99.1 99.1 7.9 7.9 8.4 8.4 6 Bottom 17.6 8.2 30.8 99.1 7.9 30.8 0.1 45 17.1 1.0 0.1 72 8.1 30.3 100.4 8.1 6.0 8 Surface 17.1 8.1 30.3 100.4 1.0 74 17.1 30.3 8.1 0.1 8.1 100.4 6.0 8 4.6 0.1 49 17.1 6.0 7 8.1 8.1 . 30.3 SR4A 12:03 17.1 8.1 30.3 100.3 817196 807820 Cloudy Calm 9.1 Middle 4.6 49 17.1 8.1 30.3 6.0 7 0.1 17.1 5.9 5.9 8.1 0.1 44 8.1 30.3 8.1 8.1 8.1 100.4 8 1 6 Rottom 17.1 30.3 8.1 0.1 17.1 1.0 0.0 127 17.2 8.1 30.3 8.1 100.6 8.1 Surface 17.2 8.1 30.3 100.7 1.0 0.0 136 17.2 8.1 8.1 8.4 7 SR5A 11:45 3.1 Middle 816616 810686 Cloudy Calm 2.1 0.0 210 17.2 30.3 8.1 7.6 6 Bottom 17.2 8.1 30.3 100.9 8.1 0.0 17.2 8.1 30.3 8.1 7.6 2.1 224 1.0 0.1 237 17.3 8.0 30.3 7.8 Surface 17.3 8.0 30.3 100.5 1.0 0.1 256 17.3 8.0 30.3 100. 8.0 7.8 8 SR6A Cloudy Calm 11:06 4.1 Middle 817977 814734 3.1 0.1 231 17.3 30.3 99.8 8.0 9.1 7 Bottom 17.3 8.1 30.3 99.8 8.0 3.1 0.1 238 17.3 8 1 30.3 90 8 9.1 7 1.0 0.2 67 18.0 8.1 32.0 95.5 44 8.1 95.5 Surface 32.0 1.0 0.2 72 18.0 8.1 32.0 95.5 7.5 4.1 6 8.2 0.2 73 17 9 8.1 32.0 94.9 7.4 5.0 4 SR7 Moderate 10:40 16.3 Middle 8.1 32.0 94.9 823613 823754 Fine 5.0 4 8.2 0.2 73 17.9 8.1 32.0 94.9 7.4 15.3 0.2 67 17.9 8.1 32.0 94.4 7.4 5.1 3 Bottom 8.1 32.0 94.4 15.3 0.2 17.9 8.1 94.4 7.4 5.1 3 1.0 17.8 8.3 31.4 102.9 8.1 4.2 8 Surface 17.8 8.3 31.4 102.9 1.0 17.8 8.3 31.4 102.9 8.1 4.2 8 . . 820376 811627 SR8 Fine Moderate 12:10 4.4 Middle -3.4 17.7 4.3 6 8.3 31.4 102.2 8.1 17.7 Bottom 8.3 31.4 102.3

DA: Depth-Averaged

Water Quality Monitoring Results on 07 January 21 during Mid-Ebb Tide Turbidity(NTU) Suspended Solids Total Alkalinity DO Saturation Dissolved Chromium Salinity (ppt) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Current Speed Oxvaen (mg/L) (maga) Sampling Depth (m) HK Grid HK Grid Station Direction Condition Time (m/s) Average Value Average Average Value Average Value DA Value DA Value DA Value DA (Northing) Value DA Value DA Condition Depth (m) Value Value (Easting) 17.6 0.2 7.8 31.1 103.7 1.0 251 17.6 5.4 5.6 4.2 0.2 230 17.6 7.8 31.2 104.0 8.2 8 90 <0.2 0.8 07:05 103.8 804228 C1 Cloudy Calm 7.8 31.2 815599 0.9 4.2 0.2 251 17.6 7.8 31.2 103.5 8.2 5.7 8 90 <0.2 0.9 7.3 0.2 239 17.6 7.8 31.2 102.7 8.1 5.7 9 94 <0.2 0.9 Bottom 7.8 31.2 103.2 8.2 7.3 0.2 249 17.6 7.8 31.2 103.6 8.2 5.8 8 94 <0.2 0.8 1.0 3.1 317 16.9 8.1 29.1 99.0 8.1 4.4 4 85 < 0.2 1.1 Surface 8.1 29.1 99.0 <0.2 1.0 3.2 325 16.9 8.1 29.1 99.0 8.1 4.4 5 85 1.1 5.9 3.1 329 17.0 8.1 98.6 8.0 7.9 8.1 5 6 88 88 <0.2 1.1 C2 Cloudy Moderate 08:18 11.7 Middle 8.1 29.3 98.6 825700 806950 5.9 331 8.1 17.0 29.3 98.6 8.0 10.7 3.2 17.0 8.1 10.1 8 333 29.3 98.6 8.0 93 < 0.2 Bottom 17.0 8.0 29.3 98.6 8.0 10.7 10.3 1.1 3.4 335 17.0 8.0 98.6 8.0 92 <0.2 29.3 1.0 0.3 17.2 0.9 8.1 4 86 96.0 < 0.2 Surface 17.2 8.1 30.1 96.0 3.8 4.4 4.5 1.0 17.2 96.0 7.7 4 87 <0.2 0.3 96 8.1 30.1 0.9 0.8 0.8 5 4 87 88 <0.2 17.4 6.1 8.1 30.2 95.7 95.7 C3 Cloudy Moderate 05:55 12.1 Middle 17.4 8.1 30.2 95.7 89 822097 817795 0.9 6.1 17.4 7.7 0.3 73 30.2 17.4 <0.2 11.1 0.2 77 8.2 30.2 96.8 7.8 4.5 5 93 17.4 8.2 7.8 Bottom 30.2 96.9 11.1 0.3 77 17.3 8.2 30.2 96.9 7.8 4.5 5 93 <0.2 0.8 0.1 200 17.6 104.7 2.6 88 7.8 31.0 6 <0.2 0.8 8.3 Surface 17.6 7.8 31.0 104.3 1.0 0.2 206 17.6 7.9 31.0 103.8 8.2 2.4 5 89 <0.2 0.7 8.3 807153 IM1 Cloudy Calm 07:20 4.6 Middle 90 817942 3.6 0.1 205 17.6 7.8 8.2 5.7 6 90 <0.2 0.8 Bottom 17.6 7.8 31.0 103.3 8.2 3.6 0.1 225 17.6 7.8 31.0 8.2 5.7 0.8 0.2 192 17.4 7.8 30.8 8.3 8.3 8 86 <0.2 0.8 Surface 17.4 7.8 30.8 104.5 1.0 0.2 207 17.4 30.8 7.1 8 87 <0.2 0.8 0.8 0.9 3.3 0.2 189 17.4 7.3 7 <0.2 <0.2 <0.2 8.2 92 103.6 806182 Cloudy Calm 07:25 Middle 7.8 30.8 818140 17.4 7.5 8 3.3 0.2 5.6 0.2 176 17.4 7.8 30.8 8.2 9.7 6 95 Bottom 17.4 7.8 30.8 103.4 8.3 5.6 0.2 178 17.4 7.8 30.8 83 9.7 6 95 <0.2 0.8 0.8 1.0 0.3 166 17.5 7.8 30.7 104 8.3 3.1 9 86 <0.2 Surface 7.8 30.7 104.7 1.0 0.3 174 17.5 7.8 30.7 8.3 2.9 10 87 < 0.2 0.8 3.4 0.2 160 17.5 7.8 30.7 8.3 2.9 10 90 <0.2 IM3 Cloudy 07:40 6.7 Middle 7.8 104.2 818763 805581 91 95 <0.2 3.4 0.3 165 17.5 30.7 3.0 9 5.7 153 47 0.8 0.2 17.5 7.8 30.7 8.2 8 102.9 8.2 7.8 4.8 5.7 0.2 17.5 7.8 30.7 q 95 <0.2 164 1.0 0.6 194 17.4 7.8 30.6 104.8 8.4 8.4 5.2 8 87 <0.2 0.8 Surface 17.4 7.8 30.6 105.0 87 1.0 17.4 7.8 30.6 105 5.3 7 <0.2 0.6 205 4.0 187 5.8 7 91 91 0.8 0.5 17.4 7.8 30.6 104.3 8.3 <0.2 IM4 Cloudy Calm 07:50 7.9 Middle 17.4 7.8 103.7 819741 804602 6 8.2 6.6 4.0 191 17.4 30.6 0.5 6.9 5 6 0.8 0.4 198 17.4 17.4 7.8 30.6 30.6 8.2 8.3 5.6 5.5 96 95 <0.2 Rottom 17.4 7.8 30.6 103.4 8.3 0.4 208 < 0.2 17.4 0.8 1.0 0.6 87 205 7.8 30.5 102. 8.2 5.2 5 <0.2 Surface 17.4 7.8 30.5 102.7 1.0 17.4 30.5 8.2 <0.2 0.9 0.6 213 7.8 102. 5.3 6 88 3.7 0.6 200 17.4 6.9 7 92 <0.2 0.9 7.8 30.5 103.2 8.2 IM5 08:01 7.4 17.4 7.8 30.5 103.0 820737 804843 Cloudy Calm Middle 92 3.7 209 17.4 7.8 30.5 8.2 6.8 6 92 < 0.2 0.8 0.6 <0.2 0.9 17.4 5.5 6.0 95 95 6.4 0.5 197 7.8 30.5 17.4 7.8 102.8 8.2 8.2 8 Bottom 30.5 6.4 0.5 209 17.4 7.8 0.9 0.8 0.9 0.9 1.0 0.5 234 17.4 7.8 30.5 8.3 3.8 8 86 <0.2 103.9 Surface 17.4 7.8 30.5 103.8 1.0 0.6 236 17.4 30.5 103. 8.3 3.9 87 <0.2 3.5 0.5 242 17.4 7.8 30.5 8.3 4.6 8 92 <0.2 08:05 6.9 Middle 17.4 7.8 30.5 103.9 821066 805821 IM6 Cloudy Calm 3.5 0.5 264 17.4 7.8 30.5 103. 8.3 4.7 93 <0.2 0.8 5.9 0.3 246 17.4 7.8 30.5 8.2 5.4 94 <0.2 Bottom 17.4 7.8 30.5 103.3 8.3 0.4 259 17.4 30.5 5.9 1.0 0.3 254 17.4 7.8 30.4 5.3 88 <0.2 0.8 Surface 17.4 7.8 30.4 103.9 1.0 0.3 267 17.4 7.8 30.4 104. 8.3 5.1 8 89 <0.2 0.8 7 0.8 3.9 0.3 243 17.4 30.5 8.2 5.2 92 <0.2 IM7 Cloudy Calm 08:10 Middle 7.8 30.5 103.3 821368 806842 <0.2 3.9 0.3 245 17.4 7.8 30.5 5.0 92 6.8 0.2 260 17.5 7.8 30.5 8.1 5.3 7 93 <0.2 0.9 7.8 30.5 102.2 8.2 6.8 0.2 282 17.5 7.8 30.5 5.7 6 93 <0.2 0.9 1.0 23 143 16.9 8.1 29.4 100 5 8.2 5.1 4 89 < 0.2 0.9 100.5 Surface 8.1 29.4 1.0 1.0 2.4 143 16.9 8.1 29.4 100.5 8.2 5.1 5 89 <0.2 3.7 23 156 16.9 8.1 29.4 100.3 8.1 5.1 5 5 90 91 <0.2 1.0 IM8 Cloudy Moderate 07:47 7.4 Middle 8.1 29.4 100.3 821848 808131 3.7 2.4 159 16.9 8.1 29.4 8.1 5.1 < 0.2 6.4 2.4 150 16.9 8.1 29.4 100.1 8.1 6.2 5 92 <0.2 1.0 8.1 Bottom 16.9 29.4 100.1 16.9

DA: Depth-Averaged

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

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

Water Quality Monitoring Results on 07 January 21 during Mid-Ebb Tide DO Saturation Suspended Solids Total Alkalinity Chromium Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Speed Current Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Time (m/s) Average Average Value Average Value DA Value DA Value DA Value DA Value DA Value DA Condition Condition Depth (m) Value Value Average Value (Northing) (Easting) 16.9 Surface 8.1 29.4 100.4 1.7 243 16.9 4.7 4.9 3.7 1.8 235 16.9 8.1 29.4 100.2 8.1 4 89 <0.2 1.1 07:42 100.2 808792 IM9 Cloudy Moderate 7.3 8.1 29.4 90 822109 3.7 1.9 246 16.9 8.1 29.4 100.2 8.1 4.9 5 90 <0.2 1.0 6.3 1.6 237 16.9 8.1 29.4 100.1 8.1 4.8 6 91 <0.2 1.0 Bottom 8.1 29.4 100.1 16.9 6.3 1.8 256 16.9 8.1 29.4 100.1 8.1 4.9 5 92 <0.2 1.0 1.0 1.4 16.9 8.1 29.4 100.1 8.1 4.9 87 < 0.2 0.9 Surface 8.1 29.4 100.1 1.0 1.6 22 16.9 8.1 29.4 100.1 8.1 4.9 6 87 <0.2 0.9 8.1 3.9 1.5 13 16.9 8.1 29.4 99.9 4.9 5.0 5 6 91 92 <0.2 1.0 IM10 Cloudy Moderate 07:35 7.7 Middle 8.1 29.4 99.9 822379 809792 3.9 1.7 13 8.1 8.1 < 0.2 16.9 29.4 99.8 6.7 1.7 16.9 7.2 5 18 8.1 29.4 99.9 8.1 93 < 0.2 1.0 Bottom 8.1 29.4 99.9 5 1.1 6.7 7.4 17 18 16.9 8.1 29.4 gg g 8 1 93 **-**0 2 1.0 1.2 16.9 8.1 6.2 8.1 Surface 8.1 29.5 100.3 1.0 6.2 87 0.9 1.3 293 16.9 8.1 29.5 100. 8.1 8 < 0.2 6.4 6.5 0.9 1.0 16.9 89 90 <0.2 4.2 286 289 8.1 29.5 8.1 IM11 Cloudy Moderate 07:23 8.3 Middle 8.1 29.5 100.0 90 822041 811456 0.9 16.9 8 1.2 8.1 0.9 7.3 1.1 299 16.9 8.1 29.5 99.9 14.0 6 92 <0.2 8.1 8.1 8.1 Bottom 16.9 29.5 99.9 7.3 1.1 319 16.9 8.1 29.5 99.9 8.1 14.0 6 92 <0.2 0.9 0.3 16.9 5.3 29.4 6 <0.2 0.9 Surface 16.9 8.1 100.0 29.4 1.0 0.3 129 16.9 8.1 29.4 100.0 8.1 5.3 6 87 <0.2 0.9 4.3 0.3 112 16.9 5.7 6 89 <0.2 1.0 8.1 29.4 99.7 8.1 812056 IM12 Cloudy Moderate 07:15 8.6 Middle 16.9 8.1 29.4 99.7 821436 4.3 16.9 8.1 99.7 5.8 89 <0.2 0.9 113 0.3 0.3 115 16.9 8.1 29.4 99.6 5.7 92 <0.2 0.9 8.1 16.9 8.1 29.4 99.6 8 1 Rottom 7.6 0.3 119 16.9 8.1 29.4 99.6 8.1 5.7 0.9 1.0 17.0 8.1 29.7 4.8 6 99.3 8.0 Surface 17.0 8.1 99.3 29.7 1.0 17.0 8.0 4.8 6 2.4 Cloudy Calm 06:38 Middle 819976 812656 2.4 3.8 17.0 8.1 29.8 99.3 8.0 4.6 8 Bottom 17.0 8.1 29.8 99.3 8.0 3.8 17.0 8 1 29.8 99.3 8.0 47 1.0 0.3 90 17.0 8.2 29.8 100.1 8.1 4.4 6 84 <0.2 0.9 Surface 17.0 8.2 29.8 100.1 1.0 0.4 97 17.0 8.2 29.8 100.1 8.1 4.4 5 85 < 0.2 0.9 SR2 Cloudy Moderate 06:22 4.4 Middle 821449 814179 3.4 4.5 91 0.3 90 17.0 8.2 29.8 8.1 4 <0.2 1.0 100.0 8.1 Bottom 4.5 3.4 92 17.0 29.8 4 1.0 0.3 8.2 91 r0 2 1.0 2.9 154 16.8 8.1 29.3 99.9 8.1 8.1 5.8 Surface 8.1 29.3 99.9 8.1 16.8 qq q 5.9 8 1.0 3.0 160 29.3 4.4 2.8 143 6.2 6.3 7 16.8 8.1 29.3 99.8 8.1 SR3 Cloudy Moderate 07:52 Middle 8.1 99.8 822162 807559 8.1 99.8 8 4.4 154 16.8 8.1 3.0 29.3 7.9 7.9 7.8 2.6 140 16.8 16.8 8.1 8.1 99.5 99.5 8.1 8.1 6 7 Bottom 16.8 8.1 29.3 99.5 8 1 2.7 140 29.3 1.0 0.2 17.6 65 7.8 31.1 100.9 8.0 3.8 5 Surface 17.6 7.8 31.1 100.7 17.6 31.1 8.0 1.0 0.2 67 7.8 100. 3.8 4 3.8 17.6 4.5 5 0.1 7.8 . 31.2 8.0 SR4A 06:35 17.6 7.8 31.2 103.2 817205 807818 Cloudy Calm 7.6 Middle 3.8 59 17.6 7.8 31.1 4.7 5 0.1 5.9 6.6 0.1 17.8 7.8 31.3 7.9 8.3 80 100. 102.7 8 1 6 17.8 7.8 31.3 Rottom 6.6 0.1 17.8 7.8 1.0 0.2 316 17.6 7.8 30.9 3.5 5 102.9 8.2 17.6 7.8 30.9 102.5 Surface 1.0 0.2 328 17.6 30.9 3.6 6 SR5A 06:12 3.2 Middle 816577 810705 Cloudy Calm 2.2 0.2 319 17.6 30.9 8.4 3.6 6 Bottom 17.6 7.8 30.9 104.7 8.3 17.6 30.9 3.3 2.2 0.2 323 1.0 0.2 17.7 7.8 31.1 88.3 7.0 6.5 Surface 17.7 7.8 31.1 89.8 1.0 0.2 21 17.7 7.8 31.1 91.3 7.2 6.6 9 SR6A Cloudy Calm 05:27 5.1 Middle 817979 814740 4.1 0.1 20 17.7 7.8 8.4 6.9 6 Bottom 7.8 31.1 102.4 8.1 4.1 0.1 21 17.6 7.8 31 1 98.3 7.8 7.9 5 1.0 0.4 85 17.6 8.0 30.4 93.4 7.4 3.6 93.4 Surface 30.4 1.0 0.4 87 17.6 8.0 30.4 93.4 7.4 3.6 3 7.8 0.4 86 17.6 8.0 30.4 93.3 7.4 3.6 5 5 SR7 Cloudy Moderate 05:11 15.6 Middle 8.0 30.4 93.3 823644 823747 7.8 0.4 86 17.6 8.0 30.4 93.3 7.4 3.6 14.6 0.3 95 17.6 8.0 30.4 93.2 7.4 3.6 6 Bottom 8.0 30.4 93.2 14.6 0.3 97 17.6 8.0 30.4 93.2 7.4 3.6 6 1.0 17.3 8.1 29.5 99.8 8.0 5.3 6 Surface 17.3 8.1 29.5 99.8 1.0 17.3 8.1 29.6 99.8 8.0 5.4 5 . -07:01 811633 SR8 Cloudy Moderate 5.2 Middle 820399 -4.2 16.9 5.7 6 8.1 29.6 99.0 8.0 16.9 8.1 29.6 99.0 8.0

DA: Depth-Average

Water Quality Monitoring Results on 07 January 21 during Mid-Flood Tide Turbidity(NTU) Suspended Solids Total Alkalinity DO Saturation Dissolved Chromium Salinity (ppt) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Current Speed Oxvaen (mg/L) (maga) Sampling Depth (m) HK Grid HK Grid Station Direction Condition Time Depth (m) (m/s) Average Value Average Average Value Average Value DA Value DA Value DA Value DA (Northing) Value DA Value DA Condition Value Value (Easting) 17.7 0.4 Surface 17.7 8.3 31.8 104.6 1.0 0.4 56 17.7 31.8 104.5 8.2 0.8 86 <0.2 0.7 17.7 8.2 1.5 0.7 8 89 <0.2 C1 8.3 31.8 103.8 804236 Calm 13:35 84 Middle 17.7 89 815631 Cloudy 0.7 17.7 8.3 31.8 8.2 1.6 7 90 <0.2 0.8 0.4 50 7.4 0.3 42 17.6 8.3 31.8 103. 8.1 3.1 10 93 <0.2 0.7 17.6 8 1 Bottom 8.3 31.8 103.2 8.1 0.7 7.4 17.6 3.2 0.3 45 8.3 31.8 9 94 < 0.2 1.0 0.2 3.9 < 0.2 1.3 8.1 Surface 17.0 8.1 28.7 100.7 17.0 3.9 4.3 8.2 87 1.0 213 281 <0.2 17.0 6 1.4 5.8 0.1 8.1 89 29.4 99.0 8.0 C2 Cloudy Moderate 12:12 11.5 Middle 17.0 8.1 29.4 99.0 89 825675 806963 17.0 29.4 99.0 8.0 4.4 6 89 <0.2 5.8 0.2 282 8.1 10.5 0.2 303 17.0 8.2 99.7 8.1 4.3 8 92 <0.2 1.3 29.4 17.0 8.2 99.7 Bottom 29.4 10.5 0.2 323 17.0 8.2 29.4 99.7 4.3 7 92 <0.2 1.2 0.4 17.5 4.8 6 89 <0.2 1.1 Surface 17.5 8.1 30.3 95.3 1.0 0.4 260 17.5 8.1 30.3 95.2 7.6 4.8 5 89 <0.2 1.1 8.8 0.8 6.1 0.4 251 17.5 8.1 7.6 6 5 88 88 <0.2 30.3 95.3 C3 817784 Cloudy Moderate 14:32 12.1 Middle 17.5 8.1 30.3 95.3 90 822095 0.9 0.4 263 17.5 11.1 0.3 258 17.5 30.3 96.1 7.7 9.0 5 92 <0.2 0.7 Bottom 17.5 8.1 30.3 96.2 7.7 11.1 0.3 280 17.5 8.1 30.3 96.2 77 8.5 4 0.7 1.0 0.1 354 17.8 8.3 31.6 0.6 89 <0.2 0.8 Surface 17.8 8.3 31.6 105.7 1.0 0.1 326 17.8 8.3 31.6 105.0 8.3 0.6 6 89 <0.2 0.8 807135 IM1 Cloudy Calm 13:11 Middle 817970 3.7 0.1 351 17.8 8.3 31.6 106.0 8.4 2.0 92 <0.2 0.8 Bottom 17.8 8.3 31.6 106.1 8.4 3.7 0.1 323 17.8 8.3 31.6 106.1 8.4 2.1 5 93 <0.2 0.8 1.0 17.7 1.8 0.3 8.3 31.5 104.3 8.2 6 84 < 0.2 0.9 Surface 8.3 31.5 104.2 1.0 0.3 340 17.7 8.3 31.5 104.0 8.2 1.8 7 85 <0.2 0.8 3.4 0.2 323 17.7 8.3 31.6 8.2 4.7 8 88 <0.2 0.8 IM2 Cloudy Calm 13:02 6.8 Middle 8.3 31.6 103.9 89 818174 806186 <0.2 0.9 0.8 0.8 3.4 0.3 335 17.7 8.3 31.6 8.2 4.8 8 89 5.8 0.2 321 17.8 83 31.6 8.1 9.0 9 92 <0.2 8.3 31.6 103.2 5.8 8.1 0.3 333 17.8 8.3 103 8.9 q 93 <0.2 31.6 1.0 0.2 17 17.5 83 31 3 8.2 3.6 8 88 < 0.2 0.9 Surface 8.3 31.3 103.4 1.0 3.8 4.6 9 88 0.3 17 17.5 8.3 8.2 <0.2 31.3 103. 0.8 17.5 8.2 9 92 <0.2 3.4 0.2 36 8.3 31.3 IM3 Cloudy Calm 12:54 6.8 Middle 17.5 8.3 31.3 103.4 818785 805578 0.9 17.5 17.5 4.6 7.1 9 10 92 93 0.9 3.4 0.3 8.3 8.2 <0.2 5.8 0.3 26 8.3 31.3 8.2 Rottom 17.5 8.3 31.3 103.1 8.2 5.8 0.3 17.5 8.3 31.3 8.2 7.1 10 94 <0.2 0.9 28 358 17.6 0.9 1.0 0.4 8.3 31.2 105.6 8.4 5 86 <0.2 Surface 17.6 8.3 31.2 105.6 0.5 329 8.3 8.4 6 87 <0.2 1.0 0.9 0.9 17.6 0.1 90 <0.2 3.9 0.4 357 8 8.3 31.3 8.3 IM4 Cloudy Calm 12:44 7.8 Middle 17.6 8.3 31.3 105.2 819701 804601 3.9 0.4 328 17.6 8.3 8.3 0.1 91 <0.2 6.8 0.4 17.5 0.3 8 94 8.3 8.3 17.5 Bottom 8.3 31.4 104.6 8.3 6.8 0.4 17.5 8.3 8.3 0.3 8 <0.2 0.9 0.9 1.0 0.2 290 17.6 8.3 31.4 5.7 11 85 <0.2 105.4 8.3 Surface 17.6 8.3 31.4 105.4 291 17.6 8.3 5.8 10 86 <0.2 0.2 8.3 3.8 0.1 294 17.6 6.2 12 89 <0.2 0.9 8.3 8.3 IM5 Calm 12:33 7.5 Middle 17.6 8.3 31.4 105.4 820717 804873 Cloudy 3.8 0.1 299 17.6 6.2 13 <0.2 6.7 0.8 6.5 0.1 234 17.6 8.3 8.3 31.4 8.3 13 92 <0.2 17.6 8.3 31.4 104.8 8.3 Bottom 6.5 0.1 234 17.6 104 13 93 < 0.2 1.0 0.2 260 17.5 8.3 31.0 1.7 5 87 <0.2 1.0 8.2 Surface 8.3 31.0 103.7 1.0 0.2 262 17.5 8.3 8.2 1.7 6 86 <0.2 1.0 3.6 0.2 249 17.5 31.0 1.7 7 89 <0.2 Cloudy Calm 12:23 Middle 17.5 8.3 31.0 103.7 821075 805804 <0.2 3.6 0.2 250 17.5 8.3 31.0 8.2 1.9 8 90 3.9 4.0 1.0 6.1 0.3 236 17.5 8.3 31.1 8.2 8 92 <0.2 103.3 8.2 6.1 0.3 243 17.5 83 8 94 1.0 1.0 0.4 253 17.5 8.3 31.0 8.2 2.0 5 87 <0.2 Surface 17.5 103.8 272 257 8.2 6 7 1.0 0.4 17.5 83 31.0 103 1.9 87 <0.2 1.1 4.0 3.2 88 <0.2 0.3 17.5 8.3 31.1 103.6 8.2 IM7 Cloudy Calm 12:14 7.9 Middle 17.5 8.3 31.1 103.6 821333 806842 88 4.0 0.3 263 17.5 8.3 31.1 8.2 2.9 6 6.9 0.2 262 17.5 8.3 31.1 8.2 4.3 7 91 <0.2 1.1 Bottom 17.5 8.3 31.1 103.8 8.2 6.9 0.3 274 17.5 4.6 <0.2 1.2 1.0 0.2 240 17.0 8.1 29.4 102. 8.3 8.3 5.0 5 88 < 0.2 1.0 Surface 17.0 8.1 29.4 102.4 16.9 29.4 1.1 8.1 1.0 0.2 253 5.3 5 88 < 0.2 16.9 8.1 29.4 5.9 6 89 <0.2 1.0 3.7 0.1 257 102. 8.3 16.9 8.1 102.3 821839 808135 IM8 Cloudy Moderate 12:37 7.4 Middle 29.4 90 89 8.3 6.0 3.7 0.1 279 16.9 8.1 6 1.0 6.4 0.1 258 16.9 8.1 29.4 6.3 6 7 91 <0.2 102. 8.3 16.9 8.1 29.4 102.6 8.3 Rottom

DA: Depth-Average

Water Quality Monitoring Results on 07 January 21 during Mid-Flood Tide Turbidity(NTU) Suspended Solids Total Alkalinity DO Saturation Dissolved Chromium Salinity (ppt) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Speed Current Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Time (m/s) Average Average Value Average Value DA Value DA Value DA Value DA Value DA Value DA Condition Condition Depth (m) Value Value Average Value (Northing) (Easting) 17.0 0.2 Surface 8.1 260 17.0 6.0 6.3 3.5 0.3 257 17.0 8.1 29.4 102. 8.3 7 89 <0.2 1.1 102.4 808789 IM9 Cloudy Moderate 12:43 8.1 29.4 6.2 822093 3.5 0.3 264 17.0 8.1 29.4 102.4 8.3 6.3 6 89 <0.2 1.0 6.0 0.2 258 16.9 8.1 29.4 102.5 8.3 6.2 6 91 <0.2 1.0 Bottom 16.9 8.1 29.4 102.5 8.3 6.0 0.2 274 16.9 8.1 29.4 102.5 8.3 6.3 7 92 <0.2 1.0 17.0 1.0 0.5 300 8.1 29.5 102. 8.3 5.6 88 < 0.2 1.1 Surface 8.1 29.5 102.7 1.0 0.5 317 17.0 8.1 29.5 8.3 5.7 6 88 <0.2 1.1 3.8 0.5 297 17.0 8.1 29.5 8.3 5.5 5.5 7 89 90 <0.2 1.0 IM10 Cloudy Moderate 12:52 7.6 Middle 8.1 29.5 102.7 822400 809775 0.5 311 8.1 8 3.8 17.0 29.5 8.3 6.6 0.4 17.0 5.6 8 296 8.1 29.5 104. 8.4 92 < 0.2 Bottom 17.0 8.1 29.5 104.0 8.4 1.1 6.6 0.4 306 16.9 8.1 29.5 104 (8.4 5.6 8 93 **-**0 2 0.5 293 17.1 1.0 8.1 4.3 88 8.3 Surface 17.1 8.1 29.7 103.0 1.0 1.0 4.3 4 88 < 0.2 0.5 300 17.1 8.1 29.7 8.3 8.3 4.9 1.0 0.9 1.0 6 8.2 89 89 <0.2 3.7 291 291 8.1 IM11 Cloudy Moderate 13:05 7.3 Middle 17.1 8.1 29.7 102.1 89 822074 811452 17.1 0.5 8.1 29.7 7 6.3 0.4 300 17.1 8.1 29.7 8.2 6.8 90 <0.2 102.2 17.1 8.1 8.3 Bottom 29.7 102.3 6.3 0.4 319 17.1 8.1 29.7 102.3 8.3 6.7 8 91 <0.2 1.1 0.4 17.1 88 <0.2 29.8 6 8.2 Surface 17.1 8.1 102.2 29.8 1.0 0.4 274 17.1 8.1 29.8 8.2 5.5 6 89 <0.2 1.0 8.2 0.8 0.9 0.9 4.5 0.4 274 17.1 5.5 7 90 <0.2 8.1 29.8 8.2 812038 IM12 Cloudy Moderate 13:14 8.9 Middle 17.1 8.1 29.8 102.2 821455 4.5 17.1 8.1 5.5 8 91 <0.2 0.5 29.8 0.4 278 17.1 8.1 29.8 5.8 8 93 <0.2 8.3 17.1 8.1 29.8 102.8 8.3 Rottom 7.9 0.4 283 17.1 8.1 29.8 8.3 5.8 0.8 17.2 8.1 29.8 8.3 4.2 5 Surface 17.2 8.1 29.8 103.6 1.0 17.2 8.3 4.2 6 2.6 Cloudy Calm 13:50 5.2 Middle 819980 812665 2.6 4.2 17 1 8.1 29.8 8.4 4.2 7 Bottom 17.1 8.1 29.8 103.8 8.4 4.2 17 1 8 1 29.8 8.4 4.2 1.0 0.1 84 17.2 8.1 29.9 104.4 8.4 4.4 89 <0.2 0.8 Surface 17.2 8.1 29.9 104.4 1.0 0.1 88 17.2 8.1 29.9 104.4 8.4 4.5 6 88 < 0.2 0.9 SR2 Cloudy Moderate 14:06 4.2 Middle 821475 814160 32 49 91 0.1 73 17.2 8 1 29.9 8.4 4 <0.2 0.9 104.5 Bottom 49 17.2 8.1 104 6 0.8 3.2 0.1 75 29.9 91 r0 2 1.0 0.2 243 17 1 8.1 29.5 101 8.2 8.2 4.2 9 Surface 17.1 8.1 29.5 101.7 17 1 8 1 4.2 8 1.0 0.2 256 29 5 4.5 4.5 4.5 6 0.1 227 17.1 8.1 29.5 8.2 SR3 Cloudy Moderate 12:30 Middle 17.1 29.5 101.4 822162 807590 17.1 8.1 29.5 4.5 0.1 228 7.9 7.9 0.2 215 17.1 17.1 8.1 8.1 29.5 101.8 8.2 4.8 4.8 4 5 Bottom 17.1 8.1 29.5 8.2 0.2 216 29.5 1.0 0.0 327 17.8 0.5 8.3 31.5 104.0 8.2 5 Surface 17.8 8.3 31.5 104.1 17.8 31.5 8.2 1.0 0.0 341 8.3 104. 0.5 5 4.1 0.0 309 17.8 0.6 6 . 8.3 31.5 8.2 SR4A 13:58 17.8 8.3 31.5 103.7 817193 807813 Cloudy Calm 8.1 Middle 4.1 315 17.8 8.3 31.5 8.2 0.6 6 0.0 7.1 0.0 253 253 17.8 8.3 31.5 103.3 8.2 0.5 0.5 8.3 8.2 Rottom 17.8 31.5 0.0 17.8 8.3 8 253 1.0 0.4 17.8 8.3 31.5 8.2 2.3 9 104.5 17.8 8.3 31.5 104.6 Surface 1.0 0.4 256 17.8 8.3 31.5 8.2 2.3 9 SR5A 14:16 3.4 Middle 816579 810708 Cloudy Calm 2.4 0.2 262 17.8 8.2 2.4 Bottom 17.8 8.3 31.5 104.2 8.2 0.3 284 17.8 8.3 31.5 2.4 2.4 1.0 0.0 66 17.8 8.3 31.6 106.8 8.4 12 Surface 17.8 8.3 31.6 106.8 1.0 0.0 69 17.8 8.3 31.6 106. 8.4 8.5 12 SR6A Cloudy Moderate 14:58 4.8 Middle 817975 814737 3.8 0.1 151 17.8 8.4 11.5 13 Bottom 8.3 31.6 106.6 8.4 3.8 0.1 153 17.8 8.3 31.6 8.4 12.3 13 1.0 0.2 50 17.6 30.3 94.5 7.5 4.0 94.5 Surface 8.1 30.3 1.0 0.2 51 17.6 8.1 30.3 94.5 7.5 4.0 3 8.0 0.1 52 17.6 8.1 30.3 94.6 7.5 4.2 5 5 SR7 Cloudy Moderate 15:11 15.9 Middle 8.1 30.3 94.6 823627 823758 4.2 8.0 0.1 52 17.6 8.1 30.3 94.6 7.5 14.9 0.1 21 17.6 8.0 30.3 95.6 7.6 4.2 6 Bottom 8.0 30.3 95.7 7.6 14.9 0.1 17.6 8.0 30.3 95.8 7.6 4.1 7 1.0 17.4 8.1 29.4 104.1 8.4 8.4 12 Surface 17.4 8.1 29.4 104.1 11 1.0 17.4 8.1 29.4 104.1 8.4 8.3 --. 811631 820382 SR8 Cloudy Moderate 13:24 5.0 Middle -4.0 17.1 5.6 10 8.1 29.5 103.1 8.3 17.1 Bottom 8.1 29.5 103.1 8.3

DA: Depth-Averaged

Water Quality Monitoring Results on 09 January 21 during Mid-Ebb Tide Turbidity(NTU) Suspended Solids Total Alkalinity DO Saturation Dissolved Chromium Salinity (ppt) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Current Speed Oxvaen (mg/L) (maga) Sampling Depth (m) HK Grid HK Grid Station Direction Condition Time (m/s) Average Value Average Average Value Average Value DA Value DA Value DA Value DA (Northing) Value DA Value DA Condition Depth (m) Value Value (Easting) 15.9 0.2 30.7 1.0 178 15.9 30.7 7.6 7.5 10 4.2 0.2 169 15.9 8.2 30.7 100.8 8.3 89 <0.2 0.5 09:18 100.8 804269 C1 Cloudy Rough 8.2 30.7 10 815617 4.2 0.2 178 15.9 8.2 30.7 100.8 8.3 7.5 10 89 <0.2 0.5 7.4 0.1 153 15.9 8.2 30.7 101.5 8.3 7.6 11 91 <0.2 0.6 Bottom 8.2 30.7 101.6 8.3 7.4 0.1 154 15.9 8.2 30.7 101 6 8.3 7.6 11 92 <0.2 0.5 1.0 0.2 135 16.8 8.2 31.8 100.1 8.0 5.2 88 < 0.2 0.8 Surface 8.2 31.8 100.1 <0.2 1.0 0.2 138 16.8 8.2 31.8 100.1 8.0 5.2 4 88 0.8 5.4 0.5 154 16.7 8.2 31.8 99.6 8.0 5.3 5.3 5 5 92 92 <0.2 0.8 C2 Fine Moderate 11:18 10.8 Middle 8.2 31.8 99.6 825665 806950 5.4 0.5 160 16.7 8.2 31.8 99.6 8.0 9.8 0.5 144 16.5 8.2 5.7 6 0.9 31.8 99.6 8.0 96 < 0.2 Bottom 16.5 8.2 31.8 99.7 8.0 5.7 6 9.8 0.5 146 16.5 8.2 31.8 99.7 8.0 95 <0.2 1.0 0.4 286 17.6 8.2 5.4 84 0.7 7.9 < 0.2 Surface 17.6 8.2 32.5 100.9 0.6 1.0 7.9 5.5 7 84 <0.2 0.4 295 17.6 8.2 32.5 100. 79 6.0 0.6 0.6 0.7 17.6 7.9 6 <0.2 257 263 88 88 6.2 8.2 32.5 C3 Cloudy Moderate 08:36 12.3 Middle 8.2 32.5 101.0 88 822092 817820 0.7 17.6 0.2 8.2 <0.2 11.3 0.1 120 17.6 8.2 32.5 7.9 5.9 6 91 100.7 17.6 8.2 100.7 7.9 Bottom 32.5 11.3 0.1 126 17.6 8.2 32.5 100.6 7.9 6.0 6 91 <0.2 0.7 0.0 15.1 6.6 88 8.2 8.4 9 <0.2 30.2 0.8 Surface 15.1 8.2 30.2 100.1 1.0 0.0 66 15.1 8.2 30.2 100.1 8.4 6.6 9 87 <0.2 0.6 8.4 807150 IM1 Cloudy Rough 09:40 4.9 Middle 89 817972 0.7 3.9 0.0 15.0 8.2 30.3 8.5 7.8 90 <0.2 0.7 Bottom 15.0 8.2 30.3 101.5 8.5 3.9 0.0 51 15.0 8.2 30.3 8.5 7.7 0.6 0.1 186 15.5 8.2 30.4 8.3 6.9 85 <0.2 0.6 Surface 15.5 8.2 30.4 100.1 1.0 0.1 189 15.5 30.4 8.3 6.9 10 85 <0.2 0.6 0.6 0.6 3.4 0.1 193 15.5 7.1 10 <0.2 <0.2 <0.2 8.3 88 806149 Cloudy Rough 09:49 Middle 8.2 30.4 99.7 818186 0.1 210 15.5 7.2 10 3.4 5.8 0.1 175 15.5 8.2 30.4 99.6 8.3 8.5 9 90 Bottom 15.5 8.2 30.4 99.6 8.3 5.8 0.1 177 15.5 8.2 30.4 99.6 83 8.5 9 90 <0.2 0.7 0.6 1.0 0.1 178 15.4 8.2 30.4 100. 8.3 6.1 6 85 <0.2 Surface 8.2 30.4 100.3 1.0 0.1 188 15.4 8.2 30.4 8.3 6.1 6 85 <0.2 0.6 0.6 0.7 0.6 3.5 0.0 134 15.4 8.2 30.4 8.3 9.0 8 87 <0.2 IM3 Cloudy Rough 09:55 7.0 Middle 8.2 100.0 818785 805607 9.2 7.7 <0.2 3.5 0.0 146 15.4 30.4 8 88 9 90 6.0 0.1 156 15.4 8.1 30.4 99.9 8.3 8.3 7.7 0.1 15.4 8.1 30.4 gg g q <0.2 6.0 163 90 1.0 0.4 180 15.3 8.2 30.4 100.5 8.4 8.4 71 10 85 <0.2 0.6 Surface 15.3 8.2 30.4 100.5 7 1 85 15.3 8.2 30.4 10 <0.2 1.0 0.5 192 100 7.2 4.1 172 9 88 87 0.6 0.3 15.3 8.1 30.4 8.3 <0.2 IM4 Cloudy 10:06 8.2 Middle 15.3 8.1 100.2 87 819726 804630 Rough 10 8.3 4.1 180 15.3 8.1 30.4 0.4 90 7.2 0.4 167 15.3 15.3 8.1 8.1 30.5 8.5 8.5 8.1 8.1 8 <0.2 0.6 Rottom 15.3 8.1 30.5 102.4 8.5 181 0.5 89 < 0.2 0.6 1.0 0.3 193 15.3 85 8.2 30.4 100.0 8.3 8.4 9 <0.2 Surface 15.3 8.2 30.4 100.0 1.0 210 8.2 30.4 8.3 <0.2 0.6 0.3 15.3 100. 8.4 9 85 3.8 201 15.3 8.5 9 88 <0.2 0.6 0.3 8.3 8.2 30.4 99.8 IM5 10:16 7.5 15.3 8.2 30.4 99.8 87 820746 804890 Cloudy Moderate Middle 3.8 220 15.3 8.2 30.4 99.8 8.3 8.5 9 87 < 0.2 0.7 0.3 <0.2 0.7 8.9 8.9 89 6.5 0.3 183 15.3 8.1 30.4 99.9 10 8.1 100.0 8.3 8.3 Bottom 15.3 30.4 6.5 0.3 194 15.3 0.6 0.6 0.7 0.6 1.0 0.1 208 15.3 8.2 8.4 5.6 11 85 <0.2 30.2 100.7 Surface 15.3 8.2 30.2 100.7 1.0 0.1 226 15.3 8.2 30.2 8.4 5.6 11 85 <0.2 3.5 0.2 217 15.2 8.2 30.2 8.4 5.7 9 88 <0.2 10:26 6.9 Middle 15.2 8.2 30.2 100.8 821067 805849 IM6 Cloudy Moderate 3.5 0.2 218 15.2 8.2 30.2 8.4 5.7 9 88 <0.2 0.7 5.9 0.1 204 15.2 8.1 30.2 102.0 8.5 7.6 6 90 <0.2 Bottom 15.2 8.1 30.2 102.0 8.5 0.2 15.2 8.1 7.6 212 1.0 0.1 192 15.2 8.2 30.3 9.5 86 <0.2 0.6 Surface 15.2 8.2 30.3 100.2 1.0 0.1 200 15.2 8.2 30.3 100. 8.4 9.5 5 86 <0.2 0.7 88 0.7 4.2 0.1 171 15.2 30.3 8.4 6.7 6 <0.2 IM7 Cloudy Moderate 10:36 Middle 15.2 8.1 30.3 100.4 821339 806858 4.2 0.1 186 15.2 8.1 30.3 8.4 6.9 6 88 <0.2 7.3 0.1 179 15.2 8.1 30.3 8.5 7 90 <0.2 0.7 Bottom 8.1 30.3 102.4 8.5 7.3 0.1 195 15.2 8 1 30.3 8.5 10.5 90 <0.2 0.8 1.0 0.2 61 16.1 8.2 31.7 102.7 8.3 6.0 4 88 < 0.2 0.8 102.7 Surface 31.7 0.8 1.0 0.2 65 16.1 8.2 31.7 102.6 8.3 6.0 4 88 <0.2 39 0.2 76 16.0 8.2 31.8 101.8 8.3 7.2 7.3 6 93 93 <0.2 0.7 IM8 Fine Moderate 10:47 7.7 Middle 8.2 31.8 101.8 92 821833 808155 3.9 0.2 81 16.0 8.2 31.8 8.3 < 0.2 6.7 0.1 161 16.0 8.2 31.8 8.3 7.7 8 96 <0.2 0.8 8.2 Bottom 16.0 31.8 102.2 8.3 16.0

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

Water Quality Monitoring Results on 09 January 21 during Mid-Ebb Tide DO Saturation Suspended Solids Total Alkalinity Chromium Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Speed Current Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Time (m/s) Average Average Value Average Value DA Value DA Value DA Value DA Value DA Value DA Condition Condition Depth (m) Value Value Average Value (Northing) (Easting) 0.2 Surface 8.2 31.8 100.9 1.0 84 16.5 5.4 3.6 0.3 79 16.5 8.2 31.8 8.1 5.4 6 93 <0.2 0.7 101.1 808792 IM9 Fine Moderate 10:40 7.1 8.2 31.8 93 822103 8.0 3.6 0.3 79 16.5 8.2 31.8 101.2 8.2 5.4 6 92 <0.2 0.8 6.1 0.3 118 16.7 8.2 31.9 101.5 8.2 5.3 6 96 <0.2 0.8 Bottom 16.7 8.2 31.9 101.5 8.2 6.1 0.3 124 16.7 8.2 31.9 101 5 8.2 5.4 6 97 <0.2 0.8 1.0 0.3 90 16.1 8.2 31.7 8.2 5.7 4 89 < 0.2 0.7 Surface 8.2 31.7 101.1 1.0 0.4 98 16.1 8.2 31.7 101. 8.2 5.7 4 88 <0.2 0.7 4.2 0.3 93 16.1 8.2 8.2 6.2 6 93 92 <0.2 0.8 IM10 Moderate 10:17 8.3 Middle 8.2 31.7 101.2 822364 809789 4.2 16.1 8.2 < 0.2 0.3 98 31.7 8.2 7.3 16.1 8.2 6 7 0.8 0.3 101 101. 8.2 6.6 96 < 0.2 Bottom 16.1 8.2 31.7 101.0 8.2 0.8 7.3 0.3 105 16.1 8.2 31.7 8.2 6.6 96 100 **-**0 2 1.0 0.1 17.0 8.2 7.9 0.6 Surface 17.0 8.2 32.2 99.0 5.5 5.7 5.6 0.7 1.0 7.9 88 <0.2 0.1 164 17.0 8.2 32.2 99.0 5 0.6 0.8 0.7 17.0 156 7.9 7.9 6 93 92 <0.2 3.8 99.0 99.0 IM11 Fine Moderate 10:05 7.6 Middle 8.2 32.2 99.0 93 822049 811464 0.7 158 17.0 0.1 8.2 17.0 7 <0.2 6.6 0.3 159 8.2 32.2 100.0 5.7 97 8.0 17.0 8.2 8.0 Bottom 32.2 100.0 6.6 0.3 174 17.0 8.2 32.2 99.9 8.0 5.7 6 96 <0.2 0.7 0.1 17.1 98.4 <0.2 8.2 Surface 17.1 8.2 32.2 98.4 1.0 0.1 96 17.1 8.2 32.2 98.3 7.8 5.2 88 <0.2 0.7 0.7 4.9 0.0 312 17.1 97.8 7.8 5.6 6 <0.2 8.2 32.2 93 812031 IM12 Fine Moderate 09:57 9.7 Middle 17.1 8.2 32.2 97.9 821469 4.9 17.1 5.6 6 92 96 <0.2 341 8.2 0.0 0.1 17.1 8.2 99.5 7.9 5.4 4 <0.2 0.7 17.1 8.2 32.2 99.4 7.9 Rottom 8.7 0.1 50 17.1 8.2 32.2 99.3 7.9 5.4 0.7 15.9 8.2 31.8 97.9 8.0 5.2 6 Surface 15.9 8.2 31.8 98.0 1.0 15.9 98.0 8.0 5.2 6 8.0 2.8 Fine Calm 09:18 5.5 Middle 819970 812660 2.8 4.5 15.9 8.2 99.3 8.1 5.3 4 Bottom 15.9 8.2 31.8 99.2 8.1 4.5 15.9 8.2 31.8 99.1 8 1 5.4 4 1.0 0.2 348 17.4 8.2 32.3 97.6 7.7 5.2 89 <0.2 0.6 Surface 17.4 8.2 32.3 97.6 1.0 0.2 320 17.4 8.2 32.3 97.6 7.7 5.2 5 89 < 0.2 0.6 SR2 Moderate 08:59 4.8 Middle 821463 814156 3.8 347 5.7 93 0.6 0.1 17.4 8.2 97.6 7 <0.2 97.7 7.7 Bottom 97.7 7.7 5.8 0.1 354 17.4 32.3 6 0.6 3.8 8.2 92 r0 2 1.0 0.1 172 16.6 8.2 31 9 100.5 8.1 8.1 5.9 6 Surface 8.2 31.9 100.5 16.6 8.2 100 5.9 1.0 0.1 177 31 9 6 4.2 6.3 6 5 0.1 235 16.4 8.2 31.9 100.6 8.1 SR3 Moderate 10:54 Middle 16.4 8.2 100.6 822143 807558 8.1 4.2 257 16.4 8.2 100. 6.3 0.1 31.9 7.4 0.1 86 16.0 16.0 8.2 31.9 99.8 99.8 8.1 8.1 6.8 4 Bottom 16.0 8.2 31.9 99.8 8.1 0.1 88 1.0 15.2 0.1 55 8.2 30.1 99.3 8.3 5.1 5 Surface 15.2 8.2 30.1 99.3 1.0 30.1 99.3 8.3 0.1 56 15.2 8.2 5.2 5 4.6 0.2 69 15.0 6.1 6 8.3 . 8.2 30.2 98.9 SR4A 08:55 8.2 30.2 98.9 817177 807805 Cloudy Calm 9.1 Middle 15.0 4.6 69 15.0 30.2 98.9 8.3 6.1 6 0.2 8.2 98.8 98.8 7.2 7.1 8.1 0.1 233 237 14.9 8.2 8.2 30.3 98.8 8.3 8.3 6 14.9 30.3 Rottom 8.1 0.1 14.9 8.2 1.0 0.0 94 15.1 8.2 4.6 30.0 98.2 8.2 15.1 8.2 30.0 98.2 Surface 1.0 0.0 94 15.1 8.2 98.2 8.2 4.6 7 SR5A 08:37 3.7 Middle 816573 810709 Cloudy Calm 2.7 0.0 101 15.1 99.2 8.3 6.4 Bottom 15.1 8.2 30.0 99.3 8.3 0.0 107 15.1 99.3 8.3 6.6 1.0 0.0 128 15.2 8.1 30.3 97.2 Surface 15.2 8.0 30.3 97.2 1.0 0.0 130 15.2 8.0 30.3 97.2 8.1 5.1 8 SR6A Cloudy Calm 08:01 4.5 Middle 817952 814762 3.5 0.0 141 15.2 8.0 8.4 5.2 4 Bottom 8.0 30.3 100.3 8.4 3.5 0.0 154 15.2 8.0 30.3 8.4 5.2 5 1.0 0.6 61 17.6 8.3 32.6 8.1 5.0 6 103.5 Surface 8.3 32.6 1.0 0.7 63 17.6 8.3 32.6 103.5 8.1 5.0 6 73 0.2 14 17.6 8.2 32.5 101 8.0 5.5 5.5 6 SR7 Cloudy Moderate 08:00 14.6 Middle 8.2 32.5 101.9 823628 823762 7.3 0.2 15 17.6 8.2 32.5 8.0 13.6 0.2 55 17.6 8.2 32.5 8.0 5.4 4 Bottom 17.6 8.2 32.5 101.5 13.6 0.2 60 17.6 8.2 32.5 8.0 5.4 4 1.0 16.8 8.3 31.6 100.2 8.0 8.6 7 Surface 16.8 8.3 31.6 100.2 1.0 16.8 8.3 31.6 100.1 8.0 8.6 8 . . 820393 811610 SR8 Fine Calm 09:42 4.2 Middle -3.2 16.5 7.3 4 8.2 31.9 100.1 8.1 16.5 8.2 31.9 100.2 8.1

DA: Depth-Averaged

Water Quality Monitoring Results on 09 January 21 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids Total Alkalinity Chromium Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Current Speed Oxvaen (mg/L) (maga) Sampling Depth (m) HK Grid HK Grid Station Direction Condition Time Depth (m) (m/s) Average Average Value Average Value DA Value DA Value DA Value DA (Northing) Value DA Value DA Condition Value Value Average Value (Easting) 15.9 0.4 Surface 15.9 8.2 30.7 104.5 1.0 0.4 32 15.9 30.7 104.5 8.6 5.7 10 86 <0.2 0.5 16.0 104.4 6.5 0.5 89 <0.2 14:50 8.2 30.7 104.4 804249 C1 8.2 Middle 16.0 89 815641 Cloudy Rough 0.5 4.1 16.0 8.2 30.7 104.4 8.6 6.6 7 89 <0.2 0.5 0.4 7.2 0.3 30 16.0 8.2 30.7 105. 8.7 8.8 6 91 <0.2 0.4 8.2 8.7 16.0 30.7 105.6 Rottom 0.6 16.0 8.2 30.7 8.8 7.2 0.3 92 < 0.2 1.0 0.3 16.6 83 0.7 0.8 0.8 0.7 5.4 < 0.2 8.2 Surface 16.6 8.2 31.9 100.9 16.6 8.2 8.1 5.4 5.4 83 1.0 0.3 322 <0.2 6 87 5.3 0.4 16.6 8.2 8.1 C2 Cloudy Moderate 13:41 10.5 Middle 16.6 8.2 31.9 100.3 87 825667 806953 0.8 8.2 8.1 5.4 5 87 <0.2 5.3 0.4 29 16.6 31.9 9.5 0.4 346 16.6 8.2 31.9 100.4 8.1 5.5 5 90 <0.2 0.8 8.2 31.9 100.4 Bottom 16.6 9.5 0.4 347 16.6 8.2 31.9 5.5 5 90 <0.2 0.8 0.3 241 8.3 6.3 6 <0.2 0.5 Surface 17.6 8.3 32.5 105.0 1.0 0.3 261 17.6 8.3 104. 8.2 6.4 6 87 <0.2 0.5 7.4 0.5 5.9 0.4 17.6 6 91 91 <0.2 252 8.3 104. 8.2 C3 16:15 817819 Cloudy Moderate 11.8 Middle 17.6 8.3 32.5 104.3 822122 0.5 0.4 17.6 0.5 10.8 0.4 266 17.6 8.3 32.5 8.2 8.9 94 <0.2 Bottom 17.6 8.3 32.5 104.3 8.2 10.8 0.4 289 17.6 8.3 32.5 104 8.2 8.9 7 94 1.0 0.2 14 15.3 8.2 30.4 5.5 <0.2 0.6 Surface 15.3 8.2 30.4 103.9 1.0 14 15.3 8.2 30.4 103. 8.7 5.6 7 87 <0.2 0.6 0.2 807123 IM1 Cloudy Moderate 14:28 Middle 817965 4 0 0.1 15 15.2 8.1 30.4 8.6 6.0 89 < 0.2 0.6 Bottom 15.2 8.1 30.4 103.7 8.7 4.0 0.1 16 15.2 8.1 30.4 103.7 8.7 6.0 5 89 <0.2 0.6 351 1.0 0.2 15.4 8.2 30.3 8.8 4.9 85 < 0.2 0.6 Surface 8.2 30.3 106.0 1.0 0.2 323 15.4 8.2 30.3 105.9 8.8 4.9 5 86 <0.2 0.7 0.7 3.5 0.2 15.5 8.2 30.3 104.9 8.7 5.2 7 87 <0.2 IM2 Cloudy Moderate 14:20 6.9 Middle 8.2 30.3 104.9 818166 806175 <0.2 0.6 0.7 0.7 3.5 0.2 15.5 8.2 30.3 104. 8.7 5.2 7 88 15.5 6.5 8 5.9 0.2 8 1 30.5 104 8.7 89 <0.2 8.1 30.5 104.6 8.7 5.9 8.7 0.2 13 15.5 8 1 30.5 104 7 6.5 8 89 <0.2 1.0 0.2 19 15.3 8.2 30.3 8.7 5.7 85 < 0.2 0.7 Surface 8.2 30.3 103.9 5.7 1.0 15.3 7 85 0.2 19 8.2 8.7 <0.2 30.3 0.7 0.6 0.7 5.8 5.8 6.9 3.6 15.3 8.6 8 88 87 <0.2 0.1 8.2 30.3 IM3 Cloudy Moderate 14:13 7.1 Middle 15.3 8.2 30.3 103.4 87 818787 805586 15.3 15.3 8 0.1 3.6 8.6 <0.2 89 6.1 8.2 30.3 8.6 Rottom 15.3 8.2 30.3 103.2 8.6 6.1 0.1 15.3 8.2 30.3 8.6 7.1 9 90 <0.2 0.6 0.7 1.0 0.3 15.3 5.6 8.2 30.2 104.4 8.7 5 85 <0.2 Surface 15.3 8.2 30.2 104.4 0.3 15.3 8.2 5.6 84 <0.2 5.7 87 <0.2 0.7 3.7 15.3 6 0.3 8.2 30.2 104.2 8.7 IM4 Moderate 14:04 7.4 Middle 15.3 8.2 30.2 104.2 819728 804588 Cloudy 3.7 15.3 8.2 104. 5.7 6 7 88 <0.2 0.3 30.2 6.4 0.2 15.3 6.4 89 0.7 8.1 8.9 30.2 8.1 Bottom 15.3 30.2 106.2 8.9 6.4 0.2 15.3 30.2 8.9 6.4 8 89 <0.2 0.8 0.8 1.0 0.3 15.3 8.2 30.2 5.2 84 <0.2 104.8 8.7 5 Surface 15.3 8.2 104.8 30.2 15.3 8.2 104. 8.7 5.2 5 85 <0.2 0.3 3.8 0.3 15.3 5.3 5 87 <0.2 0.8 8.2 30.2 8.7 IM5 Moderate 13:56 7.5 Middle 15.3 8.2 30.2 104.6 820727 804871 Cloudy 3.8 15.3 5.4 <0.2 0.3 6 0.7 6.5 0.2 15.3 8.2 8.3 30.2 8.8 5.7 89 <0.2 15.3 8.2 105.2 8.8 Bottom 30.2 6.5 0.2 29 15.3 30.2 5.6 89 < 0.2 1.0 0.0 336 15.7 8.2 30.2 4.9 5 84 <0.2 0.8 Surface 8.2 30.2 104.0 1.0 0.0 358 15.7 8.2 30.2 104 8.6 4.9 5 85 <0.2 0.8 3.6 0.1 18 15.6 8.6 5.5 6 87 <0.2 Cloudy Moderate 13:47 7.2 Middle 15.6 8.2 30.2 103.9 821057 805815 <0.2 3.6 0.1 19 15.6 8.2 30.2 8.6 5.6 6 87 7.7 7.7 0.7 6.2 0.1 26 15.5 8.1 8.8 6 89 <0.2 105.8 6.2 0.1 15.5 8 1 30.2 6 88 0.7 0.8 0.8 0.8 1.0 0.1 213 15.9 8.2 30.2 8.4 44 85 <0.2 Surface 15.9 8.2 102.5 8.4 8 5 1.0 0.1 230 15.9 82 30.2 102 4.4 85 <0.2 4.9 4.1 205 88 <0.2 0.1 15.8 8.2 30.2 102.2 8.4 IM7 Moderate 13:40 Middle 15.8 8.2 102.2 821330 806816 Cloudy 88 4.1 0.1 212 15.8 8.2 30.2 8.4 4.9 5 7.1 0.0 158 15.6 8.2 30.2 102. 8.5 6.0 4 90 <0.2 0.7 Bottom 15.6 8.2 30.2 102.2 8.5 7.1 0.0 161 15.6 6.0 4 <0.2 0.7 1.0 0.1 275 16.3 8.3 31.8 105. 8.6 5.3 6 87 < 0.2 0.9 Surface 16.3 8.3 31.8 105.9 8.6 16.3 8.3 31.8 87 <0.2 1.0 0.1 276 105. 5.3 5 5.3 0.8 16.3 8.3 31.8 8.5 4 92 91 <0.2 4.0 0.2 282 105.6 16.3 8.3 31.8 105.6 821844 808119 IM8 Cloudy Moderate 14:18 7.9 Middle 8.0 5.3 31.8 8.5 4 4.0 292 16.3 8.3 105. 0.2 95 0.8 6.9 0.0 329 16.1 8.2 31.8 8.0 4 <0.2 104. 8.5 8.5 16.1 8.2 31.8 104.6 8.5 Rottom

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 09 January 21 during Mid-Flood Tide DO Saturation Suspended Solids Total Alkalinity Chromium Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Speed Current Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Time (m/s) Average Average Value Average Value DA Value DA Value DA Value DA Value DA Value DA Condition Condition Depth (m) Value Value Average Value (Northing) (Easting) 0.3 Surface 8.2 31.7 103.6 258 16.1 8.4 5.6 5.9 3.7 0.3 252 16.2 8.2 31.7 102.8 8.3 5 91 <0.2 0.8 102.8 IM9 Cloudy Moderate 14:27 7.3 8.2 31.7 6.0 822085 808808 3.7 0.3 261 16.2 8.2 31.7 102.8 8.3 5.9 5 91 <0.2 0.8 6.3 0.3 262 16.1 8.2 31.7 103.5 8.4 6.4 5 95 <0.2 0.7 Bottom 16.1 8.2 31.7 103.5 6.3 0.3 273 16.1 8.2 31.7 103.5 8.4 6.4 6 95 <0.2 0.8 285 1.0 0.4 16.3 8.2 31.8 103. 8.4 5.6 4 87 < 0.2 0.7 Surface 8.2 31.8 103.3 <0.2 1.0 0.5 307 16.3 8.2 31.8 8.4 5.6 5 87 0.7 3.8 0.5 293 16.3 8.2 31.8 8.3 5.3 7 91 91 <0.2 0.7 IM10 Cloudy Moderate 14:36 7.5 Middle 8.2 31.8 102.8 822380 809799 0.5 16.3 8.2 <0.2 3.8 315 31.8 8.3 6.5 0.3 16.3 8.2 7 0.7 281 31.8 103. 8.3 6.0 94 < 0.2 Bottom 16.3 8.2 31.8 103.1 8.3 0.8 7 6.5 307 16.3 8.2 31.8 83 6.0 95 0.4 103 **-**0 2 1.0 0.4 306 17.1 8.2 0.6 8.2 Surface 17.1 8.2 32.2 103.7 5.2 5.3 5.3 1.0 325 87 <0.2 0.4 17.1 8.2 32.2 103. 8.2 8 82 0.6 0.6 0.6 <0.2 292 318 8.2 6 92 91 4.2 0.4 IM11 Cloudy Moderate 14:50 8.3 Middle 17.1 8.2 32.2 103.4 822035 811448 0.6 17.1 0.5 8.2 <0.2 7.3 0.3 275 17.1 8.2 32.2 8.3 6.0 5 95 104.4 17.1 8.2 8.3 Bottom 32.2 104.4 7.3 0.4 275 17.1 8.2 32.2 104.3 8.3 6.0 5 95 <0.2 0.7 0.4 <0.2 4 0.7 8.2 32.2 8.4 Surface 17.2 8.2 32.2 106.0 1.0 0.5 303 17.2 8.2 32.2 106.0 8.4 5.3 4 87 <0.2 0.6 0.6 3.9 0.4 296 17.3 8.4 5.3 5 92 <0.2 8.2 32.3 812042 IM12 Cloudy Moderate 14:59 7.8 Middle 17.3 8.2 32.3 106.1 821451 3.9 17.3 8.4 5.3 5 91 <0.2 0.4 8.2 309 6.8 0.4 275 17.3 8.2 8.4 5.4 6 95 <0.2 0.6 17.3 8.2 32.3 105.8 8.4 Rottom 6.8 0.4 285 17.3 8.2 32.3 105. 8.4 5.4 0.6 16.0 8.2 31.8 5 8.3 Surface 16.0 8.2 31.8 102.2 1.0 8.3 5.1 5 2.8 Cloudy Calm 15:34 5.6 Middle 819977 812655 2.8 4.6 16.0 8.2 104. 8.5 5.0 7 Bottom 16.0 8.2 31.8 104.6 8.5 4.6 16.0 8.2 31.8 104 8.5 5.0 1.0 0.2 41 17.2 8.2 32.2 8.3 5.5 6 87 <0.2 0.7 Surface 17.2 8.2 32.2 105.3 1.0 0.2 41 17.2 8.2 32.2 105.3 8.4 5.6 6 87 < 0.2 0.6 SR2 Cloudy Moderate 15:50 5.0 Middle 821476 814189 4 0 5.9 91 0.6 0.2 46 17.2 8.2 8.4 4 <0.2 106.3 Bottom 6.0 4 0 46 17.2 32.2 106 4 0.6 0.2 8.2 91 r0 2 1.0 0.1 318 16.4 8.2 31.8 103.7 8.4 8.4 5.4 3 Surface 8.2 31.8 103.7 16.4 8.2 31.8 5.4 3 1.0 0.1 341 4.4 6.4 4 0.1 261 16.4 8.2 31.8 8.3 SR3 Cloudy Moderate 14:11 Middle 16.4 8.2 103.1 822162 807553 6.4 4 4.4 16.4 8.2 0.1 266 31.8 4 7.8 0.1 264 16.3 16.3 8.2 31.8 102.5 8.3 14.2 14.3 Bottom 16.3 8.2 31.8 8.3 0.1 278 1.0 0.1 228 15.4 8.2 30.0 104.4 8.7 4.4 4 Surface 15.4 8.2 30.0 104.4 1.0 30.0 8.7 4.4 0.1 230 15.4 8.2 104. 4 4.3 0.0 277 15.2 4.8 6 8.5 . 8.2 30.2 SR4A 15:11 8.2 30.2 101.4 817195 807805 Cloudy Calm 8.6 Middle 15.2 4.3 301 30.2 8.5 4.8 6 0.0 15.2 8.2 5.4 5.4 7.6 0.1 15.1 8.2 30.3 86 8.2 102.9 8.6 8.6 8 Rottom 15.1 30.3 7.6 0.1 15.1 8.2 8 1.0 0.0 266 15.3 8.2 4.3 6 30.0 102.4 8.5 15.3 8.2 30.0 102.5 Surface 1.0 0.0 290 15.3 8.2 8.5 4.3 6 SR5A 3.5 Middle 816581 810686 Cloudy Calm 15:29 2.5 0.1 139 15.3 8.6 4.1 5 Bottom 15.3 8.2 30.0 103.0 8.6 0.1 150 15.3 8.3 8.6 4.1 2.5 1.0 0.1 234 16.1 8.3 30.5 5.7 4 Surface 16.1 8.3 30.5 105.6 1.0 0.1 255 16.1 8.3 30.5 105.0 8.7 5.7 4 SR6A Cloudy Calm 15:57 4.8 Middle 817960 814746 3.8 0.1 226 16.0 8.3 30.5 8.7 4.7 6 Bottom 8.3 30.5 105.9 8.7 3.8 0.1 233 16.0 8.3 30.5 4.8 6 1.0 0.0 116 17.6 8.3 32.6 8.3 5.2 8 105.4 Surface 32.6 1.0 0.0 120 17.6 8.3 32.6 105.4 8.3 5.2 8 72 0.1 184 17.6 8.3 32.6 104.9 8.2 5.8 5.9 6 5 SR7 Cloudy Moderate 16:53 14.4 Middle 8.3 32.6 104.8 823655 823747 7.2 0.1 198 17.6 8.3 32.6 104.7 8.2 13.4 0.1 76 17.6 8.3 32.6 105. 8.3 6.3 5 Bottom 17.6 8.3 32.6 105.2 8.3 13.4 0.1 81 17.6 8.3 32.6 8.3 6.2 5 1.0 17.0 8.3 31.7 105.0 8.4 7.3 8 Surface 17.0 8.3 31.7 105.6 7.4 1.0 17.0 8.3 31.7 105.6 8.4 8 . . 820407 811642 SR8 Cloudy Calm 15:09 4.4 Middle -3.4 16.6 9.8 7 8.3 31.9 106.1 8.5 Bottom 16.6 8.3 31.9 106.2 8.5

DA: Depth-Averaged

Water Quality Monitoring Results on 12 January 21 during Mid-Ebb Tide Turbidity(NTU) Suspended Solids Total Alkalinity DO Saturation Dissolved Chromium Salinity (ppt) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Current Speed Oxvaen (mg/L) (maga) Sampling Depth (m) HK Grid HK Grid Station Direction Condition Time Depth (m) (m/s) Average Value Average Average Value Average Value DA Value DA Value DA Value DA (Northing) Value DA Value DA Condition Value Value (Easting) 15.8 0.2 32.5 1.0 211 15.8 32.5 104.6 3.2 10 3.9 0.2 192 15.8 8.4 32.5 104.7 8.5 90 <0.2 0.7 12:12 104.6 804247 C1 Sunny Moderate 8.4 32.5 10 815613 3.9 0.2 201 15.8 8.4 32.5 104.5 8.5 3.6 10 90 <0.2 0.7 6.8 0.2 228 15.8 8.4 32.5 106.8 8.7 3.1 11 90 <0.2 0.7 Bottom 8.4 32.5 106.8 8.7 6.8 0.2 246 15.8 8.4 32.5 106.8 8.7 3.1 11 91 <0.2 0.7 1.0 0.3 346 15.5 8.2 31.4 107.7 8.9 6.2 10 85 < 0.2 0.6 Surface 8.2 31.4 107.7 <0.2 0.7 1.0 0.3 353 15.5 8.2 31.4 107. 8.9 6.2 10 85 6.0 0.3 15.4 8.2 31.4 8.9 5.9 5.9 9 88 89 <0.2 0.7 C2 Fine Moderate 10:58 12.0 Middle 8.2 31.4 107.7 825697 806965 6.0 0.3 8.2 15.4 31.4 8.9 0.6 0.3 15.4 8.2 5.6 8 11.0 29 31.3 107. 8.9 90 < 0.2 Bottom 15.4 8.2 31.3 107.6 8.9 8 11.0 0.3 30 15.4 8.2 107 89 5.6 90 <0.2 31.3 1.0 0.2 16.8 0.7 8.2 2.8 6 84 9.2 < 0.2 Surface 16.8 8.2 31.7 114.3 2.8 2.6 2.7 1.0 6 85 <0.2 0.2 99 16.8 8.2 31.7 114. 9.2 92 0.6 0.6 0.6 9.2 5 4 88 89 <0.2 16.8 5.9 80 8.2 31.8 114. C3 Fine Moderate 13:01 11.8 Middle 8.2 31.8 114.9 88 822127 817782 0.7 16.8 0.2 8.2 31.8 <0.2 10.8 0.2 77 16.7 8.1 31.7 9.5 2.2 3 89 118.6 16.7 8.1 118.7 Bottom 31.7 9.5 10.8 0.2 79 16.7 8.1 31.7 118.8 9.5 2.1 3 90 <0.2 0.7 0.2 154 16.2 1.8 8.4 104.2 8.4 4 <0.2 32.5 Surface 16.2 8.4 32.5 104.2 1.0 0.2 156 16.2 8.4 32.5 104.1 8.4 1.8 3 86 <0.2 0.7 807137 IM1 Sunny Calm 11:45 4.8 Middle 817944 3.8 0.2 181 16.1 8.4 8.4 1.7 5 88 <0.2 0.7 Bottom 16.1 8.4 32.5 104.1 8.4 3.8 0.2 181 16.1 8.4 32.5 104.0 8.4 1.9 89 0.7 0.1 123 16.1 8.4 32.5 8.4 87 <0.2 0.8 Surface 16.1 8.4 32.5 104.1 1.0 0.1 125 16.1 8.4 8.4 1.5 7 86 <0.2 3.5 0.1 129 16.0 8.4 1.4 8 <0.2 <0.2 <0.2 0.7 0.7 0.7 8.4 90 806164 Sunnv Moderate 11:38 Middle 8.4 32.5 104.3 818141 0.1 16.0 1.5 8 9 90 92 3.5 6.0 0.1 213 16.0 8.4 32.5 8.5 1.6 Bottom 16.0 8.4 32.5 105.0 8.5 8.5 6.0 0.1 224 16.0 8.4 32.5 1.6 9 93 <0.2 0.7 0.6 1.0 0.1 76 15.6 8.4 32.5 8.4 2.2 6 85 <0.2 Surface 8.4 32.5 103.4 1.0 0.1 80 15.6 8.4 32.5 8.4 2.4 6 86 <0.2 0.6 0.6 0.6 0.6 3.7 0.1 42 15.6 8.4 8.4 5.0 6 88 <0.2 IM3 Sunny Moderate 11:30 7.3 Middle 8.4 103.0 818776 805600 42 254 6 7 7 <0.2 3.7 0.1 15.6 8.4 8.4 5.2 63 6.6 90 0.1 15.5 8.4 32.5 8.4 102.8 6.7 0.1 278 15.5 8.4 32.5 <0.2 63 90 1.0 0.1 43 15.8 8.4 32.4 105 8.6 8.6 16 9 87 <0.2 0.6 Surface 15.8 8.4 32.3 105.2 87 1.0 8.4 1.6 9 <0.2 0.1 43 15.8 32 3 7 3.6 8.6 8.6 1.3 88 89 0.7 0.0 69 15.8 8.4 32.3 <0.2 IM4 Sunny Moderate 11:22 7.2 Middle 15.8 8.4 32.3 105.1 819734 804630 1.3 0.0 15.8 8.4 32.3 3.6 71 6 6.2 0.0 70 15.8 15.8 8.4 8.4 32.4 8.6 8.6 1.3 91 91 <0.2 0.6 Rottom 15.8 8.4 32.4 105.6 8.6 32.4 74 6.2 < 0.2 0.6 1.0 0.2 15.8 10 8.4 32.4 104.4 8.5 2.2 86 <0.2 Surface 15.8 8.4 32.4 104.4 8.4 8.5 10 85 <0.2 0.6 1.0 0.2 15.8 32.4 104.4 2.3 2.7 3.5 15.7 9 88 <0.2 0.7 0.2 8.4 8.5 32.4 104.1 IM5 11:15 15.7 8.4 32.4 104.1 820758 804881 Sunny Moderate Middle 3.5 15.7 8.4 32.4 104. 8.5 2.9 9 89 < 0.2 0.6 0.2 0.6 <0.2 5.9 0.1 15.0 8.4 32.5 4.8 90 21 8.4 102.9 8.5 8.5 8.5 9 Bottom 15.0 32.4 5.9 0.2 15.0 8.4 <0.2 0.6 0.7 0.8 0.6 7.7 1.0 0.1 285 15.5 8.4 32.4 8.4 14 86 <0.2 102.6 Surface 15.5 8.4 32.4 102.7 1.0 0.1 289 15.5 8.4 32.4 8.4 7.4 14 87 <0.2 3.9 0.2 321 15.4 8.4 32.4 8.4 8.4 14 92 <0.2 11:07 7.8 Middle 15.4 8.4 32.4 103.1 821066 805836 IM6 Sunny Moderate 90 3.9 0.2 340 15.4 8.4 32.4 8.5 8.6 14 91 <0.2 0.6 6.8 0.0 300 15.2 8.4 32.4 8.5 8.6 12 93 <0.2 Bottom 15.2 8.4 32.4 103.4 8.5 6.8 0.0 15.2 8.4 8.5 7.9 12 309 1.0 0.3 15.8 8.4 32.3 3.1 9 86 <0.2 0.6 Surface 15.8 8.4 32.3 102.4 1.0 0.4 103 15.8 8.4 32.3 102 8.3 3.2 9 87 <0.2 0.6 3.5 3.5 0.6 3.6 0.4 101 15.5 8.4 8.4 10 91 <0.2 32.4 IM7 Sunny Moderate 10:59 7.2 Middle 15.5 8.4 32.3 102.4 821331 806840 <0.2 3.6 0.4 103 15.5 8.4 8.4 9 90 6.2 0.3 112 15.3 8.4 32.4 8.5 3.9 13 92 <0.2 0.6 8.4 32.4 102.9 8.5 6.2 0.3 121 15.3 8.4 32.4 8.5 3.9 13 93 <0.2 0.6 1.0 0.2 98 15.6 8.2 31 4 109.8 9.0 7.4 86 < 0.2 0.6 31.4 109.9 Surface 0.7 1.0 0.2 102 15.6 8.2 31.4 109.9 9.0 7.3 7 86 <0.2 3.6 0.1 39 15.6 8.2 31.4 110.2 9.1 7.1 9 87 87 <0.2 0.6 IM8 Fine Moderate 11:26 7.2 Middle 8.2 31.4 110.2 87 821808 808123 0.7 7.1 3.6 0.1 41 15.6 8.2 31.4 110.2 9.1 < 0.2 6.2 0.2 94 15.5 8.2 31.5 110.3 9.1 4.9 15 89 <0.2 0.7 8.2 Bottom 15.5 31.5 110.3

DA: Depth-Averaged

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

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

Water Quality Monitoring Results on 12 January 21 during Mid-Ebb Tide DO Saturation Suspended Solids Total Alkalinity Chromium Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Speed Current Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Time (m/s) Average Value Average Value DA Value DA Value DA Value DA Value DA Value DA Condition Condition Depth (m) Value Average Value Average Value (Northing) (Easting) 15.4 0.2 Surface 8.2 31.5 109.1 1.0 15.4 5.9 3.6 0.2 72 15.6 8.2 31.2 9.1 6.7 7 87 <0.2 0.7 110.9 808790 IM9 Fine Moderate 11:32 7.2 8.2 31.3 822102 3.6 0.2 76 15.6 8.2 31.3 110 0 9.1 6.7 7 87 <0.2 0.7 6.2 0.1 57 15.2 8.2 31.7 111 8 9.3 6.8 6 89 <0.2 0.6 Bottom 15.2 8.2 31.7 111.8 9.3 6.2 0.1 62 15.2 8.2 31.7 111 8 93 6.7 6 89 <0.2 0.7 1.0 0.3 81 15.4 8.2 31.6 109. 9.0 7.4 85 < 0.2 0.6 Surface 8.2 31.6 109.4 1.0 0.3 83 15.4 8.2 31.6 109.4 9.0 7.4 7 85 <0.2 0.6 3.9 0.1 50 15.4 8.2 31.3 9.1 8.2 7.9 8 87 87 <0.2 0.6 IM10 Moderate 11:39 7.7 Middle 8.2 31.3 109.8 822372 809786 3.9 8.2 < 0.2 0.1 50 15.4 31.3 9.1 6.7 15.4 0.6 0.2 110 8.1 31.5 9.1 4.4 9 90 < 0.2 Bottom 8.1 31.5 110.8 9.2 0.6 6.7 0.2 111 15.4 8.1 31.5 92 4.5 q 89 **-**0 2 1.0 15.9 0.1 8.2 8.4 8.9 0.6 Surface 8.2 31.5 109.5 0.6 1.0 8.4 7 86 < 0.2 0.1 152 15.9 8.2 31.5 109. 8.9 89 6.7 0.5 0.6 0.6 16.0 8.9 8 87 87 <0.2 3.8 31.6 IM11 Fine Moderate 11:50 7.5 Middle 8.2 31.6 109.7 87 822043 811467 0.6 16.0 0.0 114 8.2 31.6 6.5 0.1 61 16.1 8.2 31.5 8.9 4.8 8 89 <0.2 109.7 8.2 8.9 Bottom 16.1 31.5 109.7 6.5 0.2 62 16.1 8.2 31.5 109.7 8.9 4.9 8 89 <0.2 0.6 0.3 16.0 <0.2 8.2 31.6 8.9 Surface 16.0 8.2 31.6 109.5 1.0 0.3 171 16.0 8.2 31.6 8.9 5.3 85 <0.2 0.7 4.2 178 16.1 8.9 4.4 7 87 <0.2 0.6 0.1 8.2 31.6 812033 IM12 Fine Moderate 11:56 8.3 Middle 16.1 8.2 31.6 109.6 821443 16.1 4.4 6 88 <0.2 4.2 7.3 0.1 181 8.2 8.9 0.2 172 16.2 8.2 31.6 8.9 4.6 6 89 <0.2 0.6 16.2 8.2 31.5 110.3 9.0 Rottom 7.3 0.2 185 16.2 8.2 31.5 9.0 4.6 0.6 14.6 8.1 31.4 9.4 3.3 5 Surface 14.6 8.1 31.4 111.7 1.0 14.6 9.4 3.3 5 2.6 Fine Moderate 12:26 5.2 Middle 819982 812660 2.6 4.2 14.6 8.1 31.2 9.5 4.2 7 Bottom 14.6 8.1 31.2 113.6 9.5 4.2 14.6 8.1 31.2 113 9.5 4.3 1.0 0.1 52 16.0 8.1 31.5 9.1 5.0 6 88 <0.2 0.6 Surface 16.0 8.1 31.5 111.4 1.0 0.1 54 16.0 8.1 31.5 9.1 5.0 5 88 < 0.2 0.7 SR2 Moderate 12:38 4.8 Middle 821439 814173 3.8 4.5 89 0.7 0.1 49 16.0 8 1 9.3 6 <0.2 114.1 9.3 Bottom 4.6 50 16.0 8.1 31.7 5 0.7 3.8 0.1 114 89 r0 2 1.0 0.4 86 15.2 8.2 31.5 108.4 9.0 9.8 17 Surface 15.2 8.2 31.5 108.4 8.2 31.5 108 9.8 17 1.0 0.4 94 15.2 4.2 9.0 8.7 16 0.2 95 15.2 8.2 31.5 108.5 SR3 Moderate 11:19 Middle 15.2 8.2 31.5 108.5 822148 807553 8.6 16 4.2 8.2 108. 0.3 97 15.2 31.5 15 15 7.4 0.2 15.2 15.2 8.2 31.5 108.9 9.0 8.7 8.7 Bottom 15.2 8.2 31.5 9.0 0.2 78 1.0 16.9 0.2 93 8.4 32.7 105.1 8.4 0.5 12 Surface 16.9 8.4 32.7 105.3 1.0 16.9 32.7 8.4 12 0.2 93 8.4 105.4 0.5 4.4 16.8 0.5 10 0.2 84 8.4 8.4 . 32.7 104.8 SR4A 8.4 32.7 104.8 817193 807813 Sunny Moderate 12:35 8.7 Middle 16.8 4.4 16.8 8.4 104. 8.3 0.5 10 0.2 7.7 16.8 8.4 104.7 8.4 8.3 0.4 9 0.2 73 8.4 32.7 104.6 84 Rottom 16.8 32.7 0.2 16.8 8.4 0.4 1.0 0.1 12 16.8 8.4 32.7 8.4 0.5 10 104.7 16.8 8.4 32.7 104.7 Surface 1.0 0.1 16.8 8.4 32.7 8.4 0.5 10 SR5A 3.1 Middle 816596 810678 Sunny Calm 13:00 2.1 0.1 16.7 8.4 0.5 12 Bottom 16.7 8.4 32.7 105.1 8.4 0.1 16.7 8.4 0.5 12 2.1 1.0 0.1 256 16.8 8.4 32.7 0.5 Surface 16.8 8.4 32.7 103.7 1.0 0.1 262 16.8 8.4 32.7 103.0 8.3 0.5 7 SR6A Sunny Calm 13:33 4.3 Middle 817943 814750 3.3 0.1 261 16.8 8.4 8.3 11 Bottom 8.4 32.7 103.8 8.3 3.3 0.1 276 16.8 8.4 0.5 12 1.0 0.3 58 16.6 8.2 31.8 8.8 5.2 6 109.4 Surface 31.8 1.0 0.3 63 16.6 8.2 31.8 109.4 8.8 5.8 6 8.2 0.2 56 16.7 8.2 31.7 109.8 8.8 5.8 5.9 5 SR7 Fine Moderate 13:32 16.4 Middle 8.2 31.7 109.9 823636 823745 8.2 0.2 59 16.7 8.2 31.7 109.9 8.8 4 15.4 0.2 60 16.8 8.2 31.9 8.9 4.7 3 Bottom 8.2 31.9 110.7 8.9 15.4 0.2 62 16.8 8.2 31.9 110. 8.9 4.7 3 1.0 15.4 8.2 31.6 9.1 4.6 Surface 15.4 8.2 31.6 110.8 1.0 15.4 8.2 31.6 110.8 9.1 4.6 7 --811635 820376 SR8 Fine Moderate 12:06 4.5 Middle -3.5 15.4 4.2 9 8.2 31.6 9.2 15.4 8.2 31.6 111.1 9.2

DA: Depth-Averaged

Water Quality Monitoring Results on 12 January 21 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids Total Alkalinity Chromium Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Current Speed Oxvaen (mg/L) (maga) Sampling Depth (m) HK Grid HK Grid Station Direction Condition Time Depth (m) (m/s) Average Average Value Average Value DA Value DA Value DA Value DA Value DA Value DA Condition Value Value Average Value (Northing) (Easting) 15.1 0.6 Surface 15.1 8.4 32.3 99.8 1.0 0.6 45 15.1 32.3 99.8 8.2 1.8 10 86 <0.2 0.5 15.1 8.2 3.3 11 0.5 0.5 89 <0.2 C1 84 324 99.6 804236 08:15 8.0 Middle 15.1 88 815638 Fine Rough 0.5 15.1 8.4 32.4 99.5 8.2 3.4 11 89 <0.2 0.5 4.0 0.5 0.5 7.0 0.4 24 15.2 8.4 32.4 99.6 8.2 4.7 13 89 <0.2 8.4 8.2 Bottom 15.2 32.4 99.6 15.2 99.6 32.4 4.8 13 7.0 0.4 8.4 89 < 0.2 1.0 0.4 354 14.8 85 0.6 0.6 0.6 < 0.2 8.1 Surface 14.8 8.1 31.3 108.6 7.9 7.4 326 346 14.8 8.1 9.1 16 86 1.0 0.4 <0.2 14 5.8 0.3 15.5 8.1 9.0 89 108. C2 Fine Moderate 09:00 11.6 Middle 15.5 8.1 31.1 108.9 88 825676 806957 0.6 108. 9.0 7.5 13 89 <0.2 5.8 0.3 318 15.5 8.1 31.1 0.7 10.6 0.3 14.2 8.1 31.3 107.9 9.1 7.4 10 89 <0.2 8.1 31.3 107.9 Bottom 14.2 10.6 0.3 14.2 8.1 7.3 10 90 <0.2 0.6 0.3 15.8 8.2 3.5 9 84 <0.2 0.6 Surface 15.8 8.2 31.0 100.1 1.0 0.3 286 15.8 8.2 100. 8.2 3.5 9 85 <0.2 0.6 6.8 0.5 5.5 15.8 8 89 89 <0.2 0.3 268 8.2 31.0 99.8 8.2 C3 817821 Fine Moderate 06:33 11.0 Middle 15.8 8.2 31.0 99.8 88 822107 0.6 0.4 15.8 0.6 10.0 0.3 269 15.8 8.2 100.0 8.2 8.0 6 89 <0.2 Bottom 15.8 8.2 31.0 100.1 8.2 10.0 0.3 283 15.8 8.2 31 (8.2 8.0 1.0 0.1 321 15.8 8.4 4.7 84 <0.2 0.6 Surface 15.8 8.4 32.5 102.3 1.0 0.1 344 15.8 8.4 32.5 102. 8.3 4.8 8 85 <0.2 0.6 807119 IM1 Fine Calm 08:37 4.6 Middle 817968 3.6 0.1 310 15.8 8.4 32.5 8.3 5.7 6 89 < 0.2 0.6 Bottom 8.4 32.5 102.0 8.3 3.6 0.1 320 15.8 8.4 32.5 101 9 8.3 6.1 6 89 <0.2 0.6 12 1.0 0.3 15.9 8.4 32.2 8.3 4.7 83 < 0.2 0.7 Surface 8.4 32.2 102.4 1.0 0.3 21 15.9 8.4 32.2 8.3 5.0 12 83 <0.2 0.7 0.6 0.7 0.7 3.5 0.3 14 15.9 8.4 8.4 3.8 13 86 <0.2 IM2 Moderate 08:42 7.0 Middle 8.4 32.2 102.7 818144 806158 87 <0.2 3.5 0.3 14 15.8 8.4 8.4 3.8 13 3.8 13 6.0 0.2 16 15.8 8.4 32.2 8.4 90 <0.2 8.4 32.2 102.9 8.4 6.0 17 14 0.2 15.8 8.4 32.2 8.4 ٩n <0.2 102 1.0 0.4 350 15.8 8.4 32.2 83 3.3 11 85 < 0.2 0.8 Surface 8.4 32.2 102.2 1.0 3.3 11 85 0.4 322 15.8 8.4 32.2 8.3 <0.2 102. 0.7 0.7 0.7 3.6 3.4 11 88 <0.2 0.5 15.9 8.4 32.2 8.3 IM3 Fine Moderate 08:50 7.1 Middle 15.9 8.4 32.2 101.8 88 818781 805585 15.9 15.9 3.5 3.7 11 12 0.5 88 91 3.6 359 8.4 8.3 <0.2 6.1 8.4 32.2 8.3 101.4 Rottom 15.9 8.4 32.2 8.3 6.1 0.4 332 15.9 8.4 32.2 8.2 3.6 12 <0.2 0.6 91 0.7 1.0 0.6 15.8 8.4 32.2 102. 8.3 3.0 6 85 <0.2 Surface 15.8 8.4 32.2 102.5 0.7 15.8 8.4 8.4 3.1 5 85 <0.2 3.5 88 <0.2 0.7 3.7 0.6 15.8 9 8.4 32.2 8.3 IM4 Fine Moderate 08:55 7.3 Middle 15.8 8.4 32.2 101.9 819707 804601 3.7 0.6 15.9 8.4 8.3 3.6 9 89 <0.2 6.3 0.5 3.9 91 0.7 15.9 8.4 8.3 8.4 101.5 8.3 Bottom 15.9 32.2 6.3 0.5 15.9 8.4 32.2 3.9 11 <0.2 0.7 1.0 0.8 33 15.8 8.4 32.2 2.8 14 85 <0.2 8.4 Surface 15.8 8.4 32.2 102.7 1.0 15.8 8.4 2.8 14 85 <0.2 0.8 33 3.6 0.8 29 15.8 2.8 11 88 <0.2 0.7 8.4 8.3 IM5 Moderate 09:02 7.2 Middle 15.8 8.4 32.2 102.3 820740 804856 Fine 3.6 15.8 3.0 11 88 <0.2 0.8 8 0.7 6.2 0.7 25 15.8 8.4 32.2 8.3 3.1 3.1 91 <0.2 15.8 8.4 32.2 102.4 8.3 Bottom 6.2 0.7 15.8 8.4 32.2 91 < 0.2 1.0 0.2 43 15.8 8.4 32.2 2.2 7 84 <0.2 0.7 Surface 8.4 32.2 102.4 2.2 1.0 0.3 46 15.8 8.4 8.4 7 85 <0.2 0.7 3.5 0.3 32 15.8 8.4 8.4 7 88 <0.2 Fine Moderate 09:07 Middle 15.8 8.4 32.2 102.5 821055 805814 <0.2 3.5 0.3 33 15.8 8.4 32.2 8.4 2.2 7 88 2.1 0.7 6.0 0.3 15.8 8.4 8.4 8 92 <0.2 103.3 6.0 0.3 15.8 8.4 8 91 0.7 0.8 0.7 0.6 1.0 0.2 89 15.8 8.4 32.2 8.4 2.2 83 <0.2 Surface 8.4 32.2 102.7 8.4 1.0 0.2 92 15.8 84 32.2 102 2.3 84 <0.2 154 7 3.9 0.2 2.6 89 <0.2 15.8 8.4 32.2 102.4 8.3 IM7 Moderate 09:11 7.7 Middle 15.8 8.4 32.2 102.5 821331 806831 90 3.9 0.2 168 15.8 8.4 32.2 8.4 2.7 7 0.7 6.7 0.1 170 15.8 8.4 32.2 102. 8.4 2.3 8 91 <0.2 Bottom 15.8 8.4 32.2 102.4 6.7 0.1 179 15.8 8.4 2.4 <0.2 1.0 0.1 132 15.9 8.1 31.7 9.2 6.2 12 86 < 0.2 0.5 Surface 15.9 8.1 31.7 112.6 15.9 8.1 31.7 12 <0.2 1.0 0.1 134 6.2 86 0.7 8.1 31.8 10.3 6.5 12 87 <0.2 3.8 0.2 92 15.8 125.6 15.8 8.1 31.8 125.6 821823 808121 IM8 Fine Moderate 08:26 7.5 Middle 12 88 0.6 88 10.3 6.5 3.8 94 15.8 8.1 12 0.2 7.7 89 0.6 6.5 0.1 105 15.6 8.1 31.7 13 <0.2 107 8.8 15.6 8.1 31.7 107.5 8.8 Rottom

DA: Depth-Average

Water Quality Monitoring Results on 12 January 21 during Mid-Flood Tide DO Saturation Suspended Solids Total Alkalinity Chromium Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Speed Current Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Time (m/s) Average Average Value Average Value DA Value DA Value DA Value DA Value DA Value DA Condition Condition Depth (m) Value Value Average Value (Northing) (Easting) 0.3 Surface 8.1 31.7 110.4 61 15.3 9.3 9.0 11 3.6 0.2 42 15.3 8.1 31.7 9.1 88 <0.2 0.6 08:18 110.8 808812 IM9 Fine Moderate 8.1 31.7 10 822075 3.6 0.2 44 15.3 8.1 31.7 110.8 9.1 9.0 11 87 <0.2 0.6 6.2 0.2 22 15.3 8.2 31.7 101.3 8.4 8.0 12 89 <0.2 0.6 Bottom 15.3 8.2 31.7 101.3 6.2 0.3 22 15.3 8.2 31.7 101.3 8.4 8.0 12 89 <0.2 0.6 305 1.0 0.6 15.3 8.1 31.8 8.4 8.1 85 < 0.2 0.6 Surface 8.1 31.8 101.4 <0.2 1.0 0.7 312 15.3 8.1 31.8 101. 8.4 8.3 9 86 0.6 8.3 3.5 0.6 309 15.3 8.1 31.8 98.0 8.1 20.0 9 88 88 <0.2 0.6 IM10 Moderate 08:09 7.0 Middle 8.1 31.8 98.0 822374 809799 3.5 0.6 319 15.3 20.0 <0.2 8.1 31.8 98.0 8.1 6.0 0.4 15.3 8.0 8 0.6 307 31.8 9.1 24.0 89 < 0.2 Bottom 15.3 8.0 31.8 110.0 0.6 9.1 6.0 0.4 330 15.3 8.0 31.8 24 0 8 91 **-**0 2 0.3 285 1.0 15.2 8.2 6.0 0.6 30.8 8.5 Surface 15.2 8.2 30.8 102.5 1.0 295 6.0 7 85 <0.2 0.3 15.2 8.2 30.8 102. 8.5 86 0.6 0.7 0.6 8.6 6.4 87 87 <0.2 15.2 15.2 6 3.5 0.4 292 315 8.1 30.8 IM11 Fine Moderate 07:52 7.0 Middle 15.2 8.1 30.8 103.7 87 822037 811439 0.6 6.4 0.4 8.1 30.8 6.0 0.4 286 15.0 8.2 30.8 107. 5.9 6 89 <0.2 9.0 15.0 8.2 107.5 9.0 Bottom 30.8 6.0 0.4 299 15.0 8.2 30.8 107.6 9.0 5.9 6 89 <0.2 0.6 0.5 15.2 13 <0.2 30.9 8.3 0.6 Surface 15.2 8.2 100.2 30.9 1.0 0.5 284 15.2 8.2 30.9 100.2 8.3 5.1 13 85 <0.2 0.6 8.3 4.4 0.5 264 15.1 8.3 5.7 11 88 <0.2 0.7 8.2 30.9 99.8 821470 812035 IM12 Fine Moderate 07:44 8.7 Middle 15.1 8.2 30.9 99.8 10 4.4 15.1 99.8 5.4 11 89 <0.2 0.6 0.5 270 8.2 8.3 30.9 0.3 261 15.1 8.2 30.9 99.6 8.3 5.3 7 <0.2 0.6 15.1 8.2 99.6 8.3 Rottom 30.9 7.7 0.4 275 15.1 8.2 30.9 99.6 8.3 5.9 0.6 1.0 14.4 8.1 30.7 98.2 8 8.3 Surface 14.4 8.1 98.2 30.7 1.0 14.4 30.7 8.3 5.8 8 2.7 Fine Moderate 07:12 Middle 819977 812665 2.7 4.3 14.4 8.2 30.7 98.3 8.3 6.6 9 Bottom 14.4 8.2 30.7 98.3 8.3 4.3 14.4 8.2 30.7 98.3 83 7.0 q 1.0 0.3 15.0 8.2 30.9 99.5 8.3 3.2 10 88 <0.2 0.6 Surface 15.0 8.2 30.9 99.5 1.0 0.3 27 15.0 8.2 30.9 99.5 8.3 3.2 10 88 < 0.2 0.6 SR2 Moderate 06:55 4.8 Middle 821472 814159 3.8 3.4 10 89 0.6 0.2 37 14 9 8.2 30.9 99.3 99.3 8.3 <0.2 8.3 Bottom 3.5 14 9 8.2 30.9 10 0.6 3.8 0.2 40 90 r0 2 1.0 0.1 78 15.7 8.1 32.3 102.1 8.3 8.3 3.0 9 Surface 15.7 8.1 32.3 102.1 15.7 8 1 32 3 3.0 q 1.0 0.1 79 10 4.2 3.4 3.4 0.1 78 15.7 8.1 32.3 8.3 SR3 Moderate 08:35 Middle 15.7 8.1 32.3 102.2 822124 807553 11 4.2 83 15.7 8.1 32.3 0.2 12 12 7.4 0.1 66 15.7 15.7 8.1 8.1 32.3 102.2 8.3 3.5 3.5 Bottom 15.7 8.1 32.3 8.3 0.1 68 1.0 15.3 10 0.1 99 8.4 32.4 8.3 4.2 Surface 15.3 8.4 32.4 101.3 1.0 8.3 10 0.1 103 15.3 8.4 32.4 4.3 4.5 0.1 15.4 5.3 11 8.4 8.3 . 32.4 SR4A 07:50 8.4 32.4 101.1 817181 807795 Fine Moderate 9.0 Middle 15.4 4.5 90 15.4 8.4 8.3 5.5 11 0.1 32.4 5.4 5.5 8.0 0.1 104 15.4 8.4 32.4 12 12 8.4 101.5 8.3 8.3 Rottom 15.4 32.4 8.0 0.1 108 15.4 8.4 1.0 0.2 300 16.4 8.4 32.6 2.1 9 105.2 8.5 Surface 16.4 8.4 32.6 105.4 1.0 0.2 329 16.4 8.4 32.6 8.5 2.1 9 SR5A 07:18 3.5 Middle 816611 810692 Fine Calm 2.5 0.2 294 16.4 32.6 8.7 3.0 9 Bottom 16.4 8.4 32.6 109.3 8.8 16.4 8.8 3.1 2.5 0.2 322 1.0 0.1 267 16.6 8.3 32.6 2.2 11 Surface 16.6 8.3 32.6 103.4 1.0 0.1 267 16.6 8.3 32.6 103.4 8.3 2.2 11 SR6A Fine Calm 06:46 4.2 Middle 817941 814757 3.2 0.1 270 16.6 8.3 32.6 8.4 2.6 10 Bottom 8.3 32.6 105.3 8.4 3.2 0.1 271 16.6 8.3 32.6 8.4 2.8 10 1.0 0.1 16.1 8.2 31 1 100.6 8.2 6.0 9 100.6 Surface 31.1 1.0 0.2 16.1 8.2 31.1 100.6 8.2 6.0 9 8.2 8.2 0.2 17 16.1 8.2 31 1 100.5 8.2 6.4 8 SR7 Moderate 06:03 16.4 Middle 8.2 31.1 100.5 823624 823744 Fine 8.2 0.2 18 16.1 8.2 31.1 100.5 8.2 6.4 15.4 0.2 16.0 8.2 31.2 100.5 8.2 5.9 8 Bottom 8.2 31.2 100.5 8.2 15.4 0.2 16.0 8.2 31.2 100. 8.2 5.9 7 1.0 14.7 8.3 30.9 99.6 8.4 4.5 8 Surface 14.7 8.3 30.9 99.6 1.0 14.7 8.3 30.9 99.6 8.4 4.4 7 . . 07:31 820403 811640 SR8 Fine Moderate 4.0 Middle -3.0 14.7 4.7 10 8.2 30.8 97.8 8.2 14.7 Bottom 8.2 30.8 97.8 8.2

DA: Depth-Averaged

Water Quality Monitoring Results on 14 January 21 during Mid-Ebb Tide Turbidity(NTU) Suspended Solids Total Alkalinity DO Saturation Water Salinity (ppt) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Temperature (°C) Monitoring Current Speed Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Value DA Condition Condition Time Depth (m) (m/s) Average Value Average Average Value Average Value DA Value DA Value DA Value DA Value DA Value Value (Northing) (Easting) 16.8 0.1 8.0 30.7 115.4 1.0 0.1 47 16.8 30.7 4.6 4.7 41 0.0 314 15.4 8.0 30.8 9.6 7 C1 115.2 804228 Fine Moderate 13:34 8.0 30.8 815630 4.1 0.0 326 15.4 8.0 30.8 115.1 9.5 4.7 6 7.2 0.0 219 15.1 8.0 31.1 112.7 9.4 4.8 8 Bottom 8.0 31.1 112.7 7.2 0.0 232 15.1 8.0 31 1 1127 94 47 7 1.0 0.3 13 15.7 8.1 31.6 108.7 8.9 2.4 Surface 8.1 31.6 108.6 1.0 0.3 13 15.7 8.1 31.6 108. 8.9 2.4 8 8.7 6.4 0.3 21 15.3 8.1 106. 4.2 4.3 7 Cloudy C2 Moderate 12:24 12.8 Middle 8.1 32.3 106.1 825663 806963 6.4 0.3 15.3 8.1 8.7 8 22 32.3 106. 11.8 0.3 15.3 8.1 8.7 3.6 9 22 32.3 105. Bottom 15.3 8.1 32.3 105.9 8.7 3.5 10 8.7 11.8 0.3 23 15.3 8.1 32.3 106 (0.3 16.0 1.0 8.1 2.1 6 8.5 Surface 16.0 8.1 32.5 105.4 1.0 16.0 2.1 6 0.4 101 8.1 32.5 105. 8.5 4.1 16.2 16.2 8.3 6 7 6.0 8.1 C3 Cloudy Moderate 14:23 12.0 Middle 16.2 8.1 32.7 103.3 822109 817812 0.3 93 8.1 7 11.0 0.2 89 16.2 8.1 32.7 8.4 3.7 103.7 16.2 8.1 103.8 8.4 Bottom 32.7 11.0 0.3 94 16.2 8.1 32.7 103.8 8.4 3.6 8 0.1 15.6 11 8.1 31.2 118.6 9.8 Surface 15.6 8.1 31.2 118.6 1.0 0.1 214 15.6 8.1 31.2 118.5 9.8 4.2 10 9.8 807125 IM1 Fine Moderate 13:11 4.7 Middle 817937 3.7 0.1 225 15.6 8.1 9.7 9.7 4.2 9 Bottom 15.6 8.1 31.2 118.0 9.7 3.7 0.1 231 15.6 8.1 31.2 4.2 10 0.0 15.7 8.1 30.6 9.8 4.6 10 Surface 15.7 8.1 30.6 118.4 1.0 0.0 81 15.7 4.5 11 3.4 0.0 159 15.8 9.6 4.8 10 116.4 818147 806170 Fine Moderate 13:04 Middle 8.1 30.7 3.4 15.8 4.8 9 0.0 166 5.8 0.1 273 15.1 8.1 31.3 9.4 6.0 Bottom 15.1 8.1 31.3 113.5 9.4 9.4 5.8 0.1 273 15.1 8.1 31.3 5.9 10 1.0 0.1 333 15.7 8.1 31.0 9.6 5.1 10 Surface 8.1 31.0 116.2 1.0 0.1 349 15.7 8.1 31.0 9.6 5.1 9 3.5 0.1 309 15.2 8.1 9.6 5.7 10 IM3 Moderate 12:57 7.0 Middle 8.1 115.0 818791 805609 5.7 3.5 0.1 328 15.2 8.1 9 278 6.0 0.1 15.1 8.0 31.2 114 9.5 5.9 8 114.2 5.9 0.1 15.1 8.0 31.2 q 6.0 288 114 1.0 0.2 8 15.2 8.0 31 1 9.4 9.4 5.4 11 Surface 15.2 8.0 31.1 113.6 8.0 10 31 1 5.4 1.0 0.2 15.2 11 4.1 315 5.6 5.6 0.1 15.1 8.0 31.0 9.5 IM4 Moderate 12:47 8.2 Middle 15.1 8.0 31.0 113.6 819719 804615 10 4.1 0.1 329 15.1 8.0 31.0 10 11 7.2 0.1 325 15.0 15.0 8.0 31.1 9.3 6.3 6.4 112.1 9.3 Rottom 15.0 8.0 31.1 0.1 338 10 1.0 0.2 15.3 9 8.0 31.2 113.8 9.4 5.2 Surface 15.3 8.0 31.2 113.9 1.0 8.0 9.4 5.2 5.9 10 0.2 15.3 31.2 113.9 3.8 0.2 356 15.2 9.5 9 8.0 31.1 -114.5 IM5 12:39 7.5 15.2 8.0 31.1 114.5 820736 804850 Fine Moderate Middle 3.8 328 15.2 8.0 31.1 114.4 6.0 10 0.2 6.6 6.6 6.5 0.2 15.2 15.2 8.0 31.1 113.0 113.6 9.4 8 7 8.0 31.1 9.4 Bottom 15.2 6.5 0.2 1.0 0.1 263 15.3 8.0 31.3 9.6 3.1 7 115.5 Surface 15.3 8.0 31.3 115.5 1.0 0.1 277 15.2 8.0 31.3 9.6 3.1 6 3.7 0.1 289 15.2 8.0 31.2 3.2 8 12:30 7.4 Middle 15.2 8.0 31.2 114.9 821065 805819 IM6 Fine Moderate 3.7 0.1 291 15.2 8.0 31.2 114.9 9.5 3.2 9 6.4 0.0 15.8 8.0 31.3 9.4 4.4 8 Bottom 15.8 8.0 31.3 114.5 9.4 6.4 0.0 15.8 8.0 9.4 4.4 1.0 0.1 123 15.2 8.0 31.3 9.6 3.1 Surface 15.2 8.0 31.3 115.3 1.0 0.1 128 15.2 8.0 31.3 115. 9.6 3.1 6 7 4.3 0.1 159 15.1 8.0 31.3 114.4 9.5 3.1 IM7 Fine Moderate 12:24 Middle 8.0 31.3 114.4 821329 806824 4.3 0.1 170 15.1 8.0 31.3 11/ 9.5 3.1 7.6 0.1 177 15.2 8.0 31.6 9.4 3.5 7 Bottom 8.0 31.6 113.2 9.4 7.6 0.1 177 15.2 8.0 31.6 9.4 3.8 7 1.0 0.3 63 15.4 8.1 32.1 109.1 9.0 2.6 9 Surface 8.1 32.1 109.0 1.0 0.4 68 15.4 8.1 32.1 108.9 8.9 2.6 10 3.8 0.3 59 15.2 8.1 32.3 106.9 8.8 3.6 10 IM8 Cloudy Moderate 12:46 7.5 Middle 15.2 8.1 32.3 106.9 821826 808132 3.8 0.3 62 15.2 8.1 32.3 106.8 8.8 3.6 9 -6.5 0.2 55 15.2 8.1 32.3 105.7 8.7 3.7 8 8.1 Bottom 15.2 32.3 105.7 8.7

DA: Depth-Averaged

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

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

Water Quality Monitoring Results on 14 January 21 during Mid-Ebb Tide DO Saturation Suspended Solids Total Alkalinity Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Speed Current Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Time (m/s) Average Average Value Average Value DA Value DA Value DA Value DA Value DA Value DA Condition Condition Depth (m) Value Value Average Value (Northing) (Easting) 0.2 Surface 8.1 31.9 109.9 45 15.9 1.7 3.7 0.3 64 15.3 8.1 32.2 106.9 8.8 2.6 7 106.9 IM9 Cloudy Moderate 12:52 7.3 8.1 32.2 822095 808805 3.7 0.3 68 15.3 8.1 32.2 106.8 8.8 2.6 7 6.3 0.3 59 15.1 8.1 32.3 106.2 8.8 2.1 6 Bottom 15.1 8.1 32.3 106.2 8.8 6.3 0.3 60 15.1 8.1 32.3 106.2 8.8 2.2 6 1.9 1.0 0.3 15.7 8.1 31.9 107.7 8.8 6 Surface 8.1 31.9 107.7 1.0 0.3 79 15.7 8.1 31.9 107. 8.8 1.9 5 3.9 0.3 74 15.5 8.1 8.7 2.1 5 6 IM10 Cloudy Moderate 12:58 7.8 Middle 8.1 32.0 106.6 822408 809784 3.9 77 15.5 8.1 0.3 106. 8.8 6.8 67 15.4 1.7 12 0.3 8.1 32.2 106. 8.7 Bottom 15.4 8.1 32.2 106.1 8.7 8.7 11 6.8 0.3 15.4 8.1 32.2 106 (1.8 69 0.2 1.0 15.4 1.1 8.1 8.9 Surface 15.4 8.1 32.4 108.3 1.0 1.1 7 0.2 104 15.4 8.1 32.4 108. 8.9 89 7 8.8 1.1 15.4 3.9 8.1 32.4 IM11 Cloudy Moderate 13:08 7.8 Middle 8.1 32.4 107.1 822063 811449 15.4 1.1 0.2 98 8.1 32.4 6.8 0.2 82 15.3 8.1 32.4 8.7 1.0 6 8.1 105.6 8.7 Bottom 15.3 32.4 6.8 0.2 82 15.3 8.1 32.4 105.6 8.7 1.0 5 0.3 15.5 6 32.4 Surface 15.5 8.1 32.4 109.3 1.0 0.3 107 15.5 8.1 32.4 109.3 9.0 1.2 6 4.8 0.2 107 15.4 8.8 1.2 6 7 8.1 32.4 812069 IM12 Cloudy Moderate 13:16 9.6 Middle 15.4 8.1 32.4 107.4 821441 4.8 15.4 8.1 8.8 1.2 113 0.2 8.6 0.1 122 15.4 8.1 8.7 1.1 8 15.4 8.1 32.4 106.3 8.7 Rottom 8.6 0.1 122 15.4 8.1 32.4 8.7 1.1 15.6 8.1 32.4 9.0 2.3 3 Surface 15.6 8.1 110.1 32.4 1.0 15.6 32.4 9.0 2.3 4 2.6 Cloudy Calm 13:49 5.2 Middle 812659 2.6 4.2 15.6 8.1 32.4 108. 8.8 3.7 4 Bottom 15.6 8.1 32.4 108.2 8.8 4.2 15.6 8 1 32.4 108 8.8 3.8 5 1.0 0.2 15.5 8.1 32.4 108.6 8.9 3.9 7 Surface 15.5 8.1 32.4 108.5 1.0 0.2 24 15.5 8.1 32.4 108.4 8.9 3.9 6 8.9 SR2 Cloudy Moderate 14:04 4.1 Middle 821450 814172 3.1 3.8 0.2 17 15.5 8 1 32.4 8.8 6 107.4 Bottom 3.8 3.1 15.5 8.1 32.4 5 0.2 18 127 1.0 0.4 15.6 8.1 31.9 108.6 8.9 8.9 2.1 7 Surface 8.1 31.9 108.4 2.2 3.7 1.0 8 1 0.5 137 15.6 31 9 8 4.5 115 7____ 0.3 15.4 8.1 32.0 8.8 SR3 Cloudy Moderate 12:41 Middle 15.4 8.1 32.0 107.3 822154 807547 8.8 8 3.8 124 15.4 8.1 4.5 0.3 9 10 7.9 0.4 93 15.4 15.4 8.1 8.1 106.1 8.7 4.3 4.1 8.7 Bottom 15.4 8.1 32.2 7.9 0.4 94 1.0 0.3 15.7 81 8.0 31.1 119.9 9.9 3.8 6 Surface 15.7 8.0 31.1 119.9 1.0 31.1 9.9 7 0.3 82 15.7 8.0 119.9 3.8 4.6 73 15.9 3.9 6 0.3 31.1 9.6 . 8.0 SR4A 13:57 8.0 31.1 117.3 817179 807813 Fine Calm 9.1 Middle 15.9 4.6 73 15.9 8.0 31.1 9.6 3.9 7 0.3 8.1 15.6 8.0 31.2 118. 9.8 4.0 6 0.2 58 118.5 9.8 Rottom 15.6 8.0 31.2 8.1 0.2 15.6 1.0 0.0 277 15.7 8.1 31.4 10.8 3.5 131.7 Surface 15.7 8.1 31.4 131.7 1.0 0.0 285 15.7 8.1 31.4 131. 10.8 3.5 8 SR5A 14:13 3.2 Middle 816602 810691 Fine Calm 2.2 0.2 311 15.6 128.6 10.6 3.5 8 Bottom 15.6 8.1 31.4 128.6 10.6 15.6 8.1 31.4 10.6 3.4 2.2 0.2 323 1.0 0.0 16.1 8.1 31.6 122.4 6.1 Surface 16.1 8.1 31.6 122.4 1.0 0.0 16.1 8.1 31.6 122.4 10.0 6.1 9 SR6A Fine Calm 14:58 4.1 Middle 817981 814757 3.1 0.1 19 16.0 9.9 6.4 11 Bottom 8.1 31.5 122.1 9.9 3.1 0.1 20 16.1 8 1 31.5 a a 6.8 10 1.0 0.3 33 16.2 8.1 32.6 104 4 8.4 1.3 4 Surface 8.1 104.4 32.6 1.0 0.4 36 16.2 8.1 32.6 104.3 8.4 1.3 3 8.0 0.4 35 16.2 8.1 32.7 103.2 8.3 1.3 3 SR7 Cloudy Moderate 14:54 15.9 Middle 8.1 32.7 103.3 823619 823761 8.0 0.4 35 16.2 8.1 32.7 8.3 1.4 14.9 0.3 28 16.2 8.1 32.7 8.4 1.2 3 Bottom 16.2 8.1 32.7 103.7 14.9 0.3 30 16.2 8.1 32.7 8.4 1.2 1.0 15.5 8.1 32.4 9.2 0.8 6 Surface 15.5 8.1 32.4 111.9 1.0 15.5 8.1 32.4 112.0 9.2 0.8 7 . . 820392 811637 SR8 Cloudy Moderate 13:26 4.5 Middle -3.5 15.4 0.6 6 8.1 32.4 109.7 9.0 15.4 8.1 32.4 109.7 9.0

DA: Depth-Averaged

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

Water Quality Monitoring Water Quality Monitoring Results on 14 January 21 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids Total Alkalinity Water Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Temperature (°C) Monitoring Current Speed Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Value DA Condition Time Depth (m) (m/s) Average Value Average Average Value Average Value DA Value DA Value DA Value DA Value DA Condition Value Value (Northing) (Easting) 14.6 0.5 Surface 14.6 8.0 30.6 111.5 1.0 0.5 41 14.6 30.6 111. 9.4 7.9 11 0.4 14.7 8.3 C1 8.0 30.6 112.0 804247 09:15 76 Middle 14.7 815620 Cloudy Moderate 14.7 8.0 30.6 9.4 8.3 8 3.8 0.5 34 6.6 0.4 26 14.7 8.0 30.8 110. 9.3 10.3 7 147 110.8 9.3 Bottom 8.0 30.8 9.3 14.7 30.8 10.3 6.6 0.4 8.0 8 1.0 0.3 8.1 Surface 15.5 8.1 31.3 104.6 15.5 2.5 8.1 8.6 6 7 1.0 0.4 328 15.4 5.8 0.4 8.1 8.6 C2 Cloudy Moderate 09:44 11.5 Middle 15.4 8.1 31.6 103.9 825669 806955 8.6 5.1 6 5.8 0.4 18 15.4 8.1 10.5 0.3 52 15.4 8.1 31.9 103.8 8.5 6.0 7 8.1 31.8 103.8 8.5 Bottom 15.4 10.5 0.4 52 15.4 8.1 31.8 5.9 6 0.5 287 15.3 4.3 9 8.6 Surface 15.3 8.1 32.3 104.9 1.0 0.5 299 15.3 8.1 32.3 8.6 4.4 9 7.8 10 5.3 0.5 289 15.4 8.1 -104.4 8.6 C3 07:39 104.4 822087 817785 Cloudy Moderate 10.5 Middle 15.4 8.1 32.3 0.6 314 15.4 9 9.5 0.4 292 15.4 8.6 14.5 Bottom 15.4 8.1 32.3 104.2 8.6 9.5 0.4 320 15.4 8.1 32 3 104 8.6 14.7 10 1.0 0.0 310 15.0 8.0 31.4 3.5 8 Surface 15.0 8.0 31.4 112.8 1.0 0.0 324 15.0 8.0 31.4 112. 9.4 3.5 9 IM1 Fine Moderate 09:36 Middle 817932 3.7 0.0 327 14 9 8.0 31 4 111 9.3 3.3 14 Bottom 14.9 8.0 31.3 111.8 9.3 3.7 0.0 356 14 9 8.0 31.3 111 8 93 3.3 13 15 1.0 15.0 0.3 8.0 31.2 9.2 9.4 Surface 8.0 31.2 110.7 1.0 0.3 15.0 8.0 31.2 110.7 9.2 9.4 16 9.6 9.7 3.3 0.3 15.0 8.0 31.3 9.3 14 IM2 Moderate 09:44 6.6 Middle 8.0 31.3 111.5 12 818143 806168 3.3 0.3 15.0 8.0 31.3 9.3 13 8 5.6 0.3 15.0 8.0 31.2 9.2 11.8 8.0 31.2 110.6 9.2 12.1 5.6 0.3 15.0 8.0 92 31.2 1.0 0.4 342 149 8.1 31.2 93 9.4 16 Surface 8.1 31.2 111.6 1.0 8.1 9.0 17 0.4 352 14.9 9.3 31.2 9.8 0.3 15.0 9.4 17 3.4 345 8.0 31.2 IM3 Fine Moderate 09:52 6.8 Middle 15.0 8.0 31.2 113.0 818769 805606 16 15.0 15.0 9.4 3.4 0.3 317 8.0 10.0 5.8 0.3 338 8.0 31.2 112. 9.3 112.1 Rottom 15.0 8.0 31.2 9.3 5.8 0.3 311 15.0 8.0 31.2 112.1 9.3 10.1 15 1.0 0.6 348 15.0 6.7 13 8.0 31.2 111.8 9.3 Surface 15.0 8.0 31.2 111.9 0.6 320 15.0 6.8 14 4.0 348 7.9 14 15.1 0.5 8.0 31.2 9.4 IM4 Fine Moderate 10:01 7.9 Middle 15.1 8.0 31.2 112.7 15 819721 804610 4.0 0.5 320 15.1 8.0 9.4 7.6 15 6.9 0.4 15.1 8.1 16 8.0 9.3 111.9 Bottom 15.1 8.0 31.2 9.3 6.9 0.4 316 15.1 8.0 9.3 7.9 17 1.0 0.7 13 15.0 8.0 31.3 9.2 6.7 16 Surface 15.0 8.0 31.3 110.9 1.0 0.8 13 15.0 8.0 31.3 9.2 6.5 16 3.6 0.7 16 15.0 8.1 14 8.0 9.3 IM5 Fine Moderate 10:09 7.1 Middle 15.0 8.0 31.3 111.8 820738 804845 3.6 0.7 15.0 8.2 13 7.0 7.1 6.1 0.6 15.0 8.0 9.3 13 Bottom 15.0 8.0 31.3 111.3 9.3 8.0 31.3 6.1 0.6 17 15.0 12 1.0 0.1 21 15.0 8.0 31.3 9.3 3.5 12 Surface 8.0 31.3 112.3 1.0 0.1 21 15.0 8.0 31.3 9.3 3.5 13 3.5 0.1 37 15.1 8.0 31.3 9.4 3.6 12 Fine Moderate 10:17 Middle 15.1 8.0 31.3 112.8 821045 805841 3.5 0.1 37 15.1 8.0 31.3 112 9.4 3.7 13 9.3 4.1 4.1 6.0 0.1 56 15.1 8.0 11 112.1 9.3 6.0 0.1 15.1 8.0 10 1.0 0.2 148 14.9 8.0 31.4 9.4 4.1 11 Surface 14.9 112.6 94 4.2 4.7 11 1.0 0.2 161 149 8.0 31 4 11 4.2 134 8.0 0.2 14.9 31.4 9.3 IM7 Moderate 10:26 8.3 Middle 14.9 8.0 111.7 821348 806835 4.7 4.2 0.2 142 14.9 8.0 31.4 9.3 10 7.3 0.2 137 15.0 8.1 31.4 9.3 4.9 10 Bottom 15.0 8.1 31.4 112.0 9.3 7.3 0.2 138 15.0 8.1 4.8 10 1.0 0.0 123 15.5 8.1 31.8 104. 8.6 2.3 9 Surface 15.5 8.1 31.8 104.6 8.6 15.5 8.1 31.8 1.0 0.0 132 104. 2.3 8 3.7 15.3 8.1 31.9 8.5 2.0 9 0.0 36 103.2 -15.3 8.1 31.9 103.2 808153 IM8 Cloudy Moderate 09:19 7.3 Middle 821846 2.0 8.5 3.7 0.0 15.3 8.1 8 36 347 6.3 0.0 15.3 8.1 32.0 2.1 8 103. 8.5 8.5 15.3 8.1 32.0 103.0 8.5 Rottom

Water Quality Monitoring Results on 14 January 21 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids Total Alkalinity Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Speed Current Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Time (m/s) Average Average Value Average Value DA Value DA Value DA Value DA Value DA Value DA Condition Condition Depth (m) Value Value Average Value (Northing) (Easting) 15.3 0.2 8.1 103.8 1.0 0.2 258 15.3 4.1 11 4.9 3.4 0.1 243 15.3 8.1 32.2 8.5 13 09:12 103.5 808810 IM9 Cloudy Moderate 8.1 32.2 12 822117 3.4 0.1 253 15.3 8.1 32.2 103.5 8.5 5.0 12 5.8 0.1 227 15.3 8.1 32.2 103.9 8.6 4.5 13 Bottom 15.3 8.1 32.2 103.9 8.6 5.8 0.1 248 15.3 8.1 32.2 103.8 8.5 4.5 12 1.0 0.5 325 15.3 8.1 32.2 105.3 8.7 4.6 12 Surface 8.1 32.2 105.1 1.0 0.5 338 15.3 8.1 32.2 104.9 8.6 4.8 11 3.4 0.4 322 15.2 8.1 104.7 8.6 5.7 5.7 12 11 IM10 Cloudy Moderate 09:05 6.8 Middle 8.1 32.2 104.7 822406 809815 3.4 328 8.1 0.5 15.2 32.2 104. 8.6 5.8 15.2 7.2 12 0.4 318 8.1 32.2 104.2 8.6 Bottom 15.2 8.1 32.2 104.2 8.6 5.8 0.4 15.2 8.1 32.2 104 2 8.6 7.4 13 347 1.0 0.5 17 15.3 6.2 8.1 8.6 Surface 15.3 8.1 32.3 104.7 1.0 6.3 17 0.6 291 15.3 8.1 32.3 104. 8.6 8.6 7.6 7.8 15.2 15.2 8.6 15 14 279 298 3.7 8.1 104 IM11 Cloudy Moderate 08:55 7.3 Middle 15.2 8.1 32.3 104.4 15 822060 811440 0.6 8.1 15 6.3 0.4 287 15.2 8.1 32.3 8.5 7.0 15.2 8.1 103.8 8.6 Bottom 32.3 6.3 0.4 306 15.2 8.1 32.3 103.9 8.6 7.0 14 0.6 15.3 16 32.4 8.6 Surface 15.3 8.1 32.4 104.5 1.0 0.6 317 15.3 8.1 32.4 104.5 8.6 7.2 17 3.7 0.5 304 15.3 8.6 11.8 18 8.1 104.1 812065 IM12 Cloudy Moderate 08:50 7.4 Middle 15.3 8.1 32.3 104.2 821472 3.7 15.3 8.1 8.6 11.8 19 310 0.6 6.4 0.5 297 15.3 8.1 8.5 18.7 20 15.3 8.1 32.3 103.9 8.5 Rottom 6.4 0.5 306 15.3 8.1 32.3 8.5 18.5 20 1.0 15.2 8.1 32.4 8.6 Surface 15.2 8.1 32.4 103.8 1.0 15.2 32.4 8.6 1.1 6 2.2 Cloudy Calm 08:14 Middle 812659 2.2 3.3 15.2 8.1 32.4 102. 8.5 2.5 5 Bottom 15.2 8.1 32.4 102.8 8.5 3.3 15.2 8 1 32.4 102 8.5 2.5 5 1.0 0.1 43 15.2 8.1 32.3 104.2 8.6 12.4 23 Surface 15.2 8.1 32.3 104.2 1.0 0.1 46 15.2 8.1 32.3 104.2 8.6 12.5 22 SR2 Cloudy Moderate 07:58 4.0 Middle 821476 814145 3.0 22 0.1 42 15.2 8 1 8.5 14.6 103.6 Bottom 44 15.2 8.1 32.3 14 9 21 3.0 0.1 1.0 0.1 358 15.5 8.1 31.3 104.9 8.7 8.6 2.2 9 Surface 15.5 8.1 31.3 104.8 8 1 31 4 2.3 8 1.0 0.1 329 15.5 4.3 8.5 8.5 3.0 7 0.1 353 15.5 8.1 31.7 SR3 Cloudy Moderate 09:25 Middle 15.5 8.1 31.7 103.9 822170 807586 8 4.3 325 15.5 8.1 31.7 0.1 8 7 7.5 7.5 0.2 15.5 15.5 8.1 8.1 31.7 103.8 8.5 3.3 3.4 Bottom 15.5 8.1 31.7 8.5 0.2 1.0 14.9 0.2 70 8.0 31.3 9.3 2.5 7 Surface 14.9 8.0 31.3 111.5 1.0 14.9 9.3 0.2 71 8.0 31.3 111. 2.5 2.7 7 4.5 61 14.9 5 0.2 31.4 9.3 . 8.0 SR4A 08:50 8.0 31.4 112.1 817184 807814 Cloudy Calm 8.9 Middle 14.9 4.5 63 14.9 8.0 31.4 112. 9.3 2.8 5 0.2 14.7 7.9 0.2 8.0 31.4 9.3 3.0 5 60 110.9 110.9 9.3 Rottom 14.7 8.0 31.4 7.9 0.2 64 14.7 8.0 1.0 0.4 241 14.9 8.0 31.4 9.4 2.8 6 112. Surface 14.9 8.0 31.4 112.5 1.0 0.4 258 14.8 8.0 31.4 9.4 2.9 7 SR5A 08:31 3.1 Middle 816609 810676 Cloudy Calm 2.1 0.3 260 14.8 9.3 3.5 Bottom 14.8 8.0 31.4 111.7 9.3 0.3 270 14.8 8.0 31.4 9.3 3.5 2.1 1.0 0.0 253 15.4 8.1 31.5 112.0 9.3 3.2 Surface 15.4 8.1 31.5 112.6 1.0 0.0 266 15.4 8.1 31.5 112. 9.3 3.3 9 SR6A Cloudy Calm 08:00 3.7 Middle 817982 814731 2.7 0.1 149 15.4 8.0 9.2 4.3 10 Bottom 8.0 31.5 111.7 9.2 2.7 0.1 158 15.4 8.0 31.5 4.4 10 1.0 0.1 149 15.8 8.0 32.5 104 1 8.5 2.6 9 Surface 104.1 32.5 1.0 0.1 149 15.8 8.0 32.5 104.1 8.5 2.6 10 79 0.1 150 15.8 8.0 32.5 102.8 8.4 3.1 9 10 SR7 Cloudy Moderate 07:12 15.8 Middle 8.0 32.5 102.8 823618 823734 7.9 0.1 159 15.8 8.0 32.5 102.8 8.4 3.1 14.8 0.2 172 15.8 8.0 32.5 8.3 3.0 9 Bottom 8.0 32.5 102.7 14.8 0.2 189 15.8 8.0 32.5 8.4 3.2 10 1.0 15.7 8.2 32.1 104.8 8.6 2.1 8 Surface 15.6 8.2 32.1 104.8 1.0 15.6 8.2 32.1 104.8 8.6 2.0 9 . . 820405 811645 SR8 Cloudy Moderate 08:40 4.5 Middle -3.5 15.2 2.3 8 8.1 32.2 103. 8.5 15.2 Bottom 8.1 32.2 103.2 8.5

DA: Depth-Averaged

Water Quality Monitoring Results on 16 January 21 during Mid-Ebb Tide Turbidity(NTU) Suspended Solids Total Alkalinity DO Saturation Water Salinity (ppt) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Temperature (°C) Monitoring Current Speed Oxvaen (mg/L) (maga) Sampling Depth (m) HK Grid HK Grid Station Direction Value DA Condition Time Depth (m) (m/s) Average Value Average Average Value Average Value DA Value DA Value DA Value DA Value DA Condition Value Value (Northing) (Easting) 16.3 0.1 8.1 30.5 1.0 0.1 295 16.3 30.5 118. 7.0 4.5 0.1 88 16.2 8.1 30.5 118.4 9.7 5.4 11 118.3 804256 C1 Sunny Moderate 15:11 8.1 30.5 10 815606 4.5 0.1 95 16.2 8.1 30.5 118.2 9.7 5.4 11 7.9 0.1 193 16.7 8.1 30.6 118.2 9.6 4.9 11 Bottom 8.1 30.6 118.2 9.6 7.9 0.1 211 16.7 8.1 30.6 118 1 9.5 4.9 11 1.0 0.2 135 16.1 8.1 30.9 118.0 9.6 3.3 Surface 8.1 30.9 118.0 1.0 0.2 139 16.1 8.1 30.9 118.0 9.6 3.3 8 6.1 0.5 154 16.0 8.1 31.4 9.4 4.1 5 6 C2 Cloudy Rough 13:45 12.1 Middle 8.1 31.4 115.6 825674 806937 6.1 0.5 168 8.1 9.4 4.1 16.0 31.4 11.1 0.5 144 16.0 8.1 4.2 5 31.7 114. 9.3 Bottom 16.0 8.1 31.7 114.7 9.3 6 11.1 0.5 154 16.0 8.1 31.7 93 4.2 114 0.4 286 16.2 2.8 1.0 8.1 9.0 Surface 16.2 8.1 32.1 111.8 2.8 2.9 2.9 1.0 7 0.4 296 16.2 8.1 32.1 9.0 9.0 7 8.9 257 282 16.1 8.1 5.8 109. C3 Cloudy Rough 15:53 11.6 Middle 16.1 8.1 32.2 109.6 822124 817797 16.1 0.2 8.1 7 10.6 0.1 120 16.1 8.1 32.3 8.9 2.9 110.1 16.1 8.1 110.1 8.9 Bottom 32.3 10.6 0.1 124 16.1 8.1 32.3 110.1 8.9 2.9 6 0.1 16.5 8.1 31.0 9.8 9 Surface 16.5 8.1 31.0 120.6 1.0 0.1 241 16.5 8.1 31.0 120.6 9.8 4.5 9 9.8 807125 IM1 Sunny Moderate 14:51 4.8 Middle 817935 3.8 0.0 235 16.5 8.1 31.0 120.8 9.8 4.5 9 Bottom 16.5 8.1 31.0 120.8 9.8 3.8 0.0 243 16.5 8.1 31.0 120. 9.8 4.5 10 0.1 356 16.2 8.0 30.8 9.6 9 Surface 16.2 8.0 30.8 118.1 1.0 0.1 328 16.2 30.8 9.6 7.4 8 3.4 0.1 16.2 9.6 6.7 10 117.5 806164 Sunnv Moderate 14:42 Middle 8.0 30.8 818184 0.1 16.2 6.8 9 12 3.4 5.7 0.1 74 16.3 8.0 30.8 9.6 6.9 Bottom 16.3 8.0 30.8 117.8 9.6 9.6 5.7 0.1 77 16.3 8.0 30.8 6.9 11 1.0 0.1 340 16.4 8.1 30.7 9.6 5.2 8 Surface 8.1 30.7 117.9 1.0 0.1 313 16.4 8.1 30.7 9.6 5.2 7 3.5 0.0 60 16.2 8.1 30.7 9.6 5.4 11 IM3 Sunny Moderate 14:34 6.9 Middle 118.2 818764 805581 3.5 0.0 60 16.2 30.7 5.4 11 9.5 9.5 10 5.9 0.0 70 16.4 8.0 30.7 116 9 10.1 116.9 10.3 0.0 16.4 8.0 30.7 11 5.9 75 116.8 1.0 0.1 343 16.4 8.1 30.6 118 2 9.6 9.6 6.9 8 Surface 16.4 8.1 30.6 118.2 8.1 1.0 16.4 30.6 8 0.2 344 6.9 4.0 332 9.6 9.6 6.1 8 0.1 16.2 8.1 30.4 IM4 Sunny Moderate 14:23 Middle 16.2 8.1 117.5 819733 804596 6.1 4.0 0.1 349 16.2 8.1 30.4 14 13 7.0 0.1 324 16.5 16.5 8.1 8.1 30.7 116.5 9.5 11.2 11.0 Rottom 16.5 8.1 30.7 9.5 30.7 0.1 351 1.0 0.2 16.1 5.7 10 12 8.0 30.9 117. 9.6 Surface 16.1 8.0 30.9 117.4 1.0 16.1 8.0 30.9 117.4 9.6 5.6 11 0.2 12 3.7 0.2 356 16.2 6.0 11 8.0 9.6 -30.8 IM5 14:11 7.4 16.2 8.0 30.8 117.1 820732 804875 Sunny Moderate Middle 3.7 328 16.2 8.0 30.8 6.0 12 0.2 6.4 6.3 6.4 0.2 335 354 16.1 8.0 30.8 115.0 9.4 12 11 8.0 115.0 94 Bottom 16.1 30.8 6.4 0.2 16.1 1.0 0.1 286 16.2 8.1 30.7 9.8 3.8 7 Surface 16.2 8.1 30.7 119.8 1.0 0.1 296 16.2 8.1 30.7 9.8 3.8 4.2 0.1 290 16.3 8.1 30.7 4.2 8 14:03 8.3 Middle 16.3 8.1 30.7 119.6 821038 805828 IM6 Sunny Moderate 4.2 0.1 298 16.3 8.1 30.7 119. 9.7 4.2 8 7.3 0.1 335 16.4 4.6 9 Bottom 16.4 8.1 30.7 119.1 9.7 0.1 338 16.4 8.1 30.7 9.7 4.7 10 1.0 0.1 203 16.2 8.0 31.0 118.5 9.7 4.8 13 Surface 16.2 8.0 31.0 118.5 1.0 0.1 214 16.2 8.0 31.0 118. 9.7 4.8 14 4.6 0.1 247 16.2 8.0 30.9 9.6 4.5 14 IM7 Sunny Moderate 13:50 Middle 16.2 8.0 30.9 118.3 821368 806835 4.6 0.1 270 16.1 8.0 30.9 118 9.6 4.5 13 8.1 0.1 238 16.5 8.0 30.9 9.5 4.7 14 8.0 30.9 116.9 9.5 8.1 0.1 242 16.5 8.0 30.9 116 9.5 4.7 13 1.0 0.0 314 16.0 8.1 31 4 116 7 9.5 43 6 Surface 8.1 31.4 116.7 7 1.0 0.0 341 16.0 8.1 31.4 116.7 9.5 4.3 39 0.0 18 16.0 8.1 31.4 114 5 9.3 4.7 6 7 IM8 Cloudy Rough 14:09 7.8 Middle 16.0 8.1 31.4 114.5 821819 808136 4.7 3.9 0.0 18 16.0 8.1 31.4 114.5 9.3 -6.8 0.2 119 16.0 8.1 31.6 111.9 9.1 5.7 7 8.1 Bottom 16.0 31.6 111.9 16.0

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

Water Quality Monitoring Results on 16 January 21 during Mid-Ebb Tide DO Saturation Suspended Solids Total Alkalinity Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Speed Current Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Time (m/s) Average Average Value Average Value DA Value DA Value DA Value DA Value DA Value DA Condition Condition Depth (m) Value Value Average Value (Northing) (Easting) 0.1 16.0 Surface 8.1 31.1 115.2 0.1 16.0 9.4 3.9 4.4 3.7 0.1 102 16.0 8.1 31.3 114 9.3 7 114.2 808809 IM9 Cloudy Rough 14:15 8.1 31.3 822087 3.7 0.1 105 16.0 8.1 31.3 114 2 9.3 4.4 8 6.4 0.1 73 16.0 8.1 31.8 111 2 9.1 5.6 7 Bottom 16.0 8.1 31.8 111.4 6.4 0.1 78 16.0 8.1 31.8 1115 9.1 5.7 8 1.0 0.1 68 16.0 8.1 31.0 116. 9.5 3.4 Surface 8.1 31.0 116.0 7 1.0 0.1 73 16.0 8.1 31.0 116. 9.5 3.4 3.5 0.2 60 15.9 8.1 31.3 9.3 3.5 7 IM10 Cloudy Rough 14:22 7.0 Middle 8.1 31.3 113.5 822373 809772 3.5 8.1 6 0.2 62 15.9 31.3 9.3 6.0 16.0 5 0.2 41 8.1 31.7 9.2 3.4 Bottom 8.1 31.7 112.4 9.2 6.0 0.2 42 16.0 8.1 31.7 92 3.4 6 15.9 1.0 0.1 8.1 3.1 8 9.4 Surface 8.1 31.8 115.4 1.0 9.4 3.1 0.1 15.9 8.1 31.8 115. 9 3.7 15.9 15.9 8 9.3 3.8 8.1 31.8 IM11 Cloudy Rough 14:34 7.6 Middle 8.1 31.8 113.7 822044 811443 0.0 75 8.1 31.8 7 6.6 0.1 94 15.9 8.1 31.8 9.1 4.9 15.9 8.1 111.3 9.1 Bottom 31.8 6.6 0.1 97 15.9 8.1 31.8 9.1 4.9 8 0.2 234 16.0 31.8 Surface 16.0 8.1 31.8 117.4 1.0 0.2 238 16.0 8.1 31.8 9.6 2.9 8 4.4 0.1 206 16.0 9.4 3.0 8 8.1 31.9 812039 IM12 Cloudy 14:41 8.8 Middle 16.0 8.1 31.9 115.7 821452 Rough 4.4 16.0 8.1 9.4 3.0 0.2 221 16.0 8.1 9.3 3.0 8 16.0 8.1 31.9 114.2 9.3 Rottom 7.8 0.1 216 16.0 8.1 31.9 16.2 8.2 32.0 9.6 3.4 4 Surface 16.2 8.2 32.0 118.1 1.0 16.2 32.0 9.6 3.4 5 2.6 812659 Cloudy Moderate 15:17 Middle 2.6 41 16.1 8.1 32.0 9.4 3.1 6 Bottom 16.1 8.1 32.0 115.8 9.4 9.4 41 16.1 8 1 32 (3.1 7 1.0 0.1 54 16.1 8.1 31.9 9.4 3.0 11 Surface 16.1 8.1 31.9 115.6 1.0 0.1 56 16.1 8.1 31.9 9.4 3.0 12 SR2 Cloudy Rough 15:32 4.7 Middle 821462 814159 3.7 16.1 3.0 7 0.1 48 8 1 9.1 112.5 9.1 Bottom 16.1 3.0 3.7 51 8.1 0.1 31 9 1.0 0.1 193 16.0 8.1 31.3 9.5 9.5 3.9 8 Surface 8.1 31.3 115.9 1.0 16.0 8 1 3.9 0.1 205 31.3 8 4.4 156 4.4 7 0.2 16.0 8.1 31.4 9.4 SR3 Cloudy 14:03 Middle 8.1 115.1 822148 807566 Rough 9.4 8 4.4 4.4 163 16.0 8.1 0.2 31.4 7.8 0.1 115 15.9 15.9 8.1 8.1 31.6 113.6 9.3 5.1 5.1 6 7 Bottom 15.9 8.1 31.6 9.3 0.1 123 1.0 0.0 16.3 10 108 8.0 30.9 120.7 9.8 4.8 Surface 16.3 8.0 30.9 120.7 1.0 118 30.9 9.8 0.0 16.3 8.0 120.0 4.8 11 3.9 16.4 4.6 11 0.1 9.8 . 8.0 30.8 120.5 SR4A 8.0 30.8 120.5 817211 807810 Sunny Calm 15:35 7.8 Middle 16.4 3.9 16.4 8.0 30.8 4.6 12 0.1 95 5.8 5.8 6.8 0.1 16.4 8.0 30.8 9.7 9.7 12 13 120.0 97 Rottom 16.4 8.0 30.8 6.8 0.1 16.4 1.0 0.1 16.7 8.1 31.1 10.1 3.8 6 124.8 16.7 8.1 31.1 124.8 Surface 1.0 0.1 16.7 10.1 3.8 6 SR5A 15:53 4.3 Middle 816594 810686 Sunny Calm 3.3 0.1 16.8 123.9 10.0 3.7 11 Bottom 16.8 8.1 31.1 123.8 10.0 0.1 16.8 8.1 31.1 3.7 10 3.3 1.0 0.1 102 16.7 8.1 31.2 124.3 4.8 11 Surface 16.7 8.1 31.2 124.3 1.0 0.1 107 16.7 8.1 31.2 124.2 10.0 4.8 11 SR6A Sunny Calm 16:23 3.8 Middle 817969 814749 2.8 0.1 16.8 9.9 6.0 11 Bottom 8.1 31.1 122.6 9.9 2.8 0.1 133 16.8 8 1 31 1 a a 6.0 11 1.0 0.6 61 16.3 8.1 32.4 8.7 2.9 Surface 8.1 32.4 1.0 0.7 61 16.3 8.1 32.4 107 8.7 3.0 6 8.2 0.2 14 16.3 8.1 32.4 107.2 8.6 4.5 6 SR7 Cloudy 16:24 16.4 Middle 8.1 32.4 107.2 823642 823737 Rough 8.2 0.2 14 16.3 8.1 32.4 107. 8.6 4.6 15.4 0.2 55 16.3 8.1 32.4 107. 8.7 2.6 5 Bottom 16.3 8.1 32.4 107.3 15.4 0.2 55 16.3 8.1 32.4 8.7 2.6 6 1.0 16.4 8.2 31.8 115.0 9.3 4.9 Surface 16.4 8.2 31.8 115.6 1.0 16.4 8.2 31.8 115.5 9.3 4.9 8 . . 820395 811620 SR8 Cloudy Moderate 14:51 4.6 Middle -3.6 16.3 5.0 8 8.2 31.7 9.0 16.3 8.2 31.7 111.6 9.0

DA: Depth-Average

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

Water Quality Monitoring Water Quality Monitoring Results on 16 January 21 during Mid-Flood Tide DO Saturation Suspended Solids Total Alkalinity Water Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Temperature (°C) Monitoring Current Speed Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Value DA Value DA Condition Condition Time Depth (m) (m/s) Average Value Average Average Value Average Value DA Value DA Value DA Value DA Value Value (Northing) (Easting) 16.0 0.6 Surface 16.0 8.1 29.7 120.0 1.0 0.6 40 16.0 29.7 119.9 9.9 5.0 6 0.6 42 16.2 29.8 5.0 C1 8 1 29.8 118.7 804233 10.33 87 Middle 16.2 815633 Fine Moderate 16.2 8.1 29.8 118.6 9.7 5.0 8 0.6 45 7.7 0.4 38 16.5 8.1 30.7 116.8 9.5 9.5 13.0 7 8.1 9.5 Bottom 16.5 30.7 116.8 13.0 7.7 16.5 8.1 30.7 0.4 8 1.0 0.3 16.0 4.5 8.1 Surface 16.0 8.1 30.7 113.6 16.0 8.1 9.3 4.5 8.3 1.0 0.3 322 6 6 5.8 0.4 15.8 8.1 31.2 9.0 C2 Fine Moderate 11:40 11.6 Middle 15.8 8.1 31.2 110.3 825666 806949 9.0 8.3 5.8 0.4 30 15.8 8.1 31.2 10.6 0.4 346 15.8 8.1 31.4 109.3 9.0 12.8 8 8.1 31.4 109.3 9.0 Bottom 15.8 10.6 0.5 318 15.8 8.1 12.8 7 0.3 241 15.9 3.5 13 Surface 15.9 8.1 31.8 112.3 3.5 5.7 5.7 1.0 0.3 251 15.9 8.1 31.8 9.2 12 13 5.3 0.4 15.8 8.1 -252 31.9 9.0 C3 09:21 110.6 822115 817807 Fine Moderate 10.6 Middle 15.8 8.1 31.9 0.4 262 15.8 12 9.6 0.4 266 15.8 8.0 8.9 12.4 17 Bottom 15.8 8.0 31.9 109.6 8.9 9.6 0.4 285 15.8 8.0 31 0 109 8.9 12.4 17 1.0 0.1 316 16.5 3.6 Surface 16.5 8.1 31.0 117.8 1.0 0.1 328 16.5 8.1 31.0 117. 9.5 3.6 4 IM1 Sunny Moderate 10:54 Middle 817926 3.7 0.1 316 16.8 8.1 31 1 117 9.4 6.8 6 Bottom 16.8 8.1 31.0 117.2 9.4 3.7 0.1 331 16.8 8.1 31.0 117 1 9.4 6.6 6 1.0 0.2 16.0 8.1 30.8 9.5 6.7 9 Surface 8.1 30.8 115.8 1.0 0.2 13 16.0 8.1 30.8 115.8 9.5 6.7 9 6.7 3.4 0.2 15.9 8.1 30.9 9.4 11 IM2 Moderate 11:02 6.7 Middle 8.1 30.9 115.1 10 818171 806152 3.4 0.2 15.9 8.1 30.9 9.4 6.6 5.7 356 10 0.2 16.2 8 1 30.9 9.3 7.0 8.1 30.9 113.8 9.3 5.7 7.1 0.2 328 16.2 8.1 93 11 30.9 113 1.0 0.3 347 16.0 8.0 30.8 9.5 10.4 8 Surface 8.0 30.8 116.0 1.0 10.4 9 0.3 319 16.0 8.0 30.8 116. 9.5 16.0 9.5 17.6 8 3.5 0.3 343 8.0 30.8 116. IM3 Sunny Moderate 11:10 7.0 Middle 16.0 8.0 30.8 116.1 818804 805591 17.8 16.0 16.1 9 3.5 0.3 316 8.0 30.8 9.5 14.9 6.0 0.3 338 8.0 30.8 9.4 115.4 Rottom 16.1 8.0 30.8 9.4 6.0 0.3 344 16.1 8.0 30.8 9.4 14.8 8 1.0 1.7 15.9 45 8.0 30.7 115. 9.5 6.5 9 Surface 15.9 8.0 30.7 115.3 1.0 1.8 15.9 9.5 6.4 8 3.9 43 6.6 9 1.9 15.9 8.0 30.7 9.4 IM4 Moderate 11:22 7.8 Middle 15.9 8.0 30.7 114.7 819745 804615 Sunny 3.9 2.0 43 15.9 8.0 9.4 6.6 8 6.8 9.8 9 16.0 8.0 9.4 16.0 114.6 Bottom 8.0 30.7 9.4 6.8 1.8 16.0 8.0 30.7 9.4 9.7 9 1.4 106 1.0 16.0 8.0 30.8 6.2 9 116.7 9.6 Surface 16.0 8.0 30.8 116.7 1.0 109 16.0 8.0 30.8 116. 9.6 6.2 10 3.7 1.5 103 16.1 6.6 10 8.0 9.5 IM5 11:30 7.3 Middle 16.1 8.0 30.7 116.2 820715 804860 Sunny Moderate 3.7 109 16.1 6.6 1.6 9 6.3 1.4 103 16.1 8.0 9.5 9.5 10.9 10.8 Bottom 16.1 8.0 30.7 116.5 9.5 8.0 6.3 1.6 108 16.1 30.7 1.0 1.8 108 16.0 8.1 30.6 118.6 4.4 6 Surface 8.1 30.6 118.6 1.0 2.0 117 16.0 8.1 30.6 118 9.7 4.3 7 3.6 2.1 108 16.0 8.0 30.6 4.6 6 Sunny Moderate 11:39 7.2 Middle 16.0 8.0 30.6 118.4 821083 805809 3.6 2.2 113 16.0 8.0 30.6 118. 9.7 4.6 7 9.8 6.2 2.0 109 16.1 8.1 30.6 10.7 7 119.0 6.2 119 16.1 8 1 30.6 10.7 7 1.0 1.6 293 16.1 8.1 30.8 118 1 7.5 6 Surface 16.1 118.1 8 1 9.7 7.5 7.2 1.0 16 319 16.0 30.8 118 7 6 4.0 1.9 16.1 8.1 294 30.9 118.3 9.7 IM7 Moderate 11:49 Middle 16.1 8.1 118.3 821351 806852 Sunny 4.0 2.1 318 16.0 8.1 30.9 118. 9.7 7.2 7 7.0 2.0 290 16.1 8.1 30.9 9.6 5.3 8 Bottom 16.1 8.1 30.9 117.3 9.6 7.0 306 16.1 8.1 30.9 9.6 5.3 1.0 0.1 194 15.8 8.1 30.9 9.2 4.1 6 Surface 15.8 8.1 30.9 112.4

8.1

8.1

8.1

8.1

15.8

15.7

30.9

30.9

30.9

31.1

8.1

8.1

111.3

109.

30.9

31.1

9.2

9.1

9.1

9.0

9.0

111.2

109.4

4.1

4.6

4.6

6.4

7

6

7

8

-

808160

821834

IM8

Fine

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

11:14

7.5

Middle

Rottom

1.0

3.8

3.8

6.5

0.1

0.0

0.0

0.0

205

306

335

212

15.8

15.8

15.8

15.7

Water Quality Monitoring Results on 16 January 21 during Mid-Flood Tide Turbidity(NTU) Suspended Solids Total Alkalinity DO Saturation Salinity (ppt) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Speed Current Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Time (m/s) Average Average Value Average Value DA Value DA Value DA Value DA Value DA Value DA Condition Condition Depth (m) Value Value Average Value (Northing) (Easting) 0.1 Surface 8.1 31.1 1.0 0.1 126 15.8 3.3 3.5 0.1 123 15.8 8.1 31.1 9.1 6 111.4 808834 IM9 Fine Moderate 11:07 8.1 31.1 822079 3.5 0.1 124 15.8 8.1 31.1 111 9.1 3.2 7 6.0 0.1 103 15.8 8.1 31.1 110.0 9.0 3.6 6 Bottom 15.8 8.1 31.1 110.0 9.0 6.0 0.1 106 15.8 8.1 31 1 110.0 9.0 3.6 6 15.8 1.0 0.4 326 8.1 31.7 9.1 4.3 6 Surface 8.1 31.7 111.8 1.0 0.4 327 15.8 8.1 31.7 9.1 4.3 5 3.8 0.4 333 15.8 8.1 31.7 9.0 4.5 4.5 5 IM10 Moderate 11:00 7.6 Middle 8.1 31.7 110.6 822371 809772 3.8 345 8.1 6 0.4 15.8 31.7 9.0 6.6 0.4 15.8 8.1 5.0 5 330 31.7 109. 8.9 Bottom 8.1 31.7 109.2 8.9 5 6.6 0.4 333 15.8 8.1 31.7 89 5.0 109 0.5 1.0 15.8 8.1 4.4 9.2 Surface 8.1 31.6 112.9 1.0 318 4.4 5 0.5 15.8 8.1 31.6 112. 9.2 92 5.6 15.8 15.8 6 7 9.1 9.1 3.8 0.4 310 8.1 IM11 Fine Moderate 10:49 7.5 Middle 8.1 31.7 111.4 822060 811481 340 0.5 8.1 7 6.5 0.3 320 15.8 8.1 31.8 9.0 6.4 15.8 8.1 110.0 9.0 Bottom 31.8 6.5 0.3 336 15.8 8.1 31.8 109.9 9.0 6.5 7 0.5 15.8 31.8 6 Surface 15.8 8.1 31.8 111.4 1.0 0.5 308 15.8 8.1 31.8 5.0 6 4.0 0.4 300 15.8 9.0 6.0 6 8.1 31.9 812067 IM12 Fine Moderate 10:43 8.0 Middle 15.8 8.1 31.9 110.7 821440 4.0 15.8 8.1 6.0 6 0.4 302 0.3 286 15.8 8.1 9.0 8.1 6 15.8 8.1 31.9 109.8 9.0 Rottom 7.0 0.4 293 15.8 8.1 31.9 9.0 8.1 15.9 8.1 32.0 9.0 5 Surface 15.9 8.1 32.0 110.1 1.0 15.9 32.0 9.0 4.9 6 2.6 Fine Moderate 10:04 5.2 Middle 819983 812659 2.6 4.2 15.9 8.1 31.9 8.8 5.1 5 Bottom 15.9 8.1 31.9 107.5 8.8 4.2 15.9 8.1 31.9 8.8 5.1 5 1.0 0.2 89 15.7 8.1 31.8 9.0 6.3 6 Surface 15.7 8.1 31.8 110.3 1.0 0.2 94 15.7 8.1 31.8 9.0 6.3 7 9.0 SR2 Moderate 09:47 4.7 Middle 821463 814187 3.7 6.6 0.1 qq 15.7 8.1 8.9 5 109.3 8.9 Bottom 3.7 107 15.7 8.1 31.8 6.6 6 0.1 1.0 0.1 63 15.8 8.1 30.9 9.2 4.1 5 Surface 8.1 111.6 1.0 8 1 41 0.1 66 15.8 30.9 6 4.2 4.7 5 0.1 56 15.8 8.1 30.9 9.1 SR3 Moderate 11:21 Middle 15.8 8.1 110.2 822147 807594 9.1 4.7 4.2 61 8.1 30.9 0.1 15.8 5.9 6.0 7 7.4 0.1 50 15.8 15.8 8.1 8.1 30.9 109.0 9.0 Bottom 15.8 8.1 30.9 9.0 0.1 53 1.0 0.5 16.0 71 8.1 31.1 116.9 9.6 8.8 6 Surface 16.0 8.1 31.1 116.9 1.0 74 16.0 8.1 31.1 9.6 0.5 116.9 8.8 5 3.8 0.5 16.3 5.5 5 8.1 31.1 9.5 . 116.9 SR4A 10:04 8.1 31.1 116.9 817187 807791 Fine Calm 7.6 Middle 16.3 3.8 16.3 8.1 31.1 116. 5.4 6 0.5 7.1 6.6 0.3 16.5 8.1 31.1 116.7 9.4 65 8.1 116.6 94 Rottom 16.5 31.1 6.6 0.4 65 16.5 7.0 6 1.0 0.1 111 16.5 8.1 31.1 118.7 9.6 3.6 6 Surface 16.5 8.1 31.1 118.8 1.0 0.1 120 16.5 8.1 31.1 118. 9.6 3.6 5 SR5A 09:39 4.1 Middle 816585 810702 Fine Calm 3.1 0.1 126 16.2 9.6 6.6 5 Bottom 16.2 8.1 31.1 117.5 9.6 0.1 127 16.2 8.1 31.1 9.6 3.1 1.0 0.1 214 15.8 8.1 31.2 3.1 Surface 15.8 8.1 31.2 116.8 1.0 0.1 228 15.8 8.1 31.2 116. 9.6 3.1 4 SR6A Fine Calm 09:03 4.2 Middle 817966 814715 3.2 0.1 224 15.9 8.1 9.6 4.5 5 8.1 31.2 116.6 9.6 3.2 0.1 230 15.9 8 1 31.2 116 4.6 6 1.0 0.0 116 15.9 8.0 32.1 108 5 8.8 7.2 11 Surface 108.5 32.1 1.0 0.0 123 15.9 8.0 32.1 108.5 8.8 7.2 10 8.0 0.1 184 15.9 8.0 32.1 108.2 8.8 7.0 12 SR7 Fine Moderate 08:52 16.0 Middle 8.0 32.1 108.2 823645 823725 7.0 8.0 0.1 186 15.9 8.0 32.1 108.2 8.8 13 15.0 0.1 76 15.9 8.0 32.1 106.7 8.7 6.3 12 Bottom 8.0 32.1 106.7 15.0 0.1 83 15.9 8.0 32.1 106. 8.7 6.3 13 1.0 15.8 8.1 31.5 110.1 9.0 4.1 8 Surface 15.8 8.1 31.5 110.1 110.1 1.0 15.8 8.1 31.5 9.0 4.1 9 . . 820407 811626 SR8 Fine Moderate 10:33 4.4 Middle -3.4 15.8 4.2 8 8.1 31.7 108.7 8.9 15.8 Bottom 8.1 31.7 108.7 8.9

DA: Depth-Averaged

Water Quality Monitoring Results on 19 January 21 during Mid-Ebb Tide Turbidity(NTU) Suspended Solids Total Alkalinity DO Saturation Water Salinity (ppt) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Temperature (°C) Monitoring Current Speed Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Value DA Condition Time Depth (m) (m/s) Average Value Average Average Value Average Value DA Value DA Value DA Value DA Value DA Condition Value Value (Northing) (Easting) 15.9 0.0 8.2 31.5 117.9 1.0 0.0 232 15.9 8.7 41 0.0 200 15.9 8.2 32.1 9.6 2.9 7 117.7 815626 804233 C1 Cloudy Moderate 17:03 8.2 32.1 4.1 0.0 217 15.9 8.2 32.1 1177 9.6 2.9 6 7.2 0.0 237 15.9 8.2 31.6 116.4 9.5 3.3 7 Bottom 15.9 8.2 31.6 116.3 9.5 7.2 0.0 257 15.9 8.2 31.6 116.2 9.5 3.3 8 1.0 0.1 16.2 8.2 31.4 125.0 10.2 0.9 8 Surface 8.2 31.4 124.9 1.0 0.1 28 16.2 8.2 31.4 124.7 10.1 1.0 8 6.1 0.1 65 16.1 8.2 31.8 9.8 1.5 8 7 Cloudy C2 Moderate 16:04 12.2 Middle 8.2 31.8 120.7 825688 806959 6.1 16.1 8.2 0.1 67 31.8 9.8 11.2 0.2 16.1 8.2 3.6 3.7 7 72 32.0 118. 9.6 Bottom 16.1 8.2 32.0 118.8 9.6 9.6 8 11.2 0.2 73 16.1 8.2 32.0 118 8 0.3 16.3 1.0 8.2 2.1 9.3 Surface 16.3 8.2 32.2 114.8 2.2 4.7 4.8 1.0 16.3 4 0.3 55 8.2 32.2 114. 9.3 9.0 16.2 16.2 6 5 8.7 6.1 68 8.1 C3 Cloudy Moderate 18:07 12.2 Middle 16.2 8.1 32.3 107.2 822092 817810 6.1 0.3 68 8.1 6 11.2 0.2 72 16.3 8.1 32.5 106.7 8.6 5.2 16.3 8.1 106.6 8.6 Bottom 32.5 11.2 0.2 78 16.3 8.1 32.5 106.5 8.6 5.3 6 0.1 188 15.9 31.5 8.2 6 122.8 Surface 15.9 8.2 31.5 122.7 1.0 0.1 188 15.9 8.2 31.5 122.6 10.0 1.9 5 10.0 807121 IM1 Cloudy Moderate 16:42 5.0 Middle 817937 4.0 0.1 186 15.9 8.2 10.0 9.6 2.0 6 Bottom 15.9 8.2 31.5 120.1 9.8 4.0 0.1 186 15.9 8.2 31.4 0.0 15.8 8.2 31.6 9.8 9.8 2.9 6 Surface 15.8 8.2 31.6 120.0 1.0 0.0 101 15.8 2.9 6 3.5 0.0 337 15.8 9.8 2.7 7 8.2 8.2 119.4 Cloudy Moderate 16:35 Middle 31.5 818165 310 15.8 2.7 3.5 0.0 6.0 0.0 183 15.9 8.2 9.7 3.0 7 Bottom 15.9 8.2 31.4 118.1 9.7 9.6 3.0 6.0 0.0 184 15.9 8.2 31.4 8 1.0 0.1 37 15.8 8.2 31.4 120. 9.9 2.2 6 Surface 8.2 31.4 120.8 1.0 0.1 39 15.8 8.2 31.4 9.9 2.2 7 3.6 0.1 44 15.9 8.2 31.5 4.3 8 IM3 Cloudy Moderate 16:28 7.2 Middle 8.2 118.9 818781 805607 3.6 0.1 48 15.9 4.5 15.9 9.6 9.6 5.3 5.5 6.2 0.1 12 8.2 31.5 9 117.9 0.1 16.0 8.2 31.5 8 6.2 12 1.0 0.1 351 15.9 8.2 31.5 120. 9.8 4.3 6 Surface 15.9 8.2 31.5 120.0 8.2 1.0 4.4 5 0.1 323 15.9 31.5 4.2 2.4 2.5 6 7 0.1 332 15.8 8.2 31.1 9.7 IM4 Cloudy Moderate 16:19 Middle 15.8 8.2 31.1 118.4 819725 804625 9.7 4.2 346 15.8 8.2 31.1 0.1 5.2 5.1 6 7 7.4 0.0 336 15.8 15.9 8.2 8.2 30.9 9.6 9.6 Rottom 15.9 8.2 30.9 117.2 9.6 344 1.0 0.1 358 15.9 8.2 30.7 121.1 10.0 2.5 6 Surface 15.9 8.2 30.7 121.1 1.0 15.9 8.2 30.7 9.9 7 0.1 329 121.0 2.5 2.2 3.9 0.1 343 15.9 9.9 6 . 8.2 30.7 120.8 IM5 16:11 7.7 15.9 8.2 30.7 119.7 820741 804852 Cloudy Moderate Middle 3.9 316 15.9 8.2 30.8 118.6 2.1 7 0.1 6.7 0.1 15.9 8.2 8.2 30.8 118.4 9.7 2.1 7 8.2 117.4 9.6 Bottom 15.9 30.9 0.2 15.9 9.5 16.1 1.0 0.1 219 8.2 30.5 10.3 2.1 6 125.5 Surface 16.1 8.2 30.5 125.4 1.0 0.1 230 16.1 8.2 30.5 125. 10.3 2.1 6 3.8 0.0 253 16.1 8.2 30.6 10.1 2.4 16:07 7.6 Middle 16.1 8.2 30.6 123.0 821072 805843 IM6 Cloudy Moderate 3.8 0.0 255 16.1 8.2 30.6 122. 10.1 2.4 6 6.6 0.1 299 16.1 8.2 30.5 121.0 9.9 3.0 5 Bottom 16.1 8.2 30.5 120.9 9.9 6.6 0.1 304 16.1 9.9 3.0 1.0 0.1 265 16.1 8.2 30.6 Surface 16.1 8.2 30.6 127.7 1.0 0.1 290 16.1 8.2 30.6 127.0 10.4 2.7 5 3.2 3.3 4.4 0.1 137 16.1 8.2 30.6 10.3 6 IM7 Cloudy Moderate 16:03 Middle 16.1 8.2 30.6 126.5 821357 806834 4.4 0.1 140 16.1 8.2 30.6 10.3 5 7.8 0.0 176 16.1 8.2 30.6 10.2 2.9 6 8.2 30.6 125.1 10.2 7.8 0.0 178 16.1 8.2 30.6 2.8 5 1.0 0.3 82 16.3 8.3 31.1 125.4 10.2 1.0 6 Surface 8.3 31.1 125.3 1.0 0.3 90 16.3 8.3 31.1 125.1 10.2 1.1 5 10.0 39 0.2 68 16.2 8.2 31.4 120.9 9.8 2.0 7 IM8 Cloudy Moderate 16:28 7.8 Middle 16.2 8.2 31.4 120.7 821849 808117 3.9 0.2 74 16.2 8.2 31.4 120.5 9.8 2.0 -6.8 0.3 83 16.1 8.2 31.8 116.6 9.5 3.3 8 8.2 Bottom 16.1 31.8 116.5 9.5 0.4 16.1

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

Water Quality Monitoring Results on 19 January 21 during Mid-Ebb Tide DO Saturation Suspended Solids Total Alkalinity Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Speed Current Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Time (m/s) Average Average Value Average Value DA Value DA Value DA Value DA Value DA Value DA Condition Condition Depth (m) Value Value Average Value (Northing) (Easting) 0.2 Surface 8.2 31.4 123.8 16.1 31.4 10.1 1.1 10 3.8 0.2 71 16.1 8.2 31 4 120.6 9.8 3.0 8 120.4 808789 IM9 Cloudy Moderate 16:33 8.2 31.4 822078 3.8 0.3 75 16.1 8.2 31.4 120.1 9.8 3.1 7 6.6 0.2 86 16.0 8.2 32.0 115.1 9.4 4.1 7 Bottom 16.0 8.2 32.0 114.9 6.6 0.2 87 16.0 8.2 32.0 1146 93 4.2 8 1.0 0.3 88 16.0 8.2 31.5 119.8 9.8 1.3 Surface 8.2 31.5 119.7 1.0 0.3 88 16.0 8.2 31.5 119. 9.8 1.3 7 4.3 0.2 94 15.9 8.2 31.6 9.5 2.5 8 7 IM10 Cloudy Moderate 16:47 8.6 Middle 8.2 31.6 116.2 822402 809792 4.3 8.2 0.2 97 15.9 31.6 9.5 7.6 15.9 8.2 3.5 8 0.2 88 31.7 9.2 Bottom 8.2 31.7 112.8 9.2 7.6 0.2 15.9 8.2 31.7 92 3.6 q 94 112 1.0 114 0.2 16.2 8.2 Surface 16.2 8.2 31.9 119.9 1.0 9.7 1.7 7 0.2 123 16.2 8.2 31.9 119. 9.6 3.9 3.9 6 5 16.1 4.4 IM11 Cloudy Moderate 16:57 8.8 Middle 16.1 8.2 31.9 117.8 822051 811452 126 16.1 4.4 0.2 8.2 5 7.8 0.1 144 16.0 8.2 32.0 9.3 4.6 114.4 8.2 114.4 9.3 Bottom 16.0 32.0 7.8 0.1 153 16.0 8.2 32.0 114.3 9.3 4.6 5 0.1 16.2 31.9 8.2 Surface 16.2 8.2 31.9 119.8 1.0 0.2 151 16.2 8.2 31.9 1.7 6 4.7 0.1 146 16.1 3.6 6 8.2 31.9 9.5 812054 IM12 Cloudy Moderate 17:02 9.4 Middle 16.1 8.2 31.9 117.2 821466 4.7 16.1 6 0.1 8.2 8.4 0.1 135 16.1 8.2 9.2 4.6 6 16.1 8.2 32.0 113.5 9.2 Rottom 8.4 0.1 141 16.1 8.2 9.2 4.7 1.0 16.1 8.2 31.9 9.9 3.5 Surface 16.1 8.2 31.9 121.4 1.0 16.1 9.8 3.6 8 2.3 Cloudy Calm 17:35 Middle 819972 812663 2.3 16.1 8.2 31.9 119. 9.7 4.4 5 Bottom 16.1 8.2 31.9 119.0 9.7 3.5 16.1 8.2 31.9 118 9.6 44 5 1.0 0.2 34 16.1 8.2 31.9 118.6 9.6 5.5 6 Surface 16.1 8.2 31.9 118.6 1.0 0.2 36 16.1 8.2 31.9 118.5 9.6 5.5 5 9.6 SR2 Cloudy 17:48 5.0 Middle 821481 814160 4 0 16.1 5.6 0.2 38 8.2 9.3 6 114.3 9.3 Bottom 16.1 5.6 4 0 6 0.2 39 8.2 31 9 1.0 0.2 179 16.1 8.2 31.2 122. 10.0 1.2 8 Surface 8.2 31.2 122.2 16.1 8.2 1.3 1.0 0.2 188 31.2 4.6 180 2.0 2.0 5 6 0.2 15.9 8.2 31.4 9.8 SR3 Moderate 16:23 9.2 Middle 15.9 8.2 120.4 822161 807575 188 15.9 8.2 4.6 0.2 31.4 6 8.2 0.2 127 16.0 16.0 8.2 31.9 117.4 9.6 2.2 Bottom 16.0 8.2 31.9 9.6 8.2 0.2 136 1.0 15.8 4.7 0.2 67 8.2 31.7 121. 9.9 7 Surface 15.8 8.2 31.7 121.0 67 9.9 5.1 1.0 0.2 15.8 8.2 120. 6 4.3 15.8 5.9 8 0.2 9.8 . 8.2 SR4A 17:26 8.2 31.7 119.4 817165 807811 Cloudy Moderate Middle 15.8 4.3 15.8 119. 5.8 7 0.2 8.2 7.6 0.1 15.8 8.2 31.7 9.6 9.6 3.5 3.7 7 8.2 117.4 9.6 Rottom 15.8 31.7 7.6 0.2 15.8 8.2 1.0 0.1 270 16.0 8.2 31.3 10.1 2.4 5 123. Surface 16.0 8.2 31.3 123.8 1.0 0.1 280 16.0 8.2 10.1 2.4 6 SR5A 17:42 3.2 Middle 816586 810682 Cloudy Moderate 2.2 0.2 315 16.0 123.9 10.1 1.8 4 Bottom 16.0 8.2 31.3 123.9 10.1 16.0 10.1 1.8 2.2 0.2 342 1.0 0.1 139 15.9 8.2 31.2 6.5 13 Surface 15.9 8.2 31.2 121.6 1.0 0.1 145 15.8 8.2 31.2 121.0 10.0 6.2 12 SR6A Cloudy Moderate 18:23 4.5 Middle 817981 814730 3.5 0.0 127 15.5 9.4 4.3 10 Bottom 8.2 31.2 114.1 9.4 3.5 0.0 136 15.5 31.2 11/1 9.4 4.2 11 1.0 0.3 43 16.3 8.1 32.5 108 5 8.7 1.6 8 Surface 8.1 108.6 32.5 1.0 0.3 45 16.3 8.1 32.5 108.7 8.8 1.7 7 9.0 0.3 39 16.4 8.1 32.5 107.5 8.7 2.2 5 SR7 Cloudy Calm 18:36 18.0 Middle 8.1 32.5 107.5 823628 823751 9.0 0.3 40 16.4 8.1 32.5 8.6 2.2 6 17.0 0.2 16.4 8.1 32.5 106. 8.6 4.8 4 Bottom 16.4 8.1 32.5 106.2 8.6 0.2 16.4 8.1 32.5 106. 8.5 4.9 5 1.0 16.4 8.3 31.9 119.0 9.6 1.7 4 Surface 16.4 8.3 31.9 119.0 1.0 16.4 8.3 31.9 119.0 9.6 1.8 4 . . 820381 811608 SR8 Cloudy Calm 17:11 4.9 Middle -3.9 16.3 2.6 9 8.3 31.9 112.8 9.1 16.3 8.3 31.9 112.7 9.1

DA: Depth-Averaged

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

Water Quality Monitoring Water Quality Monitoring Results on 19 January 21 during Mid-Flood Tide Turbidity(NTU) Suspended Solids Total Alkalinity DO Saturation Water Salinity (ppt) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Temperature (°C) Monitoring Current Speed Oxvaen (mg/L) (maga) Sampling Depth (m) HK Grid HK Grid Station Direction Value DA Condition Time Depth (m) (m/s) Average Value Average Average Value Average Value DA Value DA Value DA Value DA Value DA Condition Value Value (Northing) (Easting) 16.8 0.4 Surface 16.8 8.1 31.5 117.4 1.0 0.4 37 16.8 31.6 117. 9.4 3.5 9 0.4 34 15.8 114.6 9.4 3.9 14 C1 8 1 31.7 114.6 804235 12:10 8.0 Middle 15.8 10 815600 Cloudy Moderate 15.8 8.1 31.7 9.4 3.8 14 4.0 0.4 36 7.0 0.4 35 17.2 8.1 31.4 115. 9.2 2.7 8 17.2 8.1 115.0 9.2 Bottom 31.4 2.5 7.0 17.2 8.1 31.4 0.5 8 1.0 0.2 16.0 0.9 8.2 Surface 16.0 8.2 30.9 119.5 1.0 6 7 7 16.0 8.2 9.8 1.0 0.3 324 358 6.0 0.3 15.8 8.2 9.4 C2 Sunny Moderate 12:42 12 0 Middle 15.8 8.2 31.1 114.8 825687 806952 329 8.2 9.4 2.0 6.0 0.3 15.8 31.1 11.0 0.3 347 15.8 8.2 31.3 113.4 9.3 3.2 8 8.2 31.3 113.4 9.3 Bottom 15.8 11.0 0.3 319 15.8 8.2 3.1 7 0.5 8.2 0.6 5 Surface 16.1 8.2 32.0 111.2 1.0 0.5 269 16.1 8.2 9.0 0.6 4 1.8 4 5 6.0 0.5 270 16.0 8.1 -8.8 C3 108.5 822120 817819 Sunnv Moderate 10:48 12.0 Middle 16.0 8.1 32.1 0.5 288 16.0 11.0 0.4 269 16.0 8.8 2.8 4 107.8 Bottom 16.0 8.1 32.1 8.8 11.0 0.5 293 16.0 8.1 32 1 8.7 2.8 4 1.0 0.1 331 16.1 31.5 4.3 Surface 16.1 8.1 31.5 116.7 1.0 0.1 349 16.1 8.1 31.5 116.0 9.5 4.4 7 807146 IM1 Cloudy Moderate 12:31 Middle 817927 3.9 0.1 15.8 8.1 31.8 9.5 3.7 9 Bottom 8.1 31.9 115.9 9.5 3.9 0.1 5 15.7 8.1 31.9 115.8 9.5 3.5 9 354 2.6 5 1.0 0.3 16.0 8.2 31.4 118.7 9.7 Surface 8.2 31.4 118.7 2.6 2.7 2.7 1.0 0.3 326 16.0 8.2 31.4 118.7 9.7 4 3.5 0.2 349 16.0 8.1 31.2 9.6 8 IM2 Cloudy Moderate 12:38 6.9 Middle 8.1 31.2 117.6 818164 806164 3.5 0.2 321 16.0 8.1 31.2 9.6 8 16.1 3.0 8 5.9 0.2 341 8 1 31.5 9.5 8.1 31.5 116.5 9.5 5.9 0.2 341 16.1 8 1 31.5 9.5 116 1.0 0.3 347 16.0 8.2 31.2 9.7 2.2 Surface 8.2 31.2 119.1 1.0 9.7 5 0.3 319 16.0 8.2 119. 31.2 8 7 7 3.6 16.0 9.6 2.3 0.3 336 8.1 31.2 IM3 Cloudy Moderate 12:45 7.2 Middle 16.0 8.1 31.2 117.1 818779 805598 16.0 16.0 348 344 2.3 3.6 0.3 8.1 9.6 6.2 0.2 8.1 31.1 116. 9.5 2.2 116.3 Rottom 16.0 8.1 31.1 9.5 6.2 0.2 344 16.0 8.1 31.2 116.: 9.5 2.2 8 1.0 0.4 356 15.8 8.2 30.9 119.2 9.8 2.5 7 Surface 15.8 8.2 30.9 119.2 1.0 0.4 328 15.8 8.2 2.6 8 4.1 4.5 7 0.3 353 15.8 8.2 30.9 9.7 IM4 Cloudy Moderate 12:55 8.2 Middle 15.8 8.2 30.9 118.5 819733 804618 4.1 325 357 15.8 8.2 4.5 8 0.3 30.9 0.3 2.4 4 15.8 8.1 9.6 30.9 8.1 117.4 Bottom 15.8 30.9 9.6 7.2 0.3 328 15.8 9.6 2.4 1.0 0.6 15.8 8.2 31.0 2.8 8 119.7 9.8 Surface 15.8 8.2 31.0 119.7 1.0 0.7 15.8 8.2 9.8 2.8 8 3.8 0.6 15.8 2.8 6 7 8.2 9.8 IM5 Moderate 13:02 7.6 Middle 15.9 8.2 31.0 119.5 820722 804854 Cloudy 3.8 0.7 16.0 2.8 6 6.6 0.5 15.9 8.1 8.1 31.0 9.8 2.8 Bottom 15.8 8.1 31.0 118.6 9.8 6.6 0.5 15.7 1.0 0.1 304 16.2 8.2 30.5 7.0 7 Surface 16.2 8.2 30.5 122.5 10.0 1.0 0.1 318 16.2 8.2 30.5 7.5 6 3.7 0.1 4 16.3 3.3 6 Cloudy Moderate 13:10 Middle 16.3 8.1 30.9 118.6 821075 805806 3.7 0.2 4 16.3 8.1 30.9 118. 9.6 3.1 7 9.6 2.8 6.3 0.1 359 16.1 8.1 118. 6 118.1 9.7 63 0.1 330 16.0 8 1 5 1.0 0.1 106 16.5 8.1 30.6 9.9 3.5 7 Surface 16.5 8.1 122.5 99 3.5 2.2 1.0 0.1 115 16.5 8 1 30.6 122 4.3 124 8.1 6 0.1 16.4 30.5 9.9 IM7 Cloudy Moderate 13:19 Middle 16.4 8.1 121.5 821366 806815 4.3 0.1 132 16.4 8.1 30.6 121. 9.9 2.3 7 7.6 0.2 122 16.1 8.1 30.8 120. 9.8 1.9 7 Bottom 16.1 8.1 30.9 120.1 9.8 7.6 0.2 129 16.1 8.1 30.9 1.9 1.0 0.2 116 16.0 8.2 31.5 116. 9.5 1.2 7 Surface 16.0 8.2 31.5 117.0 16.1 9.5 8.2 31.6 1.0 0.2 121 117. 1.3 7 15.9 8.2 31.6 9.4 2.2 6 3.9 0.1 128 114.8 -15.9 8.2 31.6 114.7 821850 808149 IM8 Sunny Moderate 12:19 7.8 Middle 31.6 9.3 3.9 0.1 135 15.9 8.2 114.0 6 6.8 0.1 15.9 8.2 31.8 9.1 3.4 45 111. 6 15.9 8.2 31.8 111.5 9.1 Rottom

DA: Depth-Average

Water Quality Monitoring Results on 19 January 21 during Mid-Flood Tide DO Saturation Suspended Solids Total Alkalinity Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Speed Current Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Time (m/s) Average Average Value Average Value DA Value DA Value DA Value DA Value DA Value DA Condition Condition Depth (m) Value Value Average Value (Northing) (Easting) 16.0 0.1 Surface 8.2 31.9 116.1 1.0 0.1 135 16.0 9.4 1.3 2.7 3.6 0.1 153 15.9 8.2 31.9 114 (9.3 6 31.9 113.8 808810 IM9 Sunny Moderate 12:14 8.2 2.3 822111 3.6 0.1 156 15.9 8.2 31.9 113.5 9.3 2.7 6 6.2 0.1 156 15.9 8.2 31.9 111.0 9.0 3.0 7 Bottom 15.9 8.2 31.9 110.9 9.0 6.2 0.1 171 15.9 8.2 31.9 110.7 9.0 2.9 7 15.7 1.0 0.5 339 8.2 31.9 114.7 9.4 0.1 Surface 8.2 31.9 114.6 1.0 0.5 312 15.7 8.2 31.9 114.5 9.4 0.1 7 9.3 3.8 0.4 338 15.7 8.2 31.9 9.3 1.6 6 5 IM10 Sunny Moderate 12:08 7.5 Middle 8.2 31.9 113.0 822397 809784 3.8 311 15.7 8.2 1.6 0.5 31.9 9.2 6.5 0.4 15.7 8.2 339 31.9 9.1 1.9 4 Bottom 15.7 8.2 31.9 111.1 9.1 5 6.5 0.4 349 15.7 8.2 2.0 31 9 1.0 0.6 15.9 1.2 314 8.2 Surface 8.2 31.9 116.5 1.0 1.1 0.6 323 15.9 8.2 31.9 116. 9.5 6 6 5 15.9 9.4 4.4 3.6 318 114. IM11 Sunnv Moderate 11:59 7.2 Middle 8.2 31.9 114.5 822078 811472 15.8 4.4 0.6 320 8.2 4.7 6.2 0.5 317 15.8 8.2 31.9 9.2 6 112.7 15.8 8.2 112.5 Bottom 31.9 9.2 6.2 0.5 343 15.8 8.2 31.9 112.2 9.2 4.7 5 0.4 15.8 1.6 6 8.2 31.9 Surface 15.8 8.2 31.9 114.5 1.0 0.4 291 15.8 8.2 31.9 9.3 1.6 4.7 0.4 297 15.8 3.4 6 7 8.2 31.9 9.2 812028 IM12 Moderate 11:53 9.4 Middle 15.8 8.2 31.9 112.7 821437 Sunny 4.7 317 15.8 3.6 0.4 8.2 8.4 0.4 294 15.8 8.2 31.9 9.1 4.6 10 15.8 8.2 31.9 111.5 9.1 Rottom 8.4 0.4 294 15.8 8.2 31.9 4.8 10 16.0 8.2 31.9 9.3 2.3 5 Surface 16.0 8.2 31.9 114.6 1.0 16.0 2.3 4 2.4 Sunny Calm 11:20 Middle 812660 2.4 3.8 15.9 8.2 31.9 9.1 4.0 5 Bottom 15.9 8.2 31.9 110.9 9.1 3.8 15.9 8.2 31.9 9.0 41 6 1.0 0.2 233 15.9 8.2 31.9 113.1 9.2 2.1 6 Surface 15.9 8.2 31.9 113.0 1.0 0.2 250 15.9 8.2 31.9 112.9 9.2 2.2 7 SR2 Sunny 11:06 4.7 Middle 821462 814146 3.7 241 3.3 7 0.2 15.9 8.2 8.9 109.0 Bottom 108 6 3.4 3.7 15.9 8.2 0.2 263 31 9 1.0 0.1 70 16.1 8.2 31.2 119.2 9.7 9.7 14 6 Surface 8.2 31.2 119.1 1.0 16.1 8.2 1.4 0.1 73 31.3 6 4.6 9.4 3.0 3.1 3 0.1 51 15.8 8.2 31.3 SR3 Moderate 12:24 9.2 Middle 15.8 8.2 113.9 822131 807554 51 8.2 4.6 0.1 15.8 8.2 0.2 15.9 15.9 8.2 8.2 31.5 112.4 9.2 3.8 6 Bottom 15.9 8.2 31.5 9.2 8.2 0.2 40 1.0 16.1 0.1 78 8.1 31.2 118.9 9.7 3.9 7 Surface 16.1 8.1 31.1 119.0 16.1 9.7 7 1.0 0.1 82 8.1 31.1 119.0 3.8 4.4 0.1 63 16.2 9.7 3.2 7 8.1 31.4 . 119.0 SR4A 8.1 31.4 118.9 817170 807815 Cloudy Moderate 11:45 Middle 16.2 4.4 66 16.2 8.1 31.5 118.7 3.3 7 0.1 5.9 5.7 7.8 0.0 15.9 8.1 31.2 9.5 9.5 6 8.1 116.0 115.9 9.5 Rottom 15.9 31.2 7.8 0.0 15.9 1.0 0.1 281 16.3 8.1 30.9 9.8 5.2 8 120.4 Surface 16.3 8.1 30.9 120.5 1.0 0.1 295 16.3 8.1 30.9 9.8 5.3 9 SR5A 3.1 Middle 816572 810703 Cloudy Moderate 11:25 2.1 0.1 308 16.4 120.2 5.8 10 Bottom 16.4 8.1 31.3 120.1 9.7 0.1 331 16.3 8.1 9.7 10 2.1 1.0 0.1 279 16.0 8.1 31.1 9.8 7.8 Surface 16.0 8.1 31.1 120.0 1.0 0.1 284 16.0 8.1 31.1 120.0 9.8 7.8 6 SR6A Cloudy Moderate 10:57 4.2 Middle 817981 814723 3.2 0.1 283 16.1 9.8 8.9 9 8.1 31.0 120.0 9.8 3.2 0.1 310 16.1 8 1 31 (0.8 9.1 9 1.0 0.2 354 16.2 8.1 32.3 108.9 8.8 1.4 Surface 8.1 109.0 32.3 1.0 0.2 326 16.2 8.1 32.3 109.0 8.8 1.5 5 10.3 0.2 350 16.1 8.1 32.3 108.0 8.7 17 5 SR7 Sunny Moderate 10:21 20.6 Middle 8.1 32.3 108.1 823639 823721 1.7 10.3 0.2 322 16.1 8.1 32.3 108.1 8.8 4 19.6 0.2 358 16.1 8.1 32.3 107. 8.7 1.9 3 Bottom 8.1 32.3 107.3 19.6 0.2 329 16.2 8.1 8.7 1.9 4 1.0 15.9 8.2 31.9 114.7 9.4 0.8 6 Surface 15.9 8.2 31.9 114.6 1.0 15.9 8.2 31.9 114.4 9.3 0.9 6 . . 820374 811608 SR8 Sunny Calm 11:45 5.0 Middle -4.0 15.8 1.4 7 8.2 31.9 9.1 15.8 Bottom 8.2 31.9 111.2

DA: Depth-Averaged

Water Quality Monitoring Results on 21 January 21 during Mid-Ebb Tide Turbidity(NTU) Suspended Solids Total Alkalinity DO Saturation Water Salinity (ppt) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Temperature (°C) Monitoring Current Speed Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Value DA Condition Time Depth (m) (m/s) Average Value Average Average Value Average Value DA Value DA Value DA Value DA Value DA Condition Value Value (Northing) (Easting) 16.2 0.4 8.3 113.0 1.0 0.4 238 16.2 32.5 1.6 3.9 0.1 222 16.2 8.3 32.5 8.9 3 05:31 110.8 815626 804261 C1 Cloudy Moderate 8.3 32.5 3.9 0.2 222 16.2 8.3 32.5 110.8 8.9 1.8 4 6.8 0.1 215 16.3 8.3 32.5 111.2 9.0 2.0 3 Bottom 8.3 32.5 111.2 9.0 6.8 0.1 220 16.3 8.3 32.5 1111 9.0 2.0 4 1.0 0.3 161 16.2 8.2 30.6 9.9 2.6 Surface 8.2 30.6 121.6 1.0 0.4 167 16.2 8.2 30.6 9.9 2.5 3 5.7 0.2 172 16.2 8.2 31.8 9.7 3.0 4 Cloudy C2 Moderate 07:15 11.4 Middle 8.2 31.8 119.5 825665 806954 0.2 185 16.2 8.2 9.7 31.8 10.4 154 16.2 8.2 9.7 3.4 3 0.1 32.2 120. Bottom 16.2 8.2 32.2 120.4 9.7 9.7 10.4 0.2 162 16.2 8.2 32.2 3.4 120 1.0 0.2 16.3 2.8 8.2 9.0 Surface 16.3 8.1 32.0 111.6 2.9 3.6 3.7 6 5 5 1.0 0.2 85 16.3 8.1 32.0 9.0 9.0 8.9 16.3 5.9 89 8.1 C3 Cloudy Moderate 05:12 11.8 Middle 16.3 8.1 32.2 109.9 822111 817800 16.3 0.1 8.1 2 10.8 0.1 115 16.3 8.1 32.2 8.8 4.3 109.4 16.3 8.1 8.8 Bottom 32.2 109.4 10.8 0.1 126 16.3 8.1 32.2 109.4 8.8 4.5 3 0.1 188 16.2 1.6 8.3 32.4 9.3 Surface 16.2 8.3 32.4 115.5 1.0 0.1 188 16.2 8.3 32.4 115.4 9.3 1.6 2 9.3 807127 IM1 Cloudy Moderate 05:53 5.8 Middle 817942 4.8 0.1 210 16.2 8.3 32.4 9.2 1.5 4 Bottom 16.2 8.3 32.4 113.8 9.2 4.8 0.1 215 16.2 8.4 32.4 9.2 1.5 0.1 212 16.4 8.3 32.1 1.8 5 Surface 16.4 8.3 32.1 113.4 1.0 0.1 213 16.4 9.2 1.8 4 3.3 0.2 165 16.1 9.4 2.3 4 806165 116.5 Cloudy Moderate 05:59 Middle 8.3 32.1 818139 3.3 16.1 2.3 5 0.2 5.6 0.1 170 16.1 8.3 32.1 114 9.3 3.3 3.3 6 Bottom 16.1 8.3 32.1 114.2 9.3 93 5.6 0.1 179 16.1 83 32 1 114 6 1.0 1.2 324 16.3 8.3 32.1 9.1 1.5 4 Surface 8.3 32.1 113.3 1.0 1.3 339 16.3 8.3 9.1 1.5 4 3.3 1.0 317 16.1 8.3 2.4 3 IM3 Cloudy Moderate 06:06 Middle 8.3 117.0 818774 805605 3.3 1.0 327 16.1 2.4 4 311 2.9 3 5.6 11 16.1 8.3 32 1 9.2 113.9 9.2 16.1 12 83 32 1 5.6 340 1.0 0.5 186 16.1 8.3 31.6 118 9 9.7 1.4 4 Surface 16.1 8.3 31.6 118.9 9.7 16.1 83 1.4 3 1.0 0.5 203 31.6 118 4.2 174 1.9 4 0.3 16.2 8.3 31.6 9.4 IM4 Cloudy Moderate 06:15 Middle 16.2 8.3 31.6 115.7 819707 804588 3 9.4 1.9 4.2 178 16.2 8.3 0.3 31.6 3 7.3 0.2 152 16.1 16.1 8.3 31.7 116. 9.5 9.4 2.4 Rottom 16.1 8.3 31.7 116.2 9.5 0.2 165 1.0 0.4 198 16.4 1.9 8.3 31.0 117. 9.5 5 Surface 16.4 8.3 31.0 117.4 1.0 206 16.4 8.3 9.5 5 0.4 117. 1.9 4.6 0.3 200 16.2 2.3 4 10.0 -8.3 122.1 IM5 06:24 9.2 16.2 8.3 31.0 122.1 820736 804884 Cloudy Moderate Middle 4.6 16.2 8.3 31.0 2.3 4 0.3 217 122. 8.2 0.2 216 16.1 8.4 31.0 119.6 9.8 9.7 2.6 2.6 4 8.4 119.6 9.8 Bottom 16.1 31.0 0.3 230 16.1 1.8 1.0 0.8 45 16.4 8.3 31.2 9.4 5 115.6 Surface 16.4 8.3 31.2 115.7 1.0 0.8 16.4 8.3 31.2 9.4 1.8 5 3.6 1.0 23 16.1 8.3 31.3 2.4 4 06:33 7.1 Middle 16.1 8.3 31.3 119.6 821041 805808 IM6 Cloudy Moderate 3.6 1.0 23 16.1 8.3 31.3 119. 9.7 2.4 4 6.1 0.9 16.1 8.4 9.4 2.6 4 Bottom 16.1 8.4 31.3 115.2 9.4 6.1 0.9 16.1 8.4 9.4 2.6 40 1.0 2.4 274 16.4 8.3 30.6 118. 9.6 1.5 Surface 16.4 8.3 30.6 118.1 1.0 2.5 277 16.4 8.3 30.6 118. 9.6 1.5 4 4.2 285 16.2 30.7 9.9 2.4 4 IM7 Cloudy Moderate 06:41 Middle 16.2 8.3 30.7 121.3 821336 806820 4.2 2.1 285 16.2 8.3 30.7 9.9 2.3 5 7.4 2.3 280 16.1 8.4 30.9 9.5 2.4 4 8.4 30.9 116.2 9.5 7.4 2.5 294 16.1 8.4 30.9 116 9.5 2.4 3 1.0 0.1 124 16.3 8.2 31.0 1196 9.7 3.3 Surface 31.0 119.7 1.0 0.1 133 16.3 8.2 31.0 1197 9.7 3.2 4 3.7 0.1 136 16.2 8.2 31.3 116.9 9.5 5.6 5.7 4 5 IM8 Cloudy Moderate 06:59 7.3 Middle 16.2 8.2 31.3 116.9 821842 808153 3.7 0.1 138 16.2 8.2 31.3 116.8 9.5 -6.3 0.0 74 16.2 8.2 31.8 112.7 9.1 11.3 5 8.2 31.8 Bottom 16.2 112.7 16.2

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

Water Quality Monitoring Results on 21 January 21 during Mid-Ebb Tide DO Saturation Suspended Solids Total Alkalinity Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Speed Current Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Time (m/s) Average Average Value Average Value DA Value DA Value DA Value DA Value DA Value DA Condition Condition Depth (m) Value Value Average Value (Northing) (Easting) 16.3 0.2 Surface 8.2 30.8 118.8 156 16.3 30.8 2.5 2.8 3.7 0.2 124 16.3 8.2 31 1 115.3 9.4 3 115.3 IM9 Cloudy Moderate 06:54 8.2 31.0 3.0 3 822111 808800 3.7 0.2 131 16.3 8.2 31.0 115.2 9.4 2.8 3 6.4 0.2 98 16.3 8.2 31.4 109.7 8.9 3.8 3 Bottom 16.3 8.2 31.4 109.5 8.9 6.4 0.2 103 16.3 8.2 31 4 109.3 8.9 3.8 3 1.0 0.3 153 16.3 8.2 31.3 120.0 2.6 Surface 8.2 31.3 120.0 1.0 0.3 165 16.3 8.2 31.3 119.9 9.7 2.6 3 3.9 0.3 128 16.3 8.2 9.5 2.6 2.6 3 IM10 Cloudy Moderate 06:47 7.8 Middle 8.2 31.3 116.5 822401 809805 3.9 16.3 8.2 0.3 134 31.3 116. 9.5 6.8 16.2 8.2 5 0.2 136 31.6 9.0 2.9 Bottom 16.2 8.2 31.6 111.4 9.0 4 6.8 0.2 144 16.2 8.2 31.6 9.0 29 0.2 1.0 16.3 8.2 9.6 Surface 16.3 8.2 31.3 118.4 2.9 3.3 3.4 1.0 4 0.2 99 16.3 8.2 31.3 118. 9.6 9.5 3 16.2 9.4 4.1 100 IM11 Cloudy Moderate 06:37 8.2 Middle 16.2 8.2 31.5 116.0 822076 811450 4.1 105 16.2 0.2 8.2 7.2 0.2 87 16.2 8.2 31.6 9.1 4.8 3 112.4 112.4 9.1 Bottom 16.2 8.2 31.6 7.2 0.2 87 16.2 8.2 31.6 112.3 9.1 4.9 4 0.2 114 16.2 4 8.2 Surface 16.2 8.2 31.3 120.0 1.0 0.2 114 16.2 8.2 2.3 4 4.3 108 16.2 9.6 2.5 4 0.1 8.2 812032 IM12 Cloudy Moderate 06:30 8.5 Middle 16.2 8.2 31.7 118.0 821439 4.3 16.2 9.6 4 0.1 115 8.2 0.1 110 16.2 8.2 9.4 2.8 4 16.2 8.2 31.7 113.5 9.2 Rottom 7.5 0.1 120 16.2 8.2 31.7 9.0 2.8 1.0 16.3 8.2 31.7 2.5 3 9.2 Surface 16.3 8.2 31.7 113.9 1.0 16.3 9.2 2.5 2 2.4 Cloudy Calm 05:51 Middle 812664 2.4 3.8 16.3 8.2 31.7 9.0 2.4 3 Bottom 16.3 8.2 31.7 110.8 9.0 3.8 16.3 8.2 31.8 8.9 2.5 4 1.0 0.2 80 16.2 8.2 31.7 115. 9.4 3.0 Surface 16.2 8.2 31.7 115.5 1.0 0.2 83 16.2 8.2 31.7 115. 9.3 3.0 2 SR2 Cloudy Moderate 05:34 4.2 Middle 821468 814154 32 3.5 0.2 75 16.2 8.2 9.0 3 111.6 Bottom 3.5 16.2 31.7 3.2 0.2 79 8.2 1.0 0.2 192 16.2 8.2 30.6 1196 9.8 9.7 2.8 3 Surface 8.2 30.6 119.6 16.2 8.2 30.6 1.0 0.3 199 2.8 4 4.3 156 3.5 3.6 3 0.1 16.2 8.2 31.6 9.5 SR3 Cloudy Moderate 07:04 Middle 16.2 8.2 117.1 822163 807558 4.3 164 16.2 8.2 0.1 31.6 7.6 7.6 0.1 58 16.2 16.2 8.2 114.0 9.2 8.2 9.3 3 Bottom 16.2 8.2 32.2 9.2 0.1 59 1.0 16.4 1.7 0.2 87 8.3 32.4 9.0 4 Surface 16.4 8.3 32.4 111.9 1.0 16.4 9.0 1.7 5 0.2 91 8.3 32.4 3.6 59 16.4 2.0 4 0.1 8.9 . 8.3 32.5 SR4A 05:11 8.3 32.5 111.0 817178 807797 Cloudy Calm 7.2 Middle 16.4 3.6 16.4 8.3 8.9 2.0 3 0.1 61 32.5 6.2 0.1 16.4 8.3 2.6 2.5 3 8.3 32.5 110.7 8.9 8.9 16.4 32.5 Rottom 0.1 103 16.4 8.3 1.8 1.0 0.0 171 16.3 8.3 32.1 9.2 3 16.3 8.3 32.1 113.9 Surface 1.0 0.0 175 16.3 8.3 9.2 1.8 3 SR5A 04:54 4.9 Middle 816603 810717 Cloudy Calm 3.9 0.0 16.3 32.3 9.0 2.0 5 Bottom 16.3 8.3 32.3 112.0 9.0 3.9 0.0 16.3 8.3 9.0 2.0 85 1.0 0.0 256 16.6 8.3 31.8 3.3 Surface 16.6 8.3 31.8 119.6 1.0 0.0 281 16.5 8.3 31.8 119.6 9.6 3.3 9 SR6A Cloudy Calm 04:24 4.1 Middle 817985 814754 3.1 0.0 278 16.4 8.3 9.6 3.7 6 Bottom 8.3 31.9 119.2 9.6 3.1 0.0 287 16.4 8.3 31.9 110 9.6 3.7 6 1.0 0.2 60 16.4 8.1 32.3 8.9 2.0 8.1 110.7 Surface 32.3 1.0 0.3 65 16.4 8.1 32.3 110.7 8.9 2.0 4 79 0.1 17 16.4 8.1 32.4 107 7 8.7 1.9 2 SR7 Cloudy Moderate 04:38 15.8 Middle 8.1 32.4 107.7 823648 823735 7.9 0.1 17 16.4 8.1 32.4 107. 8.7 1.9 14.8 0.2 28 16.4 8.0 32.4 106.6 8.6 1.9 2 Bottom 8.0 32.4 106.7 8.6 14.8 0.2 30 16.4 8.0 32.4 106. 8.6 2.0 1.0 16.8 8.3 31.6 8.9 8.5 6 Surface 16.8 8.3 31.6 111.3 1.0 16.7 8.3 31.6 8.9 8.7 5 8.9 . . 811636 820374 SR8 Cloudy Moderate 06:21 5.2 Middle -4.2 16.4 7.7 4 8.3 31.7 106.9 8.6 16.4 8.3 31.7 106.9 8.6

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Water Quality Monitoring Results on 21 January 21 during Mid-Flood Tide Turbidity(NTU) Suspended Solids Total Alkalinity DO Saturation Water Salinity (ppt) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Temperature (°C) Monitoring Current Speed Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Value DA Condition Time Depth (m) (m/s) Average Average Value Average Value DA Value DA Value DA Value DA Value DA Condition Value Value Average Value (Northing) (Easting) 16.5 0.4 Surface 16.5 8.4 31.7 124.7 1.0 0.4 41 16.5 31.7 124.7 10.1 1.2 0.3 16.4 120.1 9.7 1.6 C1 84 31.9 120.1 804237 12:49 8.6 Middle 16.4 815604 Cloudy Moderate 16.4 8.4 31.9 120. 9.7 1.6 3 0.4 35 7.6 0.3 42 16.4 8.4 32.3 116.5 9.4 2.1 2 8.4 94 Bottom 16.4 32.3 116.5 9.4 2.1 7.6 16.4 32.3 0.3 42 8.4 1.0 0.1 16.4 8.2 Surface 16.4 8.2 29.9 120.8 3.4 5.1 16.4 8.2 9.9 1.0 0.1 176 4 2 5.8 0.1 285 16.2 8.2 9.2 C2 Cloudy Moderate 11:30 11.6 Middle 16.2 8.2 31.2 113.8 825660 806936 8.2 9.3 5.2 3 5.8 0.1 311 16.2 31.2 10.6 0.2 324 16.2 8.1 31.6 112.7 9.1 7.4 3 8.1 31.6 112.6 Bottom 16.2 10.6 0.2 336 16.2 8.1 31.6 7.7 2 0.3 8.2 1.7 Surface 16.7 8.2 32.1 116.0 1.0 0.4 258 16.7 8.2 9.3 1.7 2 2.0 6.1 255 16.4 8.1 <2 <2 -0.3 8.9 C3 12.2 110.2 822101 817775 Cloudy Moderate 13:53 Middle 16.4 8.1 32.3 0.3 270 16.4 11.2 0.2 251 16.4 8.7 2.8 <2 Bottom 16.4 8.1 32.3 108.2 8.7 11.2 0.3 265 16.4 8.1 32 3 108 8.7 2.8 <2 1.0 0.1 16.6 8.4 32.4 1.4 Surface 16.6 8.4 32.4 120.1 1.0 0.1 18 16.6 8.4 32.4 120. 9.6 1.5 2 807139 IM1 Cloudy Moderate 12:24 Middle 817936 3.7 0.1 14 16.5 8.4 32.5 117 9.4 2.3 <2 Bottom 8.4 32.5 117.0 9.4 3.7 0.1 14 16.5 8.4 32.5 116 9 94 2.3 <2 357 1.0 17.5 1.6 0.3 8.4 31.7 9.5 <2 Surface 8.4 31.7 120.1 1.0 0.3 328 17.5 8.4 31.7 120.1 9.5 1.6 <2 3.4 0.2 343 16.4 8.4 31.9 10.0 2.0 2 IM2 Cloudy Moderate 12:16 6.7 Middle 8.4 31.9 123.9 818149 806173 3.4 0.2 316 16.4 8.4 31.9 10.0 2.0 2.7 3 5.7 0.2 326 16.3 8.4 32.3 9.6 8.4 32.3 119.5 9.6 5.7 0.2 354 16.3 8.4 32.3 9.6 119 1.0 0.3 345 17.5 83 31.8 118 1 93 1.4 Surface 8.3 31.8 118.1 1.0 3 0.3 347 17.5 8.3 31.8 118. 9.3 1.4 0.3 336 17.3 9.8 2.0 3.5 8.4 31.8 123. 3 IM3 Cloudy Moderate 12:08 6.9 Middle 17.3 8.4 31.8 123.7 818794 805616 17.3 2.0 3 3.5 0.3 309 8.4 31.8 9.8 16.2 5.9 0.2 334 8.4 32.0 9.8 2.7 121.6 Rottom 16.2 8.4 32.0 9.8 5.9 0.3 344 16.2 8.4 32.0 9.8 2.6 2 121. 1.0 0.5 16.8 1.6 8.3 31.6 118.5 9.5 3 Surface 16.8 8.3 31.6 118.5 0.5 16.8 8.3 1.6 4 4.0 2.4 4 0.4 353 16.2 8.4 122. 10.0 IM4 Cloudy Moderate 11:58 8.0 Middle 16.2 8.4 31.7 122.9 819715 804616 3 3 4.0 0.4 325 345 16.2 8.4 2.4 0.4 16.2 8.4 9.7 8.4 119.6 97 Bottom 16.2 31.7 7.0 0.4 353 16.2 8.4 31.7 2.8 359 1.0 0.5 16.7 8.3 31.8 1.8 4 9.4 Surface 16.7 8.3 31.8 117.8 1.0 0.5 330 16.7 9.5 1.8 4 3.7 0.5 16.3 2.6 4 8.4 9.8 IM5 Moderate 11:48 7.3 Middle 16.3 8.4 32.0 121.7 820727 804867 Cloudy 3.7 16.3 2.6 0.5 4 6.3 0.3 16.3 8.4 8.4 32.0 32.0 9.7 3.2 Bottom 16.3 8.4 32.0 119.4 9.7 6.3 0.3 16.3 1.0 0.2 303 16.6 8.3 30.8 118. 9.6 2.4 2 Surface 8.3 30.8 118.7 1.0 0.2 324 16.6 8.3 30.8 9.6 2.4 3 3.6 0.1 314 16.2 8.4 30.8 10.0 1.9 3 Cloudy Moderate 11:40 Middle 16.2 8.4 30.8 123.4 821046 805814 3.6 0.2 333 16.2 8.4 30.8 10.0 1.9 4 1.7 6.1 0.1 347 16.2 8.4 30.9 9.7 3 119.4 9.7 6.1 0.1 319 16.2 8.4 30.9 4 1.0 0.2 227 16.4 8.4 30.5 123. 10.1 1.5 3 Surface 16.4 8.4 123.8 1.4 2 1.0 0.3 232 16.4 84 30.5 123 1.6 4.2 247 0.2 16.4 8.3 30.6 121. 9.9 IM7 Cloudy Moderate 11:31 Middle 16.4 8.3 121.7 821352 806828 4.2 0.2 271 16.4 8.3 30.6 9.9 1.6 3 7.4 0.2 276 16.4 8.4 30.6 119. 9.7 2.2 2 Bottom 16.4 8.4 30.6 119.1 97 7.4 0.2 277 16.4 8.4 30.6 1.0 0.2 279 16.5 8.2 31.2 123. 10.0 2.4 3 Surface 16.5 8.2 31.2 123.6 10.0 16.5 1.0 0.2 298 8.2 31.2 123. 2.5 3 8.2 31.2 9.9 2.2 3 3.8 0.1 275 16.4 122.0 -16.4 8.2 31.2 121.9 821852 808132 IM8 Cloudy Moderate 11:58 7.5 Middle 3 9.9 3.8 0.2 297 16.4 8.2 3 6.5 0.1 281 16.4 8.2 31.2 2.1 119. 9.6 3 16.4 8.2 31.2 119.0 Rottom 9.6

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Water Quality Monitoring Results on 21 January 21 during Mid-Flood Tide Turbidity(NTU) Suspended Solids Total Alkalinity DO Saturation Salinity (ppt) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Speed Current Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Time (m/s) Average Average Value Average Value DA Value DA Value DA Value DA Value DA Value DA Condition Condition Depth (m) Value Value Average Value (Northing) (Easting) 16.4 0.3 Surface 8.2 31.5 261 16.4 2.4 3.6 0.2 245 16.4 8.2 31.5 118.8 9.6 3 118.8 808805 IM9 Cloudy Moderate 12:05 7.1 8.2 31.5 822072 3.6 0.2 255 16.4 8.2 31.5 118.8 9.6 2.5 4 6.1 0.2 239 16.4 8.2 31.6 115.5 9.3 2.7 4 Bottom 16.4 8.2 31.6 115.4 9.3 6.1 0.2 260 16.4 8.2 31.6 115.3 93 2.7 4 1.0 0.4 280 16.5 8.2 31.5 120. 9.8 2.0 Surface 8.2 31.5 120.7 1.0 0.5 284 16.5 8.2 31.5 120. 9.7 2.0 4 3.9 0.4 280 16.3 8.2 31.5 9.6 2.3 3 IM10 Cloudy Moderate 12:13 7.7 Middle 8.2 31.5 118.0 822397 809767 3.9 16.3 8.2 0.4 295 31.5 9.5 6.7 0.3 16.3 8.2 2.3 <2 277 31.5 114. 9.2 Bottom 16.3 8.2 31.5 113.2 9.2 6.7 0.3 278 16.3 8.2 31.5 9.1 -2 112 1.0 0.5 311 16.5 8.2 9.9 Surface 16.5 8.2 31.5 123.2 1.0 1.9 3 0.5 327 16.5 8.2 31.5 123. 9.9 q q 1.9 9.8 16.4 3 4.0 0.4 316 31.6 IM11 Cloudy Moderate 12:25 7.9 Middle 8.2 31.6 120.9 822080 811453 4.0 328 16.4 0.5 8.2 2 6.9 0.3 319 16.3 8.2 31.6 9.5 2.0 8.2 117.2 9.5 Bottom 16.3 31.6 6.9 0.3 344 16.3 8.2 31.6 9.5 2.0 3 0.3 16.6 8.2 Surface 16.6 8.2 31.5 123.3 1.0 0.3 306 16.6 8.2 123.2 9.9 2.0 3 4.5 0.4 300 16.4 31.8 9.6 2.6 4 8.2 812030 IM12 Cloudy Moderate 12:32 9.0 Middle 16.4 8.2 31.8 118.6 821484 4.5 16.4 9.6 2.6 4 0.4 305 8.2 8.0 0.3 304 16.3 8.2 9.2 3.3 4 16.3 8.2 31.9 114.0 9.2 Rottom 8.0 0.4 330 16.3 8.2 31.9 9.2 3.3 16.7 8.2 31.8 9.4 2.3 4 Surface 16.7 8.2 31.8 117.1 1.0 16.7 9.4 2.3 3 2.5 Cloudy Calm 13:14 Middle 819962 812649 2.5 4 0 16.7 8.2 31.9 9.0 2.0 3 Bottom 16.7 8.2 31.9 111.2 9.0 4 0 16.7 8.2 31.9 8.9 2.1 1.0 0.2 16.7 8.2 31.7 120.1 9.7 2.1 Surface 16.7 8.2 31.7 120.0 1.0 0.2 16.7 8.2 31.7 119.8 9.6 2.1 2 SR2 Cloudy Moderate 13:30 4.9 Middle 821456 814137 39 0.2 16.6 8.2 9.0 2.0 3 111.7 Bottom 2.0 39 16.6 8.2 31.8 0.2 1.0 0.2 190 16.7 8.2 31.0 124.4 10.0 3.0 2 Surface 16.7 8.2 31.0 124.4 16.7 8.2 2.9 3 1.0 0.2 193 31.1 4.9 4.8 3 0.2 236 16.5 8.2 31.2 9.8 SR3 Cloudy Moderate 11:49 9.7 Middle 16.5 8.2 31.2 121.5 822176 807570 4.9 4.9 256 16.5 8.2 0.2 4.7 4.6 8.7 0.1 286 16.3 16.3 8.2 8.2 31.4 117.9 9.6 2 Bottom 16.3 8.2 31.3 9.6 8.7 0.1 312 1.0 17.3 1.8 0.1 89 8.4 32.2 115.0 9.2 5 Surface 17.3 8.4 32.2 115.7 1.0 17.3 9.2 0.1 89 8.4 1.8 4 0.1 16.5 2.6 3 8.4 9.6 . 32.3 SR4A 13:10 16.5 8.4 32.3 119.1 817187 807817 Cloudy Calm 9.4 Middle 4.7 16.5 8.4 9.6 2.6 2 0.1 32.3 8.4 0.1 77 16.5 8.4 9.3 3.0 3 8.4 32.3 115.7 9.3 Rottom 16.5 32.3 8.4 0.1 84 16.5 8.4 1.0 0.1 273 16.6 8.4 32.1 9.8 3.2 4 122.6 Surface 16.6 8.4 32.1 122.6 1.0 0.1 287 16.6 8.4 122. 9.8 3.3 5 SR5A 13:28 3.6 Middle 816572 810694 Cloudy Calm 2.6 0.1 312 16.6 9.5 3.0 5 Bottom 16.6 8.4 32.1 118.7 9.5 0.1 338 16.6 9.5 3.0 2.6 1.0 0.1 105 17.3 8.6 31.7 129.9 6.8 Surface 17.3 8.6 31.7 129.9 1.0 0.1 108 17.3 8.6 31.7 129.9 10.3 7.0 7 SR6A Cloudy Calm 14:13 4.5 Middle 817951 814741 3.5 0.1 58 17.0 10.2 3.9 8 8.5 31.8 127.1 10.2 3.5 0.1 59 17.0 8.5 31.8 10.1 3.9 1.0 0.0 315 16.5 8.1 32.3 8.8 1.6 Surface 8.1 110.0 32.3 1.0 0.0 319 16.5 8.1 32.3 109.9 8.8 1.6 2 8 1 0.0 6 16.5 8.1 32.4 108.1 8.7 1.6 2 SR7 Cloudy Moderate 14:25 16.2 Middle 8.1 32.4 108.0 823642 823713 1.7 8.1 0.0 6 16.5 8.1 32.4 107. 8.7 15.2 0.0 24 16.5 8.1 32.4 106.5 8.6 1.7 4 Bottom 8.1 32.4 107.0 8.6 15.2 0.0 16.5 8.1 32.4 107. 8.6 1.7 3 1.0 16.5 8.2 31.5 118.5 9.6 2.6 5 Surface 16.5 8.2 31.5 118.5 118.5 1.0 16.5 8.2 31.5 9.6 2.5 4 . . 820392 811608 SR8 Cloudy Moderate 12:44 4.3 Middle -3.3 16.4 2.4 5 8.2 31.6 109. 8.8 Bottom 16.4 8.2 31.6 109.4 8.8

DA: Depth-Averaged

Water Quality Monitoring Results on 23 January 21 during Mid-Ebb Tide Turbidity(NTU) Suspended Solids Total Alkalinity DO Saturation Water Salinity (ppt) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Temperature (°C) Monitoring Current Speed Oxvaen (mg/L) (maga) Sampling Depth (m) HK Grid HK Grid Station Direction Value DA Condition Time Depth (m) (m/s) Average Value Average Average Value Average Value DA Value DA Value DA Value DA Value DA Condition Value Value (Northing) (Easting) 0.2 123.5 1.0 0.2 195 17.0 10.1 2.5 4.2 0.1 199 16.7 8.2 31.2 9.0 3 C1 08:45 31.2 111.5 804238 Fine Moderate 8.2 815600 4.2 0.1 213 16.7 8.2 31.2 111 2 9.0 3.3 4 7.4 0.1 255 16.7 8.2 31.2 109.1 8.8 3.3 4 Bottom 8.2 31.2 109.1 8.8 7.4 0.1 260 16.7 8.2 31 1 109.0 8.8 3.4 3 1.0 135 0.2 17.0 8.2 29.3 125. 10.1 1.4 4 Surface 8.2 29.3 125.1 1.0 0.2 141 17.0 8.2 29.3 125. 10.1 1.4 5 5.4 0.5 154 17.0 8.2 124.7 10.0 1.3 5 4 C2 Moderate 09:44 10.8 Middle 8.2 31.2 124.7 825688 806955 0.5 159 8.2 17.0 124. 10.0 9.8 0.5 144 16.8 8.2 4 31.7 120. 9.7 2.0 Bottom 16.8 8.2 31.7 120.5 5 9.7 2.1 9.8 0.5 148 16.8 8.2 31.7 120 1.0 0.4 286 16.9 1.2 8.2 31.4 Surface 16.9 8.2 31.4 118.3 1.2 1.1 1.1 1.0 300 118. 4 0.4 16.9 8.2 31.4 9.5 16.8 5 4 5.9 5.9 9.2 257 277 8.1 31.9 114. C3 Fine Moderate 07:24 11.8 Middle 8.1 31.9 114.6 822103 817797 16.8 0.2 8.1 10.8 0.1 120 16.7 8.1 32.2 8.7 1.3 6 109.2 16.7 8.1 109.1 8.7 Bottom 32.2 10.8 0.1 130 16.7 8.1 32.2 109.0 8.7 1.3 5 0.0 157 5 8.3 28.9 10.1 Surface 17.3 8.3 28.9 125.4 1.0 0.0 165 17.3 8.3 29.0 125.2 10.1 2.2 4 807151 IM1 Fine Moderate 09:08 4.6 Middle 817949 3.6 0.1 169 17.3 8.3 29.8 122. 9.8 6.1 4 Bottom 17.3 8.3 29.9 122.4 9.8 3.6 0.1 182 17.3 8.3 29.9 9.8 6.4 0.1 194 17.1 8.3 29.5 10.2 10.2 2.2 4 Surface 17.1 8.3 29.5 126.3 1.0 0.1 207 17.1 3 3.2 0.1 224 17.2 9.3 3 124.1 Fine Moderate 09:16 Middle 8.3 30.6 818140 3.2 5.4 0.1 237 17.2 9.9 2 0.1 200 17.2 8.3 30.8 9.8 5.3 5.7 Bottom 17.2 8.3 30.8 122.8 9.8 5.4 0.1 207 17.2 83 30.8 9.8 3 1.0 0.0 326 17.1 8.3 30.2 10.2 2.6 4 Surface 8.3 30.3 126.9 1.0 0.0 339 17.1 8.3 30.4 10.2 2.6 3 3.4 0.0 237 17.0 8.3 30.7 2.7 3 IM3 Moderate 09:29 6.8 Middle 125.3 818800 805581 3.4 0.0 255 17.0 30.8 2.8 3.8 5.8 0.0 51 17.0 8.3 30.9 9.9 4 123.6 9.9 3.9 0.0 51 17.0 83 30.9 4 5.8 1.0 0.2 190 17 1 8.3 29.1 125.5 10.1 2.7 3 Surface 17.1 8.3 29.2 125.3 1.0 17 1 83 29 4 2.9 2 0.2 201 3.7 3.8 185 4 5 0.1 16.9 8.3 30.6 122. 9.8 IM4 Moderate 09:40 7.5 Middle 16.9 8.3 30.7 121.9 819713 804596 9.8 3.7 0.1 199 16.9 8.3 30.7 3.8 4 5 6.5 6.5 0.1 169 16.9 16.9 8.3 8.3 30.9 30.9 9.7 3.3 9.7 Rottom 16.9 8.3 30.9 120.3 0.1 171 17.1 1.0 0.3 235 8.3 27.8 124.8 10.2 2.3 3 Surface 17.1 8.3 27.8 124.8 17.1 8.3 27.8 10.2 1.0 0.3 242 124. 2.3 3.3 4 3.3 0.2 226 17.0 4 8.3 9.8 . 30.3 122.0 IM5 09:48 17.0 8.3 30.4 121.9 820743 804883 Fine Moderate Middle 3.3 229 17.0 8.3 30.4 3.1 5 0.2 121. 177 5.6 0.1 17.0 8.3 30.8 9.7 9.6 4.1 5 17.0 8.3 120. 120.0 97 Bottom 30.8 5.6 0.1 189 17.0 8.3 4.3 1.0 0.2 243 17.2 8.3 27.9 10.1 2.2 7 124.1 Surface 17.2 8.3 28.0 124.2 1.0 0.2 254 17.2 8.3 28.0 124. 10.1 2.2 3.4 0.2 238 17.2 8.3 28.9 10.0 2.3 09:57 6.8 Middle 17.2 8.3 29.0 123.5 821062 805820 IM6 Fine Moderate 3.4 0.2 255 17.2 8.3 29.2 123.4 10.0 2.3 5.8 0.1 264 17.1 8.3 30.2 121.6 9.8 2.6 4 Bottom 17.2 8.3 30.2 121.2 9.8 5.8 0.1 278 17.2 8.3 4 1.0 0.3 337 17.1 8.3 27.6 2.3 Surface 17.1 8.3 27.6 123.4 1.0 0.3 358 17.1 8.3 27.6 123.4 10.1 2.4 4 2.5 2.5 4.2 0.3 325 17.1 28.1 9.9 4 IM7 Fine Moderate 10:06 8.3 Middle 8.3 28.1 122.1 821336 806825 4.2 0.3 339 17.1 8.3 28.1 9.9 3 7.3 0.3 271 17.1 8.3 30.4 9.4 6.9 6 17.1 8.3 30.4 116.9 9.4 7.3 0.3 275 17.1 8.3 30.4 9.4 6.3 6 1.0 0.2 217 17.0 8.2 28.2 124.2 10.1 1.5 Surface 124.2 28.2 1.0 0.2 236 17.0 8.2 28.2 124.2 10.1 1.5 2 3.5 0.1 211 17 1 8.2 29.1 124.5 10.1 1.5 2 IM8 Fine Moderate 09:14 6.9 Middle 17.1 8.2 29.1 124.5 821816 808161 3.5 0.1 212 17.1 8.2 29.1 124.5 10.1 1.5 -5.9 0.0 68 17.2 8.2 30.3 10.0 1.5 2 8.2 Bottom 17.2 30.2 124.9

DA: Depth-Averaged

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

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

Water Quality Monitoring Results on 23 January 21 during Mid-Ebb Tide DO Saturation Suspended Solids Total Alkalinity Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Speed Current Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Time (m/s) Average Average Value Average Value DA Value DA Value DA Value DA Value DA Value DA Condition Condition Depth (m) Value Value Average Value (Northing) (Easting) 0.1 Surface 8.2 29.1 124.5 1.0 0.1 221 124. 10.1 1.4 3.4 0.1 290 17.2 8.2 29.3 124. 10.1 1.4 4 09:07 124.9 808790 IM9 Fine Moderate 8.2 29.2 822114 3.4 0.1 316 17.2 8.2 29.2 124.9 10.1 1.4 3 5.8 0.1 358 17.2 8.2 30.0 123.9 10.0 1.5 3 Bottom 17.2 8.2 30.0 123.9 10.0 5.8 0.1 329 17.2 8.2 30.0 123.8 10.0 1.5 4 1.0 0.2 59 17.2 8.2 29.7 9.9 1.6 Surface 8.2 29.7 123.0 1.0 0.2 61 17.2 8.2 29.7 9.9 1.5 4 3.5 0.1 77 17.1 8.2 30.9 9.6 1.7 4 5 IM10 Moderate 08:58 7.0 Middle 8.2 30.9 120.0 822382 809813 3.5 79 8.2 0.1 17.1 9.6 6.0 124 17.0 8.2 2.0 5 0.1 31.4 9.4 Bottom 17.0 8.2 31.4 117.9 6.0 0.1 128 17.0 8.2 31 4 94 2.0 4 117 0.2 1.0 8.2 1.3 4 Surface 17.2 8.2 29.0 125.1 1.0 10.1 1.4 3 0.2 98 17.2 8.2 29.0 125. q q 1.7 17.2 17.2 4 9.7 9.7 3.9 IM11 Fine Moderate 08:46 7.8 Middle 17.2 8.2 31.1 121.2 822057 811481 0.1 8.2 2 6.8 0.1 314 16.7 8.1 31.8 9.2 1.9 16.7 8.1 114.4 114.4 Bottom 31.8 9.2 6.8 0.1 338 16.7 8.1 31.8 114.3 9.2 1.7 2 0.2 1.4 29.8 Surface 17.2 8.2 29.8 123.9 1.0 0.2 103 17.2 8.2 29.9 123.9 1.4 4 4.5 0.1 17.1 9.5 1.7 3 8.2 31.5 119.2 812058 IM12 Fine Moderate 08:37 8.9 Middle 17.1 8.2 31.5 821482 4.5 17.1 1.6 4 0.1 8.2 0.1 129 16.8 8.2 1.4 3 9.1 16.8 8.2 31.7 113.4 9 1 Rottom 7.9 0.1 136 16.8 8.2 31.7 9.1 1.5 17.1 8.2 29.9 1.4 3 9.5 Surface 17.1 8.2 29.9 117.7 1.0 17.1 9.5 1.4 3 2.8 812662 Fine Moderate 08:02 Middle 2.8 4.5 17.3 8.2 31.7 9.4 1.8 3 Bottom 17.3 8.2 31.7 118.3 9.4 9.4 4.5 17.3 8.2 31.7 118 19 3 1.0 0.1 16 17.1 8.2 30.6 120.2 9.7 1.3 4 Surface 17.1 8.2 30.6 120.2 1.0 0.1 17 17.1 8.2 30.6 9.7 1.3 4 SR2 Moderate 07:46 4.3 Middle 821473 814177 33 339 17 1 0.1 8.2 30.7 9.1 2.1 5 113.5 9.1 Bottom 33 0.1 359 17 1 30.7 22 8.2 4 1.0 0.0 246 16.9 8.2 28.7 124.7 10.2 15 4 Surface 8.2 28.7 124.7 8.2 16.9 28.7 1.5 4 1.0 0.0 256 4.3 194 1.5 4 0.1 17.3 8.2 30.9 10.1 SR3 Moderate 09:21 Middle 17.3 8.2 126.4 822168 807571 10.1 3 1.5 4.3 204 17.3 8.2 30.9 0.1 3 7.6 7.6 0.1 258 17.1 17.1 8.2 31.3 122.8 9.8 1.5 1.5 Bottom 17.1 8.2 31.3 9.8 0.1 274 1.0 161 17.4 0.1 8.3 29.6 121. 9.8 2.3 4 Surface 17.4 8.3 29.7 121.4 17.4 29.7 9.7 3 1.0 0.1 165 8.3 121 2.3 4.1 0.1 186 17.5 9.7 2.4 3 . 8.2 30.1 SR4A 08:22 17.5 8.2 30.2 121.1 817169 807788 Fine Moderate 8.2 Middle 4.1 189 17.5 8.2 30.2 2.4 4 0.1 17.7 7.2 0.1 184 8.2 8.2 30.7 9.6 9.6 2.5 2 8.2 120.6 9.6 Rottom 17.7 30.8 0.1 186 17.7 1.0 0.1 124 17.6 8.2 30.8 9.3 8.8 2 17.6 8.2 30.8 117.5 Surface 1.0 0.1 129 17.6 8.2 30.8 9.3 9.0 3 SR5A 08:03 3.0 Middle 816616 810692 Fine Moderate 2.0 0.1 17.6 30.8 9.2 5.0 Bottom 17.6 8.2 30.8 115.5 9.2 0.1 114 17.6 30.8 9.1 4.7 2.0 1.0 0.0 336 17.2 8.3 29.7 118.5 2.9 Surface 17.3 8.3 29.8 118.5 1.0 0.0 351 17.3 8.3 29.8 118. 9.5 3.0 4 SR6A Fine Moderate 07:33 4.5 Middle 817950 814731 3.5 0.1 17.4 8.3 9.4 3.5 3 Bottom 17.4 8.2 29.9 117.5 9.4 3.5 0.1 17 17.4 9.4 3.8 1.0 0.6 61 16.8 8.1 32.0 114 5 9.2 1.2 Surface 8.1 114.5 32.0 1.0 0.7 65 16.8 8.1 32.0 114 5 9.2 1.2 3 73 0.2 14 16.8 8.1 32.1 9.0 1.2 2 SR7 Fine Moderate 06:48 14.5 Middle 8.1 32.1 112.9 823625 823721 7.3 0.2 14 16.8 8.1 32.1 9.0 1.2 13.5 0.2 55 16.8 8.0 32.2 109. 8.8 1.2 3 Bottom 8.0 32.2 109.5 13.5 0.2 55 16.8 8.0 109. 8.7 1.2 1.0 17.7 8.2 30.1 9.3 1.9 6 Surface 17.7 8.2 30.1 117.6 117.7 1.0 17.7 8.2 30.1 9.4 1.9 5 . . 08:28 820387 811633 SR8 Fine Moderate 5.3 Middle -4.3 17.2 2.5 5 8.2 31.5 116.1 9.2 17.2 8.2 31.5 116.0 9.2

DA: Depth-Average

Water Quality Monitoring Results on 23 January 21 during Mid-Flood Tide Turbidity(NTU) Suspended Solids Total Alkalinity DO Saturation Water Salinity (ppt) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Temperature (°C) Monitoring Current Speed Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Value DA Value DA Condition Time Depth (m) (m/s) Average Value Average Average Value Average Value DA Value DA Value DA Value DA Condition Value Value (Northing) (Easting) 17.3 0.2 Surface 17.4 8.3 29.3 125.9 1.0 0.2 49 17.4 29.2 125. 10.1 2.1 0.2 24 16.8 9.6 C1 8.3 31.2 112.9 804224 13:46 8.0 Middle 16.8 3 815605 Sunny Moderate 4.0 16.8 8.3 31.2 9.1 9.6 3 0.3 24 7.0 0.2 39 16.8 8.3 31.2 8.9 8.4 3 8.3 8.9 Bottom 16.8 31.2 110.9 7.0 16.8 8.3 8.6 0.2 42 31.2 1.0 0.3 1.4 8.2 Surface 17.5 8.2 28.9 129.3 17.5 8.2 10.4 1.4 1.0 0.3 322 28.9 3 17.0 1.3 5.3 0.4 8.2 30.9 126.5 C2 Sunny Moderate 12:36 10.5 Middle 17.0 8.2 30.9 825669 806936 17.0 8.2 30.9 126. 10.2 1.3 2 5.3 0.4 30 1.5 9.5 0.4 346 16.8 8.2 31.7 120.4 9.6 4 8.2 31.7 120.5 9.7 Bottom 16.8 9.5 0.4 354 16.8 8.2 1.5 3 0.3 8.2 1.2 Surface 17.3 8.2 31.7 119.2 1.0 0.3 257 17.3 8.2 9.5 1.2 2 5 6.0 0.4 16.8 8.1 1.4 -252 259 8.8 C3 110.3 822131 817796 Sunnv Moderate 14:58 12.0 Middle 16.8 8.1 32.3 0.4 16.8 1.4 11.0 0.4 266 16.8 8.6 1.9 5 107.6 Bottom 16.8 8.1 32.3 8.6 11.0 0.4 287 16.8 8.1 32.3 8.6 2.0 4 1.0 0.2 17.5 8.4 30.3 2.6 Surface 17.5 8.4 30.3 128.2 1.0 0.2 18 17.5 8.4 30.4 128. 10.2 2.7 3 807150 IM1 Sunny Moderate 13:24 Middle 817972 3.4 0.1 17.4 8.4 30.7 125.9 10.0 2.9 Bottom 17.4 8.4 30.7 125.3 10.0 3.4 0.1 17 17.4 8.4 30.7 1247 99 2.9 2 1.0 356 17.5 2.1 0.1 8.4 29.6 10.5 <2 Surface 8.4 29.7 131.0 1.0 0.1 328 17.5 8.4 29.8 131.3 10.5 2.2 <2 4.9 3.6 0.1 14 17.1 8.4 30.7 10.7 3 IM2 Moderate 13:16 7.2 Middle 8.4 30.7 133.7 818155 806170 4.5 3.6 0.1 14 17.1 8.4 30.7 3 77 2 6.2 0.1 357 17.2 8.4 30.9 135 10.8 8.4 30.9 135.2 10.8 6.2 328 17.2 10.8 7 1 0.1 8.4 134.8 30.9 1.0 0.1 327 17.6 8.4 29.8 128 5 2.1 Surface 8.4 29.9 128.6 1.0 2.1 2 0.2 337 17.5 8.4 128.0 10.3 29.9 3.5 17.1 2.5 2.7 4 0.1 340 8.4 30.5 129. 10.4 IM3 Sunny Moderate 13:09 6.9 Middle 17.1 8.4 30.5 129.1 818798 805576 3 5 0.1 17.1 10.4 3.5 313 8.4 30.5 17.1 8.4 5.9 30.8 130. 10.4 3.2 Rottom 17.1 8.4 30.8 130.1 5.9 0.1 17.1 8.4 30.8 129.8 10.4 3.2 4 356 17.2 1.0 0.3 8.4 30.4 128.4 10.3 2.2 3 Surface 17.2 8.4 30.4 128.3 0.3 328 8.4 2.2 3 4.0 16.9 3.1 3 0.3 8.3 30.9 124.3 IM4 Moderate 13:00 8.0 Middle 16.9 8.3 30.9 124.2 819709 804586 Sunny 3.2 6.5 3 2 3 4.0 16.9 8.3 0.3 30.9 124. 0.2 16.9 8.3 17.0 121.0 97 Bottom 8.3 31.0 7.0 0.3 17.0 8.3 7.0 290 1.0 0.1 17.2 8.4 28.4 2.3 4 129.3 10.5 Surface 17.2 8.4 28.4 129.3 1.0 0.1 307 17.2 10.5 2.3 4 3.6 0.2 59 17.1 2.5 3 8.4 IM5 Moderate 12:51 7.2 Middle 17.1 8.4 30.6 128.4 820724 804862 Sunny 3.6 17.1 30.6 2.5 0.2 3 4 6.2 0.1 64 17.1 8.3 8.3 30.8 10.0 2.9 3.1 Bottom 17.1 8.3 30.8 124.2 10.0 6.2 0.1 65 17 1 30.8 1.0 0.3 255 17.2 8.3 27.6 2.4 2 Surface 8.3 27.6 127.4 10.4 1.0 0.3 270 17.2 8.3 2.4 3 3.5 0.1 222 17.2 8.4 10.4 2.3 4 Sunny Moderate 12:43 Middle 17.2 8.4 29.8 128.9 805822 3.5 0.1 231 17.2 8.4 29.8 128. 10.4 2.3 5 3.2 6.0 0.1 77 17.1 8.3 30.7 4 125.0 10.0 6.0 0.1 77 17.2 83 30.7 5 10.3 1.0 0.2 253 17.5 8.3 27.4 2.4 2 Surface 17.5 127.2 1.0 0.2 265 17.4 83 27 4 2.5 3 2____ 4.1 0.1 255 8.3 2.4 17.2 29.6 126.8 10.2 IM7 Moderate 12:36 8.2 Middle 17.2 8.3 126.8 821346 806849 Sunny 4.1 0.2 270 17.2 8.3 29.6 126. 2.5 2 7.2 0.0 102 17.1 8.3 30.7 124.9 10.0 5.9 2 Bottom 17.1 8.3 30.7 124.7 10.0 0.0 111 17.1 8.3 30.7 5.8 1.0 0.1 306 17.5 8.2 29.2 128. 10.3 1.5 5 Surface 17.5 8.2 29.2 128.3 17.5 29.2 10.3 8.2 1.0 0.1 330 128. 1.5 4 17.3 8.2 29.6 10.4 1.5 4 3.8 0.1 291 129.1 -17.3 8.2 29.6 129.1 821852 808146 IM8 Sunny Moderate 13:07 7.5 Middle 10.4 1.5 4 3.8 0.1 319 17.3 8.2 129. 17.1 6.5 0.1 247 8.2 8.2 31.5 2.4 4 128. 10.3 17.1 8.2 31.5 128.6 Rottom 10.3

DA: Depth-Averaged

Water Quality Monitoring Results on 23 January 21 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids Total Alkalinity Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Speed Current Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Time (m/s) Average Average Value Average Value DA Value DA Value DA Value DA Value DA Value DA Condition Condition Depth (m) Value Value Average Value (Northing) (Easting) 0.1 Surface 8.2 29.2 128.1 0.1 295 17.5 128. 1.5 1.7 3.5 0.2 262 17.3 8.2 30.0 124.9 10.0 3 124.8 808809 IM9 Sunny Moderate 13:17 17.3 8.2 30.0 3 822088 3.5 0.2 281 17.3 8.2 30.0 124.7 10.0 1.8 2 6.0 0.1 303 17 1 8.2 31.3 126.6 10.1 1.6 2 Bottom 8.2 31.3 126.8 6.0 0.1 328 17 1 8.2 31.3 127.0 10.1 1.5 3 1.0 0.2 319 17.4 8.2 29.9 1.3 Surface 8.2 29.9 126.9 1.0 0.2 339 17.4 8.2 29.9 126. 10.2 1.3 3 4.1 0.3 315 17.3 8.2 30.6 9.9 1.5 3 IM10 Sunny Moderate 13:25 8.1 Middle 8.2 30.5 124.2 822388 809781 4.1 331 8.2 9.9 0.3 17.3 30.5 124. 7.1 17.2 8.2 3 0.2 299 31.5 119. 9.5 2.0 Bottom 17.2 8.2 31.5 119.4 9.5 3 9.5 7 1 0.2 309 17.2 8.2 31.5 21 119 1.0 0.3 319 1.4 17.6 8.2 Surface 17.6 8.2 29.9 127.9 1.0 349 10.2 1.5 0.3 17.6 8.2 29.9 127. 6 10 2 1.3 6 5 17.3 4.0 297 301 30.6 10.1 IM11 Sunnv Moderate 13:36 7.9 Middle 8.2 30.6 125.7 822046 811449 4.0 17.3 0.3 8.2 30.6 125. 5 6.9 0.2 295 17.0 8.2 31.6 9.5 2.1 118.4 17.0 8.2 118.4 9.5 Bottom 31.6 6.9 0.2 320 17.0 8.2 31.6 118.3 9.5 2.1 4 0.3 17.9 8.2 Surface 17.9 8.2 29.5 126.5 1.0 0.3 329 17.9 8.2 29.5 126.4 1.2 3 4.4 0.3 299 16.9 9.5 1.5 2 8.2 118. 812036 IM12 Moderate 13:44 8.8 Middle 16.9 8.2 31.7 118.6 821441 Sunny 4.4 16.9 1.6 0.3 8.2 326 0.3 314 16.8 8.2 9.3 3.1 3 16.8 8.2 31.8 116.5 9.3 Rottom 7.8 0.3 336 16.8 8.2 31.8 116. 3.1 1.0 17.8 8.2 29.5 1.2 4 126.1 10.0 Surface 17.8 8.2 29.5 126.1 1.0 17.8 1.2 3 2.7 Sunnv Moderate 14:20 Middle 812665 2.7 44 17.7 8.2 122. 9.7 1.6 4 Bottom 17.7 8.2 30.9 122.1 9.7 9.7 44 17.7 8.2 30.9 122 1.6 3 1.0 0.1 77 17.7 8.2 30.6 125.8 10.0 1.1 3 Surface 17.7 8.2 30.6 125.9 1.0 0.1 81 17.7 8.2 30.6 10.0 1.1 2 SR2 Sunny Moderate 14:37 4.8 Middle 821465 814143 3.8 1 4 0.1 93 17.2 8.2 9.9 2 123.4 9.9 Bottom 1.4 17.2 8.2 31.3 3.8 0.1 96 1.0 0.1 291 17.6 8.2 29.4 127.0 10.2 1.2 3 Surface 17.6 8.2 127.1 8.2 17.6 12 1.0 0.1 292 29 4 4.4 259 10.2 10.2 1.4 3 0.1 17.2 8.2 29.7 126. SR3 Moderate 13:00 Middle 17.2 126.8 822143 807577 1.4 4.4 276 17.2 8.2 0.1 3 7.8 0.0 228 17.1 17.1 8.2 31.7 124.8 10.0 2.0 Bottom 17.1 8.2 31.7 10.0 0.0 228 1.0 18.0 0.1 115 8.4 30.1 125.4 9.9 2.1 4 Surface 18.0 8.4 30.1 125.4 1.0 17.9 8.4 9.9 3 0.1 123 30.1 125. 2.2 4.2 0.0 54 17.7 3 8.4 9.9 . 30.6 124.2 SR4A 14:07 17.7 8.4 30.6 124.1 817174 807788 Sunny Moderate Middle 4.2 54 17.7 8.4 30.6 124. 9.8 2.2 2 0.0 7.4 0.1 17.6 8.4 30.7 9.7 9.7 2.2 3 8.4 122.4 122.3 97 Rottom 17.6 30.7 7.4 0.1 17.6 8.4 1.0 0.0 172 18.3 8.3 30.8 9.6 4.6 2 123.1 Surface 18.3 8.3 30.8 123.0 1.0 0.0 173 18.3 8.3 30.8 122. 9.6 4.7 3 SR5A 14:24 3.1 Middle 816604 810715 Sunny Moderate 2.1 0.0 176 18.2 30.8 120. 9.5 5.5 Bottom 18.3 8.3 30.8 120.2 9.5 0.0 187 18.3 8.3 30.8 9.4 5.6 2.1 1.0 0.0 255 17.9 8.4 29.6 122.8 9.8 3.0 Surface 17.9 8.4 29.6 122.7 1.0 0.0 267 17.9 8.4 29.6 122.0 9.7 3.0 4 SR6A Sunny Moderate 15:17 4.4 Middle 817942 814730 3.4 0.0 227 17.9 8.4 9.6 6.7 3 8.4 29.6 120.7 9.6 3.4 0.0 238 17.9 8.4 29.6 9.6 6.1 1.0 0.0 116 16.9 8.1 32.2 1.9 4 Surface 8.1 111.8 32.2 1.0 0.0 117 16.9 8.1 32.2 5.3 1.9 3 7.2 0.1 184 16.8 8.1 32.4 109.2 4.6 1.2 4 SR7 Sunny Moderate 15:32 14.4 Middle 8.1 32.4 109.2 823622 823723 7.2 0.1 186 16.8 8.1 32.4 109.2 4.6 1.2 13.4 0.1 76 16.8 8.1 32.4 107. 4.3 1.5 2 Bottom 8.1 32.4 107.3 4.3 13.4 0.1 80 16.8 8.1 32.4 107. 4.4 1.5 3 1.0 18.2 8.2 29.5 124.0 9.8 3.9 6 Surface 18.2 8.2 29.5 124.0 1.0 18.2 8.2 29.5 124.0 9.8 3.9 6 . . 820371 811612 SR8 Sunny Moderate 13:55 4.9 Middle -3.9 17.3 2.7 4 8.2 31.2 121. 9.7 17.3 Bottom 8.2 31.2 121.6 9.7

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 26 January 21 during Mid-Ebb Tide Turbidity(NTU) Suspended Solids Total Alkalinity DO Saturation Water Salinity (ppt) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Temperature (°C) Monitoring Current Speed Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Value DA Condition Condition Time Depth (m) (m/s) Average Value Average Average Value Average Value DA Value DA Value DA Value DA Value DA Value Value (Northing) (Easting) 0.1 31.5 120.2 2.5 1.0 0.1 219 17.6 4 0 0.1 226 17.5 8.1 31.7 9.3 4 C1 31.7 117.3 804267 Fine Moderate 11:43 8.1 815609 4.0 0.1 243 17.5 8.1 31.7 117 9.3 2.9 4 7.0 0.0 187 17.5 8.1 31.9 111.3 8.8 2.6 4 Bottom 8.1 31.9 111.2 8.8 7.0 0.0 205 17.5 8.1 31.9 1111 8.8 2.6 3 17.7 1.5 1.0 0.2 83 8.3 27.9 120. 9.7 4 Surface 8.3 28.0 120.1 1.0 0.2 85 17.7 8.3 28.0 120. 9.7 1.6 3 6.1 0.2 71 17.5 8.3 28.8 114. 9.2 4.6 4.8 4 Sunny C2 Moderate 10:05 12.2 Middle 8.3 28.9 114.2 825678 806965 6.1 0.2 76 17.5 8.3 9.2 29.0 114. 11.2 43 17.5 8.3 5.6 4 0.1 30.1 108. 8.6 Bottom 17.5 8.3 30.1 108.0 8.6 5 11.2 0.1 17.5 8.3 30.1 107 8.6 5.8 46 0.3 17.6 1.0 8.4 30.3 9.1 Surface 17.6 8.4 30.3 114.0 1.0 17.6 113. 9.1 1.3 5 0.3 89 8.4 30.3 89 17.4 8.7 2.1 2.1 5 5 6.1 8.3 30.4 109. C3 Sunnv Moderate 12:01 12.2 Middle 17.4 8.3 30.4 109.3 822127 817821 6.1 17.4 0.3 85 8.3 30.4 17.3 3 11.2 0.1 69 8.3 30.7 106.9 8.5 3.2 17.4 8.3 107.1 8.6 Bottom 30.7 11.2 0.1 74 17.4 8.3 30.7 107.3 8.6 3.4 4 0.1 173 17.8 3 8.2 31.5 119.6 9.4 Surface 17.8 8.2 31.5 119.6 1.0 0.1 180 17.8 8.2 31.5 119.5 9.4 2.5 4 9.4 807147 IM1 Fine Moderate 11:20 4.7 Middle 817925 3.7 0.1 212 17.7 8.1 8.7 2.1 3 Bottom 17.7 8.1 31.7 110.9 8.7 3.7 0.1 214 17.7 8.1 31.7 8.7 2.1 4 0.1 202 17.6 8.2 9.6 2.3 4 Surface 17.6 8.2 31.7 121.1 1.0 0.1 218 17.6 9.6 2.3 5 3.4 0.1 270 17.5 9.3 2.6 4 118.1 Fine Moderate 11:11 Middle 17.5 8.1 32.0 818183 0.1 277 17.5 2.6 5 4 3.4 5.8 0.1 266 17.6 8.1 32.2 9.1 3.4 Bottom 17.6 8.1 32.2 115.7 9.1 9.1 5.8 0.1 282 17.6 8.1 32.2 4 1.0 0.0 97 17.6 8.2 31.6 9.6 2.4 4 Surface 8.2 31.6 121.3 1.0 0.0 97 17.6 8.2 31.6 9.6 2.4 4 3.5 0.1 216 17.5 8.1 9.2 2.7 4 IM3 Moderate 11:04 6.9 Middle 116.6 818763 805573 2.7 4 3.5 0.1 223 17.5 228 8.8 3.0 5 59 0.1 17.5 8.1 32.1 111.8 32 1 2.9 0.1 245 17.5 8.1 4 59 1.0 0.1 33 17.7 8.2 31 1 121. 9.6 9.6 2.4 5 Surface 17.7 8.2 31.1 121.4 1.0 17.7 8.2 31 1 2.3 4 0.1 36 121 2.9 4.1 305 4 5 0.1 17.6 8.1 31.7 9.2 IM4 Moderate 10:27 8.2 Middle 17.6 8.1 31.7 116.3 819743 804615 4.1 0.1 323 17.6 8.1 31.7 3 7.2 0.1 257 17.5 17.5 8.1 8.1 31.9 109. 8.6 8.6 3.1 3.1 8.1 8.6 Rottom 17.5 31.9 109.5 0.1 277 17.6 1.0 0.2 10 2.9 8.2 31.2 120.3 9.5 3 Surface 17.6 8.2 31.2 120.3 1.0 10 17.6 8.2 9.5 0.2 31.2 120. 2.9 2 3.7 0.2 346 17.6 4.6 3 8.2 9.4 -31.9 119.2 IM5 10:19 7.4 17.6 8.2 31.9 119.2 820755 804884 Fine Moderate Middle 3.7 318 17.6 8.2 31.9 9.4 4.7 4 0.2 2.7 6.4 0.2 342 344 17.6 8.1 9.2 4 17.6 8.1 32.0 116.2 116.2 9.2 Bottom 32.0 6.4 0.2 17.6 3 17.7 1.9 4 1.0 0.0 179 8.2 29.8 9.5 119.0 Surface 17.7 8.2 29.8 119.0 1.0 0.0 184 17.7 8.2 29.8 118. 9.5 1.9 3 3.7 0.1 151 17.6 8.1 3.0 3 10:10 7.3 Middle 17.6 8.1 31.3 117.0 821037 805844 IM6 Fine Moderate 3.7 0.1 164 17.6 8.1 31.3 116. 9.2 2.9 4 6.3 0.1 17.6 8.8 3.2 3 Bottom 17.6 8.1 31.8 111.8 8.8 0.1 71 17.6 8.1 31.8 8.8 3.2 1.0 0.1 188 17.8 8.1 29.4 9.4 1.7 Surface 17.8 8.1 29.4 118.0 1.0 0.1 198 17.8 8.1 29.4 117 9.4 1.7 2 4.1 0.1 127 17.6 31.2 9.1 2.6 2 IM7 Fine Moderate 10:06 Middle 8.1 31.2 115.5 821352 806836 4.1 0.1 137 17.6 8.1 31.3 9.1 2.6 7.1 0.1 144 17.6 8.1 31.7 8.8 2.6 4 8.1 31.7 111.9 8.8 7 1 0.1 148 17.6 8 1 31 7 2 2 2.6 3 1.0 0.1 49 17.7 8.3 28.7 1183 9.5 0.3 4 Surface 8.3 28.8 118.2 1.0 0.1 50 17.7 8.3 28.9 118 1 9.5 0.3 5 39 0.2 71 17.7 8.3 29.6 117.5 9.4 1.5 4 IM8 Sunny Moderate 10:29 7.8 Middle 17.7 8.3 29.6 117.5 821842 808136 3.9 0.2 74 17.7 8.3 29.7 117.4 9.4 1.6 -6.8 0.2 74 17.7 8.3 29.4 117. 9.4 4.8 4 8.3 Bottom 17.7 29.3 118.0 9.4

DA: Depth-Averaged

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

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

Water Quality Monitoring Results on 26 January 21 during Mid-Ebb Tide DO Saturation Suspended Solids Total Alkalinity Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Speed Current Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Time (m/s) Average Average Value Average Value DA Value DA Value DA Value DA Value DA Value DA Condition Condition Depth (m) Value Value Average Value (Northing) (Easting) 0.3 Surface 8.3 28.4 17.9 9.4 1.1 3.6 0.3 36 17.7 8.3 28.8 114 9.2 3.5 3 114.1 808816 IM9 Sunny Moderate 10:33 7.2 17.7 8.3 28.8 3 822077 3.6 0.3 39 17.7 8.3 28.8 113.8 9.1 3.5 3 6.2 0.2 59 17.7 8.3 29.0 8.9 4.4 2 Bottom 17.7 8.3 29.0 110.9 8.9 6.2 0.2 61 17.7 8.3 29 N 110.6 8.9 4.3 3 1.0 0.3 17.8 8.3 28.7 9.3 1.0 4 Surface 8.3 28.7 115.5 1.0 0.3 78 17.8 8.3 28.7 115. 9.2 1.0 3 3.8 0.2 88 17.7 8.3 29.4 8.9 2.2 3 IM10 Sunny Moderate 10:39 7.6 Middle 8.3 29.4 110.7 822405 809776 17.7 8.3 3.8 0.2 96 29.5 8.8 6.6 17.8 8.3 0.1 94 29.9 108. 8.7 4.6 4 Bottom 17.8 8.3 29.9 108.9 8.7 6.6 0.1 94 17.8 8.3 108.8 4.5 4 29 9 0.1 1.0 1.2 8.3 9.1 Surface 17.7 8.3 29.9 114.7 1.0 17.7 9.1 1.1 4 0.1 90 8.3 30.0 114. 2.2 4 9.0 4.0 83 8.3 30.0 IM11 Sunnv Moderate 10:49 8.0 Middle 17.7 8.3 30.0 113.1 822037 811464 4.0 17.7 0.1 91 8.3 30.0 3 7.0 0.1 101 17.7 8.3 30.1 8.9 3.3 17.7 8.3 111.7 8.9 Bottom 30.0 7.0 0.1 108 17.7 8.3 30.0 111.6 8.9 3.4 4 0.1 1.0 6 8.3 Surface 17.7 8.3 30.0 116.3 1.0 0.1 124 17.7 8.3 30.0 116.2 9.3 1.1 5 4.6 0.1 151 17.7 3.8 5 8.3 30.1 9.2 812049 IM12 Moderate 10:54 9.1 Middle 17.7 8.3 30.1 115.2 821454 Sunny 17.7 8.3 3.8 4.6 0.1 158 8.1 0.1 17.7 8.3 9.1 4.8 5 17.7 8.3 30.1 114.1 9.1 Rottom 8.1 0.1 103 17.7 8.3 30.1 9.1 4.8 17.8 8.3 30.0 8.9 2.2 4 Surface 17.8 8.3 30.0 111.6 1.0 17.8 8.9 2.4 4 2.6 Sunny Calm 11:30 5.2 Middle 819982 812659 2.6 4.2 17.8 8.3 30.1 109. 8.7 2.9 4 Bottom 17.8 8.3 30.1 109.5 8.7 4.2 17.8 83 30.1 109 8.7 2.9 5 1.0 0.1 81 17.8 8.3 30.0 114.7 9.1 2.0 5 Surface 17.8 8.3 30.0 114.6 1.0 0.1 82 17.8 8.3 30.0 114.5 9.1 2.3 6 SR2 Sunny 11:43 4.6 Middle 821444 814170 3.6 0.1 80 17.8 8.3 30.0 9.0 4.1 5 113.2 Bottom 42 17.8 83 30.0 6 3.6 0.1 83 1.0 0.1 144 17.8 8.3 28.5 118 6 9.5 9.5 1.2 6 Surface 17.8 8.3 28.5 118.6 17.8 83 12 6 1.0 0.1 149 28.6 4.4 145 4.4 4 0.1 17.7 8.3 28.8 9.5 SR3 Moderate 10:28 Middle 17.7 118.0 822148 807570 4.4 4 4.4 155 17.7 8.3 0.1 28.8 7.7 5.7 5.5 3 0.2 123 17.6 17.6 8.3 8.3 30.0 9.3 Bottom 17.6 8.3 30.0 116.7 9.3 0.2 132 1.0 17.9 0.2 74 8.2 31.4 123.1 9.7 2.5 5 Surface 17.9 8.2 31.4 123.1 1.0 74 17.9 31.4 9.7 5 0.2 8.2 123. 2.5 4.6 62 17.6 2.4 4 0.2 9.5 . 8.2 32.0 120.7 SR4A 8.2 32.0 120.6 817201 807791 Fine Calm 12:05 9.1 Middle 17.6 4.6 17.6 8.2 2.4 3 0.2 62 32.0 8.1 17.6 8.2 9.4 2.1 3 0.2 8.2 32.0 119.5 119.5 94 Rottom 17.6 32.0 8.1 0.2 17.6 8.2 18.1 1.0 0.1 231 8.2 32.0 3.6 5 118.1 9.2 18.1 8.2 32.0 118.1 Surface 1.0 0.1 232 18.1 8.2 118.0 9.2 3.6 4 SR5A 12:21 3.3 Middle 816593 810673 Fine Calm 2.3 0.1 195 18.0 8.6 3.6 3 Bottom 18.0 8.1 32.1 110.1 8.6 0.1 210 18.0 8.1 8.6 3.6 1.0 0.0 115 18.0 8.2 31.6 5.9 Surface 18.0 8.2 31.6 116.2 1.0 0.0 123 18.0 8.2 31.6 116. 9.1 5.9 8 SR6A Fine Calm 13:06 4.2 Middle 817963 814716 3.2 0.1 82 17.9 8.7 6.1 8 Bottom 17.9 8.2 31.7 110.8 8.7 3.2 0.1 82 17.9 31 7 6.0 9 1.0 0.2 60 17.3 8.3 30.7 105 8.5 2.3 Surface 105.9 30.7 1.0 0.3 60 17.3 8.3 30.7 105.9 8.5 2.2 5 93 0.2 36 17.3 8.4 30.7 105.1 8.4 2.4 3 SR7 Sunny Calm 12:29 18.6 Middle 17.3 8.4 30.7 105.2 823636 823752 9.3 0.2 39 17.3 8.4 30.7 105.3 8.4 2.3 17.6 0.2 27 17.4 8.4 30.7 105. 8.4 3.3 2 Bottom 17.4 8.4 30.7 105.6 17.6 0.2 17.4 8.4 30.7 8.4 3.4 3 1.0 17.9 8.3 30.0 112. 8.9 3.3 <2 Surface 17.9 8.3 30.0 112.7 1.0 17.9 8.3 30.0 8.9 3.4 <2 . . 820384 811637 SR8 Sunny Calm 11:03 4.2 Middle <2 -3.2 17.9 5.4 <2 8.3 29.9 8.8 17.9 8.3 29.9 111.1 8.8

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 26 January 21 during Mid-Flood Tide Turbidity(NTU) Suspended Solids Total Alkalinity DO Saturation Water Salinity (ppt) Coordinate Coordinate Nickel (µg/L) Sampling Water Temperature (°C) Monitoring Current Speed Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Value DA Value DA Condition Time Depth (m) (m/s) Average Value Average Average Value Average Value DA Value DA Value DA Value DA Condition Value Value (Northing) (Easting) 17.5 0.3 Surface 17.5 8.1 30.9 119.3 1.0 0.3 45 17.5 30.9 119.2 9.5 2.6 0.3 17.5 9.2 2.6 C1 17.5 8 1 31.5 116.1 804236 06:25 79 Middle 815596 Cloudy Moderate 4.0 17.5 8.1 31.5 9.2 2.6 3 0.3 2.9 6.9 0.2 26 17.5 8.1 31.8 112. 8.9 5 17.5 8.1 112.0 8.9 Bottom 31.8 17.5 8.1 31.8 6.9 0.2 1.0 0.2 2.1 8.3 Surface 17.8 8.3 28.0 116.2 17.8 2.1 8.3 9.3 1.0 330 349 0.2 17.7 3 5.9 8.3 28.8 9.2 C2 Fine Moderate 08:04 11.8 Middle 17.7 8.3 28.8 114.3 825676 806943 17.7 8.3 28.8 9.2 2.1 4 5.9 0.3 321 10.8 0.1 347 17.5 8.3 106.2 8.5 3.0 3 29.9 17.5 8.3 106.2 8.5 Bottom 29.8 10.8 0.1 356 17.5 8.3 29.7 8.5 3.2 4 0.4 17.5 8.3 1.1 4 Surface 17.5 8.3 30.1 111.1 1.0 0.4 273 17.5 8.3 30.1 8.9 1.1 3 4.2 5.7 0.4 257 17.5 8.3 8.7 3 -30.3 108. C3 06:12 817796 Fine Moderate 11.4 Middle 17.5 8.3 30.3 108.3 822098 0.4 265 17.4 10.4 0.3 263 17.4 8.3 30.4 8.3 5.6 5 Bottom 17.4 8.3 30.4 104.3 8.3 10.4 0.3 277 17.4 8.3 30.4 104 8.3 5.7 5 1.0 0.1 290 17.5 2.6 Surface 17.5 8.1 32.0 113.9 1.0 0.1 313 17.5 8.1 32.0 113. 9.0 2.7 4 807108 IM1 Fine Moderate 06:47 4.5 Middle 817954 3.5 0.1 299 17.7 8.1 32.2 108.9 8.6 2.4 4 Bottom 17.7 8.1 32.2 108.9 8.6 3.5 0.1 319 17.7 8.1 32.2 108.8 8.6 2.4 5 1.0 2.3 0.2 17.5 8.1 31.3 119.8 9.5 3 Surface 8.1 31.3 119.8 1.0 0.2 12 17.5 8.1 31.3 119.8 9.5 2.3 4 2.5 2.5 3.3 0.2 17.5 8.1 31.9 9.3 3 IM2 Moderate 06:55 6.6 Middle 8.1 31.9 117.8 818150 806157 3.3 0.2 17.5 8.1 31.9 9.3 3 17.5 3.3 4 5.6 0.2 342 8 1 32.0 9.1 8.1 32.0 115.5 5.6 17.5 9.1 5 0.2 343 8 1 32 N 115 1.0 0.2 332 17.5 8.1 31.5 94 2.8 4 Surface 8.1 31.5 119.1 2.9 1.0 8.1 5 0.3 342 17.5 31.5 119. 9.4 6 7 8 3.4 0.3 17.5 9.3 346 8.1 31.8 IM3 Fine Moderate 07:01 6.8 Middle 17.5 8.1 31.8 117.2 818796 805599 17.5 17.5 3.0 3.4 0.3 354 8.1 31.8 9.3 5.8 0.3 331 8.1 32.0 9.1 115.1 Rottom 17.5 8.1 32.0 5.8 0.3 342 17.5 8.1 32.0 9.1 3.4 7 348 17.6 1.0 0.4 8.2 31.5 119.4 9.4 2.5 4 Surface 17.6 8.2 31.5 119.5 1.0 0.5 320 8.2 2.4 3 4.1 2.6 4 0.4 335 17.5 8.1 31.6 9.4 IM4 Fine Moderate 07:09 8.2 Middle 17.5 8.1 31.6 118.5 819707 804588 2.6 4.0 4.1 5 4 5 4.1 0.4 336 17.5 8.1 9.4 31.6 7.2 0.3 17.5 9.2 17.5 8.1 116.7 Bottom 31.7 9.2 7.2 0.4 330 17.5 31.7 9.2 1.0 0.6 11 17.6 8.2 31.7 9.4 2.7 3 119.1 Surface 17.6 8.2 31.7 119.1 1.0 0.7 17.6 8.2 31.7 119.0 9.4 2.7 4 3.8 0.6 14 17.5 2.8 4 8.1 9.4 IM5 Fine 07:16 7.5 Middle 17.5 8.1 31.8 118.9 820740 804890 Moderate 3.8 17.5 2.7 0.6 4 5 6.5 0.4 17.5 8.1 8.1 31.9 9.2 4.2 4.2 Bottom 17.5 8.1 31.9 116.8 9.2 17.5 31.9 6.5 0.5 1.0 0.1 16 17.7 8.2 29.9 9.5 2.1 5 Surface 8.2 29.9 119.1 1.0 0.1 16 17.7 8.2 29.9 119 9.5 2.1 4 3.7 0.2 47 17.6 31.1 9.4 2.6 3 Fine Moderate 07:25 Middle 17.6 8.1 31.1 118.0 821054 805827 2.7 3.7 0.2 51 17.6 8.1 31.1 117 9.3 2 3.6 3.7 6.3 0.2 70 17.6 8.1 31.8 9.2 2 116.9 9.2 63 0.2 74 17.6 8 1 31.8 1.0 0.1 204 17.8 8.2 29.4 9.5 9.5 1.8 <2 Surface 17.8 119.2 8.2 1.8 <2 2 1.0 0.1 208 17.8 29 4 4.2 0.2 143 8.1 3.4 17.6 30.7 116.6 9.3 IM7 Moderate 07:46 Middle 17.6 8.1 116.5 821343 806815 4.2 0.2 152 17.6 8.1 30.8 116. 9.2 3.4 3 7.4 0.3 128 17.6 8.1 31.7 114. 9.1 4.9 2 Bottom 17.6 8.1 31.7 114.8 7.4 0.3 134 17.6 8.1 5.1 1.0 0.1 90 17.7 8.3 28.7 9.3 1.1 4 Surface 17.7 8.3 28.7 115.7 17.7 28.7 9.3 8.3 1.3 1.0 0.1 95 4 0.1 17.6 8.3 28.8 9.2 4.0 3 3.8 95 114.1 -07:41 17.6 8.3 28.8 114.0 808163 IM8 Fine Moderate 7.5 Middle 821838 9.1 28.8 4.1 4 3.8 0.1 101 17.6 8.3 4.7 6.5 0.2 134 17.6 8.3 28.8 4 111. 9.0 17.6 8.3 28.8 111.3 9.0 Rottom

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Water Quality Monitoring Results on 26 January 21 during Mid-Flood Tide Turbidity(NTU) Suspended Solids Total Alkalinity DO Saturation Salinity (ppt) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Speed Current Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Value DA Time (m/s) Average Value Average Average Value Average Value DA Value DA Value DA Value DA Value DA Condition Condition Depth (m) Value Value (Northing) (Easting) 0.1 Surface 8.3 28.9 1.0 0.1 17.6 1.1 4 3.6 0.1 80 17.6 8.3 29.1 9.0 4.3 3 07:36 112.0 808795 IM9 Fine Moderate 7.1 8.3 29.1 822099 3.6 0.1 82 17.6 8.3 29.1 111.8 9.0 4.3 4 6.1 0.1 108 17.6 8.3 29.2 109.7 8.8 5.3 3 Bottom 8.3 29.2 109.4 8.8 6.1 0.1 118 17.6 8.3 29.2 109.0 8.7 5.1 3 1.0 0.4 312 17.6 8.3 29.3 113. 9.0 2.1 Surface 8.3 29.4 113.0 1.0 0.5 317 17.6 8.3 29.4 9.0 2.1 3 3.7 0.3 320 17.7 8.3 9.0 4.4 4.5 3 IM10 Moderate 07:30 7.4 Middle 8.3 29.6 112.0 822389 809805 0.3 328 8.3 17.7 29.6 8.9 6.4 0.3 17.7 8.3 4.7 313 29.7 8.8 4 Bottom 17.7 8.3 29.7 109.8 8.8 3 17.7 8.7 6.4 0.3 8.3 29.7 109 49 332 1.0 0.4 284 17.7 3.2 8.3 9.1 Surface 17.7 8.3 29.7 113.6 3.2 4.3 4.3 1.0 301 17.7 4 0.4 8.3 29.7 113. 9.0 9.0 8.9 4 5 287 290 3.5 0.4 8.3 29.9 IM11 Fine Moderate 07:21 7.0 Middle 17.7 8.3 29.9 111.1 822075 811458 17.7 0.4 8.3 6 6.0 0.3 320 17.7 8.3 30.2 8.5 8.5 5.6 107. 17.7 8.3 107.1 Bottom 30.2 6.0 0.3 332 17.7 8.3 30.2 106.8 8.5 5.6 6 0.3 17.6 3.3 4 8.3 Surface 17.6 8.3 30.0 112.8 1.0 0.4 328 17.6 8.3 30.0 112.7 9.0 3.4 4 4.6 0.5 297 17.6 8.9 4.5 4 8.3 30.1 111.7 812038 IM12 Fine Moderate 07:15 9.2 Middle 17.6 8.3 30.1 821447 3 4.6 17.6 8.3 8.9 4.5 0.5 316 8.2 0.4 17.6 8.3 8.8 5.8 17.6 8.3 30.1 109.9 8.8 Rottom 8.2 0.4 313 17.6 8.3 30.1 109. 8.7 5.6 17.7 8.3 29.8 8.5 2.3 3 Surface 17.7 8.3 29.9 106.0 1.0 17.7 8.4 2.3 3 2.6 812660 Fine Calm 06:45 Middle 2.6 41 17.8 8.3 30.2 8.3 4.6 5 Bottom 17.8 8.3 30.2 104.0 8.3 41 17.8 83 30.2 8.2 4.6 6 1.0 0.2 109 17.6 8.3 29.9 8.8 4.3 4 Surface 17.6 8.3 29.9 110.7 1.0 0.2 111 17.6 8.3 29.9 8.8 4.4 4 8.8 SR2 Moderate 06:32 4.4 Middle 821460 814187 3.4 5.6 0.2 84 17.6 8.3 8.6 4 107.6 Bottom 5.4 3.4 87 17.6 83 30.0 4 0.2 1.0 0.1 8 17.8 8.3 28.4 116 1 9.3 11 Surface 17.8 8.3 28.4 115.9 83 1.0 17.8 28.5 1.1 7 0.1 4.4 4.2 4.2 6 5 0.2 41 17.6 8.3 28.7 9.1 SR3 Moderate 07:46 Middle 17.6 8.3 113.7 822161 807578 9.1 4.4 43 17.6 8.3 28.8 0.2 5 4 7.8 0.1 42 17.6 17.6 8.3 8.3 109.0 8.8 4.2 4.2 8.8 Bottom 17.6 8.3 29.0 0.1 45 1.0 0.3 17.6 72 8.1 32.3 9.2 2.0 6 Surface 17.6 8.1 32.3 117.1 1.0 79 17.6 8.1 9.2 5 0.3 117. 2.0 4.3 65 17.6 2.0 5 0.2 8.1 9.1 . 32.3 SR4A 06:12 17.6 8.1 32.3 115.4 817191 807807 Cloudy Calm Middle 4.3 68 17.6 8.1 115. 2.0 4 0.3 32.3 7.6 0.3 17.6 8.1 8.7 2.0 4 65 8.1 32.3 110.6 87 Rottom 17.6 32.3 7.6 0.3 17.6 8.7 1.8 1.0 0.1 128 17.8 8.1 31.8 8.7 3 Surface 17.8 8.1 31.8 110.3 1.0 0.1 133 17.8 8.1 31.8 8.7 1.8 4 SR5A 06:00 3.1 Middle 816595 810693 Cloudy Calm 2.1 0.1 133 17.8 8.3 1.9 4 Bottom 17.8 8.0 31.8 105.0 8.3 0.1 143 17.8 8.0 31.8 8.3 1.8 2.1 1.0 0.0 233 17.5 8.1 31.7 2.2 Surface 17.5 8.1 31.7 111.2 1.0 0.0 244 17.5 8.1 31.7 111. 8.8 2.3 7 SR6A Cloudy Calm 05:16 3.9 Middle 817985 814733 2.9 0.0 240 17.5 8.7 2.7 4 Bottom 8.1 31.8 109.9 8.7 2.9 0.0 240 17.5 8 1 31.8 2.7 3 1.0 0.0 333 17.3 8.2 30.4 108.5 8.7 2.2 Surface 108.5 30.4 1.0 0.0 334 17.3 8.2 30.5 108.4 8.7 2.4 7 9.1 0.1 17.3 8.2 30.5 107.8 8.6 3.1 7 SR7 Fine Calm 05:46 18.1 Middle 17.3 8.2 30.5 107.8 823634 823756 9.1 0.1 -5 17.3 8.2 30.5 8.6 3.1 17.1 0.2 33 17.3 8.2 30.5 107. 8.6 4.2 5 Bottom 17.3 8.2 30.5 107.2 8.6 17.1 0.2 17.3 8.2 30.5 8.6 4.3 4 1.0 17.7 8.3 29.5 8.9 4.9 5 Surface 17.7 8.3 29.5 111.4 17.7 1.0 8.3 29.5 8.9 4.9 4 -. 07:07 820386 811601 SR8 Fine Calm 4.8 Middle -3.8 17.7 6.0 5 8.3 29.8 109.7 8.7 17.7 Bottom 8.3 29.8 109.6 8.7

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Water Quality Monitoring Results on 28 January 21 during Mid-Ebb Tide Turbidity(NTU) Suspended Solids Total Alkalinity DO Saturation Water Salinity (ppt) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Temperature (°C) Monitoring Current Speed Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Value DA Condition Time Depth (m) (m/s) Average Value Average Average Value Average Value DA Value DA Value DA Value DA Value DA Condition Value Value (Northing) (Easting) 0.0 8.3 121.5 1.0 0.0 240 17.7 30.8 2.0 2.6 4 0 0.1 80 17.5 8.3 31.3 114 9.1 5 114.1 804264 C1 Cloudy Moderate 12:30 8.3 31.3 815615 4.0 0.1 80 17.5 8.3 31.3 114 0 9.0 2.6 6 6.9 0.1 190 17.5 8.2 31.3 114.2 9.1 2.5 5 Bottom 8.2 31.3 114.3 6.9 0.1 197 17.5 8.2 31.3 1143 9.1 2.4 5 1.0 0.1 255 18.2 8.4 27.7 127. 10.2 1.3 Surface 8.4 27.7 127.0 1.0 0.1 274 18.2 8.4 126. 10.1 1.3 6 5.8 0.3 51 18.0 8.3 28.7 9.6 2.2 5 6 C2 Moderate 11:16 11.6 Middle 8.3 28.8 120.1 825697 806922 5.8 0.3 51 8.3 28.8 18.0 9.5 10.6 0.4 66 18.0 8.3 5 29.5 9.3 3.1 Bottom 18.0 8.3 29.5 117.1 9.3 5 10.6 0.4 18.0 8.3 29.5 93 3.0 68 1.0 0.4 18.5 8.3 29.6 9.4 Surface 18.5 8.3 29.6 119.6 1.2 1.3 1.3 1.0 9.4 6 0.4 71 18.4 8.3 29.6 119. 93 18.0 6 7 9.1 9.1 6.2 0.4 8.3 29.8 C3 Fine Moderate 13:23 12.4 Middle 18.0 8.3 29.8 114.4 822131 817809 18.0 0.4 8.3 29.8 6 11.4 0.3 63 17.7 8.2 30.3 8.6 1.2 107. 17.7 8.2 8.6 Bottom 30.3 108.0 11.4 0.3 69 17.7 8.2 30.3 108.0 8.6 1.2 6 0.1 18.1 8.3 30.9 9.5 6 Surface 18.1 8.3 30.9 120.7 1.0 0.1 219 18.0 8.3 30.9 120.6 9.5 1.5 5 9.5 807142 IM1 Cloudy Moderate 12:09 4.6 Middle 817936 3.6 0.1 224 17.9 8.3 9.3 2.8 5 Bottom 17.9 8.3 31.0 118.4 9.3 3.6 0.1 241 17.9 8.3 31.0 9.3 2.6 4 0.1 17.9 8.3 30.6 9.6 2.4 6 Surface 17.9 8.3 30.6 121.9 1.0 0.1 17.9 30.6 9.6 2.4 5 3.4 0.1 90 17.9 9.6 2.5 6 7 8.3 121.2 Cloudy Moderate 12:00 Middle 8.3 30.6 818144 0.1 17.9 2.3 3.4 5.8 0.1 105 17.8 8.3 30.7 9.0 2.7 8 Bottom 17.8 8.3 30.7 113.9 9.0 9.0 2.9 5.8 0.1 109 17.8 83 30.7 113 8 2.4 1.0 0.1 54 17.9 8.3 30.6 9.6 7 Surface 8.3 30.6 121.8 1.0 0.1 55 17.9 8.3 30.6 9.6 8 3.5 0.0 326 17.8 8.3 30.6 9.6 2.5 7 IM3 Cloudy Moderate 11:53 7.0 Middle 120.7 818807 805607 7 3.5 0.0 348 17.8 30.6 2.5 9.3 2.8 6.0 0.0 246 17.8 8.3 30.6 5 117.6 9.3 2.6 0.0 249 17.8 83 30.6 6 6.0 1.0 0.1 343 17.9 8.3 30.6 122. 9.7 9.7 2.0 6 Surface 17.9 8.3 30.6 122.2 2.2 2.3 2.3 83 17.8 30.6 7 1.0 0.1 316 4.1 7 0.1 12 17.7 8.3 30.6 9.6 IM4 Cloudy Moderate 11:43 Middle 17.7 8.3 120.8 819708 804612 4.1 17.7 8.3 30.6 0.2 12 7 7.1 0.1 353 17.7 17.7 8.3 8.3 30.6 30.6 9.4 2.3 119.1 Rottom 17.7 8.3 30.6 9.4 0.1 325 1.0 0.3 18.0 8.3 30.5 122. 9.7 2.5 4 Surface 18.0 8.3 30.5 122.2 1.0 18.0 8.3 30.5 9.6 4 0.3 122. 2.5 2.7 3.8 17.9 4 0.2 8.3 9.4 . 30.5 119.4 IM5 7.5 17.9 8.3 30.5 119.3 820732 804862 Cloudy Moderate 11:35 Middle 3.8 17.9 8.3 30.5 119. 9.4 2.7 5 0.2 11 17.9 6.5 0.1 8.3 8.3 30.5 9.3 2.3 6 7 12 17.9 8.3 116.8 93 Bottom 30.5 6.5 0.2 17.9 0.1 1.0 0.1 295 17.9 8.3 29.4 9.6 6 121. Surface 17.9 8.3 29.5 120.9 1.0 0.1 303 17.9 8.3 29.5 120. 9.6 0.1 5 3.7 0.1 61 17.9 8.3 30.3 9.4 0.8 6 11:27 7.3 Middle 17.9 8.3 30.3 118.2 821053 805841 IM6 Cloudy Moderate 3.7 0.1 66 17.9 8.3 30.3 118. 9.3 0.9 5 6.3 0.0 107 17.9 8.3 30.4 9.2 1.0 9 Bottom 17.9 8.3 30.4 116.3 9.2 0.0 113 17.9 8.3 30.4 0.9 1.0 0.1 229 17.9 8.4 28.8 122.4 9.8 0.7 Surface 17.9 8.4 28.8 122.3 1.0 0.1 240 17.9 8.4 28.8 122. 9.8 0.7 7 4.2 0.1 116 17.8 8.4 30.3 9.4 1.3 5 IM7 Cloudy Moderate 11:15 Middle 17.8 8.4 30.3 118.2 821371 806823 4.2 0.1 118 17.8 8.4 30.3 118 9.4 1.1 5 7.3 0.1 152 17.8 8.4 30.6 9.3 2.6 5 8.4 30.6 117.3 9.3 7.3 0.1 156 17.8 8.4 30.6 2.7 5 1.0 0.1 59 18.0 8.3 27.9 122.2 9.8 1.4 Surface 8.3 122.2 27.9 1.0 0.1 62 18.0 8.3 28.0 122.2 9.8 1.5 4 39 0.2 69 18.0 8.3 28.8 120.5 9.6 2.4 4 5 IM8 Fine Moderate 11:38 7.8 Middle 18.0 8.3 28.8 120.4 821846 808145 3.9 0.2 70 18.0 8.3 28.9 120.3 9.6 2.4 -6.8 0.2 62 18.0 8.3 29.4 118.0 9.4 2.7 5 8.3 Bottom 18.0 29.4 117.9 9.4 18.0

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Water Quality Monitoring Results on 28 January 21 during Mid-Ebb Tide DO Saturation Dissolved Suspended Solids Total Alkalinity Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Speed Current Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Time (m/s) Average Average Value Average Value DA Value DA Value DA Value DA Value DA Value DA Condition Condition Depth (m) Value Value Average Value (Northing) (Easting) 0.3 Surface 8.3 27.9 18.0 1.4 3.7 0.3 84 18.0 8.3 28.8 119. 9.5 1.8 4 119.3 808830 IM9 Fine Moderate 11:43 8.3 28.8 822115 3.7 0.3 87 18.0 8.3 28.9 119.1 9.5 1.9 4 6.4 0.3 88 18.0 8.3 29.2 115.9 9.2 2.3 4 Bottom 8.3 29.2 115.8 9.2 6.4 0.3 89 18.0 8.3 29.2 115.7 92 2.3 4 1.0 0.5 18.2 8.3 27.6 123. 9.9 1.0 Surface 8.3 27.6 123.6 1.0 0.5 73 18.2 8.3 27.6 9.9 1.0 4 3.5 0.4 75 18.0 8.3 28.1 9.5 1.3 3 IM10 Moderate 11:50 7.0 Middle 8.3 28.1 118.6 822389 809813 3.5 8.3 0.4 78 18.0 28.1 118. 9.5 6.0 18.1 8.3 1.4 0.1 94 29.2 116.0 9.2 4 Bottom 18.1 8.3 29.2 116.5 9.2 3 6.0 0.1 102 18 1 8.3 92 1 4 29.2 116 4 1.0 0.2 18.1 1.5 8.3 29.4 9.4 Surface 18.1 8.3 29.4 118.1 1.0 9.4 1.4 2 0.2 123 18.1 8.3 29.4 118. 1.3 4 18.1 9.3 4.5 8.3 29.4 IM11 Fine Moderate 12:01 8.9 Middle 18.1 8.3 29.4 117.0 822061 811474 4.5 18.1 0.2 116 8.3 29.4 5 7.9 0.2 104 18.1 8.3 29.4 9.1 1.3 114.6 114.5 Bottom 18.1 8.3 29.4 7.9 0.2 108 18.1 8.3 29.4 114.4 9.1 1.4 5 0.1 18.4 1.4 8.3 29.4 Surface 18.4 8.3 29.4 121.2 1.0 0.2 101 18.4 8.3 29.4 121.1 9.6 1.4 6 4.7 0.1 127 18.2 9.5 1.3 4 8.3 29.4 119.8 812061 IM12 Fine Moderate 12:08 9.3 Middle 18.2 8.3 29.4 821473 4.7 18.2 8.3 1.3 4 0.1 128 8.3 0.1 109 18.1 8.3 29.4 9.3 1.3 4 18 1 8.3 29.4 117.3 9.3 Rottom 8.3 0.2 113 18.1 8.3 29.4 9.3 1.3 18.4 8.3 29.3 3 9.2 Surface 18.4 8.3 116.9 29.3 1.0 18.4 9.2 1.7 3 2.4 812659 Fine Calm 12:46 Middle 2.4 3.8 18.3 8.3 29.5 9.0 1.9 3 Bottom 18.3 8.3 29.5 114.2 9.0 9.0 3.8 18.3 83 29.5 114 19 3 1.0 0.2 76 18.2 8.3 29.4 121.0 9.6 1.4 4 Surface 18.2 8.3 29.4 121.1 1.0 0.2 79 18.2 8.3 29.4 9.6 1.4 3 9.6 SR2 Moderate 13:03 4.5 Middle 821443 814185 3.5 16 0.2 82 18.2 8.3 29.4 9.6 3 121.5 Bottom 3.5 89 18.2 83 29.4 17 0.2 1.0 0.0 209 18 1 8.3 27.8 123.5 9.9 13 4 Surface 8.3 27.9 123.5 18 1 83 27 Q 1.3 4 1.0 0.0 215 4.6 103 2.2 4 0.1 18.1 8.3 28.4 9.7 SR3 Moderate 11:32 Middle 18.1 28.5 121.2 822139 807593 4 9.6 4.6 105 18.1 8.3 0.1 28.5 3 8.1 0.2 89 18.0 18.0 8.3 8.3 117.6 9.4 3.6 3.6 Bottom 18.0 8.3 29.3 9.4 8.1 0.3 89 29.3 1.0 0.2 84 18.0 8.3 30.5 122. 9.7 2.3 8 Surface 18.0 8.3 30.5 122.2 1.0 30.6 9.6 0.2 84 17.9 8.3 122. 2.3 2.0 8 17.9 7 0.2 9.5 . 8.3 30.6 120. SR4A 12:53 8.3 30.6 120.5 817182 807815 Cloudy Moderate 9.3 Middle 17.9 4.7 17.9 8.3 30.6 2.0 7 0.2 8.3 17.8 8.3 30.6 9.4 2.0 1.9 5 6 0.2 118.4 94 Rottom 17.8 8.3 30.6 8.3 0.2 17.8 8.3 1.0 0.0 342 18.9 8.3 30.9 9.4 1.4 4 121. Surface 18.9 8.3 30.9 121.7 1.0 0.0 315 18.9 8.3 9.4 1.4 5 SR5A 13:09 3.2 Middle 816601 810693 Cloudy Calm 2.2 0.1 18.9 30.8 120.4 9.3 1.2 Bottom 18.9 8.3 30.8 120.3 9.3 0.1 90 18.9 8.3 30.8 9.3 1.3 2.2 1.0 0.0 204 18.3 8.4 30.7 9.4 1.3 Surface 18.3 8.4 30.7 120.5 1.0 0.0 223 18.3 8.4 30.7 120.4 9.4 1.3 7 SR6A Cloudy Calm 13:39 4.2 Middle 817979 814740 3.2 0.0 250 18.2 8.4 30.8 9.4 1.2 6 Bottom 8.4 30.8 119.5 9.4 3.2 0.0 270 18.2 8.4 30.8 110 9.4 1.2 6 1.0 0.5 60 17 9 8.3 30.0 8.8 1.2 4 Surface 8.3 111.0 30.0 1.0 0.6 60 17.9 8.3 30.0 110 8.8 1.2 5 7.8 0.4 65 17.8 8.3 30.1 108.7 8.6 1.0 5 5 SR7 Fine Moderate 13:51 15.6 Middle 17.8 8.3 30.1 108.7 823626 823735 7.8 0.4 65 17.8 8.3 30.2 108.6 8.6 1.0 14.6 0.2 34 17.8 8.3 30.2 107. 8.5 1.0 4 Bottom 8.3 30.2 107.2 14.6 0.2 17.8 8.3 30.2 8.5 1.0 5 1.0 18.5 8.3 29.3 9.6 2.2 4 Surface 18.5 8.3 29.3 121.7 1.0 18.5 8.3 29.3 121.7 9.6 2.2 5 . . 820402 811603 SR8 Fine Moderate 12:18 4.6 Middle -3.6 18.3 1.7 4 8.3 29.3 121. 9.6 18.3 8.3 29.3 121.1 9.6

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Water Quality Monitoring Results on 28 January 21 during Mid-Flood Tide Turbidity(NTU) Suspended Solids Total Alkalinity DO Saturation Water Salinity (ppt) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Temperature (°C) Monitoring Current Speed Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Value DA Condition Time Depth (m) (m/s) Average Value Average Average Value Average Value DA Value DA Value DA Value DA Value DA Condition Value Value (Northing) (Easting) 17.7 0.4 Surface 17.7 8.4 30.5 117.9 1.0 0.4 54 17.7 30.6 117. 9.3 3.4 6 17.6 9.2 5.6 C1 17.6 84 30.9 116.2 804266 Calm 08:32 7.8 Middle 815622 Cloudy 3.9 17.6 8.4 30.9 9.2 5.5 6 0.4 6.8 0.3 26 17.6 8.4 31.0 115.4 9.2 8.8 7 17.6 8.4 9.2 Bottom 31.0 115.4 8.9 17.6 6.8 0.3 8.4 31.0 1.0 0.3 18.0 8.3 Surface 18.0 8.3 27.7 121.8 18.0 8.3 9.8 1.5 1.7 1.0 0.3 329 359 17.9 4 5.9 0.3 8.3 9.5 27.9 C2 Cloudy Moderate 09:29 11.8 Middle 17.9 8.3 28.0 118.1 825683 806930 330 17.9 8.3 28.0 9.4 1.8 3 5.9 0.3 10.8 0.2 33 17.9 8.3 28.8 114.4 9.1 3.3 4 17.9 8.3 28.8 114.4 Bottom 10.8 0.2 33 17.9 8.3 28.8 3.4 3 0.5 18.0 8.3 1.6 4 Surface 18.0 8.3 29.4 114.9 1.0 0.5 291 18.0 8.3 29.4 9.1 1.6 5 5 5.4 0.5 18.0 8.9 2.2 -288 8.2 29.7 C3 07:17 112.6 817818 Cloudy Moderate 10.7 Middle 18.0 8.2 29.7 822099 0.5 17.9 9.7 0.4 285 17.9 8.2 29.8 8.8 7.0 5 Bottom 17.9 8.2 29.8 110.8 8.8 9.7 0.4 294 17.9 8.2 29.8 8.8 7.5 6 1.0 0.1 17.7 8.3 30.9 0.5 4 Surface 17.7 8.3 30.9 115.4 1.0 0.1 17.7 8.3 30.9 115. 9.1 0.6 5 IM1 Cloudy Calm 08:52 4.6 Middle 817926 3.6 0.1 17.7 8.4 30.9 9.0 11 4 Bottom 17.7 8.4 30.9 113.8 9.0 3.6 0.2 17.7 8.4 30.9 113 7 9.0 1.1 4 17.9 1.0 0.2 8.3 30.4 119.0 9.4 5.2 9 Surface 8.3 30.4 119.0 1.0 0.2 11 17.9 8.3 30.4 118.9 9.4 5.2 9 5.9 3.3 0.2 17.9 8.3 30.4 118. 9.3 5 IM2 Cloudy Moderate 09:00 6.5 Middle 8.3 30.4 118.0 818158 806167 3.3 0.2 17.9 8.3 30.4 9.3 6.0 5 5 4 5.5 0.1 343 17 9 83 30.5 116 9.2 5.9 8.3 30.5 116.7 9.2 5.5 17 9 0.1 316 8.3 30.5 116 92 6.0 1.0 0.2 350 17.8 8.3 30.4 118 5 94 4.6 Surface 8.3 30.4 118.5 1.0 6 0.2 352 17.8 8.3 30.4 118.4 9.4 4.6 5.1 6 7 10 3.4 355 17.8 9.3 0.2 8.3 30.4 IM3 Cloudy Moderate 09:07 6.8 Middle 17.8 8.3 30.4 117.3 818788 805600 5.2 17.8 17.8 3.4 0.2 327 8.3 30.4 9.3 5.8 0.2 339 8.3 30.4 116. 9.2 116.0 Rottom 17.8 8.3 30.4 9.2 5.8 0.2 312 17.8 8.3 30.4 9.2 5.5 10 17.8 1.0 0.4 353 8.3 30.3 116.8 9.3 3.4 6 Surface 17.8 8.3 30.3 116.8 0.4 325 8.3 9.3 3.4 4.0 354 17.8 3.7 7 0.4 8.3 30.3 9.2 IM4 Cloudy Moderate 09:16 8.0 Middle 17.8 8.3 30.3 116.2 819708 804618 4.0 0.4 326 17.8 8.3 3.7 8 0.3 352 17.8 4.4 8 8.3 9.2 30.3 17.8 115.3 Bottom 8.3 30.3 9.2 7.0 0.4 324 17.8 8.3 4.6 8 1.0 0.6 14 17.8 8.3 30.5 3.7 9 9.3 Surface 17.8 8.3 117.8 30.5 1.0 0.7 14 17.8 30.5 9.3 3.8 9 3.7 0.6 15 17.8 7.5 9 8.3 9.2 IM5 Moderate 09:23 7.3 Middle 17.8 8.3 30.5 116.6 820734 804880 Cloudy 3.7 17.8 7.7 0.6 9.3 6.3 0.5 17.8 8.3 8.3 30.5 9.2 Bottom 17.8 8.3 30.5 115.7 9.2 7 6.3 0.5 17 17.8 30.5 1.0 0.1 76 17.8 8.3 29.7 0.6 5 Surface 8.3 29.7 118.8 1.0 0.1 76 17.8 8.3 29.7 94 0.7 6 3.5 0.1 68 17.8 30.4 9.3 1.8 6 Cloudy Moderate 09:31 Middle 17.8 8.3 30.5 117.2 805845 3.5 0.1 68 17.8 8.3 30.5 117 9.3 1.8 7 1.6 6.0 0.2 52 17.8 8.3 30.6 9.2 7 116.4 9.2 6.0 0.2 54 17.8 83 30.6 8 1.0 0.1 40 17.8 8.3 29.0 9.6 1.6 5 Surface 17.8 120.4 9.6 1.6 1.0 0.1 42 17.8 83 29 N 4 121 3.1 4 4.1 0.1 17.8 8.3 29.3 118.8 9.5 IM7 Moderate 09:40 8.2 Middle 17.8 8.3 118.8 821342 806824 Cloudy 4.1 0.1 125 17.8 8.3 29.3 118. 9.5 3.5 3 7.2 0.1 114 17.8 8.3 30.6 116.4 9.2 1.7 4 Bottom 17.8 8.3 30.6 116.3 9.2 0.1 123 17.8 8.3 30.6 1.0 0.1 195 18.0 8.3 27.7 121. 9.8 1.2 4 Surface 18.0 8.3 27.7 121.8 27.7 9.8 18.0 8.3 4 1.0 0.1 211 121. 1.2 3.7 169 8.3 27.7 9.7 1.4 4 0.1 18.0 121.4 -27.7 18.0 8.3 121.4 808119 IM8 Cloudy Moderate 09:03 7.3 Middle 821811 9.7 1.4 4 3.7 0.1 171 18.0 8.3 6.3 0.1 201 18.0 8.3 8.3 27.8 1.3 4 120. 9.6 18.0 8.3 27.8 119.9 Rottom 9.6

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 28 January 21 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids Total Alkalinity Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Speed Current Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Time (m/s) Average Average Value Average Value DA Value DA Value DA Value DA Value DA Value DA Condition Condition Depth (m) Value Value Average Value (Northing) (Easting) 18.0 0.0 Surface 8.3 1.0 0.0 228 18.0 9.4 1.7 3.6 0.0 312 18.0 8.3 28.4 1167 9.3 1.7 7 08:57 116.7 808824 IM9 Cloudy Moderate 8.3 28.4 822075 3.6 0.0 330 18.0 8.3 28.4 116.6 9.3 1.7 6 6.2 0.1 285 18.0 8.3 28.5 115.2 9.2 1.5 7 Bottom 8.3 28.5 115.2 9.2 6.2 0.1 309 18.0 8.3 28.5 115.1 92 1.6 6 1.0 0.4 322 18.1 8.3 29.0 9.4 2.1 Surface 8.3 29.0 117.9 1.0 0.4 343 18.1 8.3 29.0 9.4 2.1 6 3.7 0.4 322 18.0 8.3 9.3 2.4 6 IM10 Cloudy Moderate 08:50 7.4 Middle 8.3 29.0 116.8 822408 809780 335 8.3 6 0.4 18.0 29.0 9.3 6.4 0.4 18.0 8.3 6 333 29.0 9.2 3.1 Bottom 18.0 8.3 29.0 115.6 9.2 5 6.4 0.4 355 18.0 8.3 92 3.1 29 N 115 1.0 0.6 311 18.1 8.3 1.9 29.4 9.2 Surface 18.1 8.3 29.4 116.4 1.9 2.0 2.0 1.0 9.2 5 0.6 326 18.1 8.3 29.4 116. 92 6 5 18.1 9.1 9.1 3.8 316 8.3 29.5 IM11 Cloudy Moderate 08:40 7.5 Middle 18.1 8.3 29.5 115.1 822076 811439 325 18.1 0.5 8.3 5 6.5 0.4 319 18.1 8.3 29.5 9.0 2.2 113.1 113.0 9.0 Bottom 18.1 8.3 29.5 6.5 0.4 337 18.1 8.3 29.5 112.9 8.9 2.2 6 0.5 18.1 5 29.4 8.3 Surface 18.1 8.3 117.2 29.4 1.0 0.5 316 18.1 8.3 29.4 9.3 2.2 6 4.6 0.5 315 18.1 3.6 5 8.3 29.4 116.4 9.2 812064 IM12 Cloudy Moderate 08:34 9.1 Middle 18.1 8.3 29.4 116.4 821458 4.6 18.1 8.3 3.4 6 7 0.5 334 8.1 0.4 308 18.0 8.3 29.4 9.1 4.4 18.0 8.3 29.4 114.9 9.1 Rottom 8.1 0.4 334 18.0 8.3 29.4 9.1 4.3 18.1 8.3 29.3 8.8 1.2 6 Surface 18.1 8.3 110.9 29.3 1.0 18.1 8.8 1.2 7 2.4 812657 Cloudy Calm 07:55 Middle 2.4 3.7 18.1 8.3 29.5 8.6 1.3 4 Bottom 18.1 8.3 29.5 109.0 8.6 3.7 18.0 83 29.5 108 8.6 1.3 5 1.0 0.2 171 18.0 8.3 29.4 9.2 2.4 5 Surface 18.1 8.3 29.4 115.9 1.0 0.3 177 18.1 8.3 29.4 115. 9.2 2.3 6 SR2 Cloudy Moderate 07:38 4.3 Middle 821476 814153 33 178 18 1 2.8 0.2 8.3 29.5 9.1 6 114.1 9.1 Bottom 2.8 33 18 1 83 29.5 6 0.2 183 1.0 0.1 346 18 1 8.3 27.7 122. 9.8 14 4 Surface 8.3 27.7 122.7 18 1 83 27 7 1.4 3 1.0 0.1 358 4.5 1.5 5 0.1 42 18.0 8.3 27.8 9.7 SR3 Cloudy Moderate 09:09 Middle 18.0 120.7 822162 807547 9.7 1.5 43 18.0 8.3 4.5 0.1 5 6 7.9 0.1 18.0 18.0 8.3 8.3 27.8 27.8 117.6 9.4 1.5 1.5 Bottom 18.0 8.3 27.8 9.4 0.1 54 1.0 0.2 18.2 69 8.3 30.8 112.6 8.8 0.2 4 Surface 18.2 8.3 30.8 112.6 1.0 30.8 8.8 5 0.2 73 18.2 8.3 112.0 0.2 4.5 18.2 0.2 5 0.1 8.8 . 8.3 30.8 112.2 SR4A 08:09 8.3 30.8 112.2 817171 807814 Cloudy Calm 8.9 Middle 18.2 4.5 83 18.2 8.3 30.8 112. 8.8 0.2 4 0.1 7.9 0.1 18.2 8.3 30.8 8.8 0.2 5 8.3 111.7 8.8 Rottom 18.2 30.8 0.1 18.2 8.3 1.0 0.1 264 18.2 8.3 30.9 8.6 0.4 4 Surface 18.2 8.3 30.9 110.0 1.0 0.1 284 18.2 8.3 8.6 0.4 3 SR5A 07:50 3.1 Middle 816599 810686 Cloudy Calm 2.1 0.1 281 18.1 30.9 109.2 8.6 3.6 6 Bottom 18.1 8.3 30.9 109.2 8.6 0.1 285 18.1 8.3 30.9 8.6 4.0 2.1 1.0 0.0 274 17.8 8.3 31.0 1.0 Surface 17.8 8.3 31.0 110.8 1.0 0.0 291 17.8 8.3 31.0 110. 8.7 0.9 6 SR6A Cloudy Calm 07:21 4.1 Middle 817978 814738 3.1 0.0 218 17.8 8.3 8.7 5 17.8 8.3 31.0 110.7 8.7 3.1 0.0 232 17.8 8.3 31 (0.5 6 1.0 0.2 337 18.0 8.2 29.6 1147 9.1 1.2 114.7 Surface 29.6 1.0 0.2 310 18.0 8.2 29.6 1147 9.1 1.3 7 8.4 0.2 355 17 9 8.2 29.7 8.9 1.6 4 5 SR7 Cloudy Moderate 06:42 16.8 Middle 8.2 29.7 112.7 823641 823739 1.7 8.4 0.2 327 17.9 8.2 29.7 8.9 15.8 0.3 340 17.9 8.2 29.8 8.8 1.4 4 Bottom 8.2 29.8 111.4 15.8 0.4 359 17.9 8.2 29.8 8.8 1.3 5 1.0 18.2 8.3 29.1 9.3 1.8 6 Surface 18.2 8.3 29.1 117.0 1.0 18.2 8.3 29.1 116.9 9.3 1.9 5 9.3 . . 820373 811613 SR8 Cloudy Moderate 08:25 4.6 Middle -3.6 18.1 2.5 4 8.3 29.1 115.7 9.2 Bottom 18.1 8.3 29.1 115.7 9.2

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.

Water Quality Monitoring Results on 30 January 21 during Mid-Ebb Tide Turbidity(NTU) Suspended Solids Total Alkalinity DO Saturation Water Salinity (ppt) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Temperature (°C) Monitoring Current Speed Oxvaen (mg/L) (maga) Sampling Depth (m) HK Grid HK Grid Station Direction Value DA Condition Condition Time Depth (m) (m/s) Average Value Average Average Value Average Value DA Value DA Value DA Value DA Value DA Value Value (Northing) (Easting) 0.2 8.3 32.1 1.0 148 17.8 3.4 44 0.2 162 17.6 8.3 32.3 115 9.1 6 C1 115.7 815631 804236 Fine Moderate 13:42 8.3 32.3 4.4 0.2 178 17.6 8.3 32.3 115.7 9.1 3.5 5 77 0.2 188 17.4 8.3 32.5 112.0 8.8 4.8 7 Bottom 17.4 8.3 32.5 112.1 8.8 7.7 0.2 192 17.4 8.3 32.5 1122 8.8 5.1 6 1.0 0.2 135 18.2 8.3 28.7 9.6 0.4 4 Surface 8.3 28.7 121.1 1.0 0.2 147 18.2 8.3 28.7 9.6 0.4 5 6.3 0.5 154 17.9 8.3 29.3 9.1 2.0 4 Cloudy C2 Moderate 12:35 12.5 Middle 8.3 29.3 114.7 825697 806968 0.5 160 8.3 9.1 17.9 29.4 114. 11.5 0.5 144 17.8 8.3 3 29.7 8.9 2.6 Bottom 17.8 8.3 29.7 112.2 8.9 11.5 0.5 154 17.8 8.3 29.7 89 2.6 0.4 286 18.1 1.0 8.3 4 29.8 9.5 Surface 18.1 8.3 29.8 120.3 1.0 18.1 0.5 3 0.4 298 8.3 29.8 9.5 9.0 0.6 3 257 262 8.2 8.4 6.3 30.4 C3 Cloudy Moderate 14:31 12.5 Middle 8.2 30.4 105.8 822105 817800 17.7 0.2 8.2 30.4 17.7 5 11.5 0.1 120 8.2 30.4 105. 8.4 1.8 17.7 8.2 105.6 8.4 Bottom 30.4 11.5 0.1 122 17.7 8.2 30.4 105.6 8.4 1.8 6 0.1 17.8 3.8 8 8.4 9.4 31.2 119.0 Surface 17.8 8.4 31.2 119.2 1.0 0.1 168 17.8 8.4 31.2 119.3 9.4 3.8 9.4 807114 IM1 Fine Moderate 13:21 5.2 Middle 817960 4.2 0.1 219 17.8 8.4 9.4 4.3 6 Bottom 17.8 8.4 31.5 119.7 9.4 4.2 0.1 236 17.8 8.4 31.5 9.4 4.3 0.1 184 17.9 8.4 31.2 9.3 9.3 6 7 Surface 17.9 8.4 31.3 117.7 1.0 0.1 193 17.9 4.7 3.6 0.1 165 17.7 8.4 4.1 6 9.2 116.7 Fine Moderate 13:13 Middle 8.4 31.5 818146 0.1 17.7 4.1 5 5 3.6 6.1 0.1 154 17.6 8.4 114. 9.0 4.2 Bottom 17.6 8.4 31.6 114.4 9.0 9.0 4.2 6.1 0.1 157 17.6 8.4 31.6 114 6 1.0 0.1 50 17.9 8.4 31.3 118 7 9.3 4.5 6 Surface 31.3 118.7 1.0 0.1 50 17.9 8.4 31.3 9.3 4.4 6 7 3.7 0.1 69 17.8 8.4 4.4 IM3 Moderate 13:06 7.3 Middle 118.2 818789 805596 4.5 3.7 0.1 17.8 8.4 6 63 253 3.9 4.0 9 0.1 17.6 8.4 31.7 9.1 115.8 63 0.1 276 17.6 8.4 31.7 8 115 1.0 0.1 12 17.8 8.4 31.3 120.0 9.5 9.4 47 8 Surface 17.8 8.4 31.3 119.9 47 1.0 17.8 8.4 7 0.1 13 31.3 4.3 307 4.3 7 6 0.1 17.7 8.3 31.6 9.1 IM4 Moderate 12:56 Middle 17.7 8.3 31.6 115.7 819742 804606 9.1 4.3 4.3 0.1 337 17.6 8.4 31.6 5 6 7.5 7.5 0.1 297 17.6 17.6 8.4 8.4 31.8 114. 114.6 9.0 4.0 4.1 9.0 Rottom 17.6 8.4 31.8 0.1 315 1.0 0.2 17.6 4.3 14 8.3 31.5 114.5 9.1 3 Surface 17.6 8.3 31.5 114.5 1.0 14 17.6 8.3 31.5 9.1 4.3 2 0.2 114. 4.0 0.2 17.6 4.5 4 8.4 31.6 114.5 9.0 -IM5 12:48 17.6 8.4 31.6 114.5 820723 804879 Fine Moderate Middle 4.0 19 17.6 8.4 31.6 114. 4.6 4 0.2 5.0 7.0 0.2 17.6 8.4 31.6 113.9 113.9 9.0 5 17.6 8.4 31.6 9.0 Bottom 0.2 17.6 8.4 197 1.6 4 1.0 0.0 17.9 8.4 30.5 9.6 121. Surface 17.9 8.4 30.5 121.1 1.0 0.0 204 17.9 8.4 30.5 121. 9.6 1.6 3 3.9 0.1 127 17.7 8.4 30.9 9.2 3.0 3 12:40 7.7 Middle 17.7 8.4 31.0 115.6 821040 805835 IM6 Fine Moderate 3.9 0.1 136 17.7 8.4 31.0 115.4 9.1 3.2 4 6.7 0.1 17.6 8.4 9.0 4.6 4 Bottom 17.6 8.4 31.1 114.4 6.7 0.1 17.6 8.4 4.7 4 1.0 0.1 268 17.8 8.4 30.4 119.2 9.4 2.0 6 Surface 17.8 8.4 30.4 119.1 1.0 0.1 286 17.8 8.4 30.4 118.9 9.4 2.0 6 4.5 0.1 96 17.6 8.4 31.1 9.1 1.7 5 IM7 Fine Moderate 12:33 Middle 17.6 8.4 31.1 115.1 821359 806849 4.5 0.1 102 17.6 8.4 31.1 11/ 9.1 2.0 6 7.9 0.0 58 17.5 8.4 31.3 9.0 2.1 3 8.4 31.3 113.5 9.0 7.9 0.0 63 17.5 8.4 31.3 a n 2.2 4 1.0 0.3 94 18 1 8.3 29.0 1183 9.4 0.8 4 Surface 8.3 118.3 29.0 1.0 0.3 99 18 1 8.3 29.0 118 2 9.4 0.8 5 4 0 0.4 104 17.8 8.3 29.7 114 1 9.1 3.0 3 IM8 Cloudy Moderate 12:57 8.0 Middle 17.8 8.3 29.7 114.0 821837 808136 9.1 4.0 0.4 112 17.8 8.3 29.7 3.1 4 -7.0 0.3 90 17.8 8.3 29.8 112.6 9.0 3.3 3 8.3 Bottom 17.8 29.8 112.5 9.0 0.4

DA: Depth-Averaged

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

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

Water Quality Monitoring Results on 30 January 21 during Mid-Ebb Tide DO Saturation Suspended Solids Total Alkalinity Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Speed Current Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Time (m/s) Average Average Value Average Value DA Value DA Value DA Value DA Value DA Value DA Condition Condition Depth (m) Value Value Average Value (Northing) (Easting) 0.4 18.0 Surface 8.3 28.9 117.7 0.4 61 18.0 9.4 0.6 1.6 3.9 0.4 67 17 9 8.3 29.3 9.3 4 117.3 808823 IM9 Cloudy Moderate 13:02 8.3 29.3 822117 3.9 0.4 71 17.9 8.3 29.3 117 2 9.3 1.6 3 6.7 0.4 70 17.7 8.3 29.8 110.1 8.8 3.4 2 Bottom 17.8 8.3 29.8 110.0 8.8 6.7 0.4 70 17.8 8.3 29.8 109.9 8.7 3.6 2 1.0 0.6 18.0 8.3 28.8 116.1 9.3 0.6 Surface 8.3 28.8 116.2 1.0 0.6 82 18.0 8.3 28.8 116. 9.3 0.6 2 3.8 0.6 83 17.8 8.3 29.1 8.9 0.5 0.6 4 IM10 Cloudy Moderate 13:08 7.6 Middle 8.3 29.2 111.8 822404 809807 8.3 3.8 0.6 85 17.8 29.2 8.9 6.6 0.3 17.8 8.3 3 92 29.5 8.8 0.3 Bottom 17.8 8.3 29.5 110.2 8.8 6.6 0.3 94 17.8 8.3 29.5 8.8 0.3 4 0.3 17.9 1.0 8.3 9.3 Surface 17.9 8.3 29.5 116.4 1.0 17.9 0.3 2 0.3 144 8.3 29.5 116. 9.3 93 0.3 17.9 9.2 3 4.4 8.3 29.5 IM11 Cloudy Moderate 13:19 8.8 Middle 8.3 29.5 115.8 822067 811474 141 17.9 4.4 0.3 8.3 7.8 0.3 133 17.9 8.3 29.5 9.0 0.2 3 113. 17.9 113.1 9.0 Bottom 8.3 29.5 7.8 0.3 146 17.9 8.3 29.5 112.8 9.0 0.2 4 0.3 18.0 <2 8.3 29.6 Surface 18.0 8.3 117.1 29.6 1.0 0.3 136 18.0 8.3 29.6 9.3 0.3 <2 5.0 0.3 148 18.0 0.3 3 8.3 29.6 9.2 812047 IM12 Cloudy Moderate 13:24 9.9 Middle 18.0 8.3 29.6 116.1 821480 5.0 18.0 8.3 0.3 2 0.3 29.6 8.9 0.3 149 17.9 8.3 29.6 9.0 0.5 17.9 8.3 29.6 113.7 9.0 Rottom 8.9 0.4 163 17.9 8.3 29.6 9.0 0.4 18.0 8.3 29.5 0.5 4 9.1 Surface 18.0 8.3 29.5 114.0 1.0 18.0 9.1 0.5 4 2.3 Cloudy Calm 13:56 Middle 812653 2.3 3.6 17 9 8.3 29.5 9.1 0.7 3 Bottom 17.9 8.3 29.5 113.9 9.1 3.6 17 9 83 29.5 113 9.0 0.7 2 1.0 0.3 73 18.0 8.3 29.6 9.3 0.3 4 Surface 18.0 8.3 29.6 117.6 1.0 0.4 76 18.0 8.3 29.6 9.3 0.3 5 SR2 Cloudy Moderate 14:11 4.9 Middle 821462 814148 3.9 0.4 0.3 70 17 9 8.3 29.6 9.2 4 115.7 9.2 Bottom 0.4 70 17 9 83 29.6 3 3 9 0.3 1.0 0.4 101 17.9 8.3 29.0 9.4 2.6 4 Surface 17.9 8.3 117.2 17 9 83 5 1.0 0.4 104 29 0 2.6 4.6 100 2.3 4 0.4 17.9 8.3 29.3 9.1 SR3 Cloudy Moderate 12:52 Middle 17.9 8.3 114.5 822146 807577 9.1 3 106 17.9 8.3 4.6 0.4 3 8.1 0.4 17.8 17.8 8.3 8.3 112.1 8.9 3.2 2.9 Bottom 17.8 8.3 29.7 8.9 8.1 0.4 78 29.7 1.0 0.3 17.9 78 8.3 31.3 117. 9.2 3.7 6 Surface 17.9 8.3 31.3 117.1 17.8 9.2 1.0 0.3 83 8.3 31.3 117.0 3.7 6 4.5 17.8 3.6 6 0.3 9.1 . 8.3 31.3 SR4A 17.8 8.3 31.3 116.0 817210 807794 Fine Calm 14:04 9.0 Middle 4.5 17.8 8.3 31.3 115. 3.6 5 0.3 80 17.7 8.0 8.4 31.4 114.1 9.0 3.3 5 0.2 8.4 114.1 9.0 Rottom 17.7 31.4 8.0 0.2 17.7 8.4 1.0 0.0 299 18.2 8.4 30.9 9.3 2.7 4 118.6 18.2 8.4 30.9 118.5 Surface 1.0 0.0 299 18.1 8.4 30.9 9.3 2.7 4 SR5A 14:21 3.5 Middle 816584 810681 Fine Calm 2.5 0.1 162 17.9 9.2 3.2 Bottom 17.9 8.4 31.1 116.8 9.2 0.1 175 17.9 31.1 3.0 2.5 1.0 0.0 217 18.1 8.3 30.9 118.9 2.6 Surface 18.1 8.3 30.9 118.9 1.0 0.0 219 18.1 8.3 30.9 118.9 9.3 2.6 4 SR6A Fine Calm 15:08 4.4 Middle 817963 814743 3.4 0.0 250 18.0 8.4 30.9 9.3 2.1 5 Bottom 8.4 30.9 117.8 9.3 3.4 0.0 265 18.0 8.4 30.9 2.0 6 1.0 0.6 61 18.0 8.3 30.1 9.0 0.1 4 Surface 8.3 113.7 30.1 1.0 0.7 61 18.0 8.3 30.1 9.0 0.1 3 7.6 0.2 14 17.8 8.2 30.4 108.3 8.6 0.1 4 SR7 Cloudy Moderate 14:59 15.1 Middle 8.2 30.4 108.3 823652 823731 4 7.6 0.2 14 17.8 8.2 30.4 108.2 8.6 0.1 14.1 0.2 55 17.8 8.2 30.4 107. 8.5 0.1 5 Bottom 8.2 30.4 107.5 8.5 14.1 0.2 58 17.8 8.2 30.4 8.5 0.1 4 1.0 18.2 8.3 29.5 115. 9.1 0.7 2 Surface 18.2 8.3 29.5 115.2 9.1 0.7 1.0 18.2 8.3 29.5 115.2 2 . . 820402 811603 SR8 Cloudy Moderate 13:34 4.8 Middle -3.8 18.0 0.8 3 8.3 29.5 112.3 8.9 18.0 8.3 29.5 112.1 8.9

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

Water Quality Monitoring Results on 30 January 21 during Mid-Flood Tide Turbidity(NTU) Suspended Solids Total Alkalinity DO Saturation Water Salinity (ppt) Coordinate Coordinate Nickel (µg/L) Sampling Water Temperature (°C) Monitoring Current Speed Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Value DA Condition Time Depth (m) (m/s) Average Value Average Average Value Average Value DA Value DA Value DA Value DA Value DA Condition Value Value (Northing) (Easting) 17.4 0.5 Surface 17.4 8.3 31.8 112.0 1.0 0.5 35 17.4 31.9 8.9 4.7 8 0.6 17.4 5.6 6 C1 17.4 8.3 31.9 111.2 804260 09:32 83 Middle 815624 Fine Moderate 17.4 8.3 31.9 8.8 5.8 7 0.6 7.3 0.5 30 17.4 8.3 31.9 8.7 6.1 6 17.4 8.3 110.3 8.7 Bottom 31.9 17.4 8.3 6.2 7.3 0.6 31.9 30 1.0 0.3 18.0 0.8 4 8.3 Surface 18.0 8.3 28.4 120.5 18.0 8.3 9.6 0.8 3.2 1.0 0.3 322 28.4 4 17.9 4 6.1 0.4 8.3 28.5 9.3 C2 Cloudy Moderate 10:02 12.2 Middle 17.9 8.3 28.5 115.6 825668 806963 29 17.9 8.3 28.5 9.2 3.2 4 6.1 0.4 11.2 0.4 346 17.9 8.3 114.9 9.2 4.8 6 28.5 17.9 8.3 28.5 114.9 Bottom 9.2 11.2 0.5 351 17.9 8.3 28.5 4.7 5 0.3 241 17.9 8.3 1.1 Surface 17.9 8.3 29.5 112.3 1.0 0.3 250 17.9 8.3 8.9 1.3 2 5.4 4 5.6 0.4 17.8 -252 254 8.3 29.6 8.9 C3 08:04 111.8 817789 Cloudy Moderate 11.2 Middle 17.8 8.3 29.6 822099 5.6 0.4 17.8 10.2 0.4 266 17.8 8.3 29.6 8.9 6.3 4 Bottom 17.8 8.3 29.6 111.1 8.9 10.2 0.4 287 17.8 8.3 29.6 8.8 6.3 4 1.0 0.1 346 17.4 8.3 31.7 1.4 Surface 17.4 8.3 31.7 112.3 1.0 0.1 318 17.4 8.3 31.7 112. 8.9 1.4 6 807148 IM1 Fine Moderate 09:52 Middle 817957 3.8 0.1 324 17.4 8.3 31.8 8.8 2.1 6 Bottom 17.4 8.3 31.8 110.8 8.8 355 359 3.8 0.1 17.4 8.3 31.8 110.7 8.8 2.1 8 17.5 8.0 1.0 0.3 8.4 31.0 8.9 8 Surface 8.4 31.0 111.8 1.0 0.3 330 17.5 8.4 31.0 111.7 8.9 8.1 8 3.4 0.2 4 17.5 8.4 31.0 8.8 7.8 10 IM2 Moderate 10:01 6.8 Middle 8.4 31.0 111.1 10 818157 806172 7.9 3.4 0.2 4 17.5 8.4 31.0 8.8 10 355 11 5.8 0.2 17.5 8.4 31.0 8.8 8.0 8.4 31.0 110.4 8.8 5.8 327 17.5 10 0.2 8.4 8.8 8.2 31.0 1.0 0.3 327 17.5 8.4 31.0 89 6.6 q Surface 8.4 31.0 112.1 1.0 10 0.3 335 17.5 8.4 8.9 6.6 31.0 6.8 7.0 7.5 3.6 0.3 343 17.5 8.9 10 8.4 31.0 IM3 Fine Moderate 10:07 7.1 Middle 17.5 8.4 31.0 111.4 818783 805609 17.5 17.5 9 3.6 0.3 316 8.4 8.9 6.1 0.3 335 8.4 31.0 8.8 110.3 Rottom 17.5 8.4 31.0 8.8 6.1 0.3 308 17.5 8.4 31.0 8.8 7.4 9 17.5 1.0 0.5 354 5.4 8.3 31.0 112.0 8.9 7 Surface 17.5 8.3 31.0 112.0 0.6 326 8.3 8.9 5.4 6 4.0 6.2 7 355 17.5 8.8 0.5 8.3 31.0 IM4 Fine Moderate 10:16 8.0 Middle 17.5 8.3 31.0 111.2 819712 804593 4.0 0.5 327 358 17.5 8.3 8.8 6.2 6 0.4 17.4 6.2 8 8.4 8.8 17.4 8.4 110.8 8.8 Bottom 31.0 7.0 0.5 329 17.4 6.3 1.0 0.8 11 17.6 8.4 30.8 6.2 8 9.0 Surface 17.6 8.4 30.8 112.8 1.0 17.6 30.8 9.0 6.3 8 0.8 9.0 3.8 0.7 14 17.5 6.5 9 8.4 8.9 IM5 Fine Moderate 10:24 7.6 Middle 17.5 8.4 30.8 112.2 820751 804883 3.8 0.7 17.5 6.7 17.5 17.5 10 6.6 0.6 8.4 31.0 8.8 8.3 8.5 Bottom 17.5 8.4 31.0 111.0 8.8 8.4 6.6 0.6 1.0 0.0 25 17.6 8.4 30.8 1.7 5 Surface 8.4 30.8 115.1 1.0 0.0 17.6 8.4 30.8 9.1 1.8 5 7 3.7 0.1 52 17.5 8.4 31.0 9.0 1.8 Fine Moderate 10:32 Middle 17.5 8.4 31.0 113.4 805810 3.7 0.1 56 17.5 8.4 31.0 113 9.0 1.7 6 8.9 8.9 1.5 6.4 0.2 48 17.5 8.4 31.4 8 112.3 8.9 6.4 0.2 50 17.5 8.4 31 4 8 1.0 0.0 181 17.8 8.4 30.2 1.9 8 Surface 17.8 8.4 115.2 9 1 8 7 1.0 0.0 183 17.8 84 30.2 1.9 4.2 0.1 102 2.2 17.6 8.4 30.6 113.3 9.0 IM7 Moderate 10:40 Middle 17.6 8.4 30.6 113.3 821326 806845 4.2 0.2 107 17.6 8.4 30.6 9.0 2.2 6 7.3 0.2 93 17.5 8.4 31.3 8.9 2.1 5 Bottom 17.5 8.4 31.3 111.7 8.9 7.3 0.2 99 17.5 8.4 2.1 1.0 0.1 53 17.9 8.3 28.7 9.2 1.1 7 Surface 17.9 8.3 28.7 115.3 17.9 28.7 8.3 1.1 1.0 0.1 53 7 0.0 17.8 8.3 2.2 2.5 6 3.8 55 29.0 111. 8.9 -17.8 8.3 29.0 111.2 808141 IM8 Cloudy Moderate 09:36 7.5 Middle 821846 8.9 3.8 0.0 60 17.8 8.3 5 17.7 6.5 0.0 8.3 8.3 29.1 109. 8.7 4.3 5 17.7 8.3 29.1 109.0 8.7 Rottom

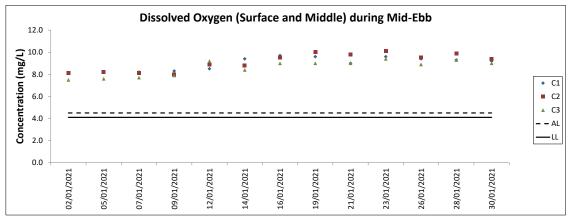
DA: Depth-Averaged

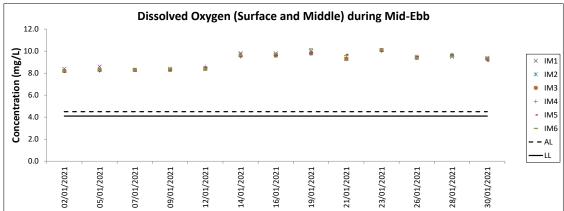
Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

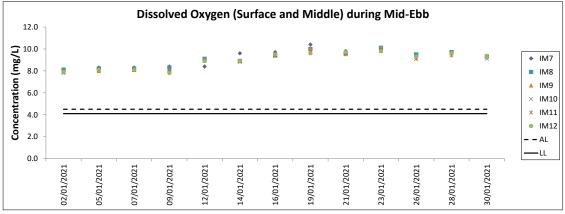
Water Quality Monitoring Results on 30 January 21 during Mid-Flood Tide Turbidity(NTU) Suspended Solids Total Alkalinity DO Saturation Dissolved Salinity (ppt) Coordinate Coordinate Nickel (µg/L) Weather Sampling Water Water Temperature (°C) Monitoring Speed Current Oxvaen (mg/L) (ppm) Sampling Depth (m) HK Grid HK Grid Station Direction Time (m/s) Average Value Average Average Value Average Value DA Value DA Value DA Value DA Value DA Value DA Condition Condition Depth (m) Value Value (Northing) (Easting) 0.2 8.3 29.3 346 17.7 0.9 3.7 0.2 330 17.7 8.3 29.3 109.2 8.7 1.0 4 09:31 109.2 808811 IM9 Cloudy Moderate 8.3 29.3 822076 3.7 0.2 351 17.7 8.3 29.3 109.1 8.7 0.9 5 6.3 0.1 323 17.7 8.3 29.3 107.6 8.6 1.0 4 Bottom 17.7 8.3 29.3 107.5 8.6 6.3 0.1 330 17.7 8.3 29.3 107.4 8.6 1.1 3 1.0 0.5 302 17.7 8.3 29.3 112. 9.0 2.1 Surface 8.3 29.3 112.1 1.0 0.5 331 17.7 8.3 29.3 9.0 2.0 4 3.6 0.4 301 17.7 8.3 8.9 2.0 4 5 IM10 Cloudy Moderate 09:24 7.1 Middle 8.3 29.3 111.4 822361 809784 326 8.3 3.6 0.5 17.7 29.3 8.9 6.1 0.4 17.7 8.3 3 306 29.3 8.8 2.3 Bottom 17.7 8.3 29.3 110.1 8.8 17.7 4 6.1 0.5 313 8.3 8.8 2.3 29.3 1.0 0.4 281 8.3 4 9.0 Surface 17.7 8.3 29.5 112.4 1.0 304 17.7 1.1 4 0.4 8.3 29.5 112. 9.0 9.0 0.8 3 285 307 17.6 8.9 4.1 0.4 29.5 IM11 Cloudy Moderate 09:15 8.1 Middle 8.3 29.5 111.8 822037 811471 4.1 17.6 0.4 8.3 7.1 0.4 282 17.6 8.3 29.5 8.8 0.8 3 17.6 8.3 110.6 8.8 Bottom 29.5 7.1 0.4 300 17.6 8.3 29.5 110.5 8.8 0.9 4 0.5 17.7 1.3 6 8.3 29.5 Surface 17.7 8.3 29.5 112.2 1.0 0.5 274 17.7 8.3 29.5 112.1 9.0 1.3 6 4.4 0.4 271 17.7 8.9 2.9 6 8.3 111.4 812048 IM12 Cloudy Moderate 09:09 8.8 Middle 17.7 8.3 29.5 821442 4.4 17.7 8.3 8.9 3.0 5 0.5 271 0.4 274 17.7 8.3 29.5 8.8 5.5 5 17.7 8.3 29.5 110.1 8.8 Rottom 7.8 0.4 300 17.7 8.3 29.5 8.8 5.2 1.0 17.8 8.3 29.4 8.6 0.4 6 Surface 17.8 8.3 29.4 107.4 1.0 17.8 8.6 0.5 5 2.5 Cloudy Calm 08:37 Middle 812654 2.5 3.9 17.7 8.3 29.5 8.5 5.4 6 Bottom 17.7 8.3 29.5 106.6 8.5 3.9 17.7 83 29.5 106 8.5 6.1 5 1.0 0.1 17.6 8.3 29.6 8.9 1.8 6 Surface 17.6 8.3 29.6 111.5 1.0 0.1 17.6 8.3 29.6 8.9 1.9 5 8.9 SR2 Cloudy Moderate 08:23 4.1 Middle 821442 814158 3.1 17 0.1 11 17.6 8.3 29.6 8.9 5 110.8 8.9 Bottom 3.1 0.1 17.6 83 29.6 1.8 6 11 1.0 0.0 156 17.9 8.3 28.5 9.4 9.4 11 4 Surface 17.9 8.3 28.5 116.9 83 1.0 17 9 12 5 0.0 165 28 5 5 6 7 4.5 1.8 0.0 326 17.9 8.3 28.5 9.2 SR3 Cloudy Moderate 09:42 Middle 17.9 28.5 114.4 822169 807553 1.9 4.5 0.0 17.9 8.3 28.5 331 7.9 7.9 0.1 29 17.8 17.7 8.3 8.3 28.6 28.6 9.0 4.1 4.2 9.0 Bottom 17.8 8.3 28.6 111.7 0.1 29 1.0 0.2 17.6 79 8.3 31.0 109.3 8.7 1.1 4 Surface 17.6 8.3 31.0 109.3 1.0 17.6 8.7 1.1 5 0.2 86 8.3 109. 4.6 17.5 8.7 1.2 4 0.2 31.3 . 8.3 SR4A 09:08 17.5 8.3 31.3 109.6 817207 807792 Fine Calm 9.1 Middle 4.6 83 17.5 8.3 31.3 1.3 4 0.2 17.4 1.7 8.1 8.3 31.5 8.6 4 0.2 17.4 8.3 108.8 8.6 Rottom 31.5 0.2 17.4 8.3 1.7 1.2 1.0 0.1 245 17.6 8.3 30.9 8.7 3 109.2 Surface 17.6 8.3 30.9 109.2 1.0 0.1 249 17.6 8.3 30.9 8.7 1.3 3 SR5A 08:44 3.3 Middle 816573 810684 Fine Calm 2.3 0.0 241 17.6 30.8 109.1 8.7 2.7 4 Bottom 17.6 8.3 30.8 109.1 8.7 0.0 17.6 8.3 30.8 8.7 2.9 253 1.0 0.1 251 17.5 8.3 30.9 108.7 0.7 Surface 17.5 8.3 30.9 108.7 1.0 0.1 272 17.5 8.3 30.9 108.6 8.6 0.8 3 SR6A Fine Calm 08:17 4.2 Middle 817984 814722 3.2 0.1 251 17.6 8.6 1.8 4 8.3 31.0 108.2 8.6 3.2 0.1 257 17.6 8.3 31 (8.6 2.0 3 1.0 0.0 116 17.8 8.2 30.0 108.2 8.6 0.4 4 Surface 108.2 30.0 1.0 0.0 120 17.8 8.2 30.0 108.1 8.6 0.4 4 8 1 0.1 184 17.8 8.2 30.1 107.2 8.5 0.5 4 SR7 Cloudy Moderate 07:34 16.2 Middle 8.2 30.1 107.2 823624 823757 4 8.1 0.1 184 17.8 8.2 30.1 107.1 8.5 0.6 15.2 0.1 76 17.8 8.2 30.1 106.7 8.5 0.8 4 Bottom 8.2 30.1 106.8 8.5 15.2 0.1 78 17.8 8.2 30.1 106. 8.5 0.9 3 1.0 17.7 8.3 29.4 110.9 8.9 1.1 4 Surface 17.7 8.3 29.4 110.9 17.7 1.0 8.3 29.4 110.8 8.9 1.2 4 . . 820394 811613 SR8 Cloudy Moderate 09:00 5.1 Middle -4.1 17.6 1.3 6 8.3 29.5 109.2 8.7 17.6 8.3 29.5 109.1 8.7

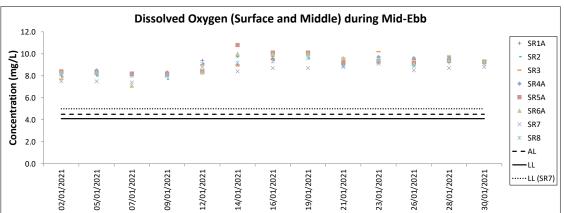
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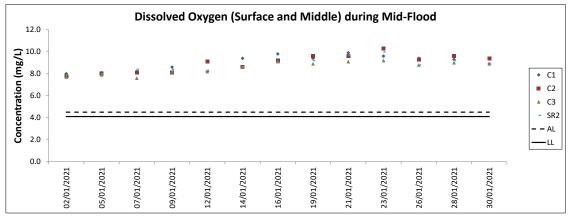
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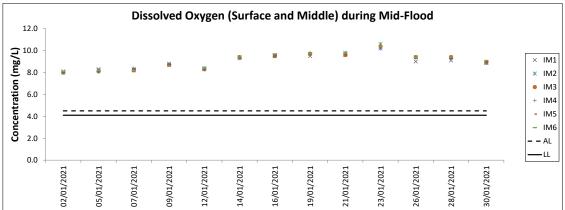


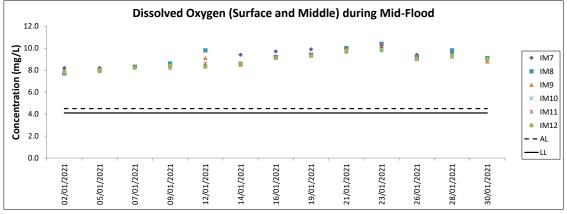


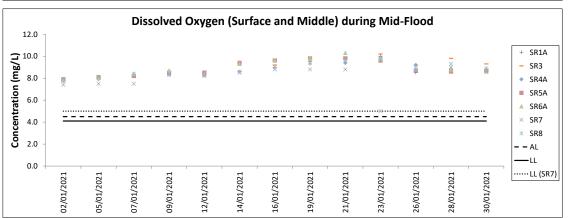


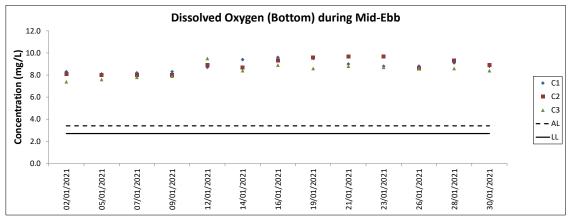


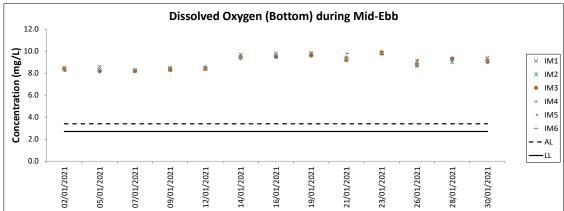


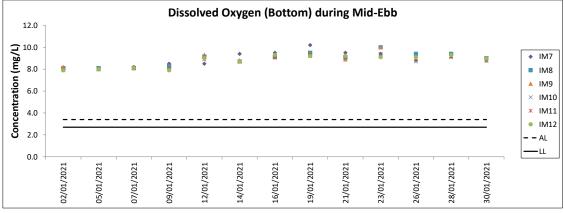


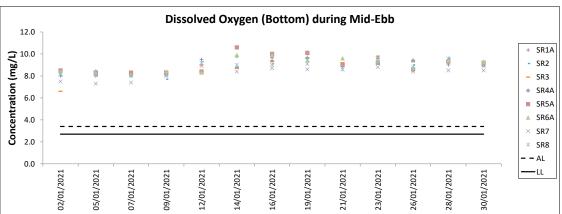


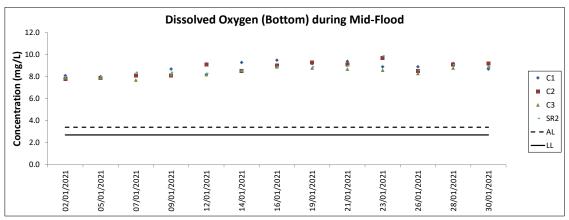


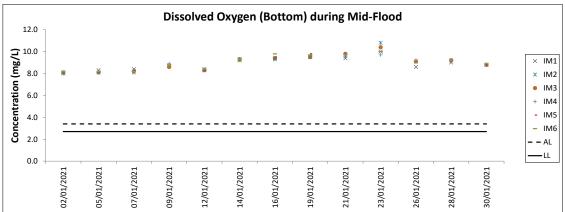


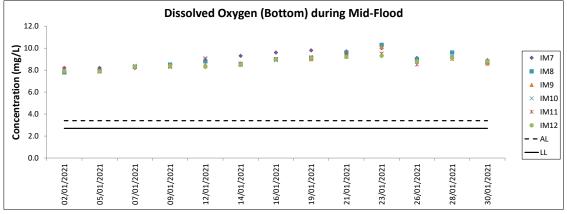


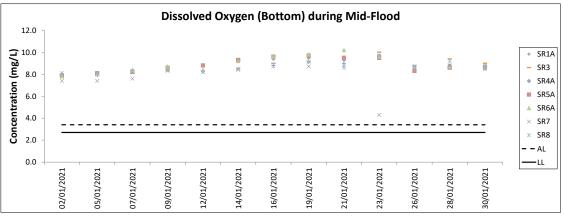


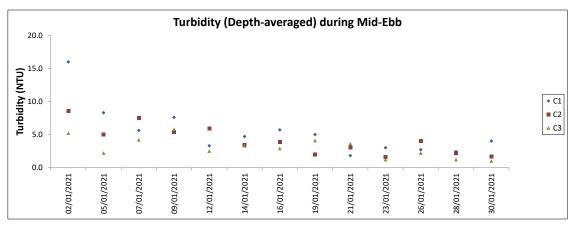


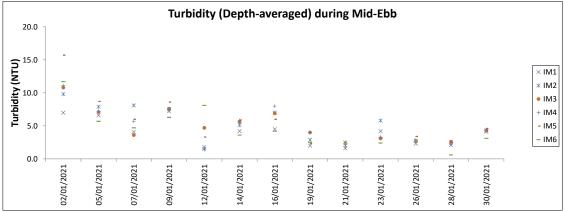


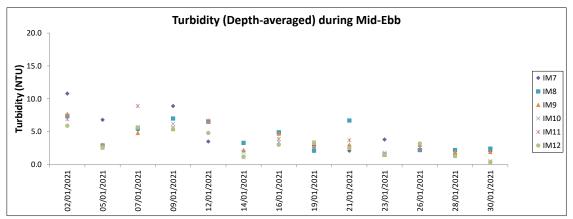


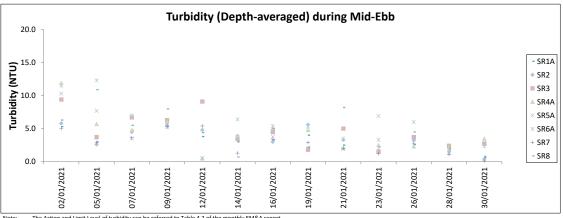




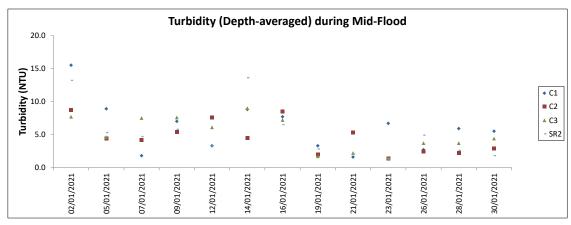


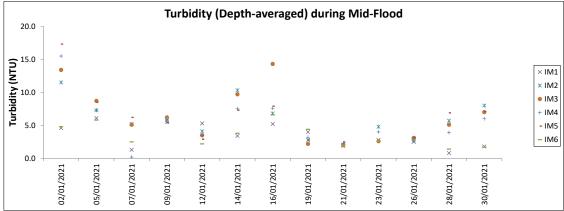


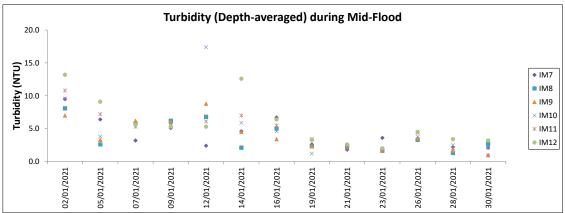


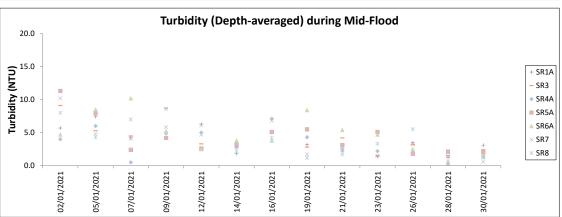


Note: The Action and Limit Level of turbidity can be referred to Table 4.2 of the monthly EM&A report

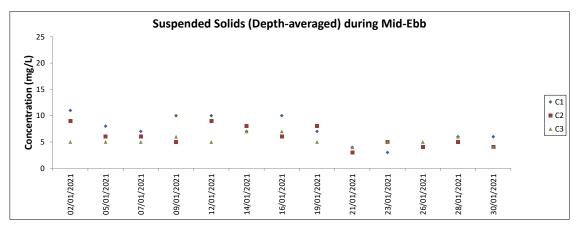


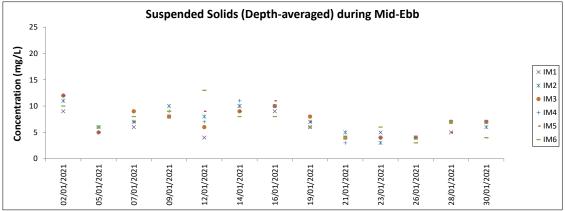


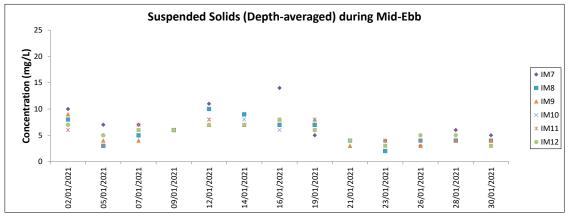


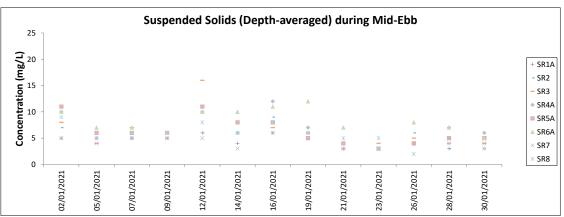


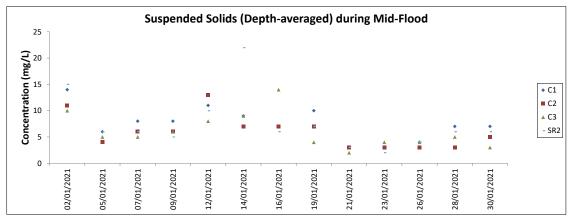
Note: The Action and Limit Level of turbidity can be referred to Table 4.2 of the monthly EM&A report

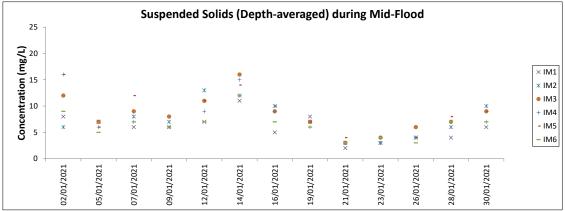


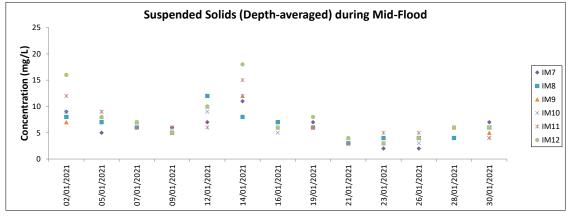


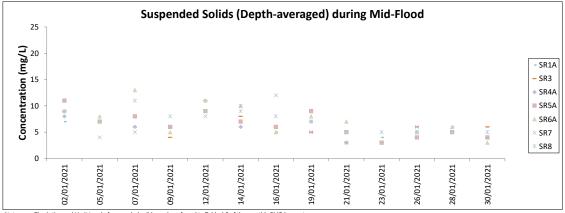


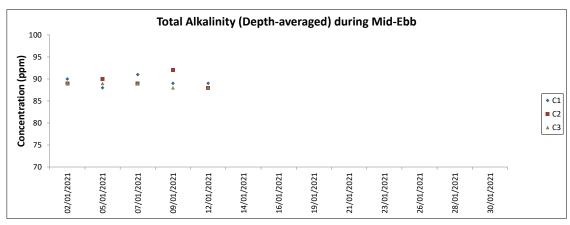


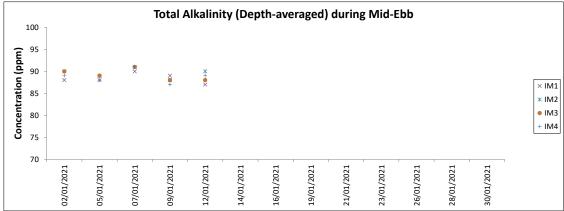


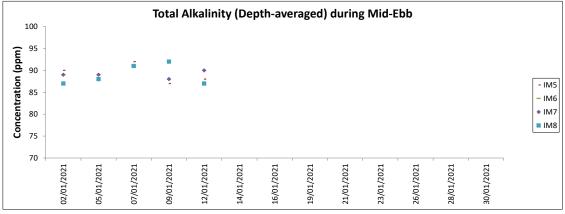


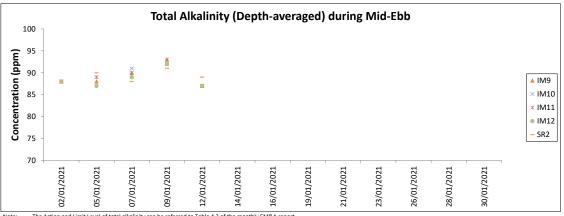




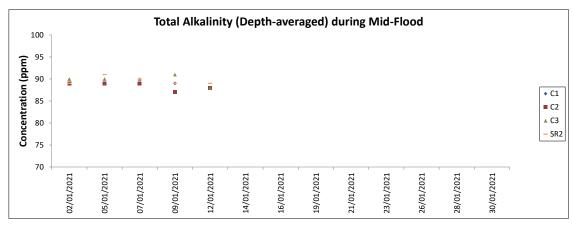


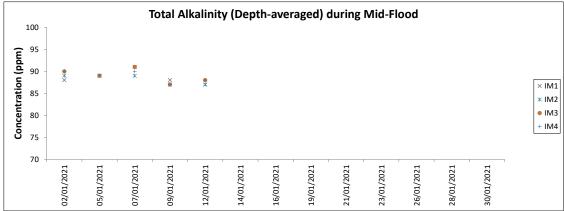


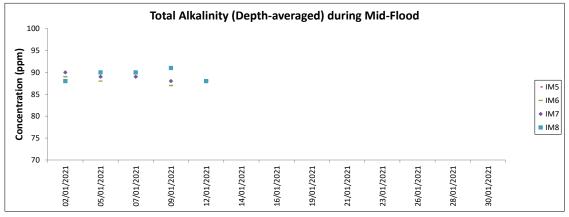


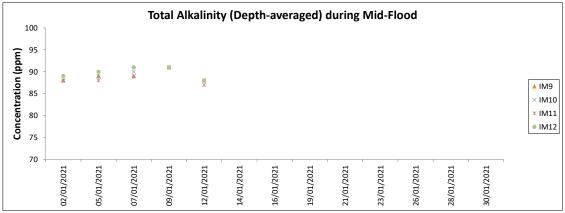


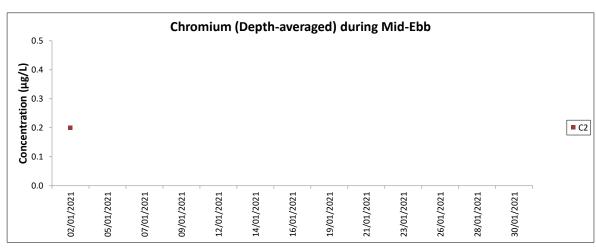
Note: The Action and Limit Level of total alkalinity can be referred to Table 4.2 of the monthly EM&A report.

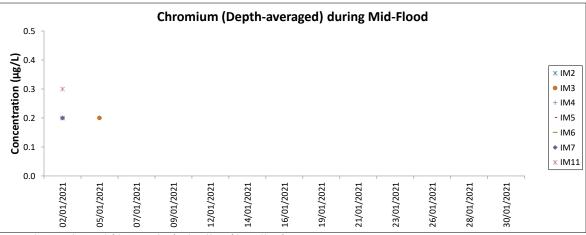






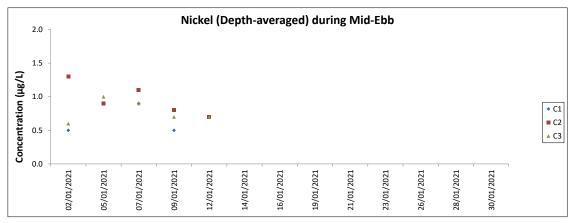


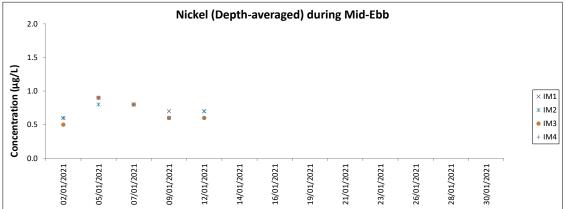


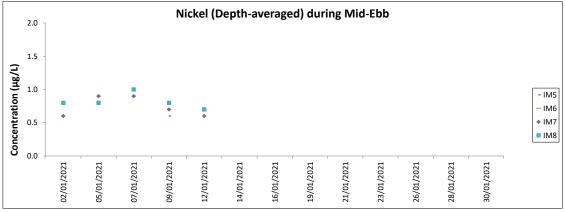


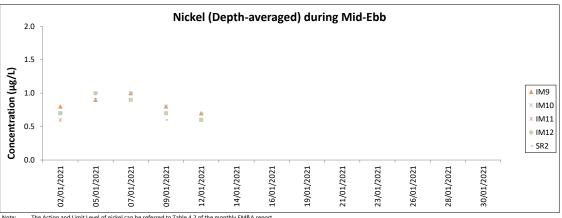
Note: The Action and Limit Level of chromium can be referred to Table 4.2 of the monthly EM&A report.

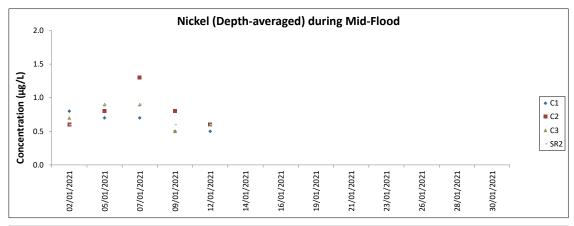
All other chromium in the reporting period was below the reporting limit 0.2 µg/L.

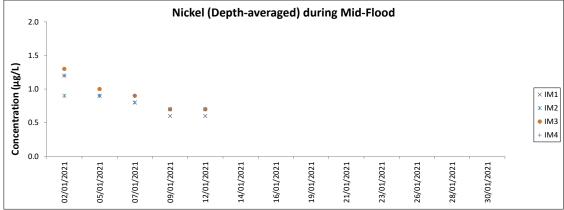


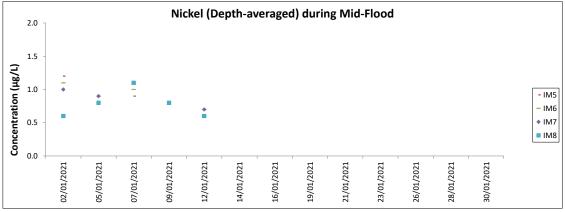


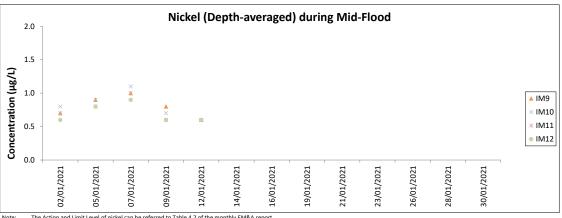












Mott MacDonald Expansion of Hong Kong International Airport into a Three-Runway System
Chinese White Dolphin Monitoring Results

CWD Small Vessel Line-transect Survey

Survey Effort Data

DATE	AREA	BEAU	KM SEARCHED	SEASON	VESSEL	TYPE	P/S
5-Nov-20	NWL	2	6.540	AUTUMN	32166	3RS ET	Р
5-Nov-20	NWL	3	53.550	AUTUMN	32166	3RS ET	Р
5-Nov-20	NWL	4	3.300	AUTUMN	32166	3RS ET	Р
5-Nov-20	NWL	2	3.910	AUTUMN	32166	3RS ET	S
5-Nov-20	NWL	3	7.300	AUTUMN	32166	3RS ET	S
6-Nov-20	AW	2	4.960	AUTUMN	32166	3RS ET	Р
6-Nov-20	WL	2	9.750	AUTUMN	32166	3RS ET	Р
6-Nov-20	WL	3	7.819	AUTUMN	32166	3RS ET	Р
6-Nov-20	WL	2	3.905	AUTUMN	32166	3RS ET	S
6-Nov-20	WL	3	3.314	AUTUMN	32166	3RS ET	S
9-Nov-20	NEL	2	34.800	AUTUMN	32166	3RS ET	Р
9-Nov-20	NEL	3	1.900	AUTUMN	32166	3RS ET	Р
9-Nov-20	NEL	2	9.700	AUTUMN	32166	3RS ET	S
9-Nov-20	NEL	3	0.900	AUTUMN	32166	3RS ET	S
10-Nov-20	NEL	2	36.140	AUTUMN	32166	3RS ET	Р
10-Nov-20	NEL	2	11.160	AUTUMN	32166	3RS ET	S
16-Nov-20	AW	2	2.550	AUTUMN	32166	3RS ET	Р
16-Nov-20	AW	3	1.170	AUTUMN	32166	3RS ET	Р
16-Nov-20	WL	2	5.427	AUTUMN	32166	3RS ET	Р
16-Nov-20	WL	3	13.386	AUTUMN	32166	3RS ET	Р
16-Nov-20	WL	2	3.583	AUTUMN	32166	3RS ET	S
16-Nov-20	WL	3	5.244	AUTUMN	32166	3RS ET	S
17-Nov-20	NWL	2	2.430	AUTUMN	32166	3RS ET	Р
17-Nov-20	NWL	3	45.790	AUTUMN	32166	3RS ET	Р
17-Nov-20	NWL	4	12.370	AUTUMN	32166	3RS ET	Р
17-Nov-20	NWL	5	2.900	AUTUMN	32166	3RS ET	Р
17-Nov-20	NWL	3	8.480	AUTUMN	32166	3RS ET	S
17-Nov-20	NWL	4	3.130	AUTUMN	32166	3RS ET	S
18-Nov-20	SWL	2	19.300	AUTUMN	32166	3RS ET	Р
18-Nov-20	SWL	3	35.530	AUTUMN	32166	3RS ET	Р
18-Nov-20	SWL	2	6.800	AUTUMN	32166	3RS ET	S
18-Nov-20	SWL	3	9.070	AUTUMN	32166	3RS ET	S
19-Nov-20	SWL	1	1.480	AUTUMN	32166	3RS ET	Р
19-Nov-20	SWL	2	52.830	AUTUMN	32166	3RS ET	Р
19-Nov-20	SWL	2	15.390	AUTUMN	32166	3RS ET	S
4-Dec-20	NEL	2	1.000	WINTER	32166	3RS ET	Р
4-Dec-20	NEL	3	30.450	WINTER	32166	3RS ET	Р
4-Dec-20	NEL	4	6.100	WINTER	32166	3RS ET	Р
4-Dec-20	NEL	2	1.000	WINTER	32166	3RS ET	S
4-Dec-20	NEL	3	8.450	WINTER	32166	3RS ET	S
9-Dec-20	SWL	2	22.072	WINTER	32166	3RS ET	Р
9-Dec-20	SWL	3	32.643	WINTER	32166	3RS ET	Р
9-Dec-20	SWL	2	8.280	WINTER	32166	3RS ET	S
9-Dec-20	SWL	3	6.717	WINTER	32166	3RS ET	S
10-Dec-20	SWL	2	40.788	WINTER	32166	3RS ET	Р
10-Dec-20	SWL	3	11.922	WINTER	32166	3RS ET	Р
10-Dec-20	SWL	2	13.112	WINTER	32166	3RS ET	S

DATE	AREA	BEAU	KM SEARCHED	SEASON	VESSEL	TYPE	P/S
10-Dec-20	SWL	3	2.693	WINTER	32166	3RS ET	S
11-Dec-20	AW	1	4.850	WINTER	32166	3RS ET	Р
11-Dec-20	WL	1	4.680	WINTER	32166	3RS ET	Р
11-Dec-20	WL	2	10.655	WINTER	32166	3RS ET	Р
11-Dec-20	WL	3	4.566	WINTER	32166	3RS ET	Р
11-Dec-20	WL	1	1.310	WINTER	32166	3RS ET	S
11-Dec-20	WL	2	6.879	WINTER	32166	3RS ET	S
11-Dec-20	WL	3	2.210	WINTER	32166	3RS ET	S
15-Dec-20	NEL	2	8.700	WINTER	32166	3RS ET	Р
15-Dec-20	NEL	3	28.460	WINTER	32166	3RS ET	Р
15-Dec-20	NEL	2	3.900	WINTER	32166	3RS ET	S
15-Dec-20	NEL	3	5.940	WINTER	32166	3RS ET	S
16-Dec-20	AW	3	4.550	WINTER	32166	3RS ET	Р
16-Dec-20	WL	3	13.920	WINTER	32166	3RS ET	Р
16-Dec-20	WL	4	2.060	WINTER	32166	3RS ET	P
16-Dec-20	WL	5	0.400	WINTER	32166	3RS ET	P
16-Dec-20	WL	3	11.710	WINTER	32166	3RS ET	S
16-Dec-20	WL	4	1.180	WINTER	32166	3RS ET	S
18-Dec-20	NWL	2	3.100	WINTER	32166	3RS ET	P
18-Dec-20	NWL	3	39.720	WINTER	32166	3RS ET	P
18-Dec-20	NWL	4	19.680	WINTER	32166	3RS ET	P
18-Dec-20	NWL	2	0.200	WINTER	32166	3RS ET	S
18-Dec-20	NWL	3	10.900	WINTER	32166	3RS ET	S
18-Dec-20	NWL	4	1.600	WINTER	32166	3RS ET	S
21-Dec-20	NWL	3	23.100	WINTER	32166	3RS ET	P
21-Dec-20 21-Dec-20	NWL	4	40.400	WINTER	32166	3RS ET	P
21-Dec-20 21-Dec-20	NWL	2	1.000	WINTER	32166	3RS ET	S
21-Dec-20	NWL	3	6.200	WINTER	32166	3RS ET	S
21-Dec-20 21-Dec-20	NWL	4	4.300	WINTER	32166	3RS ET	S
		2					P
11-Jan-21	NEL		6.200	WINTER	32166	3RS ET	
11-Jan-21	NEL	3	24.380	WINTER	32166	3RS ET	Р Р
11-Jan-21	NEL	4	6.900	WINTER	32166	3RS ET	
11-Jan-21	NEL	2	1.900	WINTER	32166	3RS ET	S
11-Jan-21	NEL	3	7.320	WINTER	32166	3RS ET	S
11-Jan-21	NEL	4	0.500	WINTER	32166	3RS ET	S
12-Jan-21	NEL	2	8.900	WINTER	32166	3RS ET	Р
12-Jan-21	NEL	3	28.460	WINTER	32166	3RS ET	Р
12-Jan-21	NEL	2	2.600	WINTER	32166	3RS ET	S
12-Jan-21	NEL	3	7.040	WINTER	32166	3RS ET	S
15-Jan-21	SWL	2	12.333	WINTER	32166	3RS ET	Р
15-Jan-21	SWL	3	36.540	WINTER	32166	3RS ET	Р
15-Jan-21	SWL	4	0.687	WINTER	32166	3RS ET	P
15-Jan-21	SWL	2	4.680	WINTER	32166	3RS ET	S
15-Jan-21	SWL	3	11.610	WINTER	32166	3RS ET	S
18-Jan-21	AW	3	4.810	WINTER	32166	3RS ET	P
18-Jan-21	WL	3	18.290	WINTER	32166	3RS ET	Р
18-Jan-21	WL	4	1.470	WINTER	32166	3RS ET	Р
18-Jan-21	WL	3	9.240	WINTER	32166	3RS ET	S
18-Jan-21	WL	4	1.200	WINTER	32166	3RS ET	S

DATE	AREA	BEAU	KM SEARCHED	SEASON	VESSEL	TYPE	P/S
19-Jan-21	NWL	2	40.189	WINTER	32166	3RS ET	Р
19-Jan-21	NWL	3	21.431	WINTER	32166	3RS ET	Р
19-Jan-21	NWL	2	8.240	WINTER	32166	3RS ET	S
19-Jan-21	NWL	3	2.750	WINTER	32166	3RS ET	S
19-Jan-21	NWL	4	0.600	WINTER	32166	3RS ET	Ø
20-Jan-21	NWL	2	60.280	WINTER	32166	3RS ET	Р
20-Jan-21	NWL	3	1.830	WINTER	32166	3RS ET	Р
20-Jan-21	NWL	2	11.100	WINTER	32166	3RS ET	S
20-Jan-21	NWL	3	0.490	WINTER	32166	3RS ET	Ø
26-Jan-21	SWL	2	52.857	WINTER	32166	3RS ET	Р
26-Jan-21	SWL	2	13.957	WINTER	32166	3RS ET	S
27-Jan-21	AW	2	4.600	WINTER	32166	3RS ET	Р
27-Jan-21	WL	2	12.824	WINTER	32166	3RS ET	Р
27-Jan-21	WL	3	4.560	WINTER	32166	3RS ET	Р
27-Jan-21	WL	2	7.273	WINTER	32166	3RS ET	S
27-Jan-21	WL	3	3.305	WINTER	32166	3RS ET	S

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

CWD Small Vessel Line-transect Survey

Sighting Data

DATE	STG#	TIME	CWD/FP	GP SZ	AREA	BEAU	PSD	EFFORT	TYPE	DEC LAT	DEC LON	SEASON	BOAT ASSOC.	P/S
5-Nov-20	1	1044	CWD	1	NWL	3	112	ON	3RS ET	22.2740	113.8757	AUTUMN	NONE	S
6-Nov-20	1	1018	CWD	5	WL	2	821	ON	3RS ET	22.2759	113.8504	AUTUMN	NONE	S
6-Nov-20	2	1341	CWD	3	WL	3	206	ON	3RS ET	22.2506	113.8463	AUTUMN	NONE	Р
6-Nov-20	3	1400	CWD	4	WL	2	236	ON	3RS ET	22.2414	113.8416	AUTUMN	NONE	Р
6-Nov-20	4	1429	CWD	4	WL	3	246	ON	3RS ET	22.2321	113.8358	AUTUMN	NONE	Р
6-Nov-20	5	1443	CWD	5	WL	2	216	ON	3RS ET	22.2236	113.8373	AUTUMN	NONE	S
6-Nov-20	6	1513	CWD	4	WL	2	500	ON	3RS ET	22.2042	113.8219	AUTUMN	NONE	S
16-Nov-20	1	0940	CWD	2	AW	2	475	ON	3RS ET	22.2971	113.8842	AUTUMN	GILLNETTER	Р
16-Nov-20	2	1040	CWD	1	WL	3	800	ON	3RS ET	22.2740	113.8482	AUTUMN	NONE	S
16-Nov-20	3	1059	CWD	4	WL	3	14	ON	3RS ET	22.2607	113.8480	AUTUMN	NONE	Р
16-Nov-20	4	1210	CWD	3	WL	3	232	ON	3RS ET	22.2139	113.8226	AUTUMN	NONE	Р
16-Nov-20	5	1249	CWD	1	WL	2	285	ON	3RS ET	22.2055	113.8336	AUTUMN	NONE	Р
16-Nov-20	6	1317	CWD	3	WL	2	608	ON	3RS ET	22.1901	113.8421	AUTUMN	NONE	S
17-Nov-20	1	1034	CWD	1	NWL	4	24	ON	3RS ET	22.2723	113.8701	AUTUMN	NONE	Р
19-Nov-20	1	1202	FP	2	SWL	2	62	ON	3RS ET	22.1621	113.9184	AUTUMN	NONE	Р
19-Nov-20	2	1514	CWD	4	SWL	2	71	ON	3RS ET	22.1883	113.8491	AUTUMN	NONE	Р
9-Dec-20	1	1117	CWD	1	SWL	2	111	ON	3RS ET	22.1828	113.9277	WINTER	NONE	Р
9-Dec-20	2	1159	CWD	1	SWL	2	59	ON	3RS ET	22.1730	113.9191	WINTER	NONE	Р
9-Dec-20	3	1211	CWD	1	SWL	2	21	ON	3RS ET	22.1702	113.9188	WINTER	NONE	Р
9-Dec-20	4	1224	FP	2	SWL	3	22	ON	3RS ET	22.1562	113.9183	WINTER	NONE	Р
9-Dec-20	5	1247	CWD	2	SWL	2	148	ON	3RS ET	22.1623	113.8987	WINTER	NONE	S
9-Dec-20	6	1351	CWD	1	SWL	3	7	ON	3RS ET	22.1487	113.8958	WINTER	NONE	S
9-Dec-20	7	1516	CWD	3	SWL	3	389	ON	3RS ET	22.2007	113.8678	WINTER	NONE	Р
10-Dec-20	1	1107	FP	1	SWL	2	3	ON	3RS ET	22.1645	113.9276	WINTER	NONE	Р
10-Dec-20	2	1156	FP	1	SWL	2	54	ON	3RS ET	22.1473	113.9180	WINTER	NONE	Р
10-Dec-20	3	1307	FP	1	SWL	2	51	ON	3RS ET	22.1548	113.8975	WINTER	NONE	Р
10-Dec-20	4	1430	CWD	2	SWL	3	53	ON	3RS ET	22.1921	113.8679	WINTER	NONE	Р
10-Dec-20	5	1448	CWD	1	SWL	3	122	ON	3RS ET	22.1991	113.8600	WINTER	NONE	S
10-Dec-20	6	1459	CWD	1	SWL	3	449	ON	3RS ET	22.1951	113.8589	WINTER	NONE	Р
10-Dec-20	7	1535	CWD	4	SWL	3	805	ON	3RS ET	22.1905	113.8490	WINTER	NONE	Р
11-Dec-20	1	1129	CWD	1	WL	2	109	ON	3RS ET	22.2229	113.8213	WINTER	NONE	Р
11-Dec-20	2	1146	CWD	2	WL	2	133	ON	3RS ET	22.2149	113.8312	WINTER	NONE	Р

DATE	STG#	TIME	CWD/FP	GP SZ	AREA	BEAU	PSD	EFFORT	TYPE	DEC LAT	DEC LON	SEASON	BOAT ASSOC.	P/S
16-Dec-20	1	0940	CWD	2	AW	3	19	ON	3RS ET	22.2937	113.8775	WINTER	NONE	Р
16-Dec-20	2	1039	CWD	4	WL	3	493	ON	3RS ET	22.2687	113.8538	WINTER	NONE	Р
16-Dec-20	3	1139	CWD	1	WL	3	8	ON	3RS ET	22.2323	113.8307	WINTER	NONE	Р
15-Jan-21	1	1154	FP	2	SWL	3	19	ON	3RS ET	22.1678	113.9182	WINTER	NONE	Р
15-Jan-21	2	1335	CWD	3	SWL	3	789	ON	3RS ET	22.183	113.8875	WINTER	NONE	Р
15-Jan-21	3	1443	CWD	1	SWL	2	652	ON	3RS ET	22.1758	113.8685	WINTER	NONE	Р
18-Jan-21	1	1116	CWD	3	WL	3	336	ON	3RS ET	22.2421	113.8321	WINTER	NONE	Р
18-Jan-21	2	1246	CWD	6	WL	3	45	ON	3RS ET	22.1871	113.8342	WINTER	NONE	Р
19-Jan-21	1	0948	CWD	9	NWL	3	1196	ON	3RS ET	22.3799	113.8698	WINTER	NONE	Р
19-Jan-21	2	1217	CWD	2	NWL	3	278	ON	3RS ET	22.3974	113.8879	WINTER	NONE	Р
19-Jan-21	3	1325	CWD	2	NWL	2	57	ON	3RS ET	22.3703	113.8964	WINTER	NONE	Р
19-Jan-21	4	1412	CWD	3	NWL	2	299	ON	3RS ET	22.3549	113.9074	WINTER	NONE	Р
20-Jan-21	1	1031	CWD	12	NWL	2	212	ON	3RS ET	22.2743	113.8703	WINTER	NONE	Р
20-Jan-21	2	1149	CWD	7	NWL	3	88	ON	3RS ET	22.3515	113.8779	WINTER	NONE	Р
26-Jan-21	1	1216	FP	5	SWL	2	17	ON	3RS ET	22.1549	113.9073	WINTER	NONE	S
26-Jan-21	2	1251	CWD	1	SWL	2	38	ON	3RS ET	22.2080	113.9047	WINTER	GILLNETTER	S
26-Jan-21	3	1327	FP	3	SWL	2	346	ON	3RS ET	22.1617	113.8975	WINTER	NONE	Р
26-Jan-21	4	1330	FP	2	SWL	2	59	ON	3RS ET	22.1577	113.8978	WINTER	NONE	Р
26-Jan-21	5	1339	FP	1	SWL	2	22	ON	3RS ET	22.1496	113.8918	WINTER	NONE	S
26-Jan-21	6	1348	FP	1	SWL	2	34	ON	3RS ET	22.1644	113.8884	WINTER	NONE	Р
26-Jan-21	7	1512	CWD	1	SWL	2	396	ON	3RS ET	22.1828	113.8596	WINTER	NONE	Р
26-Jan-21	8	1531	CWD	4	SWL	2	725	ON	3RS ET	22.1711	113.8537	WINTER	NONE	S
27-Jan-21	1	1009	CWD	5	WL	2	127	ON	3RS ET	22.2861	113.8613	WINTER	NONE	Р
27-Jan-21	2	1029	CWD	3	WL	2	470	ON	3RS ET	22.2737	113.8491	WINTER	NONE	S
27-Jan-21	3	1038	CWD	5	WL	2	79	ON	3RS ET	22.2694	113.8502	WINTER	NONE	Р
27-Jan-21	4	1208	CWD	1	WL	2	258	ON	3RS ET	22.1962	113.8300	WINTER	NONE	Р
27-Jan-21	5	1221	CWD	7	WL	2	45	ON	3RS ET	22.1960	113.8340	WINTER	NONE	Р

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

Notes:

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

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

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

A total of 429.989 km of survey effort was collected under Beaufort Sea State 3 or below with favourable visibility; total no. of 18 on-effort sightings and total number of 75 dolphins from on-effort sightings were collected under such condition. Calculation of the encounter rates in January 2021 are shown as below:

Encounter Rate by Number of Dolphin Sightings (STG) in January 2021

$$STG = \frac{18}{429.989} \times 100 = 4.19$$

Encounter Rate by Number of Dolphins (ANI) in January 2021

$$ANI = \frac{75}{429.989} \times 100 = 17.44$$

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

A total of 1229.774 km of survey effort was collected under Beaufort Sea State 3 or below with favourable visibility; total no. of 47 on-effort sightings and total number of 146 dolphins from on-effort sightings were collected under such condition. Calculation of the running quarterly encounter rates are shown as below:

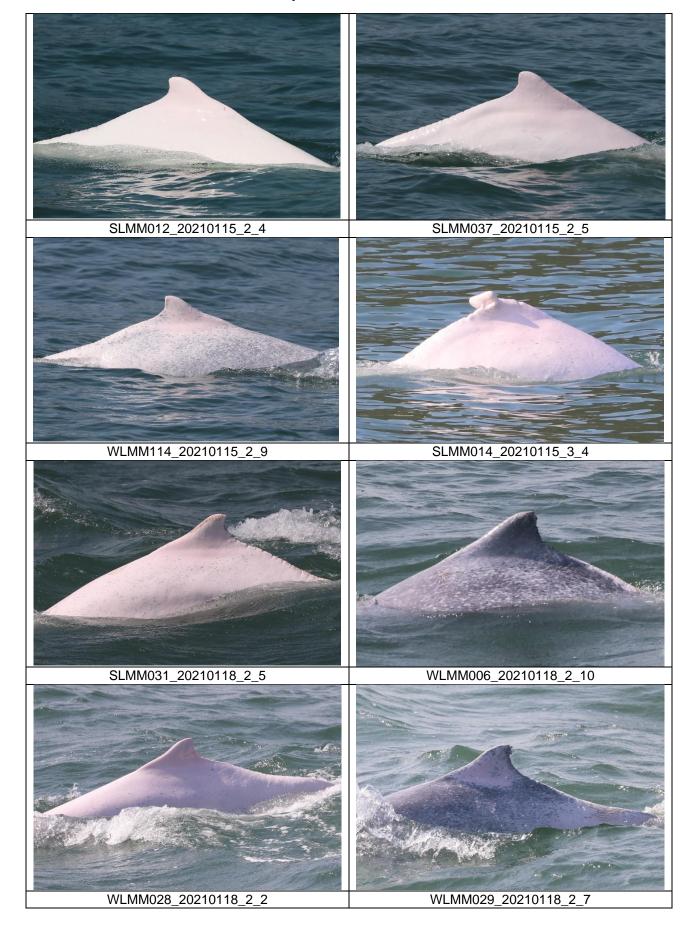
Running Quarterly Encounter Rate by Number of Dolphin Sightings (STG) $STG = \frac{47}{1229.774} \ x \ 100 = 3.82$

$$STG = \frac{47}{1229774} \times 100 = 3.82$$

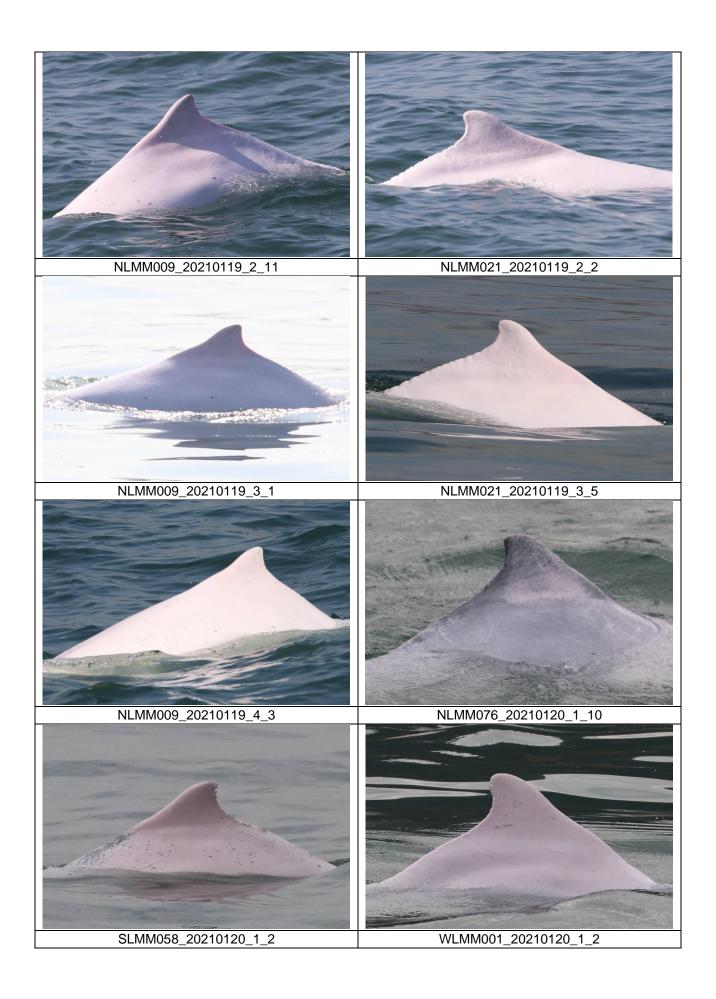
Running Quarterly Encounter Rate by Number of Dolphins (ANI)
$$ANI = \frac{146}{1229.774} \ x \ 100 = 11.87$$

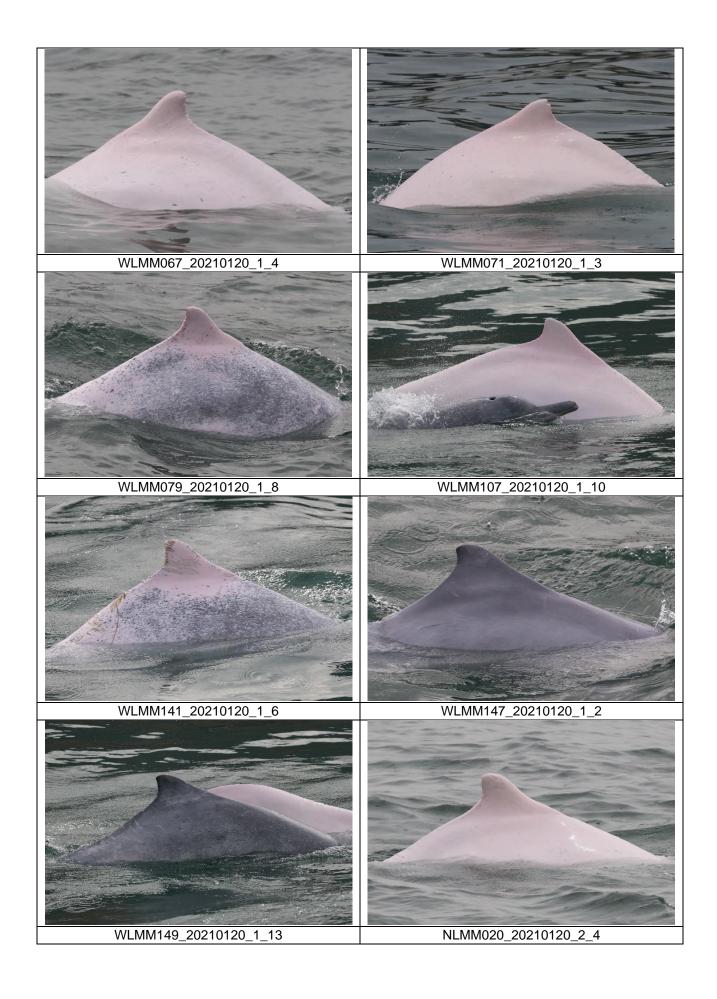
CWD Small Vessel Line-transect Survey

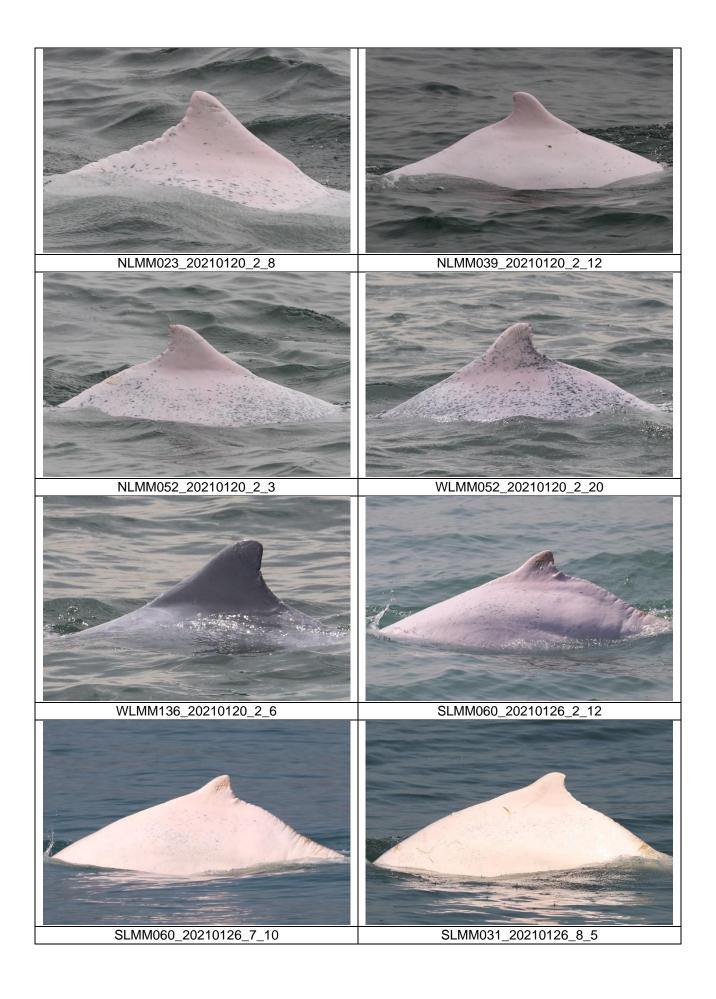
Photo Identification

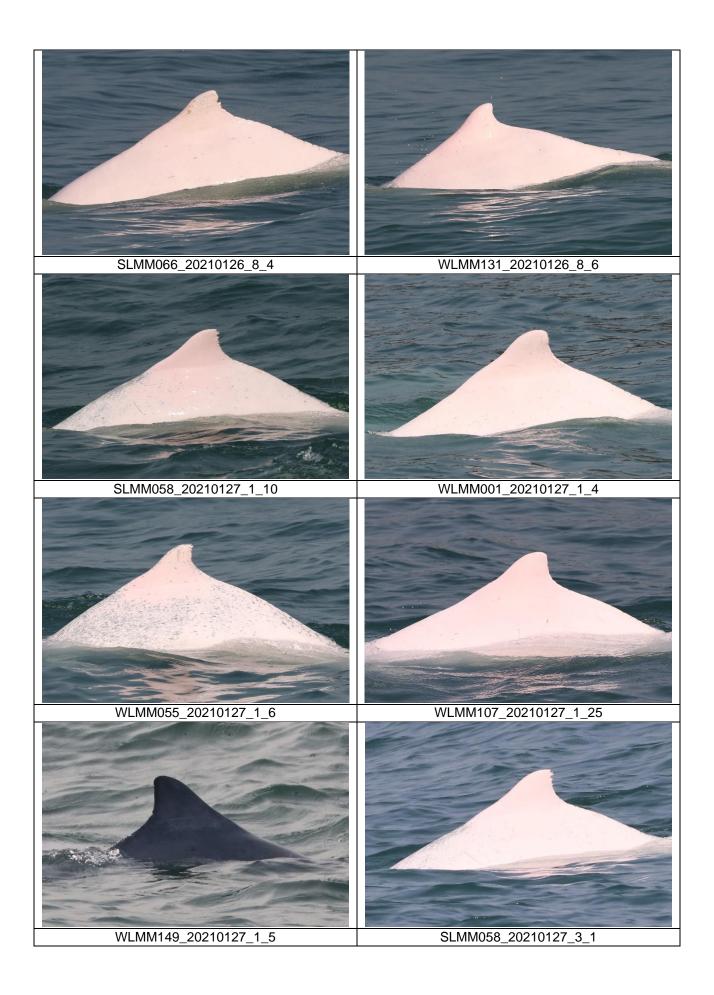


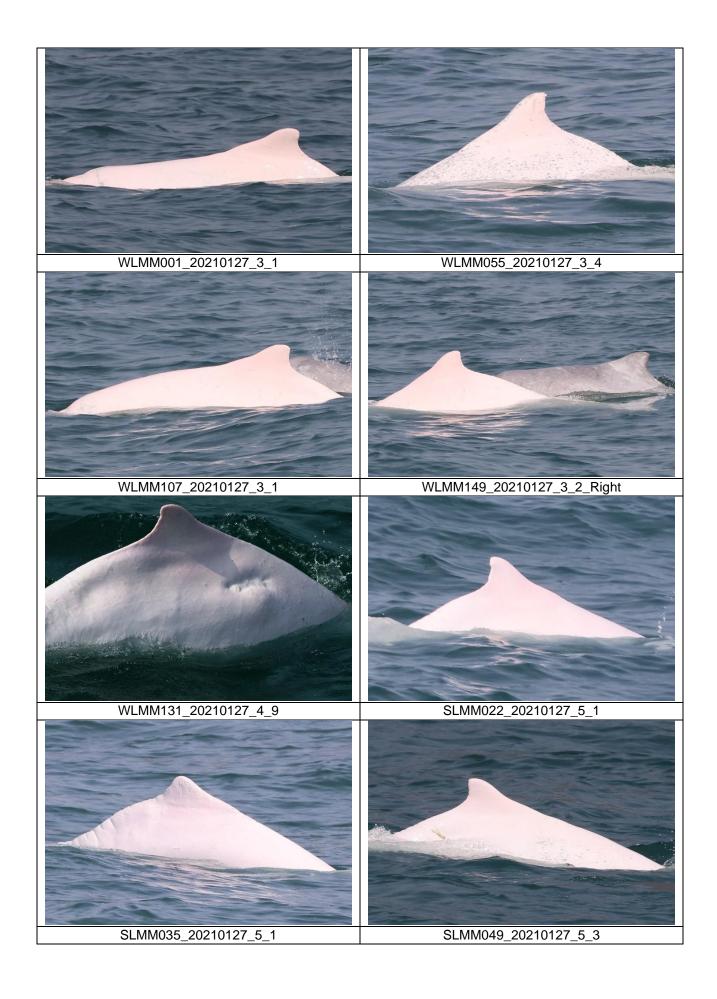


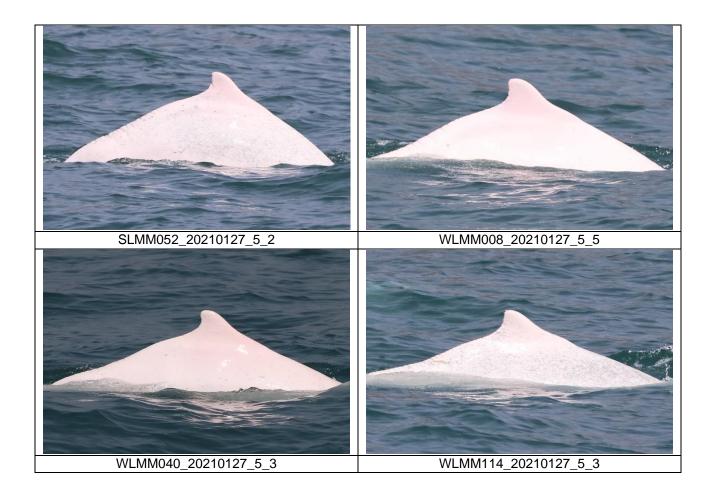












CWD Land-based Theodolite Tracking Survey

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
15/Jan/21	Lung Kwu Chau	9:02	15:02	6:00	2	2-3	3	2-3
27/Jan/21	Sha Chau	10:59	16:59	6:00	2	3	0	0

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

Appendix D. Calibration Certificates



Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong Email: info@qualityprotest.com; Website: www.qualityprotest.com Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

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PART A - CUSTOMER INFORMATION

Enovative Environmental Service Ltd. Flat 2207, Yu Fun House,

Yu Chui Court, Shatin New Territories, Hong Kong

Attn: Mr. Thomas WONG

PART B - DESCRIPTION

Name of Equipment

YSI ProDSS (Multi-Parameters)

Manufacturer

YSI (a xylem brand)

Serial Number

15M100005

Date of Received

Jan 18, 2021

Date of Calibration

Jan 18, 2021

Date of Next Calibration(a)

Apr 17, 2021

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter

Reference Method

pH at 25°C

APHA 21e 4500-H⁺ B APHA 21e 4500-O G

Dissolved Oxygen

APHA 21e 2510 B

Conductivity at 25°C Salinity

APHA 21e 2520 B

Turbidity

APHA 21e 2130 B

Temperature

Section 6 of international Accreditation New Zealand Technical

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

PART D - CALIBRATION RESULTS(b,c)

(1) pH at 25°C

Target (pH unit)	Displayed Reading(d) (pH Unit)	Tolerance ^(e) (pH Unit)	Results
4.00	4.04	0.04	Satisfactory
7.42	7.43	0.01	Satisfactory
10.01	9.91	-0.10	Satisfactory

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

(2) Temperature

Reading of Ref. thermometer	Displayed Reading (°C)	Tolerance (°C)	Results
15	15.0	0.0	Satisfactory
30	29.9	-0.1	Satisfactory
40	41.0	1.0	Satisfactory

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

~ CONTINUED ON NEXT PAGE ~

Remark(s): -

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

(b) The results relate only to the calibrated equipment as received

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

LEE Chun-ning, Desmond Senior Chemist

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

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



專業化驗有限公司 QUALITY PRO TEST-CONSULT LIMITED

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PART D - CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
1.37	1.42	0.05	Satisfactory
4.90	4.91	0.01	Satisfactory
6.88	6.90	0.02	Satisfactory
8.58	8.78	0.20	Satisfactory

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

(4) Conductivity at 25°C

Conc. of KCl (M)	Expected Reading (µS/cm)	Displayed Reading (μS/cm)	Tolerance (%)	Results
0.001	146.9	149.5	1.77	Satisfactory
0.01	1412	1387	-1.77	Satisfactory
0.1	12890	12927	0.29	Satisfactory
0.5	58670	57334	-2.28	Satisfactory
1.0	111900	112918	0.91	Satisfactory

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

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	10.03	0.30	Satisfactory
20	20.11	0.55	Satisfactory
30	31.15	3.83	Satisfactory

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

(6) Turbidity

Expected Reading (NTU)	Displayed Reading ^(f) (NTU)	Tolerance ^(g) (%)	Results
0	0.05	44 2	Satisfactory
10	10.09	0.9	Satisfactory
20	21.04	5.2	Satisfactory
100	104.68	4.7	Satisfactory
800	806.11	0.8	Satisfactory

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

~ END OF REPORT ~

Remark(s): -

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

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



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PART A – CUSTOMER INFORMATION

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

PART B - DESCRIPTION

Name of Equipment

YSI ProDSS (Multi-Parameters)

Manufacturer

YSI (a xylem brand)

Serial Number

16H104234

Date of Received

Jan 18, 2021

Date of Calibration

Jan 18, 2021

Date of Next Calibration(a)

Apr 17, 2021

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

<u>Parameter</u>

Reference Method

pH at 25°C

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

Dissolved Oxygen Conductivity at 25°C

APHA 21e 2510 B

Salinity

APHA 21e 2520 B

Turbidity

APHA 21e 2130 B

Temperature

Section 6 of international Accreditation New Zealand Technical

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

PART D - CALIBRATION RESULTS(b,c)

(1) pH at 25°C

Target (pH unit)	Displayed Reading(d) (pH Unit)	Tolerance ^(e) (pH Unit)	Results
<u> </u>	1.11	0.11	Satisfactory
4.00	7.42	0.00	Satisfactory
7.42	10.09	0.08	Satisfactory
10.01	10.07	0.00	

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

(2) Temperature

		D anulta
Displayed Reading (°C)	Tolerance (°C)	Results
15.0	0.0	Satisfactory
	-0.1	Satisfactory
11.0	1.0	Satisfactory
	Displayed Reading (°C) 15.0 29.9 41.0	15.0 0.0 29.9 -0.1

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

~ CONTINUED ON NEXT PAGE ~

Remark(s): -

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

The results relate only to the calibrated equipment as received

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

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

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

> LEE Chun-ning, Desmond Senior Chemist



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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

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PART D - CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
1.37	1.43	0.06	Satisfactory
4.90	4.93	0.03	Satisfactory
6.88	6.91	0.03	Satisfactory
8.58	8.77	0.19	Satisfactory

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

(4) Conductivity at 25°C

Conc. of KCl (M)	Expected Reading (µS/cm)	Displayed Reading (μS/cm)	Tolerance (%)	Results
0.001	146.9	148.7	1,23	Satisfactory
0.01	1412	1325	-6.16	Satisfactory
0.1	12890	12810	-0.62	Satisfactory
0.5	58670	59884	2.07	Satisfactory
1.0	111900	112830	0.83	Satisfactory

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

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	10.05	0.50	Satisfactory
20	20.03	0.15	Satisfactory
30	31.13	3.77	Satisfactory

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

(6) Turbidity

Expected Reading (NTU)	Displayed Reading ^(f) (NTU)	Tolerance ^(g) (%)	Results
0	0.04	221	Satisfactory
10	10.12	1.2	Satisfactory
20	20.89	4.5	Satisfactory
100	103.42	3.4	Satisfactory
800	798.71	-0.2	Satisfactory

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

~ END OF REPORT ~

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

Appendix E. 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
3206	Notification of Construction Work	Works area of 3206	409237	Receipt acknowledged by EPD on 25 Oct 2016
	under APCO	Works area of 3206 (Area 11)	447899	Receipt acknowledged by EPD on 8 Aug 2019
	Registration as Chemical Waste	Site office of 3206	WPN 5213-951- Z4035-01	Completion of Registration on 18 Nov 2016
	Producer	Works area of 3206	WPN 5213-951- Z4035-02	Completion of Registration on 18 Nov 2016
		Works Area of 3206 (Area 11)	WPN 5213-951- Z4035-04	Completion of Registration on 4 Sep 2019
	Construction Noise Permit (General Works)	Works Area of 3206	GW-RS0971-20	Valid from 23 Dec 2020 to 20 Jun 2021
		Works Area of 3206 (Area 11)	GW-RS0621-20	Valid from 6 Sep 2020 to 1 Mar 2021
	Bill Account for disposal	Works area of 3206	A/C 7026398	Approval granted from EPD on 16 Nov 2016
3301	Notification of Construction Work under APCO	Works area of 3301	415821	Receipt acknowledged by EPD on 19 Apr 2017
	Registration as Chemical Waste Producer	Works area of 3301	WPN 5213-951- F2718-02	Completion of Registration on 9 Jun 2017
	Discharge License under WPCO	Works area of 3301	WT00029286- 2017	Valid from 20 Sep 2017 to 30 Sep 2022
	Bill Account for disposal	Works area of 3301	A/C 7027728	Approval granted from EPD on 8 May 2017
	Construction Noise Permit (General Works)	Works area of 3301	GW-RS0740-20	Valid from 12 Oct 2020 to 11 Apr 2021
	Construction Noise Permit (Special Case)	Works area of 3301 (Cable ducting works)	GW-RS0617-20	Valid from 14 Sep 2020 to 13 Mar 2021
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
			454882	Receipt acknowledged by EPD on 2 Apr 2020
	Registration as Chemical Waste Producer	Works area of 3302	5296-951-C4331- 01	Completion of Registration on 4 Jan 2019

Contract No.	Description	Location	Permit/ Reference No.	Status
	Discharge License under WPCO	Works area of 3302	WT00034539- 2019	Valid from 11 Mar 2020 to 31 Mar 2025
		Works area of 3302	WT00034541- 2019	Valid from 14 Oct 2019 to 31 Oct 2024
	Bill Account for disposal	Works area of 3302	A/C 7032881	Approval granted from EPD on 8 Jan 2019
	Construction Noise Permit (General	Works area of 3302	GW-RS0438-20	Superseded by GW-RS0988-20
	Works)		GW-RS0988-20	Valid from 7 Jan 2021 to 6 July 2021
			GW-RS0447-20	Superseded by GW-RS0987-20
			GW-RS0987-20	Valid from 7 Jan 2020 to 6 July 2021
3303	Notification of Construction Work under APCO	Works area of 3303	445611	Receipt acknowledged by EPD on 27 May 2019
	Registration as Chemical Waste Producer	Works area of 3303	5213-951-S4174- 01	Completion of Registration on 17 Jun 2019
	Discharge License under WPCO	Works area of 3303	WT00035689- 2020	Valid from 11 May 2020 to 31 May 2025
		Works area of 3303	WT00036734- 2020	Valid from 1 Dec 2020 to 31 Dec 2025
	Bill Account for disposal	Works area of 3303	A/C 7034272	Approval granted from EPD on 10 Jun 2019
	Construction Noise Permit (General Works)	Works area of 3303 (Existing airport)	GW-RS0825-20	Valid from 16 Nov 2020 to 15 May 2021
		Works area of 3303	GW-RS0915-20	Superseded by GW-RS0015-21
		(Reclamation area)	GW-RS0015-21	Valid from 14 Jan 2021 to 3 Jul 2021
		Works area of 3303 (South East Quay)	GW-RS0655-20	Valid from 16 Sep 2020 to 6 Mar 2021
3307	Notification of Construction Work under APCO	Works area of 3307	454964	Receipt acknowledged by EPD on 6 Apr 2020
	Registration as Chemical Waste Producer	Works area of 3307	5211-951-P3379- 01	Completion of Registration on 8 Jun 2020
	Discharge License under WPCO	Works area of 3307	WT00036926- 2020	Valid from 31 Dec 2020 to 31 Dec 2025
	Bill Account for disposal	Works area of 3307	A/C 7037129	Approval granted from EPD on 5 May 2020
	Construction Noise Permit (General Works)	Works area of 3307	GW-RS0532-20	Valid from 9 Aug 2020 to 6 Feb 2021
3403	Notification of Construction Work under APCO	Works area of 3403	450860	Receipt acknowledged by EPD on 11 Nov 2019
	Registration as Chemical Waste Producer	Works area of 3403	WPN 5213-951- S4218-01	Completion of Registration on 9 Jan 2020
	Discharge License under WPCO	Works area of 3403	WT00035841- 2020	Valid from 5 Jun 2020 to 30 Jun 2025
	Bill Account for disposal	Works area of 3403	A/C 7035267	Approval granted from EPD on 30 Sep 2019

Contract No.	Description	Location	Permit/ Reference No.	Status
	Construction Noise Permit (General Works)	Works area of 3403	GW-RS0822-20	Valid from 29 Nov 2020 to 28 May 2021
	Construction Noise	Works area of	GW-RS0635-20	Valid from 18 Sep 2020 to 17 Mar 2021
	Permit (Special Case)	3403	GW-RS0989-20	Superseded by GW-RS0010-21
			GW-RS0010-21	Valid from 15 Jan 2021 to 31 May 2021
3405	Notification of Construction Work under APCO	Works area of 3405	453447	Receipt acknowledged by EPD on 18 Feb 2020
	Registration as Chemical Waste Producer	Works area of 3405	WPN 5218-951- C4431-01	Completion of Registration on 12 Mar 2020
	Bill Account for disposal	Works area of 3405	A/C 7036796	Approval granted from EPD on 20 Mar 2020
	Construction Noise	Works area of	GW-RS0769-20	Superseded by GW-RS0013-21
	Permit (General Works)	3405	GW-RS0013-21	Valid from 16 Jan 2021 to 7 Jul 2021
3503	Notification of Construction Work	Works area of 3503	459394	Receipt acknowledged by EPD on 28 Aug 2020
	under APCO	Stockpiling area of 3503	459392	Receipt acknowledged by EPD on 28 Aug 2020
	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
			WT00036551- 2020	Valid from 17 Sep 2020 to 30 Sep 2025
			WT00036697- 2020	Valid from 2 Nov 2020 to 30 Nov 2025
	Bill Account for disposal	Works area of 3503	A/C 7029665	Approval granted from EPD on 27 Dec 2017
	Construction Noise Permit (General Works)	Works area of 3503	GW-RS0789-20	Valid from 24 Oct 2020 to 15 Apr 2021
		Stockpiling area of 3503	GW-RS0870-20	Valid from 25 Nov 2020 to 30 Apr 2021
		Works area of 3503 (Special	GW-RS0442-20	Superseded by GW-RS0997-20
		Case)	GW-RS0997-20	Valid from 1 Jan 2021 to 28 Feb 2021
			GW-RS0869-20	Valid from 25 Nov 2020 to 31 Jan 2021
3508	Notification of Construction Work under APCO	Works area of 3508	GW-RS0871-20 459469	Valid from 1 Dec 2020 to 31 Jan 2021 Receipt acknowledged by EPD on 4 Sep 2020
	Registration as Chemical Waste Producer	Works area of 3508	WPN-5218-951- G2898-01	Completion of Registration on 28 Sep 2020
	Bill Account for disposal	Works area of 3508	7038224	Approval granted from EPD on 8 Sep 2020
	Construction Noise Permit (General	Works area of 3508	GW-RS0882-20	Valid from 26 Nov 2020 to 23 May 2021
	Works)	Works area of 3508(Area 3)	GW-RS0802-20	Valid from 27 Oct 2020 to 23 Apr 2021
		Works area of 3508	GW-RS0884-20	Valid from 27 Nov 2020 to 25 May 2021

Contract No.	Description	Location	Permit/ Reference No.	Status
3601	Notification of Construction Work under APCO	Works area of 3601	451765	Receipt acknowledged by EPD on 10 Dec 2019
	Registration as Chemical Waste Producer	Works area of 3601	WPN 7119-951- C4421-01	Completion of Registration on 9 Jan 2020
	Bill Account for disposal	Works area of 3601	A/C 7029991	Approval granted from EPD on 1 Feb 2018
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
	Construction Noise Permit (General Works)	Works area of 3602	GW-RS0692-20	Valid from 1 Oct 2020 to 30 Mar 2021
3603	Notification of Construction Work under APCO	Site office of 3603	433604	Receipt acknowledged by EPD on 16 May 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-RS0681-20	Valid from 6 Oct 2020 to 5 Apr 2021
3721	Notification of Construction Work under APCO	Works area of 3721	448657	Receipt acknowledged by EPD on 02 Sep 2019
	Registration as Chemical Waste Producer	Works area of 3721	WPN 5218-951- C4412-01	Completion of Registration on 9 Dec 2019
	Bill Account for disposal	Works area of 3721	A/C 705234	Approval granted from EPD on 25 Sep 2019
	Construction Noise Permit (General Works)	Works area of 3721	GW-RS0916-20	Valid from 5 Dec 2020 to 3 Jun 2021
3722	Notification of Construction Work	Works area of 3722A	453195	Receipt acknowledged by EPD on 11 Feb 2020
	under APCO	Works area of 3722B	453671	Receipt acknowledged by EPD on 25 Feb 2020
		Works area of 3722C	453673	Receipt acknowledged by EPD on 25 Feb 2020
		Works area of 3722D	453675	Receipt acknowledged by EPD on 25 Feb 2020
	Registration as Chemical Waste	Works area of 3722A	WPN 5218-951- T3863-01	Completion of Registration on 18 Mar 2020
	Producer	Works area of 3722B	WPN 5218-951- T3864-01	Completion of Registration on 18 Mar 2020
		Works area of 3722C	WPN 5218-951- T3862-01	Completion of Registration on 18 Mar 2020
		Works area of 3722D	WPN 5218-951- T3865-01	Completion of Registration on 18 Mar 2020

Contract No.	Description	Location	Permit/ Reference No.	Status
	Bill Account for disposal	Works area of 3722A	A/C 7036752	Approval granted from EPD on 11 Mar 2020
		Works area of 3722B	A/C 7036966	Approval granted from EPD on 6 Apr 2020
		Works area of 3722C	A/C 7036967	Approval granted from EPD on 6 Apr 2020
		Works area of 3722D	A/C 7036795	Approval granted from EPD on 20 Mar 2020
	Construction Noise Permit (General Works)	Works area of 3722A, 3722B, 3722C and 3722D	GW-RS0677-20	Valid from 18 Sep 2020 to 14 Mar 2021
3801	Notification of Construction Work	Works area of 3801	418345	Receipt acknowledged by EPD on 26 Jun 2017
	under APCO		430372	Receipt acknowledged by EPD on 2 Feb 2018
			435652	Receipt acknowledged by EPD on 16 Jul 2018
			451991	Receipt acknowledged by EPD on 18 Dec 2019
		Stockpiling area of 3801	450940	Receipt acknowledged by EPD on 13 Nov 2019
	Registration as Chemical Waste Producer	Works area of 3801	WPN 5296-951- C1169-53	Completion of Registration on 14 Aug 2018
	Discharge License under WPCO	Works and stockpiling area of 3801	WT00029535- 2017	Valid from 24 Nov 2017 to 30 Nov 2022
	Bill Account for disposal	Works area of 3801	A/C 7028254	Approval granted from EPD on 3 Jul 2017
	Construction Noise Permit (General Works)	Works area of 3801	GW-RS0826-20	Valid from 31 Oct 2020 to 27 Apr 2021
	Construction Noise Permit (Special case)	Works area of 3801	GW-RS0633-20	Valid from 10 Sep 2020 to 3 Mar 2021
3802	Notification of Construction Work under APCO	Works area of 3802	458122	Receipt acknowledged by EPD on 14 Jul 2020
	Registration as Chemical Waste Producer	Works area of 3802	WPN 5218-951- G2895-01	Completion of Registration on 28 Aug 2020
	Bill Account for disposal	Works area of 3802	A/C 7037575	Approval granted from EPD on 15 Jun 2020
	Construction Noise Permit (General Works)	Works area of 3802	GW-RS0972-20	Valid from 23 Dec 2020 to 22 Jun 2021
3901A	Notification of Construction Work under APCO	Works area of 3901A	456240	Receipt acknowledged by EPD on 18 May 2020
	Specified Process license under APCO	Works area of 3901A	L-3-261(1)	Valid from 14 Sep 2020 to 13 Sep 2024
	Registration as Chemical Waste Producer	Works area of 3901A	WPN 5218-951- K3400-01	Completion of Registration on 17 Jul 2020

Contract No.	Description	Location	Permit/ Reference No.	Status
	Bill Account for disposal	Works area of 3901A	7037889	Approval granted from EPD on 20 Jul 2020
	Construction Noise Permit (General Works)	Works area of 3901A	GW-RS0850-20	Valid from 25 Nov 2020 to 24 May 2021
3901B	Notification of Construction Work under APCO	Works area of 3901B	452168	Receipt acknowledged by EPD on 23 Dec 2019
	Specified Process license under APCO	Works area of 3901B	L-3-262(1)	Valid from 17 Nov 2020 to 16 Nov 2024
	Registration as Chemical Waste Producer	Works area of 3901B	WPN 5218-951- G2880-01	Completion of Registration on 17 Jan 2020
	Bill Account for disposal	Works area of 3901B	A/C 7032417	Approval granted from EPD on 13 Nov 2018
	Construction Noise Permit (General Works)	Works area of 3901B	GW-RS0658-20	Valid from 18 Sep 2020 to 13 Mar 2021

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

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

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

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

Statistics for Complaints, Notifications of Summons and Prosecutions

Reporting Period	Cumulative Statistics			
	Complaints	Notifications of Summons	Prosecutions	
This reporting period	3	0	0	
From 28 December 2015 to end of the reporting period	30	1	1	