

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

Construction Phase Monthly EM&A Report No.18 (For June 2017)

July 2017

Airport Authority Hong Kong

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This Monthly EM&A Report No. 18 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 17 July 2017



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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

17 July 2017

Dear Sir,

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

Submission of Monthly EM&A Report No.18 (June 2017)

Reference is made to the Environmental Team's submission of the Monthly EM&A Report No.18 under Condition 3.5 of the Environmental Permit No. EP-489/2014 certified by the ET Leader on 17 July 2017.

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

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

Yours faithfully, AECOM Asia Co. Ltd.

Jackel Law

Independent Environmental Checker

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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.

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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 18th Construction Phase Monthly EM&A Report for the Project which summarizes the monitoring results and audit findings of the EM&A programme during the reporting period from 1 to 30 June 2017.

Key Activities in the Reporting Period

The key activities of the Project carried out in the reporting period included deep cement mixing (DCM) works and trials, laying of sand blanket, site office establishment and horizontal directional drilling (HDD) works.

EM&A Activities Conducted in the Reporting Period

The monthly EM&A programme was undertaken in accordance with the Manual of the Project. During the reporting period, the ET conducted 33 sets of construction dust measurements, 22 sets of construction noise measurements, 12 events of water quality measurements, two complete sets of small vessel line-transect surveys and five days of land-based theodolite tracking survey effort for Chinese White Dolphin (CWD) monitoring and waste monitoring. Construction works on Sheung Sha Chau Island was suspended during the ardeid's breeding season (between April and July). The ecological monitoring is therefore suspended.

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 Independent Environmental Checker (IEC). Observations have been recorded in the site inspection checklists and provided to the contractors together with the appropriate follow-up actions where necessary.

On the implementation of Marine Mammal Watching Plan (MMWP), silt curtains were in place by the contractors for laying of sand blanket and dolphin observers were deployed in accordance with the plan. On the implementation of Dolphin Exclusion Zone (DEZ) Plan, dolphin observers at 10 to 13 dolphin observation stations were deployed for continuous monitoring of the DEZ by all contractors for DCM works in accordance with the DEZ Plan. Trainings for the proposed dolphin observers were provided by the ET prior to the aforementioned works, with the training records kept by the ET. From the contractors' MMWP observation records and DEZ monitoring records, no dolphin or other marine mammals were observed within or around the silt curtains or the DEZs in this reporting month. Audits of acoustic decoupling for construction vessels were also carried out by the ET.

On the implementation of the Marine Travel Routes and Management Plan for High Speed Ferries of SkyPier (the SkyPier Plan), the daily movements of all SkyPier high speed ferries (HSFs) in June 2017 were in the range of 56 to 95 daily movements, which are within the maximum daily cap of 125 daily movements. A total of 834 HSF movements under the SkyPier Plan were recorded in the reporting period. All HSFs had travelled through the Speed Control Zone (SCZ) with average speeds under 15 knots (9.9 to 14.0 knots), which were in compliance with the SkyPier Plan. One ferry movement with minor deviation from the diverted route is under investigation by ET. The investigation result will be presented in the next monthly EM&A report. In summary, the ET and IEC have audited the HSF movements against the SkyPier Plan and conducted follow up investigation or actions accordingly. Three meetings were held with Ferry Operator representatives in June 2017 to review and discuss the deviation cases as well as to share experience and recommendations to further strengthen the implementation of SkyPier Plan.

On the implementation of the Marine Travel Routes and Management Plan for Construction and Associated Vessel (MTRMP-CAV), the Marine Surveillance System (MSS) automatically recorded the deviation case such as speeding, entering no entry zone, not traveling through the designated gate. 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. ET reminded contractors that all vessels shall avoid entering the no-entry zone, in particular the Brothers Marine Park. 3-month rolling programmes for construction vessel activities were also received from contractors.

Results of Impact Monitoring

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

No exceedance of the Action or Limit Levels in relation to construction dust, construction noise, construction waste and CWD monitoring was recorded in the reporting month.

The water quality monitoring results for total alkalinity and SS obtained during the reporting period did not trigger their corresponding Action and Limit Levels stipulated in the EM&A programme for triggering the relevant investigation and follow-up procedures under the programme if being exceeded. For DO, turbidity, chromium, and nickel, some of the testing results exceeded the relevant Action or Limit Levels, and the corresponding investigations were conducted accordingly. The investigation findings concluded that the exceedances were not due to the Project.

Summary of Upcoming Key Issues

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

Advanced Works:

Contract P560 (R) Aviation Fuel Pipeline Diversion Works

- HDD works; and
- Stockpiling of excavated materials from HDD operation.

DCM Works:

Contract 3201 to 3205 DCM Works

- Laying of geotextile and sand blanket; and
- DCM works and trials.

Reclamation Works:

Contract 3206 Main Reclamation Works

- Site office establishment; and
- Laying of sand blanket.

The key environmental issues will be associated with construction dust, construction noise, water quality, construction waste management and CWD. The implementation of required mitigation measures by the contractor will be monitored by the ET.



Dolphin Observer Training



Dolphin Exclusion Zone Monitoring by Dolphin Observer



Chemical Spill Drill conducted by the Contractor

Summary Table

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

	Yes	No	Details	Analysis / Recommendation / Remedial Actions
Exceedance of Limit Level^		✓	No exceedance of project-related limit level was recorded.	Nil
Exceedance of Action Level^		✓	No exceedance of project-related action level was recorded.	Nil
Complaints Received		✓	No construction activities related complaints were received.	The investigation detail of the complaint received on 22 May 2017 is presented in S7.8.1.
Notification of any summons and status of prosecutions	✓		Summons were received in June 2017 regarding the aviation fuel pipeline diversion works in December 2016.	Judicial process underway.
Changes that affect the EM&A		✓	There were no changes to the construction works that may affect the EM&A	Nil

Remarks: ^Only exceedance of action/ limit level related to Project works will be highlighted.

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 3.1. The Manual is available on the Project's dedicated website (accessible at: http://env.threerunwaysystem.com/en/index.html). 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 existing submarine aviation fuel pipelines and submarine power cables also require diversion as part of the works.

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

The updated overall phasing programme of all construction works was presented in Appendix A of the Construction Phase Monthly EM&A Report No. 7 and the contract information was presented in Appendix A of the Construction Phase Monthly EM&A Report No.15.

1.2 Scope of this Report

This is the 18th Construction Phase Monthly EM&A Report for the Project which summarizes the key findings of the EM&A programme during the reporting period from 1 to 30 June 2017.

1.3 Project Organisation

The Project's organization structure presented in Appendix B of the Construction Phase Monthly EM&A Report No.1 remained unchanged during the reporting month. Contact details of the key personnel have been updated and is presented in **Table 1.1**.

Table 1.1: Contact Information of Key Personnel

Party	Position	Name	Telephone
Project Manager's Representative	Principal Manager, Environment	Lawrence Tsui	2183 2734
(Airport Authority Hong Kong)			

Party	Position	Name	Telephone
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	Keith Chau	2972 1721
Independent Environmental Checker (IEC) (AECOM Asia Company Limited)	Independent Environmental Checker	Jackel Law	3922 9376
	Deputy Independent Environmental Checker	Joanne Tsoi	3922 9423
Advanced Works:			
Contract P560(R) Aviation Fuel Pipeline Diversion Works (Langfang Huayuan Mechanical and Electrical Engineering Co., Ltd.)	Project Manager	Wei Shih	2117 0566
	Environmental Officer	Lyn Lau	5172 6543
DCM Works:			
Contract 3201 DCM (Package 1) (Penta-Ocean-China State- Dong-Ah Joint Venture)	Project Director	Tsugunari Suzuki	9178 9689
Ç	Environmental Officer	Sze Ming Chan	9384 5494
Contract 3202 DCM (Package 2) (Samsung-BuildKing Joint Venture)	Project Manager	llkwon Nam	9643 3117
	Environmental Officer	Dickson Mak	9525 8408
Contract 3203 DCM (Package 3) (Sambo E&C Co., Ltd)	Project Manager	Seong Jae Park	9683 8693
	Environmental Officer	Calvin Leung	9203 5820
Contract 3204 DCM (Package 4) (CRBC-SAMBO Joint Venture)	Project Manager	Kyung-Sik Yoo	9683 8697
	Environmental Officer	Kanny Cho	9724 6254
Contract 3205 DCM (Package 5) (Bachy Soletanche - Sambo Joint Venture)	Deputy Project Director	Min Park	9683 0765
	Environmental Officer	Margaret Chung	9130 3696
Reclamation Works:			

Party	Position	Name	Telephone
Contract 3206 (ZHEC-CCCC-CDC Joint Venture)	Project Manager	Kim Chuan Lim	3693 2288
	Environmental Officer	Kwai Fung Wong	3693 2252

1.4 Summary of Construction Works

The key activities of the Project carried out in the reporting period included DCM works and trials, laying of sand blanket, site office establishment and HDD works.

1.5 Summary of EM&A Programme Requirements

The status for all environmental aspects is presented **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 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 Control of the control of t		
Initial Intensive Deep Cement Mixing (DCM) Water Quality Monitoring	Completed in May 2017 and data analysis in-progress.		
Early/ Regular DCM Water Quality Monitoring	On-going On-going		
Waste Management			
Waste Monitoring	On-going On-going		
Land Contamination			
Supplementary Contamination Assessment Plan (CAP)	To be submitted with the relevant construction works.		
Contamination Assessment Report (CAR) for Golf Course	The CAR for Golf Course was submitted to EPD.		
Terrestrial Ecology			
Pre-construction Egretry Survey Plan	The Egretry Survey Plan was submitted and approved by EPD under EP Condition 2.14.		
Ecological Monitoring	Construction works on Sheung Sha Chau Island was suspended during the ardeid's breeding season (between April and July). The ecological monitoring is therefore suspended.		

Parameters	Status
Marine Ecology	
Pre-Construction Phase Coral Dive Survey	The Coral Translocation Plan was submitted and approved by EPD under EP Condition 2.12.
Coral Translocation	The coral translocation was completed.
Post-Translocation Coral Monitoring	On-going
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	
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 Plan (DEZP) implementation measures	On-going
SkyPier High Speed Ferries (HSF) implementation measures	On-going
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 month, impact monitoring of air quality, noise, water quality, waste management and CWD were carried out in the reporting month.

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. In order to enhance environmental awareness and closely monitor the environmental performance of the contractors, environmental briefings and regular environmental management meetings were conducted.

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

2.1 Monitoring Stations

Air quality monitoring was conducted 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

2.2 Monitoring Requirements and Schedule

In accordance with the Manual, baseline 1-hour total suspended particulate (TSP) levels at the two air quality monitoring stations were established as presented in the Baseline Monitoring Report. Impact 1-hour TSP monitoring was conducted for three times every 6 days. 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**.

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

Table 2.2: Action and Limit Levels for 1-hour TSP

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

2.3 Monitoring Equipment

Portable direct reading dust meter was used to carry out the 1-hour TSP monitoring. Details of equipment are given in **Table 2.3**.

Table 2.3: Air Quality Monitoring Equipment

Equipment	Brand and Model	Last Calibration Date
Portable direct reading dust meter (Laser dust monitor)	SIBATA LD-3B-002 (Serial No. 974350)	26 Oct 2016

2.4 Monitoring Methodology

2.4.1 Measuring Procedure

The measurement procedures involved in the impact 1-hr TSP monitoring can be summarised as follows:

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

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

2.4.2 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 certificates of the portable direct reading dust meter and calibration record of the HVS provided in Appendix B of the Construction Phase Monthly EM&A Report No.11 are still valid. Any updates of calibration certificates will be reported in the Monthly EM&A report if necessary.

2.5 Analysis and Interpretation of Monitoring Results

The monitoring results for 1-hour TSP are summarized in **Table 2.4**. Detailed impact monitoring results are presented in **Appendix C**.

Table 2.4: Summary of 1-hour TSP Monitoring Results

Monitoring Station	1-hr TSP Concentration Range (µg/m³)	Action Level (μg/m³)	Limit Level (μg/m³)
AR1A	0.3 – 48	306	500
AR2	5 – 26	298	

No exceedance of the Action or Limit Level was recorded 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.

3 Noise Monitoring

3.1 Monitoring Stations

Noise monitoring was conducted at five representative monitoring stations in the vicinity of noise sensitive receivers in Tung Chung and villages in North Lantau in accordance with the Manual. **Figure 2.1** shows the locations of the monitoring stations and these are described in **Table 3.1** below. As described in Section 4.3.3 of the Manual, monitoring at NM2 will commence when the future residential buildings in Tung Chung West Development become occupied.

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	Site Office	Facade
NM4	Ching Chung Hau Po Woon Primary School	Free field
NM5	Village House in Tin Sum	Free field
NM6	House No. 1, Sha Lo Wan	Free field

Note: (1) As described in Section 4.3.3 of the Manual, noise monitoring at NM2 will only commence after occupation of the future Tung Chung West Development.

3.2 Monitoring Requirements and Schedule

In accordance with the Manual, baseline noise levels at the noise monitoring stations were established as presented in the Baseline Monitoring Report. Impact noise monitoring was conducted once per week in the form of 30-minute measurements of L_{eq} , L_{10} and L_{90} levels recorded at each monitoring station between 0700 and 1900 on normal weekdays. 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**. The construction noise monitoring schedule involved in the reporting period is provided in **Appendix B**.

Table 3.2: Action and Limit Levels for Construction Noise

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

Note: (1) Reduced to 70dB(A) for school and 65dB(A) during school examination periods. School examination took place from 5 to 9 June 2017 in the reporting period.

3.3 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 are given in **Table 3.3**.

Table 3.3: Noise Monitoring Equipment

Equipment	Brand and Model	Last Calibration Date
Integrated Sound Level Meter	B&K 2238 (Serial No. 2800932)	19 Jul 2016
	B&K 2238 (Serial No. 2381580)	8 Sep 2016
Acoustic Calibrator	B&K 4231 (Serial No. 3003246)	16 May 2017
	B&K 4231 (Serial No. 3004068)	19 Jul 2016

3.4 Monitoring Methodology

3.4.1 Monitoring Procedure

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

- a. The sound level meter was set on a tripod at least a height of 1.2 m above the ground for free-field measurements at monitoring stations NM1A, NM4, NM5 and NM6. A correction of +3 dB(A) was applied to the free field measurements.
- b. Façade measurements were made at the monitoring station NM3A.
- c. Parameters such as frequency weighting, time weighting and measurement time were set.
- d. Prior to and after each noise measurement, the meter was calibrated using the acoustic calibrator. If the difference in the calibration level before and after measurement was more than 1 dB(A), the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.
- e. During the monitoring period, L_{eq} , L_{10} and L_{90} were recorded. In addition, site conditions and noise sources were recorded on a record sheet.
- f. Noise measurement results were corrected with reference to the baseline monitoring levels.
- g. Observations were recorded when high intrusive noise (e.g. dog barking, helicopter noise) was observed during the monitoring.

3.4.2 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 provided in Appendix B of the Construction Phase Monthly EM&A Report No.8 & 9, and Appendix D of the Construction Phase Monthly EM&A Report No. 17 are still valid.

3.5 Analysis and Interpretation of Monitoring Results

The construction noise monitoring results are summarized in **Table 3.4** and the detailed monitoring data are provided in **Appendix C**.

Table 3.4: Summary of Construction Noise Monitoring Results

Monitoring Station	Noise Level Range, dB(A)	Limit Level, dB(A)	
	Leq (30 mins)	Leq (30 mins)	
NM1A ⁽ⁱ⁾	70 – 72	75	
NM3A	57 – 61	75	
NM4 ⁽ⁱ⁾	64 – 65	70 ⁽ⁱⁱ⁾	
NM5 ⁽ⁱ⁾	56 – 67	75	
NM6 ⁽ⁱ⁾	62 – 70	75	

Note: (i) +3 dB(A) Façade correction included;

(ii) Reduced to 65 dB(A) during school examination periods at NM4. School examination took place from 5 to 9 June 2017 in the reporting period.

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 road traffic and helicopter noise at NM1A, helicopter and marine vessel noise at NM3A, noise from school bell and helicopter noise at NM4, cicadas, aircraft, and helicopter noise at NM5, and insect, aircraft, helicopter, and marine vessel noise at NM6 in this reporting month.

No exceedance of the Action/ Limit Level was recorded at all monitoring stations in the reporting period.

4 Water Quality Monitoring

4.1 Monitoring Stations

Water quality monitoring was conducted at a total of 22 water quality monitoring stations, comprising 12 impact stations, seven sensitive receiver stations and three control stations in the vicinity of water quality sensitive receivers around the airport island in accordance with the Manual. **Table 4.1** describes the details of the monitoring stations. **Figure 3.1** shows the locations of the monitoring stations.

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

Monitoring	Description	Coordi	nates	Parameters
Stations		Easting	Northing	
C1	Control	804247	815620	DO, pH, Temperature,
C2	Control	806945	825682	Salinity, Turbidity, SS, Total Alkalinity, Heavy
C3 ⁽³⁾	Control	817803	822109	Metals ⁽²⁾
IM1	Impact	806458	818351	
IM2	Impact	806193	818852	
IM3	Impact	806019	819411	
IM4	Impact	805039	819570	
IM5	Impact	804924	820564	
IM6	Impact	805828	821060	
IM7	Impact	806835	821349	
IM8	Impact	807838	821695	
IM9	Impact	808811	822094	
IM10	Impact	809838	822240	
IM11	Impact	810545	821501	
IM12	Impact	811519	821162	
SR1 ⁽¹⁾	Future Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities (HKBCF) Seawater Intake for cooling	812586	820069	DO, pH, Temperature, Salinity, Turbidity, SS
SR2 ⁽³⁾	Planned marine park / hard corals at The Brothers / Tai Mo To	814166	821463	
SR3	Sha Chau and Lung Kwu Chau Marine Park / fishing and spawning grounds in North Lantau	807571	822147	
SR4A	Sha Lo Wan	807810	817189	
SR5A	San Tau Beach SSSI	810696	816593	_
SR6	Tai Ho Bay, Near Tai Ho Stream SSSI	814663	817899	
SR7	Ma Wan Fish Culture Zone (FCZ)	823742	823636	
SR8	Seawater Intake for cooling at Hong Kong International Airport (East)	811593	820417	

Notes:

⁽¹⁾ The seawater intakes of SR1 for the future HKBCF is not yet in operation, hence no water quality impact monitoring was conducted at this station. The future permanent location for SR1 during impact monitoring is subject to finalisation after the HKBCF seawater is commissioned.

4.2 Monitoring Requirements and Schedule

In accordance with the Manual, baseline water quality levels at the abovementioned representative water quality monitoring stations were established as presented in the Baseline Water Quality Monitoring Report.

General water quality monitoring and early regular DCM water quality monitoring were conducted three days per week, at mid-flood and mid-ebb tides, at the 22 water quality monitoring stations during the reporting period. The sea conditions varied from calm to rough, and the weather conditions varied from sunny to rainy during the monitoring period.

The water quality monitoring schedule for the reporting period is provided in **Appendix B**. The monitoring session on 13 June 2017 was cancelled due to adverse weather.

4.2.1 Action and Limit Levels for Water Quality Monitoring

Darameters

The Action and Limit Levels for 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 presented in **Table 4.2**. The control and impact stations during flood tide and ebb 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

Limit Loyal (LL)

Action Loyal (AL)

Parameters	Action Level	(AL)	Limit Level (LL)		
Action and Limit Levels for gene (excluding SR1& SR8)	ral water quality	monitoring and regular	DCM monitor	ring	
DO in mg/L	Surface and Mi	ddle	Surface and	Middle	
(Surface, Middle & Bottom)	4.5 mg/L		4.1 mg/L		
				5 mg/L for Fish Culture Zone (SR7) only	
	Bottom		Bottom		
	3.4 mg/L		2.7 mg/L		
Suspended Solids (SS) in mg/L	23	or 120% of	37	or 130% of	
Turbidity in NTU	22.6	upstream control station at the	36.1	upstream control	
Total Alkalinity in ppm	95	same tide of the	99	same tide of the	
Representative Heavy Metals for early regular DCM monitoring (Chromium)	0.2	same day, whichever is higher	0.2	same day, whichever is higher	
Representative Heavy Metals for early regular DCM monitoring (Nickel)	3.2		3.6		
Action and Limit Levels SR1					
SS (mg/l)	To be determined prior to its commissioning		To be determ commissioning	nined prior to its	
Action and Limit Levels SR8					
SS (mg/l)	52		60		

⁽²⁾ Details of selection criteria for the two heavy metals for early 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.

Notes:

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

Control Station	Impact Stations
Flood Tide	
C1	IM1, IM2, IM3, IM4, IM5, IM6, IM7, IM8, SR3
SR2 ^{^1}	IM7, IM8, IM9, IM10, IM11, IM12, SR1A, SR3, SR4A, SR5A, SR6, SR8
Ebb Tide	
C1	SR4A, SR5A, SR6
C2	IM1, IM2, IM3, IM4, IM5, IM6, IM7, IM8, IM9, IM10, IM11, IM12, SR1A, SR2, SR3, SR7, SR8

^{^1} As per findings of Baseline Water Quality Monitoring Report, the control reference has been changed from C3 to SR2 from 1 Sep 2016 onwards.

4.3 Monitoring Equipment

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

Table 4.4: Water Quality Monitoring Equipment

Equipment	Brand and Model	Last Calibration Date
Multifunctional Meter (measurement of DO, pH, temperature, salinity and	YSI ProDSS (serial no. 15M101244)	16 Jun 2017
turbidity)	YSI ProDSS (serial no. 16J101716)	16 Jun 2017
	YSI 6920 V2 (serial no. 00019CB2)	16 Jun 2017
	YSI 6920 V2 (serial no. 000109DF)	16 Jun 2017
Digital Titrator (measurement of total alkalinity)	Titrette Digital Burette 50ml Class A (serial no.10N65665)	19 Jun 2017

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

4.4 Monitoring Methodology

4.4.1 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

⁽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

 $[\]ensuremath{^{(3)}}\mbox{Depth-averaged}$ results are used unless specified otherwise.

⁽⁴⁾ Details of selection criteria for the two heavy metals for early 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.

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 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.

4.4.2 Maintenance and Calibration

Calibration of In-situ Instruments

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

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

The calibration certificates of the monitoring equipment used in the reporting month is updated and provided in **Appendix D**.

4.4.3 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
Suspended Solid (SS)	Analytical Balance	APHA 2540D	2 mg/L
Heavy Metals			
Chromium (Cr)	ICP-MS	USEPA 6020A	0.2 μg/L
Nickel (Ni)	ICP-MS	USEPA 6020A	0.2 μg/L

4.5 Analysis and Interpretation of Monitoring Results

4.5.1 Summary of Monitoring Results

The water quality monitoring results for total alkalinity and SS obtained during the reporting period were not triggering their corresponding Action and Limit Levels stipulated in the EM&A programme for triggering the relevant investigation and follow-up procedures under the programme if being exceeded. For DO, turbidity, chromium, and nickel, some of the testing results exceeded the relevant Action or Limit Levels, and the corresponding investigations were conducted accordingly. Details of the exceedances are presented in **Section 4.5.2**.

4.5.2 Summary of Findings for Investigation of Exceedances

During the reporting period, water quality monitoring was conducted at 12 impact (IM) stations, seven sensitive receiver (SR) stations, and three control stations 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).

During the monitoring period, testing results exceeding the corresponding Action or Limit Levels were recorded on four monitoring days. Details of the exceedance cases are presented below.

Findings for DO Exceedances (Mid-Ebb Tide)

Table 4.7 presents a summary of the DO (Surface and Middle) compliance status at IM and SR stations during mid-ebb tide for the reporting month.

Table 4.7: Summary of DO (Surface and Middle) Compliance Status (Mid-Ebb Tide)

														`			<u>, </u>	
	IM1	IM2	IM3	IM4	IM5	IM6	IM7	IM8	IM9	IM10	IM11	IM12	SR2	SR3	SR4A	SR5A	SR6	SR7
01/06/2017																		
04/06/2017																		
06/06/2017																		
08/06/2017																		
10/06/2017																		
15/06/2017																		
17/06/2017																		
20/06/2017																		
22/06/2017																		
24/06/2017																		
27/06/2017																		
29/06/2017																		
No. of Exceedance		1	1	1	1	2	2	1	1	0	2	1	0	3	2	0	0	3

Legend:	
	No exceedance of Action and Limit Level
	Exceedance of Action Level recorded at monitoring station located downstream of the Project based on dominant tidal flow
	Exceedance of Action Level recorded at monitoring station located upstream of the Project based on dominant tidal flow
	Exceedance of Limit Level recorded at monitoring station located downstream of the Project based on dominant tidal flow
	Exceedance of Limit Level recorded 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

Error! Reference source not found. **Table 4.8** presents a summary of the DO (Bottom) compliance status at IM and SR stations during mid-ebb tide for the reporting month.

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

	IM1	IM2	IM3	IM4	IM5	IM6	IM7	IM8	IM9	IM10	IM11	IM12	SR2	SR3	SR4A	SR5A	SR6	SR7
01/06/2017																		
04/06/2017																		
06/06/2017																		
08/06/2017																		
10/06/2017																		
15/06/2017																		
17/06/2017																		
20/06/2017																		
22/06/2017																		
24/06/2017																		
27/06/2017																		
29/06/2017																		
No. of Exceedance																		
Note: Detailed	resul	ts are	prese	nted i	n App	endix	C.											
Legend:																		
	No ex	ceeda	ince o	f Actic	n and	Limit	Level											
	Exceedance of Action Level recorded at monitoring station located downstream of the Project based on dominant tidal flow																	
	Exceedance of Action Level recorded at monitoring station located upstream of the Project based on dominant tidal flow																	
		edance ant tic			vel red	cordec	at m	onitori	ng sta	ation Ic	cated	down	strear	n of th	ne Pro	ject ba	ased o	n
		edance ant tic			vel red	cordec	at m	onitori	ng sta	ation Ic	cated	upstr	eam c	f the F	Projec	t base	d on	
	Upstre	eam s	tation	with re	espect	to the	Proj	ect du	ring th	ie resp	ective	e tide l	oased	on do	minar	nt tidal	flow	

Exceedances of Action or Limit Levels were recorded on three monitoring days (two for DO (Bottom)). Repeat in-situ measurements were conducted from 21 to 25 June 2017 as stipulated in the Manual. As exceedances occurred at stations located downstream of the Project, which might be affected by the Project's construction activities, exceedance investigation was carried out.

As part of the investigation on downstream exceedance events, details of the Project's marine construction activities on these monitoring days were collected, as well as any observations during the monitoring. The findings are summarised in **Table 4.9**.

Table 4.9: Summary of Findings from Investigations of DO Exceedances

Date	Marine construction works nearby	Approximate distance from marine construction works*	Status of water quality measures (if applicable)	Construction vessels in the vicinity	Turbidity / Silt plume observed near the monitoring station	Exceedance due to Project
20/06/2017	DCM works Sand blanket laying	Around 500m	Silt curtain deployed	No	No	No
22/06/2017	DCM works Sand blanket laying	Around 500m	Silt curtain deployed	No	No	No
24/06/2017	DCM works Sand blanket laying	Around 500m	Silt curtain deployed	No	No	No

According to the investigation findings, it was confirmed that both DCM and sand blanket laying activities were operating normally with silt curtains deployed as additional measures. The silt curtains were maintained properly.

The monitoring results, as well as results from repeat measurement, showed that DO (Surface and Middle) and DO (Bottom) results at the control stations as well as some upstream impact stations were low (and mostly below Action or Limit Level) from 20 to 25 June 2017. This indicates that low DO was occurring over a large area including areas well outside the influence of the Project's activities, which suggests the likelihood of sources and/or causes originating outside of the Project boundaries.

As shown on the graphs (see **Appendix C**), there was a gradual decline in DO levels across almost all monitoring stations from 15 June 2017, reaching their lowest levels on 20 June 2017 before gradually increasing from 22 June 2017 onwards. This DO pattern appears to be an aftermath of a severe weather condition in Hong Kong (Severe Tropical Storm Merbok) which occurred between 12 and 13 June 2017 and was followed by a period of continuous rainfall between 13 and 21 June 2017. This meteorological event may have contributed to the widespread DO decline observed in the north Lantau waters.

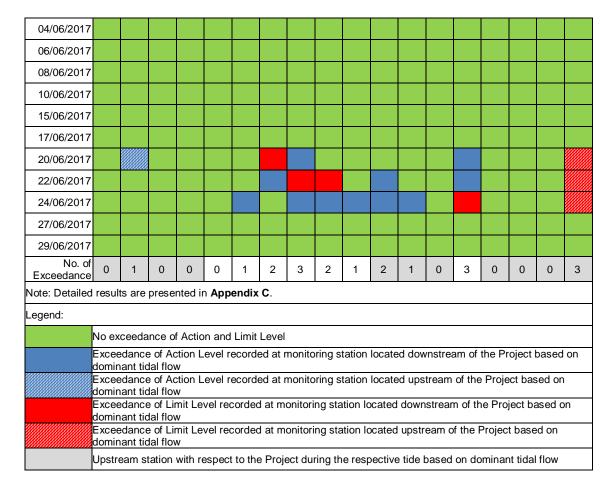
For SR stations, SR3 was located upstream of the Project boundary, hence would unlikely be affected by the Project's activities. Separately, SR4A and SR7 were recorded with Action or Limit Level exceedances on several days. Considering that SR4A and SR7 are located farther away from all other SR stations, such as SR2, which did not record similar exceedances, it was unlikely that the DO levels at SR4A and SR7 were due to the Project.

Findings for DO Exceedances (Mid-Flood Tide)

Table 4.10 presents a summary of the DO (Surface and Middle) compliance status at IM and SR stations during mid-flood tide for the reporting month. No exceedances were recorded for DO (Bottom).

Table 4.10: Summary of DO (Surface and Middle) Compliance Status (Mid-Flood Tide)

		IM1	IM2	IM3	IM4	IM5	IM6	IM7	IM8	IM9	IM10	IM11	IM12	SR2	SR3	SR4A	SR5A	SR6	SR7
Ī	01/06/2017																		



Exceedances of Action and Limit Levels were recorded on three monitoring days. Repeat in-situ measurements were conducted from 21 to 25 June 2017 as stipulated in the Manual. As exceedances occurred at stations located downstream of the Project, which might be affected by the Project's construction activities, exceedance investigation was carried out.

As part of the investigation on downstream exceedance events, details of the Project's marine construction activities on these monitoring days were collected, as well as any observations during monitoring. The findings are summarised in **Table 4.9**.

According to the investigation findings, it was confirmed that both DCM and sand blanket laying activities were operating normally with silt curtains deployed as additional measures. The silt curtains were maintained properly.

Similar to the findings for ebb tide, the monitoring results showed that DO (Surface and Middle) results at the control stations as well as some upstream impact stations were low (and mostly below Action or Limit Level) from 20 to 25 June 2017. This indicates that low DO was occurring over a large area including areas well outside the influence of the Project's activities, which suggests the likelihood of sources and/or causes originating outside of the Project boundaries.

The graphs in **Appendix C** also show the same gradual decline in DO levels across almost all monitoring stations from 15 June 2017, reaching their lowest levels on 20 June 2017 before gradually increasing from 22 June 2017 onwards. It thus appears that the same phenomenon affecting ebb tide DO levels was also affecting flood tide DO levels to a similar degree.

The main SR stations affected during flood tide are SR3 and SR7. SR7 was located upstream of the Project boundary, which would unlikely be affected by the Project's activities. For SR3, the similarities with ebb tide results suggests the same cause affected SR3 during both tides.

Combining the monitoring results during ebb and flood tide from 15 June 2017 onwards, it can be concluded that the patterns of exceedances indicate a macro-scale event affecting the DO concentration in the north Lantau waters, rather than local sources. Therefore, the exceedances were considered not due to the Project.

Findings for Turbidity Exceedance (Mid-Ebb Tide)

Table 4.11 presents a summary of the turbidity compliance status at IM and SR stations during mid-ebb tide for the reporting month.

Table 4.11: Summary of Turbidity Compliance Status (Mid-Ebb Tide)

										`								
	IM1	IM2	IM3	IM4	IM5	IM6	IM7	IM8	IM9	IM10	IM11	IM12	SR2	SR3	SR4A	SR5A	SR6	SR7
01/06/2017																		
04/06/2017																		
06/06/2017																		
08/06/2017																		
10/06/2017																		
15/06/2017																		
17/06/2017																		
20/06/2017																		
22/06/2017																		
24/06/2017																		
27/06/2017																		
29/06/2017																		
No. of Exceedance	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Note: Detailed	ed results are presented in Appendix C.																	
Legend:																		
	No exceedance of Action and Limit Level																	
	Exceedance of Action Level recorded at monitoring station located downstream of the Project based on dominant tidal flow Exceedance of Action Level recorded at monitoring station located upstream of the Project based on																	
	dominant tidal flow																	
	Upstre	eam st	tation	with re	espect	to the	e Proje	ect du	ring th	e resp	ective	e tide l	oased	on do	minar	nt tidal	flow	

An exceedance of Action Level was recorded on one monitoring day. However, the exceedance occurred at a monitoring station which was located upstream of the Project during ebb tide, which would unlikely be affected by the Project. Therefore, the exceedance was considered not due to the Project.

Findings for Chromium Exceedance (Mid-Ebb Tide)

Table 4.12 presents a summary of the chromium compliance status at IM stations during mid-ebb tide for the reporting month.

Table 4.12: Summary of Chromium Compliance Status (Mid-Ebb Tide)

	IM1	IM2	IM3	IM4	IM5	IM6	IM7	IM8	IM9	IM10	IM11	IM12
01/06/2017												
04/06/2017												
06/06/2017												
08/06/2017												
10/06/2017												
15/06/2017												
17/06/2017												
20/06/2017												
22/06/2017												
24/06/2017												
27/06/2017												
29/06/2017												
No. of Exceedance	0	0	0	0	0	0	1	0	0	0	0	0
Note: Detailed	results a	are prese	nted in A	ppendix	C .							
Legend:												

No exceedance of Action and Limit Level

Exceedance of Action Level recorded at monitoring station located downstream of the Project based on dominant tidal flow

Exceedance of Action Level recorded 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

An exceedance of Limit Level was recorded on one monitoring day. However, the exceedance occurred at a monitoring station which was located upstream of the Project during ebb tide, which would unlikely be affected by the Project. Therefore, the exceedance was considered not due to the Project.

Findings for Nickel Exceedances (Mid-Flood Tide)

Table 4.13 presents a summary of the nickel compliance status at IM stations during mid-flood tide for the reporting month.

Table 4.13: Summary of Nickel Compliance Status (Mid-Flood Tide)

	IM1	IM2	IM3	IM4	IM5	IM6	IM7	IM8	IM9	IM10	IM11	IM12
01/06/2017												
04/06/2017												
06/06/2017												
08/06/2017												
10/06/2017												
15/06/2017												
17/06/2017												
20/06/2017												
22/06/2017												

24/06/2017													
27/06/2017													
29/06/2017													
No. of Exceedance	()	0	0	0	0	0	1	1	1	1	1	1	
Note: Detailed	l results a	are prese	nted in A	ppendix	C .								
Legend:													
	No exceedance of Action and Limit Level												
	Exceedance of Action and Elimit Level Exceedance of Action Level recorded at monitoring station located downstream of the Project based on dominant tidal flow												
	Exceedance of Action Level recorded at monitoring station located upstream of the Project based on dominant tidal flow												
	Exceedance of Limit Level recorded at monitoring station located downstream of the Project based on dominant tidal flow												
	Exceedance of Limit Level recorded at monitoring station located upstream of the Project based on dominant tidal flow												
	Upstrear	n station	with resp	ect to the	e Project	during th	e respec	tive tide l	based on	dominar	nt tidal flo	w	

Exceedances of Action and Limit Levels were recorded on two monitoring days. As exceedances occurred at stations located downstream of the Project which might be affected by the Project's activities, exceedance investigation was carried out.

As part of the investigation on downstream exceedance events, details of the Project's marine construction activities on these monitoring days were collected, as well as any observations during monitoring. The findings are summarised in **Table 4.9**.

According to the investigation findings, it was confirmed that DCM activities were operating normally with silt curtains deployed as additional measures. The silt curtains were maintained properly.

Nickel is a representative heavy metal that indicates the potential for release of contaminants from Contaminated Mud Pits (CMPs) due to the disturbance of marine sediment within CMP by DCM activities. Therefore, elevated nickel concentrations due to these activities should be associated with similar elevated SS levels. For the exceedances at IM8 to IM12 on 20 June 2017, it is noted that no SS exceedance was recorded in the same tide and the concentration (9 – 12 mg/L) was well below the Action and Limit Levels. The low SS levels at impact stations indicates that the active DCM works had limited or insignificant effect on downstream water quality. In addition, the occurrence of exceedances at upstream stations (IM11 and IM12) at the same time as the downstream stations indicates that the nickel source may originate from areas outside of the project boundary. Based on these findings, and given that DCM activities were confirmed to be operating normally with silt curtains deployed and properly maintained, the exceedances were considered not due to the Project and may be due to natural fluctuation or other sources not related to the Project.

For the exceedance at IM7 on 24 June 2017, the exceedance appeared to be an isolated case with no observable temporal and spatial trend to indicate any effect due to Project activities. Furthermore, no exceedance was recorded at other downstream monitoring stations, including IM8, which was similarly close to active DCM works during the same tide. Based on these findings, the exceedance was considered not due to the Project.

Conclusions

Based on the findings of the exceedance investigations, it is concluded that the exceedances were not due to the Project. Hence no SR was adversely affected by the Project. All required

actions under the Event and Action Plan were followed. Exceedances appeared to be due to natural fluctuation or other sources not related to the Project.

Nevertheless, recognising that the IM stations represent a 'first line of defence', the non-project related exceedances identified at IM stations were attended to as a precautionary measure. 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 for DCM works and sand blanket laying works properly as recommended in the Manual.

5 Waste Management

5.1 Monitoring Requirements

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. 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 including provision and maintenance of spill kits and drip trays, as well as provision of proper storage area for general refuse, chemical and chemical waste. The contractors had taken actions to implement the recommended measures.

Based on the Contractor's information, about 576m³ of excavated materials were produced from the HDD launching site under P560(R) in the reporting period. The generated excavated materials were temporarily stored at the stockpiling area. The excavated material will be reused in the Project.

In addition, metal and paper were recycled during the reporting month. Around 127 tonnes of general refuse was disposed of to the WENT Landfill and 1600 litres of chemical waste was collected by licensed chemical waste collector in June 2017. Around 132m³ of Construction and Demolition (C&D) material generated from the DCM contract for site office establishment was sent to public fill.

No exceedances of the Action or Limit Levels were recorded in the reporting period.

6 Chinese White Dolphin Monitoring

6.1 CWD Monitoring Requirements

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

The small vessel line-transect survey as proposed in the Manual should be conducted at a frequency of two full survey per month while land-based theodolite tracking should be conducted at a frequency of one day per month per station during the construction phase. In addition to the land-based theodolite tracking required for impact monitoring as stipulated in the Manual, supplemental theodolite tracking have also been conducted during the implementation for the SkyPier HSF diversion and speed control in order to assist in monitoring the effectiveness of these measures, i.e. in total twice per month at the Sha Chau station and three times per month at the Lung Kwu Chau station.

The Action Level (AL) and Limit Level (LL) 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 AL and LL for CWD monitoring were summarized in **Table 6.1**.

Table 6.1: Derived Values of Action Level (AL) and Limit Level (LL) for Chinese White Dolphin Monitoring

NEL, NWL,	AW,	WL	and	SWL	as	a	Whole
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Action Level Running quarterly* STG < 1.86 & ANI < 9.35

Limit Level Two consecutive running quarterly^ (3-month) STG < 1.86 & ANI < 9.35

[Notes for <u>Table 6.1</u> (referring to the baseline monitoring report):

*Action Level – running quarterly STG & ANI will be calculated from the three preceding survey months. For CWD monitoring for June 2017, data from 1 April 2017 to 30 June 2017 will be used to calculate the running quarterly encounter rates STG & ANI;

^Limit Level – two consecutive running quarters mean both the running quarterly encounter rates of the preceding month May 2017 (calculated by data from March 2017 to May 2017) and the running quarterly encounter rates of this month (calculated by data from April 2017 to June 2017).

AL and/or LL will be exceeded 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 provided a larger sample size for estimating the density, abundance and patterns of movements in the broader study area of the project.

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

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

Waypoint	Easting	Northing	Waypoint	Easting	Northing
		NE	L		
1S	813525	820900	6N	818568	824433
1N	813525	824657	7S	819532	821420
2S	814556	818449	7N	819532	824209
2N	814559	824768	8S	820451	822125
3S	815542	818807	8N	820451	823671
3N	815542	824882	98	821504	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
		NV	۷L		
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	78	810499	822323
2Na	805476	830562	7N	810499	824613
3S	806464	821033	88	811508	821839
3N	806464	829598	8N	811508	824254
4S	807518	821395	98	812516	821356
4N	807518	829230	9N	812516	824254
		Al	N		
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			2.000
-		SV	VL		
1S	802494	803961	6S	807467	801137
1N	802494	806174	6N	807467	808458
2S	803489	803280	78	808553	800329

Waypoint	Easting	Northing	Waypoint	Easting	Northing
2N	803489	806720	7N	808553	807377
3S	804484	802509	8S	809547	800338
3N	804484	807048	8N	809547	807396
4S	805478	802105	9S	810542	800423
4N	805478	807556	9N	810542	807462
5S	806473	801250	10S	811446	801335
5N	806473	808458	10N	811446	809436

6.2.2 Land-based Theodolite Tracking

Land-based theodolite tracking 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 Survey Station Details

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

6.3 CWD Monitoring Methodology

6.3.1 Small Vessel Line-transect Survey

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

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

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

- Primary transect lines: the parallel and zigzag transect lines as shown in Figure 6.1; and
- Secondary transect lines: transect lines connecting between the primary transect lines and crossing 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 pair. Only on-effort data collected under conditions of Beaufort 0-3 and visibility of approximately 1200 m or beyond were used for analysis of the CWD encounter rates.

A 15-20 m vessel with a flying bridge observation platform about 4 to 5 m above water level and unobstructed forward view, and a team of three to four observers were deployed to undertake the surveys. Two observers were on search effort at all times when following the transect lines with

a constant speed of 7 to 8 knots (i.e. 13 to 15 km per hour), one using 7X handheld binoculars and the other using unaided eyes and recording data.

During on-effort survey periods, the survey team recorded effort data including time, position (waypoints), weather conditions (Beaufort sea state and visibility) and distance travelled in each series with assistance of a handheld GPS device. The GPS device also continuously and automatically logged data including time, position (latitude and longitude) and vessel speed throughout the entire survey.

When CWDs were seen, the survey team was taken off-effort, the dolphins were approached and photographed for photo-ID information (using a Canon 7D [or similar] camera and long 300 mm+ telephoto lens), then followed until they left the study area or were lost. At that point, the boat returned (off effort) to the next survey line and began to survey on effort again.

Focal follows of dolphins were conducted 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 involved the boat following (at an appropriate distance to minimize disturbance) an identifiable individual dolphin for an extended period of time, and collecting detailed data on its location, behaviour, response to vessels, and associates.

6.3.2 Photo Identification

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

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

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

6.3.3 Land-based Theodolite Tracking

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

Three surveyors (one theodolite operator, one computer operator, and one observer) were involved in each survey. Observers searched for dolphins using unaided eyes and handheld binoculars (7X50). Theodolite tracking sessions were initiated whenever an individual CWD or group of CWDs was located. Where possible, a distinguishable individual was selected, based on colouration, within the group. The focal individual was then continuously tracked via the theodolite, with a position recorded each time the dolphin surfaced. In case an individual could

not be positively distinguished from other members, the group was tracked by recording positions based on a central point within the group whenever the CWD surfaced. Tracking continued until animals were lost from view; moved beyond the range of reliable visibility (>1-3 km, depending on station height); or environmental conditions obstructed visibility (e.g., intense haze, Beaufort sea state >4, or sunset), at which time the research effort was terminated. In addition to the tracking of CWD, all vessels that moved within 2-3 km of the station were tracked, with effort made to obtain at least two positions for each vessel.

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

6.4 Monitoring Results and Observations

6.4.1 Small Vessel Line-transect Survey

Survey Effort

Within this reporting month, two complete sets of small vessel line-transect surveys were conducted on the 7th, 8th, 9th, 12th, 15th, 22nd, 23rd and 28th June 2017, covering all transects in NEL, NWL, AW, WL and SWL survey areas for twice.

A total of around 439.92 km of survey effort was collected from these surveys, with around 86.58% of the total survey effort being conducted under favourable weather condition (i.e. Beaufort Sea State 3 or below with favourable visibility). Details of the survey effort are given in **Appendix C**.

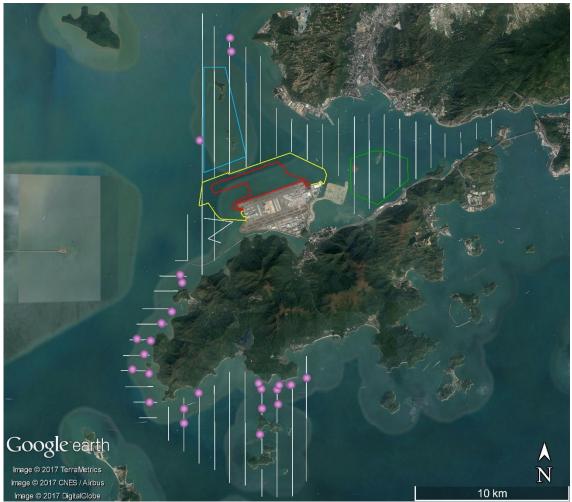
Sighting Distribution

In June 2017, 27 groups of CWDs with 79 individuals were sighted. Amongst these sightings, 24 groups of CWDs with 71 animals were recorded during on-effort search under favourable weather conditions (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 June 2017 is illustrated in **Figure 6.3**. In June 2017, three sightings of CWDs were recorded in NWL, at waters north to Lung Kwu Chau and west to Sha Chau. In WL, CWDs were sighted along the coastal waters from Tai O to Fan Lau. In SWL, CWD sightings were mainly recorded around Fan Lau Tung Wan and the waters between Lantau Island and Soko Islands. No sightings of CWDs were recorded in NEL and also the vicinity of or within the 3RS land-formation footprint.

Figure 6.3: Sightings Distribution of Chinese White Dolphins

[Pink circle: Sighting locations of CWD, White line: Vessel survey transects, Blue polygon: Sha Chau and Lung Kwu Chau Marine Park (SCLKCMP), Green polygon: Brothers Marine Park (BMP) Red polygon: 3RS land-formation footprint, Yellow line: 3RS temporary works area boundary]



Remarks: Please note that there are 27 pink circles on the map indicating the sighting locations of CWD. Some of them were located very close to each other and therefore appear overlapped on the map.

Encounter Rate

Two types of dolphin encounter rates were calculated based on the data from June 2017. 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 was used)

In June 2017, a total of around 380.87 km of survey effort were conducted under Beaufort Sea State 3 or below with favourable visibility, whilst a total number of 24 on-effort sightings with a total number of 71 dolphins from on-effort sightings were obtained under such condition. Calculation of the encounter rates in June 2017 are shown in **Appendix C**.

For the running quarter of the reporting month (i.e., from April 2017 to June 2017), a total of around 1190.10 km of survey effort were conducted under Beaufort Sea State 3 or below with favourable visibility, whilst a total number of 53 on-effort sightings and a total number of 210 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 June 2017 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 did not trigger the Action Level (i.e., remained above the Action Level).

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

	Encounter Rate (STG)	Encounter Rate (ANI)
June 2017	6.30	18.64
Running Quarter from April 2017 to June 2017*	4.45	17.65
Action Level	Running quarterly* < 1.86	Running quarterly* < 9.35

^{*}Running quarterly encounter rates STG & ANI were calculated from data collected in the reporting month and the two preceding survey months, i.e. the data from April 2017 to June 2017, containing six sets of transect surveys for all monitoring areas.

Group Size

In June 2017, 27 groups of CWDs with 79 individuals were sighted, and the average group size of CWDs was 2.93 individuals per group. The number of small-sized (i.e. 1-2 individuals) CWD groups was 15 while that of medium-sized (i.e. 3-9 individuals) CWD groups was 12 in June 2017. No large CWD groups (i.e. 10 or more individuals) were recorded in this reporting month.

Activities and Association with Fishing Boats

Eight out of 27 sightings of CWDs were recorded engaging in feeding activities in June 2017, whilst none of these sightings was associated with operating fishing boat.

Mother-calf Pair

In June 2017, eight sightings of CWDs were recorded with the presence of mother-and-calf, mother-and-unspotted juvenile or mother-and-spotted juvenile pairs. Six out of these eight sightings were recorded in WL while the remaining two were recorded in NWL and SWL respectively.

6.4.2 Photo Identification

In June 2017, a total number of 29 different CWD individuals were identified for totally 34 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/mm/yyyy)	Sighting Group No.	Area	Individual ID	Date of Sighting (dd/mm/yyyy)	Sighting Group No.	Area
NLMM006	08-Jun-17	1	NWL	WLMM027	22-Jun-17	4	SWL
NLMM013	08-Jun-17	1	NWL	WLMM040	09-Jun-17	1	WL
SLMM011	28-Jun-17	5	WL	WLMM043	09-Jun-17	1	WL
SLMM014	22-Jun-17	2	SWL	WLMM052	28-Jun-17	2	WL
		3	SWL	WLMM063	07-Jun-17	2	SWL
		6	SWL	WLMM076	22-Jun-17	1	SWL
		7	SWL	WLMM078	22-Jun-17	1	SWL
SLMM027	07-Jun-17	2	SWL	WLMM086	09-Jun-17	1	WL
SLMM031	07-Jun-17	1	SWL			3	WL
SLMM036	07-Jun-17	3	SWL	WLMM090	09-Jun-17	1	WL
SLMM040	22-Jun-17	1	SWL	WLMM091	28-Jun-17	3	WL
SLMM052	07-Jun-17	2	SWL	WLMM092	28-Jun-17	3	WL
SLMM057	22-Jun-17	1	SWL	WLMM093	28-Jun-17	6	WL
SLMM058	22-Jun-17	5	SWL	WLMM094	28-Jun-17	6	WL
WLMM004	07-Jun-17	2	SWL	WLMM095	28-Jun-17	6	WL
WLMM008	22-Jun-17	1	SWL	WLMM096	28-Jun-17	8	WL
WLMM009	09-Jun-17	4	SWL				
	28-Jun-17	8	WL				

6.4.3 Land-based Theodolite Tracking

Survey Effort

Land-based theodolite tracking surveys were conducted at LKC on 22nd, 26th and 29th June 2017 and at SC on 23rd and 27th June 2017, with a total of five days of land-based theodolite tracking survey effort accomplished in this reporting month. In total, nine CWD groups were tracked at LKC station during the surveys. Information of survey effort and CWD groups sighted during these land-based theodolite tracking surveys are presented in **Table 6.6**. Details of the survey effort and CWD groups tracked are presented in **Appendix C**. The first sighting locations of CWD groups tracked at LKC station during land-based theodolite tracking surveys in June 2017 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	3	18:03	9	0.50
Sha Chau	2	12:00	0	0
TOTAL	5	30:03	9	0.30

Figure 6.4: Plots of First Sightings of All CWD Groups obtained from Land-based Stations [Green triangle: LKC station; Green square: CWD group off LKC; Blue line: SCLKCMP boundary]



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. The Ecological Acoustic Recorder (EAR) deployment is generally for 4-6 weeks prior to data retrieval for analysis. In this reporting month, the EAR has remained underwater since re-deployment on 13 May 2017 and is currently positioned at south of Sha Chau Island with 20% duty cycle (**Figure 6.5**). Acoustic data is reviewed to give an indication of CWDs occurrence patterns and to obtain anthropogenic noise information simultaneously. Analysis (by a specialized team of acousticians) involved manually browsing through every acoustic recording and logging the occurrence of dolphin signals. All data will be re-played by computer as well as listened to by human ears for accurate assessment of dolphin group presence. As the period of data collection and analysis takes more than two months, PAM results could not be reported in monthly intervals.

6.6 Site Audit for CWD-related Mitigation Measures

During the reporting period, silt curtains were in place by the contractors for sand blanket laying works, in which dolphin observers were deployed by each contractor in accordance with the Marine Mammal Watching Plan (MMWP). Teams of at least two dolphin observers were deployed at 10 to 13 dolphin observation stations by the contractors for continuous monitoring of the Dolphin Exclusion Zone (DEZ) by all contractors for DCM 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 408 individuals being trained and the training records kept by the ET. From the contractors' MMWP observation records and DEZ monitoring records, no dolphin or other marine mammals were observed within or around the silt curtains or the DEZs in this reporting month. These contractors' records were also audited by the ET during site inspection.

Audits of acoustic decoupling 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 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 five days of land-based theodolite tracking survey effort as scheduled. The running quarterly encounter rates STG and ANI in the reporting month did not trigger the Action Level for CWD monitoring.

7 Environmental Site Inspection and Audit

7.1 Environmental Site Inspection

Weekly site inspections of the construction works for the advanced works contract, DCM contracts and reclamation contracts were carried out by the ET to audit 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**. Bi-weekly site inspections were also conducted by the IEC. Observations have been recorded in the site inspection checklists and provided to the contractors together with the appropriate follow-up actions where necessary.

The key observations from site inspection and associated recommendations were related to provision and maintenance of drip trays, as well as implementation of noise mitigation and dust suppression measures. In addition, recommendations were also provided during site inspection on barges, which included display of valid environmental related permits and licenses on barges; provision and maintenance of drip trays and spill kits; provision of proper storage area for general refuse, chemicals, and chemical waste; implementation of proper wastewater treatment, DEZ monitoring, dust suppression measures, acoustic decoupling measures, and spill and runoff preventive measures; as well as proper installation and maintenance of silt curtains.

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

7.2 Audit of Route Diversion and Speed Control of the 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 (ACE) 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 implementing the mitigation measure of requiring high speed ferries (HSFs) of SkyPier travelling between HKIA and Zhuhai / Macau to start diverting the route with associated speed control across the area, i.e. Speed Control Zone (SCZ), with high CWD abundance. The route diversion and speed restriction at the SCZ have been implemented since 28 December 2015.

Key audit findings for the SkyPier HSFs travelling to/from Zhuhai and Macau against the requirements of the SkyPier Plan during the reporting period are summarized in **Table 7.1**. The daily movements of all SkyPier HSFs in June 2017 (i.e., 56 to 95 daily movements) were within the maximum daily cap of 125 daily movements. There was fewer ferry movement on 12 June 2017 (56 movements) due to typhoon. Status of compliance with the annual daily average of 99 movements will be further reviewed in the annual EM&A Report.

In total, 834 ferry movements between HKIA SkyPier and Zhuhai / Macau were recorded in June 2017 and the data are presented in **Appendix G**. The time spent by the SkyPier HSFs travelling through the SCZ in June 2017 were presented in **Figure 7-1**. It will take 9.6 minutes to travel through the SCZ when the SkyPier HSFs adopt the maximum allowable speed of 15 knots within

the SCZ. **Figure 7-1** shows that all of the SkyPier HSFs spent more than 9.6 minutes to travel through the SCZ.

Duration of Ferry Movements through SCZ for JUN-2017 20 SCZ (minutes) 18 16 14 the through traveled Time 2 0 1-JUN-2017 2-JUN-2017 4-JUN-2017 9-JUN-2017 10-JUN-2017 11-JUN-2017 12-JUN-2017 13-JUN-2017 14-JUN-2017 15-JUN-2017 16-JUN-2017 17-JUN-2017 19-JUN-2017 20-JUN-2017 21-JUN-2017 22-JUN-2017 23-JUN-2017 24-JUN-2017 27-JUN-2017 28-JUN-2017 29-JUN-2017 18-JUN-2017 25-JUN-2017 26-JUN-2017

Figure 7-1 Duration of the SkyPier HSFs travelling through the SCZ for June 2017

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

One ferry was recorded with minor deviation from the diverted route on 17 June 2017. Notice was sent to the ferry operator (FO) and the case is under investigation by ET. The investigation result will be presented in the next monthly EM&A report

The cases of minor deviation from the diverted route recorded on 5, 13, 22 and 24 May 2017 were followed up after receiving information from the FO. For the cases on 5, 13 and 22 May 2017, ET's investigation found that the vessel captain had to give way to a vessel to ensure safety. After that, the HSF had returned to the normal route following the SkyPier Plan. For the remaining minor route deviation case on 24 May 2017, the vessel captain had to avoid collision with a floating object in front of the vessel to ensure safety, which caused the minor route deviation. After that, the HSF had returned to the normal route immediately.

Three meetings were held with FO representatives on 5, 7 and 15 June 2017 to review and discuss the deviation cases happened in the past few months as well as to share experience and recommendations to further strengthen the implementation of SkyPier Plan.

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

Requirements in the SkyPier Plan	1 June to 30 June 2017
Total number of ferry movements recorded and audited	834
Use diverted route and enter / leave SCZ through Gate Access Points	1 deviation, which is under investigation
Speed control in speed control zone	The average speeds taken within the SCZ of all HSFs were within 15 knots (9.9 knots to 14.0 knots), which complied with the SkyPier Plan. The time used by HSFs to travel through SCZ is presented in Figure 7-1 .
Daily Cap (including all SkyPier HSFs)	56 to 95 daily movements (within the maximum daily cap - 125 daily movements).

7.3 Audit of Construction and Associated Vessels

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

ET carried out the following actions during the reporting period:

- Three skipper training sessions were held for contractors' concerned skippers of relevant
 construction vessels to familiarize them with the predefined routes; general education on
 local cetaceans; guidelines for avoiding adverse water quality impact; the required
 environmental practices / measures while operating construction and associated vessels
 under the Project; and guidelines for operating vessels safely in the presence of CWDs.
 The list of all trained skippers was properly recorded and maintained by ET.
- Six skipper training sessions were held by contractor's Environmental Officer. Competency test was subsequently conducted with the trained skippers by ET.
- 16 skippers were trained by ET and 12 skippers were trained by contractor's Environmental Officer in June 2017. In total, 687 skippers were trained from August 2016 to June 2017.
- The upgraded Marine Surveillance System (MSS) was launched in March 2017. The MSS
 automatically recorded deviation cases such as speeding, entering no entry zone, not
 traveling through the designated gate. ET conducted checking to ensure the MSS records
 deviation cases accurately.
- Deviations such as speeding in the works area, entering from non-designated gates and entering no-entry zones were identified. All the concerned contractors were reminded to comply with the requirements of the MTRMP-CAV during the bi-weekly MTCC audit.
- 3-month rolling programmes (one month record and two 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.

The IEC of the Project had performed audit on the compliance of the requirements as part of the EM&A programme.

7.4 Implementation of Dolphin Exclusion Zone

The DEZ Plan was submitted in accordance with EP Condition 3.1 (v) requirement and Section 10.3 of the Updated EM&A Manual, and approved in April 2016 by EPD. The 24-hour DEZs with a 250m radius for marine works were established and implemented by the contractors for DCM works in accordance with the DEZ Plan.

During the reporting period, ET has been notified that no dolphins were sighted within the DEZ by the contractors. ET has checked the relevant records to audit the implementation of DEZ and followed up with contractors on improper practices in DEZ monitoring identified during site inspection.

7.5 Ecological Monitoring

In accordance with the Manual, ecological monitoring shall be undertaken monthly at the Horizontal Directional Drilling (HDD) daylighting location on Sheung Sha Chau Island during the HDD construction works period from August to March. Since the construction works on Sheung Sha Chau is suspended during the ardeid's breeding season between April to July, no ecological monitoring was carried out in this reporting period.

7.6 Status of Submissions under Environmental Permits

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

Table 7.2: Status of Submissions under Environmental Permit

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

7.7 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 month are presented in **Appendix E**.

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

7.8.1 Complaints

An environment-related complaint was received on 22 May 2017 regarding alleged cement discharges from a construction vessel during reclamation activities of the Project. Investigation was conducted by the ET in accordance with the Complaint Management Plan of the Project. The anonymous complainant did not provide any information on the case (e.g. date/time of the observation) or any details of the vessel (e.g. name, description or characteristics of the vessel, etc.). The ET recognized the concerned vessel as a DCM barge. Review of the water quality monitoring results in April and May 2017 indicated that there were no exceedances of Action or Limit levels for total alkalinity in those two months, hence no indications suggesting significant discharge of cement into the marine environment. Also, there were no discharge out of the site boundary of the Project observed during the water quality monitoring events. Nevertheless, the ET has reminded and reiterated to the DCM contractors to ensure proper implementation of the relevant precautionary/ mitigation measures including proper deployment of primary silt curtains installed on their DCM barges and maintaining good housekeeping to avoid spillage/leakage of

untreated wastewater/materials into the surrounding marine environment. The ET observed that the relevant precautionary/ mitigation measures had been carried out by the DCM contractors. The ET will continue to monitor the implementation and effectiveness of the relevant precautionary/ mitigation measures during the regular and ad hoc site inspections.

7.8.2 Notifications of Summons or Status of Prosecution

Summons were received in June 2017 alleging use of powered mechanical equipment outside the permitted hours for the aviation fuel pipeline diversion works in December 2016.

7.8.3 Cumulative Statistics

Cumulative statistics on complaints, notifications of summons and status of prosecutions are summarized in **Appendix 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:

Advanced Works:

Contract P560 (R) Aviation Fuel Pipeline Diversion Works

- HDD works: and
- Stockpiling of excavated materials from HDD operation.

DCM Works:

Contract 3201 to 3205 DCM Works

- Laving of sand blanket; and
- DCM trials and works.

Reclamation Works:

Contract 3206 Main Reclamation Works

- Site office establishment; and
- Laying of sand blanket.

Terminal 2 Expansion Works:

Contract 3501 Antenna Farm and Sewage Pumping Station

Site formation works.

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 laying of sand blankets and DCM works;
- DEZ monitoring for DCM works and implementation of MMWP for silt curtain deployment by the contractors' dolphin observers;
- Sorting, recycling, storage and disposal of general refuse and construction waste;
- Management of chemicals and avoidance of oil spillage on-site; and

• Acoustic decoupling measures for equipment on marine vessels.

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

8.3 Monitoring Schedule for the Coming Reporting Period

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

9 Conclusion and Recommendation

The key activities of the Project carried out in the reporting period included DCM works and trials, laying of sand blanket, site office establishment and HDD works.

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

No exceedance of the Action or Limit Levels in relation to construction dust, construction noise, construction waste and CWD monitoring was recorded in the reporting month.

The water quality monitoring results for total alkalinity and SS obtained during the reporting period did not trigger their corresponding Action and Limit Levels stipulated in the EM&A programme for triggering the relevant investigation and follow-up procedures under the programme if being exceeded. For DO, turbidity, chromium, and nickel, some of the testing results exceeded the relevant Action or Limit Levels, and the corresponding investigations were conducted accordingly. The investigation findings concluded that the exceedances were not due to the Project.

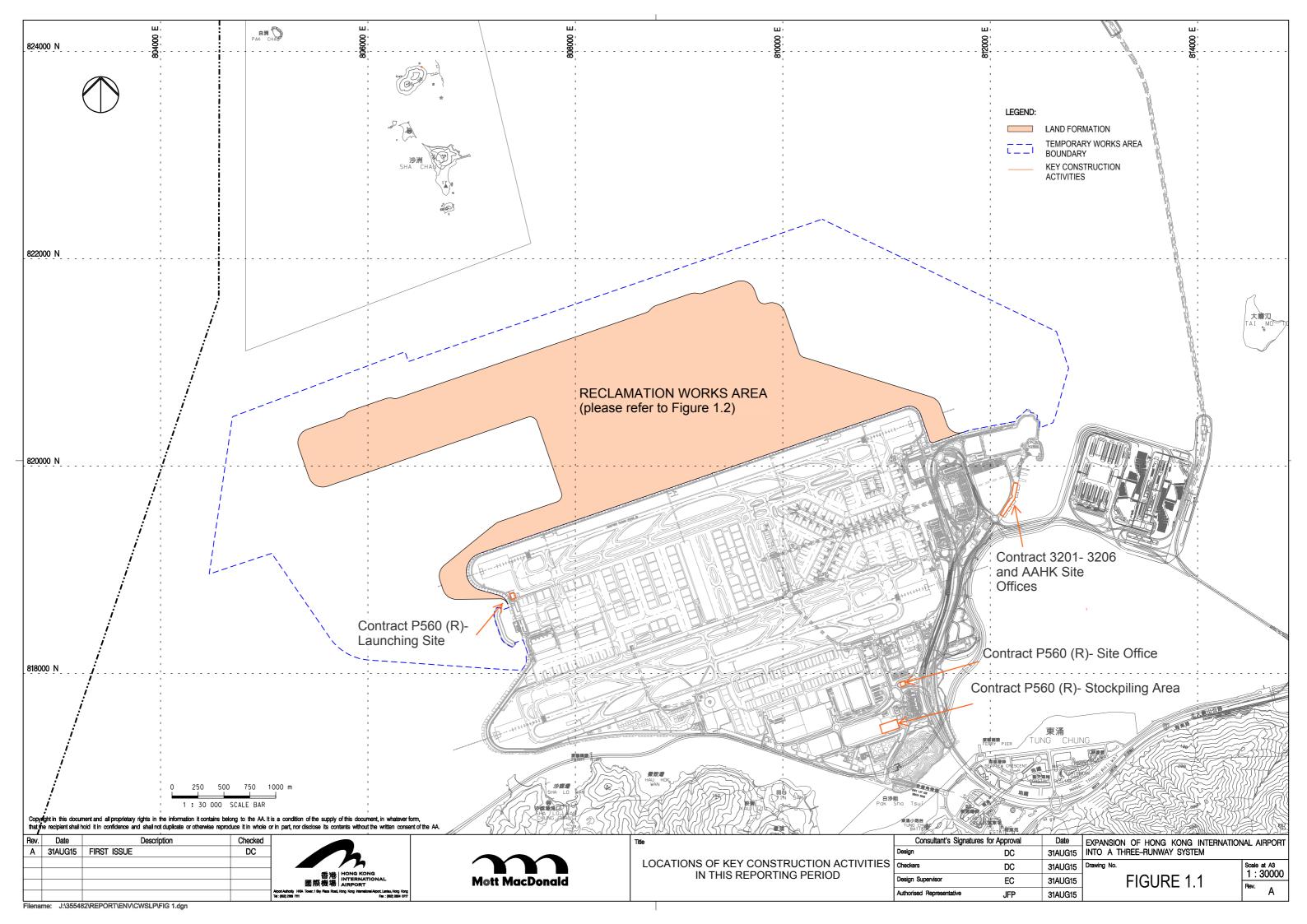
Weekly site inspections of the construction works were carried out by the ET to audit the implementation of proper environmental pollution control and mitigation measures for the Project. Bi-weekly site inspections were also conducted by the IEC. Observations have been recorded in the site inspection checklists, including the observations on the conditions of silt curtains, which have been provided to the contractors together with the appropriate follow-up actions where necessary.

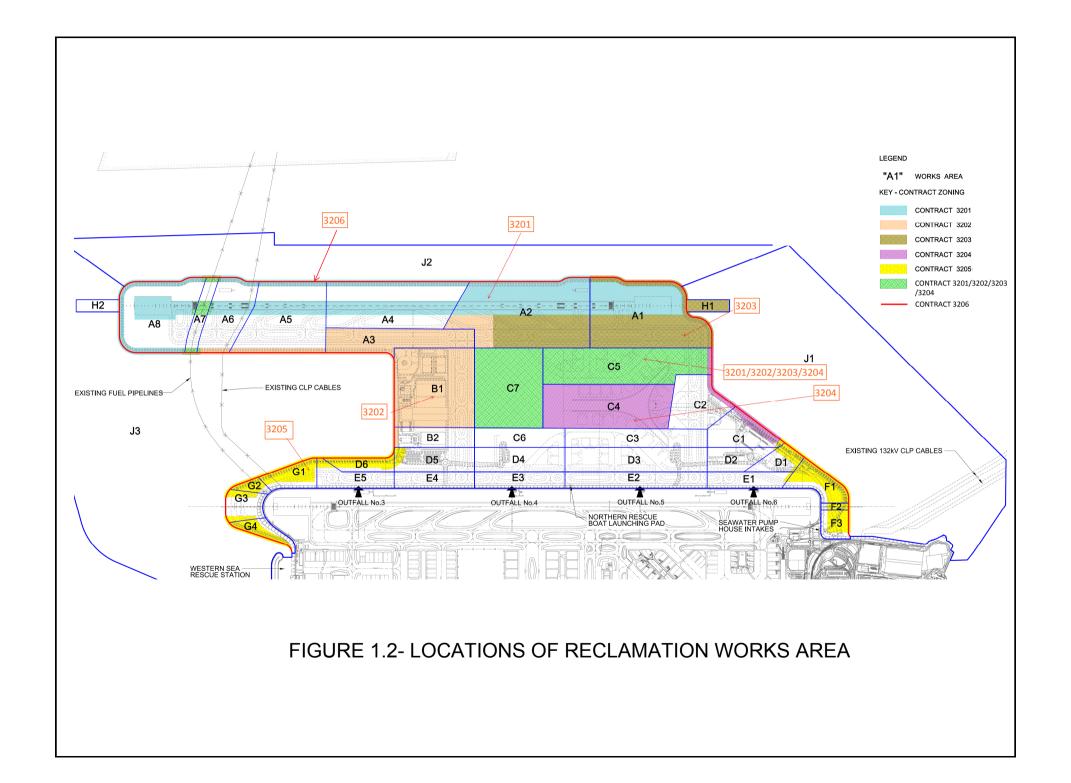
On the implementation of Marine Mammal Watching Plan, silt curtains were in place by the contractors for laying of sand blanket and dolphin observers were deployed in accordance with the plan. On the implementation of DEZ Plan, dolphin observers at 10 to 13 dolphin observation stations were deployed for continuous monitoring of the DEZ by all contractors for DCM works in accordance with the DEZ Plan. Trainings for the proposed dolphin observers were provided by the ET prior to the aforementioned works, with the training records kept by the ET. From the contractors' MMWP observation records and DEZ monitoring records, no dolphin or other marine mammals were observed within or around the silt curtains, and no dolphins were sighted within the DEZ. These contractors' records were checked by the ET during site inspection. Audits of acoustic decoupling for construction vessels were also carried out by the ET.

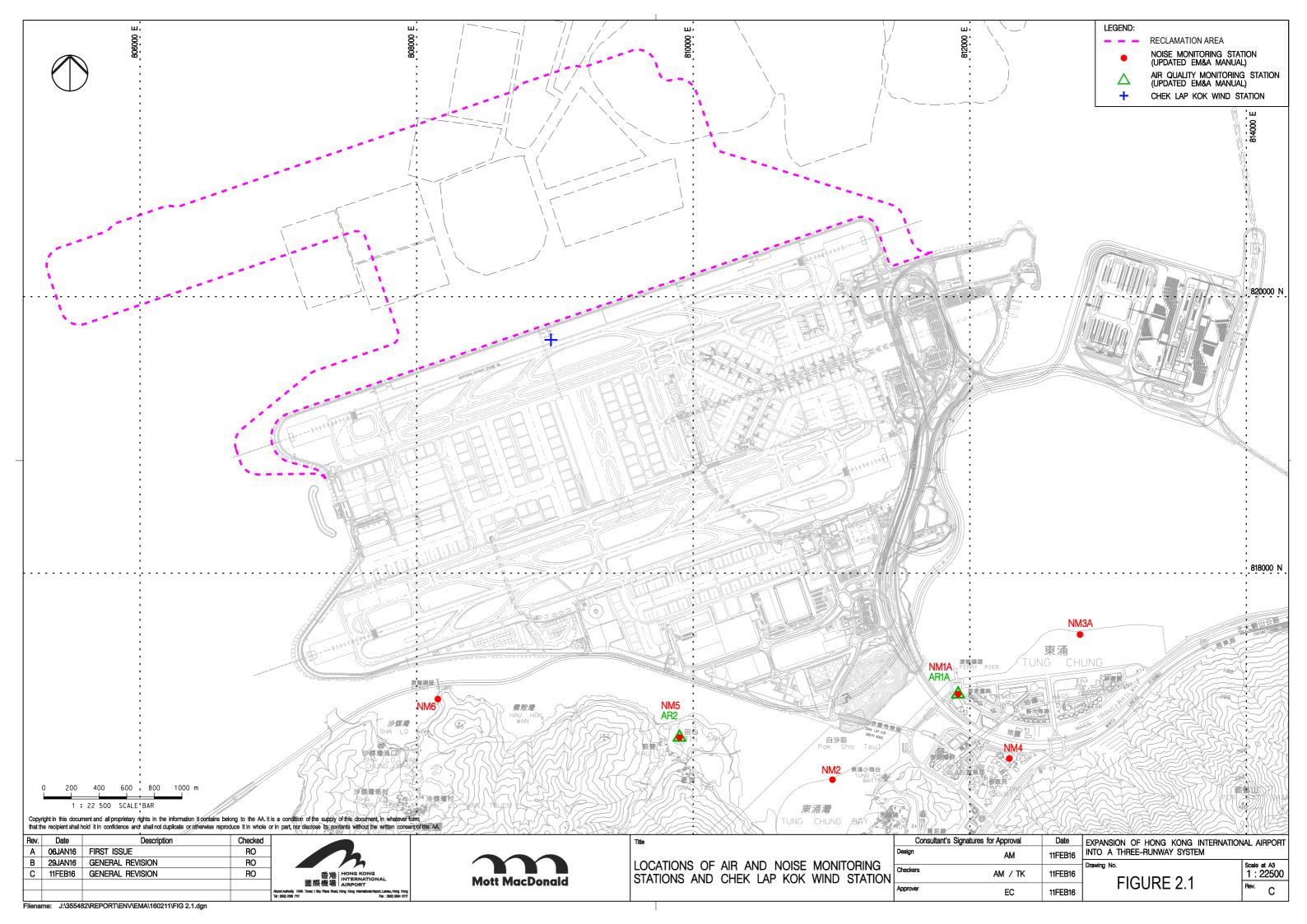
On the implementation of the Marine Travel Routes and Management Plan for High Speed Ferries of SkyPier (the SkyPier Plan), the daily movements of all SkyPier HSFs in June 2017 were in the range of 56 to 95 daily movements, which are within the maximum daily cap of 125 daily movements. A total of 834 HSF movements under the SkyPier Plan were recorded in the reporting period. All HSFs had travelled through the SCZ with average speeds under 15 knots (9.9 to 14.0 knots), which were in compliance with the SkyPier Plan. One ferry movement with minor deviation from the diverted route is under investigation by ET. The investigation result will be presented in the next monthly EM&A report. In summary, the ET and IEC have audited the HSF movements against the SkyPier Plan and conducted follow up investigation or actions accordingly. Three meetings were held with FO representatives in June 2017 to review and discuss the deviation cases as well as to share experience and recommendations to further strengthen the implementation of SkyPier Plan.

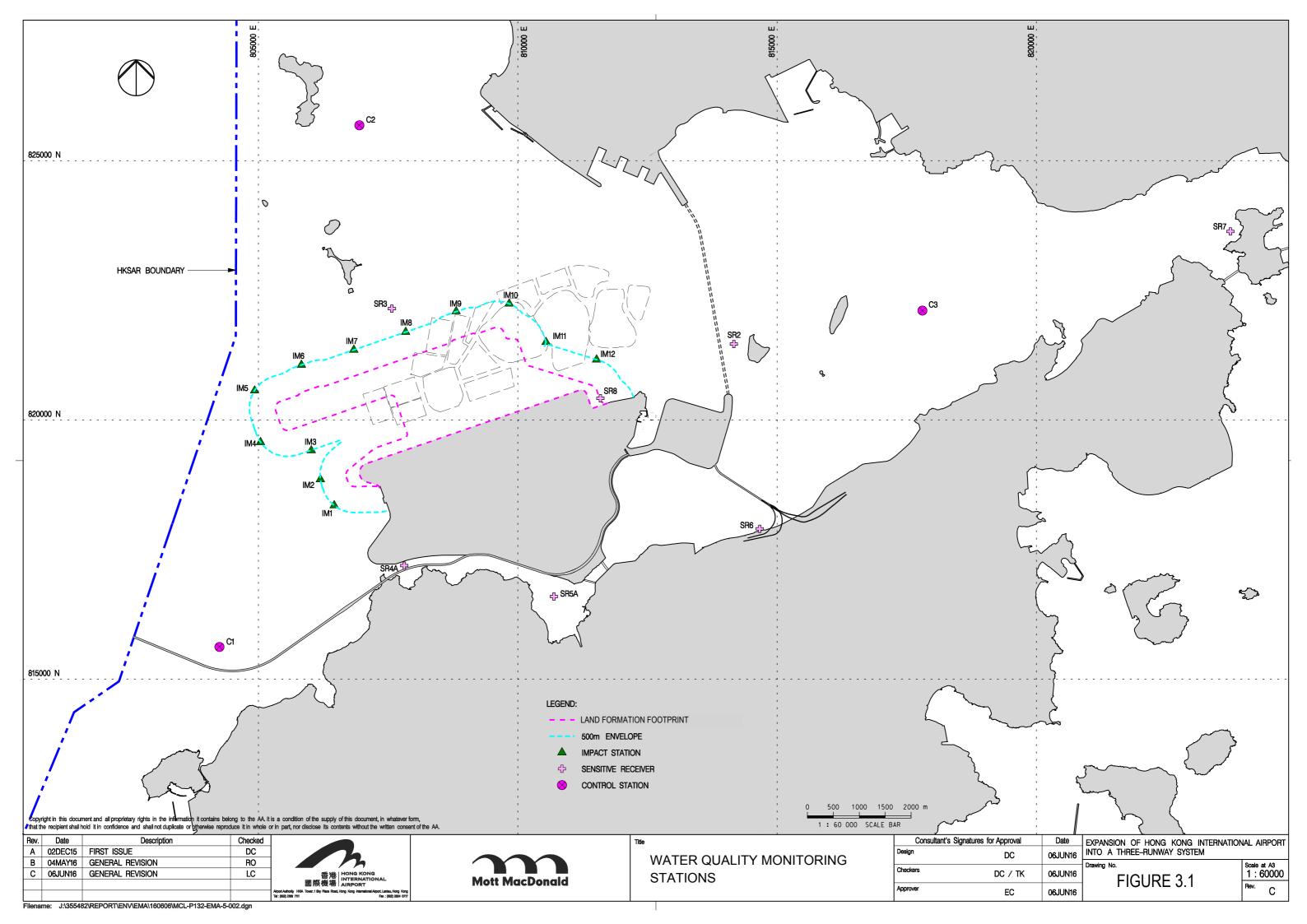
On the implementation of the MTRMP-CAV, the upgraded MSS was launched in March 2017. The MSS automatically recorded the deviation case such as speeding, entering no entry zone, not traveling through the designated gate. ET conducted checking to ensure the MSS records all deviation cases accurately. Training has been provided for the concerned skippers to facilitate them in familiarising with the requirements of the MTRMP-CAV. ET reminded contractors that all vessels shall avoid entering the no-entry zone, in particular the Brothers Marine Park which has been designated since 30 December 2016. 3-month rolling programmes for construction vessel activities were also received from contractors.

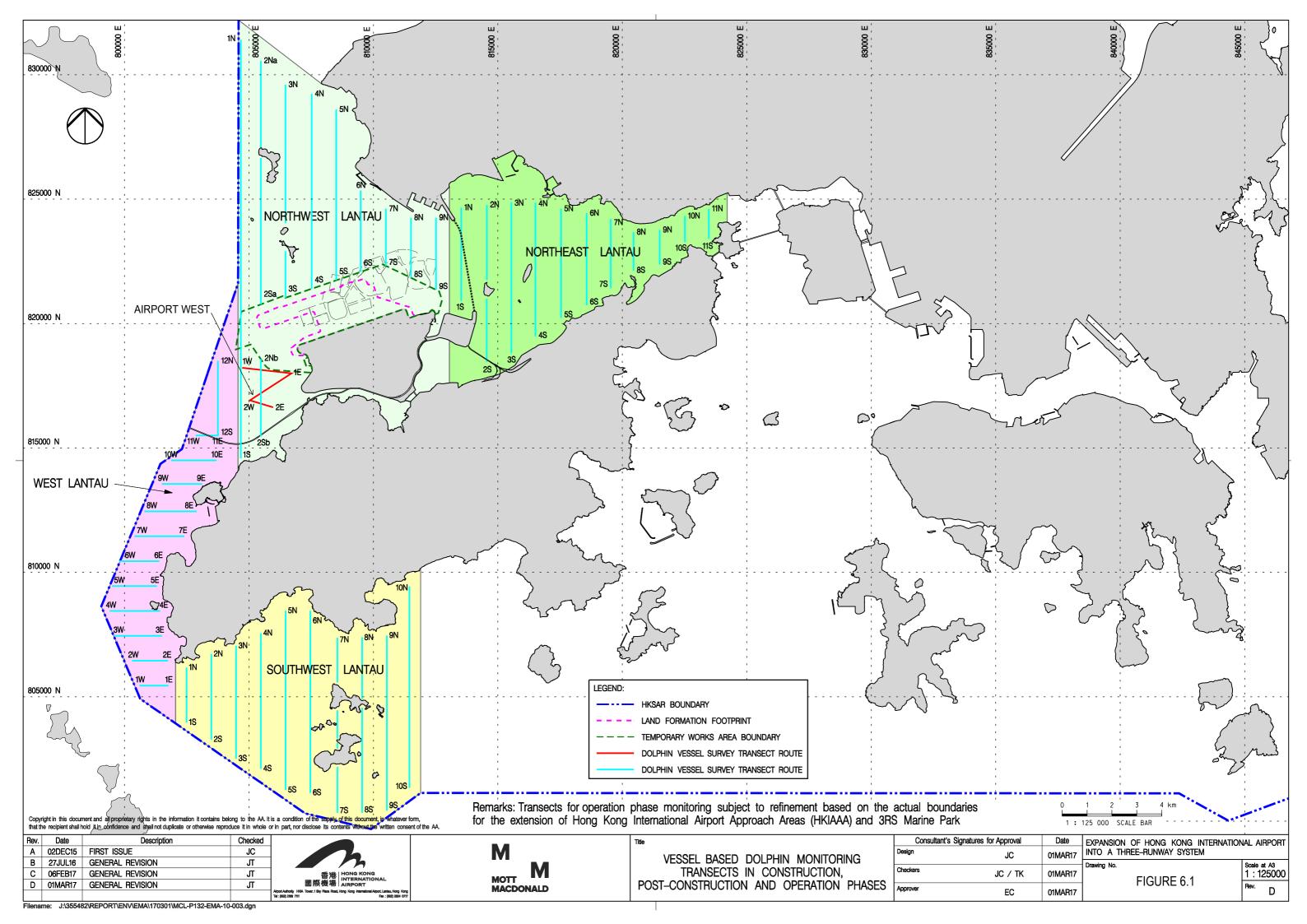
Figures

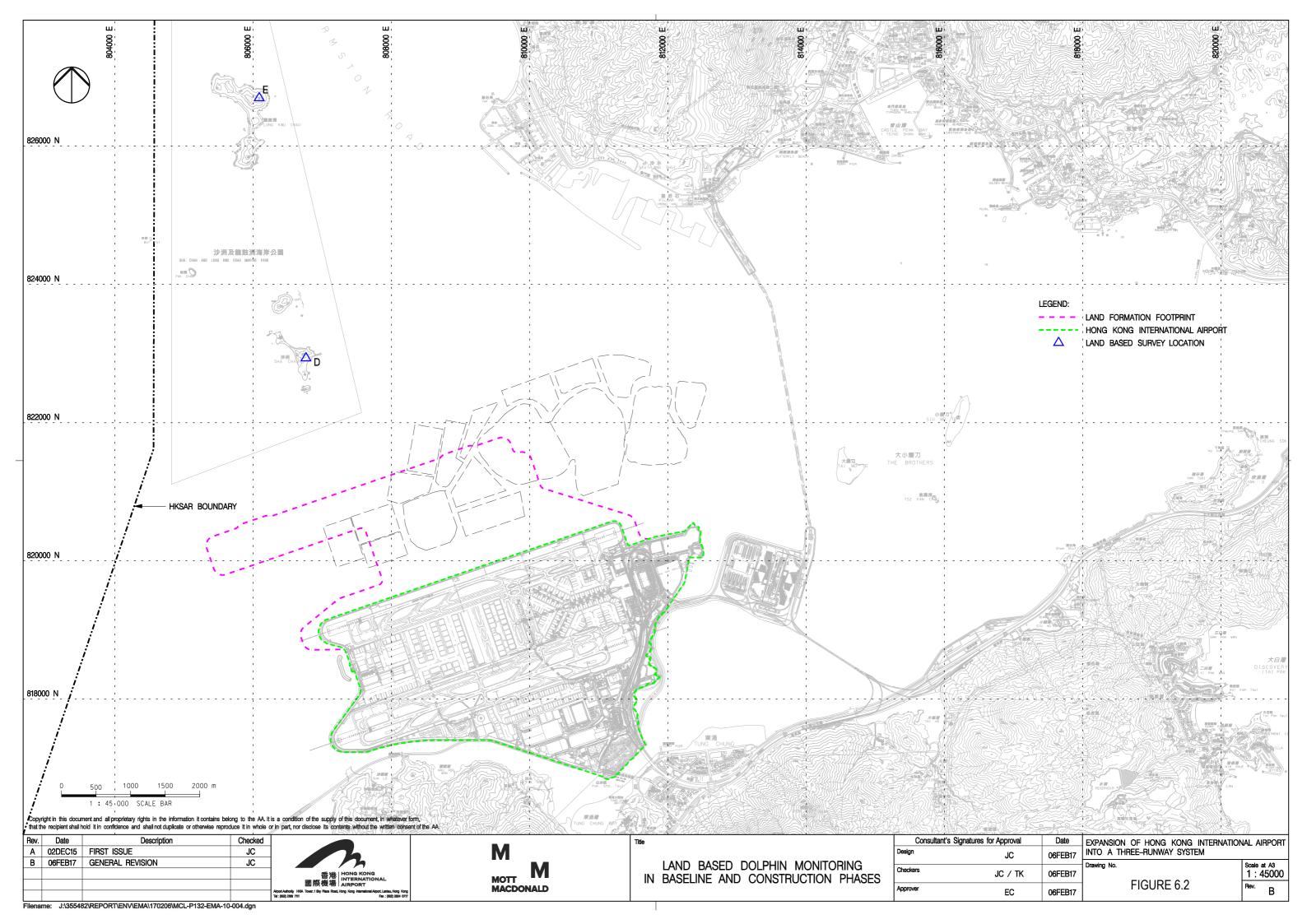


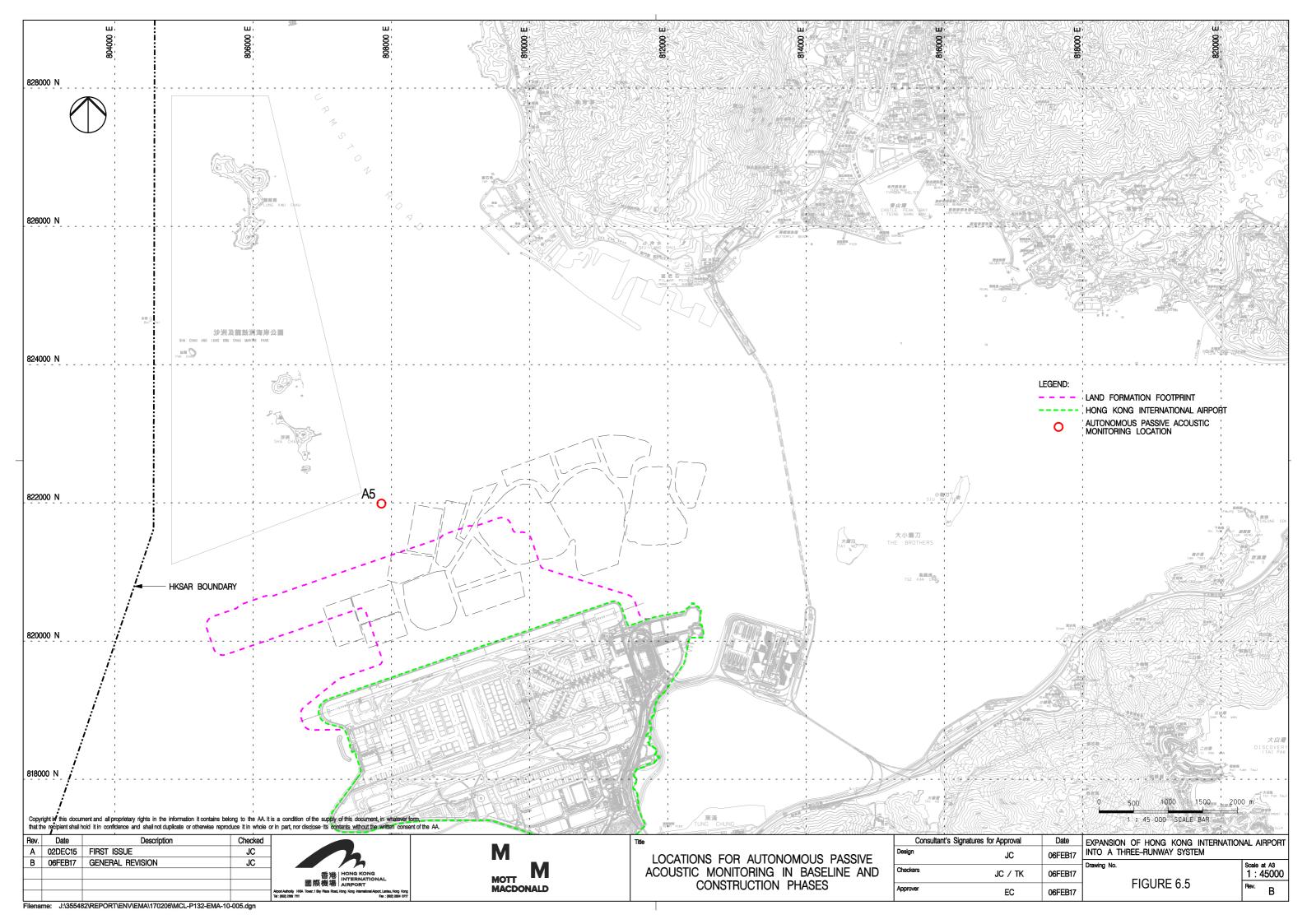












Appendix A. Environmental Mitigation Implementation Schedule (EMIS) for Construction Phase



Appendix A 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	N/A



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures	Mitigation Measures
				Timing of completion of measures	Implemented?
			Loading, Unloading or Transfer of Dusty Materials	Within construction	I
			 All dusty materials should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material wet. 	site / Duration of the construction phase	
			Debris Handling	Within construction	I
			 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 	site / Duration of the construction phase	
			■ Before debris is dumped into a chute, water should be sprayed so that it remains wet when it is dumped.		
			Transport of Dusty Materials	Within construction	1
			 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. 	site / Duration of the construction phase	
			Wheel washing	Within construction	1
			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.	site / Duration of the construction phase	
			Use of vehicles	Within construction	1
			 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; 	site / Duration of the construction phase	
			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	Within construction	1
			• Where a site boundary adjoins a road, street, service lane or other area accessible to the public, hoarding of not less than 2.4m high from ground level should be provided along the entire length of that portion of the site boundary except for a site entrance or exit.	site / Duration of the construction phase	
5.2.6.5	2.1	-	Best Practices for Concrete Batching Plant	Within Concrete	N/A
			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:	Batching Plant / Duration of the construction phase	
			Cement and other dusty materials		



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



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion	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	N/A
			Concrete truck shall be loaded in such a way as to minimise airborne dust emissions. The following control measures shall be implemented:	Batching Plant / Duration of the	
			(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	N/A
			 All practicable measures shall be taken to prevent or minimize the dust emission caused by vehicle movement; and 	Batching Plant / Duration of the	
			 All access and route roads within the premises shall be paved and adequately wetted. 	construction phase	
			Housekeeping	Within Concrete	N/A
			A high standard of housekeeping shall be maintained. All spillages or deposits of materials on ground, support structures or roofs shall be cleaned up promptly by a cleaning method acceptable to EPD. Any dumping of materials at open area shall be prohibited.	Batching Plant / Duration of the construction phase	
.2.6.6	2.1	-	Best Practices for Asphaltic Concrete Plant	Within Concrete	N/A
			The relevant best practices for dust control as stipulated in the Guidance Note on the Best Practicable Means for Tar and Bitumen Works (Asphaltic Concrete Plant) BPM 15 (94) as well as in the future Specified Process licence should be adopted. These include:	Batching Plant / Duration of the construction phase	
			Design of Chimney		
			• The chimney shall not be less than 3 metres plus the building height or 8 metres above ground level, whichever is the greater;		
			■ The efflux velocity of gases from the main chimney shall not be less than 12 m/s at full load condition;		



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			■ The flue gas exit temperature shall not be less than the acid dew point; and		
			 Release of the chimney shall be directed vertically upwards and not be restricted or deflected. 		
			Cold feed side	Within Concrete	N/A
			 The aggregates with a nominal size less than or equal to 5 mm shall be stored in totally enclosed structure such as storage bin and shall not be handled in open area; 	Batching Plant / Duration of the	
			• 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. 		
			Hot feed side	Within Concrete Batching Plant / Duration of the construction phase	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	Mitigation Measures
				Timing of completion of 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 Within Concrete Batching Plant / Duration of the construction phase	
			Housekeeping		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.		
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	



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



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			Storage piles and bins Where practicable, free falling transfer points from conveyors to stockpiles shall be fitted with flexible curtains or be enclosed with chutes designed to minimize the drop height. Water sprays shall also be used where required.	Within Concrete Batching Plant / Duration of the construction phase	N/A
			 The surface of all surge piles and stockpiles of blasted rocks or aggregates shall be kept sufficiently wet by water spraying wherever practicable; 		
			 All open stockpiles for aggregates of size in excess of 5 mm shall be kept sufficiently wet by water spraying where practicable; or 		
			• The stockpiles of aggregates 5 mm in size or less shall be enclosed on 3 sides or suitably located to minimize wind-whipping. Save for fluctuations in stock or production, the average stockpile shall stay within the enclosure walls and in no case the height of the stockpile shall exceed twice the height of the enclosure walls.		
			 Scattered piles gathered beneath belt conveyors, inside and around enclosures shall be cleared regularly. 		
			Rock drilling equipment	Within Concrete	N/A
			 Appropriate dust control equipment such as a dust extraction and collection system shall be used during rock drilling activities. 	Batching Plant / Duration of the construction phase	
			Hazard to Human Life – Construction Phase		
Table 6.40	3.2	-	 Precautionary measures should be established to request barges to move away during typhoons. 	Construction Site / Construction Period	I
Table 6.40	3.2	-	 An appropriate marine traffic management system should be established to minimize risk of ship collision. 	Construction Site / Construction Period	I
Table 6.40	3.2	-	• Location of all existing hydrant networks should be clearly identified prior to any construction works.	Construction Site / Construction Period	N/A
			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; 		



-	 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. Adoption of QPME QPME should be adopted as far as applicable. 	of measures Within the Project site / During construction	ı
-	 material stockpiles and other structures to be effectively utilised, where practicable, to screen noise from on-site construction activities. Adoption of QPME 	Within the Project site /	ı
-	on-site construction activities. Adoption of QPME	Within the Project site /	1
-	•		I
	- QFIVIL SHOULD be adopted as fall as applicable.	phase / Prior to commencement of operation	
-	 Use of Movable Noise Barriers Movable noise barriers should be placed along the active works area and mobile plants to block the direct line of sight between PME and the NSRs. 	Within the Project site / During construction phase / Prior to commencement of operation	I
-	 Use of Noise Enclosure/ Acoustic Shed Noise enclosure or acoustic shed should be used to cover stationary PME such as air compressor and generator. 	Within the Project site / During construction phase / Prior to commencement of operation	I
	-	 Noise enclosure or acoustic shed should be used to cover stationary PME such as air compressor and generator. 	 Use of Noise Enclosure/ Acoustic Shed Noise enclosure or acoustic shed should be used to cover stationary PME such as air compressor and generator. Within the Project site / During construction phase / Prior to commencement of



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
8.8.1.2 and	5.1	2.26	Marine Construction Activities	Within construction site / Duration of the construction phase	I
8.8.1.3			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 water within and adjacent to the works site; and 		
			• For ground improvement activities including DCM, the wash water from cleaning of the drilling shaft should be appropriately treated before discharge. The Contractor should ensure the waste water meets the WPCO/TM requirements before discharge. No direct discharge of contaminated water is permitted.		
			Specific Measures to be Applied to All Works Areas	Within construction site / Duration of the construction phase	
			 The daily maximum production rates shall not exceed those assumed in the water quality assessment in the EIA report; 		I
			 A maximum of 10 % fines content to be adopted for sand blanket and 20 % fines content for marine filling below +2.5 mPD prior to substantial completion of seawall (until end of Year 2017) shall be specified in the works contract document; 		
			 An advance seawall of at least 200m to be constructed (comprising either rows of contiguous permanent steel cells completed above high tide mark or partially completed seawalls with rock core to high tide mark and filter layer on the inner side) prior to commencement of marine filling activities; 		N/A
			 Closed grab dredger shall be used to excavate marine sediment; 		N/A
			 Silt curtains surrounding the closed grab dredger shall be deployed in accordance with the Silt Curtain Deployment Plan; and 		*(The arrangement silt curtain has beer modified. The detai can be referred to S Curtain Deploymen Plan)
			The Silt Curtain Deployment Plan shall be implemented.		1



Double layer Type III's silt curtains to be applied around the active eastern works areas prior to commencement of sand blanket laying activities. The silt curtains shall be conducted to validate the performance of the silt curtains. Double layer silt curtain to enclose WSRs C7a and silt screens installed at the intake points for both WSR C7a and C8 prior to commencement of construction; and The silt curtains and silt screens should be regularly checked and maintained. The silt curtains and silt screens should be regularly checked and maintained. Specific Measures to be Applied to Land Formation Activities during Marine Filling Works Double layer "Type II" or "Type III" or Type III" or "Type III" or "	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 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 construction phase Double layer silt curtains to be applied at the south-western opening prior to commencement of marine filling activities; 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 arrangemencurtain has been in The details referred to Speployment)				 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 	site / Duration of the	*(The arrangement of silt curtain has been modified. The details can be referred to Silt Curtain Deployment
 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; Double layer silt curtains to be applied at the south-western opening prior to commencement of marine filling activities; 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 required to Speloyment opening prior to commencement opening prior to commencement of marine filling activities) 				■ The silt curtains and silt screens should be regularly checked and maintained.	site / Duration of the	1
filling activities; arrangemer curtain has modified. The can be refer Curtain Dep 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 *(The requires silt curtain / has been mar the details referred to S Deployment)				 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 		arrangement of silt curtain has been modified. The details can be referred to Silt Curtain Deployment
C7a and C8 prior to commencement of marine filling activities; and *(The requirement of marine filling activities) and *(The requirement						N/A *(The arrangement of silt curtain has been modified. The details can be referred to Silt Curtain Deployment
						N/A *(The requirement of silt curtain / screen has been modified. The details can be referred to Silt Curtain Deployment Plan)
				■ The silt curtains and silt screens should be regularly checked and maintained.		· · ·



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures	Mitigation Measures Implemented?^
				Timing of completion of 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 and 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	N/A
8.8.1.7			Silt curtains shall be deployed around the piling activities to completely enclose the piling works and care should be taken to avoid spillage of excavated materials into the surrounding marine environment.	site / Duration of the construction phase	
			For construction of the eastern approach lights at the CMPs		
			 Ground improvement via DCM using a close-spaced layout shall be completed prior to commencement of piling works; 		
			 Steel casings shall be installed to enclose the excavation area prior to commencement of excavation; 		
			The excavated materials shall be removed using a closed grab within the steel casings;		
			No discharge of the cement mixed materials into the marine environment will be allowed; and		
			Excavated materials shall be treated and reused on-site.		
8.8.1.8	5.1	-	Construction of Site Runoff and Drainage	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	
		erosion and sedimentation control facilities. Channels, earth bunds or sand bag barriers	 Install perimeter cut-off drains to direct off-site water around the site and implement internal drainage, erosion and sedimentation control facilities. Channels, earth bunds or sand bag barriers should be provided on site to direct storm water to silt removal facilities. The design of the temporary on-site 	-	I



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



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures	Mitigation Measures Implemented?^
				Timing of completion of measures	
			• Oils and fuels should only be stored in designated areas which have pollution prevention facilities. To prevent spillage of fuels and solvents to any nearby storm water drain, all fuel tanks and storage areas should be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank. The bund should be drained of rainwater after a rain event.		
8.8.1.12	5.1	2.28	Drilling Activities for the Submarine Aviation Fuel Pipelines	Within construction	I
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 construction phase	I
			 During pipe cleaning, appropriate desilting or sedimentation device should be provided on site for treatment before discharge. The Contractor should ensure discharge water from the sedimentation tank meet the WPCO/TM requirements before discharge; and 		
			 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; 		1
			 Only non-dredged ground improvement methods should be adopted in order to completely avoid the need for dredging and disposal of marine sediment for the proposed land formation work; 	-	I
			 Excavation work for constructing the APM tunnels, BHS tunnels and airside tunnels will not be down to the CMPs beneath the fill materials in order to avoid excavating any sediments; and 	-	N/A



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.		N/A
10.5.1.1	7.1	-	The following good site practices should be performed during the construction activities include:	Project Site Area /	I
			 Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site; 	Construction Phase	
			 Training of site personnel in proper waste management and chemical waste handling procedures; 		
			 Provision of sufficient waste disposal points and regular collection for disposal; 		
			 Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks by tarpaulin/ similar material or by transporting wastes in enclosed containers. The cover should be extended over the edges of the sides and tailboards; 		
			 Stockpiles of C&D materials should be kept wet or covered by impervious sheets to avoid wind-blown dust; 		
			 All dusty materials including C&D materials should be sprayed with water immediately prior to any loading transfer operation so as to keep the dusty material wet during material handling at the barging points/ stockpile areas; 		
			 C&D materials to be delivered to and from the project site by barges or by trucks should be kept wet or covered to avoid wind-blown dust; 		
			• The speed of the trucks including dump trucks carrying C&D or waste materials within the site should be controlled to about 10 km/hour in order to reduce the adverse dust impact and secure the safe movement around the site; and		
			To avoid or minimise dust emission during transport of C&D or waste materials within the site, each and every main temporary access should be paved with concrete, bituminous hardcore materials or metal plates and kept clear of dusty materials. Unpaved parts of the road should be sprayed with water or a dust suppression chemical so as to keep the entire road surface wet.		
10.5.1.3	7.1	-	The following practices should be performed to achieve waste reduction include:	Project Site Area /	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 Timing of completion of measures	Mitigation Measures Implemented?^
			 Encourage collection of aluminium cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the work force; 		
			 Any unused chemicals or those with remaining functional capacity should be collected for reused as far as practicable; 		
			 Proper storage and site practices to minimise the potential for damage or contamination of construction materials; and 		
			 Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste. 		
10.5.1.5	7.1		 Inert and non-inert C&D materials should be handled and stored separately to avoid mixing the two types of materials. 	Project Site Area / Construction Phase	I
10.5.1.5	7.1	-	Any recyclable materials should be segregated from the non-inert C&D materials for collection by reputable licensed recyclers whereas the non-recyclable waste materials should be disposed of at the designated landfill site by a reputable licensed waste collector.	Project Site Area / Construction Phase	I
10.5.1.6	7.1	-	A trip-ticket system promulgated shall be developed in order to monitor the off-site delivery of surplus inert C&D materials that could not be reused on-site for the proposed land formation work at the PFRF and to control fly tipping.	Project Site Area / Construction Phase	I
10.5.1.6	7.1	2.32	 The Contractor should prepare and implement a Waste Management Plan detailing various waste arising and waste management practices. 	Construction Phase	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; The loading, unloading, handling, transfer or storage of treated and untreated sediment should be	Project Site Area / Construction Phase	N/A
			carried out in such a manner to prevent or minimise dust emissions;		
			 All practical measures, including but not limited to speed control for vehicles, should be taken to minimise dust emission; 		
			 Good housekeeping should be maintained at all times at the sediment treatment facility and storage area; 		
			 Treated and untreated sediment should be clearly separated and stored separately; and 		
			 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. 		
10.5.1.18	7.1	-	The marine sediments to be removed from the cable field joint area would be disposed of at the designated disposal sites to be allocated by the MFC. The following mitigation measures should be strictly	Project Site Area / Construction Phase	N/A



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



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



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?
12.7.2.3	9.1	2.30	Avoidance and Minimisation of Direct Impact to Egretry	During construction	I
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	1
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	I
			 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	I
			 Use of Deep Cement Mixing (DCM) method instead of conventional seabed dredging for the land formation works to reduce the risk of negative impacts through the elevation of suspended solids and contaminants on CWDs, fisheries and the marine environment; 		1



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



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



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
13.11.5.21 to 13.11.5.23	10.6.1	-	Construction Vessel Speed Limits and Skipper Training A speed limit of 10 knots should be strictly observed for construction vessels at areas with the highest CWD densities; and Vessels traversing through the work areas should be required to use predefined and regular routes (which would presumably become known to resident dolphins) to reduce disturbance to cetaceans due to vessel movements. Specific marine routes shall be specified by the Contractor prior to construction commencing.	All areas north and west of Lantau Island during construction phase	I
			Fisheries Impact – Construction Phase		
14.9.1.2 to 14.9.1.5	-		Minimisation of Land Formation Area Minimise the overall size of the land formation needed for the additional facilities to minimise the overall loss of habitat for fisheries resources.	Land formation footprint / during detailed design phase to completion of construction	I
14.9.1.6	-	-	Use of Construction Methods with Minimal Risk/Disturbance Use of non-dredge method for the main land formation and ancillary works including the diversion of the aviation fuel pipeline to the AFRF;	During construction phase at marine works area	I
			 Use of Deep Cement Mixing (DCM) method instead of conventional seabed dredging for the land formation works to reduce the risk of negative impacts through the elevation of suspended solids and contaminants on fisheries and the marine environment; 	-	I
			 Use of bored piling in short duration to form the new approach lights and marker beacons for the new runway; and 	_	N/A
			 Use of horizontal directional drilling (HDD) method and water jetting methods for placement of undersea cables and pipelines to minimise the disturbance to fisheries resources. 	_	I
14.9.1.11	-		Strict Enforcement of No-Dumping Policy • A policy prohibiting dumping of wastes, chemicals, oil, trash, plastic, or any other substance that would potentially be harmful to dolphins and/or their habitat in the work area;	All works area during the construction phase	I
			 Mandatory educational programme of the no-dumpling policy be made available to all construction site personnel for all project-related works; 		
			■ Fines for infractions should be implemented; and		
			 Unscheduled, on-site audits shall be implemented. 		
14.9.1.12	-		 Good Construction Site Practices Regular inspection of the integrity and effectiveness of all silt curtains and monitoring of effluents to ensure that any discharge meets effluent discharge guidelines; Keep the number of working or stationary vessels present on-site to the minimum anytime; and 	All works area during the construction phase	I



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



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion	Mitigation Measures Implemented?^
				of measures may be disassembled in phases	
Table 15.6	12.3	-	CM6 - Avoidance of excessive height and bulk of site buildings and structures.	New passenger concourse, terminal 2 expansion and other proposed airport related buildings and structures under the project; Upon handover and	N/A
				completion of works.	
Table 15.6 12.3 -	CM7 - Control of night-time lighting by hooding all lights and through minimisation of night working periods.	All works areas for duration of works;	I		
				Upon handover and completion of works. – may be disassembled in phases	
Table 15.6	12.3	-	CM8 - All existing trees shall be carefully protected during construction. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall	All existing trees to be retained;	I
			be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in contractor's works areas.	Upon handover and completion of works.	
Table 15.6	12.3	-	CM9 - Trees unavoidably affected by the works shall be transplanted where practical. A detailed Tree Transplanting Specification shall be provided in the Contract Specification, if applicable. Sufficient time for	All existing trees to be affected by the works;	N/A
			necessary tree root and crown preparation periods shall be allowed in the project programme.	Upon handover and completion of works.	
Table 15.6	12.3	-	CM10 - Land formation works shall be followed with advanced hydroseeding around taxiways and runways as soon as practical.	All affected existing grass areas around runways and verges/Duration of works;	N/A
				Upon handover and completion of works.	
			Cultural Heritage Impact - Construction Phase		
			Not applicable.		



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

Notes:

I= implemented where applicable;

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

Appendix B. Monitoring Schedule

1

Monitoring Schedule of This Reporting Period

Jun-17

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
				Site Inspection		
				AR1A NM1A, NM4		
				NWTA, NW4		
				WQ General & Regular DCM mid-ebb: 18:35		
				mid-flood: 11:43		
4	5	6	7	8	9	10
		Site Inspection	Site Inspection CWD Vessel Survey	Site Inspection CWD Vessel Survey	CWD Vessel Survey	
		AR2	AR1A	· ·	,	
		NM3A, NM5	NM1A, NM4	NM6		
WQ General & Regular DCM		WQ General & Regular DCM		WQ General & Regular DCM		WQ General & Regular DCM
mid-ebb: 10:07 mid-flood: 16:00		mid-ebb: 11:24 mid-flood: 17:52		mid-ebb: 12:30 mid-flood: 19:22		mid-ebb: 13:35 mid-flood: 20:40
11	12	13	14	15	16	17
	CWD Vessel Survey		Site Inspection	Site Inspection CWD Vessel Survey		
	AR2	AR1A			AR2	
	NM5, NM6		NM1A, NM4	NM3A		
		WQ General & Regular DCM^		WQ General & Regular DCM		WQ General & Regular DCM
		mid-ebb: 15:18 mid-flood: 08:23		mid-ebb: 16:40 mid-flood: 09:45		mid-ebb: 06:59 mid-flood: 11:57
18	19	20	21	22	23	24
		Site Inspection	Site Inspection	Site Inspection CWD Vessel Survey	Site Inspection CWD Vessel Survey	
	AR1A			CWD Land-based Survey	CWD Land-based Survey	
	NM1A			AR2 NM3A, NM5, NM6	AR1A NM4	
		WQ General & Regular DCM mid-ebb: 09:57		WQ General & Regular DCM mid-ebb: 11:31		WQ General & Regular DCM mid-ebb: 13:05
		mid-ebb: 09:57 mid-flood: 16:02		mid-flood: 11:31		mid-flood: 13.05
25	26	27	28	29	30	
	Site Inspection CWD Land-based Survey	Site Inspection CWD Land-based Survey	Site Inspection CWD Vessel Survey	Site Inspection CWD Land-based Survey	Site Inspection	
			AR2	AR1A		
	NM6		NM3A, NM5	NM1A, NM4		
		WQ General & Regular DCM mid-ebb: 15:28		WQ General & Regular DCM mid-ebb: 17:05		
		mid-flood: 15.26		mid-flood: 17:03		
		Notes:				
			NM1A/AR1A - Man Tung Road Park NM3A - Site Office			
		Air quality and Noise Monitoring Station	NM4 - Ching Chung Hau Po Woon Prin	nary School		
			NM5/AR2 - Village House, Tin Sum NM6 - House No. 1, Sha Lo Wan			
		CWD - Chinese White Dolphin WQ - Water Quality				
		DCM - Deep Cemenet Mixing				
		^ Cancelled due to adverse weather				

1

Tentative Monitoring Schedule of Next Reporting Period

Jul-17

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
						WQ General & Regular DCM mid-ebb: 07:09
						mid-flood: 12:38
2	3	Site Inpsection	5	6 Site Inpsection	7	8
		· ·	CWD Land-based Survey	CWD Vessel Survey		
		AR1A, AR2 NM1A, NM3A, NM4, NM5		NM6		
						W0.0 10.0 1.00M
		WQ General & Regular DCM mid-ebb: 10:16		WQ General & Regular DCM mid-ebb: 11:34		WQ General & Regular DCM mid-ebb: 12:44
	40	mid-flood: 16:47	40	mid-flood: 18:34	4.4	mid-flood: 19:50
9	10	11 Site Inpsection	12	13 Site Inpsection	14	15
	CWD Land-based Survey AR1A, AR2	CWD Vessel Survey	CWD Vessel Survey	CWD Vessel Survey	CWD Land-based Survey AR1A, AR2	
	NM1A, NM3A, NM4, NM5			NM6	ARTA, ARZ	
		WQ General & Regular DCM^		WQ General & Regular DCM		WQ General & Regular DCM
		mid-ebb: 14:26		mid-ebb: 15:37		mid-ebb: 17:00
16	17	mid-flood: 07:33 18	19	mid-flood: 08:53 20	21	mid-flood: 10:31
.0		Site Inpsection		Site Inpsection		
	CWD Land-based Survey	CWD Vessel Survey	CWD Land-based Survey	CWD Vessel Survey AR1A, AR2	CWD Vessel Survey	
		NM6		NM1A, NM3A, NM4, NM5		
		WQ General & Regular DCM		WQ General & Regular DCM		WQ General & Regular DCM
		mid-ebb: 08:22 mid-flood: 14:30		mid-ebb: 10:22 mid-flood: 17:14		mid-ebb: 12:05 mid-flood: 19:12
23	24	25	26	27	28	29
		Site Inpsection CWD Vessel Survey		Site Inpsection		
		Vossel curvey	AR1A, AR2			
	NM6		NM1A, NM3A, NM4, NM5			
		WQ General & Regular DCM mid-ebb: 14:27		WQ General & Regular DCM mid-ebb: 15:53		WQ General & Regular DCM mid-ebb: 17:14
		mid-flood: 07:33		mid-ebb: 15:53 mid-flood: 09:08		mid-flood: 17:14
30	31	Notes:				
			NM1A/AR1A - Man Tung Road Park NM3A - Site Office			
		Air quality and Noise Monitoring Station	NM4 - Ching Chung Hau Po Woon Prim NM5/AR2 - Village House, Tin Sum	nary School		
			NM6 - House No. 1, Sha Lo Wan			
		CWD - Chinese White Dolphin WQ - Water Quality				
		DCM - Deep Cemenet Mixing				

Appendix C. Monitoring Results

Air Quality Monitoring Results

1-hour TSP Results

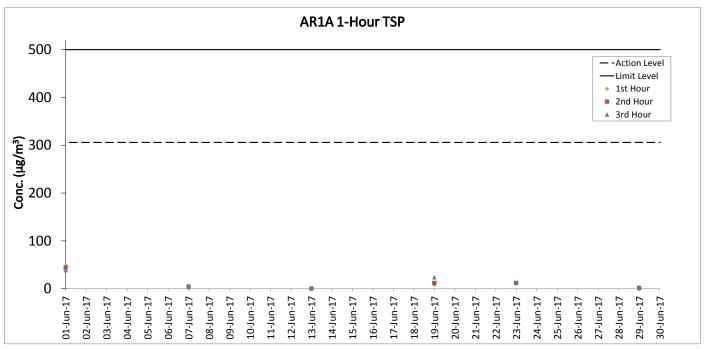
Station: AR1A- Man Tung Road Park

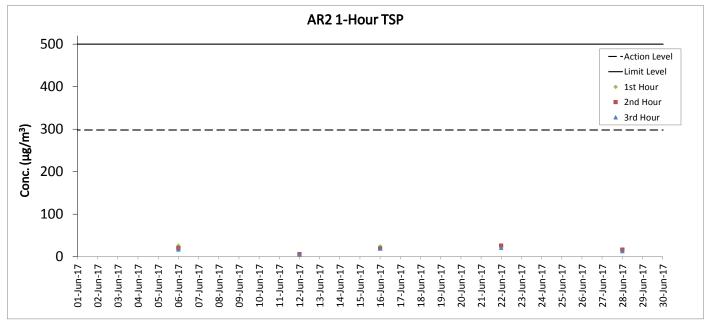
Station. ANIA- I	viair rang iv	oud I dik	I				
Date	Time	Weather	Wind Speed (m/s)	Wind Direction (deg)	1-hr TSP (µg/m³)	Action Level (µg/m³)	Limit Level (µg/m³)
01-Jun-17	14:10	Fine	11	229	48	306	500
01-Jun-17	15:10	Fine	10.9	227	44	306	500
01-Jun-17	16:10	Fine	9.3	220	39	306	500
07-Jun-17	08:46	Sunny	4.9	169	1	306	500
07-Jun-17	09:46	Sunny	5.8	166	4	306	500
07-Jun-17	10:46	Sunny	4.5	172	6	306	500
13-Jun-17	13:05	Rainy	2.6	51	1	306	500
13-Jun-17	14:05	Rainy	2.9	71	0.3	306	500
13-Jun-17	15:05	Rainy	2.5	94	0.3	306	500
19-Jun-17	13:27	Cloudy	4.3	207	8	306	500
19-Jun-17	14:27	Cloudy	7.7	241	12	306	500
19-Jun-17	15:27	Cloudy	4.8	251	24	306	500
23-Jun-17	14:15	Sunny	3.6	154	11	306	500
23-Jun-17	15:15	Sunny	4.5	153	12	306	500
23-Jun-17	16:15	Sunny	3.6	154	12	306	500
29-Jun-17	14:10	Sunny	5.6	250	3	306	500
29-Jun-17	15:10	Sunny	6.5	242	1	306	500
29-Jun-17	16:10	Sunny	3.9	184	2	306	500

1-hour TSP Results

Station: AR2- Village House, Tin Sum

itation. ANZ- VI	nage House,	, mi Jum					
Date	Time	Weather	Wind Speed (m/s)	Wind Direction (deg)	1-hr TSP (µg/m³)	Action Level (µg/m³)	Limit Level (µg/m³)
06-Jun-17	09:10	Sunny	5.0	151	26	298	500
06-Jun-17	10:10	Sunny	6.0	163	20	298	500
06-Jun-17	11:10	Sunny	6.9	162	17	298	500
12-Jun-17	09:05	Cloudy	6.1	225	5	298	500
12-Jun-17	10:05	Cloudy	5.1	63	6	298	500
12-Jun-17	11:05	Cloudy	7.2	114	5	298	500
16-Jun-17	09:05	Cloudy	7.4	226	24	298	500
16-Jun-17	10:05	Cloudy	8.1	226	19	298	500
16-Jun-17	11:05	Cloudy	7.3	231	19	298	500
22-Jun-17	09:00	Fine	4.5	208	26	298	500
22-Jun-17	10:00	Fine	5.8	198	26	298	500
22-Jun-17	11:00	Fine	4.5	181	21	298	500
28-Jun-17	09:00	Sunny	3.7	243	17	298	500
28-Jun-17	10:00	Sunny	4.9	269	16	298	500
28-Jun-17	11:00	Sunny	5.3	240	13	298	500





1

Noise Monitoring Results

Noise Measurement Results

Station: NM1A- Man Tung Road Park

D-+-	14/	T:	Measured	Measured	I 4D/A)	
Date	Weather	Time	L ₁₀ dB(A)	L ₉₀ dB(A)	L _{eq(30mins)} dB(A)	
01-Jun-17	Fine	15:00	70.5	59.0		
01-Jun-17	Fine	15:05	72.0	58.5	1	
01-Jun-17	Fine	15:10	71.0	59.0	71	
01-Jun-17	Fine	15:15	70.0	57.5	1 /1	
01-Jun-17	Fine	15:20	71.5	57.5		
01-Jun-17	Fine	15:25	72.0	59.5	1	
07-Jun-17	Sunny	10:38	73.0	61.5		
07-Jun-17	Sunny	10:43	73.0	60.5		
07-Jun-17	Sunny	10:48	71.0	59.0	72	
07-Jun-17	Sunny	10:53	72.0	61.0	/2	
07-Jun-17	Sunny	10:58	72.0	61.0		
07-Jun-17	Sunny	11:03	72.0	59.5		
14-Jun-17	Cloudy	15:25	72.0	60.0		
14-Jun-17	Cloudy	15:30	73.0	57.5		
14-Jun-17	Cloudy	15:35	71.0	58.0	72	
14-Jun-17	Cloudy	15:40	71.0	57.5	12	
14-Jun-17	Cloudy	15:45	71.0	58.0		
14-Jun-17	Cloudy	15:50	72.5	59.5		
19-Jun-17	Cloudy	14:00	72.5	58.5		
19-Jun-17	Cloudy	14:05	72.0	58.5		
19-Jun-17	Cloudy	14:10	73.0	60.5	72	
19-Jun-17	Cloudy	14:15	72.5	58.5	/2	
19-Jun-17	Cloudy	14:20	72.0	59.0		
19-Jun-17	Cloudy	14:25	71.5	58.5		
29-Jun-17	Sunny	14:36	71.0	58.5		
29-Jun-17	Sunny	14:41	72.0	58.5		
29-Jun-17	Sunny	14:46	66.0	55.0	70	
29-Jun-17	Sunny	14:51	71.0	55.5	/0	
29-Jun-17	Sunny	14:56	70.0	56.0		
29-Jun-17	Sunny	15:01	72.5	58.0		

Remarks:

Noise Measurement Results

Station: NM3A- Site Office

Date	Weather	Time	Measured L ₁₀ dB(A)	Measured L ₉₀ dB(A)	L _{eq(30mins)} dB(A)
06-Jun-17	Sunny	15:20	62.5	59.5	
06-Jun-17	Sunny	15:25	63.0	59.5	
06-Jun-17	Sunny	15:30	62.0	59.5	61
06-Jun-17	Sunny	15:35	64.0	60.0] 61
06-Jun-17	Sunny	15:40	61.0	59.0	
06-Jun-17	Sunny	15:45	61.0	52.5	
15-Jun-17	Fine	16:05	65.5	61.0	
15-Jun-17	Fine	16:10	63.5	61.0	
15-Jun-17	Fine	16:15	62.0	60.5	57
15-Jun-17	Fine	16:20	65.0	60.5] 3/
15-Jun-17	Fine	16:25	66.5	61.0	
15-Jun-17	Fine	16:30	65.0	61.0	
22-Jun-17	Sunny	15:05	61.5	59.5	
22-Jun-17	Sunny	15:10	60.5	59.5	
22-Jun-17	Sunny	15:15	61.0	59.5	60
22-Jun-17	Sunny	15:20	60.5	59.5	
22-Jun-17	Sunny	15:25	61.5	59.5	
22-Jun-17	Sunny	15:30	60.5	59.5	
28-Jun-17	Sunny	13:27	62.5	60.5	
28-Jun-17	Sunny	13:32	61.0	60.0	
28-Jun-17	Sunny	13:37	64.5	60.0	61
28-Jun-17	Sunny	13:42	63.0	60.0] 01
28-Jun-17	Sunny	13:47	61.0	60.0	
28-Jun-17	Sunny	13:52	60.5	59.5	

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

Noise Measurement Results

Station: NM4- Ching Chung Hau Po Won Primary School

D-4-	144 41	T :	Measured	Measured	dp/A)
Date	Weather	Time	L ₁₀ dB(A)	L ₉₀ dB(A)	L _{eq(30mins)} dB(A)
01-Jun-17	Fine	13:20	62.5	59.5	
01-Jun-17	Fine	13:25	63.5	61.0	
01-Jun-17	Fine	13:30	63.5	61.0	65
01-Jun-17	Fine	13:35	64.0	60.5	05
01-Jun-17	Fine	13:40	63.0	59.5	
01-Jun-17	Fine	13:45	63.0	59.0	
07-Jun-17	Sunny	09:22	64.0	60.5	
07-Jun-17	Sunny	09:27	64.0	61.0	
07-Jun-17	Sunny	09:32	65.0	60.0	65
07-Jun-17	Sunny	09:37	62.5	60.0	03
07-Jun-17	Sunny	09:42	63.5	60.0	
07-Jun-17	Sunny	09:47	63.0	60.0	
14-Jun-17	Cloudy	14:19	63.0	59.0	
14-Jun-17	Cloudy	14:24	63.5	59.5	
14-Jun-17	Cloudy	14:29	63.0	59.0	65
14-Jun-17	Cloudy	14:34	63.5	59.0] 03
14-Jun-17	Cloudy	14:39	64.0	60.0	
14-Jun-17	Cloudy	14:44	66.0	60.0	
23-Jun-17	Sunny	13:17	63.0	59.5	
23-Jun-17	Sunny	13:22	63.0	59.0	
23-Jun-17	Sunny	13:27	63.0	59.0	64
23-Jun-17	Sunny	13:32	62.5	59.0	04
23-Jun-17	Sunny	13:37	62.5	59.0	
23-Jun-17	Sunny	13:42	62.5	60.0	
29-Jun-17	Sunny	13:15	62.5	58.5	
29-Jun-17	Sunny	13:20	62.0	58.5	
29-Jun-17	Sunny	13:25	62.5	58.0	64
29-Jun-17	Sunny	13:30	63.0	58.0	64
29-Jun-17	Sunny	13:35	65.5	59.5	
29-Jun-17	Sunny	13:40	63.0	59.0	

Remarks:

Noise Measurement Results

Station: NM5- Village House, Tin Sum

D-1-	NA	T	Measured	Measured	1 dp(A)
Date	Weather	Time	L ₁₀ dB(A)	L ₉₀ dB(A)	L _{eq(30mins)} dB(A)
06-Jun-17	Sunny	09:39	56.0	52.5	
06-Jun-17	Sunny	09:44	66.5	60.0	
06-Jun-17	Sunny	09:49	68.0	66.5	66
06-Jun-17	Sunny	09:54	67.0	64.5] 66
06-Jun-17	Sunny	09:59	65.5	62.0	1
06-Jun-17	Sunny	10:04	58.5	54.0	1
12-Jun-17	Cloudy	09:39	57.5	50.0	
12-Jun-17	Cloudy	09:44	60.0	49.5	7
12-Jun-17	Cloudy	09:49	59.5	50.0	
12-Jun-17	Cloudy	09:54	56.0	48.5	- 58
12-Jun-17	Cloudy	09:59	56.0	49.5	7
12-Jun-17	Cloudy	10:04	58.0	51.0	1
22-Jun-17	Fine	09:35	55.0	49.0	
22-Jun-17	Fine	09:40	55.5	47.0	7
22-Jun-17	Fine	09:45	54.5	47.0	56
22-Jun-17	Fine	09:50	53.0	46.5	7 30
22-Jun-17	Fine	09:55	54.5	46.5	1
22-Jun-17	Fine	10:00	57.5	47.5	7
28-Jun-17	Sunny	09:50	57.0	47.0	
28-Jun-17	Sunny	09:55	59.5	45.5	1
28-Jun-17	Sunny	10:00	61.5	48.0	67
28-Jun-17	Sunny	10:05	56.0	48.0	67
28-Jun-17	Sunny	10:10	54.5	49.5	
28-Jun-17	Sunny	10:15	72.5	50.0	7

Remarks:

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

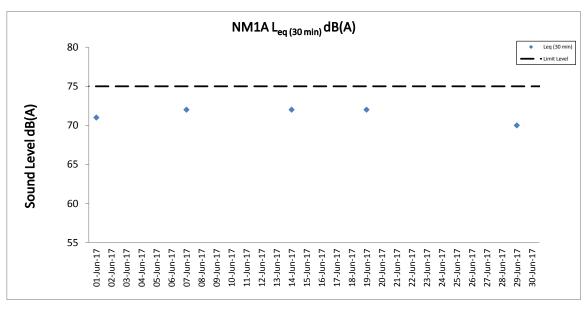
⁺³dB (A) correction was applied to free-field measurement.

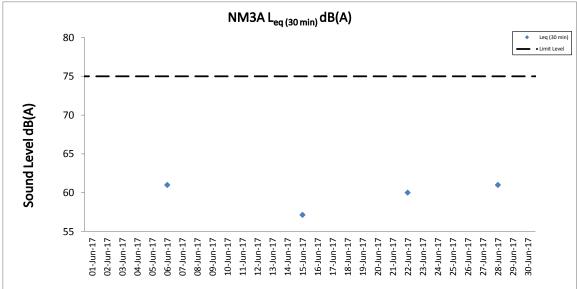
Noise Measurement Results

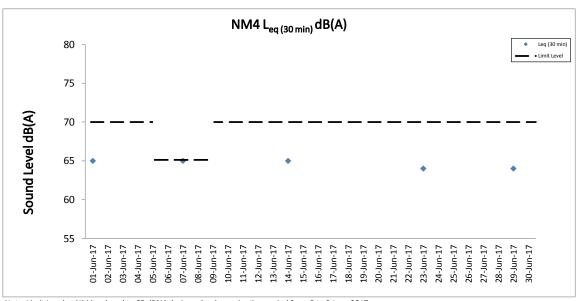
Station: NM6- House No.1 Sha Lo Wan

Date	Weather	Time	Measured L ₁₀ dB(A)	Measured L ₉₀ dB(A)	L _{eq(30mins)} dB(A)
08-Jun-17	Sunny	09:40	64.0	54.5	
08-Jun-17	Sunny	09:45	60.0	54.0	
08-Jun-17	Sunny	09:50	63.5	53.5	62
08-Jun-17	Sunny	09:55	63.5	54.0	02
08-Jun-17	Sunny	10:00	60.0	51.0	
08-Jun-17	Sunny	10:05	62.5	52.0	
12-Jun-17	Sunny	09:38	64.0	51.5	
12-Jun-17	Sunny	09:43	68.0	52.0	
12-Jun-17	Sunny	09:48	66.0	51.5	٦
12-Jun-17	Sunny	09:53	68.0	52.5	- 62
12-Jun-17	Sunny	09:58	73.5	56.0	
12-Jun-17	Sunny	10:03	71.5	61.5	
22-Jun-17	Fine	09:40	75.5	52.5	
22-Jun-17	Fine	09:45	73.0	51.5	
22-Jun-17	Fine	09:50	73.5	53.5	70
22-Jun-17	Fine	09:55	74.5	51.5	70
22-Jun-17	Fine	10:00	72.5	51.0	
22-Jun-17	Fine	10:05	66.5	49.0	
26-Jun-17	Sunny	09:43	73.5	55.0	
26-Jun-17	Sunny	09:48	76.5	56.6	
26-Jun-17	Sunny	09:53	72.5	55.0	70
26-Jun-17	Sunny	09:58	71.0	55.5	70
26-Jun-17	Sunny	10:03	72.0	56.5]
26-Jun-17	Sunny	10:08	73.5	53.5]

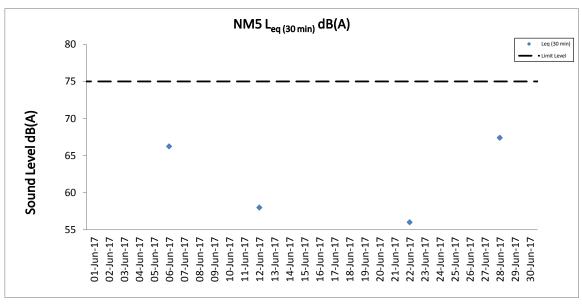
Remarks: +3dB (A) correction was applied to free-field measurement.

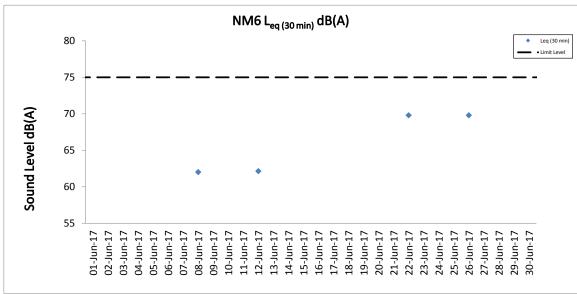






Note: Limit Level at NM4 reduced to 65 dB(A) during school examination period from 5 to 9 June 2017.





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Water Quality Monitoring Results

Water Quality Monitoring Results on 01 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Speed Current Oxygen (ppm) (ma/L) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Easting) Value DA 0.7 27.6 1.0 8 1 1146 8.0 3.6 Surface 27.6 114.6 21.7 1.0 0.8 38 27.6 8.1 1146 8.0 3.6 74 < 0.2 2.4 4.3 0.6 32 27.5 8.1 22.3 107.5 7.5 3.9 7 75 <0.2 2.3 C1 11:16 8.5 Middle 22.3 107.5 815610 804255 2.3 Cloudy Rough 75 4.3 0.6 27.5 8.1 22.3 107 4 7.5 3.9 6 75 <0.2 2.3 7.5 0.4 347 27.3 8.0 23.9 98.6 6.8 4.4 77 <0.2 2.1 24.6 6.9 Rottom 27.3 8 N 90.3 0.4 4.4 319 350 1.0 0.5 27.8 8.0 75 19.3 6.4 3.8 <0.2 3.1 91.3 Surface 27.8 8.0 19.3 91.3 75 1.0 0.5 359 27.8 8.0 19.3 91.3 6.4 3.8 6 < 0.2 3.1 0.2 76 6.2 27.7 6.3 4 < 0.2 2.8 6 8.0 19.4 88.5 C2 Cloudy Rough 12:36 12.3 Middle 27.7 19.4 88.5 77 825688 806944 3.1 88.4 77 6.2 0.2 27.6 8.0 194 6.3 2.8 5 <0.2 3.1 11.3 0.3 339 27.5 8.0 22.1 90.1 6.3 2.9 78 <0.2 3.0 Bottom 27.5 8.0 22.1 90.1 6.3 11.3 0.4 312 27.5 8.0 22.1 90.1 6.3 2.9 78 <0.2 3.2 0.4 27.5 8.0 6.4 2.5 <0.2 2.4 20.2 90.3 Surface 27.5 8.0 20.2 90.3 1.0 0.4 310 27.5 20.2 90.3 6.4 2.5 77 2.8 8.0 < 0.2 6.6 6.2 3.9 78 0.3 269 27.1 2.5 8.0 23.3 88.5 5 < 0.2 822118 817797 C3 Cloudy Moderate 10:36 13.1 Middle 27.1 8.0 23.3 88.5 3.7 2.6 2.7 6.6 0.3 274 27 1 8.0 23.3 88.5 6.2 3.9 3 80 <0.2 12.1 0.2 271 27.0 8.0 27.2 88.7 6.1 4.6 80 <0.2 2.6 Bottom 27.0 8.0 27.2 88.7 12.1 0.2 284 27.0 8.0 27.2 88.7 6.1 4.6 a۸ < 0.2 2.5 1.0 0.5 27 27.8 3.1 73 <0.2 1.8 8.0 22.4 103.6 7.2 103.6 Surface 27.8 8.0 22 4 1.0 0.5 27.8 8.0 22.4 103.6 7.2 3.1 74 <0.2 1.7 0.6 7.0 3.9 25 27.7 8.0 22.5 100.8 3.4 4 75 < 0.2 1.7 IM1 Cloudy Rough 11:31 7.7 Middle 27.7 8.0 22.5 100.8 75 818339 806454 27.7 22.5 76 <0.2 1.8 3.9 0.6 27 8.0 100.8 7.0 3.4 6 6.7 76 0.4 358 27.5 8.0 23.1 98.9 6.9 4.0 5 <0.2 1.8 Bottom 27.5 23.1 98.9 6.7 0.4 329 27.5 8.0 23.1 ag a 6.9 4.0 1 77 < 0.2 17 1.0 33 27.7 20.4 4.3 8.0 <0.2 1.8 Surface 27.7 8.0 20.4 103.5 1.0 0.7 34 27.7 8.0 103.5 7.3 4.3 74 <0.2 1.6 0.7 6.9 5.5 1.8 4.3 27.6 8.0 22.4 99.5 75 <0.2 818846 IM2 Cloudy Rough 11:38 8.6 Middle 27.6 8.0 22.4 99.5 75 806212 4.3 0.7 26 27.6 8.0 22.4 99.5 6.9 5.5 4 76 <0.2 2.0 77 7.6 0.6 27.4 8.0 24 0 977 6.8 59 4 -02 1.8 Bottom 27.4 8.0 24.0 97.7 6.8 7.6 77 0.6 24.0 97.7 6.8 5.9 27.4 8.0 1 < 0.2 1.8 1.0 0.5 45 27.7 7.9 20.1 97.7 6.9 3.7 4 73 <0.2 2.0 7.9 20.1 97.7 Surface 1.0 0.5 49 27.7 7.9 20.1 97.7 6.9 3.3 74 <0.2 4.4 0.5 27.4 75 8.0 21.4 6.9 <0.2 1.9 21.4 98.4 819427 IM3 11:46 8.7 27.4 8.0 806036 2.0 Cloudy Rough Middle 12 4.4 21.4 98.4 6.9 76 <0.2 2.0 0.6 27.4 8.0 4.1 6 77 7.7 0.5 359 2.0 27.5 8.0 23.9 99.7 6.9 4.9 6 < 0.2 23.2 6.9 8.0 99.6 Bottom 27.6 8.0 22.5 99.4 6.9 76 <0.2 0.6 330 27.6 4.9 2.1 1.0 19.8 99.3 2.0 0.3 40 27.8 8.0 19.8 7.0 5.8 74 <0.2 Surface 1.0 0.3 40 27.8 8.0 19.8 99.3 7.0 5.8 8 73 < 0.2 8.0 22.0 92.1 6.5 7.7 75 75 <0.2 2.2 IM4 11:57 8.0 Middle 27.2 8.0 22.0 92.1 75 819565 805028 2.1 Cloudy Rough 4.0 0.3 27.2 8.0 7.8 7.0 0.2 352 26.9 8.0 27.3 6.3 10.0 77 <0.2 2.2 91.4 5 26.9 27.3 91.4 6.3 Rottom 8.0 7.0 0.2 357 2.0 26.9 8.0 91.4 6.3 10.0 6 < 0.2 1.0 0.4 26 27.6 8.0 20.1 98.0 6.9 4.2 74 < 0.2 2.2 Surface 27.6 20.1 98.0 74 1.0 0.5 26 27.6 8.0 20.1 98.0 6.9 4.2 5 < 0.2 2.1 76 75 2.2 3.6 0.4 27.4 8.0 22.1 94.8 6.6 4.9 6 <0.2 IM5 Cloudy Rough 12:07 7.1 Middle 27.4 8.0 22.1 94.8 5.6 820576 804914 2.2 3.6 0.5 27.4 8.0 22.1 94.8 6.6 4.9 < 0.2 24.9 92.8 77 2.1 6.1 0.4 27.2 8.0 24.9 6.4 7.6 5 <0.2 92.8 27.2 8.0 6.4 Bottom 6.1 0.4 8.0 24.9 92.8 6.4 7.6 77 < 0.2 2.2 27.2 1.0 0.5 24 74 2.2 27.7 8.0 20.2 97.9 6.9 4.4 4 < 0.2 Surface 27.7 8.0 20.2 97.9 97.9 8.0 20.2 6.9 1.0 0.6 24 27.7 44 6 74 <0.2 3.3 0.4 21 27.5 8.0 93.4 6.6 4.8 4 75 75 <0.2 3.0 2.8 21.3 12:14 Middle 27.5 21.3 93.4 821076 805817 IM6 Cloudy Rough 6.6 3.3 0.4 21 27.5 8.0 93.4 4.8 4 <0.2 5.6 0.4 27.3 5.5 77 <0.2 2.3 8.0 23.7 92.5 6.4 Bottom 27.3 8.0 23.7 92.5 5.6 0.4 27.3 8.0 23.7 5.5 77 2.0 1.0 0.6 40 27.8 8.0 20.8 7.0 4.7 74 < 0.2 2.3 99.4 3 Surface 27.8 8.0 20.9 98.9 1.0 0.6 42 8.0 20.9 6.9 74 27.8 98.3 4.2 4 < 0.2 5.1 75 4.3 20 2.4 0.4 27.5 8.0 22 6 927 6.5 4 -02 IM7 Cloudy 12:22 8.5 Middle 27.5 22.6 92.7 5.3 821356 806825 2.5 Rough 2.5 4.3 0.5 21 27.5 8.0 22.6 92.7 6.5 5.1 3 76 <0.2 23.3 91.8 7.5 0.3 357 27.3 8.0 23.3 6.3 4 77 <0.2 2.5 6.4 Bottom 27.3 8.0 91.8 6.4 7.5 0.3 328 27.3 8.0 23.3 91.8 6.4 6.3 76 <0.2 2.5 1.0 0.4 27.8 75 2.4 8.1 21.0 21.0 96.9 6.8 3.6 <0.2 Surface 27.8 8.1 96.9 8.1 6.8 75 2.6 1.0 0.4 12 27.8 21.0 3.6 6 <0.2 4.4 0.3 12 8.1 21.1 6.5 3.8 5 76 < 0.2 2.8 27.6 92.4 21.1 IM8 Cloudy Rough 12:12 8.7 Middle 27.6 8.1 92.4 77 821699 807844 2.6 92.4 77 <0.2 2.5 11 0.4 12 27.6 8.1 21.1 6.5 3.8 5 22.8 92.5 7.7 0.6 27.3 8.1 22.8 6.5 5.8 3 78 <0.2 2.6 Bottom 27.3 8.1 92.5 6.5 7.7 0.6 27.3 2.4

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 01 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Easting) Value 0.3 27.7 8.0 1.0 21 1 6.5 3.6 -02 2.5 Surface 27.7 8.0 21.1 92.7 75 1.0 0.3 12 27.7 8.0 21.1 92.7 6.5 3.6 < 0.2 2.6 4.3 0.3 17 27.6 8.0 21.2 92.6 6.5 5.2 3 76 <0.2 2.7 IM9 12:02 8.6 Middle 8.0 21.2 92.6 822079 808797 2.6 Cloudy Rough 77 4.3 0.3 27.6 8.0 21.2 92.6 6.5 5.2 4 <0.2 2.7 7.6 0.1 27.6 8.0 21.2 93.2 6.5 4.0 78 <0.2 2.5 Bottom 21.2 93.2 6.5 27.6 8 N 7.6 0.1 27.6 8.0 4.0 1.0 0.3 27.6 8.0 75 20.8 89.5 6.3 4.6 6 <0.2 2.7 Surface 27.6 8.0 20.8 89.5 75 77 89.5 2.8 1.0 0.4 330 27.6 8.0 20.8 6.3 4.6 8 < 0.2 6.3 0.3 338 4.0 27.6 21.1 6.2 5.8 6 < 0.2 2.5 8.0 88.7 IM10 Cloudy Rough 11:53 7.9 Middle 27.6 21.1 88.7 77 822251 809820 2.6 88.7 78 2.4 4.0 0.3 349 27.6 8.0 21 1 6.2 5.8 6 -0.2 6.9 0.3 343 27.4 8.0 22.7 91.2 6.4 5.2 79 <0.2 2.7 22.7 Bottom 8.0 91.2 22.7 6.9 0.3 316 27.4 8.0 91.2 6.4 5.2 78 <0.2 2.6 0.3 27.7 8.1 6.6 76 <0.2 2.6 20.7 6.1 93.9 Surface 27 7 8.1 20.7 93.9 1.0 0.3 27.7 20.7 93.9 75 <0.2 2.3 8.1 6.6 6.1 315 27.7 6.5 77 2.3 4.4 0.3 6.6 < 0.2 8.1 20.8 93.4 821519 IM11 Cloudy Rough 11:34 8.8 Middle 8.1 20.8 93.4 810530 2.6 77 44 0.3 334 27.7 8.1 20.8 93.4 6.6 6.5 6 <0.2 2.6 7.8 0.3 294 27.5 8.0 21.9 93.3 6.5 7.5 7.5 8 78 <0.2 2.9 Bottom 8.0 21.9 93.3 6.5 7.8 0.3 322 27.5 8.0 21 0 93.3 6.5 70 < 0.2 2.8 1.0 0.3 325 27.7 8.0 4.9 76 <0.2 2.6 20.5 94.1 6.6 20.5 Surface 27.7 8.0 94 1 1.0 0.3 346 27.7 8.0 20.5 94.1 6.6 4.9 6 76 <0.2 2.8 6.5 77 4.7 0.3 309 27.5 8.0 22.1 90.4 6.3 5.8 8 <0.2 2.6 IM12 Cloudy Rough 11:25 9.3 Middle 27.5 8.0 22.1 90.4 821152 811534 2.7 79 <0.2 2.8 47 0.3 324 27.5 8.0 22 1 90.4 6.3 5.8 79 8.3 0.2 307 27.2 8.0 24.5 87.9 6.1 8.1 6 < 0.2 2.4 Bottom 24.5 87.9 8.3 0.3 318 27.2 8.0 24.5 87 Q 6.1 8 1 70 < 0.2 2.8 0.2 332 27.7 <0.2 3.1 8.0 19.2 6.4 Surface 27.7 8.0 19.2 90.3 1.0 0.2 352 27.7 8.0 19.2 90.3 6.4 5.3 4 76 <0.2 2.8 64 821462 814150 SR2 Cloudy Moderate 11:03 4.8 Middle 3.0 3.8 0.2 27.3 6.2 9.4 80 <0.2 2.9 30 8.0 21 7 88.6 4 Bottom 27.3 8.0 21.7 88.6 6.2 3.8 0.2 32 27.3 8.0 21.7 88.6 6.2 9.4 70 < 0.2 1 3.0 1.0 0.3 21 27.8 8.1 20.9 96.7 6.8 3.6 5 20.9 Surface 1.0 0.3 21 27.8 8.1 20.9 96.7 6.8 3.6 4.7 0.5 27.8 4.5 8.1 20.9 6.6 12:17 20.9 94.5 822141 807553 SR3 9.3 Middle 27.8 8.1 Cloudy Rough 5.0 4.7 8.1 20.9 94.5 6.6 0.5 13 27.8 4.5 8.3 0.3 349 27.5 8.1 21.5 90.1 6.3 7.0 4 21.5 6.3 8.1 90.1 Bottom 27.5 21.5 6.3 0.4 27.5 8.1 90.1 7.0 8.3 351 1.0 0.1 280 27.6 8.0 22.1 98.6 6.9 3.6 22.1 1.0 0.1 300 27.6 8.0 22.1 98.6 6.9 3.6 5 6.8 0.1 8.0 22.3 6.6 4.4 SR4A Cloudy Moderate 10:54 8.3 Middle 27.5 8.0 22.3 95.1 817177 807804 4.2 0.1 27.5 8.0 4.4 7.3 0.3 27.2 8.0 25.1 6.4 5.2 92.8 3 27.2 25.1 92.8 Rottom 8.0 6.4 7.3 0.3 79 5.2 27.2 8.0 25.1 92.8 6.4 4 1.0 340 0.1 27.7 7.9 22.6 97.9 6.8 3.3 5 Surface 7.9 22.6 97.9 1.0 0.1 313 27.7 7.9 22.6 97.8 6.8 3.3 4 SR5A Cloudy Moderate 10:34 5.4 Middle 816586 810708 4.4 0.1 326 27.5 7.9 23.0 95.8 6.7 3.8 5 95.8 6.7 27.5 7.9 23.0 Bottom 4.4 0.1 328 27.5 7.9 23.0 95.8 6.7 3.9 1.0 0.0 197 7.8 27.6 20.7 92.3 6.5 4.8 6 Surface 27.6 7.8 20.7 92.3 7.8 1.0 0.0 216 27.6 20.7 92.3 6.5 4.8 6 10:06 4.8 Middle 817901 814657 SR6 Cloudy Moderate 3.8 0.1 27.6 6.5 7.8 20.7 93.5 6.6 Bottom 27.6 7.8 20.7 93.6 6.6 3.8 0.1 94 27.6 7.8 20.7 93.6 6.6 6.5 1.0 0.0 147 27.8 7.9 19.6 94.6 6.7 1.0 4 Surface 27.8 7.9 19.6 94.6 1.0 0.0 151 7.9 196 6.7 27.8 94.6 1.0 3 7.6 0.2 19 4 171 27 1 8.0 25.2 88.6 6.1 SR7 Cloudy Moderate 09:59 15.2 Middle 25.2 88.6 823635 823729 7.6 0.2 179 27.1 8.0 25.2 88.6 6.1 1.9 3 14.2 0.1 150 26.7 8.0 28.2 6.0 2.3 4 Bottom 26.7 8.0 28.2 87.1 6.0 14.2 0.1 162 26.7 8.0 28.2 87 1 6.0 2.3 1.0 0.1 307 27.7 19.9 3.7 4 8.0 95.0 6.7 Surface 27.7 8.0 19.9 95.0 8.0 19.9 95.0 6.7 3.7 1.0 0.1 312 27.7 5 SR8 Cloudy Moderate 11:19 5.7 Middle 820403 811590 4.7 0.1 272 27.5 8.0 20.7 94.9 6.7 5.6 4 20.7 94.9 27.5 8.0 4.7 0.1 276 4

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 01. June 17 during

Water Qua	lity Monito	oring Resu	lts on		01 June 17	during Mid-	Ebb tide	1																					
Monitoring	Weather	Sea	Sampling	Water			Current Speed	Current	Water Te	emperature (°C)	1	рН	Salini	ty (ppt)		aturation (%)	Dissolv Oxyge		urbidity(I	NTU)	uspende (mg		Total Alk (ppm			Coordinate	Chromi (µg/L		ı/L)
Station	Condition	Condition	Time	Depth (m)	Sampling Depth (m) Surface 1.0 1.0 Middle 3.4 3.4 Bottom 5.7	(m/s)	Direction	Value	Average	Value	Average	Value	Value Average		Average	Value		Value	DA	Value	DA		DA	HK Grid (Northing)	HK Grid (Easting)			DA	
					Surface		0.6	109	27.8	27.8	8.2	8.2	21.3	21.4	124.5	123.7	8.7		5.8		19		74				<0.2	1.5	
							0.6	113 135	27.8 27.6		8.2 8.2		21.4		122.9 116.6		8.6 8.1	8.4	6.0	-	22 11		74 75				<0.2	1.6	
C1	Cloudy	Rough	18:34	6.7	Middle	3.4	0.6	145	27.6	27.6	8.2	8.2	21.9	21.9	115.8	116.2	8.1		6.2	6.3	10	14	75	75	815631	804230	<0.2	1.5	1.5
					Bottom	5.7 5.7	0.5	198 205	27.6 27.6	27.6	8.1	8.1	22.3	22.4	111.5 109.2	110.4	7.8 7.6	7.7	6.8	-	10		76 77				<0.2	1.4	
					Surface	1.0	0.7	69	28.0	28.0	8.0	8.0	20.0	20.0	97.8	97.8	6.9		3.0		6		75				<0.2	2.5	=
						1.0 6.2	0.8	71 60	28.0 27.8		8.0		20.0		97.8 90.8		6.9 6.4	6.7	3.0	-	6 8		75 77				<0.2	2.4	
C2	Cloudy	Rough	16:51	12.4	Middle	6.2	0.6	64	27.8	27.8	8.0	8.0	20.1	20.1	90.8	90.8	6.4		3.4	2.9	8	7	77	77	825696	806943	<0.2	2.5	5
					Bottom	11.4 11.4	0.4	68 71	27.6 27.6	27.6	7.9 7.9	7.9	21.3	21.3	91.0 91.0	91.0	6.4 6.4	6.4	2.3	-	6 5		78 78				<0.2	2.5	2.5
					Surface	1.0	0.3	312	27.6	27.6	8.0	8.0	20.2	20.2	90.9	90.9	6.4		5.2		8 7		78				<0.2	2.4	
C3	Olevertee	Moderate	18:54	13.0	Middle	1.0 6.5	0.3	331 263	27.6 27.2	27.2	8.0	0.0	20.2	00.0	90.9 88.7	88.7	6.4 6.2	6.3	5.2 4.4	4.1	9	8	77 78	79	822124	817807	<0.2	<0.2 2.1 2	
63	Cloudy	Moderate	18:54	13.0	Middle	6.5 12.0	0.4	270	27.2	21.2	8.0	8.0	23.6	23.6	88.7		6.2		4.4 2.6	4.1	7 9	8	79 80	79	822124	81/80/	<0.2	2.0	2
					Bottom	12.0	0.2	287 309	26.9 26.9	26.9	8.0	8.0	27.2 27.2	27.2	89.2 89.2	89.2	6.1 6.1	6.1	2.6	-	7		80				<0.2	2.2	
					Surface	1.0	0.8	105 110	27.8 27.8	27.8	8.2 8.2	8.2	21.5 21.5	21.5	125.4 125.4	125.4	8.7 8.7		4.5 4.5		7		73 73				<0.2	1.9	
IM1	Cloudy	Rough	18:04	7.5	Middle	3.8	0.9	98	27.8	27.8	8.2	8.2	21.5	21.5	121.1	121.1	8.4	8.6	4.8	4.9	10	10	75	75	818366	806477	<0.2	2.1	2.0
IIVI I	Cloudy	nougii	10.04	7.5	Middle	3.8 6.5	1.0	100 89	27.8 27.8	21.0	8.2 8.2	0.2	21.5 21.7		121.1 116.2		8.4 8.1		4.8 5.3	4.9	12 13	10	75 77	75	010300	000477	<0.2	<0.2 2.0 2.2	0
					Bottom	6.5	1.1	89	27.8	27.8	8.2	8.2	21.7	21.7	116.0	116.1	8.1	8.1	5.5		11		76				<0.2	2.0	
					Surface	1.0	0.7	79 83	27.9 27.9	27.9	8.2 8.2	8.2	21.4	21.4	122.5 122.5	122.5	8.5 8.5	_	4.3	-	7		73 73				<0.2	2.0	
IM2	Cloudy	Rough	17:55	8.0	Middle	4.0	0.7	66	27.8	27.8	8.2	8.2	21.7	21.7	118.6	118.6	8.3	8.4	4.6	4.6	7	8	75	75	818842	806192	<0.2	2.0	> n
	Cicacy	nough	17.00	0.0		4.0 7.0	0.8	67 149	27.8 27.8		8.2 8.2		21.7 21.9		118.6 115.3		8.3 8.0		4.6		9	Ü	75 76	, ,	0.00.12	000102	<0.2	2.0	.0
					Bottom	7.0	0.6	161	27.8	27.8	8.2	8.2	21.9	21.9	115.3	115.3	8.0	8.0	4.8		7		77				<0.2	2.0	
					Surface	1.0	0.8 55 0.8 58		27.8 27.8	27.8	8.1	8.1	21.6 21.6	21.6	108.0	107.9	7.5 7.5		3.3	-	7 8		74 73				<0.2	2.6	
IM3	Cloudy	Rough	17:43	8.2	Middle	4.1	0.8	64	27.8	27.8	8.1	8.1	21.7	21.7	105.7	105.7	7.4	7.5	3.5	3.6	8	7	76	76	819420	806029	<0.2	-0.2 2.4 2	2.4
	,	·				4.1 7.2	0.8	66 114	27.8 27.7		8.1		21.7 22.1		105.7 103.4		7.4 7.2		3.5	-	7 6		76 77				<0.2	2.4	
					Bottom	7.2	1.0	117	27.7	27.7	8.0	8.0	22.1	22.1	103.4	103.4	7.2	7.2	4.1		8		77				<0.2	2.4	2.4 2.4 2.5 2.4 2.2
					Surface	1.0	0.6	100 104	27.9 28.0	28.0	8.1	8.1	19.9	19.9	111.6	111.0	7.8	7.4	5.0	-	8		73 73				<0.2	2.3	
IM4	Cloudy	Rough	17:33	8.0	Middle	4.0	0.6 0.7	97 101	27.6 27.6	27.6	8.0	8.0	21.5 21.5	21.5	100.0	100.0	7.0 7.0	7.4	5.5 5.5	5.6	9	9	76 76	75	819564	805024	<0.2	<0.2 2.3 2	2.2
					Bottom	7.0	0.6	146	27.3	27.3	8.0	8.0	25.1	25.1	96.9	96.9	6.7	6.7	6.5	L	10		76				<0.2	2.2	
						7.0	0.7	153 72	27.3 27.8		8.0 8.1		25.1 19.4		96.9 108.7		6.7 7.7	0.7	6.1 4.8		11 15		77 73				<0.2	2.1	
					Surface	1.0	0.7	73	27.8	27.8	8.1	8.1	19.4	19.4	107.9	108.3	7.6	7.2	4.8	Ė	16		73				<0.2	2.2	
IM5	Cloudy	Rough	17:19	7.0	Middle	3.5 3.5	0.7	84 88	27.4 27.4	27.4	8.0	8.0	21.8	21.8	96.7 96.6	96.7	6.8	-	5.8	5.6	7	11	76 76	75	820552	804904	<0.2	<0.2 1.8 2	2.1
					Bottom	6.0	0.5	133	27.1	27.1	8.0	8.0	25.9	25.9	94.3	94.3	6.5	6.5	6.2		8		77				<0.2	2.0	
						6.0 1.0	0.5	145 74	27.1 27.9		8.0		25.9 19.7		94.3 105.7		6.5 7.4		6.2 4.1		9		77 73				<0.2	2.0	_
					Surface	1.0	0.6	77	27.9	27.9	8.0	8.0	19.7	19.7	105.7	105.7	7.4	7.0	4.2		8		73				<0.2	2.0	
IM6	Cloudy	Rough	17:06	6.4	Middle	3.2	0.4	122 129	27.4 27.4	27.4	8.0	8.0	22.3	22.3	93.1	93.1	6.5 6.5	·	4.9	4.9	6	7	76 76	75	821075	805847	<0.2	<0.2 1.9 2	2.0
					Bottom	5.4	0.4	164	27.3	27.3	8.1	8.1	23.6	23.6	91.6	91.6	6.4	6.4	5.5		5		77				<0.2	1.9	
					0 /	5.4 1.0	0.4	175 74	27.3 27.9		8.1		23.6		91.6 101.0		6.4 7.1		5.5 4.1	+	7		77 73				<0.2	2.1	_
					Surface	1.0	0.7	79	27.9	27.9	8.0	8.0	20.6	20.6	101.0	101.0	7.1		4.1	Į	5		74				<0.2	2.0	
IM7	Cloudy	Rough	16:51	8.0	Middle	4.0	0.6	81 81	27.6 27.6	27.6	8.0	8.0	22.6 22.6	22.6	95.3 95.3	95.3	6.6	\vdash	4.5 4.5	4.7	5 7	5	76 75	75	821348	806827	<0.2	<0.2 2.1 2	2.1
					Bottom	7.0	0.5	153	27.4	27.4	8.0	8.0	23.1	23.1	91.6 91.6	91.6	C 4	6.4	5.6	ļ	4		77 77				<0.2	2.1	
					Surface	7.0	0.5	161 72	27.4 28.0	28.0	8.0	8.1	20.6	20.6	106.4		7.4	-	5.6 4.4	-	7		75				<0.2	2.3 2.2 2.0	_
					эштасе	1.0	0.8	72 92	28.0 27.7	26.0	8.1	Ø. I	20.6 21.5	20.0	106.4 99.9	106.4	7.4	7.2	4.4 3.8	F	8		75 76				<0.2	2.0	
IM8	Cloudy	Rough	17:23	8.6	Middle	4.3	0.5	96	27.7	27.7	8.1 8.1	8.1	21.5	21.5	99.9	99.9	7.0	 -	3.8	4.3	9	9	77	77	821681	807852	<0.2	<0.2	2.3
					Bottom	7.6 7.6	0.2	101 103	27.5 27.5	27.5	8.1 8.1	8.1	22.9	22.9	98.2 98.2	98.2	6.8	6.8	4.6	F	11 9		78 79				<0.2	2.3	
DA: Denth-Ave					1	d. /	0.2	103	27.5	1	ŏ. I		22.9		98.2		ზ.ბ		4.0		Э		79				<0.2	2.3	_

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 Qua			lts on		01 June 17	during Mid-	Ebb tide																					
Monitoring	Weather	Sea	Sampling	Water	0 "	D # 4 3	Current Speed	Current	Water Te	emperature (°C)		рН	Salinity	(ppt)		aturation %)	Dissolved Oxygen	Turbidit	y(NTU)	Suspende (mg		Total All		Coordinate		Chrom		(μg/L)
Station	Condition	viring Results on Sea Sampling Condition Time Rough 17:30 Rough 17:37 Rough 17:47	Time	Depth (m)	Sampling E	Depth (m)	(m/s)	Direction	Value	Average	Value Ave	Average	Value Av	verage	Value	Average	/alue DA	Value	DA	Value	DA	Value	DA	HK Grid (Northing)	HK Grid (Easting)	- "	DA Value	DA
					Surface	1.0	0.5	66	28.1	28.1	8.1	8.1	21.0	21.0	105.4		7.3	3.7		7		75				<0.2	2.1	
11.40	Oleverto	Daniele	47.00	0.0		1.0 4.1	0.5	66 93	28.1 27.8		8.1 8.1		21.0		105.4 98.0		7.3 6.8 7.1	3.7 5.0		7	_	75 78		000000	000700	<0.2	2.2	
IM9	Cloudy	Hough	17:30	8.2	Middle	4.1 7.2	0.5	100	27.8	27.8	8.1	8.1	21.5	21.5	97.9	30.0	6.8	5.1	5.0	6	′	77	77	822088	808792	<0.2	2.5	2.3
					Bottom	7.2	0.3	65 67	27.6 27.6	27.6	8.1 8.1	8.1	21.9	21.9	97.1 97.1	97.1	6.8	6.2		5 6		79 78				<0.2	2.2	
					Surface	1.0	0.5	70 76	28.1	28.1	8.1	8.1	21.3	21.3	105.3		7.3	2.9		4		76 76				<0.2	2.4	1
IM10	Cloudy	Rough	17:37	8.0	Middle	4.0	0.6	81	27.9	27.9	8.1	8.1	21.5	21.5	100.3		7.0	4.2	4.1	5	4	78	78	822228	809850	<0.2	2.3	2.3
	,					4.0 7.0	0.6	82 94	27.9 27.8		8.1 8.1		21.5	22.0	100.3		7.0	4.2 5.2	-	4		78 78				<0.2	2.4	1
					Bottom	7.0	0.1	98	27.8	27.8	8.1	8.1	22.0	22.0	100.8	100.0	7.0	5.2		4		79 76				<0.2	2.1	
					Surface	1.0	0.5 0.5	73 79	28.0 28.0	28.0	8.1	8.1	21.6	21.6	103.5 103.5	103.5	7.2 7.2 7.1	5.2 5.2	1	7		77				<0.2	2.1	
IM11	Cloudy	Rough	17:47	9.3	Middle	4.7	0.4	88 94	27.9 27.8	27.9	8.1	8.1	21.7	21.7	99.8 99.6		6.9	4.8	4.9	7	9	78 78	78	821508	810530	<0.2	<0.2 2.0	2.0
					Bottom	8.3	0.2	69	27.7	27.7	8.1	8.1	22.1	22.1	99.5	00.5	6.9	4.6	1	11		79				<0.2	2.0	1
						8.3 1.0	0.2	75 84	27.7		8.1 8.1		21.6		99.5 105.4		6.9 7.3	4.6 7.7		11 14		79 76				<0.2	2.0	_
					Surface	1.0	0.4	90	28.1	28.1	8.1	8.1	21.6	21.6	105.4	105.4	7.3	7.7	1	13		77				<0.2	1.8	ļ
IM12	Cloudy	Rough	18:06	8.1	Middle	4.1	0.4	77 80	27.8 27.8	27.8	8.1	8.1	21.9	21.9	97.3 97.3		6.8	7.1 7.1	7.4	15 13	14	78 78	78	821181	811532	<0.2	<0.2 2.4 2.6	2.3
					Bottom	7.1 7.1	0.2	65 67	27.4 27.4	27.4	8.0	8.0	23.9	23.9	98.1 98.1		6.8	7.5 7.5	1	14 13		79 77				<0.2	2.4	ł
			40.07	4.0	Surface	1.0	0.5	61	28.0	28.0	8.1	8.1	21.1	21.1	102.0	101.0	7.1	2.2		9		78				<0.2	2.9	
SR2	Olavido	Madanata				1.0	0.5	64	28.0		8.1		21.1		101.8	101.0	7.1 7.1	2.3		- 8		77				<0.2	2.6	l
SR2	Cloudy	Moderate	18:27	4.9	Middle	3.9	-	- 62	- 07.0	-	-	-	- 04.5	-	-	-	-	2.2	2.2	- 4	6	- 79	79	821463	814176	<0.2	<0.2	2.6
					Bottom	3.9	0.2	67	27.8 27.8	27.8	8.0	8.0	21.5	21.5	98.9 98.9		6.9	2.2	ł	4		80				<0.2	2.4	I
					Surface	1.0	0.7	75 78	28.1 28.1	28.1	8.1	8.1	19.9	19.9	110.0 110.0	110.0	7.7	4.5 4.5	-	8		-				-	-	1
SR3	Cloudy	Rough	17:16	9.0	Middle	4.5	0.6	71	27.8	27.8	8.1	8.1	20.6	20.6	101.8		7.1	4.1	5.7	6	7	-		822145	807578	-	-	
	,					4.5 8.0		75 84	27.8 27.7		8.1 8.1		20.6		101.8 103.4		7.1	4.1 8.5	-	8		-			007070	-	-	1
					Bottom	8.0	0.2	84	27.7	27.7	8.1	8.1	22.5	22.5	103.4	103.4	7.2	8.5		6		-					-	
					Surface	1.0	0.4	96	96 27.9 96 27.9	27.9	8.1 8.1	8.1	22.5	22.5	105.7 105.7	103.7	7.3 7.3 7.3	5.8 5.8	İ	7	1	-			[-	-	1
SR4A	Cloudy	Moderate	18:51	7.7	Middle	3.9	0.3	101 110	27.8 27.8	27.8	8.1	8.1	22.6	22.6	103.4		7.2	6.6	6.8	8 7	8	-	-	817174	807823	-		-
					Bottom	6.7	0.3	143	27.7	27.7	8.0	8.0	23.2	23.2	99.9	99.9	6.9	7.8	1	9		-				-	-	1
						6.7 1.0	0.3	145 125	27.7 28.3		8.0 8.1		23.2		99.9 108.3		7.4	7.8 4.5		10 6		-					-	
					Surface	1.0	0.3	132	28.3	28.3	8.1	8.1	22.9	22.9	108.3		7.4	4.5	1	6		-				-	-	ļ
SR5A	Cloudy	Moderate	19:06	4.8	Middle	-	-	-	-	-	-	-	-	-	-	- -	-	-	4.7		6	-	-	816591	810706	-		-
					Bottom	3.8	0.3	130 138	27.7 27.7	27.7	8.0	8.0	23.4	23.4	102.8	102.8	7.1 7.1	4.9	+	7 5		-				-	-	ĺ
					Surface	1.0	0.2	152	28.0	28.0	8.1	8.1	21.4	21.4	101.3		7.0	3.8		7		-				-	-	
000			40.00			1.0	0.2	155	28.0		8.1		21.4		101.3		7.0	3.8		- 6	_	-		0.17000		-	-	1
SR6 C	Cloudy	Moderate	19:28	4.3	Middle	-	-	-	- 07.7	-	-	-	-	-	-	-	-	-	4.5	- 7	′	-	-	817903	814664	-	-	1
					Bottom	3.3	0.2	163 168	27.7 27.7	27.7	8.0	8.0	21.8	21.8	99.0 99.0		6.9 6.9	5.1 5.1		7		-	-			-	-	
					Surface	1.0	0.1	164 175	27.7 27.7	27.7	8.0	8.0	19.8	19.8	93.2 93.2		6.6	1.5		3 5		-				-	-	ł
SR7	Cloudy	Moderate	19:25	16.1	Middle	8.1	0.1	162	27.0	27.0	8.0	8.0	25.4	25.4	87.7	077	6.1	1.4	1.4	4	4	-	_	823652	823749	-	-	١.
	,					8.1 15.1	0.1	167 193	27.0 26.8		8.0		25.4		87.7 89.0		6.1	1.4	-	3		-				-	-	l
					Bottom	15.1	0.0	205	26.8	26.8	8.0	8.0	27.2	27.2	89.0	89.0	6.1	1.4	1	6		-						
					Surface	1.0	0.1	221 227	27.8 27.8	27.8	8.1 8.1	8.1	21.9	21.9	96.2 96.2		6.7 6.7 6.7	5.0	†	8		-				-	-	1
SR8	Cloudy	Moderate	18:14	5.2	Middle	-	-	-	-	-	-	-	-	-	-	-	- 6.7	-	5.1	8	7	-	-	820408	811578	-		-
					Bottom	4.2	0.1	229	27.5	27.5	8.0	8.0	23.1	23.1	95.9		6.7	5.1	1	6		-				-	-	1
DA: Denth-Ave					Dottoill	4.2	0.1	243	27.5	21.0	8.0	0.0	23.1	20.1	95.9	55.5	6.7	5.1		8	<u> </u>	- 7				<u> </u>	- -	

DA: Depth-Averaged

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

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

Water Quality Monitoring Results on 04 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Oxygen (ppm) Speed (ma/L) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Average Value Value Value Value (Northing) (Easting) Value DA 0.6 27.2 16.5 1.0 20.1 84.3 6.0 80 1.8 Surface 27.1 7.8 19.5 84.3 1.0 0.6 31 27.0 7.8 18 0 843 6.0 10 70 < 0.2 17 4.1 0.5 38 26.7 7.8 22.1 83.6 5.9 22.6 6 77 77 <0.2 1.6 C1 15:51 8.1 Middle 7.8 22.2 83.6 815620 804240 1.7 Cloudy Moderate 4.1 0.6 26.7 7.8 22.2 83.6 5.9 22.3 <0.2 1.6 7.1 0.4 34 26.6 22.4 5.9 27.3 8 78 <0.2 1.6 7.8 22.4 6.0 Rottom 26.6 84.4 0.4 26.6 1.0 0.5 27.8 7.7 17.4 5.3 4.7 12 80 2.0 74.2 <0.2 Surface 27.8 7.7 17.4 74.0 17.4 73.7 5.3 2.2 1.0 0.5 59 27.8 4.8 10 81 < 0.2 5.7 0.5 68 7.7 21.3 4.4 83 < 0.2 2.4 26.0 61.6 6.3 Cloudy C2 Moderate 14:15 11.4 Middle 26.0 7.7 21.3 61.6 81 825695 806933 2.2 2.2 5.7 0.5 68 26.0 77 21.3 61.5 44 6.4 12 83 -0.2 10.4 0.3 66 25.9 22.7 4.5 6.5 5.7 80 <0.2 2.2 Bottom 26.0 7.7 22.6 63.5 4.6 7.7 10.4 0.4 69 26.0 22.4 63.9 4.6 9 80 <0.2 1.9 0.5 228 25.4 7.9 2.2 82 1.9 24.7 6.2 <0.2 Surface 25.4 7.9 24.6 86.4 1.0 0.5 233 7.9 24.4 86.3 6.2 2.4 83 2.1 25.3 < 0.2 62 6.2 6.2 3.5 83 23.9 0.4 220 7.8 27.4 86.9 4 < 0.2 1.7 27.5 822125 817783 C3 Cloudy Moderate 15:54 12.4 Middle 23.9 7.8 86.9 3.2 6.2 0.4 236 23.9 7.8 27.5 86.9 6.2 3.7 5 82 <0.2 19 11.4 0.4 225 23.4 7.8 29.8 87.4 6.2 3.7 8 82 <0.2 2.1 Bottom 23.5 7.8 29.8 87.4 6.2 10 11.4 0.4 240 23.5 7.8 29.8 87.4 62 3.6 81 < 0.2 1 0 1.0 0.5 353 27.3 7.8 15.2 78 1.9 19.4 84.2 6.0 8 <0.2 84.3 Surface 27.3 7.8 19.4 1.0 0.5 325 27.2 7.8 19.4 84.4 6.0 16.4 79 <0.2 1.7 0.5 5.9 3.7 13 26.7 7.8 22.0 83.5 26.0 5 79 < 0.2 1.7 IM1 Cloudy Moderate 15:23 7.3 Middle 26.7 7.8 22.0 83.5 22.8 818355 806439 17 59 80 <0.2 1.7 3.7 0.5 13 26.7 7.8 22.0 83.5 26.3 6.3 0.5 27 26.7 7.8 22.3 83.8 5.9 5.9 26.2 80 <0.2 1.5 Bottom 26.7 22.3 83.9 5.9 6.3 0.5 28 26.7 7.8 22.2 84.0 26.5 70 < 0.2 17 0.6 27.3 5.8 9.9 <0.2 Surface 27.3 7.7 17.3 81.0 1.0 0.6 16 27.3 77 81.0 5.8 10.1 79 <0.2 1.7 6.0 23.6 1.8 3.6 0.6 26.9 7.8 19.8 85.7 6.1 80 <0.2 818870 IM2 Cloudy Moderate 15:13 7.1 Middle 26.9 7.8 19.8 85.8 806185 3.6 0.6 38 7.8 19.8 85.9 6.1 24.3 78 <0.2 1.8 26.9 6 78 6.1 0.4 20 26.8 7.8 21.9 89 1 6.3 24 0 -02 1.8 Bottom 7.8 21.9 89.2 6.3 6.1 0.4 20 7.8 21 0 80.3 6.3 23.3 70 26.8 < 0.2 1.8 1.0 0.6 24 27.3 7.7 16.9 79.2 5.7 11.6 9 78 <0.2 1.8 16.8 79.6 Surface 7.8 1.0 0.6 24 27.2 7.8 16.7 79 9 5.8 13.2 11 78 <0.2 1.6 4.0 0.5 77 27.0 7.8 5.8 < 0.2 1.8 8 19.6 80.8 819401 IM3 15:01 8.0 7.8 806004 Cloudy Moderate Middle 27.0 4.0 7.8 19.6 80.9 5.8 78 <0.2 2.1 0.6 26.9 22.3 31 77 7.0 36 2.0 0.4 26.8 7.8 21.9 79.5 5.6 23.1 6 < 0.2 5.6 7.8 21.9 79.5 Bottom 26.8 79.4 5.6 7.8 21.9 23.1 78 <0.2 2.1 7.0 0.4 26.8 1.0 2.0 0.6 18 27.2 7.8 16.8 5.8 14.3 78 <0.2 Surface 7.8 16.8 79.5 79.5 1.0 0.6 19 27.1 7.8 16.7 5.8 14.3 6 78 < 0.2 27.0 79.8 19.9 80 79 <0.2 2.0 IM4 14:49 7.7 Middle 27.0 7.8 19.9 79.9 18.6 78 819581 805054 2.2 Cloudy Moderate 3.9 0.5 26.9 19.9 79.9 22.8 6.7 0.4 26 26.9 7.8 78.0 5.5 20.4 10 76 <0.2 2.2 21.9 26.9 7.8 21.9 78.0 5.5 Rottom 6.7 0.4 77.9 5.5 10 78 7.8 2.4 26.9 21.9 19.6 < 0.2 1.0 0.6 27.3 7.7 16.9 78.6 5.7 10.4 8 80 < 0.2 2.2 Surface 16.8 78.9 5.7 1.0 0.7 29 27.2 7.8 16.6 79.2 11.5 9 79 < 0.2 2.1 77 77 2.4 3.9 0.5 23 27.0 7.8 19.4 79.6 5.7 5.7 16.8 <0.2 IM5 Cloudy Moderate 14:38 7.8 Middle 27.0 7.8 19.3 79.6 16.3 820563 804932 2.1 3.9 0.5 26.9 7.8 19.2 79.5 19.3 < 0.2 6.8 78 0.4 26.8 7.8 21.8 21.8 78.1 5.5 20.8 10 <0.2 1.6 5.5 7.8 77.9 Bottom 26.9 5.5 6.8 0.4 7.8 18.8 10 77 < 0.2 2.1 26.9 1.0 0.4 29 7.8 78 2.3 27.1 17.8 78.5 5.6 15.0 < 0.2 17.7 Surface 27.1 7.8 78.5 78.5 5.7 7.8 17.6 1.0 0.5 30 27.1 15.4 9 78 <0.2 3.8 0.6 43 26.8 7.8 20.7 78.6 5.6 5.6 20.3 11 77 79 <0.2 2.4 14:25 Middle 19.7 821044 805835 IM6 Cloudy Moderate 7.5 7.8 3.8 0.6 43 26.8 7.8 20.7 79.0 22.4 13 <0.2 6.5 0.4 78 <0.2 2.3 26.8 7.8 21.8 78.2 5.5 22.9 6 Bottom 26.8 7.8 21.8 78.2 5.5 6.5 0.4 56 7.8 78.1 5.5 22.3 8 79 2.4 26.8 1.0 0.5 43 27.3 7.8 17.8 5.6 9.9 80 < 0.2 2.2 77.9 9 Surface 27.3 7.8 17.7 78.0 77 1.0 0.5 43 7.8 17.5 78 O 5.6 10.7 27.2 < 0.2 78 3.8 16.2 2.6 0.3 72 27.0 7.8 20.0 78.3 5.6 9 -02 IM7 Cloudy Moderate 14:15 7.6 Middle 19.9 78.4 15.1 821351 806833 2.4 2.3 3.8 0.3 78 26.9 7.8 19.8 78.4 5.6 18.2 11 78 <0.2 6.6 0.3 60 26.9 7.8 21.8 18.1 12 11 77 <0.2 2.4 Bottom 26.9 7.8 21.8 77.7 5.5 6.6 0.3 61 26.9 7.8 21.7 77.6 5.5 17.4 78 <0.2 2.4 1.0 0.5 52 27.5 7.8 11 17.3 6.1 8.9 83 <0.2 2.4 Surface 27.5 7.8 17.3 85.9 2.4 7.8 17.3 87.1 6.3 84 1.0 0.6 52 27.5 10.2 10 12 <0.2 3.7 70 0.5 27.3 7.8 19.1 6.7 16.5 83 < 0.2 2.4 94.2 7.9 19.2 IM8 Cloudy Moderate 14:33 7.4 Middle 27.3 94.4 14.2 83 821695 807838 2.3 83 <0.2 2.3 3.7 0.5 75 27.3 7.9 19.3 94.5 6.7 16.8 11 21.1 87.8 87.3 6.4 0.3 79 27.3 7.9 21.1 6.2 16.7 83 <0.2 2.2 87.6 Bottom 27.3 7.9 6.2 6.4 0.4 82 27.3 1.9

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 04 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Easting) Value 0.2 27.9 17.0 83 1.0 86.8 62 5.8 -02 2.0 Surface 27 9 7.8 87.0 50 16.0 1.0 0.2 27.8 7.8 87 1 6.2 6.1 11 84 < 0.2 1.8 3.8 0.3 55 26.5 7.8 22.5 80.9 5.7 9.0 10 84 <0.2 1.7 IM9 14:45 7.5 Middle 7.8 21.9 80.9 83 822078 808792 Cloudy Moderate 11 3.8 0.3 58 26.4 7.8 21.3 80.8 5.8 9.5 85 <0.2 1.8 6.5 0.2 61 26.3 7.8 22.9 5.9 9.6 13 <0.2 2.2 7.8 22.9 83.5 5.9 Rottom 26.3 81 6.5 1.0 0.2 27.7 7.9 16.6 6.3 13 80 87.2 6.5 <0.2 2.0 Surface 27.7 7.9 16.6 87.2 27.7 7.9 16.6 87.2 79 2.0 1.0 0.2 96 6.3 6.5 11 < 0.2 3.5 0.3 49 27.3 7.9 5.8 10 81 < 0.2 1.9 19.3 81.4 8.3 IM10 Cloudy Moderate 14:52 6.9 Middle 27.3 7.9 19.4 81.4 81 822258 809856 1.9 17 3.5 0.3 50 27.3 7.8 194 81.3 5.8 8.4 11 82 <0.2 0.3 26.3 7.8 22.9 85.2 6.0 7.8 12 83 <0.2 1.9 22.9 Bottom 7.8 85.4 7.4 5.9 0.3 58 26.3 7.8 22.9 85.5 10 83 <0.2 1.9 0.2 27.8 7.8 6.2 5.5 83 <0.2 1.9 86.9 Surface 27.8 7.8 17.0 87.0 1.0 0.2 102 27.7 7.8 16.9 87.0 6.2 5.8 7.0 13 83 <0.2 2.1 27.3 6.0 79 3.6 7.9 < 0.2 0.3 41 19.8 84.2 9 1.9 19.7 821482 IM11 Cloudy Moderate 15:02 7.1 Middle 27.4 7.9 83.6 6.9 82 810540 2.0 3.6 0.3 41 27.5 79 196 83.0 59 7.4 11 80 <0.2 2.0 8.2 7.5 6.1 0.2 58 26.3 7.8 22.9 83.6 5.9 10 81 <0.2 2.0 Bottom 7.8 22.9 84.4 6.0 6.1 0.3 26.3 7.8 22 0 85.2 6.0 11 84 < 0.2 2.3 1.0 0.2 76 27.6 7.8 17.3 6.4 12 84 <0.2 1.8 85.2 17.3 Surface 27.5 7.9 85.0 1.0 0.2 27.4 7.9 17.3 84.8 6.1 6.7 14 83 <0.2 1.8 5.8 3.8 0.3 27.2 7.9 20.9 82.3 8.0 14 81 <0.2 2.4 IM12 Cloudy Moderate 15:11 7.6 Middle 27.4 7.9 20.6 81.8 13 83 821162 811506 2 1 5.7 81 <0.2 2.1 3.8 0.3 65 27.5 79 20.3 81.3 8.7 12 15 6.6 0.3 66 26.3 7.8 22.9 83.1 5.9 9.2 83 < 0.2 2.5 Bottom 22.9 83.9 6.6 0.3 66 26.3 7.8 22.8 846 6.0 8.6 13 83 < 0.2 2.2 1.0 0.5 267 27.1 <0.2 2.0 7.9 21.2 6.2 Surface 27.1 7.9 21.1 87.9 1.0 0.5 284 27.1 7.9 6.2 5.8 4 80 <0.2 2.2 6.2 821443 814169 SR2 Cloudy Moderate 15:38 4.6 Middle 82 82 3.6 N 4 260 26.5 6.1 <0.2 1.8 79 22.3 89 9 64 4 Bottom 7.9 22.3 91.0 6.5 275 3.6 0.4 7.9 22.2 92.1 6.5 6.0 83 < 0.2 26.6 1 15 1.0 0.4 63 27.5 7.8 17.3 92.6 6.6 10.9 10 7.8 17.3 92.9 Surface 1.0 0.4 63 27.5 7.8 17.3 93.2 6.7 11.2 4.1 0.5 27.3 7.9 7.3 19.6 102.3 19.9 102.4 822161 807565 SR3 14:26 8.2 Middle 27.3 7.9 Cloudy Moderate 4.1 27.3 7.9 19.9 102.4 0.5 80 20.0 10 7.2 0.3 7.1 10 72 27.3 8.0 21.1 100.4 21.8 8.0 21.1 99.8 Bottom 27.3 0.3 27.3 8.0 21.1 7.2 99.2 20.8 1.0 0.1 71 27.3 8.0 22.0 109.0 7.6 14.8 22.0 108.4 1.0 0.1 76 27.3 8.0 22.0 107.8 7.6 16.4 5 27.2 8.0 22.2 102.6 7.2 17.9 SR4A Cloudy Moderate 16:18 8.5 Middle 27.2 8.0 22.3 101.9 16.8 817198 807813 4.3 0.2 81 27.2 8.0 18.5 7.5 0.2 26.7 7.9 23.1 6.8 16.7 96.3 6 26.7 23.1 Rottom 7.9 96.4 6.8 7.5 0.2 7.9 26.7 23.1 96.4 6.8 16.6 6 1.0 0.1 313 27.2 8.0 21.6 103.6 7.3 12.7 8 Surface 27.2 8.0 21.7 103.3 1.0 0.1 340 27.1 8.0 21 7 102.9 7.3 11.9 6 SR5A Cloudy Moderate 16:31 5.3 Middle 816605 810709 4.3 0.1 320 12.5 26.9 7.9 22.1 105.0 7.4 8 7.5 27.0 8.0 22.1 105.8 Bottom 4.3 0.1 336 27.0 8.0 22.1 106.5 7.5 12.4 10 1.0 0.1 235 27.4 8.0 21.3 114.2 8.0 10.2 114.7 Surface 27.5 8.1 21.2 115.1 1.0 0.1 245 27.5 8.1 21.0 8.1 9.6 8 16:55 5.1 Middle 817908 814647 SR6 Cloudy Moderate 4.1 0.1 252 26.9 14.0 7.9 22.3 99.7 7.0 8 Bottom 26.9 7.9 22.3 100.7 4.1 0.1 7.9 22.3 7.2 13.8 269 26.9 1.0 0.1 162 24.1 7.8 28.4 6.2 2.4 87.2 3 Surface 24.1 7.8 28.4 87.2 1.0 172 7.8 28.4 87.2 6.2 2.4 0.1 24 1 8.5 0.1 96 23.4 7.8 30.4 86.6 6.1 4 SR7 Cloudy Moderate 16:31 16.9 Middle 30.4 86.6 2.7 823650 823730 8.5 0.1 100 23.3 7.8 30.4 86.6 6.1 2.8 3 15.9 0.2 174 23.1 7.8 31.0 86.6 2.7 3 6.1 31.0 Bottom 23.1 7.8 86.6 15.9 0.2 177 23.1 7.8 31.0 86.6 6.1 2.9 1.0 0.5 288 27.0 7.8 7.3 19.3 84.0 6.0 2 Surface 27.0 7.8 19.3 84.0 7.8 19.3 84.0 6.0 7.4 1.0 0.5 316 26.9 <2 6.0 SR8 Cloudy Moderate 15:23 5.0 Middle 2 820418 811600 4.0 0.4 266 26.3 7.8 22.9 88.6 6.3 8.2 7.9 22.8 90.5 26.5 4.0 0.4 270

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 Qua	lity Monit		lts on		04 June 17	during Mid-	Ebb tide																						
Monitoring	Weather	Sea	Sampling	Water			Current Speed	Current	Water Te	emperature (°C)	1	рН	Salini	ty (ppt)		aturation	Dissolv Oxyge		Turbidity(NTU)	Suspende (mg/		Total Alk (ppm		Coordinate	Coordinate	Chromi (µg/L		ckel (µg/L
Station	Condition	Condition	Time	Depth (m)	Sampling	Depth (m)	(m/s)	Direction	Value	Average	Value	Average	e Value	Average	Value	Average			Value	DA	Value	DA	- "	DA	HK Grid (Northing)	HK Grid (Easting)	" "		alue DA
					Surface	1.0	0.6	211	27.8	27.8	7.8	7.8	16.5	16.5	81.1	81.1	5.8		14.0		13		73				<0.2		.6
						1.0	0.6	224 191	27.7 27.0		7.8 7.8		16.5 19.3		81.0 76.6		5.8 5.5	5.7	14.0 12.8	-	15 12		73 75				<0.2	1	.6
C1	Cloudy	Moderate	09:34	8.4	Middle	4.2	0.4	191	27.0	27.0	7.8	7.8	19.3	19.3	76.6	76.6	5.5		13.3	13.9	10	12	75	75	815632	804246	<0.2	1.	.7
					Bottom	7.4	0.6	120 122	25.3 25.5	25.4	7.8	7.8	25.6 25.5	25.6	79.5 82.6	81.1	5.6 5.8		15.2 14.0	-	11		76 76				<0.2		.7
					Surface	1.0	1.2	185	28.4	28.4	7.7	7.7	13.2	13.9	78.5	78.3	5.7		5.3		13		83				<0.2	1.	.8
					Surface	1.0 4.6	1.3 0.9	188 173	28.4 26.1	20.4	7.7		14.6 21.7	10.5	78.0 62.7		5.6 4.5	5.1	5.4 8.9		11 8		80 83				<0.2		.8
C2	Cloudy	Moderate	10:55	9.1	Middle	4.6	1.0	177	26.1	26.1	7.7	7.7	21.6	21.7	62.5	62.6	4.5		9.3	10.9	10	12	81	83	825697	806954	<0.2	<0.2	.8
					Bottom	8.1 8.1	0.7	172 181	25.0 25.0	25.0	7.7	7.7	25.0 25.1	25.1	60.3	60.9	4.3	4.4	17.5 18.7	-	13 15		83 85				<0.2		.8
					Surface	1.0	8.0	80	25.9	25.9	7.8	7.8	22.8	23.2	69.5	69.6	5.0		5.3		6		78				<0.2	2.	.0
						1.0 4.7	0.9	87 76	25.8 24.9		7.8 7.8		23.6 25.2		69.7 57.5		5.0 4.1	4.6	5.2 5.8	-	5 7		81 80				<0.2	1	.8
C3	Cloudy	Moderate	08:57	9.3	Middle	4.7	0.9	79	24.9	24.9	7.8	7.8	25.2	25.2	57.3	57.4	4.1		5.7	5.6	5	6	82	81	822117	817786	<0.2	<0.2	.8
					Bottom	8.3 8.3	0.8	83 85	23.8	23.9	7.8	7.8	28.2	28.1	59.2 61.3	60.3	4.3	4.4	5.9 5.7		6		81				<0.2		.7
					Surface	1.0	0.5	216	27.7	27.7	7.8	7.8	16.8	16.8	80.1	80.0	5.7		9.4		12		73				<0.2	1.	.8
					Gurrace	1.0	0.5	225 203	27.7 27.1	21.1	7.8 7.8	7.0	16.8 19.3	10.0	79.9 74.0		5.7 5.3	5.5	9.9 11.2	-	10		73 75				<0.2		.9
IM1	Cloudy	Moderate	10:09	8.6	Middle	4.3	0.2	203	27.1	27.1	7.8	7.8	19.3	19.3	73.8	73.9	5.3		11.0	11.3	9	10	75	75	818368	806465	<0.2	<0.2	.6 1.7
					Bottom	7.6 7.6	0.3	58 63	25.7 25.8	25.8	7.8 7.8	7.8	25.4 25.3	25.4	69.4 69.7	69.6	4.9 4.9	4.9	13.0 13.0		9		76 76				<0.2	1.	.8
					Surface	1.0	0.5	242	27.3	27.3	7.8	7.8	18.5	18.7	86.3	86.3	6.2		8.9		9		73				<0.2		.7
					Surface	1.0 4.7	0.6	248	27.3	27.5	7.8	7.0	18.9	10.7	86.2		6.1	6.1	8.8 10.2		11		73				<0.2		.6
IM2	Cloudy	Moderate	10:17	9.4	Middle	4.7	0.5 0.5	235 252	27.1 27.1	27.1	7.8 7.8	7.8	20.1	20.1	85.0 84.8	84.9	6.0		10.2	10.1	10	10	75 75	75	818836	806198	<0.2	<0.2	.6 .5
					Bottom	8.4	0.4	167	27.0	27.0	7.8 7.8	7.8	20.5	20.5	84.1 84.3	84.2	6.0		11.1 11.2		9		76 77				<0.2	1.	.5
					0	8.4 1.0	0.5	176 239	26.9 27.3	07.0	7.8		19.3	40.0	84.3	07.4	6.0		8.5		10 12		73				<0.2		.4
					Surface	1.0	0.4	246	27.3	27.3	7.8	7.8	19.3	19.3	87.1	87.1	6.2	6.2	8.5		10		73				<0.2	1.	.5
IM3	Cloudy	Moderate	10:32	9.3	Middle	4.7	0.3	256 260	27.1 27.2	27.2	7.8	7.8	20.1	20.1	86.2 86.2	86.2	6.1	-	9.6 9.8	9.6	10	9	75 75	75	819428	806019	<0.2	<0.2	.3 .5
					Bottom	8.3	0.3	140	26.9	26.9	7.8	7.8	20.5	20.5	87.1	87.2	6.2		10.7		8		77				<0.2		.7
						8.3 1.0	0.3 1.1	147 242	26.9 27.6		7.8		20.5 15.4	45.4	87.2 78.5		6.2 5.7		10.7 9.4		6 11		77 73				<0.2		.7
					Surface	1.0	1.1	261	27.6	27.6	7.8	7.8	15.4	15.4	78.4	78.5	5.7	5.6	9.6		9		73				<0.2	1.	.5
IM4	Cloudy	Moderate	10:40	8.7	Middle	4.4	1.0	242 253	27.3 27.3	27.3	7.8 7.8	7.8	18.0	18.0	77.1 76.9	77.0	5.5 5.5		13.6 14.2	13.1	10 10	10	75 75	75	819578	805025	<0.2	<0.2	.5 .5
					Bottom	7.7	0.8	233	27.2	27.2	7.8	7.8	18.4	18.4	77.2	77.4	5.5		16.2		9		76				< 0.2	1.	.5
						7.7	0.9	242 243	27.2 27.6		7.8 7.8		18.4		77.6 82.3		5.6 5.8		15.6 7.6		11		77 73				<0.2		.8
					Surface	1.0	0.9	253	27.6	27.6	7.8	7.8	16.1	16.1	80.5	81.4	5.8	5.8	7.2		12		73				<0.2	1.	.5
IM5	Cloudy	Moderate	10:50	7.8	Middle	3.9	0.7	246 264	27.3 27.3	27.3	7.8 7.8	7.8	17.9 17.9	17.9	79.1 79.3	79.2	5.7		14.1 15.0	12.7	10	9	75 75	75	820570	804932	<0.2		.7 .6
					Bottom	6.8	0.6	245	27.1	27.1	7.8	7.8	18.5	18.5	82.6	83.5	5.9		16.4		7		77				< 0.2	1.	.6
						6.8	0.6	253 224	27.1 27.5		7.8		18.5 16.1		84.4 74.6		6.0 5.4		16.0 7.2		7		77 73				<0.2		.6
					Surface	1.0	1.0	227	27.5	27.5	7.7	7.7	16.1	16.1	74.1	74.4	5.3	5.2	7.5		9		73				< 0.2	1.	.7
IM6	Cloudy	Moderate	11:05	7.3	Middle	3.7	0.9 1.0	236 256	27.0 27.0	27.0	7.7	7.7	18.3	18.3	71.3 71.4	71.4	5.1 5.1		10.7	12.6	12 10	9	75 75	75	821060	805822	<0.2	<0.2	.6 .6
					Bottom	6.3	0.8	247	26.7	26.7	7.7	7.7	19.1	19.1	70.2	70.3	5.0	5.1	19.4		8		76				<0.2	1.	.8
						6.3	0.8	248	26.7 27.5		7.7		19.1 15.9		70.4 73.8		5.1 5.4		19.6 8.6		6 8		77 73				<0.2		.6
					Surface	1.0	0.9	233	27.5	27.5	7.7	7.7	15.9	15.9	75.2	74.5	5.4	5.3	8.1		10		73				<0.2	1.	.6
IM7	Cloudy	Moderate	11:16	7.4	Middle	3.7	0.8	238 252	26.8 26.8	26.8	7.7	7.7	18.8	18.8	72.0 72.2	72.1	5.2 5.2		14.1 15.0	13.4	8	8	75 75	75	821363	806850	<0.2	0.3	.6 .5
					Bottom	6.4	0.6	247	26.7	26.7	7.7	7.7	19.2	19.2	76.0	76.6	5.5	5.5	18.0		10		76				< 0.2	1.	.6
						6.4 1.0	0.7	249 206	26.7 26.7		7.7		19.2 19.9		77.2 70.6		5.5 5.1		16.6 9.5		8 10		77 80	1			0.6 <0.2	1.	.6
					Surface	1.0	0.8	219	26.7	26.7	7.7	7.7	19.8	19.9	70.7	70.7	5.1	5.0	9.8	F	10		79				<0.2	1.	.6
IM8	Cloudy	Moderate	10:25	7.5	Middle	3.8	0.7	211 218	26.3 26.3	26.3	7.7	7.7	20.8	20.8	67.9 67.9	67.9	4.9 4.9	5.0	14.7 14.9	14.3	12 10	10	79 79	80	821706	807842	<0.2		.6 .6
					Bottom	6.5	0.5	228	26.2	26.2	7.7	7.7	21.3	21.3	68.3	68.6	4.9	4.9	18.3	-	9		82				< 0.2	1.	.5
DA: Depth-Ave					DOTTOLI	6.5	0.6	239	26.2	20.2	7.7	7.7	21.3	21.3	68.8	00.0	4.9	4.9	18.8		11		82				<0.2	1.	.6

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring Water Quality Monitoring Recults on All June 17 during

Water Qual Water Qual	•	•	lte on		04 June 17	during Mid-E	Ehh tida																					
	Weather	Sea	Sampling	Water	04 Julie 17	during Mid-E	Current		Water To	emperature (°C)		pH	Salinity	v (nnt)	DO S	aturation	Dissol		Turbidity(NITLI)			Total Alka	linity	Coordinate	Coordinate	Chromiur	M Nickel (μg/L)
Monitoring Station	Condition	Condition	Time	Depth (m)	Sampling	Depth (m)	Speed (m/s)	Current Direction	Value	Average		Average				(%) Average	Oxyg Value	jen DA	Value	DA	(mg/ Value	L) DA	(ppm Value)	HK Grid (Northing)	HK Grid (Easting)	(μg/L) Value D	
	Condition	Condition	Time	Deptii (iii)		1.0	0.8	152	28.8		7.9	_	13.3		91.5		6.6	DA	3.5	DA	9	DA	84	DA	(Northing)	(Lasting)	<0.2	1.6
					Surface	1.0	0.8	154	28.8	28.8	7.9	7.9	13.3	13.3	91.2	91.4	6.5	5.8	3.5		9		84				<0.2	1.6
IM9	Cloudy	Moderate	10:14	7.7	Middle	3.9	0.7	143 155	26.5 26.5	26.5	7.7	7.7	20.9	20.9	70.2	70.2	5.0	-	9.6 9.6	8.5	4 6	6	85 85	84	822081	808830	<0.2	0.2 1.7 1.6
					Bottom	6.7	0.5	120	26.2	26.3	7.7	7.7	21.7	21.7	70.3	70.7	5.0	5.1	12.4	Į	6		84				<0.2	1.6
						6.7 1.0	0.5	122 133	26.3 28.2		7.7 7.9		21.7 16.9		71.0		5.1 6.4		12.1 3.5		8		83 81				<0.2	1.5
					Surface	1.0	0.8	134	28.2	28.2	7.9	7.9	17.3	17.1	90.2	90.5	6.4	5.8	3.6		6		81				<0.2	1.8
IM10	Cloudy	Moderate	10:03	7.9	Middle	4.0	0.6	103	26.3 26.3	26.3	7.8 7.8	7.8	21.5	21.5	72.3 72.3	72.3	5.2		9.8 9.7	8.2	6 5	7	83	83	822252	809836	<0.2	0.2 1.8 1.7
					Bottom	6.9	0.6	99	26.0	26.0	7.8	7.8	22.2	22.2	74.0	74.6	5.3	5.4	11.3		8		84				<0.2	1.7
						6.9 1.0	0.7	102 117	26.0 27.5		7.8 7.9		22.2 18.7		75.1 85.4		5.4 6.1		11.1 5.1		6		84 80				<0.2	1.6
					Surface	1.0	0.6	125	27.5	27.5	7.9	7.9	18.7	18.7	85.2	85.3	6.1	5.8	5.2		4		79				<0.2	1.6
IM11	Cloudy	Moderate	09:51	7.8	Middle	3.9	0.4	99 101	26.3 26.3	26.3	7.8 7.8	7.8	21.2	21.2	75.7 75.8	75.8	5.4	ŀ	14.0 14.3	11.4	7 5	5	80 82	81	821491	810537	<0.2	0.2 1.8 1.7
					Bottom	6.8	0.4	90	26.3	26.3	7.8	7.8	21.4	21.4	77.8	78.0	5.6	5.6	14.9	Į	3		83				<0.2	1.6
						6.8	0.4	97 112	26.3 28.4		7.8 7.9		21.4		78.1 97.0		5.6 6.9		14.9 2.5		3		83				<0.2	1.8
					Surface	1.0	0.6	121	28.3	28.4	7.9	7.9	16.7	16.7	96.3	96.7	6.8	6.3	2.6	Į	4		81				<0.2	1.7
IM12	Cloudy	Moderate	09:42	8.1	Middle	4.1	0.5	91 96	26.8 26.8	26.8	7.8 7.8	7.8	20.2	20.2	80.6 80.6	80.6	5.8	-	7.6 8.1	7.0	3	4	83	83	821148	811527	<0.2	0.2 1.8 1.7
					Bottom	7.1	0.4	86	26.6	26.6	7.8	7.8	20.6	20.6	81.0	81.3	5.8	5.8	11.1	Į	4		84				<0.2	1.8
						7.1	0.4	89 100	26.6 27.3		7.8 7.9		20.6 19.8		81.6 85.7		5.8 6.1		10.3 11.7		6 5		84 80				<0.2	1.8
					Surface	1.0	0.5	104	27.5	27.4	7.9	7.9	19.9	19.9	85.2	85.5	6.0	6.1	12.6	Į	5		80				<0.2	1.6
SR2	Cloudy	Moderate	09:16	4.7	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14.6	-	5	-	81	821458	814185	- <0	0.2 - 1.8
					Bottom	3.7	0.3	83	26.5	26.6	7.8	7.8	21.2	21.2	84.4	85.1	6.0	6.1	17.4	Į	5		81				<0.2	1.8
						3.7 1.0	0.3	87 203	26.6 26.6		7.8 7.7		21.2		85.8 69.2		6.1 5.0		16.5 10.0		5 11		83				<0.2	2.0
					Surface	1.0	1.0	205	26.6	26.6	7.7	7.7	20.2	20.2	69.1	69.2	4.9	4.9	9.9	Į	9		-				-	-
SR3	Cloudy	Moderate	10:37	7.8	Middle	3.9	0.9	209 220	26.3 26.3	26.3	7.7	7.7	20.8	20.8	67.2 67.2	67.2	4.8	-	14.0 14.2	14.7	10 8	9	-	-	822152	807582		
					Bottom	6.8	0.8	220	26.1	26.2	7.7	7.7	21.4	21.4	67.7	68.2	4.9	4.9	20.1	Į	9		-				-	-
						6.8	0.8	241 246	26.2 27.3		7.7 8.0		21.4		68.6 104.5		4.9 7.3		19.9 19.6		6 12		-				-	-
					Surface	1.0	0.6	270	27.3	27.3	8.0	8.0	21.8	21.8	104.2	104.4	7.3	7.1	19.8	Į	10		-				-	-
SR4A	Cloudy	Moderate	09:12	8.3	Middle	4.2 4.2	0.5	242 246	27.1 27.1	27.1	8.0	8.0	21.9	21.9	98.6 98.2	98.4	6.9	ŀ	14.4 14.6	15.3	10 10	11	-	-	817200	807790	-	
					Bottom	7.3	0.4	257	26.5	26.5	7.9	7.9	23.3	23.3	94.1	94.7	6.6	6.7	11.6	İ	13		-				-	-
					0	7.3 1.0	0.4	263 291	26.5 27.3	07.0	7.9 8.0	0.0	23.3	04.4	95.2 100.9	400.7	6.7 7.1		11.7 11.7		11 9		-				-	
					Surface	1.0	0.2	303	27.3	27.3	8.0	8.0	21.4	21.4	100.5	100.7	7.1	7.1	11.8	İ	11		-				-	-
SR5A	Cloudy	Moderate	08:52	4.6	Middle	-	-	-	-	-	-	-	-	-	-	-	-	ŀ	-	12.9	-	10	-	-	816588	810676		
					Bottom	3.6	0.2	306	26.9	26.9	7.9 7.9	7.9	22.5	22.5	98.2	98.3	6.9 6.9	6.9	14.0 14.0		10 11						-	-
					0	3.6 1.0	0.2	329 276	26.9 27.1	07.4	8.0	0.0	21.7	04.7	101.4	404.4	7.1		11.5		8		-				+-+	-
					Surface	1.0	0.2	289	27.1	27.1	8.0	8.0	21.7	21.7	101.3	101.4	7.1	7.1	11.5		10		-				-	-
SR6	Cloudy	Moderate	08:22	4.3	Middle	-	-	-	-	-	-	-	-	-	-	-	-	ŀ	-	11.7	-	11	-	-	817882	814648		
					Bottom	3.3	0.2	261	27.0	26.9	8.0	8.0	22.4	22.4	104.0	104.2	7.3	7.3	12.0		14		-				-	-
					C	3.3 1.0	1.2	263 71	26.8 25.7	25.7	8.0 7.8	7.0	22.4	22.2	104.3 89.7	90.7	7.3 6.3		11.9 7.1		12 14		-	\dashv			-	-
					Surface	1.0	1.2	74	25.7	25.7	7.8	7.8	23.0	23.0	89.7	89.7	6.3	5.9	7.1	ļ	12		-				-	-
SR7	Cloudy	Moderate	08:25	16.3	Middle	8.2 8.2	0.9 1.0	63 65	24.7 24.8	24.8	7.8 7.8	7.8	25.3 25.0	25.2	77.5 77.5	77.5	5.4	ŀ	12.0 11.5	10.0	11 9	12	-	-	823627	823751	-	
					Bottom	15.3	0.9	94	23.9	23.9	7.8	7.8	27.7	27.7	77.9	78.0	5.4	5.4	11.1	ļ	14		-				-	-
					04	15.3 1.0	0.9	100 222	23.9	00.0	7.8 7.8		27.7 19.5	40.5	78.0 92.4		5.4 6.5		11.2 11.3		12 7		-	-+			-	-
					Surface	1.0	0.3	226	28.0	28.0	7.8	7.8	19.5	19.5	92.4	92.4	6.5	6.5	11.8	ļ	6		-				-	-
SR8	Cloudy	Moderate	09:31	5.2	Middle	-	-	-	-	-	-	-	-	-	-	-	-	ŀ	-	13.4	-	7	-	-	820413	811576	-	
					Bottom	4.2	0.4	195	27.3	27.3	7.9	7.9	20.1	20.1	90.8	91.0	6.4	6.4	15.2	ļ	7		-				-	-
DA: Donth Aven	<u> </u>		1			4.2	0.4	196	27.3		7.9		20.1		91.1		6.4		15.1		9		-				<u> </u>	

Water Quality Monitoring Results on 06 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Oxygen (ppm) Speed (ma/L) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Easting) Value DA 0.4 210 29.4 20.8 1.0 5.8 9.5 Surface 29.4 7.9 85.7 1.2 1.0 0.5 223 29.4 7 Q 20.8 85.7 5.8 9.5 76 < 0.2 3.1 0.3 193 28.1 7.9 23.2 76.5 5.3 10.9 9 77 <0.2 1.4 C1 16:58 6.1 Middle 7.9 23.2 76.5 815615 804249 Cloudy Moderate 3 1 0.3 207 28.1 7.9 23.2 76.5 5.3 10.9 10 76 <0.2 1.4 5.1 0.1 249 27.5 7.9 79.6 12.6 78 <0.2 2.1 7.9 25.3 79.6 5.5 Rottom 27.5 0.1 1.0 1.1 7.9 6.2 74 29.6 12.6 87.6 5.8 <0.2 3.0 Surface 29.7 7.9 12.6 87.6 7.9 12.6 87.6 6.2 73 2.9 1.0 1.2 168 29.7 5.8 4 < 0.2 5.9 0.7 76 5.5 177 7.8 5.6 4 < 0.2 2.9 28.0 19.4 79.2 8.6 C2 Sunny Moderate 16:07 10.9 Middle 28.0 7.8 19.4 79.2 825668 806935 2.9 79.2 3.0 5.5 0.7 194 28.0 7.8 194 5.6 8.6 4 76 -0.2 9.9 0.4 174 27.7 7.9 24.6 5.6 9.6 77 <0.2 3.0 Bottom 7.9 24.6 81.2 5.6 9.9 0.4 188 27.7 7.9 24.6 81.2 9.6 77 <0.2 2.8 0.5 29.4 8.1 6.8 3.2 74 1.8 <0.2 Surface 29 4 8.1 18.5 98.7 1.0 0.5 18.5 98.7 6.8 3.2 74 2.0 29.4 8.1 < 0.2 65 247 3.6 75 6.2 2.0 0.4 28.5 8.0 21.1 89.4 4 < 0.2 822128 C3 Sunny Moderate 17:58 11.4 Middle 28.5 8.0 21.1 89.4 3.4 817814 5.7 0.4 248 28.5 8.0 21 1 89.4 6.2 3.6 3 76 <0.2 2.0 25.5 10.4 1.2 166 28.0 8.0 91.3 6.2 3.5 6 77 77 <0.2 2.0 Bottom 8.0 25.5 91.3 6.2 1.7 10.4 1.3 177 28.0 8.0 913 62 < 0.2 1.0 0.9 211 30.7 8.0 15.0 8.5 75 <0.2 2.1 94.1 6.5 15.0 Surface 30.7 8.0 94 1 1.0 1.0 216 30.7 8.0 15.0 94.1 6.5 8.5 76 <0.2 2.3 6.2 5.8 3.8 0.3 214 28.8 8.0 19.3 83.2 12.6 6 76 <0.2 2.4 IM1 Cloudy Moderate 16:49 7.6 Middle 28.8 8.0 19.3 83.2 12 0 77 818365 806464 2.2 5.8 77 <0.2 2.4 3.8 0.4 233 28.8 8.0 193 83.2 12.6 6 78 13 6.6 0.2 240 27.6 7.9 26.7 81.0 5.5 5.5 14.8 < 0.2 2.1 Bottom 27.6 26.7 81.0 6.6 0.2 256 27.6 7 Q 26.7 81 N 1/1/8 13 70 < 0.2 2.0 1.0 225 29.8 2.5 8.0 7.4 <0.2 Surface 29.8 8.0 14.8 105.3 1.0 0.9 233 29.8 8.0 14.8 105.3 7.4 8.7 74 <0.2 2.4 10.2 2.3 3.8 0.6 219 28.9 7.9 18.3 85.6 6.0 9 76 < 0.2 7.5 818844 IM2 Cloudy Moderate 16:45 Middle 28.9 7.9 18.3 85.6 806182 2.3 3.8 0.6 231 7.9 18.3 85.6 6.0 10.2 77 <0.2 28.9 q 78 6.5 0.4 211 27.6 79 26.6 81 9 5.6 13.3 9 -02 21 Bottom 7.9 26.6 81.9 5.6 5.6 6.5 0.4 7.9 26.6 13.2 < 0.2 211 27.6 81 Q 78 2.2 1.0 0.6 232 29.6 8.0 15.4 97.2 6.8 6.4 6 75 <0.2 2.7 15.4 97.2 Surface 8.0 1.0 0.7 237 29.6 8.0 15.4 97.2 6.8 6.4 75 <0.2 2.9 3.9 0.5 76 <0.2 223 29.2 8.0 92.2 6.5 8.4 6 2.8 16.3 92.2 819414 806021 IM3 16:37 7.7 Middle 8.0 2.8 Cloudy Moderate 29.2 16.3 92.2 6.5 77 <0.2 2.8 3.9 0.6 231 29.2 8.0 8.4 78 6.7 7 <0.2 2.5 0.4 196 29.1 8.0 18.3 93.3 6.5 11.3 6.5 18.3 93.3 Bottom 29.1 8.0 6.5 0.5 8.0 18.3 <0.2 6.7 29.1 93.3 11.3 78 2.8 208 2.9 1.0 0.5 210 30.9 7.9 13.7 7.1 6.6 76 <0.2 102.7 Surface 13.7 102.7 1.0 0.5 210 30.9 7.9 13.7 102 7 7.1 6.6 4 75 < 0.2 3.3 30.8 15.3 15.3 8.5 76 77 <0.2 2.8 IM4 16:29 6.6 Middle 7.9 15.3 97.4 819574 805033 2.8 Cloudy Moderate 30.8 0.6 30.8 7.9 5.6 0.5 218 28.9 7.9 18.6 6.4 12.3 77 <0.2 2.7 91.7 8 7.9 18.6 91.7 Rottom 28.9 6.4 5.6 0.6 18.6 78 237 7.9 12.3 2.9 28.9 6.4 8 < 0.2 1.0 0.6 210 30.3 7.9 12.9 98.2 6.9 7.7 75 < 0.2 2.8 Surface 7.9 13.0 7.7 75 1.0 0.6 224 30.3 7.9 13.0 98.2 6.9 < 0.2 2.8 76 77 3.2 3.1 0.5 246 30.1 7.9 14.9 95.0 6.6 10.6 <0.2 IM5 Cloudy Moderate 16:20 6.1 Middle 30.1 7.9 14.9 95.0 10.6 820546 804924 2.6 3.1 0.5 256 30.1 7.9 14.9 95.0 6.6 10.6 < 0.2 5.1 21.7 0.5 258 28.4 7.9 21.7 5.6 13.4 19 78 <0.2 1.8 7.9 81.6 5.6 Bottom 28.4 5.1 7.9 81.6 5.6 13.4 18 77 < 0.2 2.1 0.5 262 28.4 1.0 0.4 210 7.8 75 2.7 31.0 12.3 99.7 6.9 7.3 6 < 0.2 12.3 Surface 31.0 7.8 99.8 12.3 99.8 7.8 6.9 1.0 0.4 225 31.0 7.3 7 74 < 0.2 3.1 0.5 242 30.3 7.9 15.2 6.9 7.1 8 76 76 <0.2 2.9 16:15 Middle 30.3 15.2 99.2 821040 805815 2.7 IM6 Cloudy Moderate 6.2 3.1 0.5 253 30.3 7.9 15.2 6.9 7.1 <0.2 5.2 0.4 12.6 11 78 <0.2 2.3 28.6 7.8 21.4 85.0 5.9 Bottom 28.6 7.8 21.4 85.0 5.9 5.2 0.4 7.8 21.4 5.9 12.6 10 78 2.6 265 28.6 1.0 0.7 234 29.6 7.8 93.4 6.5 7.7 75 < 0.2 2.1 17.1 Surface 29.6 7.8 17.1 93.4 7.7 74 1.0 0.7 7.8 6.5 251 29.6 93.4 6 < 0.2 12.1 75 3.7 2.8 0.5 262 29 N 7.8 193 85.0 59 5 -n 2 IM7 Cloudy Moderate 16:07 7.3 Middle 19.3 85.0 11.9 821357 806832 2.7 3.0 3.7 0.5 269 29.0 7.8 19.3 84.9 5.9 12.2 76 <0.2 6.3 0.3 257 28.6 7.8 21.3 5.9 15.7 9 78 <0.2 2.9 Bottom 28.6 7.8 21.3 85.2 5.9 6.3 0.3 279 28.6 7.8 21.3 85.2 5.9 15.7 78 <0.2 3.1 1.0 0.7 189 7.9 74 29.1 15.3 88.3 6.2 5.6 <0.2 3.2 Surface 29.1 7.9 15.5 88.2 3.2 7.9 15.7 88.1 6.2 74 1.0 0.7 199 29.1 5.7 <0.2 3.7 75 0.6 205 7.9 19.5 5.8 6.9 6 < 0.2 2.9 28.4 83.6 7.9 19.5 83.7 IM8 Sunny Moderate 16:36 7.4 Middle 28.4 821686 807827 2.8 7.9 76 <0.2 3.0 3.7 0.6 222 28.4 19.5 83.7 5.8 6.9 6 20.1 86.6 6.4 0.5 231 28.4 7.9 6.0 8.5 77 <0.2 2.1 7.9 Bottom 28.4 86.6 6.0 6.4 0.5 253 28.4 2.4

DA: Depth-Averaged

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

Water Quality Monitoring Results on 06 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Easting) Value 0.5 174 29.7 14.8 1.0 88.4 62 52 -02 33 Surface 29.7 7.9 14.8 88.4 1.0 0.5 184 29.7 7 Q 1/1/8 88.4 6.2 5.2 74 < 0.2 3.4 3.3 0.2 176 28.5 7.9 20.1 85.7 6.0 6.1 3 76 <0.2 3.0 IM9 16:30 6.6 Middle 7.9 20.1 85.7 822093 808801 3.0 Sunny Moderate 3.3 0.2 181 28.5 7.9 20.1 85.7 6.0 6.1 76 <0.2 2.9 5.6 0.2 218 28.4 7.9 20.6 6.1 7.0 77 <0.2 2.5 Bottom 7.9 20.6 87.9 28.4 6 1 5.6 28.4 7.9 20.6 1.0 0.4 7.9 74 28.7 18.1 86.6 6.1 4.5 <0.2 2.8 Surface 28.7 7.9 18.1 86.6 7.9 86.6 74 2.9 1.0 0.5 170 28.7 18.1 6.1 4.5 6 < 0.2 3.5 0.3 76 2.7 166 7.9 5.9 5.6 6 < 0.2 28.4 21.1 85.8 IM10 Sunny Moderate 16:48 6.9 Middle 28.4 7.9 21.1 85.8 822246 809846 2.7 85.8 5.9 3.5 0.3 167 28.4 79 21.1 5.6 5 76 <0.2 2.8 0.3 179 28.3 7.9 21.6 87.6 6.1 7.0 77 <0.2 2.5 21.6 Bottom 7.9 87.7 77 5.9 0.3 28.3 7.9 21.6 87.7 6.1 7.0 <0.2 2.7 0.2 29.6 7.9 14.3 6.5 4.6 73 <0.2 2.4 92.2 Surface 29.6 7.9 14.3 92.2 1.0 0.3 168 7.9 14.3 92.2 6.5 74 <0.2 2.5 29.6 4.6 6.3 3.8 5.3 76 2.4 151 7.9 18.8 6.1 < 0.2 0.3 28.6 87.8 6 821517 IM11 Sunny Moderate 16:57 7.6 Middle 28.6 7.9 18.8 87.8 5.2 810538 2.4 3.8 0.3 158 28.6 79 18.8 87.8 6.1 5.3 4 76 <0.2 2.6 6.6 0.3 138 28.5 7.9 20.9 89.6 6.2 5.7 4 77 77 <0.2 2.0 Bottom 7.9 20.9 89.6 6.2 6.6 0.3 1/11 28.5 7 Q 20.9 89.6 62 4 < 0.2 2.3 1.0 0.2 108 30.0 8.0 14.9 5.1 74 <0.2 2.4 102.7 7.2 14.9 102.6 Surface 30.0 8.0 1.0 0.2 113 30.0 8.0 14.9 102.4 7.1 5.1 74 <0.2 2.2 3.5 0.2 117 29.1 8.0 16.5 90.1 6.3 6.2 6 76 <0.2 2.6 IM12 Sunny Moderate 17:06 7.0 Middle 29.1 8.0 16.5 90.0 821151 811529 2.5 16.5 89.8 76 77 <0.2 2.5 3.5 0.2 125 29 1 8.0 6.3 6.3 4 6.0 0.2 179 28.5 7.9 20.3 90.9 6.3 8.6 5 < 0.2 2.5 Bottom 20.3 77 6.0 0.2 185 28.5 7 Q 20.3 an a 63 8.6 1 < 0.2 2.5 1.0 0.3 179 29.6 3.4 <0.2 2.5 8.1 100.9 Surface 29.6 8.1 15.7 100.7 1.0 0.3 187 29.6 8.1 15.7 100.5 7.0 3.4 5 74 <0.2 2.8 7 N 821445 814170 SR2 Sunny Moderate 17:28 4.6 Middle 75 2.6 77 3.6 0.3 172 28.8 19.0 3.5 <0.2 2.5 8.0 94.7 6.6 3 Bottom 28.8 8.0 19.0 94.7 6.6 3.5 77 3.6 0.3 172 8.0 19.0 947 < 0.2 28.8 6.6 1 2.5 1.0 0.9 182 29.8 7.8 12.6 87.1 6.2 5.6 3 7.8 12.6 87.1 Surface 1.0 1.0 192 29.8 7.8 12.6 87 1 6.2 5.6 4.1 0.7 7.9 8.5 28.3 83.0 5.8 19.7 83.0 822131 807573 SR3 16:27 8.1 Middle 7.9 Sunny Moderate 28.3 4.1 7.9 19.7 83.0 5.8 0.8 185 28.3 8.5 3 7.1 226 7.9 0.4 28.2 21.7 84.4 5.8 9.4 3 21.7 84.5 5.8 7.9 Bottom 28.2 7.9 21.7 5.8 0.5 84.5 28.2 9.1 226 1.0 0.9 252 30.5 8.1 19.7 108.2 7.3 7.8 19.7 108.2 1.0 0.9 272 30.5 8.1 19.7 108.2 7.3 7.8 11 29.9 8.0 20.8 100.0 6.8 10.2 9 SR4A Cloudy 17:13 7.6 Middle 29.9 8.0 20.8 100.0 817203 807795 Calm 3.8 0.8 29.9 8.0 10.2 6.6 0.5 255 28.3 8.0 24.0 105.3 15.1 9 7.2 28.3 24.0 105.3 Rottom 8.0 7.2 0.5 6.6 258 15.1 9 28.3 8.0 24.0 105.3 1.0 0.2 322 30.2 8.1 19.7 121.9 8.3 9.1 13 Surface 30.2 8.1 19.7 121.9 1.0 0.2 347 30.2 8.1 19.7 121 9 8.3 9.1 11 SR5A Cloudy Calm 17:32 5.6 Middle 12 816601 810687 4.6 0.1 281 29.1 15.8 11 8.0 21.5 99.5 6.8 6.8 29.1 8.0 21.5 99.5 Bottom 4.6 0.1 287 29.1 8.0 21.5 99.5 6.8 15.8 12 1.0 0.1 245 31.7 8.1 20.1 117.0 8.6 12.5 9 117.0 Surface 31.7 8.1 20.1 1.0 0.2 260 31.7 8.1 20.1 8.6 12.5 9 18:00 3.8 Middle 817911 814660 SR6 Cloudy Calm 2.8 0.1 322 29.5 13.6 10 8.1 21.7 121.6 8.9 Bottom 29.5 8.1 21.7 121.6 8.9 2.8 0.1 8.1 21.7 121.6 13.6 12 350 29.5 1.0 0.1 108 29.4 8.1 19.9 7.0 2.7 102.9 3 Surface 29.4 8.1 19.9 102.7 7.0 1.0 0.1 117 8 1 199 2.7 29 4 102.5 3 3.7 10.7 123 59 0.2 27.7 8.0 25.4 85.6 5 SR7 Moderate 18:33 21.3 Middle 25.5 85.6 3.9 823651 823751 10.7 0.2 126 27.7 8.0 25.5 85.5 5.8 3.7 3 20.3 0.2 100 26.9 7.9 29.1 82.9 5.6 5.2 4 29.1 Bottom 26.9 7.9 82.9 5.6 20.3 0.2 100 26.9 7.9 29.1 82.9 5.6 5.2 1.0 0.2 223 15.7 7.6 29.8 8.1 100.4 7.0 3 Surface 29.8 8.1 15.7 100.2 8.1 15.7 7.0 7.8 1.0 0.2 234 29.8 100.0 2 SR8 Sunny Moderate 17:13 5.0 Middle 820412 811580 98.6 4.0 0.2 236 29.2 8.0 18.6 6.8 12.0 6 18.6 98.6 29.2 8.0 4.0 0.2 247

DA: Depth-Average

Water Qua		oring Resu	lts on		06 June 17 during Mid																			
Monitoring	Weather	Sea	Sampling	Water	Compline Double (m)	Current Speed	Current	Water Tem	perature (°C)	рН	Salir	ity (ppt)	DO Saturation (%)	Dissolved Oxygen	Turbidity	(NTU)	Suspende (mg.		tal Alkalinity (ppm)	Coordinate HK Grid	Coordinate HK Grid	Chromi (µg/L		kel (μg/L)
Station	Condition	Condition	Time	Depth (m)	Sampling Depth (m)	(m/s)	Direction	Value	Average	Value Average	Value	Average	Value Average		Value	DA	Value	DA V	alue DA	(Northing)	(Easting)		DA Valu	ue DA
					Surface 1.0 1.0	0.1	246 254	29.9 29.9	29.9	8.0 8.0	15.6 15.6	15.6	101.9 101.9	7.1	6.2 6.2		4		75 76			<0.2	2.1 2.4	
C1	Cloudy	Calm	10:57	6.4	Middle 3.2	0.2	162	28.6	28.6	7.9	21.6	21.6	81.3	5.6	9.8	9.7	4		77	815619	804228	<0.2	-0.2 1.8	3.0
-	,			•	3.2	0.2	176 189	28.6 27.2		7.9	21.6 26.9		81.3	5.6	9.8 13.2	•	7		78 78			<0.2	1.8	В
					Bottom 5.4 1.0	0.2	205 171	27.2 29.4	27.2	7.9	26.9 13.4	26.9	79.7	5.4 5.4 6.1	13.2 5.5		6 5		79 73			<0.2	1.8	В
					Surface 1.0	1.1	173	29.4	29.4	7.8	13.4	13.4	86.2	6.1	5.5		4		73			<0.2	2.1	1
C2	Sunny	Moderate	11:46	11.3	Middle 5.7 5.7	1.0	169 170	28.2 28.2	28.2	7.9 7.9	20.6	20.6	81.7 81.7	5.7	6.7 6.7	6.2	7 5	5	76 75	825695	806939	<0.2	<0.2 2.6	5 2.4
					Bottom 10.3 10.3	0.5 0.5	146 146	27.8 27.8	27.8	7.9 7.9	24.8 24.7		83.2 83.4 83.3	5.7 5.7	6.4		6		77 77			<0.2	2.5	j 4
					Surface 1.0 1.0	0.9 1.0	94 98	28.8 28.8	28.8	8.0	19.8 19.8	19.8	97.7 97.5 97.6	6.8	3.3 3.4		4		73 73			<0.2 <0.2	1.8 2.0	В
C3	Sunny	Moderate	10:15	13.1	Middle 6.6	0.6	90	27.6	27.6	7.9	25.5	25.5	88.9	6.1	2.5	2.9	4		75	822096	817808	<0.2	-0.2 1.9	9 10
					6.6 Bottom	0.6 1.3	94 63	27.6 26.9	26.9	7.9 7.9 7.9	25.5 29.3	29.3	88.9 87.6 87.7	6.1 5.9 6.0	2.5 2.7		6 8	-	76 77			<0.2	1.9	9 6
					12.1	1.4 0.5	66 177	26.9 28.8		7.9	29.3		87.7	6.0 5.5	2.7 6.4		6 7		77 75			<0.2	1.7	
					Surface 1.0	0.6	188	28.8	28.8	7.9	21.0	21.2	79.2	5.4	6.4		6		75			<0.2	1.9	9
IM1	Cloudy	Calm	11:23	6.8	Middle 3.4 3.4	0.2	200 213	27.6 27.6	27.6	7.9 7.9	25.0 25.0	25.0	74.6 74.6	5.1 5.1	8.8 8.8	9.1	6 7	/	77 77	818364	806470	<0.2	<0.2	6 1.7
					Bottom 5.8 5.8	0.1	183 186	27.3 27.3	27.3	7.9 7.9	26.2 26.2	26.2	75.6 75.6	5.2 5.2	12.0 12.0		8	-	78 79			<0.2	1.6	5
					Surface 1.0 1.0	0.7 0.7	199 203	29.8 29.7	29.8	8.0 8.0	16.2 16.2	16.2	96.3 95.9 96.1	6.7	6.1 6.1		5 7	-	75 75			<0.2	2.4 2.5	5
IM2	Cloudy	Moderate	11:36	8.1	Middle 4.1	0.6	210	28.2	28.2	7.9	20.5	20.6	80.6	5.6	8.1	8.2	5		76	818841	806185	<0.2	.0 2 3.2	2 2
					80ttom 4.1	0.6 0.1	222 160	28.2 27.6	27.6	7.9	20.6 25.6	25.6	87.8	5.6 6.0 6.0 6.0	8.1 10.3		6		77 78			<0.2	3.0	3
					7.1	0.1	163 229	27.6 30.1		7.9	25.6 15.7		87.8	6.0 7.2	10.3 5.5		6		77 75			<0.2	3.3 3.8	3
					Surface 1.0 3.9	0.6	233 226	30.1 29.5	30.1	7.9	15.7 16.3	13.7	103.5	7.2 6.4 6.8	5.5 8.0		4		75			<0.2	3.5	5
IM3	Cloudy	Moderate	11:44	7.8	Widdle 3.9	0.7	248	29.5	29.5	8.0	16.3	16.3	91.1	6.4	8.0	8.8	3	4	76	819423	806014	<0.2	<0.2 3.0	9 0
					Bottom 6.8 6.8	0.4	227 227	28.0 28.0	28.0	7.9 7.9	22.4 22.4	22.4	92.6 92.6	6.4	12.8 12.8		5 6		78 78			<0.2	2.6	ô
					Surface 1.0 1.0	0.4 0.5	212 212	30.5 30.5	30.5	8.1 8.1	13.4 13.4	13.4	120.6 120.6	8.4	6.6 6.6		5 7		75 75			<0.2	2.6 2.6	à
IM4	Cloudy	Moderate	11:52	7.6	Middle 3.8 3.8	0.4	205 218	29.2	29.2	7.9 7.9	18.4 18.4	18.4	90.2 90.2	6.3 6.3	7.4 7.5	9.6	6	-	76 75	819558	805028	-0.0	<0.2 2.5	5 2.5
					Bottom 6.6	0.5	220	28.2	28.2	7.9	22.0	22.0	91.8	6.3	14.6		9		77			<0.2	2.3 2.4	3
					6.6	0.5	236 205	28.2 30.3		7.9	22.0 13.6		91.8	6.5	14.6 7.7		9 5		78 75			<0.2	2.4	<u> </u>
					1.0	0.4	222 234	30.3 29.0	30.3	7.9	13.6 18.0	13.0	92.9	6.5 5.7 6.1	7.7 8.4		4 5		75 77			<0.2	2.9	9
IM5	Cloudy	Moderate	12:01	6.6	Wilddle 3.3	0.4	237	29.0	29.0	7.8	18.0	18.0	81.8	5.7	8.4	9.9	4 7	5	77 ''	820579	804912	<0.2	<0.2	7 2.0
					Bottom 5.6 5.6	0.3	242 261	28.5 28.5	28.5	7.8 7.8	21.3	21.3	81.3 81.3	5.6 5.6	13.5 13.5		7		78 78			<0.2 <0.2	2.8 2.6	
					Surface 1.0 1.0	0.4	205 221	30.3 30.3	30.3	7.9 7.9	13.3	13.3	97.1 97.1	6.8	6.1 6.1		4 5	-	75 76			<0.2	2.9 2.7	7
IM6	Cloudy	Moderate	12:07	6.7	Middle 3.4 3.4	0.5 0.5	237 238	29.3 29.3	29.3	7.8 7.8	17.1 17.1	17.1	81.9 81.9	5.7 5.7 6.3	8.1 8.1	8.8	6 7		76 76	821046	805828	~n 2	2.6	6
					Bottom 5.7	0.4	239	28.6	28.6	7.8	20.9	20.9	77.0	5.3	12.3		7		77			<0.2	<0.2 2.6 2.6 2.6	3
					5.7 Surface 1.0	0.4	260 214	28.6 29.5	29.5	7.8 7.8 7.9 7.9	20.9 15.1	15.1	77.0 77.0 94.7 94.7	5.3	12.3 6.5		9		77 75			<0.2	2.6	<u>i</u>
					1.0	0.8 0.5	219 231	29.5 28.2		7.9	15.1 21.1		94.7	6.6 5.5 6.1	6.5 9.7		4 5		75 76			<0.2	2.9	0
IM7	Cloudy	Moderate	12:17	6.8	Middle 3.4	0.5	236	28.2	28.2	7.9	21.1	21.1	78.9	5.5	9.7	9.3	6	5	77	821340	806818	<0.2	2.9	9 2.7
					Bottom 5.8 5.8	0.5 0.5	235 248	27.8 27.8	27.8	7.9 7.9	23.3	25.5	81.7 81.7	5.6 5.6	11.7 11.7		4 5		78 78			<0.2 <0.2	2.4 2.5	5
					Surface 1.0 1.0	0.6 0.6	183 188	29.0 29.0	29.0	7.9 7.9	16.2 16.2	16.2	89.2 89.2	6.3	4.8	- 7	4 5	F	73 73			<0.2	2.1	2
IM8	Sunny	Moderate	11:16	7.6	Middle 3.8 3.8	0.4	193 203	28.5 28.5	28.5	7.9 7.9	21.0	20.9	84.3 84.2 84.3	5.8 5.8 6.1	6.6 6.7	7.2	6	_	75 76	821697	807845	-n 2	<0.2 2.4	4 2.1
					Rottom 6.6	0.1	206	28.1	28.1	7.9	22.0	22.0	85.0	5.9	9.9		6		76			<0.2	1.9	9
DA: Depth-Ave	roand				6.6	0.1	214	28.1	-	7.9	22.0		85.4	5.9	10.2		5		77	1		<0.2	1.8	j

Water Qua		oring Resu	lts on		06 June 17 duri	ing Mid-E	bb tide																				
Monitoring	Weather	Sea	Sampling	Water	0 " 0 " ()		Current Speed	Current	Water Te	mperature (°C)	рН	Sali	nity (ppt)	DO Sa	turation %)	Dissolved Oxygen	Turbidity	NTU)	Suspende (mg/		Total Alkalinity (ppm)	. 000		Coordinate	Chromii (µg/L		el (μg/L)
Station	Condition	Condition	Time	Depth (m)	Sampling Depth (m)		(m/s)	Direction	Value	Average	Value Aver	age Value	Average	Value	Average	Value DA	Value	DA	Value	DA	Value DA		(Grid orthing)	HK Grid (Easting)		DA Value	e DA
					Surface	1.0	0.7	162	29.4	29.4	8.0 8.	15.6		89.0	89.0	6.2	5.3		3		74				<0.2	2.4	
IM9	Cunnu	Moderate	11:10	7.3	Middle	1.0 3.7	0.7	171 154	29.4 28.0		8.0	15.6		89.0 79.8	79.8	6.2 5.5 5.9	5.3 8.3	7.8	4	4	73 76 75		2093	808817	<0.2	2.4	
livi9	Sunny	Woderate	11.10	7.3		3.7 6.3	0.4	165 134	28.0 27.9	28.0	7.9 7. 7.9 7.	23.0		79.8 84.4		5.5	8.3 9.8	7.0	3	*	75 77	02	2093	000017	<0.2	<0.2 2.4 2.1	2.0
					Bottom	6.3	0.3	136	28.0	28.0	7.9	23.1	23.1	84.7	84.6	5.8	9.7		4		77				<0.2	2.2	
					Surface	1.0	0.7 0.7	143 146	29.1	29.1	8.0	16.3		88.4 88.4	88.4	6.2	6.9	-	4	-	73 73			-	<0.2	2.7	
IM10	Sunny	Moderate	11:04	8.0	Middle	4.0	0.3 0.4	90 92	28.2 28.2	28.2	7.9 7.9	9 20.8		82.9 82.9	82.9	5.8 5.8	12.2 12.2	11.6	6 7	7	76 75	5 82	2232		<0.2	<0.2 2.5	2.5
					Bottom	7.0	0.5	129	28.1	28.1	7.9	22.4	22.4	88.6	88.6	6.1	15.8	-	10		77				<0.2	2.1	
						7.0 1.0	0.5	131 128	28.1		7.9	15.6	1	88.6 88.3		6.1	15.8 5.4		10 6		77 74				<0.2	2.2	
					Surface	1.0 4.5	0.6 0.4	137 101	29.1 28.4	29.1	7.9 7.9 8.0	15.6	15.6	88.3 82.7	88.3	6.2 5.8 6.0	5.4 8.6	Ī	5 5	Ī	73			-	<0.2	2.6	
IM11	Sunny	Moderate	10:57	8.9	Middle	4.5	0.4	101	28.4	28.4	8.0	19.5	19.5	82.7	82.7	5.8	8.6	8.2	4	5	75 75	5 82	1498	810550	<0.2	<0.2	2.4
					Bottom	7.9 7.9	0.3	112 120	28.3 28.3	28.3	8.0	20.3		82.9 84.0	83.5	5.8 5.8	11.0 10.1	-	5 6	-	77 77			-	<0.2	2.1	-
						1.0	0.6	119	28.9	28.9	7.9	16.3	16.3	85.3	85.3	6.0	9.9		5		73				<0.2	2.2	
IM12	Sunny	Moderate	10:52	8.3	Middle	1.0 4.2	0.6 0.4	120 98	28.9 28.4	28.4	7.9 8.0 8.0	16.3	20.2	85.3 83.8	83.8	6.0 5.8 5.9	9.9 15.3	13.8	3 4	5	73 75 75		1180	811505	<0.2 <0.2	<0.2	2.0
IIVITZ	Summy	Woderate	10.52	0.3		4.2 7.3	0.4	100 81	28.4 28.4		8.0	20.2		83.8 86.4		5.8 6.0	15.3 16.1	13.0	9	,	75 76	02	.1100	011303	<0.2	2.0	
					Bottom	7.3	0.2	84	28.4	28.4	8.0	20.5	20.5	86.4	86.4	6.0	16.1	-	7		76				<0.2	1.8	
					Surface	1.0	0.5 0.6	80 82	28.7 28.7	28.7	8.0	19.1		91.3 91.4	91.4	6.4	4.7 4.7	-	6	-	73 73			-	<0.2	1.9	+
SR2	Sunny	Moderate	10:31	4.9	Middle	-	-	-	-	-		-	-	-	-	- 0.4	-	5.0	-	5	- 75	5 82	1448	814150	- <	<0.2	2.0
					Bottom	3.9	0.4	71	28.5	28.5	7.9 7.	20.8		93.5	93.5	6.5	5.2		4	Ī	77				<0.2	2.1	
					Surface	3.9 1.0	0.4	76 193	28.5 28.8	28.8	7.9	20.8 a 16.1	16.1	93.5 84.6	84.5	6.5 6.0	5.2 6.0		6 5		77				<0.2	1.9	+-
						1.0 4.2	0.8	193 192	28.8 28.0		7.9	16.1	10.1	84.3 79.9		6.0 5.5 5.8	6.1 8.4		6 5		-			-	-	-]
SR3	Sunny	Moderate	11:25	8.4	Middle	4.2	0.6	195	28.0	28.0	7.9	23.0	23.0	79.9	79.9	5.5	8.4	7.7	4	5	-	82	2160	807555	-	-	
					Bottom	7.4	0.7	191 206	27.9 27.9	27.9	7.9 7.	9 23.5		84.6 84.9	84.8	5.8 5.8	8.6 8.5	=	5 7	-	-			-	-	-	-
					Surface	1.0	0.2	59 62	30.1 30.1	30.1	7.9 7.9	9 16.0		90.1 90.1	90.1	6.2 6.2	6.3 6.3		6 5		-				-	-	
SR4A	Cloudy	Calm	10:38	9.1	Middle	4.6	0.3	51	27.9	27.9	7.9	25.0	25.0	76.2	76.2	5.2	8.8	10.3	6	8	-	81	7176	807821	-		1 .
	5.000,		10.00			4.6 8.1	0.3	52 76	27.9 27.6		7.9	25.0		76.2 75.8		5.2	8.8 15.7	-	8 12	-	-			-	-	-	
					Bottom	1.0	0.3	82 43	27.6 29.8	27.6	7.9	26.4		75.8	75.8	5.2 5.2 7.2	15.7 7.5		10 6		-				-	-	1
					Surface	1.0	0.0	44	29.8	29.8	8.0	17.6		104.6	104.6	7.2 7.2	7.5		6	E	-			-	-	-	
SR5A	Cloudy	Calm	10:12	5.4	Middle	-	-	-	-	-	-	-	-	-	-	- 7.2	-	9.5	-	6		81	6584	810687	-		
					Bottom	4.4	0.1 0.1	127 127	29.0 29.0	29.0	7.9 7.9	20.4		103.7 103.9	103.8	7.1 7.2 7.2	11.5 11.6	Ī	7 5	Ī	-			-	-	-	
					Surface	1.0	0.2	63	29.3	29.3	8.0	19.4	10.4	105.3	105.2	7.2	10.4		5		-				-	-	†
						1.0	0.2	68	29.3	20.0	8.0	19.4	10.1	105.1	100.2	7.2	10.5		3	_	-				-	-	
SR6	Cloudy	Calm	09:43	4.4	Middle	-	-	-	-	-	-	-	-	-	-	-	-	12.5	-	5	-	81	7880	814652	-		
					Bottom	3.4	0.1	39 42	29.2 29.2	29.2	7.9 7.	9 19.7		105.1 105.1	105.1	7.2 7.2	14.6 14.6	-	6		-				-	-	-
					Surface	1.0	0.4	50 50	27.7 27.7	27.7	7.9 7.9	9 25.6 25.5	25.6	93.6 91.7	92.7	6.4	1.8		5 6		-				-	-	-
SR7	Sunny	Moderate	09:44	16.1		8.1	0.3	349	26.9	26.9	7.9	28.8	20.0	83.6	83.6	5.7	3.2	2.9	4	6	-	82	3643	823761	-	-	
					Pottom	8.1 15.1	0.3 1.4	321 58	26.9 26.8	26.8	7.9	28.8		83.6 82.9	82.9	5.7 5.6 5.6	3.2 3.7	-	6 7	ŀ	-		•	•	-	-	+
					Bottom	15.1	1.5 0.1	62 273	26.8 29.0		7.8	29.2	29.2	82.9 93.0		5.6 6.4	3.7 9.2		5 4		-				-	-	1
					Surface	1.0	0.1	298	29.0	29.0	8.0	19.3		93.0	93.0	6.4	9.2	<u> </u>	5	ļ	-			ŀ	-	-	
SR8	Sunny	Moderate	10:44	5.5	Middle	-	-	-	-	-		-		-	-	- 0.4	-	9.8	-	5	-	82	20399	811598	-		
					Bottom	4.5 4.5	0.1 0.1	326 330	28.8 28.8	28.8	8.0	19.6		94.4 94.4	94.4	6.5 6.5	10.4 10.4	ļ	6	ļ	-			ļ	-	-	
DA: Denth-Ave			1			4.5	U.1	აპ0	28.8		8.0	19.6	1	94.4		0.0	10.4		5		- 1						

Water Quality Monitoring Results on 08 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Oxygen (ppm) Speed (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Average Value Value Value Value (Northing) (Easting) Value DA 0.6 213 30.6 17.0 9.5 1.0 8 1 106.6 16 Surface 30.4 106.8 0.7 17.1 75 1.0 224 30.2 8.1 106.0 7.3 9.5 13 < 0.2 16 3.1 0.6 209 29.5 8.0 20.3 84.8 5.8 13.8 13 77 77 <0.2 1.7 C1 18:46 6.1 Middle 8.0 20.3 84.5 13 815639 804259 Fine Moderate 3 1 0.6 229 29.5 8.0 20.3 84.2 5.7 14.3 12 <0.2 1.8 5.1 0.5 207 28.8 22.6 80.3 18.6 16 78 <0.2 1.4 7.9 22.6 5.5 Rottom 28.8 80.4 28.8 7.9 18.7 14 1.0 1.3 173 8.0 12.7 6.4 10 74 2.8 29.4 89.8 5.4 <0.2 Surface 29.4 8.0 12.7 89.8 12.7 1.0 1.4 186 29.4 8.0 89.8 6.4 5.3 7.4 8 74 < 0.2 2.6 7 76 4.9 1.1 178 7.9 19.6 5.9 < 0.2 2.3 28.9 85.0 C2 Sunny Moderate 17:41 9.7 Middle 28.9 7.9 19.6 85.0 825685 806927 2.5 85.0 49 11 185 28.9 79 19.6 5.9 7 4 8 76 -0.2 2.6 8.7 0.4 160 28.1 7.9 23.2 80.8 5.6 9.4 78 <0.2 2.2 Bottom 7.9 23.2 80.8 5.6 8.7 0.4 160 28.1 7.9 23.2 80.8 9.4 78 <0.2 2.4 0.5 29.3 8.2 5.5 10 1.8 20.1 6.9 <0.2 100.0 Surface 29.3 8.2 20.1 100.0 1.0 0.6 274 8.2 20.1 100.0 5.5 7.6 74 2.1 29.3 6.9 < 0.2 6.3 5.7 75 265 0.5 28.1 8.0 24.2 82.7 8 < 0.2 1.7 822127 817790 C3 Sunny Moderate 19:30 15.0 Middle 8.0 24.2 82.7 7.5 5.7 0.5 281 28 1 8.0 24.2 82 7 7.6 9 76 <0.2 17 5.6 5.6 14.0 0.4 235 27.8 8.0 26.1 82.5 8.7 10 77 <0.2 1.6 Bottom 27.8 8.0 26.1 82.5 5.6 14.0 0.4 248 27.8 8.0 26.1 82.5 8.7 78 < 0.2 15 1.0 0.8 190 30.7 16.5 13.3 11 75 2.0 8.1 102.6 7.0 <0.2 Surface 30.7 8.1 16.5 1024 75 77 1.0 0.8 198 30.7 8.1 16.5 102.1 7.0 13.5 12 <0.2 1.8 11 3.2 0.2 208 28.5 7.9 16.8 82.4 6.1 15.4 < 0.2 1.8 IM1 Fine Moderate 18:27 6.4 Middle 29.5 7.9 16.8 81.2 77 818343 806450 16.8 59 78 <0.2 1.9 3.2 0.2 222 30.4 79 80.0 15.5 11 5.4 78 0.1 293 27.9 7.9 24.9 83.0 5.7 5.5 17.6 22 <0.2 1.6 Bottom 28.4 24.7 82.6 17.8 5.4 0.2 304 28.8 7 Q 24.4 82 1 24 78 < 0.2 17 1.0 0.9 217 30.9 8.8 8.1 8.1 <0.2 Surface 30.9 8.1 15.9 118.8 1.0 0.9 218 30.9 8.1 15.9 118.7 8.8 6 75 <0.2 2.1 0.7 12.8 77 2.5 30.3 8.1 16.6 110.5 7.6 <0.2 6 818848 IM2 Fine Moderate 18:21 7.4 Middle 30.3 8.1 16.6 110.5 806195 2.3 3.7 0.8 226 8 1 16.6 110 5 7.6 12.8 77 <0.2 30.3 6 78 2.5 6.4 0.4 212 29.5 79 20.1 98.4 6.7 20.5 8 -02 Bottom 29.5 7.9 20.1 98.7 6.8 6.4 220 7.9 20.0 ag a 6.8 20.0 78 < 0.2 0.4 29.5 2.4 102.7 1.0 0.7 226 30.4 8.1 16.2 7.1 11.0 9 75 <0.2 2.3 16.2 102.7 Surface 8.1 1.0 0.8 238 30.4 8.1 16.2 102.7 7.1 11.0 76 <0.2 2.1 0.7 15.4 77 228 29.9 8.1 < 0.2 2.0 8 17.0 97.4 819427 806031 IM3 18:14 7.4 Middle 8.1 2.2 Fine Moderate 29.9 17.0 6.7 78 <0.2 2.2 3.7 0.7 229 29.9 8.1 97.3 15.5 6.4 0.5 10 78 <0.2 2.3 211 29.2 7.9 20.8 84.3 5.8 17.4 5.8 7.9 20.8 84.4 Bottom 29.2 5.8 0.5 7.9 20.7 84.4 17.1 <0.2 10 2.1 6.4 215 29.2 1.0 0.8 216 29.8 7.9 16.7 6.8 10.9 75 <0.2 2.4 Surface 16.7 97.9 97.9 2.6 1.0 0.8 237 29.8 7.9 16.7 6.8 10.9 8 75 < 0.2 77 78 29.4 6.9 13.2 <0.2 2.4 IM4 18:06 7.1 Middle 7.9 16.7 98.0 13.2 819556 805039 2.3 Fine Moderate 30.1 3.6 0.6 30.8 7.9 13.4 6.1 0.5 222 29.2 7.9 18.6 7.0 15.5 78 <0.2 2.0 101.3 8 7.9 18.6 101.5 7.0 Rottom 29 2 0.6 7.0 15.5 79 6.1 230 7.9 18.6 2.2 29.2 8 < 0.2 1.0 0.6 234 29.7 8.1 17.2 102.0 7.1 10.3 8 75 < 0.2 2.2 Surface 17.3 100.9 1.0 0.6 255 29.7 8.1 17.3 99.8 6.9 10.4 8 76 < 0.2 2.1 77 2.2 3.1 0.4 248 28.4 7.9 22.0 77.1 5.3 16.4 10 <0.2 IM5 Fine Moderate 17:54 6.1 Middle 28.4 7.9 22.0 77.1 15.5 820551 804905 2.1 3.1 0.4 249 28.4 7.9 22.0 16.5 78 < 0.2 22.2 77.3 5.1 5.3 0.4 245 28.3 7.9 22.2 19.7 9 78 <0.2 2.1 77.3 5.3 7.9 Bottom 28.3 5.3 5.1 7.9 22.2 19.8 10 78 < 0.2 2.0 0.4 28.3 250 1.0 0.5 231 8.0 94.7 6.5 75 1.6 29.2 19.1 12.0 8 < 0.2 19.1 Surface 29.2 8.0 94.6 94.5 6.5 1.0 0.5 239 29.2 8.0 191 12.1 8 75 < 0.2 3.0 0.6 245 28.4 7.9 22.0 5.4 16.4 10 77 77 <0.2 2.0 1.9 17:45 Middle 22.0 77.8 821040 805815 IM6 Fine Moderate 6.0 3.0 0.6 248 28.4 7.9 16.7 11 <0.2 5.0 0.5 19.8 78 <0.2 1.9 248 28.3 7.9 22.4 5.3 9 Bottom 28.3 7.9 22.4 77.7 5.0 0.5 7.9 22.4 77.7 5.4 19.7 78 2.1 28.3 1.0 0.8 227 29.6 7.8 17.2 5.9 11.4 75 < 0.2 2.2 85.0 8 Surface 29.6 7.8 17.7 84.9 1.0 0.9 247 7.8 18.2 5.8 76 29.6 84.8 11.6 8 < 0.2 77 3.8 16.5 2.3 0.6 242 29 4 7.8 196 82.3 5.6 7 -n 2 IM7 Moderate 17:37 7.5 Middle 7.8 19.6 82.3 15.4 821329 806835 2.2 2.4 3.8 0.7 265 29.4 7.8 19.6 82.3 5.7 16.5 6 <0.2 6.5 0.5 241 29.4 7.9 19.9 5.6 18.2 12 79 <0.2 2.0 Bottom 29.4 7.9 19.9 82.2 5.6 6.5 0.5 253 29.3 7.9 19.9 82.2 5.6 18.1 13 79 <0.2 2.0 1.0 0.8 191 74 2.4 29.8 8.1 15.6 6.8 6.6 8 <0.2 15.6 97.8 Surface 29.8 8.1 97.8 2.3 8.1 15.6 6.8 74 1.0 0.8 203 29.8 6.6 <0.2 3.7 2.1 0.6 201 8.0 8 76 < 0.2 28.8 20.4 86.9 6.0 8.9 20.4 IM8 Sunny Moderate 18:05 7.4 Middle 28.8 8.0 86.9 8.5 76 821705 807819 2.2 76 <0.2 2.2 3.7 0.6 220 28.8 8.0 20.4 86.9 6.0 8.9 7 21.0 89.6 6.4 0.4 236 28.7 8.0 21.0 6.2 10.0 10 78 <0.2 2.0 89.6 Bottom 28.7 8.0 6.2 6.4 0.4 254 28.7 2.2

DA: Depth-Averaged

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

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring Water Quality Monitoring Results on 19 June 17 decision

Water Qual Water Qual			lte on		08 June 17 during	Mid-Flood T	ido											
	Weather	Sea	Sampling	Water	oo June 17 during	Current		Water Temperature (°C) pH	Salinity (ppt)	DO Saturation	Dissolved	Turbidity	(NITH)	Suspended Solids Total Alkalinity	Coordinate		romium Nickel (µg/L
Monitoring Station	Condition	Condition	Time	Depth (m)	Sampling Depth (m)	Speed (m/s)	Current Direction	Value Average		alue Average	(%) Value Average	Oxygen Value DA	Value	DA DA	(mg/L) (ppm) Value DA Value DA	HK Grid (Northing)	HK Grid	μg/L) Notice (μg/L) e DA Value DA
					Surface 1.	0.6	176	29.3	8.0 8.0 1	8.7	90.0	6.2	7.3		11 74	, , , ,	<0.2	2 2.8
IM9	Sunny	Moderate	18:12	6.3	Middle 1.	9.4	176 190	28.7	8.0	0.7	90.0 S6.0 86.0 86.0	6.2 5.9 6.1	7.3 8.6	8.6	9 74 8 9 76 76	822093	<0.2 <0.2 <0.2	2 2.9 2.7
	,				Bottom 5.	0.3	205 195	28.6	8.0 2	1.1 21.1	86.0 87.6	5.9 6.0 6.0	8.6 10.0		8 76 78		<0.2	2.8
					5. Surface 1.		204 134	28.6 29.9 29.9	8.0 2	6.5	101.6	7.0	10.0 6.9		9 78 8 73		<0.2 <0.2	2.5
IM10	Sunny	Moderate	18:22	6.5	Middle 1.		141 142	29.9 28.8 28.8 28.8	8.1	0.4 20.4	101.6 86.9 86.9	7.0 6.0 6.5	6.9 8.4	8.2	8 74 9 9 76 76	822247	<0.2 <0.2 <0.2	2 2.4 2.4
INITO	Julily	Woderate	10.22	0.5	Bottom 5.	0.4	148 141	28.8 28.5 28.5 28.5	8.0 20 2	2.2	86.9 87.4	6.0 6.0	8.4 9.4	0.2	9 76	022247	<0.2	2.2
					5.		146 165	28.5	8.0 2	2.2	87.4	6.0 7.2	9.4 5.0		12 77 10 74		<0.2 <0.2	
			40.04		Surface 1.	0.3	168 150	29.7	8.1	6.5	104.0	7.2 6.6 6.9	5.0 5.7		9 74		<0.2	2.4
IM11	Sunny	Moderate	18:31	8.0	Middle 4.	0.3	151 122	29.5	8.1	7.0	94.3	6.6	5.7 6.4	5.7	8 76 76 9 78	821484	810547 <0.2 <0.2	2.3
					7.	0.7	130 152	28.7	8.0 8.0 2	1.3	92.2	6.3 6.3	6.4		7 78 6 74		<0.2 <0.2	2.2
					Surface 1.	0.2	155 125	29.7	8.1	5.9	101.9	7.1 6.2 6.7	5.0 6.1		7 74		<0.2	2.3
IM12	Sunny	Moderate	18:37	8.5	Middle 4.	0.3	127 98	29.1	8.0	8.5	88.9	6.2	6.1	6.5	7 8 76 76 7 78	821154	811535 <0.2 <0.2	2.4
					Bottom 7.	0.5	106	28.7	8.0 8.0 2	1.3	90.2	6.2	8.4		9 78		<0.2	2.0
					Surface 1.	0.2	148 148	29.8 29.8 29.8	8.2	7.2 7.2	107.4 107.4	7.4 7.4	4.6 4.6		7 74 9 74		<0.2 <0.2	
SR2	Sunny	Moderate	19:05	4.3	Middle -	-	-				-	- '	-	4.9	8 - 76	821466	814180	<0.2 - 2.0
					Bottom 3.3	0.3	211 220	29.0 29.0 29.0	8.1	9.6 9.6	97.1 97.1 97.1	6.7 6.7	5.2 5.2		7 78 9 78		<0.2 <0.2	
					Surface 1.	1.1	181 198	30.2 30.2 30.2	8.1	4.9 4.9	99.3 99.3	6.9 6.9 6.3	6.2 6.2		9 - 8 -		-	-
SR3	Sunny	Moderate	18:00	7.9	Middle 4.	0.8	186 186	28.5 28.5 28.5	7.9	1.2 21.2	82.5 82.5	5.7	8.8 8.8	7.9	5 7 <u>-</u> -	822144	807576	
					Bottom 6.		229 241	28.4 28.4 28.4		2.3 22.3	85.7 85.9 85.8	5.9 5.9	8.8 8.8		6 - 8 -		-	
					Surface 1.	0.8	250 258	29.9 29.9	8.2	9.8 9.8	118.0 117.8	8.0 8.0 7.0	11.5 11.5		9 -		-	-
SR4A	Fine	Moderate	19:03	7.1	Middle 3.		256 274	28.7 28.7 28.7		2.7	88.6 88.5	6.1	15.2 15.0	15.0	9 10 -	817169	807806	
					Bottom 6.		257 275	28.0 28.0 28.0		4.9	81.8 82.1 82.0	5.6 5.6	18.5 18.5		12 -		-	
					Surface 1.		301 318	30.3 30.3		9.0 9.0	139.7 139.7	9.5	9.0 9.1		8 -		-	= =
SR5A	Fine	Moderate	19:25	5.3	Middle -	-	-					9.5	-	11.8	10	816603	810681	
					Bottom 4.:		286 310	28.7 28.7 28.7		2.2 22.2	93.6 93.7	6.4	14.6 14.6		13 -		-	-
					Surface 1.	0.1	229 238	29.8 29.8 29.8		0.0 20.0	129.7 129.4 129.6	8.8	14.8 14.9		9 -		-	
SR6	Fine	Moderate	19:55	4.2	Middle -	-	-					- 8.8	-	17.2	10 -	817892	814680	
					Bottom 3.3	0.1	196 196	29.3 29.3		0.9 20.9	112.0 112.1	7.6 7.6	19.5 19.4	.	10 -		-	-
					Surface 1.	0.2	198 205	29.4 29.4 29.4	8.2	0.3	102.4 102.4	7.0	4.5		4 - 5 -		-	-
SR7	Sunny	Moderate	20:04	20.3	Middle 10.	2 0.3	192 198	28.4 28.4 28.4	8.1	3.1 23.1	90.0 89.9	6.2 6.1 6.6	5.0 5.0	5.0	5 5 -	823630	823739	
					Bottom 19.	3 0.4	188	27.7 27.7 27.7	8.0 8.0 2	6.5 26.5	88.4 88.4 88.4	6.0 6.0	5.4 5.4		4 -		-	
					Surface 1.	0.2	165	29.8	8.2 8.2	6.9	118.4	8.2	6.7		6 -		-	-
SR8	Sunny	Moderate	18:45	4.6	Middle 1.	-	170	29.8	8.2	6.9	118.4	8.2	6.7	8.8	6	820414	811587	
					Bottom 3.		187	29.9 29.9	8.1	8.7	104.1	7.1 7.1	10.9		6 -		-	-
<u></u>			1		3.0	0.2	188	29.9	8.1	8.7	104.1	7.1	10.9		5 -			-

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring Water Quality Monitoring Results on 08 June 17 during

Water Qua	lity Monite	oring Resu	lts on		08 June 17	during Mid-	Ebb tide	1																					
Monitoring	Weather	Sea	Sampling	Water			Current Speed	Current	Water Te	emperature (°C)	1	рН	Salinit	y (ppt)		aturation (%)	Dissol Oxyg		Turbidity(NTU)	uspende (mg		Total Alk (ppn			Coordinate	Chrom (µg/L		ickel (µg/L)
Station	Condition	Condition	Time	Depth (m)	Sampling	Deptn (m)	(m/s)	Direction	Value	Average	Value	Average	Value	Average	Value	Average	Value		Value	DA	Value	DA			HK Grid (Northing)	HK Grid (Easting)			alue DA
					Surface	1.0	0.6	195	30.8	30.8	8.0	8.0	17.2	17.2	101.1	100.9	6.9		6.6		6		75				<0.2		2.0
						1.0	0.6	209 203	30.8 28.3		8.0 7.9		17.2 22.9		100.6 85.7		6.8 5.9	6.3	6.7 9.4		7	_	76 77				<0.2	2	2.2
C1	Fine	Moderate	12:00	7.5	Middle	3.8	0.6	208	29.1	28.7	7.9	7.9	22.5	22.7	84.5	85.1	5.7		9.5	10.1	6	8	77	77	815605	804230	<0.2	<0.2	2.3
					Bottom	6.5 6.5	0.3	221 233	27.4 27.4	27.4	7.9 7.9	7.9	27.2	27.2	85.9 86.4	86.2	5.8 5.9	5.9	14.0 14.2	-	10 8		78 78				<0.2		1.2
					Surface	1.0	1.0	171 172	29.8 29.8	29.8	8.1 8.1	8.1	15.6 16.2	15.9	99.3 98.9	99.1	6.9 6.9		5.8 5.8		9		74 74				<0.2	2	2.3
C2	Sunny	Moderate	13:42	10.4	Middle	5.2	1.0	162	28.2	28.2	7.9	7.9	23.8	23.8	83.0	83.0	5.7	6.3	7.4	6.9	10	9	76	76	825701	806945	< 0.2	.0.0 2	2.3
02	Gainiy	modorato	10.12	10.1		5.2 9.4	1.0	173 166	28.2 28.2		7.9 7.9		23.8		83.0 84.8		5.7 5.8		7.4 7.5	0.0	9	Ü	75 77		020701	000010	<0.2	2.	2.2
					Bottom	9.4	1.5	174	28.2	28.2	7.9	7.9	24.2	24.2	84.8	84.8	5.8	5.8	7.5		10		77				<0.2	2	2.0
					Surface	1.0	0.3	83 85	29.0 29.0	29.0	8.1	8.1	22.0	22.0	96.2 96.2	96.2	6.6	6.2	3.6 3.6		6		74 74				<0.2		1.6
C3	Sunny	Moderate	11:30	16.3	Middle	8.2 8.2	0.3	58 63	27.3 27.3	27.3	8.0	8.0	28.6 28.6	28.6	84.9 84.9	84.9	5.7 5.7	0.2	5.0 5.0	4.7	8 7	8	76 75	76	822112	817785	<0.2	<0.2	1.2
					Bottom	15.3	1.2	67	26.7	26.7	7.9	7.9	30.7	30.7	81.6	81.6	5.5	5.5	5.6		9		77				<0.2	0.	0.9
						15.3	1.2 0.6	71 194	26.7 30.3		7.9 8.0		30.7 19.0		81.6 91.2		5.5 6.2	0.0	5.6 9.1		8		77 75				<0.2		1.0
					Surface	1.0	0.6	201	30.4	30.4	8.0	8.0	18.8	18.9	90.6	90.9	6.1	5.6	9.1		6		76				<0.2	1.	1.6
IM1	Fine	Moderate	12:16	8.1	Middle	4.1	0.4	186 203	28.3 28.3	28.3	7.9 7.9	7.9	25.3 25.4	25.4	74.2 74.2	74.2	5.0	-	13.0 13.0	11.9	10 8	9	77 77	77	818337	806475	<0.2	<0.2	1.8
					Bottom	7.1 7.1	0.1 0.1	206 217	27.6 27.7	27.7	7.9 7.9	7.9	26.2	26.2	77.3 77.5	77.4	5.3 5.3	5.3	13.6 13.6		12 10		78 78				<0.2		1.6
					Surface	1.0	0.6	200	30.7	30.7	8.1	8.1	15.4	15.4	100.2	99.8	6.9		7.9		6		75 75				<0.2	1.	1.9
						1.0 4.2	0.6	209 200	30.6 28.6		8.1 7.9		15.4 22.9		99.4 78.3		6.8 5.4	6.1	8.0 12.2		8	_	75 77				<0.2	- 1	1.7
IM2	Fine	Moderate	12:28	8.3	Middle	4.2	0.5	204	28.6	28.6	7.9	7.9	22.9	22.9	78.3	78.3	5.3		12.3	12.5	8	8	77	77	818840	806176	<0.2	<0.2	1.8
					Bottom	7.3 7.3	0.3	171 180	28.1 28.1	28.1	7.8 7.8	7.8	25.8 25.8	25.8	78.4 78.7	78.6	5.3 5.3	5.3	17.2 17.3	-	8		78 78				<0.2 <0.2	1.	1.6
					Surface	1.0	0.7	212 212	31.0 31.0	31.0	8.1	8.1	14.3	14.3	120.0 119.4		8.2		6.3 6.4		9		75 75				<0.2		2.0
IM3	Fine	Moderate	12:38	7.7	Middle	3.9	0.5	210	28.8	28.8	7.9	7.9	22.1	22.1	82.3	82.3	5.6	6.9	9.7	11.9	8	8	78	77	819398	806026	<0.2	-0.2 1.	1.3
						3.9 6.7	0.5 0.4	213 194	28.8 28.3		7.9 7.8		22.1 24.5		82.3 77.3		5.6 5.3	5.0	9.8 19.6	-	6 8		78 79				<0.2	1.	1.5
					Bottom	6.7 1.0	0.5	212 202	28.3 30.2	28.3	7.8	7.8	24.5 15.7	24.5	77.4 109.5	77.4	5.3 7.6	5.3	19.6 6.1		8		79 75				<0.2		1.1
					Surface	1.0	0.8	204	30.2	30.2	8.0	8.0	15.7	15.7	109.5	109.5	7.6	7.0	6.1		7		75				<0.2	1.	1.9
IM4	Fine	Moderate	12:46	6.7	Middle	3.4	0.6	204 215	29.4 29.4	29.4	7.9 7.9	7.9	19.5 19.5	19.5	91.5 91.5	91.5	6.3		9.3	11.3	7	6	77 77	77	819569	805025	<0.2		2.0
					Bottom	5.7	0.2	194	28.6	28.6	7.9	7.9	24.2	24.2	84.0	84.1	5.7	5.7	18.5		6		78				<0.2	2	2.0
					Surface	5.7 1.0	0.3	199 213	28.6 30.2	30.2	7.9 7.9	8.0	24.2 16.5	16.5	98.3	98.2	6.8		18.6 8.2		4		78 75				<0.2	2	2.3
						1.0 3.2	0.6	217 202	30.2 29.3		8.0 7.9		16.5 19.9		98.1 81.0		6.8 5.6	6.2	8.2 10.5		5 8		75 77				<0.2	1	2.3
IM5	Fine	Moderate	12:59	6.4	Middle	3.2	0.6	202	29.3	29.3	7.9	7.9	19.8	19.9	81.0	81.0	5.6		10.5	9.8	8	6	77	77	820583	804912	<0.2	<0.2	1.7
					Bottom	5.4 5.4	0.2	242 261	28.9 28.9	28.9	7.9 7.9	7.9	21.6	21.6	82.2 82.3	82.3	5.6 5.6	5.6	10.8	-	6		78 78				<0.2		2.1
					Surface	1.0	0.5 0.5	210 229	30.1 30.1	30.1	7.9 7.9	7.9	16.5 16.5	16.5	93.0 92.6	92.8	6.4 6.4		8.8 8.9		7		75 75				<0.2		2.0
IM6	Fine	Moderate	13:06	7.7	Middle	3.9	0.6	200	29.2	29.2	7.8	7.8	20.0	20.0	80.1	80.1	5.5	6.0	11.9	13.4	7	8	77	77	821052	805840	<0.2	.0.0 1.	.9
	10	modorato	10.00			3.9 6.7	0.6	218 231	29.2 28.7		7.8 7.8		20.0		80.1 79.2		5.5 5.4		11.9 19.2		7 10	Ü	77 78		021002	000010	<0.2	1.	2.0
					Bottom	6.7	0.4	245	28.7	28.7	7.8	7.8	22.8	22.8	79.4	79.3	5.4	5.4	19.5		11		78				<0.2	1.	1.9
					Surface	1.0	0.6	211 215	30.3 30.4	30.4	7.9 7.9	7.9	17.2 17.2	17.2	90.4	90.3	6.2	E 0	8.8		5 6		75 75				<0.2	2	2.2
IM7	Fine	Moderate	13:13	7.8	Middle	3.9	0.4	245 248	29.3 29.3	29.3	7.9 7.9	7.9	20.1	20.1	80.0	80.0	5.5 5.5	5.9	10.6 10.6	10.1	8	7	77 77	77	821358	806829	-0.2	. 1.	2.0
					Bottom	6.8	0.3	272	29.0	29.0	7.8	7.8	21.1	21.1	82.2	82.3	5.6	5.7	10.8	L	7		78				<0.2	2	2.0
						6.8	0.3	292 172	29.0		7.8 8.0		21.0 17.9		82.4 85.9		5.7 6.0	J.,	10.8		5 7		79 73				<0.2		2.0
					Surface	1.0	0.6	173	29.1	29.1	8.0	8.0	17.9	17.9	85.9	85.9	6.0	5.8	6.0	ļ	5		73				<0.2	2	2.0
IM8	Sunny	Moderate	13:11	8.0	Middle	4.0 4.0	0.3 0.4	172 176	28.5 28.5	28.5	7.9 7.9	7.9	21.1	21.1	80.6 80.6	80.6	5.6 5.6	-	7.6 7.6	7.1	5	6	75 76	75	821695	807824	<0.2	<0.2	1.7
					Bottom	7.0 7.0	0.1	164 169	28.2 28.2	28.2	7.9 7.9	7.9	23.9	23.8	85.1 85.4	85.3	5.8 5.8	5.8	7.8 7.8	F	6		77 77				<0.2		1.8
DA: Denth-Ave	roand		1		1	7.0	0.1	109	20.2	l	7.9		23.1		00.4		3.0		7.0		ō		11				<0.2		.5

Water Qua			lts on		08 June 17 during Mid	l-Ebb tide																
Monitoring	Weather	Sea	Sampling	Water	0 5 8 4 ()	Current Speed	Current Water	Temperature (°C)	рН	Salin	nity (ppt)	DO Saturation (%)		solved xygen	Turbidity	NTU) Suspender		otal Alkalinity (ppm)	Coordinate		Chromium (µg/L)	Nickel (μg/L)
Station	Condition	Condition	Time	Depth (m)	Sampling Depth (m)	(m/s)	Direction Value	Average	Value Average	Value	Average \	/alue Avera			Value	DA Value	DA V	alue DA	HK Grid (Northing)	HK Grid (Easting)	Value DA	A Value DA
					Surface 1.0	0.6	151 29.4	29.4		17.2		89.0	6.2		5.4	6		74			<0.2	2.2
IM9	Sunny	Moderate	13:02	7.1	1.0 Middle 3.6	0.6	152 29.4 129 28.4	28.4	7.9	17.2 21.9	21.0	89.0	6.2	5.9	5.4 8.6	7.8	7	73 75 75	822107	808803	<0.2	2.2
	· · · · · · · · · · · · · · · · · · ·				3.6	0.4	137 28.4 129 28.2		7.9	21.9		80.4	5.5		8.6 9.3	5 6		75 77			<0.2	2.0
					Bottom 6.1	1.0 0.5	130 28.2 136 29.8		8.0	22.8 17.0	22.0	85.2	5.9	5.9	9.3 5.4	8		77 73			<0.2	1.6
					Surface 1.0	0.5	142 29.8	29.8	8.1	17.0	17.0	98.1	6.8	6.2	5.4	7 5		74			<0.2	2.0
IM10	Sunny	Moderate	12:53	7.8	Middle 3.9 3.9	0.6	126 28.6 134 28.6	28.6	7.9	20.3		81.9 81.9	5.7		10.3 10.3	9.7	'	75 76	822240	809822	<0.2	2.0
					Bottom 6.8 6.8	0.4	94 28.2 97 28.2		7.9 7.9	22.7	22.7	83.8 83.8	5.8	5.8	13.3 13.3	8		77 77			<0.2 <0.2	1.6
					Surface 1.0	0.4	127 29.6	29.6	8.1	17.2	17.2	94.8	6.6		6.2	8		74 74			<0.2	1.8
IM11	Sunny	Moderate	12:42	9.0	1.0 Middle 4.5	0.4	134 29.6 103 28.6	28.6	8.0	17.2 20.8	20.8	94.8	6.6	6.2	6.2 11.3	11.6		75 75	821496	810562	<0.2	1.8
	ou,	Modorato		0.0	4.5	0.4	113 28.6 82 28.4		8.0	20.8		83.3	5.8		11.3 17.3	6 8		75 77	021100	0.0002	<0.2	1.9
					Bottom 8.0	0.2	84 28.4 101 29.3	20.4	8.0	22.0 18.2	22.0	85.9	5.9	5.9	17.3 8.4	10		77 73			<0.2	1.8
					Surface 1.0	0.6	102 29.3	29.3	8.1	18.2	18.2	89.1	6.2	6.0	8.4	6		74			<0.2	1.9
IM12	Sunny	Moderate	12:34	9.4	Middle 4.7 4.7	0.5	90 28.5 92 28.5			21.5		82.3 82.2	3 5.7 5.7		12.5 12.6	12.9 6		75 76	821150	811531	<0.2	.2 1.8 1.7
					Bottom 8.4 8.4	0.4	83 28.4 86 28.4			22.3		81.3	3 5.6 5.6		17.7 17.9	11		77 77			<0.2	1.5
					Surface 1.0	0.4	113 28.8	20.0	8.0	20.4	20.4	90.4	6.2		6.9	7		74			<0.2	1.8
SR2	Sunny	Moderate	12:01	5.2	1.0 Middle	0.5	118 28.8		8.0	20.4		90.4	6.2	6.2	6.9	8.2	8	74 - 76	821443	814173	<0.2 - <0.	1.7
OTIZ	Guilly	Wioderate	12.01	5.2	- 4.2	0.2	123 28.7		8.0	21.6		94.5	_ 6.5		9.4	10		77	021440	014170	<0.2	1.6
					Bottom 4.2 4.2	0.3	125 28.7 171 29.1	28.7	8.0	21.6 17.9	21.0	94.5	6.5	6.5	9.4 6.2	8 5		77			<0.2	1.7
					Surface 1.0	0.8	175 29.1	29.1	8.0	17.9	17.5	84.2	5.9	5.6	6.2	5	_	-			-	-
SR3	Sunny	Moderate	13:18	8.7	Middle 4.4 4.4	0.4	177 28.3 185 28.3			22.1		76.1 76.1	5.2		10.2 10.2	9.5 6 7	6		822134	807581	-	
					Bottom 7.7 7.7	0.8	184 27.8 188 27.8			25.6 25.6		77.3 77.3	5.3		12.1 12.1	7 8		-			-	-
					Surface 1.0	0.2	84 29.6	20.7	7.9	20.3	20.1	98.6 98.5	6.7		9.0	5		-			-	-
SR4A	Fine	Moderate	11:31	6.3	1.0 Middle 3.2	0.3	55 29.6	28.6	7.8	25.2	25.8	71.9	4.8	5.8	15.1	13.4	6	-	817182	807792	-	-
					3.2 5.3	0.3	56 27.6 62 27.5		7.9	26.3 26.4		74.2	5.1		15.0 16.0	8	-	-			-	-
					Bottom 5.3	0.2	66 27.5 326 30.4	27.5	7.9	26.4 18.3	26.4	76.1	5.2	5.2	16.5 8.5	8 7		-			-	-
					Surface 1.0	0.1	327 30.4			18.2		11.8	7.6	7.6	8.6	8		-			-	-
SR5A	Fine	Moderate	11:14	9.0	Middle -	-		-	-	-		-	-		-	9.7	9		816596	810697	-	-
					Bottom 8.0 8.0	0.1	265 29.7 273 29.7			19.8 19.8		09.5 09.7	6 7.5		10.9 10.9	10 12		-			-	-
					Surface 1.0	0.1	70 29.8	20.0	8.0	18.7	10 7 1	14.6	_E 7.8		9.9	9		-			-	
SR6	Fine	Moderate	10:48	5.5	1.0 Middle	0.1	74 29.8	_	8.0	18.7	1	14.4	7.8	7.8	9.9	11.0	10	-	817880	814647	-	-
0.10		Modorato	10.10	0.0	- 4.5	0.1	62 29.6	20.0	7.9	19.7	40.7 1	08.8	0 7.4		12.1	- 11	-	-	011000	01.017	-	-
					4.5	0.1	64 29.6 72 27.7	29.6	7.9	19.7	19.7	08.8	7.4	7.4	12.0 3.3	10 7		-			-	
					Surface 1.0	0.6	76 27.7	21.1	8.0	27.8	27.0	91.4 91.4	6.2	6.0	3.3	9		-			-	-
SR7	Sunny	Moderate	10:46	21.2	Middle 10.6 10.6	0.7	28 27.2 30 27.2	27.2		28.4 28.4	28.4	83.5 83.5	5.7		3.9 3.9	3.9 7	0	-	823625	823730	-	
					Bottom 20.2 20.2	2.1 2.1	54 26.6 58 26.6			30.6 30.6		84.0 84.3	2 5.7 5.7	5.7	4.5 4.5	10		-			-	-
					Surface 1.0	0.1	280 29.5	20.5	8.1	18.9	10.0	98.1	6.7		7.0	11		-			-	-
SR8	Sunny	Moderate	12:27	5.5	1.0 Middle	0.1	307 29.5	_	8.1	18.9		98.1	6.7	6.7	7.0	9.9	10	-	820398	811587	-	-
Sho	Juliny	WIDUEIALE	12.21	5.5	- 4.5	0.1	134 28.8	-	8.0	21.4		94.2	6.5	0.5	12.7	9.9		-	020330	011307	-	-
DA: Denth-Ave					Bottom 4.5	0.1	142 28.8			21.4		94.2 94.	6.5		12.7	10		-		<u> </u>	-	-

Water Quality Monitoring Results on 10 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Oxygen (ppm) Speed (ma/L) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Value Value Value (Northing) (Easting) Value DA 0.7 30.2 16.3 1.0 195 8 1 106.4 7.3 7.5 Surface 30.2 106.3 0.7 16.2 75 1.0 197 30.2 8.1 106.1 7.3 7.6 < 0.2 1.1 3.2 0.5 200 29.8 8.1 17.0 93.1 6.4 11.2 9 76 <0.2 0.8 C1 19:47 6.4 Middle 8.1 17.0 92.8 815617 804245 0.8 Fine Moderate 3.2 0.5 217 29.9 8.1 17.0 92.4 6.4 11.4 11 76 <0.2 0.9 5.4 0.4 199 28.3 7.9 23.8 5.3 20.5 13 77 <0.2 0.5 7.9 23.8 77.5 5.3 Rottom 28.3 0.4 7.9 20.6 14 28.3 1.0 0.5 152 8.0 17.1 75 29.2 87.1 6.1 6.0 <0.2 2.3 Surface 29.2 8.0 17.1 87.1 17.1 87.1 1.0 0.5 154 29.2 8.0 6.1 6.0 76 < 0.2 2.1 77 5.7 6.7 6.1 0.4 150 20.3 8 < 0.2 2.2 28.8 8.0 82.9 Cloudy C2 Moderate 19:01 12.1 Middle 28.8 20.3 82.9 77 825682 806930 2.1 5.7 77 2.2 6.1 0.4 152 28.8 8.0 20.3 82 9 6.7 7 -0.2 0.5 118 28.6 8.0 21.8 6.1 7.4 78 <0.2 2.0 Bottom 28.6 8.0 21.8 88.3 0.5 124 28.6 8.0 88.3 6.1 7.4 9 78 <0.2 1.8 0.5 28.7 6.4 7.3 2.0 8.1 22.1 <0.2 92.9 Surface 28.7 8.1 22.1 92.9 1.0 0.5 66 22.1 92.9 7.3 78 1.8 28.7 8.1 6.4 < 0.2 6.7 8.8 12 1.7 102 28.0 5.8 78 0.8 8.0 24.5 84.3 < 0.2 822099 C3 Cloudy Moderate 20:34 13.4 Middle 28.0 8.0 24.5 84.3 8.0 817811 6.7 0.8 103 28.0 8.0 24.5 84.3 5.8 8.8 13 79 <0.2 17 5.9 5.9 12.4 0.4 116 27.7 8.0 26.7 87.7 7.9 14 80 <0.2 1.4 Bottom 8.0 26.7 87.7 5.9 12.4 0.5 126 27.7 8.0 26.7 87.7 7 Q 12 a۸ < 0.2 13 1.0 0.6 174 30.0 16.6 10.9 74 <0.2 2.1 8.0 16.6 6.3 Surface 30.0 8.0 90.8 1.0 0.7 174 30.0 8.0 16.6 90.5 6.2 11.1 75 <0.2 1.9 5.6 3.8 0.5 169 28.8 7.9 21.3 14.7 16 < 0.2 1.3 81.2 81.2 IM1 Fine Moderate 19:38 7.5 Middle 28.8 7.9 21.3 14 75 818345 806472 5.6 15 22 75 <0.2 1.2 3.8 0.5 184 28.8 79 21.3 81.2 14.8 6.5 76 0.3 152 28.5 7.9 22.9 83.1 5.7 5.7 18.3 <0.2 1.1 Bottom 28.5 22.9 83.3 5.7 6.5 0.3 165 28.5 7 Q 22.0 83.5 18.3 21 76 < 0.2 1.0 200 29.7 8.1 102.4 6.8 <0.2 Surface 29.7 8.1 16.4 102.3 1.0 0.7 218 29.7 8.1 16.3 102.1 6.8 4 76 <0.2 1.8 69 4.4 6.6 7.7 77 1.7 0.6 193 29.3 8.0 17.2 95.3 <0.2 6 818853 IM2 Fine Moderate 19:33 8.7 Middle 29.3 8.0 17.2 95.2 806175 4.4 0.6 199 8.0 17.2 95.0 6.6 7.8 4 77 <0.2 1.8 29.3 77 0.5 175 28.6 8.0 21 1 95.7 6.6 99 6 -02 1.5 Bottom 8.0 21.1 96.0 6.6 7.7 77 0.5 190 96.2 6.6 28.6 8.0 21.1 9.9 6 < 0.2 1 / 1.0 0.6 179 30.3 8.0 16.9 99.5 6.8 7.5 4 75 <0.2 1.8 16.9 99.4 Surface 8.0 1.0 0.6 179 30.4 8.0 16.8 99.3 6.8 7.5 4 75 <0.2 1.8 4.3 0.5 12.1 75 179 29.0 7.9 83.9 5.8 < 0.2 1.5 19.6 83.9 819429 806007 IM3 19:26 8.6 7.9 Fine Moderate Middle 29.0 7.9 19.6 83.8 5.8 75 <0.2 1.8 4.3 0.6 193 29.0 12.3 9 76 7.6 0.5 175 1.4 28.7 7.9 23.1 87.3 5.9 14.8 9 < 0.2 87.5 6.0 7.9 23.1 Bottom 28.7 87.7 6.0 7.9 23.1 7.6 0.6 28.7 14.6 76 < 0.2 1.4 186 1.0 0.5 163 29.2 7.9 18.1 84.0 5.8 13.1 74 <0.2 1.7 Surface 18.0 83.5 5.7 1.7 1.0 0.6 171 29.7 7.9 17 9 82 9 13.3 8 74 < 0.2 0.4 28.6 21.5 5.5 5.5 16.0 15 16 75 75 <0.2 1.4 IM4 19:20 8.1 Middle 28.6 7.9 21.6 80.3 75 819561 805042 Fine Moderate 4.1 0.4 174 28.6 7.9 7.1 0.3 154 28.3 7.9 22.8 5.6 19.0 19 75 <0.2 1.2 81.3 7.9 22.8 81.5 5.6 Rottom 28.3 7.1 0.4 21 76 1.2 166 7.9 5.6 28.3 22.8 81.6 19.0 < 0.2 1.0 0.6 181 29.5 7.9 17.4 88.5 6.1 8.9 4 75 < 0.2 2.2 Surface 17.5 88.6 75 1.0 0.6 194 29.1 7.9 17.5 88.7 6.2 9.0 5 < 0.2 1.9 75 75 3.7 0.5 177 24.7 7.9 20.2 87.8 5.3 12.3 4 <0.2 1.7 IM5 Fine Moderate 19:14 7.4 Middle 24.8 7.9 20.1 87.7 820577 804905 3.7 0.5 187 24.8 7.9 20.0 87.6 5.4 12.1 < 0.2 1.9 23.2 82.6 6.4 21 0.4 186 28.7 7.9 23.2 5.6 18.1 76 <0.2 1.3 82.8 5.7 7.9 Bottom 28.7 5.7 6.4 0.4 7.9 23.2 17.9 76 < 0.2 1.3 191 28.7 20 1.0 0.4 212 8.0 6.6 7.8 74 1.8 29.5 15.7 94.4 4 < 0.2 15.7 Surface 29.5 8.0 94.2 15.7 93.9 8.0 6.6 1.7 1.0 0.5 215 29.5 7.9 5 75 < 0.2 3.6 0.5 199 29.0 8.0 17.9 6.1 9.6 9.7 4 75 75 <0.2 1.3 19:08 Middle 17.9 87.1 821048 805817 IM6 Fine Moderate 7.1 3.6 0.5 208 29.0 8.0 17.9 <0.2 0.5 12.6 76 <0.2 1.2 6.1 193 28.7 7.9 21.3 88.9 6.1 8 Bottom 28.7 7.9 21.3 89.1 6.1 0.5 7.9 12.7 8 1.2 28.7 1.0 0.2 204 29.9 8.0 15.5 6.6 7.6 74 < 0.2 1.9 95.1 6 Surface 29.9 8.0 15.5 94.9 7.7 1.0 0.2 8.0 15.5 6.6 74 2.0 219 29.8 94.7 4 -02 9.3 44 74 0.3 164 29 1 8.0 191 87.4 6.0 9 -n 2 1.4 IM7 Moderate 19:00 8.8 Middle 19.1 87.3 10.0 821357 806842 74 1.6 4.4 0.3 179 29.1 8.0 19.1 87.1 6.0 9.5 8 <0.2 7.8 0.2 129 28.6 7.9 22.5 12.8 10 75 <0.2 1.2 90.4 6.2 Bottom 28.6 7.9 22.5 90.7 6.2 7.8 0.2 137 28.6 7.9 22.5 90.9 6.2 13.0 75 <0.2 1.3 1.0 0.3 174 16.5 75 29.3 8.1 16.5 6.5 5.5 5 <0.2 1.6 Surface 29.3 8.1 93.3 93.3 8.1 16.5 6.5 75 1.7 1.0 0.3 182 29.3 5.5 6 <0.2 3.7 0.2 119 8.0 5.8 9.4 8 76 1.9 28.4 22.0 84.4 < 0.2 22.0 IM8 Cloudy Moderate 19:21 7.4 Middle 28.4 8.0 84.4 77 821693 807838 1.7 84.4 77 <0.2 3.7 0.2 129 28.4 8.0 22.0 5.8 9.4 7 22.7 88.1 6.4 0.2 46 28.3 8.0 22.7 6.1 7.1 9 78 <0.2 1.4 88.1 Bottom 28.3 8.0 6.4 0.2 47 28.3 17

DA: Depth-Averaged

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

Water Quality Monitoring Results on 10 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Easting) Value 0.7 29.6 8 1 16.4 1.0 106 5.3 -02 19 Surface 29.6 8 1 101.6 0.7 75 1.0 114 29.6 8.1 16.4 101.6 7 1 5.3 < 0.2 1.8 4.2 0.5 88 28.8 8.0 20.1 88.1 6.1 9.9 5 76 <0.2 1.6 IM9 19:27 8.3 Middle 8.0 20.1 88.1 822103 808805 Cloudy Moderate 77 4.2 0.5 28.8 8.0 20.1 88 1 6.1 9.9 6 <0.2 1.7 7.3 0.4 92 28.8 8.0 20.4 6.6 11.9 10 78 <0.2 1.4 Bottom 20.4 95.1 28.8 8 N 66 0.4 28.8 8.0 20.4 1.0 0.8 110 16.2 5.7 75 29.6 8.1 100.2 7.0 6 <0.2 Surface 29.6 8.1 16.2 100.2 7.0 5.7 76 77 2.0 1.0 0.8 120 29.6 8.1 16.2 100.2 6 < 0.2 4.4 0.6 80 6.1 6 < 0.2 2.0 28.8 8.0 19.9 87.6 9.8 IM10 Cloudy Moderate 19:34 8.7 Middle 28.8 19.9 87.6 77 822233 809852 77 44 0.6 87 28.8 8.0 199 87.6 6.1 9.8 7 -0.2 1.8 77 0.4 54 28.7 8.0 20.8 90.5 6.2 13.7 10 78 <0.2 1.7 Bottom 8.0 20.8 90.5 6.2 7.7 0.4 57 28.7 8.0 20.8 90.5 13.7 9 78 <0.2 1.8 0.7 106 29.6 8.1 16.2 7.4 5.2 76 <0.2 2.0 105.7 Surface 29.6 8.1 16.2 105.7 1.0 0.8 110 16.2 105.7 7.4 5.2 76 <0.2 1.6 29.6 8.1 4 4.2 6.2 8.1 76 1.7 80 0.6 28.8 8.0 19.7 90.0 8 < 0.2 19.7 821502 IM11 Cloudy Moderate 19:42 8.4 Middle 28.8 8.0 90.0 810533 77 42 0.7 87 28.8 8.0 197 90.0 6.2 8 1 6 <0.2 1.8 7.4 0.4 99 28.7 8.0 20.9 93.0 6.4 11.8 7 78 <0.2 1.8 Bottom 8.0 20.9 93.0 7.4 0.5 100 28.7 8.0 20.9 93.0 6.4 11.8 78 < 0.2 1.8 1.0 0.7 106 29.5 5.9 8 76 <0.2 2.0 8.1 100.6 7.0 Surface 29.5 8.1 16.3 100 6 1.0 0.7 113 29.5 8.1 16.3 100.6 7.0 5.9 75 77 <0.2 1.9 6.6 7.6 4.3 0.6 83 28.8 8.0 19.7 88.2 6.1 <0.2 2.0 IM12 Cloudy Moderate 19:50 8.6 Middle 28.8 8.0 19.7 88.2 77 821144 811528 78 <0.2 1.8 4.3 0.6 86 28.8 8.0 197 88.2 6.1 7.6 79 7.6 0.4 94 28.7 8.0 20.8 89.4 6.2 13.8 8 <0.2 1.6 Bottom 20.8 89.4 6.2 7.6 0.4 95 28.7 8.0 20.8 80.4 6.2 13.8 70 -n 2 1.5 1.0 0.6 28.9 <0.2 8.0 19.6 92.8 6.4 Surface 28.9 8.0 19.6 92.8 1.0 0.6 83 28.9 8.0 19.6 92.8 6.4 7.6 5 77 <0.2 1.7 6.4 821474 814151 SR2 Cloudy Moderate 20:15 4.7 Middle 79 3.7 0.5 55 28.7 11.3 10 <0.2 1.8 8.0 20.7 89.0 6.1 Bottom 8.0 20.7 89.0 6.1 3.7 0.5 58 8.0 20.7 89.0 11.3 10 < 0.2 28.7 6.1 80 2 1 1.0 0.4 162 29.6 8.1 15.7 93.6 6.5 6.1 6 15.7 Surface 1.0 0.4 171 29.6 8.1 15.7 93.6 6.5 6.1 4.2 0.2 28.4 8.0 22.3 5.4 22.3 78.7 10 822149 807552 SR3 10:16 8.4 Middle 8.0 10 O Cloudy Moderate 28.4 8.0 22.3 78.7 5.4 11.4 4.2 0.2 150 28.4 7.4 0.2 13 59 28.3 8.0 22.5 79.9 5.5 12.5 5.5 8.0 22.5 79.9 Bottom 28.3 79.9 5.5 0.2 8.0 22.5 12.5 7.4 63 28.3 13 1.0 0.0 143 29.4 8.0 19.7 86.2 5.9 12.8 12 19.7 86.1 1.0 0.0 155 29.4 8.0 19.7 85.9 5.9 13.0 12 0.1 28.5 22.4 5.4 18.3 14 SR4A Moderate 19:59 8.4 Middle 28.5 7.9 22.4 79.1 817195 807806 Fine 4.2 0.1 28.5 7.9 15 7.4 0.1 56 28.5 7.9 23.4 5.6 19.2 21 82.7 28.5 23.4 82.9 5.7 Rottom 7.9 7.4 0.1 5.7 21 7.9 28.5 23.4 83.0 19.2 1.0 162 0.1 27.2 8.1 8.1 125.2 9.5 8.7 9 Surface 8.1 8.1 121.7 10 1.0 0.1 174 31.1 8.1 8.1 118 1 8.8 9.0 SR5A Fine Calm 20:16 5.5 Middle 816605 810691 4.5 0.1 127 30.6 8.1 19.7 112.8 7.6 9.5 8 30.6 112.7 8.1 19.8 7.6 Bottom 4.5 0.1 136 8.1 19.8 112.6 7.6 9.5 30.5 1.0 0.1 109 7.7 14.8 13 29.3 8.1 20.4 112.8 Surface 29.3 8.1 20.4 112.8 112.8 7.7 0.1 1.0 115 29.2 8.1 20.4 14.8 13 20:39 Middle 817897 814654 SR6 Fine Calm 3.6 2.6 0.1 56 32.0 16.1 19 8.1 19.2 109.5 7.2 Bottom 30.6 8.1 19.8 111.9 7.5 2.6 0.1 61 8.1 20.4 114.3 7.8 16.2 20 29.2 1.0 1.3 28.8 8.1 94.5 6.5 5.5 21.1 Surface 28.8 8.1 21.1 94.5 5.5 1.0 1.3 87 8 1 21 1 6.5 28.8 94 4 8.2 0.7 89 6.2 10 28.5 8 1 23.0 89 4 6.1 SR7 Cloudy Moderate 20:57 16.4 Middle 23.0 89.4 5.9 823642 823750 8.2 0.8 94 28.5 8.1 23.0 89.4 6.1 6.2 10 15.4 0.4 239 27.9 8.0 25.8 86.4 5.9 6.1 10 Bottom 27.9 8.0 25.8 86.4 5.9 15.4 0.5 246 27.9 8.0 25.8 86.4 5.9 6.1 1.0 0.6 101 16.9 4.8 29.5 8.1 105.4 7.3 8 Surface 29.5 8.1 16.9 105.4 16.9 105.4 7.3 1.0 0.6 108 29.5 8.1 4.8 6 7.3 SR8 Cloudy Moderate 19:59 5.1 Middle 820430 811609 17.7 4.1 0.4 67 29.3 8.1 7.2 5.9 103.9 29.3 8.1 7.2 4.1 0.4 69

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

Water Quality Monitoring Results on 10 June 17 during Mid-Ebb tide DO Saturation Dissolved Suspended Solids otal Alkalinity Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Oxygen Speed (ma/L) (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Average Value Value Value Value (Northing) (Easting) Value 0.4 20.1 18.6 1 0 248 8.1 95.0 66 83 √n 2 1 / Surface 1.0 0.4 266 29.1 8.1 18.6 94.6 6.6 8.4 75 <0.2 1.6 6.3 3.6 0.1 214 28.4 8.0 21.6 85.0 5.9 10.0 8 76 <0.2 1.4 C1 12:57 8.0 21.6 815638 804257 1.3 Sunny Moderate 7.1 Middle 28.4 84.9 9.6 76 3.6 0.1 228 28.4 8.0 21.6 84.8 5.9 10.1 75 <0.2 1.3 8 6.1 0.2 181 28.2 8.0 24.8 90.4 6.2 10.5 10 76 -02 1.0 Bottom 24.8 90.7 6.1 0.3 101 28.2 8.0 24.8 Q1 N 62 10.4 10 76 -n 2 1.1 0.4 143 29.2 8.0 88.9 6.2 <0.2 1.8 17.3 29.2 88.9 Surface 8.0 17.3 7.0 75 1.9 1.0 0.5 152 29.2 8.0 88.9 6.2 6 <0.2 76 6.3 0.4 161 28.2 8.0 21.7 77.6 5.4 11.6 9 <0.2 1.7 825664 C2 Cloudy Moderate 14:24 12.6 Middle 28.2 8.0 21.7 77.6 76 806930 77 6.3 0.4 172 8.0 21 7 77.6 5.4 1.6 11.6 8 -02 28.2 11.6 0.2 118 28.0 8.0 25.0 77.0 5.2 13.3 12 77 < 0.2 1.2 Bottom 25.0 77.0 5.2 11.6 0.3 127 28.0 8.0 25.0 77 N 13.3 11 78 < 0.2 12 1.0 0.4 211 28.1 8.1 25.3 97.5 6.6 3.0 4 77 <0.2 0.9 Surface 28 1 8 1 25.3 97.5 25.3 77 <0.2 1.0 1.0 0.4 28.1 8.1 97.5 6.6 3.1 6 6.1 0.4 3.2 6 78 <0.2 27.8 8.0 27.0 91.0 6.2 0.9 12:27 27.0 822104 817808 C3 12 1 27.8 8.0 90.9 0.9 Cloudy Moderate Middle 0.9 8.0 27.0 90.8 6.1 78 <0.2 6.1 0.4 262 27.8 3.3 8 11.1 0.2 233 79 -02 0.9 27.2 8.0 29.2 6.0 3.3 6 88 6 Bottom 27.2 8.0 29.2 88.6 6.0 6.0 8.0 20.2 88.6 3.3 11 1 0.2 235 27.2 a۸ -n 2 0.8 1.0 0.2 183 29.2 8.0 17.8 89.8 6.2 8.2 76 <0.2 1.4 17.8 Surface 1.0 0.2 194 29.2 8.0 17.8 89.3 6.2 8.3 5 76 <0.2 1.6 3.8 0.3 28.4 8.0 20.4 83.0 5.8 11.2 76 < 0.2 1.7 818351 11/11 Moderate 13:11 7.6 Middle 8.0 20.9 83.0 77 806446 Sunny 28.4 76 1.4 3.8 0.3 176 28.4 8.0 21.4 83.0 5.7 11.3 10 <0.2 6.6 77 1.1 0.3 134 28.2 8.0 23.4 6.0 11.3 15 < 0.2 87.3 Bottom 28.2 8.0 23.4 87.5 6.0 6.6 0.3 13 79 138 28.2 8.0 23.4 87.6 6.0 11.3 < 0.2 1.3 1.0 0.3 187 29.4 8.0 18.2 96.8 6.7 7.1 10 74 <0.2 1 4 Surface 18.2 1.0 0.3 204 29.4 8.0 18.2 96.4 6.7 7.1 10 74 <0.2 1.3 4.4 0.2 188 28.6 8.0 21.6 84.0 5.8 11.3 13 75 <0.2 1.3 13:16 21.6 84.0 10.5 818865 806177 IM2 Sunny Moderate 8.8 Middle 28.6 8.0 12 75 1.3 4.4 0.2 195 28.6 8.0 21.6 84 0 11.3 12 75 <0.2 1.3 7.8 0.2 152 28.4 22.6 13.1 13 76 <0.2 1.4 8.0 86.6 5.9 Bottom 28.4 8.0 22.6 86.7 6.0 8.0 86.8 6.0 13.2 1.3 7.8 158 28.4 22.6 14 76 < 0.2 1.0 223 0.2 76 1.3 28.9 8.0 18.3 89.3 6.2 10.2 9 < 0.2 Surface 28.9 8.0 18.4 89.1 1.0 0.2 233 28.9 8.0 18.4 88.8 6.2 10.4 8 76 <0.2 1.3 4.2 0.3 203 28.4 8.0 20.7 84.6 5.9 5.9 13.7 77 77 <0.2 1.3 IM3 Moderate 13:25 8.3 Middle 8.0 20.7 84.6 819414 806001 Sunny 4.2 0.4 213 28.4 8.0 20.7 84.6 13.9 <0.2 12.9 77 <0.2 1.0 0.1 28.4 8.0 23.0 92.5 6.3 14 Rottom 28 4 8.0 23.0 92.9 6.4 7.3 0.1 179 28.4 8.0 23.0 6.4 12.8 13 < 0.2 1.0 0.3 74 181 29.8 8.0 6.5 11.1 16.4 93.3 8 < 0.2 1.4 Surface 29.8 8.0 16.4 93.2 75 1.0 0.4 185 29.8 8.0 16.3 93.1 6.5 11.3 8 <0.2 1.5 4.1 0.3 178 29.2 8.0 19.2 84.9 5.9 17.6 7 75 75 <0.2 1.6 IM4 Moderate 13:32 8.1 Middle 19.1 84.3 12.9 75 819574 805019 Sunny 4.1 0.3 189 29.9 8.0 18.9 83.7 18.0 < 0.2 1.6 7.1 0.4 167 28.8 8.0 23.6 6.4 9.8 12 76 <0.2 8.0 94.9 Bottom 28.8 8.0 23.5 95.2 6.5 8.0 6.5 76 0.4 181 28.8 9.4 11 <0.2 0.9 1.0 0.3 182 30.5 8.0 14.9 6.2 8.6 6 75 < 0.2 1.5 90.3 Surface 30.5 8.0 14.9 90.2 8.0 14.8 90.0 6.2 8.7 75 <0.2 1.6 1.0 0.3 187 30.5 6 3.9 75 1.4 0.3 171 28 9 79 21.6 86.4 59 10.6 6 < 0.2 IM5 Moderate 13:39 7.8 Middle 29.0 7.9 21.7 86.4 97 820578 804921 1.3 7.9 5.9 76 < 0.2 3.9 0.3 184 29.0 21.7 86.3 10.8 6.8 0.3 170 28.2 7.9 24.0 92.7 6.3 9.8 23 76 <0.2 8.0 Bottom 28.2 7.9 24.0 93.0 6.8 0.3 176 28.2 79 93.3 9.8 24 76 <0.2 0.7 1.0 168 0.3 30.3 8.0 15.2 90.8 6.3 12.2 4 74 < 0.2 2.0 15.0 Surface 30.3 8.0 90.6 1.0 0.3 14.8 12.5 74 1.9 173 30.3 8.0 90.3 6.3 6 <0.2 14.1 75 3.7 0.3 134 28.8 8.0 18.3 80.4 5.6 8 < 0.2 1.4 821053 18.3 IM6 Sunny Moderate 13:48 7.4 Middle 28.8 8.0 80.1 75 805823 75 3.7 0.3 136 5.6 14.4 <0.2 1.3 28.8 8.0 18.3 79.8 6.4 0.5 134 28.2 7.9 23.5 74.7 5.1 21.7 13 76 <0.2 0.9 Bottom 28.2 7.9 23.5 74.8 6.4 0.5 137 28.2 7.9 23.5 74.8 5.1 21.5 13 76 < 0.2 1.0 1.0 0.2 135 29.5 8.0 18.1 6.6 6.9 75 <0.2 1.4 Surface 29.5 8.0 17.8 95.4 1.0 0.2 29.5 8.0 17.5 95.3 6.6 75 <0.2 1.4 137 6.9 4.3 0.2 113 19.1 5 76 1.2 29.2 8.0 91.5 6.3 8.1 < 0.2 13:55 19.1 914 87 821356 806831 IM7 Sunny Moderate 8.6 Middle 29.2 8.0 76 76 1.2 < 0.2 4.3 0.2 113 29.2 8.0 19.1 91.3 6.3 8.2 4 77 7.6 0.2 125 28.7 7.9 22.8 94.8 6.5 11.1 14 <0.2 0.8 22.8 95.2 7.6 0.3 131 28.7 79 22.8 95.5 6.5 11.0 16 77 -02 0.8 1.0 0.5 75 75 138 29.1 8.0 6.0 6.6 6 <0.2 1.3 Surface 29.1 8.0 17.8 86.7 1.0 0.5 147 29.1 8.0 17.8 6.0 6.6 <0.2 1.3 3.9 0.4 115 28.4 8.0 21.1 83.8 5.8 7.2 11 76 <0.2 1.0 821683 807828 IM8 Cloudy Moderate 13:58 77 Middle 28.4 8.0 21.1 83.8 10 76 1.0 76 77 0.9 3.9 8.0 5.8 7.2 10 <0.2 0.4 28.4 21.1 83.8 6.0 7.2 12 0.6 6.7 0.4 107 28.3 8.0 22.5 87.4 < 0.2 Bottom 8.0 22.5 87.4 6.0 77 12 6.7 0.4 111 28.3 8.0 22.5 87.4 6.0 72 -02 0.7

A: Depth-Average

Water Qua		oring Resu	lts on		10 June 17 during Mic	-Ebb tide															
Monitoring	Weather	Sea	Sampling	Water	Consuling Booth (se)	Current Speed C	Current Water 1	emperature (°C)	pН	Salir	nity (ppt)	Saturation (%)	Disso		ity(NTU)	spended So (mg/L)	lids Total Alkalinity (ppm)	Coordinate		Chromium (µg/L)	n Nickel (μg/L)
Station	Condition	Condition	Time	Depth (m)	Sampling Depth (m)		irection Value	Average	Value Average	Value	Average Valu	ue Average		DA Value	DA \	alue D	A Value DA	HK Grid (Northing)	HK Grid (Easting)	Value DA	A Value DA
					Surface 1.0	0.6	106 29.0	29.0		18.9	18.9		6.1	6.4		10	75			<0.2	1.0
IM9	Cloudy	Moderate	13:48	7.2	1.0 Middle 3.6	0.7 0.5	107 29.0 78 28.4	28.4	8.0	18.9 21.1	21.1 78.	9 700	6.1 5.5	5.8 6.4 8.8	9.2	9 1	76 77 78	822091	808829	<0.2	.2 0.9 0.9
IIVIS	Cioday	Woderate	10.40	7.2	3.6	0.5	78 28.4 61 28.2		0.0	21.1	78.	8	5.5 5.4	8.8	- 3.2	10	78 78 78 79	022031	000023	<0.2	1.1
					Bottom 6.2	0.4	64 28.2	28.2	8.0	23.3	23.3 78.	1 /0.1	5.4	12.3		18	80			<0.2	0.8
					Surface 1.0 1.0	0.7	86 28.9 87 28.9	28.9	8.1	18.4	18.4 90.		6.3	6.6	1 -	8	76 76			<0.2	1.6
IM10	Cloudy	Moderate	13:37	7.9	Middle 4.0 4.0	0.5	89 28.7 95 28.7	28.7		20.4	20.4 86.		6.0	8.2	9.2	8 9	78 78	822224	809845	<0.2	.2 1.4 1.4
					Bottom 6.9	0.3	94 28.5	28.5	8.0	22.4	22.4 87.	1 071	6.0	6.0 12.8		12	79 79			<0.2	1.3
					6.9 Surface 1.0	0.3	100 28.8	28.8	8.0	18.9	18.9 92.	5 925	6.4	6.3		9	77			<0.2	1.5
					1.0	0.6	108 28.8 108 28.6		8.0	18.9	92.	6	6.4	6.2 6.3 7.8	+ +	9	77 78 70			<0.2	1.3
IM11	Cloudy	Moderate	13:27	9.2	Middle 4.6 8.2	0.5	109 28.6	28.6	8.0	21.1	21.1 86.	6 86.6	6.0	7.8	7.8	7	78 78	821517	810555	<0.2	1.2
					Bottom 8.2	0.1 0.1	76 28.5 81 28.5	28.5	8.0	22.3 22.3	22.3 89.	5 09.5	6.1 6.1	6.1 9.3		12 10	79 80			<0.2 <0.2	1.2
					Surface 1.0 1.0	0.6	95 29.2 98 29.2	29.2		19.2	19.2		6.2	7.7	+ +	9 10	78 77			<0.2	1.1
IM12	Cloudy	Moderate	13:19	9.7	Middle 4.9 4.9	0.6	74 28.7 79 28.7	28.7	8.0	20.8	20.8 86.	0 06 0	5.9 5.9	6.1 9.6 9.6	10.2	0	1 78 79	821163	811519	<0.2	0.0
					Rottom 8.7	0.7	59 28.4	28.4	8.0	23.0	22.0 83.	8 020	5.7	_{5.7} 13.2		14	79			<0.2	1.1
					8.7 Surface 1.0	0.7	63 28.4 92 29.0		8.0	23.0	83.	8	5.7 6.5	5.7 13.2 5.6		14	80 77			<0.2	1.1 0.9
					1.0	0.5	100 29.0	29.0		21.7	94.	9 94.9	6.5	6.5		6	78			<0.2	0.7
SR2	Cloudy	Moderate	12:51	4.6	Middle -	-		-	-	-		-	-	-	7.2	- '	78	821475	814176	- <0.	-
					Bottom 3.6 3.6	0.4	24 28.2 26 28.2	28.2		24.2	24.2	6 88.6	6.0	6.0 8.7	+ +	9	79 79			<0.2	0.7
					Surface 1.0 1.0	0.5 0.5	154 28.8 158 28.8	28.8	8.0	18.3 18.3	18.3	4 82.4	5.8 5.8	9.3		5	-			-	-
SR3	Cloudy	Moderate	14:03	9.7	Middle 4.9	0.4	130 28.5	28.5	8.0	21.8	21.8 83.3	3 835	5.7	10.9	9.8	9 (822139	807580		
	,				8.7 Bottom	0.4	134 28.5 88 28.7		8.0	21.8	21.7 83.	./	5.8 6.2	6.2 9.2		9 `	-			-	-
					8.7	0.4	92 28.7 67 29.1	28.7	8.0	21.7 17.9	90.	1	6.2	9.2		12	-			-	
					Surface 1.0	0.5	69 29.1	29.1	8.1	17.9	17.9 95.	6 95.9	6.7	6.4		9	-			-	-
SR4A	Sunny	Moderate	12:41	8.8	Middle 4.4 4.4	0.4	65 28.7 70 28.7	28.7	8.0	19.3 19.3	19.3		6.1 6.1	16.1	15.2	12	4	817208	807817	-	
					Bottom 7.8 7.8	0.3	65 28.6 69 28.6	28.6		21.0	21.0 89.		6.2	6.2 18.4	+ -	21	-			-	-
					Surface 1.0 1.0	0.1	56 29.4 57 29.4	29.4	8.2	20.1	20.1 115	.4 115.2	7.9	7.7		9	-			-	-
SR5A	Sunny	Calm	12:20	5.6	Middle -	-		_	-	-			-	7.9	8.1	- 1		816594	810708	-	-
5.15.1	Ja,				- 46	0.1	97 29.3		8.1	20.1	- 113	.4	7.8	7.0 8.4	+ " -	10	-			-	-
					Bottom 4.6	0.1	103 29.3 100 29.4	29.3	8.1	20.1	20.1	.3	7.8 7.1	7.8 8.4		10	-			-	
					Surface 1.0	0.1	102 29.4	29.4		19.5	19.5		7.1	7.1 11.2		16	-			-	
SR6	Sunny	Calm	11:55	4.8	Middle -	-		-	-	-		-	-	-	13.4	1	6	817907	814665	-	
					Bottom 3.8 3.8	0.1	112 29.1 115 29.1	29.1		19.7 19.7	19.7		7.0	7.0 15.6 15.4]	18 16	-			-	-
					Surface 1.0	0.1	203 27.7	27.7	8.0	26.9	26.0 86.1	2 000	5.8	3.6		8	-			-	-
SR7	Clouds	Madarat-	11.55	16.6	1.0	0.1	211 27.7 240 27.2		8.0	26.9 28.5	20.6 81.	8 010	5.8 5.5	5.7 3.6	4.2	7	, -	900644	823757	-	-
5H/	Cloudy	Moderate	11:55	16.6	8.3	0.2 1.4	247 27.2 279 27.1	27.2	8.0	28.6 29.1	20.0 81.	8 01.0	5.5 5.6	4.8	4.2	8 7	· -	823641	823/5/	-	
					15.6	1.5	301 27.1	27.1	7.9	29.1	29.1	3	5.6	4.4		7	-			-	
					Surface 1.0 1.0	0.4	99 29.3 101 29.3	29.3		19.6 19.6	19.6		6.5	6.3	$+$ \vdash	5	-			-	-
SR8	Cloudy	Moderate	13:12	5.6	Middle -	-		-		-		-	-	6.5	8.4	- 8	3 -	820417	811604		. = -
					Bottom 4.6	0.1	71 28.6	28.6		22.7	22.7 93.		6.4	6.4 10.4	1	10	-			-	-
DA: Denth-Ave			1		4.6	0.1	72 28.6	1	8.0	22.7	93.	4	6.4	10.4		12	-	1		-	

Water Quality Monitoring Results on 15 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Oxygen (ppm) Speed (ma/L) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Easting) Value DA 0.6 28.4 15.6 1.0 43 6.5 5.6 Surface 28.4 7.9 90.7 15.6 1.0 0.6 43 28.4 7 Q an 7 6.5 5.6 74 < 0.2 16 44 0.4 29 28.3 7.9 16.8 80.4 5.7 6.7 6 75 <0.2 1.6 C1 09:07 8.8 Middle 7.9 16.8 79.7 815606 804233 Foggy Moderate 44 0.4 28.2 7.9 16.8 78.9 5.6 6.8 76 <0.2 1.7 7.8 0.3 28.0 21.9 5.1 77 <0.2 1.6 21.9 74.1 Rottom 28.0 7.8 5.1 74.2 1.6 28.0 1.0 0.4 7.8 15.2 5.7 73 28.8 81.8 5.8 <0.2 1.9 Surface 28.8 7.8 15.2 81.8 5.8 5.7 73 75 2.0 1.0 0.5 21 28.8 7.8 15.2 81.8 < 0.2 34 7.4 6.5 0.2 7.8 5.0 < 0.2 1.9 28.1 19.3 71.4 Cloudy C2 Moderate 10:15 12.9 Middle 28.1 7.8 19.3 71.4 75 825687 806962 2.0 2.0 6.5 0.2 36 28 1 7.8 19.3 71 4 5.0 7.4 76 -0.2 11.9 0.5 132 28.0 7.8 20.8 72.1 5.0 9.2 77 <0.2 2.0 Bottom 28.0 7.8 20.8 72.1 5.0 11.9 0.6 139 28.0 7.8 20.8 72.1 9.2 78 <0.2 2.0 0.6 28.4 6.7 75 2.0 7.8 16.1 5.6 <0.2 Surface 28.4 7.8 16.1 78.5 1.0 0.6 320 7.8 16.1 78.5 5.6 6.7 75 2.0 28.4 < 0.2 5.9 5.0 10.0 76 0.5 27.9 7.8 19.2 71.0 8 < 0.2 1.9 822093 C3 Cloudy Moderate 08:37 11.8 Middle 27.9 7.8 19.2 71.0 817789 2.0 5.9 5.0 0.5 277 27 9 7.8 192 71.0 10.0 8 76 <0.2 2.0 10.8 0.1 229 27.6 7.8 22.2 67.8 4.7 16.6 8 77 77 <0.2 2.1 Bottom 27.6 7.8 22.2 67.8 4.7 4.7 10.8 0.1 248 27.6 7.8 22.2 67.8 16.6 < 0.2 2.0 1.0 0.5 19 28.8 7.9 15.7 6.0 74 1.8 91.6 6.5 <0.2 15.7 Surface 28.8 7.9 916 1.0 0.5 28.8 7.9 15.7 91.6 6.5 5.9 74 <0.2 1.9 6.3 4.0 0.3 359 28.6 8.0 15.9 89.0 6.3 6 76 < 0.2 1.6 IM1 Cloudy Moderate 09:25 7.9 Middle 28.6 8.0 15.9 88.8 818366 806458 15.9 88.5 76 <0.2 1.6 4.0 0.3 359 28.6 8.0 6.3 6.4 6 78 6.9 0.4 344 28.2 7.9 17.3 87.8 6.2 7.1 5 <0.2 1.6 Bottom 28.3 17.3 88.0 6.2 6.9 0.4 316 28.3 7 Q 173 88 1 6.2 7 1 78 < 0.2 16 1.0 0.6 28.9 6.4 6.4 <0.2 1.6 Surface 28.9 7.9 15.6 91.0 1.0 0.7 30 28.9 7.9 15.6 91.0 6.4 6.4 74 <0.2 1.6 6.3 1.7 0.4 28.5 7.9 15.9 85.7 6.1 6.7 76 <0.2 818856 IM2 Cloudy Moderate 09:30 8.9 Middle 28.5 7.9 16.0 85.7 806187 4.5 0.4 12 7.9 16.0 85.6 6.1 6.8 76 <0.2 1.5 28.5 4 354 77 79 0.4 28.3 79 179 846 6.0 7 4 8 -02 1.6 Bottom 7.9 18.0 84.8 6.0 7.9 7.4 10 0.4 326 7.9 18 0 84 Q 6.0 78 28.3 < 0.2 1.0 0.5 34 28.9 8.0 15.5 89.5 6.3 6.3 5 74 <0.2 1.7 15.5 89.5 Surface 8.0 1.0 0.6 34 28.9 8.0 15.5 89.4 6.3 6.3 73 <0.2 1.6 4.7 0.4 354 7.6 76 1.7 28.2 8.0 5.3 < 0.2 16.3 74.3 819399 IM3 09:37 9.4 8.0 806022 Cloudy Moderate Middle 28.2 4.7 7.9 16.3 74.2 5.3 7.7 76 <0.2 1.7 0.5 326 28.1 8.4 0.3 7.5 78 1.7 29 28.1 7.9 23.2 81.3 5.6 5 < 0.2 7.9 23.5 81.6 5.6 Bottom 28.1 23.7 5.6 0.3 7.9 81.9 7.4 8.4 28.1 78 < 0.2 1.6 1.0 0.7 36 28.9 7.9 14.1 86.7 6.2 6.2 74 <0.2 1.7 Surface 14.1 1.7 1.0 0.8 38 28.9 7.9 14 1 86.6 6.2 6.2 5 74 < 0.2 5.5 76 76 0.4 28.2 9.0 <0.2 1.8 IM4 09:52 8.6 Middle 28.2 7.9 18.5 66.9 76 819562 805027 Cloudy Moderate 4.3 0.5 320 28.2 7.9 18.4 4.7 9.0 7.6 0.3 27.6 7.9 24.3 62.6 4.3 13.0 78 <0.2 1.5 6 27.6 7.9 24.4 62.8 4.3 Rottom 7.6 0.3 78 7.9 24.5 27.6 62.9 4.3 13.1 6 < 0.2 1.0 0.5 14 28.8 8.0 15.6 86.0 6.1 8.2 9 74 < 0.2 1.5 Surface 15.6 74 1.0 0.6 14 28.8 8.0 15.6 86.0 6.1 8.2 8 < 0.2 1.5 76 76 3.9 0.5 345 28.5 8.0 16.8 69.8 4.9 12.3 8 <0.2 1.7 IM5 Cloudy Moderate 10:01 7.7 Middle 28.5 8.0 16.8 69.6 820550 804911 3.9 0.6 28.4 8.0 69.4 4.9 12.5 < 0.2 1.5 24.9 69.2 6.7 0.4 350 27.9 7.9 24.8 4.7 13.8 8 78 <0.2 1.8 7.9 69.4 4.8 Bottom 28.0 69.6 6.7 0.4 7.9 24.9 4.8 13.5 78 < 0.2 1.6 322 28.0 1.0 0.4 8.0 74 1.5 29 28.9 15.5 85.8 6.1 8.0 8 < 0.2 15.5 Surface 28.9 8.0 85.7 15.5 85.6 6.1 1.0 0.4 29 28.9 8.0 8.0 6 74 < 0.2 1.4 4.0 0.3 28.2 8.0 18.5 69.6 4.9 8.4 75 76 <0.2 1.7 10:08 Middle 28.2 18.5 69.3 821059 805837 IM6 Cloudy Moderate 7.9 4.0 0.3 28.1 8.0 18.4 4.9 8.4 <0.2 6.9 0.2 28.1 78 <0.2 1.5 7.9 25.5 80.9 5.5 9.1 Bottom 28.1 7.9 25.4 81.3 5.5 6.9 0.2 39 7.9 5.5 11 1.6 28.1 1.0 0.5 28.8 8.0 15.8 6.1 6.4 74 < 0.2 1.4 86.3 8 Surface 28.8 8.0 15.8 86.3 1.0 0.5 15.8 74 18 28.8 8.0 86.3 6.1 6.4 8.7 8 < 0.2 14 44 32 76 1.5 0.4 28.4 8.0 17 4 78.8 5.6 9 -02 IM7 Cloudy Moderate 10:17 8.8 Middle 17.4 78.7 10.2 821334 806852 78.6 1.5 4.4 0.5 33 28.4 8.0 17.4 5.5 8.8 76 <0.2 7.8 0.4 32 28.0 7.9 22.6 4.8 15.6 9 78 <0.2 1.4 69.2 Bottom 28.0 7.9 22.6 69.3 4.8 7.8 0.4 33 28.0 7.9 22.6 69.3 4.8 15.4 78 <0.2 1.6 1.0 0.2 48 7.8 75 28.7 15.8 81.6 5.8 6 <0.2 1.8 Surface 28.7 7.8 15.8 81.6 2.0 7.8 81.6 5.8 7.7 74 1.0 0.2 51 28.7 15.8 6 <0.2 2.0 4.1 0.2 16 7.8 16.3 5.5 10.0 7 76 < 0.2 28.4 77.3 16.3 77.3 IM8 Cloudy Moderate 09:52 8.2 Middle 28.4 7.8 9.3 76 821708 807857 1.9 77.3 75 <0.2 2.0 4.1 0.2 16 28.4 7.8 16.3 5.5 10.0 6 19.4 83.0 7.2 0.2 44 28.2 7.8 19.4 5.8 10.2 8 77 <0.2 1.7 Bottom 28.2 7.8 83.0 5.8 7.2 0.2 44 28.2 1.6

DA: Depth-Averaged

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

Water Quality Monitoring Results on 15 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Easting) Value 0.3 28.6 1.0 33 15.7 80.2 5.7 6.6 -02 2.0 Surface 28.6 80.2 15.7 1.0 0.3 33 28.6 7.8 80.2 5.7 6.6 74 < 0.2 1 0 3.9 0.2 40 28.4 7.9 16.4 76.6 5.4 9.8 6 75 <0.2 1.9 IM9 09:40 7.8 Middle 7.9 16.4 76.6 822106 808808 2.0 Cloudy Moderate 3.9 0.2 43 28.4 7.9 16.4 76.6 5.4 9.8 75 <0.2 2.2 6.8 0.2 288 28.1 7.8 5.4 13.2 76 <0.2 2.2 Bottom 77.1 5.4 28 1 7.8 19.6 28.1 13.2 6.8 300 1.0 0.2 7.8 15.9 5.5 74 2.0 28.5 77.4 6.6 <0.2 Surface 28.5 7.8 15.9 77.3 7.8 15.9 77.1 5.5 73 2.1 1.0 0.2 28.5 6.6 < 0.2 5.3 75 0.2 5 3.8 20 27.9 7.8 18.7 5.1 < 0.2 1.9 72.6 8.1 IM10 Cloudy Moderate 09:27 7.6 Middle 27.9 7.8 18.7 72.6 75 822251 809843 2.0 72.5 75 2.0 3.8 0.2 20 27.9 7.8 18.6 5.1 8.2 4 <0.2 6.6 0.2 310 27.7 7.8 23.4 5.4 8.8 76 <0.2 2.1 Bottom 7.8 23.4 77.5 5.4 6.6 0.2 321 27.7 7.8 23.4 77.5 5.4 77 <0.2 1.9 0.6 28.3 7.8 16.0 5.5 75 <0.2 2.3 Surface 28.3 7.8 16.0 77.0 1.0 0.6 320 7.8 16.0 77.0 5.5 75 <0.2 2.1 28.3 5.5 5.4 7.3 76 4.4 0.5 279 27.9 7.8 18.5 < 0.2 2.1 76.2 6 821511 IM11 Cloudy Moderate 09:16 8.7 Middle 27.9 7.8 18.5 76.2 7.5 810525 2.1 44 0.5 306 27 9 7.8 18.5 76.2 5.4 7.3 7 76 <0.2 19 5.9 5.9 7.7 0.1 275 28.0 7.8 21.7 85.6 8.2 6 77 77 <0.2 2.2 Bottom 7.8 21.7 85.6 5.9 0.1 270 28.0 7.8 21.7 85.6 8.2 < 0.2 2.0 1.0 0.5 305 28.4 7.8 16.1 6.5 75 <0.2 2.0 5.6 Surface 28.4 7.8 16.1 79 N 78.9 1.0 0.5 320 28.4 7.8 16.1 5.6 6.5 7.2 75 <0.2 1.9 5.3 0.5 5.0 76 4.7 27.8 7.8 19.4 70.4 <0.2 1.9 IM12 Cloudy Moderate 09:12 9.3 Middle 27.8 7.8 19.4 70.4 821162 811517 70.4 5.0 76 77 <0.2 1.8 47 0.5 311 27.8 7.8 194 7.2 6 8.3 0.2 292 27.7 7.8 23.1 73.3 5.1 5.1 8.6 <0.2 1.8 Bottom 23.1 73.3 77 8.3 0.2 307 27.7 7.8 23.1 73.3 8.6 < 0.2 2.0 0.5 303 28.4 <0.2 1.8 7.8 16.1 5.8 6.3 Surface 28.4 7.8 16.1 81.3 1.0 0.6 330 28.4 7.8 16.1 81.3 5.8 6.3 6 75 <0.2 2.0 5.8 821472 814166 SR2 Cloudy Moderate 08:42 4.5 Middle 2.0 76 3.5 0.2 288 28.0 18 9 5.7 6.7 <0.2 1.9 7.8 80.7 Bottom 28.0 7.8 18.9 80.7 5.7 5.7 6.7 77 3.5 0.2 296 7.8 18 Q 80 7 < 0.2 28.0 6 21 1.0 0.3 28 28.6 7.8 15.6 82.7 5.9 7.0 6 7.8 15.6 82.7 Surface 1.0 0.3 30 28.6 7.8 15.6 82.7 5.9 7.0 4.8 0.3 29 7.9 9.2 28.6 5.5 16.3 77.0 822152 80759n SR3 09:56 9.6 Middle 7.9 6 Cloudy Moderate 28.6 9.6 4.8 7.9 16.3 77.0 5.5 0.4 30 28.6 9.2 8.6 0.2 55 7.8 27.9 21.2 68.9 4.8 12.7 5 21.2 7.8 68.9 4.8 Bottom 27.9 7.8 0.3 21.2 68.9 4.8 12.7 8.6 27.9 1.0 0.2 224 28.3 7.9 16.6 83.9 6.0 8.0 16.6 1.0 0.2 244 28.3 7.9 16.6 83.8 6.0 8.0 7 5.3 28.1 7.8 4.7 6 SR4A Moderate 08:45 10.1 Middle 28.1 7.8 18.3 65.9 817185 807806 Foggv 0.3 28.1 18.3 4.6 11.5 9.1 0.2 252 27.7 7.8 24.5 4.0 14.1 10 57.7 27 7 24.5 57.7 Rottom 7.8 4.0 0.2 9.1 269 27.7 7.8 14.4 24.5 4.0 8 1.0 0.2 332 28.3 7.8 17.6 78.5 5.5 10.3 9 Surface 7.8 17.6 78.5 10 1.0 0.2 305 28.3 7.8 17.6 78.5 5.5 10.3 SR5A Foggy Moderate 08:28 5.4 Middle 10 816588 810712 4.4 0.2 306 28.2 10 7.8 18.4 74.4 5.2 14.9 74.4 5.3 28.2 7.8 18.4 Bottom 4.4 320 28.2 7.8 18.4 74.4 5.3 14.9 10 0.2 1.0 276 7.8 0.2 28.3 16.8 78.9 5.6 11.8 78.9 Surface 28.3 7.8 16.8 78.9 1.0 0.2 283 28.3 7.8 16.8 5.6 11.8 6 08:01 4.5 Middle 817902 814665 SR6 Foggy Moderate 3.5 0.0 269 28.3 15.1 17.9 76.4 5.4 Bottom 28.3 7.7 17.9 76.4 5.4 3.5 0.0 7.7 17.9 76.4 15.2 6 28.3 1.0 0.6 296 28.3 7.8 16.4 5.7 6.5 79.4 4 Surface 28.3 7.8 16.4 79.4 5.7 1.0 0.6 7.8 16.4 79.4 304 28.3 6.5 3 49 11.2 8 1 0.5 273 27.7 7.8 20.1 70.3 4 SR7 Cloudy Moderate 08:16 16.2 Middle 20.1 70.3 9.8 823618 823735 70.3 8.1 0.6 298 27.7 7.8 20.1 4.9 11.2 4 15.2 0.1 270 27.6 7.8 23.4 74.6 5.2 11.6 3 23.4 Bottom 27.6 7.8 74.6 5.2 15.2 0.1 281 27.6 7.8 23.4 74.6 5.2 11.6 1.0 0.4 307 7.8 16.0 4 28.4 83.4 5.9 6.3 Surface 28.4 7.8 16.0 83.4 7.8 16.0 83.4 5.9 1.0 0.5 329 28.4 6.3 6 5.9 SR8 Cloudy Moderate 08:47 5.1 Middle 820408 811576 4.1 0.2 282 28.1 7.8 18.3 6.5 6.8 6 7.8 18.3 91.5 28.1 6.5 4.1 0.2 282 28.1

DA: Depth-Average

Water Quality Monitoring Results on 15 June 17 during Mid-Ebb tide DO Saturation Dissolved Suspended Solids otal Alkalinity Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Speed Current Oxygen (ppm) (ma/L) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Easting) Value 0.4 20.7 16.3 1 0 205 8.0 973 6.8 5.1 √n 2 15 Surface 1.0 0.4 209 29.7 8.0 16.3 97.3 6.8 5.1 73 <0.2 1.4 4.3 0.3 207 29.5 8.0 16.5 93.0 6.5 7.5 5 75 <0.2 1.4 C1 16:17 8.0 16.5 92.9 815636 804247 Cloudy Moderate 8.5 Middle 29.5 9.5 75 4.3 0.3 223 29.5 8.0 16.5 92.7 6.5 7.6 75 <0.2 1.3 6 77 7.5 0.4 230 28.5 7.8 26.1 75.3 5.1 15.6 6 <0.2 1.5 Bottom 7.8 75.7 5.1 77 7.5 0.5 2/10 28.5 7.8 26.0 76.1 15.8 -n 2 1.5 1.0 164 28.8 0.2 7.8 16.2 82.6 5.8 6.3 73 <0.2 1.8 28.8 7.8 16.2 82.6 Surface 7.8 16.2 73 1.8 1.0 0.2 174 28.8 82.6 5.8 6.3 6 <0.2 5.3 75 6.2 0.2 190 28.0 7.7 19.7 66.5 4.7 6.8 6 <0.2 2.0 825687 C2 Cloudy Rough 15:07 12.3 Middle 28.0 7.7 19.7 66.5 75 806945 75 2.0 6.2 0.2 192 7.7 19.7 66.5 4.7 6.8 -02 28.0 11.3 0.2 234 27.5 77 26.9 75.4 5.1 5.1 7.9 77 <0.2 2.0 Bottom 26.9 75.4 7.7 75.4 77 11 3 0.2 250 27.5 26.0 7.0 < 0.2 1 0 1.0 0.1 91 28.2 7.8 19.5 78.0 5.5 6.9 76 <0.2 1.6 Surface 28.2 7.8 19.5 78.0 7.8 19.5 78.0 5.5 75 1.4 1.0 0.1 28.2 6.9 <0.2 52 6.6 0.2 4.8 9.1 10 76 28.0 7.8 20.0 68.9 <0.2 1.5 822099 817805 C3 16:53 7.8 20.0 68.9 Cloudy Moderate 13.1 Middle 28.0 7.8 20.0 68.9 4.8 77 <0.2 1.4 6.6 0.2 318 28.0 9.1 8 12.1 0.2 112 13.8 77 1.5 27 1 7.8 25.4 67.7 47 q <0.2 Bottom 27.1 7.8 25.4 67.7 4.7 4.7 0.3 7.8 25.4 67.7 78 12.1 110 27.1 13.8 -n 2 13 1.0 0.3 173 29.6 8.0 16.1 96.4 6.7 4.6 73 <0.2 1.3 Surface 16.1 1.4 1.0 0.3 174 29.6 8.0 16.1 95.9 6.7 4.6 5 73 <0.2 3.6 0.3 191 29.1 7.9 5.3 7.5 76 < 0.2 1.5 15:51 818355 IM1 Cloudy Moderate 7 1 Middle 7.9 17.3 76.3 806472 20 1 17.2 76.0 75 1.6 3.6 0.3 194 7.9 5.3 7.6 <0.2 29.1 6 6.1 76 1.3 0.2 167 28.6 7.8 25.0 84.9 5.7 8.1 8 < 0.2 Bottom 28.6 7.9 25.0 85.5 5.8 0.2 177 7.9 6.1 28.5 25.0 86.0 5.8 8 < 0.2 1.3 1.0 0.1 125 29.4 8.0 16.1 96.9 6.8 6.3 6 73 <0.2 1 4 Surface 16.1 1.0 0.1 135 29.4 8.0 16.1 96.9 6.8 6.4 6 74 <0.2 1.6 5.8 4.5 0.2 173 28.9 7.9 20.0 67.9 4.7 8.6 6 75 <0.2 1.8 15:41 20.0 67.9 818853 1.7 IM2 Cloudy Moderate 8.9 Middle 28.9 7.9 75 806210 0.2 182 28.9 7.9 20.0 67.8 4.7 8.6 75 <0.2 2.0 7.9 0.2 185 28.4 7.8 24.5 4.9 9.5 10 77 <0.2 1.7 72.5 Bottom 28.4 7.8 24.5 72.8 5.0 7.8 24.4 5.0 9.4 7.9 191 28.4 < 0.2 1.0 159 74 0.2 8.0 1.8 29.7 15.3 96.6 6.8 5.2 4 < 0.2 15.3 Surface 29.7 8.0 96.5 1.0 0.2 168 29.7 8.0 15.3 96.3 6.7 5.3 5 73 -02 1.6 5.9 4.3 0.3 29.1 7.9 70.9 5.0 8.9 4 75 76 <0.2 1.7 IM3 Cloudy Moderate 15:34 8.6 Middle 7.9 17.3 70.7 75 819408 806024 17.3 70.4 4.3 0.3 214 29.1 7.9 4.9 8.9 4 <0.2 77 <0.2 1.6 0.2 27.9 7.8 22.9 70.7 4.9 11.0 5 Rottom 27.9 7.8 23.2 71.9 5.0 7.6 0.2 238 27.9 5.0 < 0.2 1.0 74 0.1 39 29.0 8.0 6.6 6.2 1.6 15.1 92.8 5 < 0.2 Surface 29.0 8.0 15.1 92.3 1.0 73 0.1 41 29.0 8.0 15.1 91.8 6.5 6.4 5 <0.2 1.6 4.1 0.1 126 28.2 8.0 19.0 68.4 10.3 5 75 75 <0.2 1.7 IM4 Moderate 15:26 8.2 Middle 19.0 67.5 10.5 819576 805037 Cloudy 4.1 0.1 133 28.2 8.0 18.9 66.6 4.7 10.2 < 0.2 1.5 7.2 0.2 177 27.8 7.9 25.0 4.5 14.9 9 77 <0.2 1.3 65.6 Bottom 27.8 7.9 25.0 65.8 4.5 7.9 65.9 4.5 15.1 77 1.5 7.2 0.2 178 27.8 25.0 10 <0.2 1.0 0.1 190 29.0 8.0 14.2 6.6 5.9 6 73 < 0.2 1.8 92.9 Surface 29.0 8.0 14.2 92.8 8.0 14.2 92.7 6.6 5.9 7.7 73 <0.2 2.0 1.0 0.1 29.0 193 3.8 76 1.8 0.2 179 28.4 79 172 77 9 5.5 < 0.2 IM5 Moderate 15:14 7.5 Middle 28.4 7.9 17.0 77.4 820568 804922 Cloudy 76.9 7.9 16.8 5.4 75 < 0.2 3.8 0.2 189 28.4 8.1 8 6.5 0.1 202 28.1 7.9 23.8 76.4 5.2 10.2 76 <0.2 1.9 Bottom 7.9 23.8 76.7 76.9 77 6.5 0.1 220 28.1 79 5.3 9.8 <0.2 1.8 1.0 0.3 29.1 8.0 14.1 95.5 6.8 5.9 73 < 0.2 1.8 14.1 95.5 Surface 29.1 8.0 1.0 14.1 6.8 73 1.7 0.4 62 29.1 8.0 95.5 5.9 5 <0.2 1.9 3.7 0.2 102 28.3 7.9 16.3 70.2 5.0 8.3 6 76 < 0.2 7.9 821063 IM6 Cloudy Moderate 15:08 7.4 Middle 28.3 16.3 70.2 75 805826 1.8 75 3.7 0.2 103 7.9 70.2 5.0 <0.2 1.8 28.3 16.3 8.4 6.4 0.2 149 28.0 7.9 23.3 70.2 4.8 8.7 77 <0.2 1.8 Bottom 28.1 7.9 23.2 70.3 4.8 77 6.4 0.2 155 28.1 7.9 23.0 70.3 4.8 8.5 8 < 0.2 1.8 1.0 0.3 29.0 8.0 14.7 92.1 6.5 6.4 6 73 <0.2 1.8 Surface 29.0 8.0 14.7 92.1 1.0 0.3 8.0 14.7 92.0 6.5 73 <0.2 1.7 29.0 6.5 4.4 0.3 103 7.9 17.7 5.2 9.4 75 1.8 28.4 74.1 8 <0.2 14:55 7.9 17.7 74 1 8.8 821356 806827 1 7 IM7 Cloudy Moderate 8.8 Middle 28.4 75 74.0 75 1.6 5.2 < 0.2 4.4 0.3 103 28.4 7.9 9.5 7.8 0.2 128 28.2 7.8 19.5 75.9 5.3 10.6 q 76 <0.2 16 7.8 19.5 76.1 76.3 5.3 7.8 0.2 128 28.3 7.8 194 10.6 10 77 -02 1.5 1.0 0.4 108 73 74 28.9 7.9 15.3 92.4 6.6 6.8 5 4 <0.2 Surface 28.9 7.9 15.3 92.4 1.0 0.4 28.9 7.9 15.3 6.6 6.8 <0.2 1.6 4.2 0.3 159 28.4 7.8 16.7 74.9 5.3 7.8 8 75 <0.2 1.7 807836 821710 IM8 Cloudy Rough 15:37 8.4 Middle 28.4 7.8 16.7 74.9 75 17 4.2 0.3 170 7.8 16.7 74.9 5.3 7.8 75 <0.2 1.6 28.4 5.6 76 1.9 7.4 0.1 55 28.1 7.8 21.1 80.5 8.4 9 < 0.2 Bottom 7.8 21.1 80.5 5.6 77 7 4 0.1 55 28 1 7.8 21 1 80.5 5.6 8.4 -02 1.8

DA: Depth-Averaged

Water Quality Monitoring Results on 15 June 17 during Mid-Ebb tide DO Saturation Dissolved Suspended Solids otal Alkalinity Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Speed Current Oxygen (ma/L) (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Easting) Value 0.4 28.6 16.2 1.0 124 54 6.1 74 -02 Surface 28.6 7.8 76.8 75 1.0 0.4 132 28.6 7.8 16.2 76.8 5.4 6.1 < 0.2 2.2 3.8 0.3 142 28.3 7.8 16.8 72.3 5.1 7.6 7 75 <0.2 2.1 IM9 15:45 7.6 Middle 7.8 16.8 72.3 822080 808804 2.0 Cloudy Rough 3.8 0.3 151 28.3 7.8 16.8 72.3 5.1 7.6 76 <0.2 1.8 6.6 0.2 127 28.1 7.8 72.8 5.1 9.1 78 <0.2 1.8 Bottom 7.8 19.5 72.8 5.1 28 1 28.1 6.6 1.0 0.5 7.9 16.2 5.8 75 28.8 82.7 6.3 <0.2 1.8 Surface 28.8 7.9 16.2 82.7 7.9 5.8 74 2.0 1.0 0.5 103 28.8 16.2 82.7 6.3 6 < 0.2 0.4 115 76 3.8 7.8 16.5 77.7 5.5 8 < 0.2 2.0 28.6 8.6 IM10 Cloudy Rough 15:52 7.6 Middle 7.8 16.5 77.6 9.2 822239 809838 1.9 77.5 5.5 2.0 3.8 0.5 126 28.6 7.8 16.4 8.8 9 76 <0.2 6.6 0.3 97 28.0 7.8 20.3 73.8 5.2 5.2 12.5 77 <0.2 1.8 Bottom 7.8 20.3 73.8 5.2 6.6 0.3 104 28.0 7.8 20.3 73.8 12.5 78 <0.2 2.0 0.6 28.8 7.9 7.8 75 <0.2 2.0 86.0 6.1 Surface 28.8 7.9 16.5 86.0 1.0 0.6 7.9 16.5 86.0 7.8 76 <0.2 1.8 28.8 6.1 90 5.8 10.7 76 1.5 4.4 0.5 7.9 < 0.2 28.6 16.7 81.4 821494 IM11 Cloudy Rough 16:02 8.8 Middle 28.6 7.9 16.7 81.4 10.3 810528 77 44 0.6 98 28.6 79 16.7 81.4 5.8 10.7 7 <0.2 1.6 5.1 7.8 0.3 111 28.0 7.9 20.0 73.1 12.4 9 78 77 <0.2 1.6 Bottom 7.9 20.0 73.1 7.8 0.3 112 28.0 7 Q 20.0 73.1 12.4 < 0.2 1.6 1.0 0.6 28.7 8.0 6.5 8 74 <0.2 1.4 94.2 6.6 17.1 94.2 Surface 28.7 8.0 1.0 0.6 28.7 8.0 17.1 94.2 6.6 6.5 75 <0.2 1.5 0.5 75 4.2 28.6 8.0 17.1 91.9 6.5 6.6 8 <0.2 1.4 17.1 IM12 Cloudy Moderate 16:07 8.3 Middle 28.6 8.0 91.9 821160 811519 76 77 <0.2 1.2 4.2 0.5 106 28.6 8.0 17 1 91 9 6.5 6.6 7.3 0.4 84 28.3 8.0 18.3 85.1 6.0 8.5 9 < 0.2 1.4 Bottom 18.3 85.1 77 7.3 0.4 88 28.3 8.0 18 3 85.1 6.0 8.5 9 < 0.2 1.4 1.0 0.6 89 28.7 <0.2 1.5 7.9 16.9 6.2 Surface 28.7 7.9 16.9 87.5 1.0 0.7 89 28.7 7.9 16.9 87.5 6.2 6.2 75 <0.2 1.6 6.2 821482 814151 SR2 Cloudy Moderate 16:31 4.8 Middle 77 77 3.8 0.3 94 28.2 18.2 6.0 9.4 <0.2 1.6 79 84.6 8 Bottom 28.2 7.9 18.2 84.7 6.0 3.8 0.3 99 7.9 18.2 847 6.0 9.4 78 < 0.2 28.2 6 1.8 1.0 0.3 82 28.8 7.8 15.9 84.1 5.9 6.7 9 7.8 15.9 84.1 Surface 1.0 0.3 84 28.8 7.8 15.9 84.1 5.9 6.7 0.2 152 7.8 5.0 28.2 8.9 17.1 70.7 822136 807581 SR3 15:30 9.4 Middle 7.8 8.3 Cloudy Rough 28.2 4.7 7.8 70.7 5.0 0.2 152 28.2 17.1 8.9 8.4 0.1 7 41 28.0 7.8 23.0 74.8 5.2 9.4 23.0 74.8 5.2 7.8 Bottom 28.0 7.8 74.8 5.2 0.1 23.0 8.4 28.0 9.4 1.0 0.2 66 28.8 8.1 16.4 92.9 6.5 6.3 16.4 92.7 1.0 0.2 68 28.8 8.1 16.4 92.5 6.5 6.3 8 4.4 0.1 28.2 8.0 4.9 10.6 10 SR4A Cloudy Moderate 16:40 8.8 Middle 28.2 8.0 19.8 69.4 10.0 11 817194 807822 4.4 0.1 28.2 19.8 10.4 7.8 0.1 27.8 7.9 24.2 4.3 13.2 16 62.3 27.8 24.3 63.2 Rottom 7.9 4.4 7.8 0.1 15 79 7.9 27.8 24.3 64.1 4.4 13.3 1.0 0.1 41 28.2 7.9 17.6 91.2 6.5 10.2 9 Surface 7.9 17.1 89.1 42 10 1.0 0.1 31.4 7.9 16.5 87.0 5.9 10.5 SR5A Cloudy Moderate 16:58 5.0 Middle 12 816600 810714 4.0 0.1 28.8 15 8.0 17.5 89.9 6.3 10.6 17.5 6.3 28.8 8.0 90.0 Bottom 4.0 0.1 54 28.8 8.0 17.5 90.0 6.3 10.5 14 1.0 0.2 353 7.9 28.8 16.8 90.7 6.4 8.0 6 Surface 29.8 7.9 16.5 89.0 87.2 79 1.0 0.2 325 30.7 16.2 6.0 8.5 6 6.2 17:20 4.2 Middle 817891 814659 SR6 Cloudy Moderate 3.2 0.1 28.5 12.8 12 7.9 88.8 6.3 17.5 Bottom 28.5 7.9 89.0 6.3 3.2 0.1 74 7.9 17.5 6.3 12.6 10 28.5 1.0 0.6 84 28.5 7.8 17.3 83.0 5.8 5.1 Surface 28.5 7.8 17.3 83.0 17.3 1.0 0.6 7.8 5.8 5.1 90 28.5 83.0 6 8.4 5.7 49 0.1 38 28 4 7.8 18 1 81.1 6 SR7 Cloudy Moderate 17:24 16.8 Middle 18.1 81.1 5.0 823623 823752 5.7 8.4 0.1 40 28.4 7.8 18.1 81.1 4.9 5 15.8 0.2 135 28.3 7.8 18.6 81.8 5.8 5.1 9 18.6 Bottom 28.3 7.8 81.8 5.8 15.8 0.2 144 28.3 7.8 18.6 81.8 5.8 5.1 1.0 0.4 7.9 17.6 7.6 95 28.6 86.3 6.1 8 Surface 28.6 7.9 17.6 86.3 7.9 17.6 86.3 7.6 1.0 0.4 95 28.6 6.1 9 SR8 Cloudy Moderate 16:19 4.8 Middle 10 820426 811584 3.8 0.1 129 28.5 7.9 18.2 6.0 7.9 12 7.9 18.2 85.1 28.5 6.0 3.8 0.1 141 28.5

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

Water Quality Monitoring Results on 17 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Oxygen (ppm) Speed (ma/L) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Value Value Value (Northing) (Easting) Value DA 0.2 29.1 12 0 1.0 53 5.7 74 Surface 29.1 7.9 79.2 56 1.0 0.2 20 1 7 Q 70 N 5.7 7.4 71 < 0.2 1.8 44 0.3 47 28.8 7.9 16.1 67.6 4.8 8.2 4 74 <0.2 1.9 C1 11:21 8.8 Middle 7.9 16.1 67.6 815603 804229 Rainy Moderate 44 0.3 47 28.8 7.9 16.1 67.6 4.8 8.2 73 <0.2 1.9 7.8 0.4 43 27.3 7.8 63.6 4.3 11.2 77 <0.2 1.8 7.8 28.7 4.3 Rottom 27.3 63.6 7.8 0.4 1.0 0.3 173 28.7 7.7 10.4 5.8 67 2.7 78.8 6.5 4 <0.2 Surface 28.7 7.7 10.4 78.7 78.6 5.8 2.6 1.0 0.3 183 28.7 10.4 6.5 5.7 6 68 < 0.2 5.3 0.7 57 5.3 7.7 5 75 18.9 4.8 < 0.2 2.2 28.2 68.2 C2 Rainy Moderate 10:18 10.6 Middle 28.2 7.7 18.9 68.2 73 825665 806939 2.5 68.2 2.5 5.3 0.7 58 28.2 77 18 9 4.8 5.7 4 74 -0.2 9.6 74 28.0 22.6 5.0 6.4 75 <0.2 2.3 Bottom 28.0 7.7 22.6 72.2 5.0 7.7 9.6 1.2 74 28.0 22.6 72.2 6.4 76 <0.2 2.4 0.3 222 28.2 7.8 4.4 73 1.4 16.1 5.1 <0.2 Surface 28.2 7.8 16.1 71.8 1.0 0.3 234 7.8 16.1 71.8 5.1 74 1.4 28.2 4.4 < 0.2 6.9 4.4 4.8 75 1.5 27.7 0.4 7.8 19.2 62.3 4 < 0.2 822119 817792 C3 Rainy Moderate 11:56 13.8 Middle 27.7 7.8 19.2 62.3 4.5 6.9 0.4 268 27.7 7.8 192 62.3 44 4.8 3 76 <0.2 1.5 12.8 0.5 312 27.0 7.7 28.0 71.1 4.8 4.2 6 77 <0.2 1.5 Bottom 7.7 28.0 71.1 4.8 7.7 12.8 0.5 335 27.0 28.0 71.1 4.8 12 78 < 0.2 16 1.0 0.6 27 28.5 8.0 7.9 71 1.4 72.6 5.1 <0.2 Surface 28.5 8.0 17.1 726 1.0 0.7 29 28.5 8.0 17.4 72.6 5.1 7.9 71 <0.2 1.4 0.5 4.1 9.7 3.9 28.1 7.9 20.3 58.9 74 < 0.2 1.4 IM1 Rainv Moderate 11:02 7.7 Middle 28.1 7.9 20.3 58.8 818336 806445 1.3 20.3 58.7 74 77 <0.2 1.3 3.9 0.5 36 28.1 79 41 9.7 6.7 0.3 27.5 7.9 25.3 60.2 4.1 11 9 5 <0.2 1.3 Bottom 27.5 25.3 60.2 77 6.7 0.3 27.5 7 Q 25.3 60.2 11 0 < 0.2 1.2 1.0 0.5 342 28.5 8.4 8.0 5.5 <0.2 1.4 Surface 28.5 8.0 15.5 77.2 1.0 0.5 315 28.5 8.0 15.5 77.1 5.5 8.5 71 <0.2 1.5 5.0 4.6 4.5 9.7 73 1.4 0.4 28.3 7.9 18.8 64.6 <0.2 6 818832 IM2 Rainv Moderate 10:55 9.1 Middle 28.3 7.9 18.8 64.6 806179 4.6 0.4 336 7.9 18.8 64.5 4.5 9.8 74 <0.2 1.4 28.3 77 8 1 0.5 358 27.4 79 27.0 68 1 46 14.6 -02 14 Bottom 7.9 27.0 68.1 4.6 27.0 68 1 77 8.1 0.5 329 7.9 4.6 27.4 14.6 < 0.2 1 4 1.0 0.3 285 28.8 7.9 11.8 79.0 5.7 8.7 4 72 <0.2 2.0 7.9 11.8 78.9 Surface 1.0 0.3 289 28.8 7.9 11.8 78.8 5.7 8.7 71 <0.2 1.9 4.3 0.4 9.7 74 332 28.2 7.9 66.0 < 0.2 1.8 17.4 66.0 819412 806026 IM3 10.48 8.6 7.9 Rainy Moderate Middle 28.2 7.9 17.4 65.9 4.7 74 <0.2 1.7 4.3 0.4 357 28.2 9.8 77 7.6 0.2 1.8 27.2 7.9 27.4 57.3 3.9 13.7 4 < 0.2 27.4 3.9 7.9 57.3 Bottom 27.2 7.9 27.4 57.3 3.9 13.7 7.6 0.2 27.2 < 0.2 1.9 1.0 0.4 270 28.7 8.0 12.4 74.0 5.3 9.8 72 <0.2 1.8 Surface 12.5 73.5 73.0 1.8 1.0 0.4 293 28.7 8.0 12.5 5.3 10.1 5 71 < 0.2 74 74 28.5 18.7 18.7 11.3 <0.2 1.9 IM4 10:40 8.0 Middle 28.5 7.9 18.7 67.0 819552 805047 Rainv Moderate 4.0 0.3 326 28.5 7.9 67.0 4.7 11.3 7.0 0.2 27.1 7.9 28.2 4.5 14.4 10 76 <0.2 2.0 66.1 27 1 7.9 28.2 66.1 4.5 Rottom 7.0 0.2 4.5 7.9 14.4 2.0 27.1 28.2 66.1 8 < 0.2 1.0 290 0.2 28.8 7.9 11.5 80.2 5.8 8.5 5 71 < 0.2 1.8 Surface 7.9 11.5 1.0 0.2 302 28.8 7.9 11.5 80.2 5.8 8.5 5 71 < 0.2 2.0 74 74 1.8 3.6 0.1 315 28.7 8.0 13.4 67.7 4.9 11.5 <0.2 IM5 Rainy Moderate 10:33 7.1 Middle 28.7 8.0 13.4 67.5 12.8 820576 804938 2.0 3.6 0.1 328 28.7 8.0 13.4 67.3 4.8 11.5 < 0.2 27.7 49.8 6.1 0.4 27.2 7.9 27.7 3.4 18.4 8 76 <0.2 2.2 49.8 7.9 3.4 Bottom 27.2 6.1 0.4 7.9 27.7 3.4 18.4 77 < 0.2 2.4 27.2 1.0 0.3 313 7.9 72 2.4 28.8 11.9 77.1 5.6 8.7 4 < 0.2 11.9 Surface 28.8 7.9 77.0 76.9 5.6 79 1.0 0.3 314 28.8 11 9 8.8 4 72 <0.2 3.5 0.2 308 28.7 7.9 7.9 14.4 71.8 5.1 5.1 10.6 74 <0.2 2.1 10:26 Middle 14.4 71.8 821058 805834 IM6 Rainy Moderate 6.9 3.5 0.2 332 28.7 14.4 10.7 74 <0.2 5.9 0.2 28.2 15.5 77 <0.2 2.5 7.9 25.2 76.1 5.2 Bottom 28.2 7.9 25.2 76.1 5.2 5.9 0.2 7.9 76.1 5.2 15.5 77 2.4 328 28.2 1.0 0.4 247 28.8 7.9 10.3 78.5 5.7 5.7 8.8 71 < 0.2 2.5 6 Surface 28.8 7.9 10.3 78.4 71 1.0 7.9 10.3 78.3 0.4 258 28.8 8.9 4 < 0.2 4.3 243 5.1 11.6 74 2.6 0.3 28.7 79 13.7 71 7 5 -02 IM7 Moderate 10:20 8.5 Middle 7.9 13.7 71.6 12.3 821335 806819 2.5 Rainv 74 2.5 4.3 0.3 256 28.7 7.9 13.7 71.5 5.1 11.7 4 <0.2 7.5 0.1 152 28.5 7.8 23.2 78.1 5.3 16.5 76 77 <0.2 2.5 Bottom 28.5 7.8 23.2 78.1 5.3 7.5 0.1 162 28.5 7.8 23.2 78.1 5.3 16.5 <0.2 2.5 1.0 0.4 223 7.7 69 28.6 11.7 5.8 6.9 6 <0.2 2.3 Surface 28.6 7.7 11.7 79.6 79.6 2.3 7.7 5.8 70 1.0 0.4 227 28.6 6.9 6 <0.2 7.7 2.5 4.0 0.2 225 14.0 5.3 10.8 6 72 < 0.2 28.5 73.6 7.7 14.0 821710 IM8 Moderate 10:37 7.9 Middle 28.5 73.6 8.5 73 807820 2.5 7.7 14.0 73.6 71 <0.2 2.8 4.0 0.2 236 28.5 5.3 10.8 4 20.3 84.5 6.9 0.2 211 28.4 7.7 20.3 5.9 7.8 5 76 <0.2 2.5 7.7 84.5 Bottom 28.4 5.9 6.9 0.2 230 28.4 2.3

DA: Depth-Averaged

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

Water Quality Monitoring Results on 17 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Easting) Value 0.2 222 28.6 6.4 1.0 11 9 6.0 -02 23 Surface 28.6 82.7 223 7.7 1.0 0.2 28.6 11 0 82.7 6.0 6.4 70 < 0.2 2.2 4.0 0.2 282 28.6 7.7 13.5 79.2 5.7 8.6 4 72 <0.2 2.5 IM9 10:45 7.9 Middle 7.7 13.5 79.2 822087 808814 2.2 Rainy Moderate 4.0 0.2 303 28.6 77 79.2 5.7 8.6 6 72 <0.2 2.5 6.9 0.2 287 28.6 7.7 6.2 7.4 73 <0.2 2.0 Bottom 7.7 15.9 87.0 6.2 28.6 294 28.6 7.7 74 6.9 1.0 0.2 7.7 13.4 5.7 70 2.0 28.6 79.4 8.2 <0.2 Surface 28.6 7.7 13.4 79.4 79.4 5.7 70 2.3 1.0 0.2 28.6 13.4 8.2 4 < 0.2 0.2 353 7.7 5.5 71 2.3 3.4 15.4 15.8 4 < 0.2 28.4 76.9 IM10 Rainy Moderate 10:53 6.8 Middle 7.7 15.4 76.9 72 822240 809842 2.3 76.9 5.5 2.4 3.4 0.2 325 28.4 77 15.4 15.8 4 72 -0.2 5.8 0.2 315 28.4 19.5 6.1 9.8 75 <0.2 2.3 Bottom 7.7 19.5 87.3 7.7 5.8 0.2 317 28.4 10.5 87.3 6.1 9.8 74 <0.2 2.2 0.2 293 28.7 7.8 5.8 6.4 69 <0.2 1.5 80.9 Surface 28.7 7.8 12.7 80.9 1.0 0.2 293 7.8 12.7 80.9 5.8 70 <0.2 1.5 28.7 6.4 4.0 72 1.5 28.5 7.8 5.4 9.8 < 0.2 0.3 288 15.8 75.3 3 821512 IM11 Rainy Moderate 11:03 8.0 Middle 28.5 7.8 15.8 75.3 8.8 810530 4.0 72 0.3 298 28.5 7.8 15.8 75.3 5.4 9.8 2 <0.2 1.8 5.8 5.8 7.0 0.2 308 28.1 7.7 22.2 84.3 10.2 6 75 <0.2 1.8 Bottom 7.7 22.2 84.3 5.8 7.7 76 7.0 0.2 316 28.1 22.2 843 10.2 < 0.2 1.8 1.0 0.3 285 28.7 7.8 12.8 6.3 70 <0.2 2.0 Surface 28.7 7.8 12.8 78.7 1.0 0.3 28.7 7.8 12.8 78.7 5.7 6.3 6 69 <0.2 1.7 5.5 0.5 5.2 4.1 275 28.2 7.8 16.7 72.7 6.9 6 73 <0.2 1.6 IM12 Rainv Moderate 11:10 8.1 Middle 28.2 7.8 16.8 72.7 73 821154 811535 16.8 72.6 5.2 73 75 <0.2 1 4 41 0.5 279 28.2 7.8 6.9 5 7 1 0.2 275 27.7 77 23.9 80.1 5.5 5.5 7.2 6 < 0.2 1.5 Bottom 23.9 80.1 7.7 7 1 0.2 287 27.7 23.0 80 1 7.2 76 < 0.2 15 1.0 0.2 139 28.3 10.0 <0.2 7.8 5.6 Surface 28.3 7.8 16.0 78.4 1.0 0.2 147 28.3 7.8 16.0 78.4 5.6 10.0 8 72 <0.2 1.4 5.6 821475 814153 SR2 Rainv Moderate 11:34 4.4 Middle 73 75 3.4 0.2 165 28 1 18.6 5.7 12.2 10 <0.2 1.6 7.8 80.6 Bottom 28.1 7.8 18.6 80.6 5.7 167 5.7 3.4 0.2 7.8 18.6 80.6 12.2 74 < 0.2 28.1 8 16 1.0 0.4 254 28.7 7.7 11.3 77.2 5.6 6.1 6 7.7 11.3 77.2 Surface 1.0 0.4 265 28.7 77 11.3 77.2 5.6 6.1 4 4.4 0.3 262 7.7 28.4 73.2 5.2 6.6 7.7 14.8 73.2 822131 807556 SR3 10:34 8.7 Middle 6.5 Rainy Moderate 28.4 4.4 7.7 14.8 73.1 5.2 0.3 263 28.4 6.7 5 7.7 0.2 243 7.7 28.4 18.4 78.7 5.5 6.6 4 5.5 7.7 18.4 78.7 Bottom 28.4 7.7 78.7 5.5 0.2 28.4 18.4 6.6 262 1.0 0.2 265 28.6 7.8 15.5 76.6 5.4 11.3 4 15.5 1.0 0.2 286 28.6 7.8 15.5 76.6 5.4 11.2 4 5.2 0.1 28.4 7.8 70.2 5.0 14.3 SR4A Moderate 11:41 8.4 Middle 28.4 7.8 17.6 70.2 13.7 817174 807806 Rainv 4.2 0.1 28.4 17.6 14.3 7.4 0.1 268 27.7 7.7 25.0 4.5 15.5 65.2 27 7 7.7 25.0 65.4 Rottom 4.5 7.4 279 0.2 27.7 4.5 15.5 25.0 65.6 1.0 0.1 284 28.6 7.8 15.5 81.0 5.8 10.2 8 Surface 7.8 15.6 81.0 1.0 0.1 308 28.6 7.8 15.6 81.0 5.8 10.2 9 SR5A Rainy Moderate 11:58 5.2 Middle 12.0 816603 810689 4.2 0.1 347 28.5 13.7 7.8 17.1 86.5 6.1 8 86.5 6.1 28.5 7.8 17.1 Bottom 4.2 0.1 359 28.5 7.8 17.1 86.5 6.1 13.7 1.0 0.1 286 7.9 10.0 28.7 13.7 83.4 6.0 5 13.7 Surface 28.7 7.9 83.4 79 83.4 1.0 0.1 293 28.7 13.7 6.0 10.0 5 SR6 12:21 4.9 Middle 817893 814643 Rainy Moderate 3.9 0.1 244 28.6 14.9 15.2 7.9 83.6 6.0 14.9 Bottom 28.6 7.9 83.6 6.0 3.9 0.1 265 7.9 14.9 83.6 6.0 15.3 28.6 1.0 0.1 93 27.9 7.8 19.0 5.2 4.4 Surface 27.9 7.8 19.0 75.9 5.3 1.0 7.8 19.0 75.9 0.1 95 27.9 4.4 8.4 318 6.3 4 0.1 26.7 7.8 25.0 73.8 5.1 SR7 Rainy Moderate 12:31 16.8 Middle 25.0 73.8 5.6 823649 823748 8.4 0.1 328 26.7 7.8 25.0 73.8 5.1 6.3 4 15.8 0.2 293 26.3 7.7 30.2 60.2 4.1 6.2 5 Bottom 26.3 7.7 30.2 60.2 4.1 15.8 0.2 316 26.3 77 30.2 60.2 41 6.2 1.0 0.1 88 7.8 28.5 12.4 83.9 6.1 6.6 4 Surface 28.5 7.8 12.4 83.9 7.8 12.4 83.9 1.0 0.1 95 28.5 6.1 6.6 5 SR8 Moderate 11:20 4.2 Middle 820431 811578 3.2 0.1 244 28.4 7.8 15.8 6.3 7.3 4 7.8 15.8 87.8 28.4 6.3 3.2 0.1 253 28.4

DA: Depth-Average

Water Quality Monitoring Results on 17 June 17 during Mid-Ebb tide DO Saturation Dissolved Suspended Solids otal Alkalinity Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Speed Current Oxygen (ppm) (ma/L) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Easting) Value 0.4 28.7 13.2 1 0 202 8.0 81 N 5.8 7.6 70 √n 2 16 Surface 1.0 0.4 203 28.7 8.0 13 1 80.9 5.8 7.7 69 <0.2 1.6 4.1 0.0 357 28.3 7.9 17.7 69.0 4.9 8.2 8 73 <0.2 1.8 C1 7.9 17.7 69.0 815602 1.7 Rainv Moderate 06:16 8.1 Middle 28.3 8.5 73 804236 4.1 0.0 328 7.9 17.6 69.0 4.9 8.2 74 <0.2 1.9 28.3 6 7 1 0.1 204 27.8 7.9 22.2 70.7 4.9 9.6 7 75 <0.2 17 Bottom 7.9 22.2 70.7 4.9 7 1 0.1 216 27.8 7 Q 22.2 70.7 1 Q 9.6 a 76 -n 2 16 1.0 181 28.5 2.8 0.6 7.8 8.2 6.1 6.9 <0.2 28.5 7.8 8.2 81.7 Surface 7.8 8.2 2.7 1.0 0.6 183 28.5 6.1 6.9 8 66 <0.2 5.6 5.8 0.1 315 28.4 7.8 16.2 72.1 5.1 5.5 71 <0.2 2.8 825666 C2 Rainv Moderate 07:45 11.5 Middle 28.4 7.8 16.2 72.1 806953 2.8 2.7 5.8 0.1 345 7.8 16.2 5.1 5.5 72 72 1 -02 28 4 10.5 0.6 28.1 7.8 19.8 73.3 5.1 5.1 5.5 5.5 74 <0.2 2.8 Bottom 7.8 19.8 73.3 10.5 0.6 28.1 7.8 10.8 73.3 74 < 0.2 2.8 1.0 0.2 288 28.3 7.8 15.4 80.3 5.7 4.9 73 <0.2 1.8 Surface 28.3 7.8 15.4 80.3 7.8 15.4 80.3 5.7 4.9 74 1.8 1.0 0.2 28.3 <0.2 6.6 0.4 4.8 4.0 75 1.7 28.1 7.8 68.4 <0.2 13.2 17.9 822125 817788 C3 05:51 7.8 68.4 Cloudy Moderate Middle 28.1 12 7.8 17.9 68.4 4.8 74 <0.2 1.8 6.6 0.4 320 28 1 4.0 12.2 0.9 341 7.7 78 1.6 27.4 25.1 49 3.8 <0.2 70.9 Bottom 27.4 7.7 25.1 70.9 4.9 7.7 70.9 77 25.1 4.9 3.8 1.0 353 27.4 -n 2 251 1.0 0.2 28.3 8.0 14.9 4.9 8.5 70 <0.2 1.5 Surface 14.9 68.1 1.4 1.0 0.2 260 28.3 8.0 14 9 67.8 4.9 8.6 8 70 <0.2 4.9 0.3 27.9 7.9 22.8 4.8 10.2 8 73 < 0.2 1.2 818336 11/11 Moderate 06:36 7.4 Middle 27.9 7.9 22.8 65.5 73 806468 13 Rainy 3.7 73 1.2 0.3 307 27.9 7.9 22.7 65.5 4.8 10.3 <0.2 6 6.4 323 76 1.2 0.2 27.2 7.9 26.9 52.5 3.6 14.2 6 < 0.2 27.2 Bottom 7.9 27.0 52.6 3.6 0.3 328 7.9 27.0 52.6 75 6.4 27.2 3.6 14.3 6 < 0.2 1.3 1.0 0.7 231 28.7 7.9 11.9 76.1 5.5 9.8 69 <0.2 17 Surface 11.9 5.5 1.0 0.7 247 28.7 7.9 11 9 76.1 9.8 8 70 <0.2 1.5 4.3 0.2 310 27.5 7.9 23.3 51.6 3.6 8 73 <0.2 1.7 7.9 23.3 51.6 12.6 818862 1.7 IM2 Rainv Moderate 06:41 8.5 Middle 27.5 73 806189 0.2 324 27.5 7.9 23.3 51.6 <0.2 1.7 7.5 0.2 27.1 7.9 27.7 3.5 16.9 76 <0.2 1.9 51.3 8 Bottom 27 1 7.9 27.7 51.3 3.5 7.9 16.9 76 1.9 27.1 < 0.2 1.0 0.5 237 70 8.0 11.7 2.1 28.8 12.0 74.7 5.4 < 0.2 Surface 28.8 8.0 12.0 74.7 74.7 1.0 0.6 260 28.8 8.0 12.0 5.4 11 7 69 <0.2 2.3 2.4 4.2 0.2 301 27.7 7.9 22.5 4.0 13.0 73 73 <0.2 IM3 Rainy Moderate 06:51 8.4 Middle 7.9 22.5 58.1 73 819426 806036 4.2 0.2 323 27.7 7.9 58.1 4.0 13.0 < 0.2 75 <0.2 2.5 0.2 27.1 7.9 27.9 51.2 3.5 15.0 8 Rottom 27 1 7.9 27.9 51.2 3.5 7.4 0.2 27.1 3.5 15.0 < 0.2 1.0 104 70 0.1 28.6 8.1 5.6 10.4 11 2.3 13.0 77.6 < 0.2 Surface 28.6 8.1 13.0 77.6 1.0 110 5.6 70 0.1 28.6 8.1 13.0 77.5 10.5 11 <0.2 4.0 0.2 326 28.4 8.0 17.4 61.1 4.3 13.1 10 73 73 <0.2 2.3 IM4 Moderate 06:57 7.9 Middle 17.4 61.1 13.1 73 819578 805057 2.2 Rainy 4.0 0.2 350 28.4 8.0 17.4 61.1 4.3 13.1 12 <0.2 6.9 0.2 12 27.2 7.9 28.1 4.6 15.7 11 76 <0.2 2.0 67.6 Bottom 27.2 7.9 28.1 67.6 4.6 7.9 67.6 4.6 15.7 76 6.9 0.2 27.2 28.1 12 <0.2 2.1 229 2.2 1.0 0.3 28.7 7.9 5.4 9.2 9 69 < 0.2 11.7 74.4 Surface 28.7 7.9 11.7 74.3 28.7 7.9 74.1 5.4 70 <0.2 1.0 0.4 9.2 236 3.6 11.5 73 2.2 0.3 256 28.6 79 15.1 66.8 4.8 < 0.2 IM5 Moderate 07:04 7.2 Middle 28.6 7.9 15.1 66.7 12.8 73 820549 804928 2.2 7.9 66.5 47 74 <0.2 3.6 0.3 266 28.6 15.1 11.6 6.2 0.3 338 27.2 7.9 27.8 61.5 4.2 17.6 9 76 <0.2 2.1 Bottom 7.9 27.8 61.5 6.2 0.3 357 27.2 79 61.5 42 17.6 8 76 <0.2 2.0 1.0 0.4 253 28.8 7.9 12.0 5.6 8.9 70 <0.2 2.0 77.6 6 7.9 12.0 77.6 Surface 28.8 1.0 270 7.9 12.0 77.5 5.6 70 1.9 0.4 28.8 8.9 6 <0.2 3.5 0.3 262 28.7 7.9 13.6 71.0 5.1 11.0 6 74 < 0.2 1.8 821062 7.9 IM6 Rainy Moderate 07:11 6.9 Middle 28.7 13.6 70.9 12.6 73 805836 1.9 73 3.5 0.3 274 7.9 70.8 5.1 <0.2 1.7 28.7 13.6 11.1 5.9 0.3 310 28.0 7.9 24.9 66.5 4.5 17.8 6 76 <0.2 2.0 Bottom 28.0 7.9 24.9 66.5 4.5 5.9 0.3 322 28.0 7.9 24.9 66.5 4.5 17.8 6 76 < 0.2 2.0 1.0 0.3 241 28.8 7.9 10.4 5.8 9.0 69 <0.2 2.3 Surface 28.8 7.9 10.4 78.8 1.0 0.3 28.8 7.9 10.4 78.7 5.7 70 <0.2 2.2 9.0 263 4.1 0.3 247 7.8 13.5 5.3 10.5 73 2.3 28.7 74.0 6 <0.2 07:19 7.9 13.5 73.9 821333 806824 2.3 IM7 Rainv Moderate 8.1 Middle 28.7 73 73.8 74 2.2 5.3 < 0.2 4.1 0.3 261 28.7 7.9 10.5 76 7 1 0.0 186 28.4 79 18.7 80.4 5.6 13.7 <0.2 2.2 18.7 80.4 7 1 0.0 200 28.4 79 18.7 80.4 5.6 13.7 6 76 -02 2.5 1.0 0.5 209 7.7 7.7 5.7 2.0 28.7 11.4 7.0 69 <0.2 Surface 28.7 7.7 11.4 78.8 1.0 0.5 215 28.7 11.4 7.0 4 69 <0.2 9.4 3.9 0.5 230 28.5 15.1 76.2 5.4 6 70 <0.2 2.0 807832 821709 IM8 Rainv Moderate 07:18 7.8 Middle 28.5 7.7 15.1 76.2 70 2.0 1.9 3.9 0.5 237 7.7 15.1 76.2 5.4 9.4 71 <0.2 28.5 7.7 72 2.0 6.8 0.2 253 28.5 15.6 81.6 5.8 9.7 5 < 0.2 Bottom 7.7 15.6 81.6 5.8 7.7 6.8 0.2 254 28.5 15.6 81.6 5.8 9.7 -02 19

DA: Depth-Averaged

Water Quality Monitoring Results on 17 June 17 during Mid-Ebb tide DO Saturation Dissolved Suspended Solids otal Alkalinity Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Speed Current Oxygen (ma/L) (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Easting) Value 0.2 207 28.7 12.5 69 1.0 80.5 5.8 59 -02 Surface 28.7 80.5 7.7 12.5 1.0 0.3 224 28.7 80 S 5.8 5.9 1 69 < 0.2 2.1 3.3 0.3 201 28.6 7.7 14.0 79.2 5.7 6.3 7 70 <0.2 2.2 IM9 07:11 6.6 Middle 7.7 14.0 79.2 822075 808830 2.1 Rainy Moderate 3.3 0.3 210 28.6 77 14.0 79.2 5.7 6.3 6 71 <0.2 2.1 5.6 0.6 207 28.5 7.7 6.0 6.5 72 <0.2 2.1 Bottom 7.7 14.9 83.7 6.0 28.5 5.6 28.5 7.7 73 1.0 0.1 7.7 12.8 5.7 7.0 69 28.7 78.7 <0.2 2.0 Surface 28.7 7.7 12.8 78.7 12.8 78.7 5.7 7.0 2.0 1.0 0.1 184 28.7 69 < 0.2 3.7 0.3 7.7 5 2.0 182 74.0 5.3 71 < 0.2 28.6 14.2 9.6 IM10 Rainy Moderate 07:04 7.4 Middle 7.7 14.2 74.0 9.0 72 822231 809821 2.0 74.0 2.0 3.7 0.4 182 28.6 77 14.2 5.3 9.6 5 70 -0.2 6.4 0.1 218 28.3 70.6 5.0 10.3 75 <0.2 2.0 Bottom 28.3 7.7 17.6 70.6 5.0 7.7 6.4 0.1 224 28.3 176 70.6 10.3 76 <0.2 2.2 0.2 28.6 12.2 6.9 70 <0.2 2.0 5.7 Surface 28.6 7.7 12.2 79.2 1.0 0.2 146 12.2 79.2 70 <0.2 2.2 28.6 6.9 137 7.7 5.6 9.3 71 2.2 4.1 0.1 < 0.2 28.4 14.3 77.4 6 7.7 821492 IM11 Rainy Moderate 06:54 8.2 Middle 28.4 14.3 77.4 7.9 810554 2.2 77 41 0.1 137 28.4 14.3 77.4 5.6 9.3 7 72 <0.2 2.0 7.7 7.2 0.4 290 28.5 18.1 85.4 6.0 7.6 6 76 75 <0.2 2.3 Bottom 7.7 18.1 85.4 6.0 7.2 0.5 292 28.5 18 1 85.4 6.0 7.6 < 0.2 22 1.0 0.1 97 28.8 7.7 12.4 6.4 70 <0.2 2.1 80.2 5.8 12.4 Surface 28.8 7.7 80.2 1.0 0.2 103 28.8 7.7 12.4 80.2 5.8 6.4 6 69 <0.2 2.4 5.3 4.9 4.5 0.2 114 28.4 7.8 14.1 67.4 8.5 72 <0.2 2.3 14.1 IM12 Cloudy Moderate 06:44 9.0 Middle 28.4 7.8 67.2 72 821159 811512 2.2 67.0 71 <0.2 2.0 45 0.2 123 28.3 7.8 14 1 4.8 8.6 6 75 8.0 0.3 140 27.5 77 24.1 65.1 4.5 9.0 5 < 0.2 2.1 Bottom 24.1 65.1 4.5 7.7 8.0 0.3 141 27.5 24.1 65.1 45 9.0 76 < 0.2 2.2 1.0 0.3 42 28.7 5.8 <0.2 2.2 7.8 12.4 80.8 12.4 Surface 28.7 7.8 80.8 1.0 0.3 42 28.7 7.8 12.4 80.8 5.8 6.2 6 71 <0.2 2.2 5.8 821475 814160 SR2 Cloudy Moderate 06:20 4.9 Middle 2.2 70 3.9 0.2 40 28.6 14 6 5.7 7.4 <0.2 2.1 7.8 80.2 6 Bottom 28.6 7.8 14.6 80.2 5.7 5.7 7.4 3.9 0.2 13 7.8 14.6 80.2 < 0.2 28.6 71 2 1 1.0 0.3 209 28.6 7.7 12.3 74.8 5.4 6.9 5 7.7 12.3 74.8 Surface 1.0 0.3 225 28.6 77 12.3 74.8 5.4 6.9 5.3 4.2 0.2 7.7 228 28.4 71.0 5.1 8.3 7.7 15.7 71.0 822150 807566 SR3 07:23 8.4 Middle Rainy Moderate 28.4 7.7 15.7 71.0 5.1 4.2 0.2 240 28.4 8.3 7.4 0.2 7.7 116 28.3 19.3 76.8 5.4 7.4 6 7.7 19.3 76.8 5.4 Bottom 28.3 7.7 76.8 5.4 0.2 19.3 7.4 7.4 119 28.3 1.0 0.4 270 28.4 7.9 15.6 5.2 9.7 15.6 73.3 5.2 1.0 0.4 286 28.4 7.9 15.6 9.7 6 4.5 23.5 55.6 3.8 14.8 SR4A Cloudy Moderate 05:57 8.2 Middle 27.7 7.9 23.5 55.6 817176 807820 4.1 0.3 27.7 7.9 55.6 14.8 7.2 0.2 272 27.3 7.8 26.6 59.6 4.1 18.4 27.3 7.8 26.6 59.8 Rottom 4.1 7.2 0.3 7.8 27.3 26.6 60.0 4.1 18.2 6 1.0 82.9 0.2 275 28.3 7.9 14.4 6.0 9.3 8 Surface 7.9 14.4 82.9 1.0 0.2 281 28.3 7.9 144 82.9 6.0 9.3 8 SR5A Cloudy Moderate 05:42 5.0 Middle 816580 810700 4.0 0.1 322 28.4 7.8 17.1 83.0 5.9 11.2 8 17.1 83.2 5.9 28 4 7.8 Bottom 4.0 0.1 349 28.4 7.8 17.1 83.3 5.9 11.3 1.0 0.0 330 7.9 28.5 16.3 78.8 5.6 14.2 9 Surface 28.5 7.9 16.3 78.7 78.6 79 1.0 0.0 338 28.5 16.3 5.6 14.2 8 05:18 4.0 Middle 817915 814654 SR6 Cloudy Moderate 3.0 0.1 279 28.4 18.7 11 7.8 17.2 78.7 5.6 Bottom 28.4 7.8 17.2 78.7 5.6 3.0 0.1 7.8 17.2 78.7 5.6 18.7 10 28.4 1.0 0.2 28.2 7.8 15.9 5.8 3.9 81.3 5 Surface 28.2 7.8 15.9 81.3 1.0 0.2 7.8 15.9 5.8 27 28.2 81.3 3.9 4 8.2 24 4.3 0.4 28.2 7.8 16.8 64.0 46 6 SR7 Cloudy Moderate 05:16 16.3 Middle 16.8 64.0 4.2 5 823619 823743 8.2 0.4 24 28.2 7.8 16.8 64.0 4.6 4.3 6 15.3 1.7 62 26.7 7.7 28.4 72.0 4.9 4.3 5 28.4 Bottom 26.7 7.7 72.0 4.9 15.3 1.8 26.7 77 28.4 72.0 4.9 4.3 1.0 0.1 271 7.8 28.5 12.1 86.3 6.3 6.0 4 Surface 28.5 7.8 12.1 86.3 7.8 12.1 86.3 1.0 0.1 284 28.5 6.3 6.0 4 6.3 SR8 Cloudy Moderate 06:36 5.3 Middle 820417 811585 4.3 0.3 273 28.5 7.8 13.5 6.5 6.1 6 7.8 13.5 89.7 28.5 6.5 4.3 0.3 285 28.5 4

DA: Depth-Average

Water Quality Monitoring Results on 20 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Oxygen (ppm) Speed (ma/L) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Value Value Value (Northing) (Easting) Value DA 0.1 28.3 66 1.0 89 54 8.7 Surface 28.3 7.5 72.4 1.0 0.1 92 28.3 7.5 8 Q 72 / 5.4 8.7 66 < 0.2 2.8 3.9 0.1 139 28.2 7.6 11.8 64.1 4.7 9.5 6 74 <0.2 2.8 C1 15:33 7.8 Middle 7.7 11.8 63.9 10.0 815627 804259 2.8 Cloudy Moderate 72 3.9 0.1 147 28.2 77 11.8 63.7 47 9.6 73 <0.2 2.9 6.8 0.1 174 27.8 7.7 3.8 11.7 6 76 <0.2 2.8 7.7 54.0 Rottom 27.8 10/ 3.8 0.1 7.7 54.0 11.7 6.8 1.0 1.0 171 7.3 4.9 11 63 28.1 5.4 64.4 9.3 <0.2 5.0 Surface 28.1 7.3 5.4 64.4 5.4 64.4 1.0 1.0 176 28.1 7.3 4.9 9.3 12 63 < 0.2 5.1 11 73 0.5 4.8 165 27.4 7.4 17.4 3.2 10.8 < 0.2 5.2 44.2 Cloudy C2 Moderate 14:26 9.5 Middle 27.4 7.4 17.4 44.2 10.1 12 825675 806959 4.3 44.2 5.3 4.8 0.5 167 27.4 7.4 17.4 3.2 10.8 12 73 <0.2 8.5 0.1 302 26.8 7.6 24.3 43.8 3.1 10.2 77 <0.2 2.6 24.3 Bottom 26.8 7.6 43.8 77 8.5 0.1 325 26.8 7.6 24.3 43.8 10.2 12 <0.2 2.6 0.5 27.6 4.9 5.9 72 2.3 7.6 15.0 <0.2 Surface 27.6 7.6 15.0 67.0 1.0 0.5 258 15.0 66.9 4.9 5.9 71 2.4 27.6 < 0.2 7.9 74 6.1 279 27.3 4.2 2.4 0.3 7.6 17.9 58.1 6 < 0.2 17.9 822104 817783 C3 Cloudy Moderate 15:57 12.1 Middle 7.6 58.1 7.9 2.3 73 6.1 0.3 287 27.3 7.6 179 58.1 42 79 6 <0.2 2.3 11.1 0.4 299 26.4 7.6 25.5 46.4 3.2 9.9 9 76 <0.2 2.3 Bottom 26.4 7.6 25.5 46.4 3.2 25.5 0.4 318 26.4 7.6 46.4 a a 76 < 0.2 23 1.0 0.6 343 28.0 7.7 14.4 8.4 67 <0.2 2.3 73.3 5.3 14.4 Surface 28.0 7.7 73.3 5.3 4.7 1.0 0.6 345 28.0 14.4 73.2 8.4 68 <0.2 2.1 10 3.5 0.4 27.9 15.3 65.1 10.3 69 <0.2 2.2 IM1 Cloudy Moderate 15:12 6.9 Middle 27.9 7.7 15.3 65.0 10.3 818333 806473 2.1 15.3 64.8 47 70 <0.2 1.9 3.5 0.5 356 27.9 77 10.3 8 5.9 10 75 0.4 351 27.2 77 27.6 57.8 3.9 12.2 <0.2 2.0 Bottom 27.2 27.6 58.2 4.0 7.7 58.5 5.9 0.4 323 27.2 27.6 12.2 12 75 < 0.2 2.0 1.0 0.8 240 28.3 2.9 10.1 66.2 4.9 8.8 <0.2 Surface 28.3 7.5 10.1 66.2 1.0 0.9 247 28.3 7.5 10.1 66.2 4.9 8.8 8 67 <0.2 3.1 4.4 3.9 10.0 74 2.7 3.9 0.8 27.9 17.1 54.9 <0.2 8 818852 IM2 Cloudy Moderate 15:04 7.8 Middle 27.9 7.7 17.1 54.9 72 806194 2.8 3.9 0.8 260 7.7 17.1 54.9 3.9 10.0 73 <0.2 27.9 8 6.8 12 76 26 0.2 255 27.2 7.8 25.3 592 41 13.4 -02 Bottom 27.2 7.8 25.3 59.6 4.1 6.8 0.2 255 7.8 25.3 60.0 4.1 13.4 10 76 27.2 < 0.2 2.6 1.0 0.6 239 28.2 7.6 10.1 62.3 4.6 8.3 8 67 <0.2 2.9 7.6 10.1 61.9 Surface 1.0 0.7 251 28.2 7.6 10.1 61.5 4.5 8.3 67 <0.2 3.1 3.9 0.7 10.2 72 28.1 7.6 60.3 4.4 < 0.2 3.0 14.2 60.3 819403 806037 IM3 14:55 7.7 7.6 106 3.2 Cloudy Moderate Middle 28.1 7.6 14.2 60.3 4.4 72 <0.2 3.3 3.9 0.7 243 28.1 10.2 11 75 6.7 0.1 <0.2 3.3 223 27.4 7.8 21.9 47.8 3.4 13.4 9 21.9 47.8 7.8 3.4 Bottom 27.4 7.8 47.8 3.4 21.9 <0.2 3.5 6.7 0.1 237 27.4 13.4 1.0 0.3 210 28.1 7.6 11.7 69.1 5.1 8.8 68 <0.2 3.0 Surface 11.7 1.0 0.3 226 28.1 7.6 11 7 69.1 5.1 8.8 8 68 < 0.2 3.1 4.9 70 70 228 28.0 63.6 4.6 10.2 <0.2 3.0 2.9 IM4 14:46 7.2 Middle 28.0 7.6 12.8 63.5 819575 805045 3.0 Cloudy Moderate 3.6 0.2 28.0 12.8 10.2 6.2 0.3 253 27.6 7.8 18.2 4.3 13.9 76 <0.2 2.9 60.0 27.6 7.8 18.2 60.0 4.3 Rottom 6.2 0.3 18.2 8 76 261 7.8 13.9 3.0 27.6 60.0 4.3 < 0.2 1.0 0.1 152 28.1 7.6 10.6 66.6 4.9 10.1 69 < 0.2 3.3 Surface 7.6 10.6 66.6 1.0 0.1 154 28.1 7.6 10.6 66.5 4.9 10.1 69 < 0.2 3.3 72 71 3.2 3.3 0.4 272 28.0 7.6 13.1 63.2 4.6 9 <0.2 IM5 Cloudy Moderate 14:37 6.5 Middle 28.0 7.6 13.0 63.2 72 820581 804915 3.2 3.3 0.4 28.0 7.6 12.9 63.2 4.6 11.2 <0.2 5.5 76.6 0.5 261 27.7 7.6 20.7 5.4 12.1 8 75 <0.2 3.1 7.6 20.7 76.6 54 Bottom 27.7 76.6 5.5 7.6 20.7 5.4 12.1 75 < 0.2 3.0 0.5 279 27.7 1.0 0.2 255 7.6 12.5 68 3.4 28.1 11.3 65.1 4.8 9 < 0.2 11.3 Surface 28.1 7.6 65.1 65.1 11 2 4.8 3.3 1.0 0.2 280 28.1 7.6 12.5 8 67 <0.2 3.1 0.2 273 27.8 7.7 15.4 57.6 4.2 13.1 71 72 <0.2 2.9 3.2 14:28 Middle 15.2 57.6 821050 805844 IM6 Cloudy Moderate 6.2 3.1 0.2 27.8 15.0 4.2 13.2 <0.2 5.2 0.5 274 27.6 76 <0.2 3.1 18.9 51.8 3.7 13.6 8 Bottom 27.6 7.7 18.7 51.9 5.2 0.5 7.7 18.4 51.9 3.7 13.4 2.9 281 27.6 1.0 0.8 224 27.8 7.6 14.5 4.0 10.2 72 71 < 0.2 2.9 54.5 10 11 Surface 27.8 7.6 14.5 54.5 2.8 1.0 0.8 7.6 14.5 4.0 241 27.8 54.5 10.2 < 0.2 3.6 12.5 74 3.0 0.6 239 27.7 77 15.7 54.3 39 11 -02 IM7 Cloudy Moderate 14:20 7.2 Middle 15.7 54.3 12.2 821359 806839 2.8 7.7 74 3.6 0.7 260 27.7 15.7 54.3 3.9 12.5 10 <0.2 2.9 6.2 0.5 255 27.6 7.7 19.6 58.3 14.0 8 76 <0.2 2.6 Bottom 27.6 7.7 19.6 58.3 4.1 6.2 0.5 262 27.6 77 19.6 58.3 41 14.0 76 <0.2 2.7 1.0 0.8 192 4.4 28.0 7.3 7.6 63.0 4.7 9.4 8 63 <0.2 Surface 28.0 7.3 7.6 63.0 63.0 7.3 7.6 4.7 4.1 1.0 0.8 204 28.0 9.4 8 64 <0.2 4.4 67 4.0 0.4 219 27.7 7.4 13.9 55.0 4.0 8.7 10 4.8 4.6 < 0.2 7.4 13.9 55.0 IM8 Cloudy Moderate 14:47 7.9 Middle 27.7 9.5 68 821705 807818 3.9 55.0 66 <0.2 4.0 0.4 219 27.7 7.4 13.9 4.0 8.7 9 7.5 7.5 17.9 58.2 58.4 6.9 0.4 253 27.4 17.9 4.2 10.3 8 75 <0.2 2.6 58.3 Bottom 27.4 7.5 4.2 6.9 0.4 273 27.4 2.8

DA: Depth-Averaged

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

Water Quality Monitoring Results on 20 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Easting) Value 0.5 28.0 1.0 172 64 67.8 51 9.7 64 -02 42 Surface 28.0 7.4 1.0 0.5 185 28.0 7.4 6.4 67.8 5.1 9.7 Ω 64 < 0.2 4.1 3.2 0.1 212 27.5 7.5 16.8 53.4 3.8 9.5 8 71 <0.2 4.3 IM9 14:55 6.4 Middle 7.5 16.8 53.4 822099 808822 Cloudy Moderate 3.7 3.2 0.1 229 27.5 7.5 16.8 53.4 3.8 9.5 9 72 <0.2 4.3 5.4 0.1 289 27.4 4.0 10.5 8 76 <0.2 2.8 Bottom 7.5 19.0 56.3 4.0 27 / 0.1 27.4 4.0 76 310 1.0 0.2 7.4 5.3 63 28.0 6.7 70.4 9.7 9 <0.2 4.2 Surface 28.0 7.4 6.7 70.4 6.7 70.4 5.3 4.0 1.0 0.2 196 28.0 7.4 9.7 10 64 < 0.2 67 0.2 3.1 355 27.7 7.5 13.8 58.2 4.2 9 < 0.2 4.0 8.4 IM10 Cloudy Moderate 15:05 6.2 Middle 27.7 7.5 13.8 58.2 12 69 822231 809840 3.8 58.2 68 3.9 3.1 0.2 327 27.7 7.5 13.8 42 8.4 11 -0.2 0.1 27.4 7.5 7.5 18.0 4.0 8.0 16 75 <0.2 3.2 Bottom 7.5 18.0 55.7 4.0 55.7 5.2 0.1 27.4 18.0 4.0 8.0 14 74 <0.2 3.5 0.2 131 28.0 7.4 9.7 64 <0.2 4.2 5.1 67.8 Surface 28.0 7.4 7.3 67.8 1.0 0.2 139 7.4 67.8 5.1 9.7 64 <0.2 4.2 28.0 3.9 27.7 4.4 8.0 67 3.8 7.5 14.2 0.2 60.2 8 < 0.2 14.2 821506 IM11 Cloudy Moderate 15:13 7.8 Middle 7.5 60.2 9.8 810556 3.7 3.9 307 0.2 27.7 7.5 14.2 60.2 44 8.0 9 68 <0.2 4.0 6.8 0.2 265 27.3 7.6 20.1 54.7 3.9 11.8 9 76 <0.2 2.9 Bottom 7.6 20.1 54.7 3.9 54.7 3.0 10 3.2 6.8 0.2 274 27.3 7.6 20.1 11.8 76 < 0.2 1.0 0.1 352 27.9 7.4 8.4 8.7 8 66 <0.2 3.6 67.1 5.0 67.1 Surface 27 9 74 8.4 1.0 0.1 354 27.9 7.4 8.4 67.1 5.0 8.7 8 65 <0.2 3.8 5.0 5.0 7.4 3.6 0.3 27.8 7.6 12.2 67.5 8 69 <0.2 3.8 IM12 Cloudy Moderate 15:20 7.2 Middle 27.8 7.6 12.2 67.5 69 821144 811505 3.5 122 67.5 5.0 68 <0.2 3.6 3.6 0.3 307 27.8 7.6 7.4 8 6.2 0.3 278 27.3 7.6 21.8 58.7 4.1 8.7 8 74 < 0.2 3.1 Bottom 21.8 58.7 6.2 0.3 287 27.3 7.6 21.8 58.7 4.1 8.7 74 < 0.2 3.2 0.3 304 27.8 5.4 65 <0.2 2.2 Surface 27.8 7.5 10.7 73.1 1.0 0.3 334 27.8 7.5 10.7 73.0 5.4 7.0 6 66 <0.2 2.0 54 821480 814185 SR2 Cloudy Moderate 15:45 4.3 Middle 67 2.4 69 3.3 0.5 303 27.7 12 9 8.3 <0.2 2.7 7.6 73.5 5.4 6 Bottom 27.7 7.6 12.9 73.5 5.4 332 3.3 0.5 27.7 7.6 12.9 73.5 5.4 8.3 < 0.2 6 68 27 1.0 0.9 177 28.0 7.3 7.7 63.6 4.8 9.8 8 7.3 7.7 63.6 Surface 1.0 0.9 189 28.0 7.3 63.6 4.8 9.8 4.3 3.9 0.5 186 27.6 9.0 3.8 8 7.4 15.8 51.9 822152 807560 SR3 14:41 7.8 Middle 27.6 Cloudy Moderate 7.4 15.8 51.9 3.8 3.9 0.6 186 27.6 9.0 6.8 236 0.4 27.3 7.5 19.2 57.8 4.1 10.3 7 7.5 19.2 57.8 4.1 Bottom 27.3 7.5 57.8 4.1 27.3 6.8 0.4 19.2 10.3 241 1.0 0.4 237 27.9 7.8 15.0 74.9 5.4 12.0 9 Surface 15.0 74.9 74 9 1.0 0.4 243 27.9 7.8 15.0 5.4 12.1 9 4.9 0.3 27.7 7.8 62.0 4.5 14.2 SR4A Moderate 15:54 7.2 Middle 27.7 7.8 16.7 61.9 11 817198 807823 Cloudy 3.6 0.4 259 27.7 16.6 14.2 6.2 0.3 249 26.9 7.7 26.2 3.5 16.2 14 50.7 7.7 26.2 50.7 Rottom 26.9 3.5 0.3 6.2 273 15 26.9 26.2 3.5 16.2 1.0 0.1 313 27.9 7.7 16.3 68.7 4.9 12.5 8 Surface 27.9 7.7 16.3 68.7 7.7 1.0 0.1 323 27.9 16.3 68.7 4.9 12.5 9 SR5A Cloudy Moderate 16:14 4.5 Middle 12.9 816595 810685 3.5 0.3 330 27.5 21.0 63.1 4.4 13.2 8 63.1 4.4 27.5 7.7 21.0 Bottom 356 27.5 7.7 21.0 63.1 4.4 13.2 3.5 0.3 1.0 0.2 238 28.0 7.7 13.9 74.1 5.4 9.6 4 14.0 74.1 Surface 28.0 7.7 7.7 74.0 1.0 0.2 249 28.0 14.0 5.4 9.7 5 16:54 3.5 Middle 817911 814649 SR6 Cloudy Moderate 2.5 0.2 222 27.9 11.4 15.0 76.7 5.5 Bottom 27.9 7.7 15.0 76.9 5.6 2.5 0.2 7.6 15.0 77.1 5.6 27.9 1.0 0.6 241 27.5 7.6 15.6 4.5 6.8 62.2 4 Surface 27.5 7.6 15.6 62.2 1.0 0.6 7.6 15.6 4.5 248 27.5 62.2 6.8 4 8.6 8.8 0.2 293 27.2 7.6 17.5 54.2 39 6 SR7 Cloudy Moderate 16:22 17.2 Middle 27.2 17.5 54.2 8.3 5 823645 823760 8.6 0.2 294 27.2 7.6 17.5 54.2 3.9 8.8 5 16.2 0.4 313 26.8 7.6 26.3 60.6 4.2 9.4 5 Bottom 26.8 7.6 26.3 60.6 4.2 16.2 0.4 324 26.8 7.6 26.3 60.6 4.2 9.4 1.0 0.1 319 27.8 7.5 7.9 9.1 72.2 72.2 5.4 6 Surface 27.8 7.5 9.1 72.2 7.5 5.4 7.9 1.0 0.1 319 27.8 9.1 6 SR8 Cloudy Moderate 15:32 5.1 Middle 820405 811576 7.5 7.5 4.1 0.3 261 27.8 10.5 74.3 5.5 8.3 6 7.5 10.5 74.3 27.8 5.5 4.1 0.3 281 27.8 74.3

DA: Depth-Average

Water Quality Monitoring Results on 20 June 17 during Mid-Ebb tide DO Saturation Dissolved Suspended Solids otal Alkalinity Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Speed Current Oxygen (ppm) (ma/L) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Average Value Value Value Value (Northing) (Easting) Value 10.9 N 8 27 Q 68 1 0 184 62.0 46 8.2 <0.2 1 0 Surface 27.9 1.0 0.8 190 27.9 7.8 10.9 62.4 4.6 8.1 68 <0.2 2.2 4.2 0.8 214 27.0 7.8 25.2 42.6 2.9 10.2 75 <0.2 2.4 C1 7.8 25.2 42.6 10.5 815609 2.5 Rainv Moderate 09:20 8.3 Middle 27.0 74 804264 4.2 0.8 230 7.8 25.2 42.6 2.9 10.3 75 <0.2 2.2 27.0 77 7.3 0.6 217 26.6 7.8 29.5 49.3 3.4 13.2 5 <0.2 3.0 Bottom 7.8 29.5 49.3 7.3 0.6 232 26.6 7.8 20.5 49.3 3 / 13.2 78 -n 2 3.0 1.0 1.3 27.9 7.3 8.1 60.0 4.5 9.6 65 <0.2 3.2 27 9 7.3 8.1 60.0 Surface 1.4 7.3 8.1 4.5 3.3 1.0 188 27.9 60.0 9.6 66 <0.2 4.2 5.2 74 3.2 0.8 172 27.6 7.5 17.8 53.7 3.8 9.2 <0.2 825690 C2 Rainv Moderate 11:41 10.3 Middle 27.6 7.5 17.8 53.7 72 806930 2.8 5.2 0.8 173 7.5 17.8 53.7 3.8 75 27.6 92 8 -02 9.3 0.2 167 26.8 7.6 24.3 47.5 3.3 15.8 12 77 <0.2 2.2 Bottom 7.6 24.3 47.5 3.3 0.3 0.2 168 26.8 7.6 24.3 47.5 3.3 15.8 10 76 < 0.2 2.1 1.0 0.8 114 27.1 7.6 17.6 65.6 4.7 4.7 6 75 <0.2 1.8 Surface 27 1 7.6 17.6 65.6 7.6 17.6 65.6 4.7 4.7 74 <0.2 2.0 1.0 0.9 122 27.1 6 6.6 0.4 3.9 6 77 <0.2 2.3 106 26.8 7.6 21.2 59.9 4.3 13.2 21.2 822089 817806 C3 U0:U3 7.6 59.9 2.0 Rainy Moderate Middle 26.8 2.2 26.8 7.6 21.2 59.8 4.3 76 <0.2 6.6 0.5 111 39 6 12.2 0.4 108 78 -02 1.8 7.6 29.9 3.4 3.6 q 25.4 494 Bottom 25.4 7.6 29.9 49.4 3.4 7.6 29.9 49.4 3.4 3.6 78 2.0 0.4 116 25.4 -n 2 1.0 0.8 179 27.8 13.0 4.6 8.7 70 <0.2 2.6 Surface 13.0 62.7 77 2.6 1.0 0.8 191 27.8 13.0 62.7 4.6 8.7 11 69 <0.2 3.6 3.6 0.4 26.9 25.8 38.1 2.6 9.4 14 76 < 0.2 0.6 818339 806475 IM1 Moderate 00.46 7 1 Middle 7.8 25.9 38.2 13 Rainy 26.9 75 0.6 3.6 0.4 181 26.9 7.8 26.0 38.2 2.6 9.4 14 <0.2 6.1 14 78 0.3 164 26.5 7.8 29.5 3.5 12.2 < 0.2 2.1 50.7 Bottom 26.5 7.8 29.5 50.7 3.5 0.3 176 7.8 50.7 2.2 6.1 26.5 29.5 3.5 12.2 16 < 0.2 1.0 0.7 190 27.8 7.8 12.4 60.4 44 9.7 6 68 <0.2 2.6 Surface 12.5 60.3 1.0 0.7 195 27.8 7.8 12.5 60.1 4.4 9.7 8 67 <0.2 2.4 3.7 4.0 0.6 193 27.2 7.8 23.6 42.6 3.0 10.4 75 <0.2 2.3 09:57 23.6 42.6 818863 806180 2.5 IM2 Rainv Moderate 8.0 Middle 27.2 7.8 73 0.6 200 27.2 7.8 23.6 42.6 3.0 10.4 <0.2 2.4 7.0 0.3 174 26.8 7.8 27.3 13.2 9 77 <0.2 2.5 50.2 3.5 Bottom 26.8 7.8 27.3 50.2 3.5 7.8 2.5 7.0 0.4 179 26.8 13.2 < 0.2 1.0 0.7 218 68 2.5 28.0 7.7 12.5 51.1 3.7 8.3 < 0.2 Surface 28.0 7.7 12.5 50.8 50.4 1.0 0.7 224 28.0 77 12.5 37 8.3 8 68 <0.2 2.5 3.2 4.1 0.6 222 27.4 7.8 2.7 11.6 73 72 <0.2 2.3 IM3 Rainy Moderate 10:06 8.2 Middle 7.8 21.2 37.7 73 819415 805999 4.1 0.6 27.4 7.8 37.6 11.6 <0.2 77 <0.2 2.2 0.4 192 26.7 7.8 28.1 45.8 3.1 13.8 6 Rottom 26.7 7.8 28.1 45.8 3.1 7.2 0.4 206 26.7 28.1 45.8 3.1 13.8 < 0.2 2.4 1.0 0.7 178 70 28.0 7.8 4.9 7.7 12.3 66.6 6 < 0.2 2.4 Surface 28.0 7.8 12.3 66.5 0.7 7.8 7.7 70 2.5 1.0 187 28.0 12.3 66.4 49 5 <0.2 3.8 0.4 203 27.7 8.0 16.9 54.4 3.9 9.7 6 72 73 <0.2 2.4 IM4 Moderate 10:15 7.5 Middle 17.0 54.4 73 819550 805050 2.6 Rainy 3.8 0.4 27.7 8.0 17.0 54.3 3.9 9.7 < 0.2 6.5 0.1 163 26.9 7.9 27.5 3.7 11.8 11 76 <0.2 2.8 53.5 Bottom 26.9 7.9 27.5 53.8 3.7 7.9 27.5 54.1 3.7 11.8 75 2.5 6.5 0.1 176 26.9 <0.2 1.0 2.5 0.8 195 28.0 7.7 12.4 4.6 8.8 9 68 < 0.2 63.5 Surface 28.0 7.7 12.4 63.4 7.7 12.4 63.3 4.6 8.8 68 <0.2 1.0 0.9 28.0 10 200 4.2 2.5 3.4 3.7 0.7 201 27.9 77 18 9 51.7 9.8 9 74 <0.2 IM5 Moderate 10:24 6.8 Middle 27.9 7.7 18.9 51.7 10.2 72 820560 804934 2.6 7.7 73 18 0 51.7 3.7 <0.2 3.4 0.8 201 27.9 9.8 9 5.8 0.4 184 27.1 7.8 25.1 43.7 3.0 12.1 8 75 <0.2 2.6 Bottom 7.8 25.1 43.7 3.0 5.8 0.5 200 27.1 7.8 25.1 43.7 3.0 12 1 q 75 <0.2 2.8 1.0 184 28.1 68 0.6 63.1 4.6 9.2 <0.2 2.8 11.7 5 7.7 11.7 Surface 28.1 63.1 1.0 7.7 11.7 69 2.8 0.6 198 28.1 63.1 4.6 9.2 4 <0.2 4.3 10.9 2.8 3.3 0.4 210 28.0 7.7 13.8 53.8 3.9 8 71 < 0.2 7.7 13.9 53.6 821077 IM6 Rainy Moderate 10:36 6.5 Middle 28.0 72 805810 2.9 72 7.7 3.3 227 <0.2 2.9 0.4 28.0 13.9 53.4 3.9 11.0 5.5 0.3 262 27.2 7.7 26.5 41.1 2.8 13.4 6 75 <0.2 2.9 Bottom 27.2 7.7 26.3 41.3 2.8 75 5.5 0.4 271 27.2 7.7 26.0 41 4 2.8 13.4 6 < 0.2 29 1.0 0.3 209 28.1 7.6 4.2 9.6 68 <0.2 2.9 8 Surface 28.1 7.6 11.9 57.0 1.0 0.3 28.1 7.6 11.9 56.8 4.2 9.7 70 <0.2 2.9 218 3.6 3.7 0.4 243 27.5 7.7 3.0 10.2 73 2.7 21.9 43.3 6 < 0.2 10:44 7.7 21.9 43.3 10 9 821333 806820 27 IM7 Rainv Moderate 7.4 Middle 27.5 73 72 77 2.6 7.7 43.3 < 0.2 3.7 0.5 262 27.5 21.9 3.0 10.2 6.4 0.1 271 27.1 77 27.5 54.1 3.7 12 7 <0.2 2.6 27.5 77 54.9 3.7 6.4 0.1 274 27.1 27.5 12 7 76 -02 26 1.0 0.8 186 7.5 7.5 7.5 7.5 27.8 12.6 4.8 12 12 70 <0.2 3.0 2.7 Surface 27.8 7.5 12.6 65.6 1.0 0.8 193 27.8 12.6 4.8 69 <0.2 8.8 3.8 0.5 194 27.2 7.6 21.5 47.6 3.4 20 76 <0.2 2.9 807819 821681 IM8 Rainv Moderate 11:01 7.6 Middle 27.2 7.6 21.5 47.6 89 17 2.8 3.1 3.8 7.6 21.5 47.6 18 75 <0.2 0.5 198 27.2 3.4 8.9 19 76 6.6 0.4 257 27.2 7.6 22.6 47.6 3.3 10.2 < 0.2 Bottom 27.2 7.6 22.6 47.6 3.3 77 6.6 0.4 282 27.2 7.6 22.6 47.6 3.3 10.2 18 -02 2.5

DA: Depth-Averaged

Water Qua			lts on		20 June 17 di	uring Mid-E	Ebb tide																				
Monitoring	Weather	Sea	Sampling	Water	0 " 0 " (,	Current Speed	Current	Water Te	mperature (°C)	рН	5	alinity	(ppt)	DO Sa	turation %)	Dissolved Oxygen	Turbidity	(NTU)	Suspende (mg/		Total Alkalinity (ppm)	Coordinate		Chromi (µg/L		(µg/L)
Station	Condition	Condition	Time	Depth (m)	Sampling Depth (r	m)	(m/s)	Direction	Value	Average	Value A	verage Va	ue A	verage	Value	Average	Value DA	Value	DA	Value	DA	Value DA	HK Grid (Northing)	HK Grid (Easting)			DA
					Surface	1.0	0.8	158	27.8	27.8	7.5		.4	10.4	72.6	72.6	5.4	6.7		10		67			<0.2	3.0	_
			10.10			1.0 3.5	0.8	169 145	27.8 27.5		7.5	10	.4		72.6 54.5		5.4 3.9 4.7	6.7 5.3		9		75 72	200112		<0.2	3.2	
IM9	Rainy	Moderate	10:46	6.9	Middle	3.5	0.5	145	27.5	27.5	7.6	7.6	.5	18.5	54.5	54.5	3.9	5.3	6.3	8	9	75	822110	808826	<0.2	3.2	3.0
					Bottom	5.9 5.9	0.2	134 143	27.0 27.0	27.0	7.6	7.6	.9 .9	22.9	54.5 54.5	54.5	3.8 3.8	7.0		9		76 76			<0.2	2.6 3.0	
					Surface	1.0	1.0	133 133	27.7 27.7	27.7	7.5 7.5		.8 .8	10.8	72.1 72.1	72.1	5.3	6.8		8		67 68			<0.2	2.9	
IM10	Rainy	Moderate	10:35	7.4	Middle	3.7	0.7	128	27.7	27.7	7.5	7.5 17	.1	17.1	75.6	75.6	5.4	6.2	9.9	6	7	76 72	822236	809844	<0.2	3.0	2.7
	,					3.7 6.4	0.8	137 98	27.7 26.9		7.5	1.	.1		75.6 44.7		5.4 3.1	6.2 16.7		6 9		75 77			<0.2	3.0	
					Bottom	6.4	0.5	107	26.9	26.9	7.6	7.6	.4	24.4	44.7	44.7	3.1	16.7		7		76			<0.2	2.2	
					Surface	1.0	0.5 0.5	85 91	27.7 27.7	27.7	7.5 7.5		.5 .5	13.5	66.3 66.3	66.3	4.8	6.1		5 6		69 68			<0.2	2.4	
IM11	Rainy	Moderate	10:18	8.2	Middle	4.1 4.1	0.4	107	27.3	27.3	7.7		.6 .7	20.7	49.0 49.0	49.0	3.5 3.5	9.6 9.6	9.5	4	5	76 74	821515	810554	<0.2	2.3	2.4
					Bottom	7.2	0.5 0.4	107 85	27.3 27.3	27.3	7.7	77 2	.5	21.5	49.8	49.8	3.5	12.8		5		75 76			<0.2	2.3	
						7.2 1.0	0.5 0.5	87 117	27.3 27.7		7.7	2	.5		49.8 63.1		3.5 4.6	12.8 9.6		6		77 67			<0.2	2.4	
					Surface	1.0	0.5	117	27.7	27.7	7.7	1.7	.7	12.7	63.1	63.1	4.6	9.6		5		68			<0.2	2.3	
IM12	Rainy	Moderate	10:05	8.7	Middle	4.4 4.4	0.5	101	27.6 27.6	27.6	7.6		.6	17.6	53.7 53.7	53.7	3.8	7.2	9.8	3	4	72 73 72	821165	811522	<0.2	<0.2 2.6	2.4
					Bottom	7.7	0.4	80	26.9	26.9	7.7	77 23	.9	23.9	47.3	47.3	3.3	12.7		3		76			<0.2	2.2	
					Surface	7.7 1.0	0.5	82 102	26.9 27.8	27.8	7.7	2.	.9	11.4	47.3 70.3	70.3	3.3 <u>3.3</u> 5.2	12.7 7.0		4 5		75 68			<0.2	2.5 2.5	
					Surface	1.0	0.1	108	27.8	21.0	7.5	7.5	.4	11.4	70.2	70.3	5.2	7.0		6		69			<0.2	2.5	
SR2	Rainy	Moderate	09:39	4.5	Middle	-	-	-	-	-	-	-		-	-	-	-	-	6.5	-	6	- 70	821451	814171	- *	<0.2	2.6
					Bottom	3.5 3.5	0.6	70 74	27.7 27.7	27.7	7.6		.4	15.7	65.6 65.8	65.7	4.7 4.7	5.9 5.9		5 6		71 71			<0.2	2.7	
					Surface	1.0	1.0	179	27.7	27.7	7.5	7.5 14	.5	14.5	60.8	60.8	4.4	6.9		6		-			-	-	_
000			44.00			1.0 4.1	1.1 0.5	180 179	27.7 27.1		7.5	14	.5		60.8 46.9		3.3 3.9	6.9 7.6		4 5		-	000455	007507	-	-	
SR3	Rainy	Moderate	11:09	8.2	Middle	4.1	0.5	179	27.1	27.1	7.6	7.6	.0	22.0	46.9	46.9	3.3	7.6	8.7	6	6		822155	807587		-	-
					Bottom	7.2 7.2	0.2	253 256	27.0 27.0	27.0	7.6		.1	24.1	42.0 42.0	42.0	2.9 2.9	11.6 11.6		8		-				-	
					Surface	1.0	0.1	123 133	27.6 27.6	27.6	7.8	7.8	.5 .5	15.5	55.0 54.5	54.8	3.9	8.8 8.8		8		-			-	-	
SR4A	Rainy	Moderate	08:58	8.4	Middle	4.2	0.1	281	26.7	26.7	7.8	7.8 27	.9	27.9	36.7	36.7	2.5	10.8	12.0	9	9	-	817170	807806	-	-	_
	,					4.2 7.4	0.1	291 263	26.7 26.6		7.8	20	.9		36.7 37.6		2.5	10.8 16.4		11 9		-			-	-	
					Bottom	7.4	0.1	279	26.7	26.7	7.8	7.8	.6	28.6	37.7	37.7	2.6	16.4		10		-			-	-	
					Surface	1.0	0.0	84 89	27.7 27.7	27.7	7.7		.8	12.8	72.6 72.4	72.5	5.3 5.3 5.3	8.4 8.5		6 5		-			-	-	
SR5A	Rainy	Moderate	08:40	5.3	Middle	-		-	-		-	-		-	-	-	- 5.3	-	9.4		7	-	816591	810715	-		-
					Bottom	4.3	0.1	343	27.4	27.4	7.6		.6	22.6	59.9	59.9	4.2 4.2	10.4		8		-				-	
						4.3 1.0	0.1	349 75	27.4 28.1		7.6	22	.6		59.9 72.4		5.3	10.4 9.5		8		-			-	-	
					Surface	1.0	0.2	79	28.1	28.1	7.7		.5	13.5	72.2	72.3	5.2 5.3	9.6		8		-			-	-	
SR6	Rainy	Moderate	08:15	5.0	Middle	-	-	-	-	-	-			-	-	-	-	-	10.8	-	12	-	817897	814660	-		-
					Bottom	4.0 4.0	0.0	3	27.3 27.3	27.3	7.6 7.6		.5 .5	21.5	70.7 70.7	70.7	5.0 5.0	12.1 12.1		17 15		-			-	-	
					Surface	1.0	0.0	90	27.3	07.0	7.6	7.6 16	.5	16.5	70.6	70.6	5.1	4.2		11		-			-	-	_
						1.0 8.8	0.4 1.3	98 290	27.3 26.9	27.3	7.5	7.0	.4		70.6 64.8		5.1 4.6	4.2		10 9		-			-	-	
SR7	Rainy	Moderate	08:14	17.6	Middle	8.8	1.3	302	26.9	26.9	7.6	7.6	.3	19.3	64.8	64.8	4.6	3.9	4.3	10	10	-	823634	823760			-
					Bottom	16.6 16.6	1.0	284 298	24.7	24.7	7.6 7.6	7.6	.1	31.1	45.6 45.6	45.6	3.2 3.2	4.9		10 12		-			-		
					Surface	1.0	0.6	110	27.8	27.8	7.6	76 1	.4	11.4	65.4	65.4	4.8	6.9		6		-			-	-	
050	D-:	Mad	00.57	F.0		1.0	0.6	119	27.8		7.6	11	.4	-	65.4		4.8	6.9	0 -	5	_	-	000000	044504	-	-	
SR8	Rainy	Moderate	09:57	5.6	Middle	-	-	-	27.5	-	-			-	- 74.0	-	-	10.4	8.7	-	6	-	820399	811591	-		-
					Bottom	4.6 4.6	0.3	135 139	27.5 27.5	27.5	7.6 7.6		.8 .8	17.8	71.8 71.8	71.8	5.1 5.1	10.4		6		-			-	-	
A: Denth-Ave																											$\overline{}$

Water Qua	ity Monite	oring Resu	lts on	.	22 June 17	during Mid-		de																		
Monitoring	Weather	Sea	Sampling	Water	Sampling Dep	utla (ma)	Current Speed	Current	Water Te	mperature (°C)	рŀ	4	Salini	ity (ppt)		turation %)	Dissol Oxyg		Turbidity(N	TU) Susp	ended Solid (mg/L)	ds Total Alkalini (ppm)	Coordinate HK Grid	Coordinate HK Grid	Chromiun (µg/L)	m Nickel (µ
Station	Condition	Condition	Time	Depth (m)	Sampling Dep	uii (iii)	(m/s)	Direction	Value	Average	Value A	Average	Value	Average	Value	Average	Value	DA	Value	DA Va	ue DA	Value DA		(Easting)	Value D/	A Value
					Surface	1.0	0.9 1.0	209 212	27.9 27.9	27.9	7.5 7.5		14.9	14.9	67.7 67.6	67.7	4.9 4.9		12.1 12.3		2	68 68			<0.2	1.8
C1	Cloudy	Moderate	17:48	8.5	Middle	4.3	0.8	214	28.0	28.0	7.5	7.5	14.9	14.9	66.0	65.9	4.8	4.9	16.9	16.8	1 14	73 72	815608	804230	<0.2	1.8
0.	Cloudy	modorato		0.0		4.3 7.5	0.8	229 210	28.0 26.9		7.5 7.6		14.9 23.4		65.8 59.7		4.8		17.1 20.9	1	5	74 76	010000	00.1200	<0.2	1.8
					Bottom	7.5 1.0	0.6 1.6	215 177	26.9	26.9	7.6 7.4	7.6	23.4 9.4	23.4	59.7 59.9	59.7	4.2	4.2	9.2		1	77 63			<0.2	1.9
					Surface	1.0	1.7	184	28.3	28.3	7.4	7.4	9.4	9.4	59.9	59.9	4.4	3.9	9.2	1		64			<0.2	3.7
C2	Cloudy	Moderate	16:31	9.0	Middle	4.5 4.5	1.2	172 176	27.9 27.9	27.9	7.4		12.5	12.5	47.1 47.0	47.1	3.5	0.0	11.4		12	67 70 69	825679	806931	<0.2	3.5
					Bottom	8.0 8.0	0.5 0.5	172 178	27.1 27.1	27.1	7.5 7.5		18.2	18.2	42.1 42.1	42.1	3.0	3.0	21.6	1	2	73 75			<0.2 <0.2	3.1
					Surface	1.0	0.5	295	28.5	28.5	7.7	77	13.4	13.4	70.7	70.7	5.1		9.3	(67			<0.2	2.7
C3	Olevestv	Madanta	18:21	13.2	Middle	1.0 6.6	0.5	313 267	28.5 27.9	27.9	7.7		13.4 15.5	15.5	70.7 62.4	62.4	5.1 4.5	4.8	9.3 8.3		7	70 74 73	822117	817800	<0.2	2.6
03	Cloudy	Moderate	18:21	13.2		6.6 12.2	0.4	268 297	27.9 26.7		7.7		15.5 21.6		62.4 51.7		4.5 3.7		8.3 10.6		_ ′	74 75	822117	817800	<0.2	2.8
					Bottom	12.2	0.2	300	26.7	26.7	7.7	7.7	21.6	21.6	51.7	51.7	3.7	3.7	10.6			76			<0.2	2.6
					Surface	1.0	1.0	181 182	28.0 28.0	28.0	7.5 7.5	7.5	14.2	14.2	67.5 67.4	67.5	4.9	4.8	11.2	1	7	65 66			<0.2	2.0
IM1	Cloudy	Moderate	17:27	7.1	Middle	3.6 3.6	0.9 1.0	181 190	27.7 27.7	27.7	7.6 7.6		14.7 14.7	14.7	63.2 63.2	63.2	4.6 4.6	4.0	16.4 16.5		7 17	69 70 69	818370	806455	<0.2	0.2 2.1
					Bottom	6.1	0.5	190	27.3	27.3	7.6	7.6	20.7	20.7	61.5	61.5	4.4	4.4	19.3	1	7	72			<0.2	2.2
					Surface	6.1 1.0	0.6 1.2	205 215	27.3 28.0	28.0	7.6 7.5	7.5	20.7	13.4	61.5 65.6	65.6	4.4		19.2 10.6	1)	71 70 70			<0.2	2.0 2.1 2.1
						1.0 4.1	1.2	234 218	28.0 27.9		7.5 7.5		13.4		65.6 66.0		4.8	4.8	10.7 15.7)	72			<0.2	2.0
IM2	Cloudy	Moderate	17:19	8.1	Middle	4.1	1.2	235	27.9	27.9	7.5	7.5	14.3	14.3	66.0	66.0	4.8		15.4	15.0	11	73	818843	806202	<0.2	2.0
					Bottom	7.1 7.1	0.9 1.0	213 218	27.9	27.9	7.5 7.5	7.5	14.3 14.3	14.3	66.3 66.3	66.3	4.8	4.8	18.7	1	1	73 74			<0.2 <0.2	2.0
					Surface	1.0	1.1	211 217	28.0 28.0	28.0	7.5 7.5		13.8	13.8	67.1 67.1	67.1	4.9 4.9	-	11.9 12.2			67 67			<0.2	1.8
IM3	Cloudy	Moderate	17:14	7.4	Middle	3.7	1.1	210 210	27.9 27.9	27.9	7.5 7.5	7.5	14.1	14.1	65.8 65.8	65.8	4.8	4.9	17.5 17.6	166	11	71 71	819418	806023	-n 2	1.9
					Bottom	6.4	0.8	215	27.9	27.9	7.5	7.5	14.5	14.5	66.2	66.2	4.8	4.8	20.1	1	1	75			<0.2	2.1
						1.0	0.9 1.1	220 207	27.9 28.0		7.5 7.5		14.5		66.2 66.5		4.8		20.3 10.7		3	75 67			<0.2	2.2
					Surface	1.0 3.8	1.2	211 199	28.0 27.9	28.0	7.5 7.5	7.5	13.9 14.2	13.9	66.5 65.3	66.5	4.8 4.7	4.8	10.8 16.1	8		68			<0.2	2.4
IM4	Cloudy	Moderate	17:06	7.6	Middle	3.8	1.1	217	27.9	27.9	7.5	7.5	14.2	14.2	65.3	65.3	4.7		16.2	15.5) ''	75	819556	805040	<0.2	2.4
					Bottom	6.6	1.0	189 201	27.8 27.8	27.8	7.5 7.5		14.5 14.5	14.5	65.6 65.6	65.6	4.8	4.8	19.5 19.7	1	7	78 77			<0.2	2.2
					Surface	1.0	0.9	228 233	28.0 28.0	28.0	7.5 7.5		13.7 13.7	13.7	67.3 67.3	67.3	4.9 4.9		11.5	2		67 67			<0.2	2.3
IM5	Cloudy	Moderate	16:58	6.9	Middle	3.5	1.0	238	27.9	27.9	7.5	7.5	14.1	14.1	66.1	66.1	4.8	4.9	14.3	15.2	13	71 71	820575	804909	<0.2	2.6
	-				Bottom	3.5 5.9	1.1 0.9	254 248	27.9 27.9	27.9	7.5 7.5	7.5	14.1 14.5	14.5	66.1 65.9	66.0	4.8	4.8	14.5 19.8	1)	71 75			<0.2	2.3
						5.9 1.0	0.9	269 228	27.9 28.1		7.5 7.5	-	14.5		66.0 66.3		4.8	4.0	20.1 10.4)	75 68			<0.2	2.1
					Surface	1.0	0.6	233	28.0	28.1	7.5	7.5	14.3	14.3	64.4	65.4	4.7	4.6	10.3	- 8		67			<0.2	1.9
IM6	Cloudy	Moderate	16:50	6.5	Middle	3.3	0.7	227 227	27.5 27.5	27.5	7.5 7.5	7.5	17.6 17.6	17.6	62.1 62.1	62.1	4.4		12.6 12.5	13.0	13	69	821056	805841	<0.2	0.2 1.9
					Bottom	5.5 5.5	0.5 0.5	235 241	27.3 27.3	27.3	7.4		18.5 18.5	18.5	60.6 60.6	60.6	4.3	4.3	16.1 16.2)	75 75			<0.2	2.0
					Surface	1.0	1.1	213	27.9	28.0	7.3	7.2	13.6	13.6	59.9	60.0	4.4		10.9	1)	67	İ		<0.2	3.2
IM7	Cloudy	Moderate	16:30	7.8	Middle	1.0 3.9	1.2	226 223	28.0 27.2	27.2	7.3 7.4	7.4	13.5 16.9	16.9	60.0 52.9	53.0	4.4 3.8	4.1	10.8 15.3	15.0	9	67 74 73	821366	806847	<0.2	3.2
11417	Siduay	Moderate	10.00	7.0		3.9 6.8	1.0	233 230	27.2 27.5		7.4 7.3		16.9 15.6		53.0 65.0		3.8 4.7		15.4 18.6	1) °	74 77	021000	000047	<0.2	3.1
					Bottom	6.8	0.8	236	27.5	27.5	7.3	7.3	15.6	15.6	65.0	65.0	4.7	4.7	18.7	8		77	1		<0.2	3.3
					Surface	1.0	1.0	195 196	28.0 28.0	28.0	7.5 7.5	7.5	12.1 12.1	12.1	57.3 57.3	57.3	4.2	4.0	14.4	1)	65 66			<0.2	3.0 2.9
IM8	Cloudy	Moderate	16:52	7.8	Middle	3.9 3.9	0.7 0.7	221 237	27.7 27.7	27.7	7.5 7.5		13.9 13.9	13.9	52.0 51.9	52.0	3.8	4.0	17.4 17.4		12	72 71	821675	807825	<0.2	2.9
					Bottom	6.8	0.5	252	27.5	27.5	7.5	7.5	15.4	15.4	56.0	56.0	4.1	4.1	21.5	1	3	75			<0.2	3.0
A: Depth-Ave			1			6.8	0.5	271	27.5		7.5	-	15.4		56.0	•	4.1		21.5	1	2	74	1		<0.2	3.1

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

Water Quality Monitoring Results on 22 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Easting) Value 0.6 27.8 13 9 19.8 67 1.0 170 37 -02 3.3 Surface 27.8 7.5 50.9 0.7 176 1.0 27.8 7.5 13 0 50 Q 37 19.8 10 66 < 0.2 3.2 3.4 0.3 185 27.6 7.5 14.8 49.9 3.6 17.2 13 69 <0.2 2.5 IM9 17:05 6.8 Middle 7.5 14.8 49.9 13 822082 808821 2.7 Cloudy Moderate 70 3.4 0.3 195 27.6 7.5 147 49 9 3.6 17.1 13 68 <0.2 2.6 5.8 0.2 27.5 7.5 18.8 15 74 <0.2 2.4 Bottom 7.5 15.4 50.5 3.7 27.5 5.8 18.8 73 1.0 0.8 28.5 7.5 4.8 13 64 3.4 9.1 65.3 16.9 <0.2 Surface 28.5 7.5 9.1 65.3 7.5 65.3 3.2 1.0 0.9 152 28.5 9.1 4.8 16.9 14 66 < 0.2 4.8 67 3.3 0.5 3.6 132 7.5 10.6 4.7 16 < 0.2 28.3 64.2 19.1 IM10 Cloudy Moderate 17:17 7.2 Middle 28.3 7.5 10.6 64.2 19.4 16 67 822254 809849 3.2 47 67 3.4 3.6 0.6 144 28.3 7.5 10.6 64.2 191 15 <0.2 6.2 0.4 105 28.1 7.5 7.5 60.1 4.4 22.3 19 70 <0.2 2.9 11.7 Bottom 7.5 60.1 17 6.2 0.4 109 28.1 117 60.1 4.4 22.3 70 <0.2 2.8 0.5 28.2 7.5 4.4 13.9 10 69 <0.2 3.4 Surface 28.2 7.5 11.7 60.7 1.0 0.6 145 60.7 4.4 13.9 70 <0.2 3.4 28.2 9 4.2 27.7 4.0 14.9 11 72 2.9 103 7.6 < 0.2 0.3 14.4 54.4 821514 IM11 Cloudy Moderate 17:27 8.4 Middle 7.6 14.4 54.4 14.8 11 72 810526 3.1 73 42 0.3 108 27.7 7.6 14.4 54.4 4.0 14 9 11 <0.2 3.0 7.5 7.5 55.1 73 7.4 0.2 74 27.7 14.9 4.0 15.5 12 <0.2 2.8 Bottom 7.5 14.9 55.1 4.0 7.4 0.2 27.7 1/1 0 4.0 15.5 11 < 0.2 3.1 1.0 0.4 110 28.7 7.6 11.6 8 65 <0.2 3.4 9.2 70.6 5.2 Surface 28.7 7.6 9.2 70.6 1.0 0.4 118 28.7 7.6 9.2 70.6 5.2 4.7 11.6 66 <0.2 3.2 3.1 4.5 0.3 28.3 7.6 11.6 63.7 11.7 8 69 <0.2 IM12 Cloudy Moderate 17:34 9.0 Middle 28.3 7.6 11.6 63.6 12 0 69 821175 811519 3.2 70 <0.2 3.2 45 0.3 65 28.3 7.6 11.5 63.4 46 11 7 8 72 8.0 349 0.2 27.9 7.6 13.7 61.3 4.5 4.5 12 7 < 0.2 3.2 Bottom 13.7 8.0 0.2 321 27.9 7.6 13.7 61.3 12.7 71 < 0.2 3.2 1.0 0.2 63 29.2 64 <0.2 3.4 7.6 Surface 29.2 7.6 8.7 77.4 1.0 0.2 66 29.2 7.6 8.7 5.7 9.1 3 65 <0.2 3.3 5.7 17:56 821479 814184 SR2 Cloudy Moderate 4.8 Middle 3.3 67 3.8 0.2 68 28.7 5.3 99 <0.2 3.2 7.5 11.0 73.1 Bottom 7.5 11.0 73.1 5.3 7.5 3.8 0.2 72 73.1 5.3 < 0.2 28.7 11 0 9.9 1 68 3 1 1.0 1.1 186 28.2 7.5 9.2 61.3 4.5 14.5 10 7.5 9.2 61.3 Surface 1.0 1.2 193 28.2 7.5 9.2 61.3 4.5 14.5 10 4.0 0.7 27.6 7.5 17.3 50.2 9 7.5 14.2 50.2 10 822166 807562 SR3 16:46 7.9 Middle 27.6 Cloudy Moderate 4.0 7.5 14.2 50.2 3.7 17.3 0.7 221 27.6 9 6.9 0.5 236 3.5 27.5 7.5 15.2 48.7 20.0 9 15.2 3.5 7.5 48.7 Bottom 27.5 7.5 48.7 3.5 0.5 27.5 15.2 6.9 245 20.0 10 1.0 1.0 267 28.0 7.5 18.6 69.9 4.9 8.6 12 7.5 18.6 1.0 1.0 289 28.0 7.5 18.6 69 9 4.9 8.4 13 1.0 4.5 10.5 13 SR4A Moderate 18:10 9.0 Middle 27.6 7.5 19.4 63.7 817193 807795 Cloudy 4.5 1.0 288 27.6 19.4 10.6 8.0 0.9 268 27.2 7.6 22.8 4.9 13.4 14 69.5 27.2 22.8 69.7 Rottom 7.6 4.9 8.0 0.9 278 7.6 15 27.2 22.8 69.9 4.9 13.4 1.0 0.7 290 27.7 7.5 18.7 63.9 4.5 8.5 14 Surface 7.5 18.7 63.9 1.0 0.7 298 27.7 7.5 18.7 63.9 4.5 8.7 13 SR5A Cloudy Moderate 18:28 4.6 Middle 13 816598 810694 3.6 0.5 297 27.6 13 7.5 19.2 84.5 6.0 10.9 85.4 6.1 27.6 7.5 19.2 Bottom 3.6 0.6 314 27.6 7.5 19.2 86.2 6.1 10.8 13 1.0 0.2 228 7.5 14 28.0 16.5 71.5 5.1 7.6 Surface 28.0 7.5 16.5 71.5 7.5 71.5 7.7 1.0 0.2 231 28.0 16.5 5.1 15 18:52 4.2 Middle 817909 814659 SR6 Cloudy Moderate 3.2 0.2 250 28.0 4.9 9.6 14 7.5 16.7 68.0 Bottom 28.0 7.5 16.7 68.0 4.9 3.2 0.2 7.5 16.7 67.9 4.8 14 28.0 1.0 0.2 210 28.6 7.8 13.8 5.5 6.6 76.5 3 Surface 28.6 7.8 13.8 76.5 5.5 1.0 0.2 7.8 13.8 76.5 218 28.6 6.6 3 8.3 3.6 10.2 0.1 102 26.6 7.8 21.7 50.1 6 SR7 Cloudy Moderate 19:00 16.6 Middle 21.7 50.1 5 823636 823754 8.3 0.1 107 26.6 7.8 21.7 50.1 3.6 10.2 6 15.6 0.2 54 26.2 7.7 25.5 56.4 4.0 10.5 6 Bottom 26.2 7.7 25.5 56.4 4.0 15.6 0.2 55 26.2 77 25.5 56.4 4.0 10.5 1.0 0.2 89 7.6 8.9 10.1 28.9 75.8 5.6 5 Surface 28.9 7.6 8.9 75.8 75.8 7.6 8.9 5.6 1.0 0.2 92 28.9 10.1 6 5.6 SR8 Cloudy Moderate 17:44 5.2 Middle 10.0 820430 811596 4.2 0.1 49 28.9 7.6 10.1 76.7 5.6 9.8 6 10.1 76.7 28.9 7.6 5.6 4.2 0.1 49 28.9

DA: Depth-Average

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring Water Quality Monitoring Results on 22 June 17 during

Vater Qual	ity Monito	oring Resu	lts on		22 June 17	during Mid-E																			
Monitoring	Weather	Sea	Sampling	Water			Current Speed	Current	Water Te	emperature (°C)	рН	Salir	nity (ppt)	DO Sat		Dissolv Oxyge		oidity(N	U) Suspended (mg/L		otal Alkalinity (ppm)	Coordinate		Chromium (µg/L)	Nickel (
Station	Condition	Condition	Time	Depth (m)	Sampling Dept	h (m)	(m/s)	Direction	Value	Average	Value Average	Value	Average				DA Vali	ue	DA Value		/alue DA	HK Grid (Northing)	HK Grid (Easting)	Value DA	A Value
	İ				Surface	1.0 1.0	0.7 0.7	212 212	28.2 28.2	28.2	7.7 7.7	13.6 13.6		79.3 79.3	79.3	5.7 5.7	6.0		5 5		66 66			<0.2 <0.2	2.0
C1	Cloudy	Rough	10:58	8.8	Middle	4.4	1.0	210	27.2	27.3	7.6	21.5	21.5	59.7	59.7	4.2	5.0	3 1	1 2 5	5	72 71	815600	804252	<0.2	2.2
		· ·			Bottom	4.4 7.8	1.1 0.6	210 250	27.3 26.5	26.5	7.6	21.5 24.3	24.6	59.7 48.2	48.2	4.2 3.4	3.4	.3	5		71 75			<0.2	1.9
						7.8 1.0	0.6 1.7	250 178	26.5 28.7		7.6	24.8 7.1		48.2 63.7		3.4 4.7	19.		5 10		75 62			<0.2	2.1 3.6
					Surface	1.0	1.7	186 172	28.7	28.7	7.5	7.1	7.1	63.7 44.9	63.7	4.7	4.0	8	10		63			<0.2	3.8
C2	Cloudy	Moderate	13:16	10.7	Middle	5.4 9.7	1.3	172	27.7	27.7	7.5	13.0	13.0	44.9	44.9	3.3	14.	.2	5.9	9	66 66 75	825668	806932	<0.2	3.8
					Bottom	9.7	0.5	174 180	26.9	26.9	7.6 7.6	20.1	20.1	44.0 44.0	44.0	3.1	3.1	.7	9		74			<0.2	3.5
					Surface	1.0	0.4 0.5	109 116	27.2 27.2	27.2	7.8 7.8	18.7 18.7	18.7	60.6 60.6	60.6	4.3	4.2	5	8		66 67			<0.2 <0.2	2.7
C3	Cloudy	Moderate	11:10	12.6	Middle	6.3 6.3	0.4	19 20	26.9 26.9	26.9	7.8 7.8	19.5 19.5	19.5	57.1 57.1	57.1	4.1	9.8	8	0.3 7	°	71 72 71	822107	817786	<0.2	2.4
					Bottom	11.6 11.6	0.3	47 48	26.2 26.2	26.2	7.8 7.8	25.7 25.7	25.7	61.9 61.9	61.9	4.3	4.3		10		74 75			<0.2	2.3
					Surface	1.0	0.9 1.0	196 211	27.8 27.8	27.8	7.6 7.6	18.9 20.0	40.5	63.0 62.7	62.9	4.5	13.	.1	4 5		65 65			<0.2 <0.2	2.8
IM1	Cloudy	Rough	11:22	7.2	Middle	3.6 3.6	0.7	195 199	26.2	26.2	7.6 7.6 7.6	27.5 27.5	27.5	52.0 52.5	52.3	3.6	4.0 14.	.3	4.7 20	15	70 69	818345	806471	<0.2	1.4
					Bottom	6.2	0.3	268	26.1	26.2	7.6	29.4	20.4	61.6	61.9	4.2	4.2 16.	.8	19		72			<0.2	0.9
					Surface	6.2 1.0	0.3 1.0	288 193	26.2 28.3	28.3	7.6 7.6 7.6 7.6	29.3 12.5	12.5	62.2 74.6	74.5	4.3 5.4	16.	6	19 5		72 65			<0.2 <0.2	0.8 2.2
IM2	Cloudy	Rough	11:31	8.0	Middle	1.0 4.0	1.0 0.9	210 200	28.3 27.2	27.2	7.6	12.5 18.9	10.0	74.4 49.9	49.9	3.6	4.5	.5	6.3	11	66 69 69	818842	806182	<0.2	2.1
IIVIZ	Cloudy	nougii	11.31	6.0		4.0 7.0	1.0 0.2	219 165	27.1 26.3		7.6	18.9 28.0		49.8 43.4		3.6	17.	./	10		69 73	010042	000102	<0.2	2 2.3 2.1
					Bottom	7.0 1.0	0.2	165 203	26.3 28.5	26.3	7.6	27.9 13.0	28.0	43.4 71.2	43.4	3.0 5.1	3.0 24.	.6	17		73 66			<0.2	2.1
					Surface	1.0	0.9	218 214	28.5	28.5	7.6	13.0	13.0	70.8 55.0	71.0	5.1	4.6	9	7		65			<0.2	2.4
IM3	Cloudy	Rough	11:45	7.3	Middle	3.7	1.0	220	27.5	27.5	7.5	16.5	16.5	54.9	55.0	4.0	14.	.1	8	•	65	819416	806001	<0.2	2.5
					Bottom	6.3 6.3	0.5 0.5	211 212	26.9 26.9	26.9	7.6 7.6	21.7	21.7	47.2 47.2	47.2	3.3	3.3 23.	.4	9		77 77			<0.2	2.3
					Surface	1.0	0.8	181 182	28.4 28.4	28.4	7.6 7.6	12.5 12.5	12.5	76.7 76.4	76.6	5.6 5.5	5.1	3	5 7		65 65			<0.2 <0.2	2.7
IM4	Cloudy	Moderate	11:54	7.5	Middle	3.8	0.6	188 201	27.9 27.9	27.9	7.6 7.6	15.3 15.3	15.3	64.6 64.4	64.5	4.7 4.6	19.		7.1 7	10	70 69	819589	805055	<0.2	2 2.7
					Bottom	6.5 6.5	0.4	203 208	27.1 27.1	27.1	7.6 7.6	20.9	20.9	56.3 56.5	56.4	4.0	4.0 24.		18 16		72 72			<0.2	2.2
					Surface	1.0	0.9	198 213	28.4 28.4	28.4	7.6 7.6	12.1 12.1	12.1	77.1 77.0	77.1	5.6	6.0	0	6 8		65 66			<0.2	2.5 2.5
IM5	Cloudy	Moderate	12:03	6.9	Middle	3.5 3.5	1.0	208 219	27.8	27.8	7.5 7.5 7.5	14.8	14.8	65.5 65.5	65.5	4.7	5.2	3 1	3.2 7	8	69 69	820581	804940	<0.2	2.6
					Bottom	5.9	0.7	215	27.0	27.1	7.5	21.1	21.1	64.6	64.9	4.6	46 24.	.5	9		73			<0.2	2.5
					Surface	5.9 1.0	0.7	221 197	27.1 28.6	28.6	7.5 7.6 7.6 7.6	21.1 12.1	12.1	65.2 79.4	79.4	4.6 5.8	24.	3	9		72 66			<0.2	2.6
IM6	Cloudy	Moderate	12:15	6.4	Middle	1.0 3.2	0.4	206 220	28.6 27.5	27.5	7.5	12.1 15.6	15.6	79.3 65.0	65.0	4.7	5.2 6.3	.9	0.6	10	70 69	821069	805833	<0.2	2.8
	Oloddy	Modorato	12.10	0.1	Bottom	3.2 5.4	0.8	221 227	27.5 27.0	27.0	7.5	15.6 20.7	00.0	65.0 53.4	53.5	4.7 3.8	3.8	.8	19	-	72	02.000	000000	<0.2	1.8
						5.4 1.0	0.6	236 224	27.0 28.1		7.5	20.8		53.5 66.9		3.8 4.9	7.5		17 5		72 65			<0.2	1.9 2.4
					Surface	1.0	0.7	243 234	28.1 27.0	28.1	7.5	13.5 19.3	13.5	66.8 65.3	66.9	4.0	4.9 7.6	6	7		66			<0.2	2.6
IM7	Cloudy	Rough	12:25	7.6	Middle	3.8 6.6	0.7	235	27.0	27.0	7.5	19.3	19.3	69.4	67.4	5.0	16.	.2	6.1 21 20	15	74 72 74 77	821354	806847	<0.2	2.3
					Bottom	6.6	0.5	246	26.7 26.7	26.7	7.5 7.5 7.5	21.0	21.0	56.2 56.5	56.4	4.0	4.0 24.	.2	19		77			<0.2	2.2
					Surface	1.0 1.0	1.0 1.1	191 207	28.5 28.5	28.5	7.7 7.7	11.0	11.0	73.0 73.0	73.0	5.3 5.3	4.6	6	8 7		65 66			<0.2	2.5
IM8	Cloudy	Moderate	12:45	7.7	Middle	3.9 3.9	0.7 0.8	198 208	27.3 27.3	27.3	7.6 7.6	17.3 17.3	17.3	52.6 52.6	52.6	3.8	13.	.9	5.1 8	9	73 73	821686	807856	<0.2	2.3
					Bottom	6.7 6.7	0.5 0.5	235 238	27.1 27.1	27.1	7.6 7.6	19.4 19.4	10.4	50.7 50.7	50.7	2.6	3.6 22.	.9	11		77 76			<0.2 <0.2	2.3

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring Water Quality Monitoring Results on 22 lune 17 during

Water Qual Water Qual			lts on		22 June 17 d	uring Mid-El	nh tide															
	Weather	Sea	Sampling	Water	ZZ Gdrie 17 G	-	Current		Water Tempe	rature (°C)	рН	Sali	nity (ppt)	DO Saturation	Dissolved	Turbidity	NTU) S	suspended Solids Total Alkalin	Coordinate	Coordinate	Chromiun	m Nickel (μg/L)
Monitoring Station	Condition	Condition	Time	Depth (m)	Sampling Depth (111)	Speed (m/s)	Current Direction	<u> </u>	Average	Value Avera		Average	(%) Value Average	Oxygen Value DA	Value	DA	(mg/L) (ppm) Value DA Value DA	HK Grid	HK Grid	(μg/L) Value D	
					Surface	1.0	0.9	162	28.5	28.5	7.7	10.7	10.7	75.3	5.5	8.5		5 65			<0.2	2.5
IM9	Cloudy	Moderate	12:36	6.8	Middle	1.0 3.4	0.9	163 161	28.5 27.1	27.1	7.7	10.7	19.0	75.3 49.1	5.5 3.5 4.5	8.5 18.8	16.6	5 66 19 10 69 69	822092	808806	<0.2	2.6
livis	Cloudy	Woderate	12.30	0.0		3.4 5.8	0.6	175 162	27.1 27.0		7.7	19.0		49.1	3.5	18.8 22.4	10.0	18 70 05 5 72	022032	800000	<0.2	1.9
					Bottom	5.8 1.0	0.3 1.0	162 137	27.0 28.5	27.0	7.7	19.8	19.8	48.4 48.4 75.1	3.5 3.5 5.5	22.4 8.4		7 73 5 66			<0.2 <0.2	2.6
					Surface	1.0	1.0	138	28.5	28.5	7.7	11.0	11.0	75.1	5.5	8.4		5 67			<0.2	2.6
IM10	Cloudy	Moderate	12:29	7.8	Middle	3.9 3.9	0.7	126 133	27.1 27.1	27.1	7.7 7.7	19.0	19.0	49.1 49.1	3.5	17.2 17.1	16.3	5 6 74 72 7 75 72	822233	809819	<0.2 <0.2	2.9
					Bottom	6.8	0.5 0.5	113 123	26.9 26.9	26.9	7.7	20.1	20.1	46.7 46.7	3.3 3.3	23.4 23.4		7 76 6 75			<0.2 <0.2	2.6
					Surface	1.0	0.7	121 130	28.3 28.3	28.3	7.6	11.9	11.9	70.2 70.2	5.1	7.4 7.4		4 65 5 66			<0.2 <0.2	3.4
IM11	Cloudy	Moderate	12:18	8.7	Middle	4.4 4.4	0.6	119 119	28.0 28.0	28.0	7.6 7.6	12.5 12.5	12.5	64.2 64.2	4.7	8.5 8.5	14.2	5 7 69 70 5 7 70	821500	810525	<0.2	0.2 2.9 2.9
					Bottom	7.7	0.5	96 99	27.3 27.3	27.3	7.7 7.1	40.4	18.1	48.7 48.7 48.7	3.5 3.5 3.5	26.8 26.8		11 73 11 75			<0.2	2.0
					Surface	1.0	8.0	106	28.4	28.4	7.6	12.3	12.3	68.9	5.0	7.8		7 66			<0.2	2.6
IM12	Cloudy	Moderate	12:07	9.2	Middle	1.0 4.6	0.8 0.7	108 98	28.4 27.8	27.8	7.6	14.3	14.3	57.0	5.0 4.1 4.6	7.8 10.6	12.1	5 67 6 68 70	821165	811503	<0.2	2.6
	Cidddy	modorato	12.07	0.2	Bottom	4.6 8.2	0.7	101 75	27.8 27.5	27.5	7.6	14.3	17.0	57.0 57.0 57.3 57.3	4.1 4.1	10.7 17.8	-	5 70 76 6 74	021100	011000	<0.2	2.6
						8.2 1.0	0.3	81 75	27.5 28.3		7.8	17.0		57.3	4.1 5.0	17.8 9.0		5 73 4 65		1	<0.2	2.5
					Surface	1.0	0.7	77	28.3	28.3	7.7 7.1	12.4	12.4	69.4 69.4	5.0 5.0	9.0		5 66			<0.2	2.5
SR2	Cloudy	Moderate	11:40	5.1	Middle	4.1	-	- 45	27.3	-	-	-	-		-	12.1	10.6	5 - 69	821448	814166	- <0.2	2.5
					Bottom	4.1	0.4	46	27.3	27.3	7.7 7.7	17.5	17.5	58.1 58.1	4.2 4.2	12.1		4 73			<0.2	2.6
					Surface	1.0	1.1 1.2	176 189	27.8 27.8	27.8	7.6 7.6	15.2	15.2	59.2 59.2	4.3 4.3 3.9	8.4 8.4		5 -			-	-
SR3	Cloudy	Moderate	12:49	7.9	Middle	4.0	0.8	196 210	27.2 27.2	27.2	7.6	18.1	18.1	48.8 48.8	3.5 3.5	13.5 13.5	14.5	15 14	822143	807551		
					Bottom	6.9 6.9	0.5 0.5	217 221	27.1 27.1	27.1	7.6 7.6	18.7	18.7	48.0 48.0	3.4 3.4	21.5 21.5		18 -			-	-
					Surface	1.0	0.2	51 54	28.2 28.2	28.2	7.6 7.6	14.2	14.3	70.7 70.4 70.6	5.1 5.1	7.1 7.2		7 - 5 -			-	-
SR4A	Cloudy	Moderate	10:32	9.2	Middle	4.6 4.6	0.2	39 40	26.3 26.3	26.3	7.6 7.6	20.4	28.4	59.7 59.7	4.1 4.6	17.2 17.3	15.0	17 16 14 -	817191	807795		
					Bottom	8.2	0.1	52	26.1	26.1	7.6	29.4	29.4	55.5	3.6	20.4		18 -			-	-
					Surface	1.0	0.1	53 5	26.1 27.6	27.6	7.5	16.2		70.5	5.1	20.5 8.5		18 - 8 -		1	-	+
SR5A	Cloudy	Moderate	10:13	5.5	Middle	1.0	0.1	5	27.6	-	7.5	16.2	10.2	70.3	5.1	8.6	11.1	9	816600	810706	-	-
SHOA	Cloudy	Woderate	10.13	3.3		4.5	0.0	78	27.1		7.4	21.1		73.2	5.2	13.5	-	9 -	810000	810700	-	-
					Bottom	4.5 1.0	0.0	79 81	27.2 27.6	27.2	7.4	21.1	21.1	74.1	5.2 5.2 5.2	13.6 7.5		9 -			-	-
					Surface	1.0	0.2	81	27.6	27.6	7.5	14.6	14.6	71.3 71.2	5.2	7.6		5 -			-	-
SR6	Cloudy	Moderate	09:46	4.6	Middle	-	-	-	-	-	-	-	-	-	-	-	14.7	6	817887	814682	-	
					Bottom	3.6 3.6	0.1	76 76	27.3 27.4	27.4	7.4 7.4	17.1	17.1	51.9 51.9	3.7 3.7	22.0 21.7		6 -			-	-
					Surface	1.0	0.4	40 43	27.2 27.2	27.2	7.7	17.4	17.4	73.9 73.9 73.9	5.3	8.1 8.1		5 -			-	-
SR7	Cloudy	Moderate	10:15	16.8	Middle	8.4 8.4	0.3	-	27.2 27.2	27.2	7.7 7.7	17.4	17.4	61.4 61.2	4.4 4.4	6.4 6.4	6.9	5 5	823619	823750		
					Bottom	15.8 15.8	0.6	45 47	25.6 25.6	25.6	7.7 7.7		27.2	55.1 55.1 55.1	3.9 3.9	6.2		6 -			-	-
					Surface	1.0	0.3	292	28.1	28.1	7.7	14.5	14.5	67.7	4.9	12.0		9 -			-	
SR8	Cloudy	Moderate	11:55	5.5	Middle	1.0	0.3	315	28.1	-	7.7	14.5		67.7	4.9	12.0	12.6	8 - 9	820409	811574	-	
0110	Siduay	.woderate	11.55	5.5		4.5	0.1	1	27.9	27.9	7.7 7.3	14.9	14.9	67.3 67.3	4.9 4.9	13.2	.2.0	8 -	020409	011074		-
DA: Depth-Aver	and				Bottom	4.5	0.1	1	27.9	21.9	7.7	14.9	14.9	67.3	4.9	13.2		9 -		<u> </u>	-	

Water Quality Monitoring Results on 24 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Oxygen (ppm) Speed (ma/L) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Easting) Value DA 0.8 28.3 9.7 69 1.0 64.0 46 2.5 Surface 28.3 13.7 64.0 7.7 13.7 1.0 0.8 20 28.3 63.0 4.6 9.6 69 < 0.2 2.5 3.7 0.6 26 28.1 7.7 14.2 61.0 44 14.1 10 73 <0.2 2.4 C1 19:53 7.3 Middle 7.7 14.2 61.0 13.3 815617 804246 2.5 Cloudy Moderate 73 3.7 0.6 28.1 77 14.2 60.9 4.4 13.9 73 <0.2 2.6 6.3 0.4 29 27.5 59.8 4.3 16.1 76 <0.2 2.5 7.5 18.7 59.9 4.3 Rottom 27.5 0.4 16.1 1.0 1.9 28.7 7.4 4.4 12 61 5.3 58.6 9.6 <0.2 2.8 Surface 28.7 7.4 5.3 58.6 5.3 58.6 4.4 2.6 1.0 2.0 13 28.7 7.4 9.6 12 62 < 0.2 4.0 5.1 1.5 11 7.4 12.3 3.6 14.3 69 < 0.2 2.6 28.0 48.5 Cloudy C2 Moderate 18:41 10.2 Middle 28.0 7.4 12.3 48.5 147 12 67 825679 806959 2.6 48.5 67 2.5 5.1 1.6 11 28.0 7.4 12.3 3.6 14.3 12 -0.2 9.2 0.7 27.7 7.5 7.5 50.5 3.7 20.2 13 72 <0.2 2.6 Bottom 7.5 14.1 50.5 9.2 0.8 11 27.7 14.1 20.2 12 73 <0.2 2.6 0.5 28.4 4.4 12.8 12 2.7 7.6 71 <0.2 60.8 Surface 28 4 7.6 13.6 60.8 1.0 0.5 13.6 4.4 12.9 13 70 2.6 28.4 < 0.2 6.2 4.0 14.5 12 74 29 2.8 0.0 28.0 15.7 55.7 < 0.2 15.7 822106 817814 C3 Cloudy Moderate 20:29 12.3 Middle 28.0 7.7 55.7 14.0 12 2.7 77 73 6.2 0.0 31 28.0 15.7 55.7 4.0 14.5 13 <0.2 2.6 56.9 56.9 11.3 0.2 21 27.4 7.7 20.1 4.0 14.5 76 77 <0.2 2.8 Bottom 7.7 20.1 56.9 4.0 7.7 113 0.2 22 27.4 20.1 4.0 14.5 11 < 0.2 2.8 1.0 1.0 18 28.2 7.4 13.7 7.5 8 72 <0.2 2.6 62.5 4.5 13.7 62.5 Surface 28.2 74 1.0 1.0 28.2 7.4 13.7 62.5 4.5 7.4 71 <0.2 2.7 4.5 10 3.6 0.8 28.0 7.5 14.0 61.4 4.4 10.5 73 <0.2 2.8 IM1 Cloudy Moderate 19:38 7.1 Middle 28.0 7.5 14.0 61.4 10.8 818363 806453 2.8 14 0 74 <0.2 2.9 3.6 0.8 17 28.0 7.5 61.4 44 10.5 10 76 6.1 0.6 19 27.3 7.6 21.0 59.7 4.2 14.4 11 <0.2 2.7 Bottom 27.3 21.0 59.8 4.2 77 6.1 0.7 10 27.3 7.6 20 Q 50.8 12 14.4 11 < 0.2 2.8 1.0 0.9 24 28.1 8.5 12.8 4.5 <0.2 Surface 28.1 7.4 12.8 61.7 1.0 0.9 24 28.1 7.4 12.8 61.7 4.5 8.5 11 71 <0.2 2.9 45 4.5 9.9 74 2.8 3.9 0.9 23 28.1 7.4 13.0 62.5 11 <0.2 818839 IM2 Cloudy Moderate 19:32 7.8 Middle 28.1 7.4 13.0 62.6 10 806180 2.9 3.9 0.9 23 7.4 13.0 62.6 4.6 10.2 75 <0.2 28 1 q 77 6.8 10 29 0.8 25 28 1 74 13 1 58.7 42 13.4 -02 Bottom 7.4 13.1 58.8 4.2 58 Q 10 78 6.8 0.8 7.4 4.2 13.4 < 0.2 26 28.1 13.1 2.9 12.2 67.2 1.0 1.1 29 28.2 7.4 12.2 4.9 10.3 8 70 <0.2 2.7 7.4 67.4 Surface 1.0 1.2 28.2 7.4 12.2 67.5 4.9 10.3 70 <0.2 3.0 3.8 1.0 13.4 74 3.1 28.1 62.8 4.6 < 0.2 8 12.5 62.9 819427 806004 IM3 19:25 7.5 7.4 13 2 3.0 Cloudy Moderate Middle 28.1 7.4 12.5 62.9 4.6 74 <0.2 2.9 3.8 1.0 29 28.1 13.5 10 77 6.5 0.9 26 3.0 28.1 7.4 12.6 55.5 4.0 16.0 8 < 0.2 4.0 7.4 12.6 55.6 Bottom 28.1 7.4 55.6 4.0 12.6 <0.2 6.5 1.0 28.1 15.9 3.0 2.8 1.0 0.8 12 27.9 7.4 13.9 64.8 4.7 9.7 71 <0.2 Surface 13.9 65.0 1.0 0.9 13 27.9 7.4 13.9 65.1 4.7 9.7 4 71 < 0.2 75 76 27.9 60.4 4.4 10.2 <0.2 3.2 8 IM4 19:18 7.3 Middle 27.9 7.4 14.0 60.5 75 819558 805033 3.0 Cloudy Moderate 3.7 0.8 27.9 7.4 14.0 4.4 10.2 6.3 8.0 15 27.8 7.4 14.1 54.9 4.0 14.4 10 77 <0.2 3.0 27.8 7.4 14.1 54.9 4.0 Rottom 12 77 6.3 0.8 7.4 14.1 4.0 3.0 27.8 54.9 14.3 < 0.2 1.0 1.0 25 27.7 7.4 14.9 66.3 4.8 8.6 10 70 < 0.2 3.2 Surface 7.4 14.9 70 1.0 1.0 27 27.7 7.4 149 66.8 4.8 8.6 10 < 0.2 3.1 71 72 3.1 3.3 0.9 30 27.7 7.4 15.0 59.8 4.3 10.9 17 <0.2 IM5 Cloudy Moderate 19:12 6.5 Middle 7.4 15.0 59.9 10.3 820550 804915 3.1 3.3 0.9 27.7 7.4 15.0 60.0 4.4 10.9 17 <0.2 5.5 30 27.7 0.8 7.4 15.1 15.1 55.5 4.0 11.3 16 <0.2 3.0 7.4 55.6 4.0 Bottom 27.7 5.5 7.4 15.1 4.0 11.3 77 < 0.2 3.2 0.9 27.7 16 1.0 0.9 24 7.3 12 70 3.0 27.7 14.2 60.7 4.4 10.3 < 0.2 14.2 Surface 27.7 7.3 60.7 14.2 60.7 7.3 69 1.0 1.0 25 27.7 44 10.3 11 <0.2 3.2 8.0 24 27.6 7.3 7.3 4.0 11.9 11 72 73 <0.2 3.3 19:05 Middle 15.3 55.2 821059 805832 IM6 Cloudy Moderate 6.4 3.2 0.9 25 27.6 15.3 4.0 11.9 11 <0.2 5.4 0.7 27.6 12.2 11 75 <0.2 3.3 7.4 15.4 54.4 4.0 Bottom 27.6 7.4 15.4 54.4 4.0 5.4 0.7 26 7.4 15.4 54.4 4.0 12.1 11 75 3.4 27.6 1.0 1.4 23 28.5 7.3 10.4 4.7 8.8 70 < 0.2 3.9 64.5 10 Surface 28.5 7.3 10.4 64.5 7.3 1.0 1.5 10.4 4.7 69 4.0 23 28.5 64.5 8.8 9 < 0.2 3.7 12 42 10.6 11 74 3.8 27 28 1 7.3 13.2 58.0 -n 2 IM7 Cloudy Moderate 18:56 7.3 Middle 13.2 58.0 11.2 10 73 821367 806850 3.9 58.0 73 3.7 3.7 1.3 27 28.1 7.3 13.2 4.2 10.6 10 <0.2 6.3 1.0 28 27.7 7.3 15.5 14.3 10 77 <0.2 3.8 Bottom 27.7 7.3 15.5 59.9 4.3 6.3 1.1 27.7 7.3 15.4 60.0 4.3 14.3 10 77 <0.2 3.9 1.0 1.3 293 28.7 66 3.1 7.4 10.5 4.1 9.4 9 <0.2 Surface 28.7 7.4 10.5 56.7 56.7 7.4 4.1 65 3.0 1.0 1.4 308 28.7 10.5 9.4 9 <0.2 12 3.4 1.0 24 7.4 11.1 56.2 4.1 13.3 69 < 0.2 2.8 28.5 7.4 11.1 56.2 IM8 Cloudy Moderate 19:03 6.7 Middle 28.5 12 69 821707 807840 3.0 7.4 56.2 68 <0.2 3.0 3.4 1.1 24 28.5 11.1 4.1 13.3 11 7.5 7.5 5.7 0.8 29 28.4 12.3 59.5 4.3 19.5 16 72 <0.2 3.0 7.5 12.3 Bottom 28.4 59.5 4.3 5.7 0.8 31 28.4 3.1

DA: Depth-Averaged

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

Water Quality Monitoring Results on 24 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Easting) Value 12 299 29.0 66 1.0 44 8.6 -02 Surface 29.0 74 59.7 7.2 1.0 1.2 302 29.0 7.4 50.7 11 8.6 a 65 < 0.2 2.8 3.5 0.9 310 28.5 7.4 11.9 53.5 3.9 12.3 12 69 <0.2 2.9 IM9 19:13 6.9 Middle 7.4 11.9 53.5 13.2 12 69 822112 808813 2.8 Cloudy Moderate 3.5 1.0 332 28.5 7.4 11 9 E2 E 3.9 12.3 14 70 <0.2 2.9 5.9 8.0 310 28.3 7.6 4.2 18.8 14 72 <0.2 2.7 Bottom 7.6 12.5 57.8 4.2 28.3 28.3 18.8 15 1.0 1.0 7.5 4.3 11 67 28.4 11.2 59.3 9.3 <0.2 2.6 Surface 28.4 7.5 11.2 59.3 7.5 59.3 12 12 68 2.6 1.0 1.1 295 28.4 11.2 4.3 9.3 < 0.2 4.3 0.7 70 3.6 280 7.5 12.2 57.5 4.2 11.2 < 0.2 2.8 28.3 IM10 Cloudy Moderate 19:27 7.2 Middle 28.3 7.5 12.2 57.5 12.4 12 70 822243 809844 2.7 57.5 70 2.9 3.6 0.7 301 28.3 7.5 122 42 11.2 12 -0.2 6.2 0.5 285 28.2 7.5 7.5 13.0 59.9 4.4 16.8 12 72 <0.2 2.6 Bottom 7.5 13.0 59.9 6.2 0.5 304 28.2 13.0 59.9 4.4 16.8 12 72 <0.2 2.6 0.8 28.7 7.5 4.2 8.2 10 69 <0.2 2.8 Surface 28.7 7.5 10.6 57.9 1.0 0.8 285 10.6 57.9 4.2 8.2 12 69 <0.2 2.7 28.7 4.0 10.9 12 72 0.7 279 28.5 7.5 4.1 < 0.2 2.8 12.0 55.9 821492 IM11 Cloudy Moderate 19:28 7.9 Middle 28.5 7.5 12.0 55.9 12.1 12 810543 2.7 2.7 4.0 0.7 282 28.5 7.5 12.0 55.9 41 10.9 13 71 <0.2 7.5 6.9 0.3 305 28.4 13.0 56.7 4.1 17.3 14 74 <0.2 2.6 Bottom 7.5 13.0 56.7 56.7 6.9 0.3 332 28.4 4.1 13 73 < 0.2 2.6 1.0 0.8 322 28.9 7.5 9.4 4.5 9.6 11 66 <0.2 2.6 61.3 61.3 Surface 28.9 7.5 9.4 1.0 0.8 326 28.9 7.5 9.4 61.2 4.5 9.7 13 67 <0.2 2.7 4.4 12 3.7 0.5 341 28.7 7.5 11.4 59.0 4.3 12.1 70 <0.2 2.6 11.4 IM12 Cloudy Moderate 19:34 7.3 Middle 28.7 7.5 59.0 13 70 821181 811531 2.7 59.0 71 <0.2 2.7 3.7 0.5 342 28.7 7.5 11 4 4.3 12.1 13 6.3 2.7 73 0.5 334 28.6 7.5 12.4 59 9 4.3 15.5 13 < 0.2 Bottom 12.4 59.9 4.3 7.5 6.3 0.5 351 28.6 12.4 50 Q 13 15.5 13 72 < 0.2 2.7 0.4 279 28.7 4.7 8.9 <0.2 2.5 10.0 63.8 Surface 28.7 7.5 10.0 63.8 1.0 0.5 300 28.7 7.5 10.0 63.8 4.7 8.9 10 69 <0.2 2.6 4.7 821478 814156 SR2 Cloudy Moderate 19:56 4.9 Middle 12 2.5 72 3.9 0.2 283 28.4 124 15.2 14 <0.2 2.4 7.6 62 9 46 Bottom 28.4 7.6 12.4 62.9 4.6 3.9 0.2 290 7.6 12.4 62.9 4.6 15.2 12 73 -n 2 28.4 2.4 1.0 1.9 16 28.3 7.5 10.0 53.9 4.0 9.6 10 7.5 10.0 53.9 Surface 1.0 1.9 28.3 7.5 10.0 53.9 4.0 9.6 10 4.0 4.6 1.3 7.5 13.3 10 28.2 53.4 3.9 18:57 7.5 11.8 53.4 822160 807560 SR3 9.1 Middle 11 Cloudy Moderate 28.2 4.6 7.5 11.8 53.4 3.9 1.3 28.2 13.3 9 8.1 0.8 18 12.7 11 28.1 7.5 55.5 4.1 19.5 12.7 7.5 55.5 4.1 Bottom 28.1 7.5 55.5 4.1 0.8 12.7 8.1 28.1 19.5 13 1.0 1.0 284 28.1 7.6 18.4 65.2 4.6 8.3 8 18.4 65.2 1.0 1.1 290 28.1 7.6 18.4 65.2 4.6 8.3 8 4.6 28.0 63.8 4.5 12.4 SR4A Moderate 20:17 7.8 Middle 28.0 7.6 18.8 63.8 12.7 817184 807826 Cloudy 3.9 1.0 28.0 18.8 12.3 6.8 0.7 284 27.7 7.6 20.0 4.4 17.4 8 61.7 27 7 61.7 Rottom 7.6 20.0 4.4 0.8 17.3 10 6.8 302 27.7 7.6 20.0 4.4 1.0 0.6 322 28.2 7.5 16.6 65.3 4.7 7.2 8 Surface 7.5 16.6 65.3 7 1.0 0.6 344 28.2 7.5 16.6 65.2 4.6 6.9 SR5A Cloudy Moderate 20:38 4.5 Middle 816574 810696 3.5 0.3 319 27.4 7.6 20.5 60.3 4.3 13.5 8 4.3 27 4 7.6 20.5 60.4 Bottom 326 27.4 7.6 20.5 60.4 4.3 13.5 3.5 0.3 1.0 0.1 253 28.2 7.5 15.6 69.8 5.0 11.2 15.7 69.8 Surface 28.2 7.5 7.5 5.0 1.0 0.2 272 28.2 15.7 69.8 11.3 7 21:08 Middle 817909 814655 SR6 Cloudy Moderate 3.6 2.6 0.1 251 28.2 13.4 7.5 15.9 70.5 5.0 8 Bottom 28.2 7.5 15.9 70.5 5.0 2.6 0.1 251 7.5 15.9 70.5 5.0 13.5 8 28.2 1.0 0.1 28.5 7.7 14.2 66.2 4.8 8.1 5 Surface 28.5 7.7 14.2 66.2 7.7 1.0 0.1 267 142 4.8 28.5 66.2 8.1 4 12.1 8.2 77 0.0 268 27.4 18.5 51.3 37 8 SR7 Cloudy Moderate 21:14 16.4 Middle 18.5 51.3 11.9 823652 823722 7.7 3.7 8.2 0.0 278 27.4 18.5 51.3 12.1 15.4 0.3 269 26.8 7.7 21.3 50.4 3.6 15.5 21.3 Bottom 26.8 7.7 50.4 3.6 15.4 0.3 270 26.8 77 21.3 50.4 3.6 15.5 1.0 0.2 355 7.6 10.5 10 28.7 66.7 4.9 9.5 Surface 28.7 7.6 10.5 66.7 7.6 10.5 66.7 4.9 1.0 0.2 327 28.7 9.5 11 4.9 SR8 Cloudy Moderate 19:44 4.5 Middle 10 820401 811585 68.7 3.5 0.2 339 28.9 7.6 11.5 5.0 18.6 10 11.5 68.8 28.9 7.6 5.0 3.5 0.2 346

DA: Depth-Average

Water Quality Monitoring Results on 24 June 17 during Mid-Ebb tide DO Saturation Dissolved Suspended Solids otal Alkalinity Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Oxygen (ppm) Speed (ma/L) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Easting) Value nα 28.4 1/1/8 65 1 0 215 52 6.7 <0.2 22 Surface 1.0 1.0 227 28.4 7.5 14.8 72.5 5.2 6.8 4 66 <0.2 2.0 4.2 1.0 224 27.8 7.5 17.2 60.7 4.3 12.2 6 70 <0.2 2.1 C1 7.5 17.2 13.2 815610 804251 Cloudy Moderate 12:30 8.3 Middle 27.8 60.7 70 2.0 4.2 1.0 228 27.8 7.5 17.2 60.7 4.3 12.2 69 <0.2 2.2 6 7.3 0.7 239 26.4 7.6 27.2 59.6 4.1 20.5 10 76 <0.2 1.8 Bottom 7.6 27.2 59.6 7.3 0.7 251 26.4 7.6 27.2 59.6 4.1 20.5 9 75 -n 2 1 0 182 1.4 28.5 7.4 4.3 8.4 12 62 <0.2 2.3 28.5 7.4 6.5 57.2 Surface 6.5 57.2 4.3 12 2.4 1.0 1.4 196 28.5 8.4 63 <0.2 67 0.8 193 28.1 7.5 11.5 51.4 3.8 12.2 12 <0.2 2.4 825667 C2 Cloudy Moderate 14:50 11.3 Middle 28.1 7.5 11.5 51.4 12 67 806927 2.4 2.5 5.7 0.9 7.5 3.8 12.2 13 67 206 51.4 <0.2 28 1 10.3 0.5 215 27.6 7.5 7.5 14.3 46.5 3.4 20.1 12 70 <0.2 2.4 Bottom 7.5 14.3 46.5 3.4 10.3 0.6 218 27.6 1/1/3 46.5 20.1 11 71 < 0.2 2.4 1.0 0.3 102 27.3 7.8 18.3 59.3 4.2 9.3 9 65 <0.2 1.9 Surface 27.3 7.8 18.3 59.3 0.4 7.8 18.3 59.3 4.2 <0.2 1.8 27.3 9.3 64 5.9 0.2 27.2 4.0 10.9 69 <0.2 2.0 19.1 8 7.7 19.1 822111 817787 C3 12:20 27.2 56.1 12 1 2.0 Rainy Moderate 11.8 Middle 2.0 5.9 7.7 19.1 56.1 4.0 71 <0.2 0.3 64 27.2 10.9 10 10.8 0.5 60 7.7 21.0 76 -02 2.1 27.0 3.8 16.0 8 53.4 Bottom 27.0 7.7 21.0 53.4 3.8 3.8 77 0.5 7.7 53.4 10.8 62 27.0 16.0 -n 2 1 0 176 1.0 1.1 28.2 13.6 68.0 4.9 9.2 66 <0.2 2.6 Surface 13.6 2.7 1.0 1.2 190 28.2 7.5 13.6 67.9 4.9 9.3 6 65 <0.2 4.2 3.5 0.6 26.8 7.6 24.2 49.4 3.5 12.3 72 < 0.2 2.5 12:57 818348 11/11 Cloudy Moderate 7.0 Middle 7.6 24.2 49.4 806462 25 26.8 3.5 72 2.7 0.6 179 26.8 7.6 24.2 49.4 3.5 12.4 <0.2 8 6.0 210 73 2.1 0.2 26.4 7.6 27.1 52.7 3.7 21.2 16 < 0.2 Bottom 26.4 7.6 27.1 52.8 3.7 6.0 0.2 230 7.6 27.1 52.8 3.7 15 74 2.2 26.4 21.2 < 0.2 1.0 1.2 210 28.1 7.8 14.0 64.7 47 8.5 10 65 <0.2 2.7 Surface 14.0 64.7 1.0 1.3 230 28.1 7.8 14.0 64.7 4.7 8.5 10 66 <0.2 2.5 4.0 1.2 213 27.8 7.5 15.8 60.8 4.4 11.9 9 73 <0.2 2.4 13:07 7.5 15.8 60.8 13.7 818854 806178 2.5 IM2 Cloudy Moderate 8.0 Middle 27.8 72 1.3 228 27.8 7.5 60.7 4.4 11.8 73 <0.2 2.3 7.0 0.8 200 27.4 7.6 19.8 20.7 9 76 <0.2 2.4 60.1 4.3 Bottom 27 4 7.6 19.8 60.2 4.3 7.6 19.8 60.2 4.3 21.0 76 2.5 7.0 0.8 27.4 10 < 0.2 1.0 204 1.0 65 2.8 28.6 7.5 11.7 75.4 5.5 9.3 6 < 0.2 Surface 28.6 7.5 11.7 75.4 75.3 1.0 1.0 206 28.6 7.5 11 7 5.5 9.5 8 66 <0.2 2.8 4.8 4.0 1.0 210 27.5 7.6 18.2 56.0 4.0 12.9 73 74 <0.2 2.6 IM3 Cloudy Moderate 13:17 7.9 Middle 7.6 18.2 56.0 72 819421 806005 4.0 1.0 216 27.5 7.6 18.2 56.0 4.0 13.1 < 0.2 6.9 19.8 76 <0.2 2.5 0.6 27.4 7.6 19.4 58.1 4.1 9 Rottom 27.4 7.6 19.4 58.1 4.1 4.1 6.9 0.7 209 27.4 19.4 < 0.2 1.0 0.6 193 28.1 7.6 4.9 19.5 10 67 15.0 67.5 < 0.2 2.4 Surface 28.1 7.6 15.0 67.5 15.0 2.7 1.0 0.6 211 28 1 7.6 67.5 49 19.4 11 66 <0.2 3.6 0.6 200 28.0 7.6 15.5 64.9 4.7 19.7 10 72 71 <0.2 2.5 IM4 Moderate 13:26 7.2 Middle 15.5 64.9 20.2 819568 805037 2.5 Cloudy 3.6 0.6 210 28.0 7.6 15.5 64.8 4.7 19.5 12 <0.2 6.2 0.7 215 27.8 7.6 18.5 4.7 21.5 13 76 <0.2 2.3 66.5 Bottom 27.8 7.6 18.5 66.5 4.7 7.6 18.5 4.7 21.4 75 6.2 0.8 215 27.8 <0.2 2.5 1.0 201 1.3 28.5 7.5 12.1 5.2 10.8 11 67 < 0.2 2.6 71.8 71.8 Surface 28.5 7.5 12.1 71.8 7.5 12.1 5.2 10.8 67 <0.2 2.4 1.0 1.3 28.5 10 10 201 5.0 3.4 12 72 72 2.4 207 28.3 7.5 13.2 66.9 4.8 12.6 < 0.2 IM5 Moderate 13:38 6.8 Middle 28.3 7.5 13.2 66.9 13.0 72 820547 804912 2.4 Cloudy 7.5 13.2 66.9 <0.2 3.4 1.3 223 28.3 4.8 12.6 9 5.8 1.0 212 27.3 7.5 20.3 62.7 4.4 15.7 77 <0.2 2.4 Bottom 7.5 20.3 62.9 4.5 5.8 1.0 216 27.4 7.5 63.0 45 15.7 9 76 <0.2 2.4 1.0 228 66 1.0 28.2 7.5 14.0 4.9 16.1 8 < 0.2 2.4 67.6 7.5 14.0 67.6 Surface 28.2 1.0 7.5 14.0 67.6 66 2.4 1.1 235 28.2 4.9 16.2 8 <0.2 2.4 3.2 0.9 240 27.6 7.4 16.9 54.8 3.9 18.5 12 69 < 0.2 7.4 54.8 821067 IM6 Cloudy Moderate 13:50 6.4 Middle 27.6 16.9 18.2 10 70 805840 2.4 3.2 0.9 7.4 12 70 <0.2 2.4 252 27.6 16.9 54.8 3.9 18.5 5.4 0.7 241 27.2 7.5 19.7 58.7 4.2 19.8 10 75 <0.2 2.2 Bottom 27.2 7.5 19.7 58.8 4.2 5.4 0.7 259 27.2 7.5 197 58.9 4.2 19.8 10 75 < 0.2 24 1.0 1.4 196 28.4 7.3 9.6 63.9 10.0 8 69 <0.2 2.7 Surface 28.4 7.3 9.6 63.9 1.0 1.5 196 28.4 7.3 9.6 63.9 4.7 10.1 68 <0.2 2.7 4.4 3.9 1.0 211 27.8 14.0 4.0 14.2 7 73 2.6 7.4 54.6 <0.2 14:06 7.4 14.0 54.6 15.2 821358 806816 2.6 IM7 Cloudy Moderate 7.7 Middle 27.8 73 73 2.6 14.0 54.6 4.0 < 0.2 3.9 1.1 228 27.8 7.4 14.2 8 6.7 0.8 222 27.5 7.4 16.0 59.9 4.3 21.4 8 76 <0.2 2.5 16.0 4.3 6.7 0.9 226 27.5 7.4 16.0 59 9 4.3 21.5 8 76 -02 26 1.0 1.1 191 2.7 28.7 7.6 4.8 9.6 66 <0.2 Surface 28.7 7.6 11.1 65.5 1.0 194 28.7 7.6 4.8 9.6 8 65 <0.2 2.7 2.9 2.2 3.9 0.9 203 28.2 7.6 14.1 57.4 4.2 10.2 6 71 <0.2 807832 821677 IM8 Cloudy Moderate 14.23 77 Middle 28.2 7.6 14.1 57.4 11 2.5 3.9 0.9 210 7.6 14.1 4.2 10.2 71 <0.2 28.2 57.4 18 76 6.7 0.5 227 27.7 7.6 16.5 54.8 3.9 17.5 < 0.2 Bottom 27.7 7.6 16.5 54.8 3.9 77 6.7 0.5 249 27.7 7.6 16.5 54.8 39 17.5 19 -02 2.0

DA: Depth-Averaged

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring Water Quality Monitoring Results on 24 lune 17 during

Water Qual Water Qual	•	-	lts on		24 June 17 durin	g Mid-Ebb tide													
	Weather	Sea	Sampling	Water		Current		Water Temperature (°C	pH :	Salinity (ppt)	DO Saturation	Dissolved	Turbidity(ded Solids Total Alkalinity	Coordinate	Coordinate	Chromium Nicl	ckel (µg/L)
Monitoring Station	Condition	Condition	Time	Depth (m)	Sampling Depth (m)	Speed (m/s)	Current Direction	Value Average	 	lue Average	(%) Value Average	Oxygen Value DA	Value	DA Value	DA Value DA	HK Grid (Northing)	HK Grid (Easting) Val	(μg/L) Nici	
						.0 0.9	155	28.7 28.7		0.8	65.4 65.4	4.8	8.9	5	65		<0	0.2 2.9	
IM9	Cloudy	Moderate	14:14	6.6	Middle 3	.0 0.9	156 155	27.9 27.9	7.6	0.8	65.4 53.9 53.9	4.8 3.9 4.4	10.3	11.4	9 72 71	822079	808804 <0	0.2 2.5	2.5
	,				Rottom	.3 0.6 .6 0.3	163 146	27.6	7.6	7.0	53.9 55.9 55.9	3.9 4.0 4.0	10.3 14.9	5 16	71 75		<0	0.2 2.8	1.8
					Surface 1	.6 0.3 .0 1.1	150 133	27.6	7.6	0.7	67.5 67.5	4.0	14.9 9.4	16 5	74 65		<0	0.2 2.9	1.7
IM10	Cloudy	Moderate	14:03	7.0	1	.0 1.2	141 127	28.7 28.2 28.2 28.2	7.6	1.0	55.7	4.9 4.0 4.5	9.4 11.0	12.8	66 73 71	822240		0.2 2.6	.8
IIVITO	Cloudy	Woderate	14.03	7.0	3	.5 1.0 .0 0.5	131 107	28.2	7.6	1.0	55.7	3.9	11.0 17.9	5 9	72 75	022240	<0	0.2 <0.2 2.9	.9
					BOLLOIII	.0 0.5	115 122	27.6	7.6	7.2	54.5	3.9 3.9 4.4	17.9 8.1	8	75 66		<0	0.2 2.9	.9
					Surface 1	.0 0.9	131	28.2	7.6	3.1	60.3	4.4 3.8 <u>4.1</u>	8.1	4 6	65		<0	0.2 2.6	1.6
IM11	Rainy	Moderate	13:49	8.2	Middle	.1 0.6	114	27.7	7.7	3.6	53.5	3.8	19.4	16.8	71	821503	<0).2 <0.2	1.8
					Bottom	.2 0.5 .2 0.5	104 110	27.7 27.7 27.7	7.7	7.1 7.1	59.7 59.7	4.3 4.3	22.9 22.9	6	74 75		<0		.2
					Surface	.0 0.9 .0 0.9	117 117	28.5 28.5 28.5	7.6	11.6	66.3 66.3	4.8	8.6 8.6	5 5	65 65		<0	0.2 2.7	7
IM12	Rainy	Moderate	13:35	8.3	Middle	.2 0.8	98 105	28.0 28.0 28.0	7.7	3.5 3.5	59.3 59.3	4.3	12.5 12.5	15.5	10 71 70	821179	811515	0.2 <0.2 2.7	1.6
						.3 0.5 .3 0.5	88 88	27.8 27.8 27.8		3.5 3.5	57.8 57.8	4.1 4.1	25.4 25.4	20 20	74 75			0.2 2.3	
						.0 0.7 .0 0.7	71 75	28.3 28.3 28.3		11.4	65.6 65.6	4.8	9.0 9.0	5 4	67 68			0.2 2.8	
SR2	Rainy	Moderate	13:07	4.4	Middle		-			-		4.8	-	13.8	4 - 70	821469	814160	<0.2	2.9
						.4 0.5 .4 0.5	44 48	27.7 27.7 27.7		7.1 7.1	64.8 64.8	4.6 4.6	18.6 18.6	4	71 73			0.2 2.9	
					Surface 1	.0 0.7 .0 0.7	203 204	28.7 28.7 28.7	7.6 7.6 1	0.4	63.9 63.9	4.7	11.7	6					-
SR3	Cloudy	Moderate	14:31	8.0	Middlo	.0 0.4	219	27.8 27.8 27.8	7.6	1.8	53.2 53.2 53.2	3.9 4.3	19.9	25.5 7	11	822166			-
					Bottom 7	.0 0.4 .0 0.2	307 329	27.6 27.6 27.6	7.6	3.3	54.6 54.6 54.6	3.9	44.8	20					-
					Surface 1	.0 0.1	206	28.1	7.5	3.9	69.0	4.9	8.3	7 7					-
SR4A	Rainy	Calm	12:10	9.4	Middle	.0 0.1	211 255	28.1 26.5 26.5 26.5	7.6 7.6 2	5.9 10.9 5.4 26.4	69.0 69.0 53.7 53.7	4.9 3.7	8.3 15.1	14.2	 	817191	807801		-
					Bottom 8	.7 0.1 .4 0.1	277 215	26.2	7.6 7.6 2	3.4	61.5	3.7 4.2 4.3	15.1 19.1	10					-
					Surface 1	.0 0.1	226 31	28.5	7.5	5.7	74.3	5.3	19.0 8.8	17 6	-		-		
SR5A	Rainy	Calm	11:53	5.3	1	.0 0.1	32	28.5	7.5	5.7	74.1	5.3	8.9	15.2	6 -	816598	810687		-
SHOA	namy	Gaiiii	11.55	3.3		.3 0.1	283	- 27.2	7.4 7.4 2	2.1	72.4 72.8	5.1	21.7	5		010390	l		-
						.3 0.1	307 97	27.3 27.3 28.4 20.4	7.4 7.4 2	2.4	73.1	5.1 5.1	21.4 13.0	6 5	-	1	-		_
					Surrace 1	.0 0.2	97	28.4		5.2 15.2	67.9 68.1	4.9	13.3	5	-		-		
SR6	Rainy	Calm	11:28	5.0	Middle	.0 0.1	70			0.8	80.3	-	17.8	15.5	5	817908	814662		-
					Bottom	.0 0.1	73	27.0	7.4 2).8	80.3	5.7	17.8	5	-		-	-	-
					Surface	.0 0.8	52 52	28.6 28.6 28.6	7.8	1.9	74.6 74.6 74.6	5.3 5.3 4.8	6.1	3	-		-		-
SR7	Cloudy	Moderate	11:21	16.7	Middle	.4 0.6 .4 0.6	20 20	27.2 27.2 27.2	7.7	9.4	60.5 60.5	4.3	6.7	6.9	5	823654	823738	<u>-</u>	-
					Bottom 1	5.7 0.7 5.7 0.7	43 45	27.0 27.0 27.0	7.7	0.6 0.6	61.9 61.9	4.4 4.4	8.0 8.0	6			-		
						.0 0.1	250 261	28.5 28.5		l.1 l.1	67.0 67.0	4.8	11.8 11.8	9	-			H	-
SR8	Rainy	Moderate	13:26	5.5	Middle		-			-		- 4.8	-	16.5	10	820397	811577		-
						.5 0.1 .5 0.1	289 298	28.2 28.2 28.2		5.3	66.9 67.1 67.0	4.8 4.8	21.2	10 10	-				
DA: Depth-Aver	anad		1	<u> </u>		0.1		1	1 1		1 1			1 10		1	1		-

Water Quality Monitoring Results on 27 June					27 June 17	during Mid-F																10-E4-1T-1-1 ** * * *				
Monitoring	Weather	Sea	Sampling	Water	Sampling Depth	(m)	Current Speed	Current	Water Te	mperature (°C)	p⊦	1	Salini	ity (ppt)	DO Sat		Dissol Oxyg	ved en T	urbidity(N		ed Solids g/L)	Total Alkalinity (ppm)	Coordinate HK Grid	Coordinate HK Grid	Chromiun (µg/L)	m Nickel (μg.
Station	Condition	Condition	Time	Depth (m)	Sampling Depth	(111)	(m/s)	Direction	Value	Average	Value A	verage \	/alue	Average	Value /	Average			Value	A Value	DA	Value DA	(Northing)	(Easting)	Value D	A Value D
					Surface	1.0	0.8	41 42	28.2 28.2	28.2	7.7		12.0 12.0	12.0	77.9 77.8	77.9	5.7 5.7		8.7 8.8	9	-	73 73			<0.2 <0.2	1.7
C1	Cloudy	Moderate	07:58	8.8	Middle	4.4	0.9	53	26.1	26.1	7.8	7.8	27.5	27.5	52.3	52.3	3.6		9.5	1.0	9	75 ₇₅	815604	804238	<0.2	1.6
	,					4.4 7.8	0.9	54 60	26.1 25.9		7.8		27.5 29.0		52.3 68.6	69.0	3.6 4.7		9.6	8 9		75 77			<0.2	1.7
					Bottom	7.8 1.0	0.7 0.5	61 353	25.9 29.0	25.9	7.7		28.9 11.1	29.0	69.3 65.7		4.8	4.8	14.8	8		77 70			<0.2	1.7 2.5
					Surface	1.0	0.5	358	29.0	29.0	7.7	1.1	11.1	11.1	65.7	65.7	4.8		10.1	5		71			<0.2	2.3
C2	Cloudy	Moderate	09:28	13.1	Middle	6.6 6.6	0.3	59 59	28.6 28.6	28.6	7.7		13.8	13.8	61.2 61.2	61.2	4.4		12.5 12.5	3.5 6	9	73 74 73	825685	806955	<0.2	2.4
					Bottom	12.1 12.1	0.4 0.4	283 284	28.3 28.3	28.3	7.7		16.9 16.9	16.9	67.0 67.0	67.0	4.8 4.8	4.8	17.9 17.9	14 15	-	75 76			<0.2 <0.2	2.2
					Surface	1.0	0.7	227	28.7	28.7	7.8	7.8	12.1	12.1	72.5	72.5	5.3		7.7	3		70			<0.2	2.3
C3	Cloudy	Moderate	07:37	13.4	Middle	1.0 6.7	0.7	237 250	28.7 26.2	26.2	7.8 7.9	7.0	12.1 24.7	24.7	72.5 56.0	56.0	5.3 3.9	4.6	7.7 9.7	1.1	6	69 75 74	822122	817784	<0.2	2.4
00	Oloddy	Wioderate	07.07	10.4		6.7 12.4	0.7	273 303	26.2 25.3		7.9 7.9		24.7 29.0		56.0 60.4		3.9 4.2		9.7 15.8	5 8	ľ	74 77	022122	017704	<0.2	1.8
					Bottom	12.4	0.4	322	25.3	25.3	7.9	7.9	29.0	29.0	60.4	60.4	4.2	4.2	15.8	7		77			<0.2	1.8
					Surface	1.0	0.6 0.6	15 15	28.4 28.4	28.4	7.8	7.0	12.4 12.4	12.4	78.8 78.7	78.8	5.7 5.7	5.6	8.0 8.1	6		74 73			<0.2	1.9 2.0
IM1	Cloudy	Moderate	08:13	8.9	Middle	4.5 4.5	0.6	3	28.0 28.0	28.0	7.8	7.8	15.5 15.5	15.5	75.6 75.7	75.7	5.4 5.4		12.5 12.6	3.4 8	8	76 75	818359	806477	<0.2	2.1 2.1
					Bottom	7.9 7.9	0.4	3	27.9 27.9	27.9	7.8 7.8	7.0	16.7 16.7	16.7	80.1 80.4	80.3	E 7	6.7	19.5 19.8	12 12		77 77			<0.2	2.2
					Surface	1.0	0.7	7	28.7	28.7	7.8	7.8	10.9	10.9	78.6	78.5	5.7		7.8	6		74			<0.2	2.5
IM2	Cloudy	Moderate	08:18	9.5	Middle	1.0 4.8	0.7 0.6	7	28.7 27.9	27.9	7.8 7.8	7.0	10.9 15.9	15.7	78.4 72.4	72.4	5.7 5.2	5.5	7.9 12.6	2.0	7	73 75 75	818847	806176	<0.2	2.6
11412	Oloddy	Wioderate	00.10	3.3		4.8 8.5	0.6	1 19	27.9 27.8		7.8 7.8		15.5 17.7		72.4 79.8		5.2 5.7		12.8 15.4	6 8	- '	75 77	010047	000170	<0.2	2.6
					Bottom	8.5	0.5	19	27.9	27.9	7.8	7.8	17.7	17.7	79.8	79.8	5.7		15.2	7		77			<0.2	2.3
					Surface	1.0	0.7 0.7	359 330	28.3 28.3	28.3	7.7	7.7	12.8 12.8	12.8	75.2 75.2	75.2	5.5 5.5	4.9	9.1 8.9	6		73 73			<0.2 <0.2	2.5
IM3	Cloudy	Moderate	08:25	9.7	Middle	4.9 4.9	0.5	11	27.4 27.4	27.4	7.8		20.2	20.2	60.7 60.8	60.8	4.3		10.6 10.7	0.3 6	7	75 76 75	819409	806006	<0.2	2.7
					Bottom	8.7 8.7	0.6	40 42	27.4 27.4	27.4	7.8 7.8	7.8	20.0	20.0	64.6 64.8	64.7	4.6 4.6		11.1	8		77 77			<0.2	2.4
					Surface	1.0	0.6	358	28.3	28.3	7.8	7.0	13.3	13.3	76.8	76.8	5.6		8.8	4		73			<0.2	2.4
IM4	Cloudy	Moderate	08:35	9.0	Middle	1.0 4.5	0.6	329 19	28.3 27.8	27.8	7.8 7.8	7.0	13.3 16.2	16.2	76.7 70.4	70.4	5.6 5.1	5.4	9.4	0.2	8	73 75 75	819579	805032	<0.2	2.2
IIVI -1	Cloudy	Woderate	00.33	5.0	***	4.5 8.0	0.6	19 13	27.8 26.7		7.8 7.8		16.2 24.7		70.3 54.5		5.1 3.8		9.4 12.2	9	ľ	76 77	019379	803032	<0.2	2.0
					Bottom	8.0	0.5	13	26.7	26.7	7.8	7.8	24.6	24.7	54.6	54.6	3.8	3.8	12.3	11		77			<0.2	1.9
					Surface	1.0	0.8	1 1	28.0 28.1	28.1	7.8		14.7 14.7	14.7	74.6 74.5	74.6	5.4		9.8	8		73 73			<0.2	2.2
IM5	Cloudy	Moderate	08:45	8.6	Middle	4.3 4.3	0.5	6	27.6 27.6	27.6	7.8		18.0 18.0	18.0	67.9 67.9	67.9	4.8		10.3	2.6	11	75 75	820553	804935	<0.2 <0	1.8
					Bottom	7.6 7.6	0.5	18	26.7	26.7	7.8 7.8	7.0	25.2 25.2	25.2	73.5 74.0	73.8	5.1	5.2	17.7 18.0	11		77			<0.2	1.8
					Surface	1.0	0.7	19	28.5	28.5	7.8	7.0	12.8	12.8	78.6	78.6	5.7		9.3	9		74			<0.2	2.2
IM6	Oleverto	Madasata	08:58	7.9	Middle	1.0 4.0	0.8	19 20	28.5 28.0	28.0	7.8 7.8		12.8 16.0	16.0	78.6 70.4	70.4	5.7 5.0		9.4	10	11	73 75 75	821045	805845	<0.2	2.1
IIVIO	Cloudy	Moderate	06.56	7.9		4.0 6.9	0.5 0.5	21 56	28.0 27.7		7.8 7.8		16.0 21.7		70.4 76.9		5.0 5.4		16.5 20.1	11] ''	75 77	021045	003043	<0.2	2.2
					Bottom	6.9	0.5	56	27.7	27.7	7.8	7.8	21.6	21.7	77.5	77.2	5.4		20.7	12		77			<0.2	2.1
					Surface	1.0	0.9	33 35	28.2 28.2	28.2	7.7	7.7	14.2 14.2	14.2	72.2 72.1	72.2	5.2	5.1	10.4	10	1	73 73			<0.2	2.2
IM7	Cloudy	Moderate	09:06	9.0	Middle	4.5 4.5	0.7 0.7	35 38	27.8 27.8	27.8	7.7 7.8	7.8	16.7 16.7	16.7	69.0 69.1	69.1	4.9 4.9		17.6 17.7	6.5	13	75 75	821352	806834	<0.2	0.2 2.0 2.
					Bottom	8.0	0.4	59	27.7	27.7	7.0	70	18.3	18.3	75.8 76.2	76.0	F 4	E 4	21.3	16	1	77			<0.2	1.8
					Surface	8.0 1.0	0.4	61 32	27.7 29.2	29.2	7.8	7.8	18.2 11.1		71.2	71.2	5.1		21.3 11.2	9	1	69		1	<0.2 <0.2	1.9 2.5
						1.0 4.7	0.3	33 26	29.2 28.8		7.8 7.9		11.1 12.6		71.2 69.0		5.1 5.0		11.2	10	┨	71 73	00170	00700-	<0.2	2.6
IM8	Cloudy	Moderate	09:04	9.3	Middle	4.7	0.3	27	28.8	28.8	7.9	7.9	12.6	12.6	69.0	69.0	5.0		13.2	3.7	11	74	821701	807823	<0.2	2.5
DA: Depth-Ave					Bottom	8.3 8.3	0.2	63 63	28.6	28.6	7.9 7.9		16.1 16.1	16.1	73.0 73.0	73.0	5.2 5.2		16.8	15	1	75 74			<0.2	2.3

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

May Cloudy Moderate 08.55 8.5 Surface 1.0 0.2 4.9 28.0 28.0 7.8 7.8 11.4 11.4 68.3 68.3 4.9 10.0 0.9 7.7 7.8 11.4 11.4 68.3 68.3 4.9 10.0 0.9 7.7 7.8 7.8 11.4 11.4 68.3 68.3 4.9 4.0 10.0 0.7 7.8	Coordinate HK Grid (Northing) 3 822228	rid HK Grid	(μg/L)
Station County Moderate OBSS Station County Moderate OBSS OBS	A (Northing) 3 822081		
Mederate			, value DA value DA
Moderate OB-55 B.5 Middle Moderate OB-55 B.5 Middle Middl			<0.2 2.8
Moderate Moderate		808814	<0.2 2.8 2.8 2.8 2.8 2.8 2.8 2.8 2.8 2.8 2
M10 Cloudy Moderate Moder	3 822228	000014	<0.2 2.6 <0.2 2.7
Moderate Moderate	3 822228		<0.2 2.8
Mild Cloudy Moderate Mode	3 822228		<0.2 2.5 <0.2 2.5
Bottom 7.2		809857	
Militer Mili			<0.2 2.4
Middle	+		<0.2 2.2 <0.2 2.4
Mint Cloudy Moderate No. Moderate No. Moderate No.			<0.2 2.5 <0.2 2.5 2.4
Midel Surface 1.0	4 821512	12 810557	<0.2 0.2 2.4
Mide Moderate Mo			<0.2 <0.2 2.2 2.4
Middle			<0.2 2.6 <0.2 2.6
Bottom 8.5 0.0 175 27.3 27.3 7.9 7.9 19.8 19.8 59.3 59.3 4.2 4.2 15.2 110 76 76 76 76 76 76 77 7.8 7.9 7.9 7.9 19.8	4 821146	16 811536	<0.2 _0.2 2.4 2.3
SR2 Cloudy Moderate 08:02 4.8 Surface 1.0			<0.2
SR2 Cloudy Moderate 08:02 4.8 Middle 1.0 0.2 194 28.2 26.2 7.8 7.8 14.4 14.4 63.9 63.9 63.3 4.6 4.6 10.2 7.1 11 2.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1			<0.2 2.0 <0.2 2.5
SR2 Cloudy Moderate 08:02 4.8 Middle 1			<0.2 2.6
SR3 Cloudy Moderate 09:08 9.7 Surface 1.0 0.5 330 29.0 29.0 7.8 7.8 11.6 11.6 71.9 71.9 5.2 10.1 8 8 - 1 11.8 11.8 11.6 71.9 71.9 5.2 10.1 8 8 - 1 11.8 11.8 11.8 11.8 11.8 11.8	4 821478	78 814182	<0.2
SR3 Cloudy Moderate 09:08 9.7 Surface 1.0 0.5 359 29.0 29.0 7.8 7.8 11.6 11.6 71.9 71.9 5.2 71.9 5.2 71.9 11.8 8 7.8 11.6 11.6 71.9 71.9 71.9 5.2 71.9 5.2 71.9 71.9 71.9 5.2 71.9 71.9 71.9 71.9 71.9 71.9 71.9 71.9			<0.2 1.8 <0.2 1.8
SR3 Cloudy Moderate 09:08 9.7 Middle 4.9 0.5 34 28.6 28.6 7.8 7.8 11.6 71.9 5.2 5.1 10.1 8 7.8 7.8 1.0 69.2 69.3 4.9 11.8 12.4 7 8 - 1.0 69.2 69.3 69.3 69.3 69.3 69.3 69.3 69.3 69.3			
SR4A Cloudy Moderate 07:33 9.2 Middle 4.9 0.5 34 28.6 28.0 7.8 7.8 7.8 7.8 7.8 7.8 7.8 7.8 7.8 7.8	000405		
Bottom 8.7 0.3 59 28.4 28.4 7.8 7.8 17.5 17.5 70.8 70.8 5.0 5.0 15.2 8	822135	807566	
SR4A Cloudy Moderate 07:33 9.2 Middle 1.0 0.1 65 28.2 26.2 7.7 1.7 14.1 14.1 76.9 76.9 75.3 75.3 75.3 75.3 75.3 75.3 75.3 10.8 10.8 10.8 10.8 10.8 10.8 10.8 10.8			
SR4A Cloudy Moderate 07:33 9.2 Middle 4.6 0.1 258 28.1 28.1 7.7 7.7 16.0 16.0 75.3 75.3 5.4 75.3 10.8 10.8 10.8 10.8 10.8 10.8 10.8 10.8			
9.2 0.1 255 29.0 7.7 17.0 70.4 5.7 12.1 11	817184	807795	
8.2 0.1 257 28.0 7.7 17.0 79.7 5.7 12.1 11 -	+		
Surface 1.0 0.1 312 28.2 26.2 7.7 1.7 16.4 16.4 73.5 73.5 5.2 5.2 11.3 7 -			
SHSA Cloudy Moderate 07:16 5.8 Milddle 12:2 - 10 -	816591	810688	
Bottom 4.8 0.1 321 28.0 28.0 7.7 7.7 17.1 17.1 78.1 78.3 5.6 5.6 13.2 12 - 4.8 0.1 349 28.0 28.0 28.0 7.7 7.7 17.1 17.1 17.1 78.1 78.3 5.6 5.6 13.2 12 - 12 12 12 12 12 12 12 12 12 12 12 12 12			
Surface 1.0 0.2 221 28.3 7.7 7.7 12.6 12.6 74.5 74.5 5.4 8.0 7 -			
SR6 Cloudy Moderate 06:47 4.7 Middle	817910	10 814649	
3.7 0.1 254 28.2 000 7.7 77 13.7 400 77.5 770 5.6 70 8.8 10			
BOUGH 3.7 0.1 277 28.2 26.2 7.7 1.7 13.9 13.6 77.7 17.0 5.6 9.0 8.8 8 -			
Surface 1.0 0.1 19 28.4 7.8 7.8 13.8 13.8 70.4 70.4 5.1 5.0 6.9 4 -			
SR7 Cloudy Moderate 07:07 16.8 Middle 8.4 0.1 324 27.0 27.0 7.9 7.9 22.2 22.2 67.5 67.5 67.5 4.9 8.0 9.9 4 6 -	823645	45 823751	
Bottom 15.8 1.0 - 25.0 25.0 7.9 7.9 29.9 29.9 51.2 51.2 3.6 3.6 14.7 7 - 15.8 1.0 - 25.0 25.0 7.9 7.9 29.9 29.9 51.2 51.2 3.6 3.6 14.7 9			
Surface 1.0 0.1 50 28.4 29.4 7.8 7.9 13.6 12.6 67.6 67.6 4.9 14.1 5 -	+		
1.0 02 51 28.4 7.8 13.6 67.6 4.9 4.9 14.1 4	820406		
SH8 Cloudy Moderate U8:19 5.2 Milddle		06 811592	
Bottom 4.2 0.2 242 27.8 27.8 7.8 7.8 7.8 17.4 17.4 63.0 63.0 63.0 4.5 4.5 18.8 4	020400		

Water Qua		oring Resu	lts on		27 June 17 during Mid																		
Monitoring	Weather	Sea	Sampling	Water	Occasion Death (as)	Current Speed	Current	Water Tem	perature (°C)	рН	Salir	ity (ppt)	DO Saturation (%)	Dissolved Oxygen	Turbidity	NTU)	Suspende (mg/	d Solids Total Alkalinit (ppm)	Coordinate HK Grid	Coordinate HK Grid	Chromii (µg/L		kel (μg/L)
Station	Condition	Condition	Time	Depth (m)	Sampling Depth (m)	(m/s)	Direction	Value	Average	Value Average	Value	Average	Value Average	Value DA	Value	DA	Value	DA Value DA	(Northing)	(Easting)		DA Valu	ue DA
					Surface 1.0 1.0	0.4	255 263	28.4 28.4	28.4	7.9 7.9	15.6 15.6	15.6	73.2 72.9 73.1	5.2 5.2	9.1 8.9		12 11	72 72			<0.2 <0.2	1.6	
C1	Cloudy	Moderate	14:51	9.2	Middle 4.6	0.1	232	25.8	25.8	7.8	27.5	27.5	53.7	3.7	11.3	12.8	10	14 75 75	815604	804238	<0.2	.0.2 1.7	7 11
0.	Cidady	Modorato		0.2	4.6	0.1	252 166	25.8 25.4		7.8	27.5 30.8		53.8	3.8 4.8	11.4 17.9	12.0	12 18	75 76	0.0001	00.200	<0.2	1.7	7
					Bottom 8.2	0.2	175 52	25.4 29.2	25.4	7.8	30.7		75.2	5.2 5.0 4.9	18.0 9.5	-	18 7	77 69			<0.2	0.7 2.7	7
					Surface 1.0	0.2	56	29.2	29.2	7.7	11.1	11.1	68.5	4.9	9.5	ļ	9	69			<0.2	2.7	7
C2	Cloudy	Moderate	13:53	13.6	Middle 6.8 6.8	0.1	185 186	28.8 28.8	28.8	7.7 7.7	13.3		63.1 63.1	4.5	10.9 10.9	12.3	11 10	10 72 72	825685	806955	<0.2	<0.2 2.5	5 2.7
					Bottom 12.6 12.6	0.1	198 208	28.4 28.4	28.4	7.7 7.7	20.7		65.6 65.6	4.6	16.5 16.5	F	11 11	75 76			<0.2	2.9	7
					Surface 1.0 1.0	0.5 0.5	96 99	28.9 28.9	28.9	7.8 7.8	14.8 14.8	14.8	72.6 72.6	5.2	7.3 7.3		4 6	70 71			<0.2	2.4	,
СЗ	Cloudy	Moderate	15:29	12.9	Middle 6.5	0.1	162	26.5	26.5	7.9	24.0	24.0	61.5	4.3	6.3	6.7	6	6 75 74	822122	817784	<0.2	-0.2 1.7	7 10
					6.5 Bottom	0.1	164 139	26.5 25.8	25.8	7.9 7.9 7.9 7.9	24.0 27.2	27.2	61.5 63.4 63.4 63.4	4.3 4.4 4.4	6.3 6.5	l	6	77			<0.2	1.8	2
					11.9 Surface 1.0	0.8	143 217	25.8 28.6	28.6	7.9 7.8 7.8 7.8	27.2 13.8		83.6 83.6 83.6	6.0	6.5 7.9		6 7	78 72			<0.2	1.2	
					1.0	0.1	225 97	28.6 26.6		7.8	13.8 25.7		83.6	6.0 4.1 5.1	7.8 14.3	ŀ	8	72 75 75			<0.2	1.7	
IM1	Cloudy	Moderate	14:34	8.5	Middle 4.3 7.5	0.2	97 80	26.8	26.7	7.8	25.4	25.6	58.9	4.1	14.2	13.5	7	9 75 75 77 75	818359	806477	<0.2	<0.2 2.0) '/
					7.5	0.1	82	25.9 25.9	25.9	7.8 7.8	28.6 28.6	28.6	60.8 61.1 61.0	4.2 4.2	18.2	-	12	77			<0.2	1.4	1
					Surface 1.0 1.0	0.1	22 23	27.9 27.9	27.9	7.8 7.8	17.7 17.7	17.7	68.6 68.5	4.9 4.9 4.7	9.8 9.8		8	72 72			<0.2 <0.2	1.8	3
IM2	Cloudy	Moderate	14:27	9.4	Middle 4.7 4.7	0.2	40 43	27.0 27.0	27.0	7.8 7.8	22.3	22.3	63.7 63.7	4.5	13.1 13.3	13.4	10	9 75 75	818847	806176	<0.2	<0.2	1.5
					Bottom 8.4 8.4	0.1	109 117	26.0 26.0	26.0	7.8 7.8	28.1	28.1	77.1 78.0 77.6	5.3 5.4 5.4	17.2 17.2		11 13	77 77			<0.2	1.2	2
					Surface 1.0 1.0	0.2	349 321	28.3	28.3	7.8 7.8	13.7	13.7	74.8 73.8 74.3	5.4	10.3		7	72 72			<0.2	1.9	9
IM3	Cloudy	Moderate	14:19	9.7	Middle 4.9	0.2	12	27.5	27.6	7.8	20.2	20.2	68.8	4.9	13.3	13.7	5	7 75 74	819409	806006	<0.2	1.8	3 17
	-				8.7 Bottom	0.2	12 94	27.6 26.4	26.4	7.8 7.8 7.8 7.8	20.1 26.9	26.9	74.4 74.8	4.9 5.2 5.2	13.2 17.1		5 9	75 76			<0.2	1.8	1
					8.7 Surface 1.0	0.1	94 356	26.4 28.7	28.7	7.8	26.9 13.9	12.0	81.0	5.8	17.4 7.4		11 7	76 72			<0.2	1.6	7
					1.0	0.4	328 82	28.7 26.3		7.8	13.9 26.7		80.9	5.8 4.1 5.0	7.5 14.0	Ī	6 7	72 74 74			<0.2	1.7	`
IM4	Cloudy	Moderate	14:11	9.6	Middle 4.8 8.6	0.2	84 84	26.3	26.3	7.8	26.6	26.7	59.0 59.4 59.2 73.8	4.1	14.8	13.5	6 26	13 74 74 75 76	819579	805032	<0.2	1.8	3 1.5
					Bottom 8.6	0.2	90	26.2	26.2	7.8	28.2	28.3	74.8	5.2	18.4		25	76			<0.2	0.9	9
					Surface 1.0 1.0	0.5 0.6	15 16	28.7 28.7	28.7	7.8 7.8	13.9 13.9	13.9	79.0 78.9	5.7 5.7 5.0	7.7 7.8	l	6 7	72 71			<0.2	1.7	7
IM5	Cloudy	Moderate	14:01	8.4	Middle 4.2 4.2	0.2	88 88	26.8 26.8	26.8	7.8 7.8	23.2	23.1	60.7	4.3	14.2 14.2	12.8	6 7	7 75 74	820553	804935	<0.2	<0.2	7 1.6
					Bottom 7.4 7.4	0.2	20 20	26.2 26.3	26.3	7.8 7.8	28.1	28.1	73.1 74.9	5.0 5.2 5.1	16.6 16.2		9	76 76			<0.2	1.4	3
					Surface 1.0 1.0	0.4	11	28.3	28.3	7.8 7.8	14.8		77.6 77.5	5.6	11.2		13 14	72			<0.2	1.5	5
IM6	Cloudy	Moderate	13:52	7.3	Middle 3.7	0.5	14	27.8	27.8	7.8	16.6	16.7	65.1	4.7	14.0	14.3	14	75 74	821045	805845	<0.2	.0.2 1.7	7 16
	,				3.7 Bottom 6.3	0.3	15 71	27.7 27.2	27.2	7.8	16.7 23.7	23.7	68.6	4.7	14.2 17.6		15 18	76			<0.2	1.6	5
					6.3	0.4	75 46	27.2 28.3		7.8	23.6		69.0	4.8 4.6 5.4	17.8 11.0		20 6	76 71			<0.2	1.5	
					Surface 1.0	0.6	49 68	28.3	28.3	7.8	14.2	14.3	73.9	5.3 4.6 5.0	11.6		5 14	72			<0.2	1.9	9
IM7	Cloudy	Moderate	13:44	8.9	Middle 4.5	0.4	72	27.7	27.7	7.8	17.8	17.8	64.5	4.6	16.7	16.3	14	75	821352	806834	<0.2	1.6	3 1.7
					Bottom 7.9 7.9	0.4	106 110	27.2 27.2	27.2	7.8 7.8	20.5	20.5	67.6 68.0 67.8	4.8 4.8	20.7		20 22	76 76			<0.2	1.6	7
					Surface 1.0 1.0	0.5 0.5	78 84	29.2 29.2	29.2	7.9 7.9	13.4	13.4	78.9 78.8 78.9	5.6 5.6 5.2	9.0 9.3		8	70 69			<0.2	1.8	3
IM8	Cloudy	Moderate	14:20	9.3	Middle 4.7 4.7	0.8	77 80	28.5 28.5	28.5	7.8 7.8	16.3 16.3	16.3	68.4 68.4	4.8 4.8	12.2 12.2	12.7	12 10	10 72 72	821701	807823	~n 2	<0.2	1.7
					Bottom 8.3 8.3	0.4	69 75	28.6	28.6	7.8 7.8 7.8	18.9	18.9	79.6 79.6 79.6	5.6 5.6 5.6	16.7	ļ	11	75 74			<0.2	1.8	3
DA: Depth-Ave	ragod	l .		1	6.3	0.4	13	20.0		7.0	10.3		7 3.0	3.0	10.7		- 11	74	1	1	∖∪.∠	1.0	

DA: Depth-Averaged

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

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

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring Water Quality Monitoring Results on 27 lune 17 decision

Water Qua Water Qua	•	-	lts on		27 June 17 during Mi	I-Ebb tide															
Monitoring	Weather	Sea	Sampling	Water	_	Current Speed	Current Water	Temperature (°C) pH	Salir	nity (ppt)	DO Saturation	Dissol Oxyg		bidity(N	TU) Suspended S (mg/L)	Solids Total Alkali (ppm)	Coordinate		Chromium (µg/L)	Nickel (μg/L)
Station	Condition	Condition	Time	Depth (m)	Sampling Depth (m)		Direction Value	e Average	Value Average	Value	Average	Value Averag		DA Va	lue		DA Value D	A (Northing)	HK Grid (Easting)	Value DA	Value DA
					Surface 1.0 1.0	0.5 0.5	73 29.1 73 29.1		8.0 8.0	13.1	13.1	74.2 74.2	5.3 5.3	12	.2	8 9	69 70			<0.2	2.0
IM9	Cloudy	Moderate	14:28	8.5	Middle 4.3 4.3	0.5 0.5	91 28.6 91 28.6	28.6	7.9 7.9 7.9	16.4	16.4	67.1 67.1 67.1	4.8		.1 ,	6.4	10 72 7	3 822081	808814	<0.2	2.0
					Rottom 7.5	0.3	53 28.6	28.6	7.9	18.3	18.3	73.5	5.1	E 1 16	i.8	13	75			<0.2	1.8
					7.5 Surface 1.0	0.3	53 28.6 78 28.6	28.6	7.9	18.3 15.1	15.1	73.5 68.1 68.1	5.1 4.9	8.	8.8	12	76 71			<0.2 <0.2	1.8
IM10	Cloudy	Moderate	14:35	7.6	1.0 Middle 3.8	0.3 0.5	83 28.6 82 28.6	28.6	7.8	15.1 15.9	15.9	64.4	4.9 4.6	4.8	8	2.2	71 73 76	3 822228	809857	<0.2	1.9
	,				3.8 Bottom 6.6	0.5	87 28.6 67 28.5	28.5	7.8	15.9 16.3	16.3	63.8	4.6 4.5	4.5 15	i.6	19	74			<0.2	1.7
					6.6 Surface 1.0	0.4	69 28.5 111 29.1	20.1	8.0	16.3 13.8	13.8	72.3	4.5 5.2	15	.6	18	74 72			<0.2 <0.2	1.7
IM11	Oleverto	Madanata	44.45	0.0	1.0	0.5	119 29.1 116 28.4		7.0	13.8 16.2		72.3	5.2 4.6	4.9	.1	3.3	70 74 73	3 821512	810557	<0.2	1.8
IIVIII	Cloudy	Moderate	14:45	9.6	Middle 4.8 8.6	0.4	124 28.4 126 28.4		7.8 7.8 7.8	16.2 17.3	16.2	64.4 64.4 74.5	4.6 5.3		.1	14	13 73 7 74	3 821512	810557	<0.2 <0.2	2.0
					8.6	0.4	135 28.4 114 29.1	28.4	7.8	17.3 13.4	17.3	74.5	5.3 5.1	5.3	!.0 !.1	12	75 70			<0.2 <0.2	1.8
					Surrace 1.0	0.6	120 29.1 109 28.7	29.1	8.0	13.4	13.4	71.3	5.1	4.0 12	1.1	10	72			<0.2	2.1
IM12	Cloudy	Moderate	14:51	8.4	Middle 4.2 7.4	0.4	116 28.7 132 28.4	28.7	7.8	14.2	14.2	65.8	4.7	13	.6	3.3	10 73 7 75	3 821146	811536	<0.2 <0.2 <0.2	2 1.7 1.8
					Bottom 7.4	0.3	143 28.4	28.4	7.8	16.7	16.7	66.6	4.7	4./	.1	11	76			<0.2	1.8
					Surface 1.0 1.0	0.5	90 28.7 93 28.7		7.8 7.8	13.6	13.6	75.6 75.6	5.4 5.4		.1	5	72 74			<0.2	1.8
SR2	Cloudy	Moderate	15:12	4.8	Middle -	-		-	-	-	-	-	-	-		7.9	-	5 821478	814182	<0.2	-
					Bottom 3.8 3.8	0.1 0.1	27 28.6 27 28.6	28.6	7.8 7.8	13.9 13.9	13.9	77.8 77.8	5.6 5.6	5.6 7.		7 6	77 76			<0.2 <0.2	1.9
					Surface 1.0 1.0	0.6	99 29.3 101 29.3		7.9 7.9	11.8	11.8	77.8 77.8	5.6 5.6	5.4	.1	5 6	-			-	-
SR3	Cloudy	Moderate	14:15	9.8	Middle 4.9 4.9	0.6	98 28.7 99 28.7		7.8 7.8	14.1	14.1	72.6 72.6	5.2	13	1.8	3.7 9	8 -	822135	807566	-	-
					Bottom 8.8 8.8	0.2	108 28.1 114 28.1		7.9 7.9	19.3 19.3	19.3	61.7 61.7	4.3		i.3	9	-			-	-
					Surface 1.0 1.0	0.4 0.4	47 28.6 51 28.6		7.8 7.8	13.6 13.6	13.6	82.6 82.6	5.9 5.9	10	l.1 l.1	11	-			-	-
SR4A	Cloudy	Moderate	15:12	9.0	Middle 4.5 4.5	0.4 0.5	49 26.5 52 26.5		7.8 7.8	25.4 25.4	25.4	55.0 55.1	3.8		1.3	2.9 10 9	10 -	817184	807795		-
					Bottom 8.0 8.0	0.4	55 26.4 56 26.4	26.4	7.8 7.8	26.0	26.0	61.3 61.7	4.3	4.3 16	i.1	10	-			-	-
					Surface 1.0 1.0	0.2	11 28.6 11 28.6	28.6	7.8 7.8	15.0 15.1	15.1	79.9 79.8	5.7	11	.6 .7	9	-			-	
SR5A	Cloudy	Moderate	15:27	5.9	Middle -	-		-		-	-		-	5.7			11	816591	810688	-	-
					Bottom 4.9 4.9	0.1	76 28.1 78 28.2		7.7 7.7	17.1	17.1	82.9 83.3 83.1	5.9 5.9		.7	13	-			-	-
					Surface 1.0	0.2	20 28.4	28.4	7.8 7.8	14.1	14.1	79.1	5.7	10	1.7	5 7	-			-	
SR6	Cloudy	Moderate	15:48	5.0	Middle 1.0	- 0.2	20 28.4	-	7.8	14.1	-	79.1	5.7	5.7	1.8	2.0	8 -	817910	814649	-	-
					Bottom 4.0	0.1	55 28.3		7.8 7.8	15.6	15.6	86.0 86.2	6.1		1.4	10	-			-	-
					4.0 Surface 1.0	0.1	58 28.3 90 29.2	29.2	7.8 7.8 7.9 7.9	15.6 14.1	14.1	78.7 78.7	6.2 5.6	6.	2	9	-			-	-
SR7	Cloudy	Moderate	15:58	16.7	1.0 Middle 8.4	0.8 0.1	97 29.2 125 27.9	27.9	7.8	14.1 18.3	18.3	69.7	5.6 4.9	5.3		7.0	4	823645	823751	-	-
3117	oloddy		. 5.56	.5.7	8.4 Bottom 15.7	0.1 0.8	130 27.9 137 26.7	26.7	7.8	18.3 21.3	21.3	64.3	4.9 4.6	46 8.	.6	4	-	320043	020/01		-
					15.7	0.8	149 26.7 111 29.4		7.8	21.3 12.1		64.3	4.6 5.2	8.	2	5 10	-			-	1 -
0.00			45.04		Surrace 1.0	0.7	116 29.4		7.8	12.1	12.1	72.5	5.2		1.7	9	-	0004	04455-	-	-
SR8	Cloudy	Moderate	15:01	5.2	Middle - 4.2	0.2	115 28.6	-	7.8	15.9	-	67.9	4.8	40 13		2.2	10	820406	811592	-	-
					Bottom 4.2	0.2	116 28.6		7.8 7.8	15.9	15.9	67.9 67.9	4.8		.7	11	-			-	-

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 29 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Oxygen (ppm) Speed (ma/L) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Easting) Value DA 0.3 28.6 1.0 54 74 Surface 28.6 73.8 55 7.7 73 1.0 0.3 28.6 117 73.8 5.4 7.4 < 0.2 2.2 3.3 0.4 27 28.0 7.8 15.1 73.4 5.3 12.0 8 76 <0.2 2.4 C1 09:37 6.5 Middle 7.8 15.1 73.5 815605 804255 2.3 Cloudy Moderate 75 3.3 0.4 28 28.0 7.8 15.1 73.5 5.3 12.2 76 <0.2 2.4 5.5 0.3 28.0 20.2 5.9 12.0 10 77 <0.2 2.4 84.8 6.0 Rottom 28 1 7.8 20.1 28.1 1.0 0.3 304 7.7 10.3 5.0 70 29.0 68.6 8.2 8 <0.2 2.4 Surface 29.0 7.7 10.3 68.6 68.6 5.0 2.4 1.0 0.3 327 29.0 10.3 8.2 8 70 < 0.2 5.7 320 74 0.3 7.8 17.0 4.3 8 < 0.2 2.2 28.6 60.9 8.6 Cloudy C2 Moderate 11:05 11.3 Middle 28.6 7.8 17.0 60.9 825681 806940 2.1 60.9 2.2 5.7 0.3 333 28.6 7.8 4.3 8.6 10 74 -0.2 10.3 0.7 27.9 7.8 20.0 62.9 4.4 9.2 77 <0.2 1.8 Bottom 7.8 20.0 62.9 77 10.3 0.7 27.9 7.8 20.0 62.9 4.4 9.2 10 1.6 0.5 266 28.4 7.8 4.9 8.2 72 73 2.3 <0.2 67.4 Surface 28 4 7.8 13.6 67.4 1.0 0.5 280 7.8 13.6 67.4 4.9 8.2 7.7 2.4 28.4 < 0.2 243 76 6.3 27.8 4.5 1.9 0.3 7.9 18.3 63.7 < 0.2 822092 C3 Cloudy Moderate 09:06 12.6 Middle 27.8 7.9 18.3 63.7 817790 2.1 6.3 0.3 263 27.8 79 18.3 63.7 45 7.7 8 76 <0.2 2.1 11.6 0.3 26.8 7.9 24.1 64.2 4.5 7.5 7.5 12 77 <0.2 1.8 Bottom 7.9 24.1 64.2 4.5 116 0.3 26.8 7 Q 24.1 64.2 45 11 78 < 0.2 1.8 1.0 0.6 28.1 7.8 7.9 8 73 2.0 17.3 4.8 <0.2 17.3 67.7 Surface 28.1 7.8 1.0 0.7 28.1 7.8 17.3 67.6 4.8 8.1 8 74 <0.2 2.2 3.9 0.6 27.7 7.8 18.1 69.3 4.9 9.4 8 75 <0.2 2.1 IM1 Cloudy Moderate 09:48 7.7 Middle 27.7 7.8 18.1 69.4 9.0 10 75 818357 806472 2.1 18 1 75 77 <0.2 2.2 3.9 0.6 27.7 7.8 69.5 5.0 9.4 8 6.7 0.3 350 27.7 7.8 20.0 79.0 5.6 5.6 9.5 13 <0.2 2.2 Bottom 27.7 20.0 79.4 77 6.7 0.3 322 27.7 7.8 20.0 79.7 9.4 14 < 0.2 2.0 1.0 0.8 27.9 18.2 4.6 8.3 <0.2 Surface 27.9 7.8 18.2 64.5 1.0 0.8 327 27.9 7.8 18.2 64.4 4.6 8.4 8 75 <0.2 1.9 45 76 1.6 4.3 0.6 26.9 7.8 22.8 63.1 4.4 9.8 11 <0.2 818842 IM2 Cloudy Moderate 09:59 8.5 Middle 27.0 7.8 22.8 64.0 806185 4.3 0.6 27 1 7.8 22.7 64 9 4.5 9.7 10 76 <0.2 1.6 77 0.3 27.0 7.8 23.6 75.7 5.3 9.6 15 -02 1.1 Bottom 7.8 23.6 76.1 5.3 7.5 23.5 76.4 5.3 12 77 0.3 7.8 11 27.0 9.6 < 0.2 1.2 1.0 0.7 347 27.8 7.8 18.7 63.7 4.5 8.1 9 75 <0.2 1.5 7.8 18.7 63.7 Surface 1.0 0.8 353 27.8 7.8 18.7 63.7 4.5 8.1 10 75 <0.2 1.4 3.6 0.4 337 9.3 10 76 27.2 7.8 21.6 < 0.2 1.4 21.6 64.1 819422 IM3 10:05 7.2 7.8 9.2 10 806026 Cloudy Moderate Middle 27.2 7.8 21.6 64.1 4.7 76 <0.2 1.5 3.6 0.4 359 27.2 9.4 10 77 6.2 0.3 10 1.4 6 26.5 7.8 25.7 69.4 4.8 10.2 < 0.2 4.9 7.8 25.7 69.7 Bottom 26.5 70.0 7.8 25.7 4.9 0.4 26.5 10.2 12 < 0.2 1.4 6.2 1.0 0.3 22 27.6 7.8 19.5 64.3 4.6 8.3 75 <0.2 1.6 Surface 19.6 64.2 75 1.6 1.0 0.3 23 27.6 7.8 19.6 64.0 4.5 8.3 8 < 0.2 4.5 26.9 22.9 64.2 4.5 9.4 10 10 76 76 <0.2 1.5 IM4 10:15 7.4 Middle 26.9 7.8 22.9 64.3 76 819571 805022 Cloudy Moderate 9.0 3.7 0.3 26.9 6.4 0.3 30 27.0 7.8 23.2 5.5 9.1 12 77 <0.2 1.2 77.8 27.0 7.8 23.2 77.8 5.5 Rottom 0.3 77.8 12 77 1.2 6.4 7.8 23.1 5.4 27.0 9.2 < 0.2 1.0 0.2 345 28.3 7.8 14.2 71.9 5.2 7.4 8 73 < 0.2 2.4 Surface 14.3 71.9 74 1.0 0.2 317 28.3 7.8 144 71 9 5.2 7.5 8 < 0.2 2.4 75 75 2.3 3.7 0.4 346 28.0 7.9 69.4 4.9 9.9 8 <0.2 IM5 Cloudy Moderate 10:27 7.3 Middle 28.0 7.9 17.7 69.4 820552 804929 2.2 3.7 0.5 353 28.0 7.9 17.7 69.4 4.9 10.0 < 0.2 26.3 72.5 6.3 355 77 2.0 0.4 26.2 7.8 26.3 5.1 10.7 10 <0.2 7.8 72.9 5.1 Bottom 26.2 7.8 26.3 10.8 10 78 < 0.2 2.0 6.3 0.4 327 26.2 1.0 0.5 328 7.8 75 2.1 28.5 12.7 73.0 5.3 7.1 8 < 0.2 Surface 28.5 7.8 12.8 72.9 72.7 5.3 7.8 12.8 7.1 1.0 0.5 328 28.5 9 75 <0.2 3.7 0.7 341 28.3 7.9 17.2 70.7 70.7 5.0 5.0 7.0 7.0 8 76 76 <0.2 1.9 10:37 Middle 17.2 821078 805813 IM6 Cloudy Moderate 7.4 3.7 8.0 314 28.3 7.9 <0.2 6.4 0.4 18.7 16 77 <0.2 1.3 26.7 7.9 24.7 70.1 4.9 Bottom 26.7 7.9 24.8 70.4 4.9 6.4 0.5 7.9 24.9 70.7 4.9 18.8 16 77 1.3 329 26.7 1.0 0.3 319 28.5 7.7 5.3 7.7 75 < 0.2 2.0 10.2 71.9 6 Surface 28.5 7.7 10.2 71.9 7.7 5.3 7.7 75 1.0 0.3 10.1 71.8 343 28.5 6 < 0.2 9.7 3.8 5.0 76 2.0 0.4 q 28.2 7.8 15.2 69.8 6 -02 IM7 Cloudy Moderate 10:46 7.6 Middle 15.2 69.8 821365 806842 2.1 1.9 3.8 0.5 28.2 7.8 15.2 69.8 5.0 9.7 6 76 <0.2 6.6 0.5 41 27.2 7.8 21.1 68.6 12.7 8 77 <0.2 2.2 21.1 Bottom 27.2 7.8 68.7 4.9 6.6 0.6 42 27.2 7.8 21.1 68.8 4.9 12.8 10 77 <0.2 22 1.0 0.2 274 7.7 10.1 70 28.8 8.3 68.2 5.0 6 <0.2 2.2 Surface 28.8 7.7 8.3 68.2 68.2 5.0 2.4 7.7 71 1.0 0.2 274 28.8 8.3 10.1 <0.2 73 4.2 0.2 241 7.8 65.1 4.8 11.0 8 < 0.2 2.2 28.5 11.0 7.8 11.0 65.1 IM8 Cloudy Moderate 10:33 8.4 Middle 28.5 73 821693 807853 2.2 65.1 73 <0.2 2.1 4.2 0.2 244 28.5 7.8 11 0 4.8 11.0 7 18.9 69.9 7.4 0.2 113 27.8 7.8 18.9 4.9 13.5 8 75 <0.2 2.1 69.9 Bottom 27.8 7.8 4.9 7.4 0.2 120 27.8 2.1

DA: Depth-Averaged

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

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

Water Quality Monitoring Results on 29 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (ppm) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Easting) Value 0.2 266 29.1 10.2 1.0 9.0 5.3 -02 22 Surface 29.1 72.0 7.7 73 1.0 0.2 292 29.1 ٩n 72 N 5.3 10.2 < 0.2 2.2 3.8 0.3 300 29.0 7.8 10.6 67.9 4.9 12.7 6 75 <0.2 1.9 IM9 10:25 7.5 Middle 7.8 10.6 67.9 822108 808810 2.0 Cloudy Moderate 75 3.8 0.3 320 29.0 7.8 10.6 67.9 4.9 12.7 74 <0.2 2.0 6.5 0.4 291 28.6 7.8 4.6 14.4 10 77 <0.2 1.8 Bottom 7.8 14.5 64.9 28.6 46 0.4 28.6 64.9 4.6 14.4 76 6.5 1.0 0.3 7.8 10.4 71 2.0 29.2 5.1 9.8 <0.2 71.1 Surface 29.2 7.8 10.4 71.1 7.8 71.1 5.1 72 2.0 1.0 0.3 311 29.2 10.4 9.8 6 < 0.2 74 0.6 4.1 315 7.8 12.8 4.8 10.2 < 0.2 2.0 29.1 66.8 IM10 Cloudy Moderate 10:15 8.1 Middle 7.8 12.8 66.8 12.2 822223 809847 1.9 66.8 41 0.6 343 29.1 7.8 12.8 4.8 10.2 6 74 -0.2 19 0.4 282 28.0 7.9 66.5 4.7 16.5 75 <0.2 1.7 17.1 Bottom 7.9 66.5 7.1 0.4 302 28.0 7.9 17 1 66.5 47 16.5 75 <0.2 1.8 0.3 28.7 7.8 5.2 9.4 71 <0.2 2.2 Surface 28.7 7.8 11.1 71.5 1.0 0.3 311 7.8 71.5 5.2 72 <0.2 2.3 28.7 11.1 9.4 5.0 11.9 75 2.2 4.1 0.5 288 28.6 7.9 < 0.2 12.8 69.1 6 821512 IM11 Cloudy Moderate 10:05 8.1 Middle 28.6 7.9 12.8 69.1 11.5 810563 2.2 2.1 41 0.5 303 28.6 79 12.8 69 1 5.0 11 9 6 74 <0.2 7.1 0.3 306 27.5 7.9 19.9 63.8 4.5 13.3 7 77 77 <0.2 2.0 Bottom 7.9 19.9 63.8 4.5 2.3 0.3 326 27.5 7 Q 100 63.8 45 13.3 < 0.2 1.0 0.3 285 28.8 7.8 10.7 9.1 72 <0.2 2.3 69.7 5.1 10.7 Surface 28.8 7.8 69.7 1.0 0.4 293 28.8 7.8 10.7 69.7 5.1 9.1 71 <0.2 2.5 5.0 4.8 75 2.3 3.6 0.7 28.5 7.8 11.9 66.1 9.6 <0.2 IM12 Cloudy Moderate 09:56 7.1 Middle 28.5 7.8 11.9 66.1 821146 811516 2.2 74 <0.2 2.0 3.6 0.7 287 28.5 7.8 11 9 66.1 4.8 9.6 6 75 6.1 0.4 262 27.8 7.9 18.0 67.2 4.8 10.5 8 < 0.2 2.0 Bottom 18.0 67.2 77 6.1 0.4 263 27.8 7 Q 18.0 67.2 4.8 10.5 < 0.2 2.1 1.0 0.1 244 28.6 <0.2 2.2 7.8 9.8 Surface 28.6 7.8 11.7 69.5 1.0 0.1 249 28.6 7.8 11.7 69.5 5.1 9.8 5 72 <0.2 2.3 5.1 821469 814178 SR2 Cloudy Moderate 09:29 4.5 Middle 2.2 76 3.5 0.1 251 28.5 9.7 <0.2 2.1 7.8 70.3 5.1 Bottom 28.5 7.8 13.0 70.7 5.1 3.5 0.1 271 7.8 71.1 5.1 9.6 75 < 0.2 28.5 6 2.1 1.0 0.3 283 29.0 7.7 10.9 67.5 4.9 9.1 5 10.9 67.5 Surface 1.0 0.3 290 29.0 77 10.8 67.4 4.9 9.2 4.6 0.3 7.8 318 28.8 13.1 9.6 13.1 65.2 822149 807551 SR3 10:42 9.1 Middle 7.8 10.8 6 Cloudy Moderate 28.8 4.6 7.8 65.2 4.7 0.3 342 28.8 13.1 9.6 8.1 0.7 309 7.8 28.4 17.6 60.0 4.2 13.5 7 17.6 4.2 7.8 60.0 Bottom 28.4 7.8 4.2 0.7 17.6 60.0 8.1 309 28.4 13.5 1.0 0.3 244 28.1 7.8 17.6 75.3 75.2 5.3 13.6 11 17.6 1.0 0.3 261 28.1 7.8 17.6 5.3 13.7 10 5.2 7.8 5.0 16.7 SR4A Cloudy Moderate 09:15 8.4 Middle 27.7 7.8 19.3 70.7 817187 807799 4.2 0.3 27.7 19.3 70.6 16.8 13 7.4 0.2 262 27.0 7.8 24.5 76.8 5.3 15.3 20 27 1 7.8 24.5 77.2 Rottom 5.4 7.4 0.2 274 20 27.1 7.8 15.4 24.5 5.4 1.0 0.2 266 28.1 7.8 18.3 71.6 5.1 12.8 11 Surface 7.8 18.3 71.6 1.0 0.2 288 28.1 7.8 18.3 71.6 5.1 12.9 11 SR5A Cloudy Moderate 08:58 5.6 Middle 11 816602 810705 4.6 0.1 303 27.5 12 7.8 20.2 73.5 5.2 15.8 73.7 5.2 27.5 7.8 20.2 Bottom 4.6 0.1 303 261 27.5 7.8 73.9 5.2 15.9 11 20.2 1.0 0.2 28.4 7.7 14.2 76.8 5.5 6.8 14.2 Surface 28.4 7.7 76.8 7.7 76.8 5.5 1.0 0.2 282 28.4 14.2 6.8 6 08:33 4.2 Middle 817884 814677 SR6 Cloudy Moderate 3.2 0.0 199 28.4 76.3 75.0 6.8 14.1 5.5 8 Bottom 28.4 7.7 14.1 75.7 5.5 3.2 0.0 7.7 14.0 5.4 6.8 28.4 1.0 0.0 28.6 7.9 13.4 74.6 5.4 7.1 Surface 28.6 7.9 13.4 74.6 1.0 0.0 7.9 13.4 74.6 5.4 7.1 63 28.6 6.4 8.2 188 5.0 0.3 27.2 79 21.4 69 1 6 SR7 Cloudy Moderate 08:34 16.4 Middle 27.2 7.9 21.4 69.1 6.6 823644 823739 8.2 0.3 206 27.2 7.9 21.4 69.1 5.0 6.4 6 15.4 1.2 204 25.1 7.9 29.6 50.1 3.5 6.2 Bottom 25.1 7.9 29.6 50.1 3.5 15.4 1.3 224 25.1 7.9 29.6 50.1 3.5 6.2 1.0 0.1 271 7.9 10.8 10.8 29.0 72.5 72.5 5.3 Surface 29.0 7.9 10.8 72.5 7.9 5.3 1.0 0.1 284 29.0 10.8 10.8 5.3 SR8 Cloudy Moderate 09:48 5.1 Middle 12.3 820427 811592 69.8 4.1 0.1 98 28.2 7.9 15.8 5.0 13.7 9 7.9 15.8 69.8 28.2 5.0 4.1 0.1 100 28.2

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 Qua	ity Monit		lts on		29 June 17 during Mid																
Monitoring	Weather	Sea	Sampling	Water	Sampling Depth (m)	Current Speed Curr	rent Water	Temperature (°C)	рН	Sali		aturation (%)	Dissolve Oxyger			ded Solids	Total Alkalinity (ppm)	Coordinate HK Grid	Coordinate HK Grid	Chromium (µg/L)	Nickel (μg/L
Station	Condition	Condition	Time	Depth (m)	Sampling Depth (m)	(m/s) Direct	value Value	Average	Value Average	Value	Average Value	Average		DA Value	DA Value	DA	Value DA	(Northing)	(Easting)	Value DA	Value DA
					Surface 1.0 1.0	0.2 21 0.3 22		28.5	7.9 7.9	14.7	14.7 74.8 73.6	74.2	5.4 5.3	13.2	11		73 74			<0.2 <0.2	2.1
C1	Fine	Moderate	16:43	8.1	Middle 4.1	0.1 7	0 26.6	26.6	7.9	24.8	58.5	58.4	4.1	13.2	14.1 10	10	75 75	815612	804243	<0.2	2.2
01	Tille	Wioderate	10.40	0.1	4.1	0.1 7 0.1 13			7.9	24.8 29.9	58.3		4.1	13.5	10	- 10	75 77	013012	004240	<0.2	2.2
					Bottom 7.1	0.1 14	3 25.5		7.9	29.9	29.9 60.8	60.6	4.2	15.8	10		77			<0.2	2.1
					Surface 1.0 1.0	0.1 4 0.1 4	8 29.0		7.8 7.8	12.4 12.4	12.4 70.1	70.1	5.0	9.0	8		71 73			<0.2	2.6
C2	Cloudy	Moderate	15:28	12.1	Middle 6.1 6.1	0.1 30 0.1 32			7.8 7.8	18.2	18.2 58.9	58.9	4.2	12.6	12.3	10	75 76	825671	806955	<0.2	2 2.8 2.5
					Bottom 11.1	0.1 24	9 26.4	26.4	7.8 7.8	24.7	24.7 52.0 52.0	52.0	0.0	3.6 15.4 15.4	14		78 77			<0.2	2.1
					Surface 1.0	0.4 8	6 29.3	20.2	7.9	15.2	15.2 77.6	77.6	5.5	6.3	5		73			<0.2	2.4
00	o		17.15	40.0	1.0	0.4 8 0.2 7			7.9	15.2 21.4	77.b		5.5 4.7	i.1 6.3 5.1	6 8	_	72 75		0.1770.1	<0.2	2.2
C3	Cloudy	Moderate	17:15	12.9	Middle 6.5	0.2 7 0.1 1	8 27.4		7.9	21.4 28.9	66.9	66.9	4.7	5.1	5.6 6	6	76 76 78	822093	817784	<0.2 <0.2 <0.2	2 2.0 1.9
					11.9	0.1 1	5 25.5		7.9	28.9	28.9 69.3	69.3	4.8	5.4	6		78			<0.2	1.3
					Surface 1.0 1.0	0.0 13			7.9 7.9	14.6 15.2	14.9 78.7 78.6	78.7	5.6 5.6	6.7	6 8		73 74			<0.2 <0.2	2.0
IM1	Fine	Moderate	16:14	8.2	Middle 4.1 4.1	0.1 9 0.2 9			7.9 7.9	28.2 28.2	28.2 55.2 55.4	55.3	3.8	11.8	10.8	8	75 76 75	818350	806445	<0.2	2 2.0 2.0
					Rottom 7.2	0.1 10	25.8	25.0	7.9	28.5	28.5 73.3 74.2	73.8	5.1	13.9	10		77			<0.2	2.1
					7.2 Surface 1.0	0.1 10 0.1 21	6 28.6	28.6	7.9	28.5 14.5	14.5 74.1	74.0	5.1 5.3	13.7 8.7	9		77 75 75			<0.2 <0.2	2.1
***	-		40.00	7.0	1.0	0.1 23			7.9	14.5 26.9	/3.8		5.3 4.4	1.9	7 8	_	76	040007	000470	<0.2	2.2
IM2	Fine	Moderate	16:08	7.8	Middle 3.9 6.8	0.2 8	7 26.2	26.2	7.8	26.8 27.1	62.9	62.7	4.4	13.4	12.5	8	76 76 77	818867	806179	<0.2 <0.2 <0.2	2 2.5 2.4 2.3
					6.8	0.2 8	0 26.1	26.1	7.9	27.1	82.4	81.9	5.7	15.4	9		78			<0.2	2.3
					Surface 1.0 1.0	0.2 28		28.9	7.9 7.9	12.3 12.3	12.3 79.8 79.5	79.7	5.8 5.7	9.2	7		73 74			<0.2 <0.2	2.2
IM3	Fine	Moderate	15:59	7.5	Middle 3.8 3.8	0.3 5 0.3 6		26.1	7.8 7.8	27.2 27.2	27.2 50.9 51.2	51.1	3.5 3.6	11.6	12.2	7	75 75	819397	806036	<0.2 <0.2	2.2 2.2 2.3 2.2
					Bottom 6.5	0.2 7 0.2 8	8 26.1	26.1	7.8 7.8	27.3	27.3 56.7 56.9	56.8	2.0	15.8	7		77			<0.2	2.2
					6.5 Surface 1.0	0.2 32	28 28.4	20.4	7.9	13.3	74.8	74.7	5.4	7.0	7		74			<0.2	2.3
IM4	Fine	Moderate	15:50	7.6	1.0 Middle 3.8	0.2 34			7.9 7.9 7.9 7.9	13.3 26.4	74.6	54.9	5.4 3.8	7.1	7 12.6	7	74 75 75 75	819555	805025	<0.2	2.3 2.3 2.3 2.3
IIVI4	rille	Moderate	15.50	7.0	3.8	0.3 7 0.1 6			7.9	26.4 27.5	54.9		3.8 4.3	14.4	6 8	_ ′	75 77	619555	603025	<0.2	2.3
					Bottom 6.6	0.1 6	4 26.0	26.0	7.8	27.5	63.0	62.8	4.4	16.2	8		77			<0.2	2.4
					Surface 1.0 1.0	0.3 1 0.3 1	1 28.3		7.9 7.9	13.8 14.6	14.2 75.8 75.5	75.7	5.5 5.4	8.0	10		74 74			<0.2	2.3
IM5	Fine	Moderate	15:39	7.4	Middle 3.7 3.7	0.3 5 0.3 6		26.9	7.8 7.8	22.9	23.0 63.3	63.4	4.4	12.0	12.5	10	75 75	820564	804915	<0.2	2.4
					Bottom 6.4 6.4	0.1 3 0.1 3	0 26.1	26.1	7.8 7.8	27.0 27.0	27.0 73.1 73.9	73.5	F 4	5.1 17.4	10 10		77 77			<0.2	2.5 2.5
					Surface 1.0	0.1 9	5 29.4	29.4	7.8	11.6	11.6 83.7	83.7	6.0	5.9	12		73			<0.2	2.7
IM6	Fine	Moderate	15:30	7.4	1.0 Middle 3.7	0.1 9 0.2 6	1 27.1	27.2	7.9	11.6 22.9	83.7	60.3	4.2	5.9 13.1	11.8	12	74 75 76	821076	805840	<0.2	2.6
IIVIO	Tille	Wioderate	13.50	7.4	3.7	0.2 6 0.3 6			7.9	22.2 25.5	60.3		4.2	13.3	12	- '-	76 77	021070	003040	<0.2	2.7 3.6
					6.4	0.3 6 0.4 6	8 26.4	20.4	7.8	25.5	67.0	66.8	4.7	1.7 16.2 16.1 7.5	14	1	78	 		<0.2	3.8
					Surface 1.0	0.5 6	9 28.6	28.6	7.8 7.8	14.7	14.7 <u>72.1</u> 72.0	72.1	5.2 5.2	7.5	10		73 73			<0.2	2.5
IM7	Fine	Moderate	15:20	8.5	Middle 4.3 4.3	0.4 2 0.4 2		27.5	7.9 7.9	19.8 19.9	19.9 65.7	65.7	4.6	9.6	8.6	9	75 76	821330	806823	<0.2	2.4
					Bottom 7.5 7.5	0.3 5 0.4 5	1 27.6	27.6	7.9 7.9	22.0 21.4	21.7 79.4	79.1		i.6 8.6 8.7	9	-	77 77			<0.2	2.2
					Surface 1.0	0.4 5	5 28.9	28.9	7.9	13.3		70.6	5.1 5.1	10.2	8		71 72	İ		<0.2	2.0
IM8	Cloudy	Moderate	16:01	9.1	1.0 Middle 4.6	0.3 5	6 28.0	20.0	7.9	13.3 17.7	17.7 66.5	66.5	4.7	11.9	11.1	А	74 75	821711	807827	<0.2	2.1
IIVIO	Cioday	.noderate	10.01	3.1	4.6	0.3 5 0.2 6			7.9	17.7 21.2	66.5		4.7 5.3	11.9	8 9	⊣ ັ	75 77	021711	00/02/	<0.2 <0.2	2.2
DA: Depth-Ave					Bottom 8.1	0.2 6			7.9 7.9	21.2	21.2 76.4	76.4	5.3	11.1	11		78			<0.2	1.5

DA: Depth-Averaged

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

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

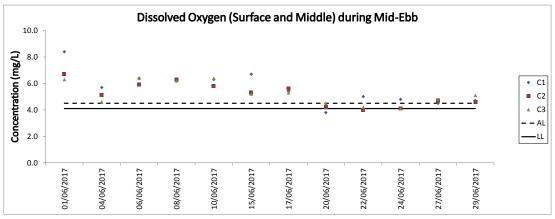
Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring Water Quality Monitoring Results on 29 lune 17 during

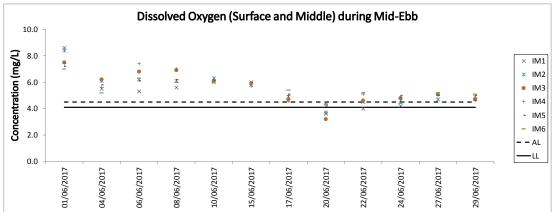
Water Qual Water Qual			lts on		29 June 17 di	uring Mid-E	hh tide																
	Weather	Sea	Sampling	Water	23 dulie 17 ui	uring wild-L	Current		Water Temperatu	ire (°C)	На	Salir	nity (ppt)	DO Saturation	Dissolved	Turbidity	NTU)		Solids Total Alkalinity	Coordinate	Coordinate	Chromiur	m Nickel (μg/L)
Monitoring Station	Condition	Condition	Time	Depth (m)	Sampling Depth (I	m)	Speed (m/s)	Current Direction	Value Aver	` '	/alue Average		Average	(%) Value Average	Oxygen Value DA	Value	DA	(mg/L Value	DA Value DA	HK Grid (Northing)	HK Grid (Easting)	(μg/L) Value D	
					Surface	1.0	0.5	81	30.0	10	7.9	11.5	11.5	78.5	5.6	9.6		9	70		, ,,	<0.2	2.1
IM9	Cloudy	Moderate	16:08	8.5	Middle	1.0 4.3	0.6	88 67	30.0		7.9 7.9 7.9 7.9	11.5 17.3	17.3	78.5 66.3 66.3	5.6 4.7 5.2	9.6	11.8	10 9	71 75 74	822095	808814	<0.2	2.2
livis	Cloudy	Woderate	10.00	6.5		4.3 7.5	0.4	67 82	28.2		7.9	17.3 21.3		66.3	5.3	10.2 15.5	11.0	9	75 74	022093	000014	<0.2	1.9
					Bottom	7.5	0.4	88 85	27.9	7.9	7.9	21.3	21.3	75.6	5.3	15.5		10	77			<0.2	1.6
					Surface	1.0	0.6	89	29.1	7.1	7.8 7.8	12.5	12.5	69.1	5.0 4.8	9.8	-	9	71			<0.2	2.5
IM10	Cloudy	Moderate	16:15	8.2	Middle	4.1 4.1	0.5 0.6	105 112	28.4 28.4 28	3.4	7.8 7.8	14.9 14.9	14.9	63.2 63.2 63.2	4.5	11.4 11.4	10.9	8	9 73 73	822245	809831	<0.2	2.6
					Bottom	7.2 7.2	0.4	137 142	28.3 28.3		7.8 7.8	17.2 17.2	17.2	65.4 65.4	4.6 4.6	11.4 11.4	-	10	75 76			<0.2	2.2
					Surface	1.0	0.4	106 111	29.5 29.5		7.9 7.9	12.3	12.3	74.1 74.1	5.3	10.4		9	71 72			<0.2	2.4
IM11	Cloudy	Moderate	16:26	9.4	Middle	4.7	0.5	110 114	20.2	2 2	7.9 7.9	14.7	14.7	64.7 64.7	4.6 4.6	13.1	12.3	9	10 75 74	821481	810526	<0.2	2.4
					Bottom	8.4	0.2	104	28.2	2.2	7.8	19.3	19.3	73.5	5.2	13.3		12	77			<0.2	1.8
					Surface	8.4 1.0	0.2	107 103	29.4	14	7.9	19.3 12.5	12.5	73.6	5.2	13.3 9.6		12 10	76 72			<0.2 <0.2	1.8
11440	Olevetic	Madanata	40.00	0.0		1.0 4.1	0.6 0.5	111 104	29.4		7.9	12.5 16.9		73.6 61.8 61.8	5.2 4.4 4.8	9.6 12.6	12.7	10 9	72 73 74	004450	811515	<0.2	2.4
IM12	Cloudy	Moderate	16:32	8.2	Middle	4.1 7.2	0.5 0.1	108 43	28.3	3.3	7.9	16.9 21.7	16.9	61.8	4.4	12.6 15.9	12.7	9 12	11 73 74 74 75	821152	811515	<0.2 <0.2	1.9
					Bottom	7.2	0.1	45 98	27.3 27	7.3	7.9	21.7	21.7	60.3 60.3 84.2	4.2	15.9		13	77			<0.2	1.7
					Surface	1.0	0.5	104	29.7	1.7	8.0 8.0	12.9	12.9	84.2	6.0	7.2	-	7	72			<0.2	2.2
SR2	Cloudy	Moderate	16:57	4.7	Middle	-	-	-	-	-	-	-	-	-	-	-	7.2	-	7 - 74	821456	814158	- <0	-
					Bottom	3.7 3.7	0.3	92 100	29.0 29.0		7.9 7.9	15.3 15.3	15.3	81.9 81.9	5.8 5.8 5.8	7.2 7.2	-	6	77 75			<0.2	2.0
					Surface	1.0	0.3 0.3	54 54	29.1 29.1		7.9 7.9	13.7 13.7		72.2 72.0 72.1	5.1	9.6 9.6		6 8	-			-	-
SR3	Cloudy	Moderate	15:55	9.6	Middle	4.8	0.3	46 49	28.4 28.4 28.4	2.4	7.9 7.9	15.7 15.7	15.7	66.2 66.2 66.2	4.7 4.7	11.7	11.5	7	9	822164	807569	<u> </u>	
					Bottom	8.6 8.6	0.2	63 67	27.7 27.7 27.7	7 7	7.9 7.9 7.9	20.2	20.2	61.4 61.4	4.3	13.3		10	-				-
					Surface	1.0	0.3	80	28.0	2.1	7.9	17.9	17.8	68.7	4.9	13.7		7	-			-	-
SR4A	Fine	Moderate	17:13	7.9	Middle	1.0 4.0	0.3	87 68	28.1 26.5	. 5	7.9	17.6 24.1	24.2	67.6	4.8 4.7	13.5 14.4	14.8	8	8	817197	807826	-	-
0.1.71		modorato		7.0		4.0 6.9	0.4	68 79	26.5		7.9	24.2	27.3	68.0	5.9	14.5 16.2	- 1.0	7	-	017107	007020	-	-
					Bottom	6.9 1.0	0.4	79 108	26.4	0.4	7.9	27.2 15.5		85.9	5.9 5.9	16.2 9.1		8	-			-	
					Surface	1.0	0.2	116	29.0		8.0	15.5	15.5	89.7 89.8	6.3	9.2	ļ	11	-			-	-
SR5A	Fine	Moderate	17:30	5.3	Middle	-	-	-	-		-	-	-	-	-	-	9.3	-	11 -	816584	810679	-	
					Bottom	4.3 4.3	0.3	118 126	28.7 28.7		8.0	17.6 17.6	17.6	94.6 94.6	6.6	9.4 9.4		11 11	-			-	-
					Surface	1.0	0.0	31 33	28.6 28.6		7.9 7.9	15.2 15.2	15.2	82.4 82.4	5.9	13.0	-	11	-			-	-
SR6	Fine	Moderate	17:52	4.5	Middle	-	-				-	-	-	-	5.9	-	12.9	-	11	817908	814663	-	
					Bottom	3.5	0.1	42	28.4		7.9 7.9	15.6	15.6	86.4 86.6	6.2 6.2	12.6	ļ	10	-			-	-
					Surface	3.5 1.0	0.1	42 58	28.4 29.3 29	3 3	8.0	15.6 16.5	16.5	86.7 84.8 84.8 84.8	5.9	12.7 5.7		10	-			-	-
SR7	Cloudy	Moderate	17:47	16.5	Middle	1.0 8.3	0.5 0.2	58 351	28.9		8.0	16.5 17.6	17.6	78.3	5.9 5.5 5.7	5.7 6.2	6.0	7	7	823631	823751	-	-
Jn/	Cioudy	woderate	17.47	10.5		8.3 15.5	0.2	323 134	28.9		8.0	17.6 28.7		78.3	5.5	6.2 6.0	0.0	6 7		020001	023/31	-	-
					Bottom	15.5	0.9	140	26.2	5.2	7.9	28.7	28.7	73.1	5.0 5.0 5.4	6.0		8	-			-	-
					Surface	1.0	0.1	275	29.5		8.0	13.2	13.2	76.1 76.1	5.4 5.4	8.4		5	-			-	-
SR8	Cloudy	Moderate	16:43	5.4	Middle	-	-	-	-	-	-	-	-	-	-	-	9.8	-	6	820409	811593	-	
					Bottom	4.4 4.4	0.1 0.1	229 231	28.0 28.0		7.9 7.9	17.4 17.4	17.4	70.9 70.9	5.0 5.0	11.1	}	8 6	-			-	-
DA: Depth-Aver	agad																						

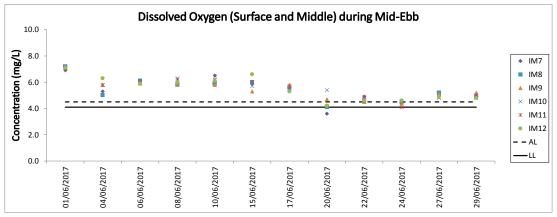
DA: Depth-Averaged

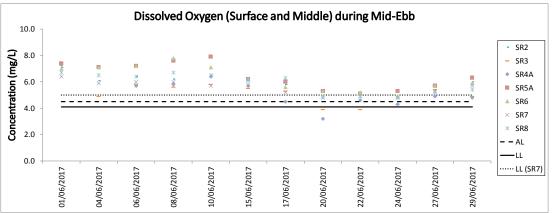
Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

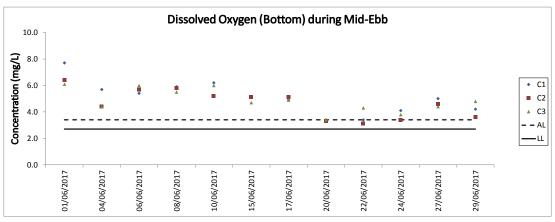
Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

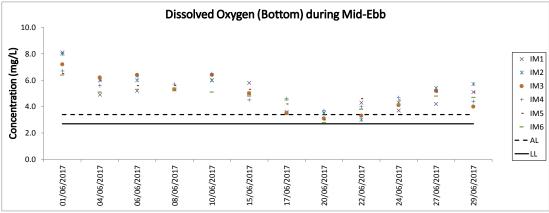


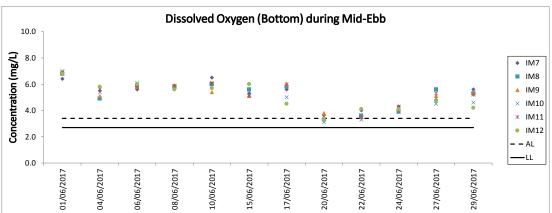


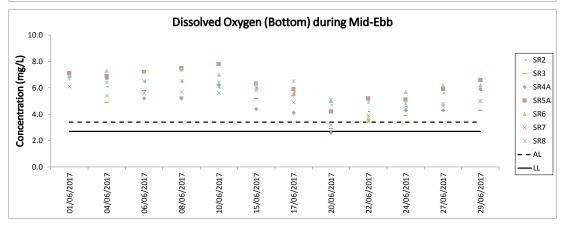


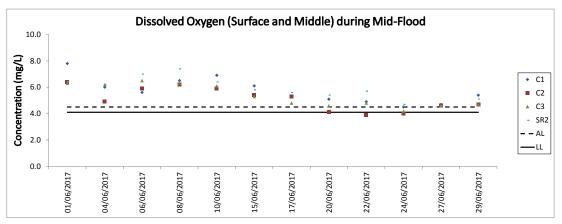


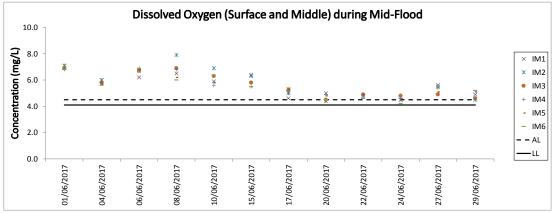


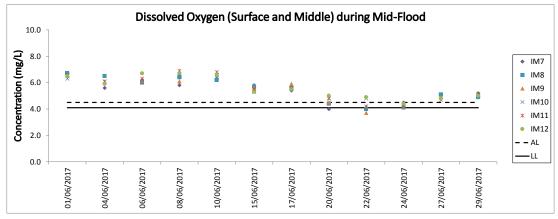


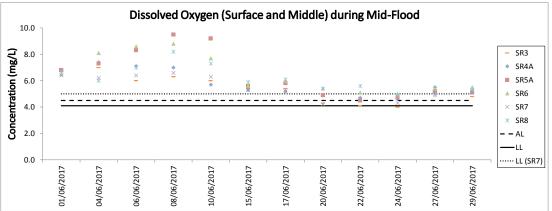


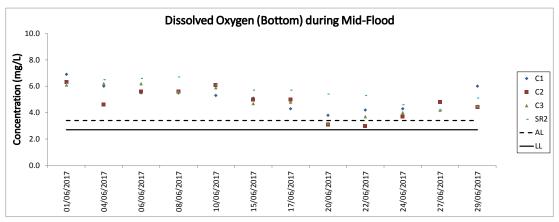


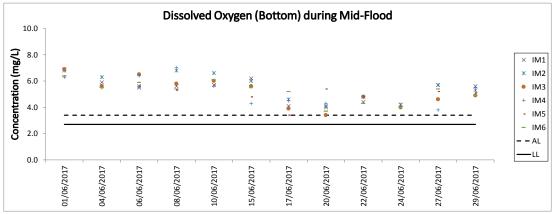


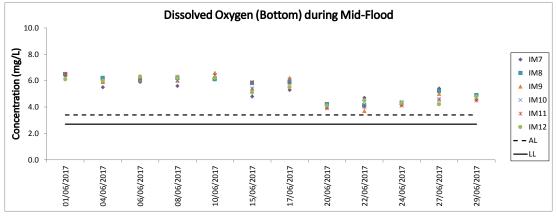


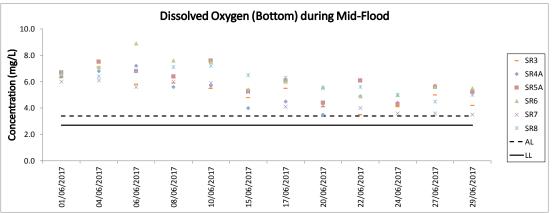


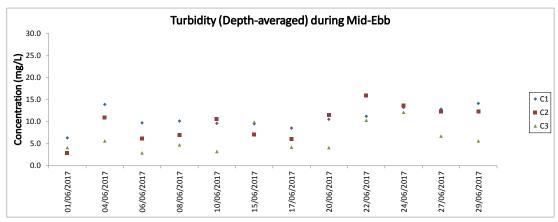


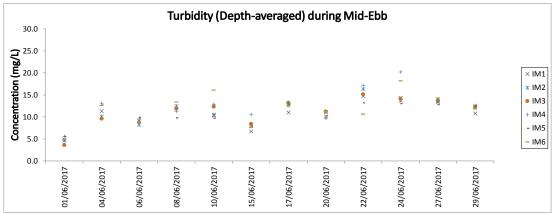


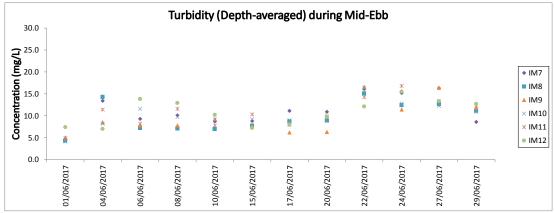


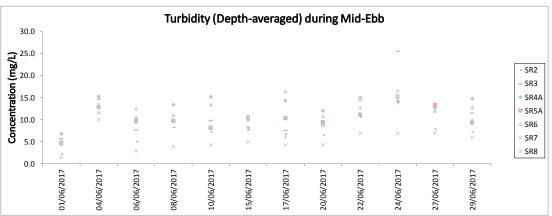




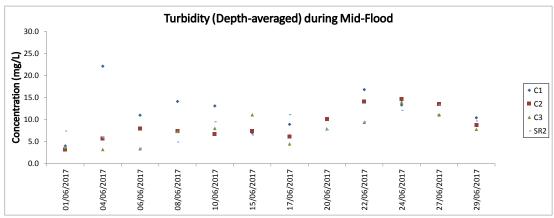


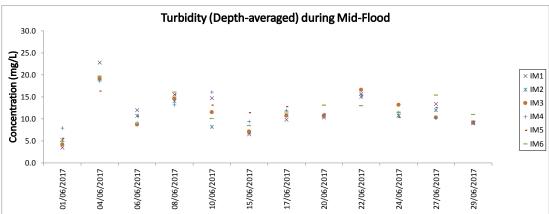


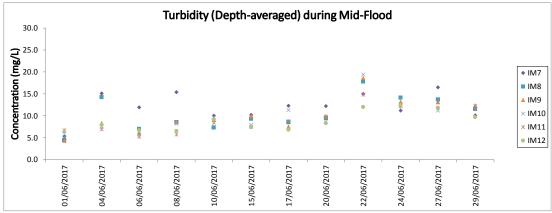


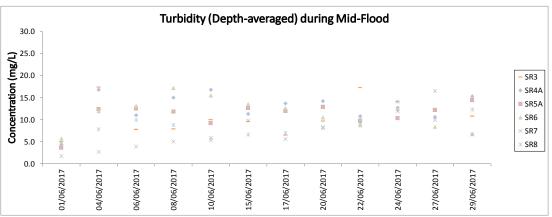


Note: The Action and Limit Level of turbidity can be referred to Table 4.2 of the monthly EM&A report.

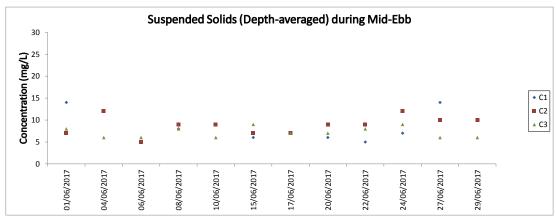


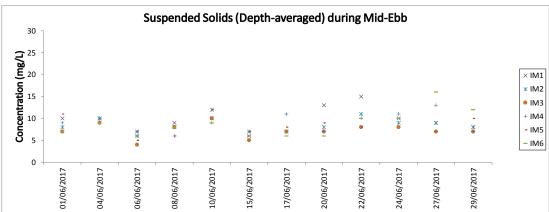


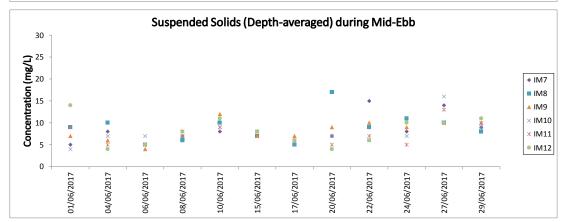


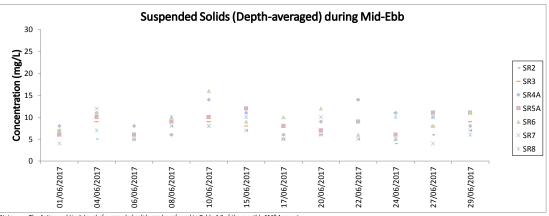


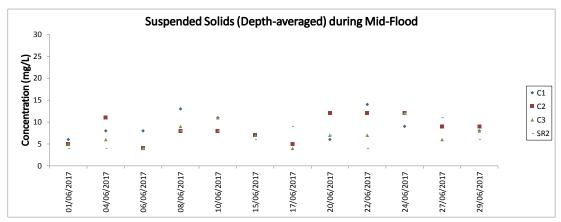
Note: The Action and Limit Level of turbidity can be referred to Table 4.2 of the monthly EM&A report.

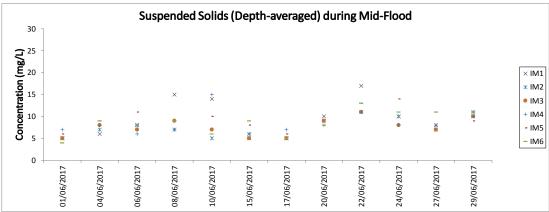


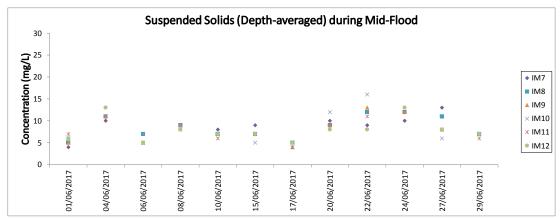


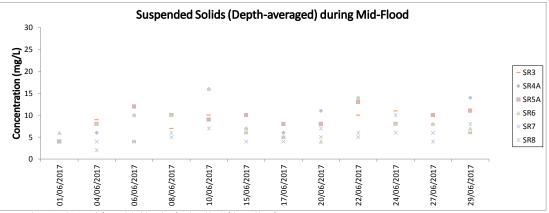




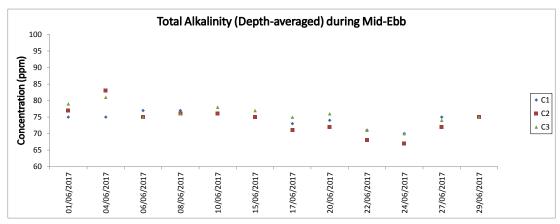


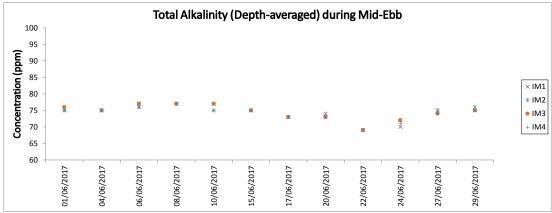


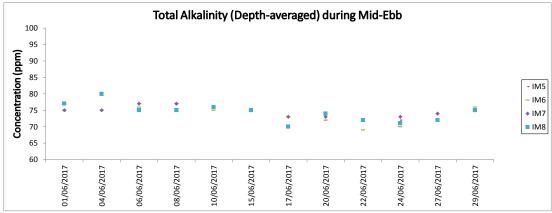


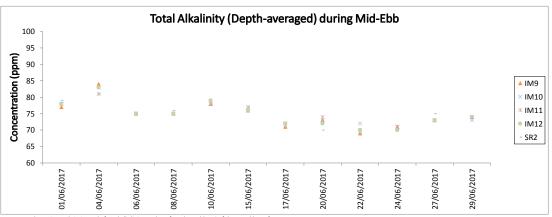


ed solids can be referred to Table 4.2 of the monthly EM&A report

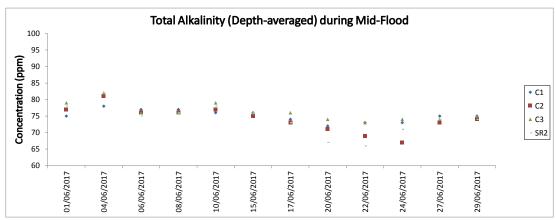


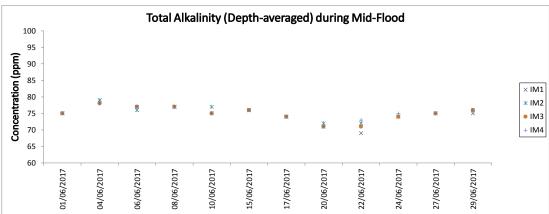


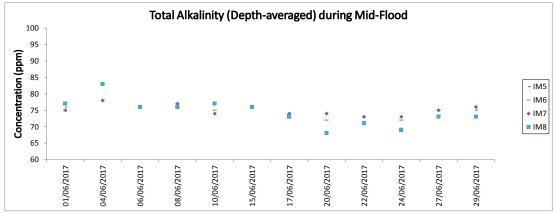


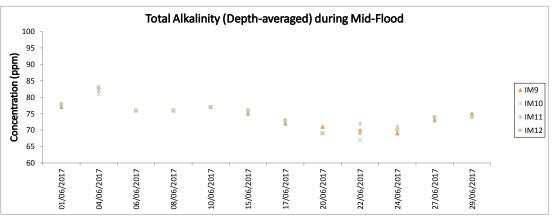


Note: The Action and Limit Level of total alkalinity can be referred to Table 4.2 of the monthly EM&A report

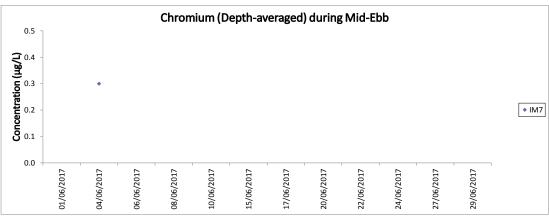




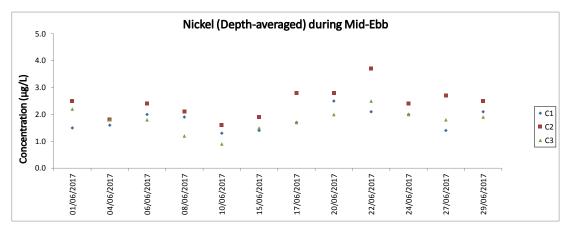


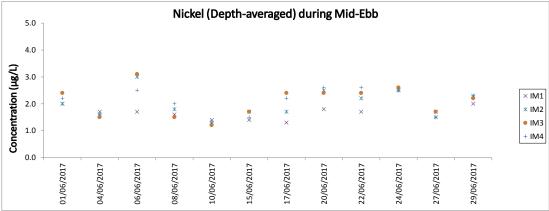


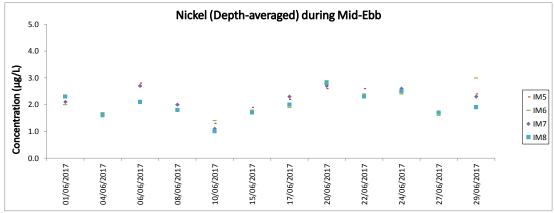
Note: The Action and Limit Level of total alkalinity can be referred to Table 4.2 of the monthly EM&A report

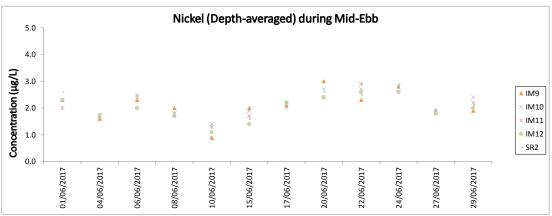


Note: The Action and Limit Level of nickel can be referred to Table 4.2 of the monthly EM&A report. All other chromium results were below the reporting limit 0.2 µg/L

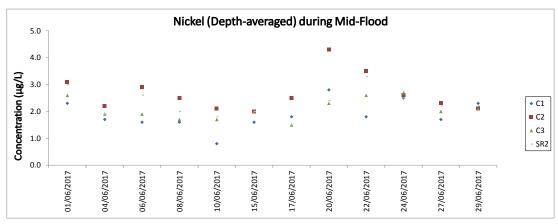


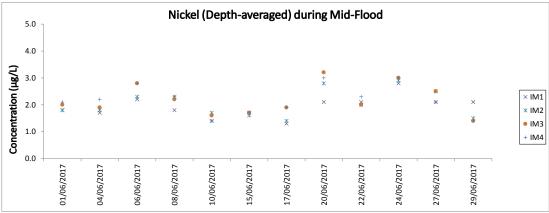


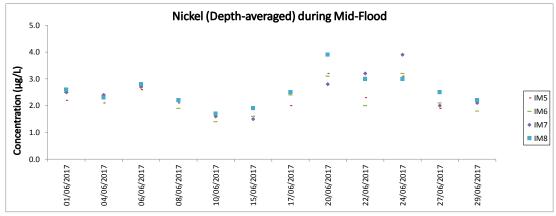


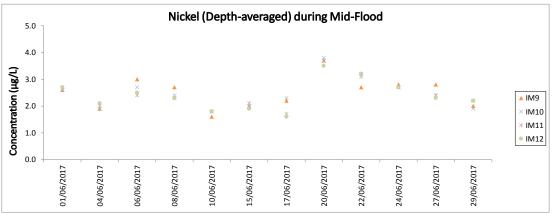


Note: The Action and Limit Level of nickel can be referred to Table 4.2 of the monthly EM&A report









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

Mott MacDonald Expansion of Hong Kong International Airport into a Three-Runway System
Chinasa Whita Dalphin Manitaring Posults
Chinese White Dolphin Monitoring Results

CWD Small Vessel Line-transect Survey

Survey Effort Data

DATE	AREA	BEAU	KM SEARCHED	SEASON	VESSEL	TYPE
05-Apr-17	NWL	1	3.000	SPRING	32166	3RS ET
05-Apr-17	NWL	2	38.728	SPRING	32166	3RS ET
05-Apr-17	NWL	3	32.700	SPRING	32166	3RS ET
10-Apr-17	AW	2	1.920	SPRING	32166	3RS ET
10-Apr-17	AW	3	1.090	SPRING	32166	3RS ET
10-Apr-17	AW	4	1.810	SPRING	32166	3RS ET
10-Apr-17	WL	3	24.720	SPRING	32166	3RS ET
10-Apr-17	WL	4	8.880	SPRING	32166	3RS ET
10-Apr-17	SWL	2	8.940	SPRING	32166	3RS ET
10-Apr-17	SWL	3	3.360	SPRING	32166	3RS ET
11-Apr-17	SWL	1	20.090	SPRING	32166	3RS ET
11-Apr-17	SWL	2	32.090	SPRING	32166	3RS ET
11-Apr-17	SWL	3	4.900	SPRING	32166	3RS ET
12-Apr-17	NEL	1	13.483	SPRING	32166	3RS ET
12-Apr-17	NEL	2	26.217	SPRING	32166	3RS ET
12-Apr-17	NEL	3	7.300	SPRING	32166	3RS ET
18-Apr-17	AW	3	4.870	SPRING	32166	3RS ET
18-Apr-17	WL	2	25.679	SPRING	32166	3RS ET
18-Apr-17	WL	3	4.960	SPRING	32166	3RS ET
18-Apr-17	SWL	1	0.821	SPRING	32166	3RS ET
18-Apr-17	SWL	2	5.049	SPRING	32166	3RS ET
24-Apr-17	NEL	2	26.150	SPRING	32166	3RS ET
24-Apr-17	NEL	3	20.650	SPRING	32166	3RS ET
25-Apr-17	NWL	2	1.100	SPRING	32166	3RS ET
25-Apr-17	NWL	3	35.320	SPRING	32166	3RS ET
25-Apr-17	NWL	4	38.880	SPRING	32166	3RS ET
26-Apr-17	SWL	1	1.400	SPRING	32166	3RS ET
26-Apr-17	SWL	2	40.231	SPRING	32166	3RS ET
26-Apr-17	SWL	3	20.409	SPRING	32166	3RS ET
04-May-17	SWL	1	1.190	SPRING	32166	3RS ET
04-May-17	SWL	2	43.260	SPRING	32166	3RS ET
04-May-17	SWL	3	17.450	SPRING	32166	3RS ET
05-May-17	AW	1	5.010	SPRING	32166	3RS ET
05-May-17	WL	2	24.605	SPRING	32166	3RS ET
05-May-17	WL	3	7.320	SPRING	32166	3RS ET
05-May-17	SWL	1	2.630	SPRING	32166	3RS ET
05-May-17	SWL	2	4.260	SPRING	32166	3RS ET
08-May-17	NWL	3	51.352	SPRING	32166	3RS ET
08-May-17	NWL	4	24.048	SPRING	32166	3RS ET
09-May-17	NEL	2	40.300	SPRING	32166	3RS ET
09-May-17	NEL	3	7.100	SPRING	32166	3RS ET
11-May-17	AW	1	4.590	SPRING	32166	3RS ET
11-May-17	WL	1	13.043	SPRING	32166	3RS ET
11-May-17	WL	2	2.621	SPRING	32166	3RS ET
11-May-17	WL	3	7.059	SPRING	32166	3RS ET
11-May-17	WL	4	5.220	SPRING	32166	3RS ET

DATE	AREA	BEAU	KM SEARCHED	SEASON	VESSEL	TYPE
11-May-17	SWL	2	0.520	SPRING	32166	3RS ET
11-May-17	SWL	3	2.050	SPRING	32166	3RS ET
11-May-17	SWL	4	2.970	SPRING	32166	3RS ET
17-May-17	NWL	1	8.700	SPRING	32166	3RS ET
17-May-17	NWL	2	60.600	SPRING	32166	3RS ET
17-May-17	NWL	3	6.300	SPRING	32166	3RS ET
22-May-17	NEL	2	6.960	SPRING	32166	3RS ET
22-May-17	NEL	3	27.140	SPRING	32166	3RS ET
22-May-17	NEL	4	12.700	SPRING	32166	3RS ET
23-May-17	SWL	2	26.840	SPRING	32166	3RS ET
23-May-17	SWL	3	33.160	SPRING	32166	3RS ET
07-Jun-17	SWL	2	33.230	SUMMER	32166	3RS ET
07-Jun-17	SWL	3	27.200	SUMMER	32166	3RS ET
07-Jun-17	SWL	4	1.900	SUMMER	32166	3RS ET
08-Jun-17	NWL	2	29.074	SUMMER	32166	3RS ET
08-Jun-17	NWL	3	26.566	SUMMER	32166	3RS ET
08-Jun-17	NWL	4	18.660	SUMMER	32166	3RS ET
08-Jun-17	NWL	5	1.100	SUMMER	32166	3RS ET
09-Jun-17	AW	1	1.040	SUMMER	32166	3RS ET
09-Jun-17	AW	2	3.900	SUMMER	32166	3RS ET
09-Jun-17	WL	1	2.850	SUMMER	32166	3RS ET
09-Jun-17	WL	2	5.782	SUMMER	32166	3RS ET
09-Jun-17	WL	3	13.859	SUMMER	32166	3RS ET
09-Jun-17	WL	4	8.589	SUMMER	32166	3RS ET
09-Jun-17	WL	5	0.920	SUMMER	32166	3RS ET
09-Jun-17	SWL	2	0.521	SUMMER	32166	3RS ET
09-Jun-17	SWL	3	1.399	SUMMER	32166	3RS ET
09-Jun-17	SWL	4	4.060	SUMMER	32166	3RS ET
12-Jun-17	NEL	2	1.100	SUMMER	32166	3RS ET
12-Jun-17	NEL	3	28.890	SUMMER	32166	3RS ET
12-Jun-17	NEL	4	7.910	SUMMER	32166	3RS ET
15-Jun-17	NEL	1	4.600	SUMMER	32166	3RS ET
15-Jun-17	NEL	2	37.200	SUMMER	32166	3RS ET
22-Jun-17	SWL	2	25.837	SUMMER	32166	3RS ET
22-Jun-17	SWL	3	29.935	SUMMER	32166	3RS ET
22-Jun-17	SWL	4	2.840	SUMMER	32166	3RS ET
		2	37.550			
23-Jun-17	NWL	3		SUMMER	32166	3RS ET
23-Jun-17 23-Jun-17	NWL		31.360	SUMMER SUMMER	32166	3RS ET
	NWL	4	4.790		32166	3RS ET
23-Jun-17	NEL	2	4.930	SUMMER	32166	3RS ET
23-Jun-17	NEL	3	2.930	SUMMER	32166	3RS ET
28-Jun-17	AW	2	4.750	SUMMER	32166	3RS ET
28-Jun-17	WL	2	4.697	SUMMER	32166	3RS ET
28-Jun-17	WL	3	16.707	SUMMER	32166	3RS ET
28-Jun-17	WL	4	8.280	SUMMER	32166	3RS ET
28-Jun-17	SWL	3	4.960	SUMMER	32166	3RS ET

Notes:

CWD monitoring survey data of the two preceding survey months (i.e. April and May 2017) 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.
05-Apr-17	1	1132	CWD	2	NWL	2	128	ON	3RS ET	22.3787	113.8765	SPRING	NONE
05-Apr-17	2	1147	CWD	3	NWL	2	16	ON	3RS ET	22.3827	113.8768	SPRING	NONE
11-Apr-17	1	1042	FP	1	SWL	1	336	ON	3RS ET	22.1801	113.9363	SPRING	NONE
11-Apr-17	2	1051	FP	6	SWL	1	3	ON	3RS ET	22.1699	113.9359	SPRING	NONE
11-Apr-17	3	1103	FP	5	SWL	1	43	ON	3RS ET	22.1561	113.9358	SPRING	NONE
11-Apr-17	4	1212	FP	5	SWL	2	363	ON	3RS ET	22.1480	113.9180	SPRING	NONE
18-Apr-17	1	1023	CWD	1	WL	3	17	ON	3RS ET	22.2698	113.8441	SPRING	NONE
18-Apr-17	2	1047	CWD	7	WL	2	580	ON	3RS ET	22.2605	113.8488	SPRING	NONE
18-Apr-17	3	1113	CWD	5	WL	2	277	ON	3RS ET	22.2578	113.8378	SPRING	NONE
18-Apr-17	4	1246	CWD	3	WL	2	278	ON	3RS ET	22.1873	113.8417	SPRING	NONE
18-Apr-17	5	1302	CWD	5	WL	2	450	ON	3RS ET	22.1870	113.8378	SPRING	NONE
18-Apr-17	6	1330	CWD	2	SWL	2	40	ON	3RS ET	22.1831	113.8499	SPRING	NONE
18-Apr-17	7	1406	CWD	2	SWL	2	512	ON	3RS ET	22.1925	113.8595	SPRING	NONE
26-Apr-17	1	1022	CWD	1	SWL	2	48	ON	3RS ET	22.2170	113.9356	SPRING	PURSE SEINE
26-Apr-17	2	1224	FP	2	SWL	2	89	ON	3RS ET	22.1526	113.9068	SPRING	NONE
26-Apr-17	3	1441	CWD	3	SWL	3	55	ON	3RS ET	22.1699	113.8684	SPRING	NONE
26-Apr-17	4	1456	CWD	2	SWL	3	755	ON	3RS ET	22.1692	113.8691	SPRING	NONE
04-May-17	1	1423	CWD	2	SWL	1	318	ON	3RS ET	22.2114	113.8839	SPRING	NONE
05-May-17	1	1032	CWD	11	WL	3	143	ON	3RS ET	22.2318	113.8279	SPRING	NONE
05-May-17	2	1121	CWD	3	WL	2	263	ON	3RS ET	22.2231	113.8363	SPRING	NONE
05-May-17	3	1135	CWD	1	WL	2	271	ON	3RS ET	22.2230	113.8263	SPRING	NONE
05-May-17	4	1211	CWD	5	WL	2	343	ON	3RS ET	22.2053	113.8398	SPRING	NONE
05-May-17	5	1305	CWD	7	WL	2	650	ON	3RS ET	22.1966	113.8405	SPRING	NONE
11-May-17	1	1041	CWD	1	WL	1	171	ON	3RS ET	22.2598	113.8467	SPRING	NONE
11-May-17	2	1118	CWD	9	WL	1	800	ON	3RS ET	22.2466	113.8511	SPRING	NONE
11-May-17	3	1148	CWD	13	WL	2	442	ON	3RS ET	22.2414	113.8442	SPRING	NONE
11-May-17	4	1217	CWD	6	WL	2	118	ON	3RS ET	22.2407	113.8333	SPRING	NONE
11-May-17	5	1228	CWD	6	WL	1	79	ON	3RS ET	22.2378	113.8266	SPRING	NONE
11-May-17	6	1236	CWD	7	WL	2	760	ON	3RS ET	22.2316	113.8287	SPRING	NONE
11-May-17	7	1315	CWD	9	WL	3	306	ON	3RS ET	22.2231	113.8195	SPRING	NONE
11-May-17	8	1335	CWD	11	WL	3	26	ON	3RS ET	22.2157	113.8177	SPRING	NONE

DATE	STG #	TIME	CWD/FP	GP SZ	AREA	BEAU	PSD	EFFORT	TYPE	DEC LAT	DEC LON	SEASON	BOAT ASSOC.
11-May-17	9	1432	CWD	6	WL	3	1021	ON	3RS ET	22.1867	113.8433	SPRING	NONE
11-May-17	10	1513	CWD	6	SWL	4	409	ON	3RS ET	22.1827	113.8498	SPRING	NONE
11-May-17	11	1543	CWD	4	SWL	3	354	ON	3RS ET	22.1967	113.8590	SPRING	NONE
23-May-17	1	1115	CWD	2	SWL	3	1472	ON	3RS ET	22.1802	113.9281	SPRING	NONE
23-May-17	2	1459	CWD	2	SWL	2	N/A	OFF	3RS ET	22.2029	113.8976	SPRING	NONE
07-Jun-17	1	1224	CWD	1	SWL	2	N/A	OFF	3RS ET	22.1766	113.9070	SUMMER	NONE
07-Jun-17	2	1249	CWD	6	SWL	2	125	ON	3RS ET	22.2030	113.9079	SUMMER	NONE
07-Jun-17	3	1507	CWD	2	SWL	2	116	ON	3RS ET	22.2007	113.8684	SUMMER	NONE
08-Jun-17	1	1202	CWD	2	NWL	3	362	ON	3RS ET	22.3993	113.8889	SUMMER	NONE
09-Jun-17	1	1106	CWD	5	WL	2	846	ON	3RS ET	22.2413	113.8450	SUMMER	NONE
09-Jun-17	2	1207	CWD	2	WL	4	138	ON	3RS ET	22.2311	113.8382	SUMMER	NONE
09-Jun-17	3	1240	CWD	3	WL	3	44	ON	3RS ET	22.2120	113.8372	SUMMER	NONE
09-Jun-17	4	1358	CWD	5	SWL	3	6	ON	3RS ET	22.1915	113.8592	SUMMER	NONE
22-Jun-17	1	1026	CWD	9	SWL	2	620	ON	3RS ET	22.2094	113.9364	SUMMER	NONE
22-Jun-17	2	1200	CWD	3	SWL	3	11	ON	3RS ET	22.2054	113.9266	SUMMER	NONE
22-Jun-17	3	1212	CWD	1	SWL	3	67	ON	3RS ET	22.2055	113.9258	SUMMER	NONE
22-Jun-17	4	1222	CWD	1	SWL	3	25	ON	3RS ET	22.2053	113.9191	SUMMER	NONE
22-Jun-17	5	1230	CWD	2	SWL	2	64	ON	3RS ET	22.2026	113.9178	SUMMER	NONE
22-Jun-17	6	1248	CWD	1	SWL	2	720	ON	3RS ET	22.1941	113.9184	SUMMER	NONE
22-Jun-17	7	1354	CWD	2	SWL	2	28	ON	3RS ET	22.1916	113.9083	SUMMER	NONE
22-Jun-17	8	1406	CWD	3	SWL	2	5	ON	3RS ET	22.2063	113.9061	SUMMER	NONE
23-Jun-17	1	1001	CWD	1	NWL	2	72	ON	3RS ET	22.3476	113.8690	SUMMER	NONE
23-Jun-17	2	1212	CWD	2	NWL	3	17	ON	3RS ET	22.4073	113.8882	SUMMER	NONE
28-Jun-17	1	1028	CWD	3	WL	3	869	ON	3RS ET	22.2694	113.8568	SUMMER	NONE
28-Jun-17	2	1047	CWD	3	WL	2	65	ON	3RS ET	22.2649	113.8580	SUMMER	NONE
28-Jun-17	3	1119	CWD	5	WL	3	49	ON	3RS ET	22.2480	113.8515	SUMMER	NONE
28-Jun-17	4	1141	CWD	2	WL	3	250	ON	3RS ET	22.2411	113.8454	SUMMER	NONE
28-Jun-17	5	1201	CWD	2	WL	3	4	ON	3RS ET	22.2321	113.8296	SUMMER	NONE
28-Jun-17	6	1214	CWD	5	WL	4	482	ON	3RS ET	22.2232	113.8342	SUMMER	NONE
28-Jun-17	7	1250	CWD	2	WL	3	441	ON	3RS ET	22.2144	113.8268	SUMMER	NONE
28-Jun-17	8	1330	CWD	5	WL	3	224	ON	3RS ET	22.1953	113.8375	SUMMER	NONE
28-Jun-17	9	1428	CWD	1	SWL	3	1164	ON	3RS ET	22.1831	113.8593	SUMMER	NONE

Abbreviations: STG# = Sighting Number; GP SZ = Dolphin 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

Notes:

CWD monitoring survey data of the two preceding survey months (i.e. April and May 2017) are presented for reference only. No relevant figure or text will be mentioned in the 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 June 2017 encounter rates STG and ANI in the whole survey area (NEL, NWL, AW, WL, SWL):

A total of 380.867 km of survey effort was collected under Beaufort Sea State 3 or below with favourable visibility; total no. of 24 on-effort sightings and total number of 71 dolphins from on-effort sightings were collected under such condition. Calculation of the encounter rates in June 2017 are shown as below:

Encounter Rate by Number of Dolphin Sightings (STG) in June 2017

$$STG = \frac{24}{380.867} \times 100 = 6.30$$

Encounter Rate by Number of Dolphins (ANI) in June 2017

$$ANI = \frac{71}{380.867} \times 100 = 18.64$$

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

A total of 1190.104 km of survey effort was collected under Beaufort Sea State 3 or below with favourable visibility; total no. of 53 on-effort sightings and total number of 210 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)

$$STG = \frac{53}{1190.104} \times 100 = 4.45$$

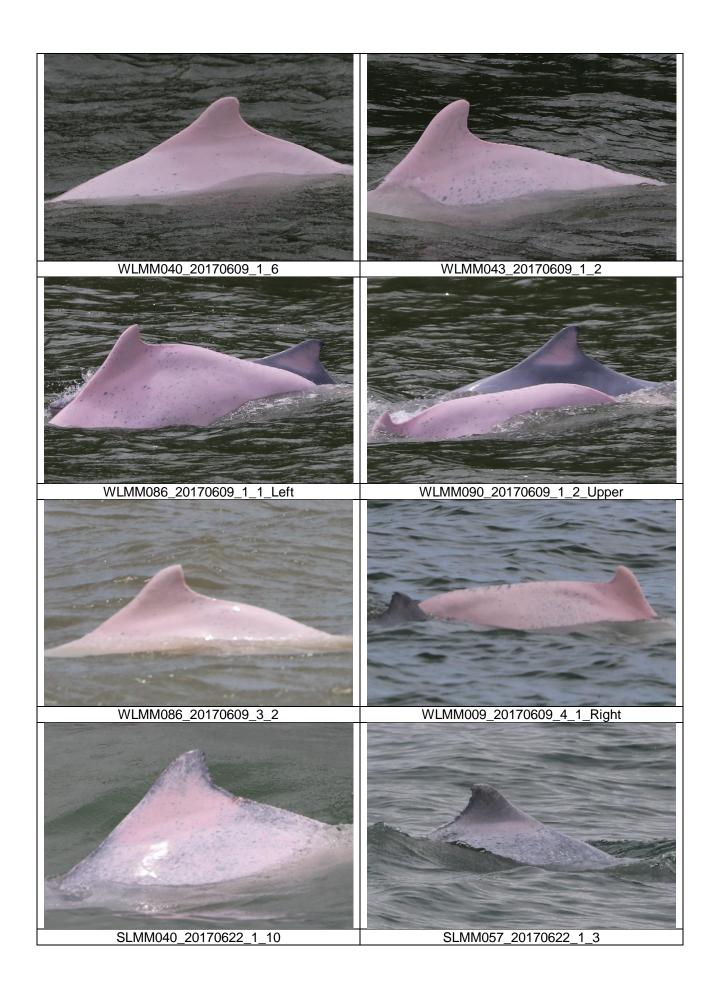
Running Quarterly Encounter Rate by Number of Dolphins (ANI)

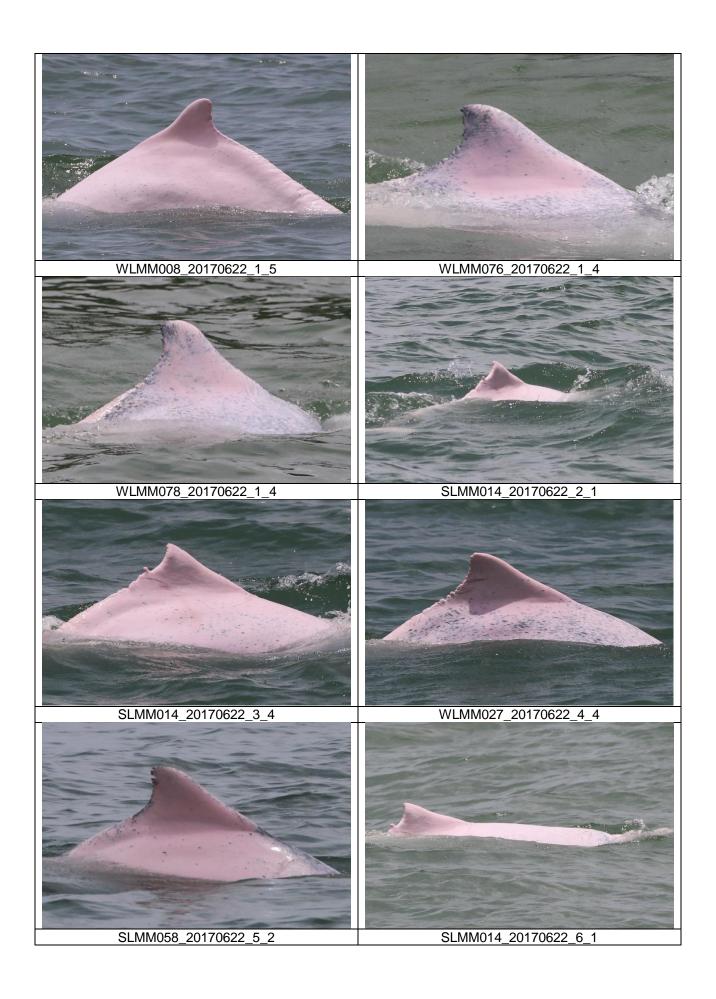
$$ANI = \frac{210}{1190.104} \times 100 = 17.65$$

CWD Small Vessel Line-transect Survey

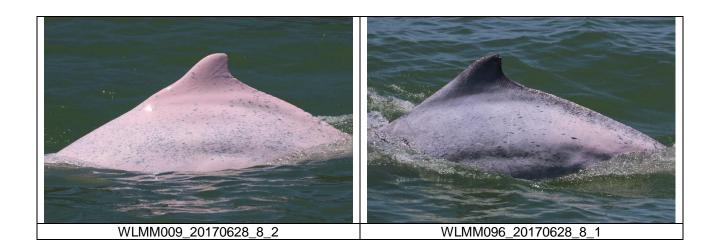
Photo Identification











CWD Land-based Theodolite Tracking

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
22/Jun/17	Lung Kwu Chau	8:44	14:44	6:00	2-3	2	0	N/A
23/Jun/17	Sha Chau	8:44	14:44	6:00	2-3	1-2	0	N/A
26/Jun/17	Lung Kwu Chau	8:37	14:40	6:03	1-3	2	5	3-5
27/Jun/17	Sha Chau	8:39	14:39	6:00	2-3	1-2	0	N/A
29/Jun/17	Lung Kwu Chau	8:46	14:46	6:00	2-3	1	4	2-5

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

Appendix D. Calibration Certificates



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CALIBRATION REPORT

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AG060187

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June 27, 2017

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PART A - CUSTOMER INFORMATION

Enovative Environmental Service Ltd. Rm 811. Hin Pui House, Hin Keng Estate, Tai Wai 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

15M101244

Date of Received

Jun 16, 2017

Date of Calibration

Jun 16, 2017

Date of Next Calibration(a)

Sep 16, 2017

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter

Reference Method

pH at 25°C

APHA 21e 4500-H+ B

Dissolved Oxygen

APHA 21e 4500-O G 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	4.06	+0.06	Satisfactory
7.42	7.49	+0.07	Satisfactory
10.01	10.07	+0.06	Satisfactory

Tolerance of pH should be less than ±0.10 (pH unit)

~ 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

"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 QPT or quoted form relevant international standards.

APPROVED SIGNATORY:

CHAN Mei-wah Amy Assistant Lab. Manager

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



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PART D - CALIBRATION RESULTS (Cont'd)

(2) Temperature

) Temperature			
Reading of Ref. thermometer	Displayed Reading (°C)	Tolerance (°C)	Results
16.1	16.2	+0.1	Satisfactory
16.1	22.6	-0.4	Satisfactory
23.0		-0.5	Satisfactory
37.0	36.5	-0.5	Outlotatio

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

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.16	8.13	-0.03	Satisfactory
8.16	3,58	+0.04	Satisfactory
3.54	0.41	-0.04	Satisfactory
0.45	0.41	0.01	•

Tolerance limit of dissolved oxygen should be less than ±0.20 (mg/L)

(4) Conductivity at 25°C

Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)	Results
146.9	146.1	-0.54	Satisfactory
1412	1451	+2.8	Satisfactory
12890	12740	-1.16	Satisfactory
27 U Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z	57408	-2.15	Satisfactory
58670	110248	-1.50	Satisfactory
111900	110240	1.50	

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

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.96	-0.4	Satisfactory
30	20.17	+0.9	Satisfactory
20	29.97	-0.1	Satisfactory

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

(6) Turbidity

urbluity	(2)		Dagulto
Expected Reading (NTU)	Displayed Reading ^(f) (NTU)	Tolerance ^(g) (%)	Results
0	0		Satisfactory
4	3.8	-5.0	Satisfactory
20	21.9	+9.5	Satisfactory
20	98.4	-1.6	Satisfactory
100	15 00000 //	+2.3	Satisfactory
800	818	T2.3	Dutisitietor

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

~ END OF REPORT ~

Remark(s): -

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PART A - CUSTOMER INFORMATION

Enovative Environmental Service Ltd.

Rm 811, Hin Pui House, Hin Keng Estate, Tai Wai 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

16J101716

Date of Received

Jun 16, 2017

Date of Calibration

Jun 16, 2017

Date of Next Calibration(a)

Sep 16, 2017

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter

Reference Method

pH at 25°C

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

Dissolved Oxygen Conductivity at 25°C

APHA 21e 2510 B

Salinity

APHA 21e 2520 B

Turbidity

APHA 21e 2130 B

Temperature

Section 6 of international Accreditation New Zealand Technical

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

PART D - CALIBRATION RESULTS(b,c)

(1) nH at 25°C

Target (pH unit)	Displayed Reading(d) (pH Unit)	Tolerance ^(e) (pH Unit)	Results
4.00	3.94	-0.06	Satisfactory
7.42	7.39	-0.03	Satisfactory
10.01	10.07	+0.06	Satisfactory

Tolerance of pH should be less than ±0.10 (pH unit)

(2) Temperature

Reading of Ref. thermometer	Displayed Reading (°C)	Tolerance (°C)	Results
16.1	15.9	-0.2	Satisfactory
23.0	22.6	-0.4	Satisfactory
37.0	36.3	-0.7	Satisfactory

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

~ CONTINUED ON NEXT PAGE ~

Remark(s): -

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

APPROVED SIGNATORY:

CHAN Mei-wah Amy Assistant Lab. Manager



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
0.45	0.39	-0.06	Satisfactory
3 54	3.50	-0.04	Satisfactory
8.16	8.19	+0.03	Satisfactory

Tolerance limit of dissolved oxygen should be less than ±0.20 (mg/L)

(4) Conductivity at 25°C

Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)	Results
146.9	151.8	+3.3	Satisfactory
1412	1430	+1.3	Satisfactory
12890	12545	-2.7	Satisfactory
58670	56934	-3.0	Satisfactory
111900	109362	-2.3	Satisfactory

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

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.91	-0.9	Satisfactory
20	20.12	+0.6	Satisfactory
30	30.18	+0.6	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	in m	Satisfactory
4	4.1	+2.5	Satisfactory
20	19.8	-1.0	Satisfactory
100	107	+7.0	Satisfactory
800	782	-2.3	Satisfactory

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

~ END OF REPORT ~

Remark(s): -

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Report of Equipment Performance Check/Calibration

Report No.

AG060181

Date of Issue

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PART A - CUSTOMER INFORMATION

Enovative Environmental Service Ltd.

Rm 811, Hin Pui House, Hin Keng Estate, Tai Wai New Territories, Hong Kong Attn: Mr. Thomas WONG

PART B - DESCRIPTION

Name of Equipment

YSI 6920 V2 Sonde (Multi-Parameters)

Manufacturer

YSI (a xylem brand)

Serial Number Date of Received 00019CB2

Date of Calibration

16 Jun, 2017 16 Jun, 2017

Date of Next Calibration(a)

16 Sep, 2017

PART C - REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Reference Method <u>Parameter</u> pH at 25°C APHA 21e 4500-H+ B APHA 21e 4500-O G Dissolved Oxygen APHA 21e 2510 B Conductivity at 25°C APHA 21e 2520 B Salinity APHA 21e 2130 B

Turbidity 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	4.06	+0.06	Satisfactory
7.42	7.35	-0.07	Satisfactory
10.01	9.98	-0.03	Satisfactory

Tolerance of pH should be less than ±0.10 (pH unit)

~ CONTINUED ON NEXT PAGE ~

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

"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 QPT or quoted form relevant international standards.

APPROVED SIGNATORY:

FUNG Yuen-ching Aries Laboratory Manager



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Report of Equipment Performance Check/Calibration

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PART D - CALIBRATION RESULTS (Cont'd)

(2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
16.1	15.9	-0.2	Satisfactory
23.0	23.4	+0.4	Satisfactory
37.0	36.4	-0.6	Satisfactory

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

(3) Dissolved Oxygen

• 0			
Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.45	0.49	+0.04	Satisfactory
3.54	3.48	-0.06	Satisfactory
8.16	8.12	-0.04	Satisfactory

Tolerance limit of dissolved oxygen should be less than ±0.20 (mg/L)

(4) Conductivity at 25°C

Expected Reading (µS/cm)	Displayed Reading (μS/cm)	Tolerance (%)	Results
146.9	142.4	-3.1	Satisfactory
1412	1392	-1.4	Satisfactory
12890	12382	-3.9	Satisfactory
58670	57432	-2.1	Satisfactory
111900	107938	-3.5	Satisfactory

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

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.91	-0.9	Satisfactory
20	20.11	+0.6	Satisfactory
30	30.14	+0.5	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		Satisfactory
4	4.1	+2.5	Satisfactory
20	20.9	+4.5	Satisfactory
100	103	+3.0	Satisfactory
800	824	+3.0	Satisfactory

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

Remark(s): -

[~] END OF REPORT ~

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QUALITY PRO TEST-CONSULT LIMITED

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Report of Equipment Performance Check/Calibration

Report No.

AG060182

Date of Issue

22 June 2017

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PART A - CUSTOMER INFORMATION

Enovative Environmental Service Ltd.

Rm 811, Hin Pui House, Hin Keng Estate, Tai Wai New Territories, Hong Kong

Attn: Mr. Thomas WONG

PART B - DESCRIPTION

Name of Equipment

: YSI 6920 V2 Sonde (Multi-Parameters)

Manufacturer

YSI (a xylem brand)

Serial Number

000109DF

Date of Received

16 Jun, 2017

Date of Calibration

16 Jun, 2017

Date of Next Calibration^(a)

16 Sep, 2017

PART C - REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter

Reference Method

pH at 25°C

APHA 21e 4500-H+ B

Dissolved Oxygen

APHA 21e 4500-O G 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	4.03	+0.03	Satisfactory
7.42	7.43	+0.01	Satisfactory
10.01	10.05	+0.04	Satisfactory

Tolerance of pH should be less than ±0.10 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
16.1	16.0	-0.1	Satisfactory
23.0	23.3	+0.3	Satisfactory
37.0	36.8	-0.2	Satisfactory

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

~ CONTINUED ON NEXT PAGE ~

Remark(s): -

(ii) 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

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

(d) "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 QPT or quoted form relevant international standards.

APPROVED SIGNATORY:

FUNG Yuen-ching Aries Laboratory Manager



業化驗有限公司

QUALITY PRO TEST-CONSULT LIMITED

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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AG060182

Date of Issue

22 June 2017

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PART D - CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.45	0.42	-0.03	Satisfactory
3.54	3.51	-0.03	Satisfactory
8.16	8.11	-0.05	Satisfactory

Tolerance limit of dissolved oxygen should be less than ±0.20 (mg/L)

(4) Conductivity at 25°C

Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)	Results
146.9	144.0	-2.0	Satisfactory
1412	1338	-5.2	Satisfactory
12890	12462	-3.3	Satisfactory
58670	57332	-2.3	Satisfactory
111900	108004	-3.5	Satisfactory

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

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.94	-0.6	Satisfactory
20	20.02	+0.1	Satisfactory
30	30.09	+0.3	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		Satisfactory
4	3.8	+5.0	Satisfactory
20	21.2	+6.0	Satisfactory
100	95.4	+4.6	Satisfactory
800	821	+2.6	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.

CALIBRATION REPORT

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PART A - CUSTOMER INFORMATION

Enovative Environmental Service Ltd. Rm 811, Hin Pui House, Hin Keng Estate, Tai Wai New Territories, Hong Kong Attn: Mr. Thomas Wong

PART B - SAMPLE INFORMATION

Description of Samples

Titrette bottletop burette, 50ml

Brand Name

BRAND

Model Number

1224B90

Serial Number

10N65665

Equipment Number

Date of Received

Jun 16, 2017

Date of Calibration

Jun 19, 2017

Date of Next Calibration(a)

Sep 19, 2017

PART C - CALIBRATION REQUESTED

Parameter

Reference Method

Accuracy Test

In-house Method (Gravimetric Method)

~ Continued On Next Page ~

Remark(s): -

APPROVED SIGNATORY:

CHAN Mei-wah Amy Assistant Lab. Manager

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



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QUALITY PRO TEST-CONSULT LIMITED

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

CALIBRATION REPORT

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PART D - RESULT(b),(c)

Water temperature: 23.5 ℃

Relative humidity: 58%

z-Factor: 1.0036

	Nominal volume (mL) at interval							
	3	3	3	3	3			
Trial	Range: (1-4)	Range: (16-19)	Range: (23-26)	Range: (34-37)	Range: (42-45)			
1	2.9845	2.9774	2.9779	2.9887	2.9797			
2	2.9891	2.9842	2.9859	2.9826	2.9866			
3	2.9894	2.9745	2.9876	2.9882	2.9808			
4	2.9872	2.9882	2.9838	2.9819	2.9702			
5	2.9839	2.9825	2.9858	2.9875	2.9892			
6	2.9828	2.9886	2.9823	2.9898	2.9805			
7	2.9802	2.9845	2.9821	2.9906	2.9776			
8	2.9863	2.9833	2.9814	2.9841	2.9793			
9	2.9815	2.9909	2.9849	2.9811	2.9825			
10	2.9849	2.9808	2.9848	2.9898	2.9807			
Average	2.9850	2.9835	2.9837	2.9864	2.9807			
Standard deviation	0.0031	0.0051	0.0028	0.0036	0.0051			
Calculated volume (mL)	2.9957	2.9942	2.9944	2.9972	2.9914			
Error (%)	-0.1425	-0.1923	-0.1870	-0.0940	-0.2853			
RSD (%)	0.1022	0.1692	0.0935	0.1211	0.1702			

Acceptance Criteria (d)

Accuracy (%Error)	<±1%	<±1%	<±1%	< ±1%	< ±1%
Precision (%RSD)	< 1%	< 1%	< 1%	< 1%	< 1%

~ END OF REPORT ~

Remark(s):
(b) The results relate only to the tested sample 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.

The "acceptance criteria" is applicable for similar equipment used by QPT 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
P560 (R)	Notification of Construction Work under APCO	Launching Site	397150	Receipt acknowledged by EPD on 15 Jan 2016
		Site Office	397151	_
		Stockpiling Area	398015	Receipt acknowledged by EPD on 18 Jan 2016
		Sheung Sha Chau	405860	Receipt acknowledged by EPD on 5 Aug 2016
	Construction Noise Launching Permit (General Works) Site		GW-RS0243-17	Valid from 21 Mar 2017 to 20 Sep 2017
	Permit (General Works) Site Stockpiling Area		GW-RS0242-17	Valid from 23 Mar 2017 to 22 Sep 2017
	Discharge License under WPCO	Launching Site	WT00024249- 2016	Approved on 25 Apr 2016
		Stockpiling Area	WT00024250- 2016	Approved on 25 Apr 2016
	Registration as Launching Chemical Waste Site Producer		WPN 5213-951- L2902-01	Update the Registration on 3 Oct 2016
		Stockpiling Area	WPN 5213-951- L2902-02	Update the Registration on 3 Oct 2016
	Bill Account for disposal		A/C 7023982	Approval granted from EPD on 14 Dec 2015
3201	Notification of Construction Work under APCO	Works area of 3201	406004	Receipt acknowledged by EPD on 10 Aug 2016
	Construction Noise Permit (General Works)	Works area of 3201	GW-RS0398-17	Valid from 28 Apr 2017 to 27 Oct 2017
	Registration as Chemical Waste Producer	Works area of 3201	WPN 5213-951- P3231-01	Completion of Registration on 9 Sep 2016
	Bill Account for disposal		A/C 7025760	Approval granted from EPD on 31 Aug 2016
3202	Notification of Construction Work under APCO	Works area of 3202	407624	Receipt acknowledged by EPD on 15 Sep 2016
	Construction Noise Permit (General Works)	Works area of 3202	GW-RS0312-17	Valid from 7 Apr 2017 to 26 Sep 2017
		Site Office of 3202	GW-RS0145-17	Valid from 21 Feb 2017 to 20 Aug 2017

	Description		Permit/ Reference No.	Status
	Registration as Chemical Waste Producer	Works area of 3202	WPN 5213-951- S3967-01	Completion of Registration on 24 Oct 2016
	Discharge License	Works area of 3202	WT00028293- 2017	Valid from 12 Jun 2017 to 30 June 2022
	Bill Account for disposal		A/C 7025739	Approval granted from EPD on 31 August 2016
3203	Notification of Construction Work under APCO	Works area of 3203	407053	Receipt acknowledged by EPD on 2 Sep 2016
	Construction Noise Permit (General Works)	Works area of 3203	GW-RS0323-17	Valid from 19 Apr 2017 to 18 Oct 2017
	Registration as Chemical Waste Producer	Works area of 3203	WPN 5213-951- S3954-01	Update the Registration on 12 Dec 2016
	Discharge License	Works area of 3203	WT00028251- 2017	Valid from 9 Jun 2017 to 30 June 2022
	Bill Account for disposal		A/C 7025846	Approval granted from EPD on 9 Sep 2016
3204	Notification of Construction Work under APCO	Works area of 3204	406446	Receipt acknowledged by EPD on 19 Aug 2016
	Construction Noise Permit (General Works)	Works Area of 3204	GW-RS0213-17	Valid from 14 Mar 2017 to 13 Sep 2017
		Site Office of 3204	GW-RS0136-17	Valid from 17 Feb 2017 to 16 Aug 2017
	Registration as Chemical Waste Producer	Works Area of 3204	WPN 5213-951- C4102-01	Completion of Registration on 15 Sep 2016
		Site Office of 3204	WPN 5213-951- C4102-02	Completion of Registration on 17 Mar 2017
	Discharge License	Works area of 3204	WT00028245- 2017	Valid from 5 Jun 2017 to 30 June 2022
	Bill Account for disposal		A/C 7025969	Approval granted from EPD on 21 Sep 2016
3205	Notification of Construction Work under APCO	Works area of 3205	409041	Receipt acknowledged by EPD on 19 Oct 2016
	Registration as Chemical Waste Producer	Works Area of 3205	WPN 5213-951- B2502-01	Completion of Registration on 13 Jan 2017
		Works Area of 3205	WPN 5111-421- B2509-01	Completion of Registration on 22 Feb 2017
	Construction Noise Permit (General Works)	Works Area of 3205	GW-RS0434-17	Valid from 15 May 2017 to 11 Nov 2017
	Discharge License	Works area of 3205	WT00028370- 2017	Valid from 21 Jun 2017 to 30 June 2022
	Bill Account for disposal	Works area of 3205	A/C 7026295	Approval granted from EPD on 9 Nov 2016
3206	Notification of Construction Work under APCO	Works area of 3206	409237	Receipt acknowledged by EPD on 25 Oct 2016
	Registration as Chemical Waste Producer	Site office of 3206	WPN 5213-951- Z4035-01	Completion of Registration on 18 Nov 2016
		Works area of 3206	WPN 5213-951- Z4035-02	Completion of Registration on 18 Nov 2016

Description		Permit/ Reference No.	Status
Construction Noise Permit (General Works)	Works Area of 3206	GW-RS0458-17	Valid from 20 May 2017 to 19 Nov 2017
	Works Area of 3206	GW-RS0430-17	Valid from 25 May 2017 to 20 Sep 2017
	Site Office of 3206	GW-RS0148-17	Valid from 27 Feb 2017 to 10 Jun 2017 (Superseded by GW-RS0511-17 on 14 Jun 2017)
	Site Office of 3206	GW-RS0511-17	Valid from 14 Jun 2017 to 15 Sep 2017
Bill Account for disposal	Works area of 3206	A/C 7026398	Approval granted from EPD on 16 Nov 2016

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

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

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

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

Statistics for Complaints, Notifications of Summons and Prosecution

Reporting Period	Cumulative Statistics					
	Complaints	Notifications of Summons	Prosecutions			
This reporting month	0	1	0			
From 28 December 2015 to end of the reporting month	5	1	0			

Appendix G. Data of SkyPier HSF Movements to/from Zhuhai and Macau (between 1 and 30 June 2017)

<u>Data of SkyPier HSF Movements to/from Zhuhai and Macau (between 1 and 30 June 2017)</u>

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MEM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
01-Jun	08:18	3A061	YFT	Arrival	11.6	-	-
01-Jun	08:26	8S210	MFM	Arrival	12.8	-	-
01-Jun	10:02	3A071	MFM	Arrival	12.1	-	-
01-Jun	10:47	8S212	MFM	Arrival	12.4	-	-
01-Jun	10:53	3A081	ZUI	Arrival	12.1	-	-
01-Jun	11:09	8S121	MFM	Departure	13	-	-
01-Jun	11:17	3A063	YFT	Arrival	12.4	-	-
01-Jun	12:13	3A168	YFT	Departure	12.7	-	-
01-Jun	12:16	3A181	ZUI	Departure	13	-	-
01-Jun	12:46	8S215	MFM	Arrival	11.2	-	-
01-Jun	13:08	3A064	YFT	Arrival	12.1	1	-
01-Jun	13:16	8S123	MFM	Departure	11.7	1	-
01-Jun	13:54	3A082	ZUI	Arrival	12.4	1	-
01-Jun	14:10	3A182	ZUI	Departure	13.1	-	-
01-Jun	14:22	3A164	YFT	Departure	11.5	-	-
01-Jun	15:12	3A065	YFT	Arrival	12.7	-	-
01-Jun	16:14	3A167	YFT	Departure	12.7	-	-
01-Jun	16:39	3A083	ZUI	Arrival	12.4	-	-
01-Jun	16:47	8S218	MFM	Arrival	11.1	-	-
01-Jun	17:03	3A183	ZUI	Departure	12.4	1	-
01-Jun	17:05	8S126	MFM	Departure	11.5	1	-
01-Jun	17:16	3A067	YFT	Arrival	11.9	-	-
01-Jun	19:05	3A166	YFT	Departure	12.6	-	-
01-Jun	19:48	3A084	ZUI	Arrival	12.6	-	-
01-Jun	20:04	3A185	ZUI	Departure	13	-	-
01-Jun	20:57	3A169	YFT	Departure	11.6	-	-
01-Jun	21:05	8S2113	MFM	Arrival	11.8	-	-
01-Jun	21:58	8S522	MFM	Departure	11.4	-	-
02-Jun	08:17	3A061	YFT	Arrival	12.5	-	-
02-Jun	08:34	8S210	MFM	Arrival	12.6	-	-
02-Jun	09:55	3A071	MFM	Arrival	12.4	-	-
02-Jun	10:43	8S212	MFM	Arrival	12.4	-	-
02-Jun	10:49	3A081	ZUI	Arrival	12.9	-	-
02-Jun	11:06	8S121	MFM	Departure	11.5	-	-
02-Jun	11:20	3A063	YFT	Arrival	12	-	-
02-Jun	12:20	3A168	YFT	Departure	12.7	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUL- Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
02-Jun	12:24	3A181	ZUI	Departure	12.9	-	-
02-Jun	12:50	8S215	MFM	Arrival	12.5	-	-
02-Jun	12:59	3A064	YFT	Arrival	12.5	-	-
02-Jun	13:05	8S123	MFM	Departure	12.9	-	-
02-Jun	13:45	3A082	ZUI	Arrival	12.7	-	-
02-Jun	14:10	3A182	ZUI	Departure	13.2	-	-
02-Jun	14:15	3A164	YFT	Departure	12.7	-	-
02-Jun	15:15	3A065	YFT	Arrival	12	-	-
02-Jun	16:18	3A167	YFT	Departure	12.5	-	-
02-Jun	16:39	3A083	ZUI	Arrival	12.4	-	-
02-Jun	16:42	8S218	MFM	Arrival	13.1	-	-
02-Jun	17:01	3A183	ZUI	Departure	12.9	-	-
02-Jun	17:01	8S126	MFM	Departure	12.5	-	-
02-Jun	17:14	3A067	YFT	Arrival	12.2	-	-
02-Jun	19:06	3A166	YFT	Departure	13	-	-
02-Jun	19:49	3A084	ZUI	Arrival	12.9	-	-
02-Jun	20:12	3A185	ZUI	Departure	13	-	-
02-Jun	20:58	8S2113	MFM	Arrival	12.1	-	-
02-Jun	21:04	3A169	YFT	Departure	12.3	-	-
02-Jun	22:02	8S522	MFM	Departure	12.2	-	-
03-Jun	08:17	3A061	YFT	Arrival	13.2	-	-
03-Jun	08:32	8S210	MFM	Arrival	13.3	-	-
03-Jun	10:00	3A071	MFM	Arrival	11	-	-
03-Jun	10:37	8S212	MFM	Arrival	12.6	-	-
03-Jun	10:43	3A081	ZUI	Arrival	13.1	-	-
03-Jun	11:17	8S121	MFM	Departure	13	-	-
03-Jun	11:23	3A063	YFT	Arrival	11.9	-	-
03-Jun	12:22	3A181	ZUI	Departure	13	-	-
03-Jun	12:25	3A168	YFT	Departure	11.5	-	-
03-Jun	12:47	8S215	MFM	Arrival	11.4	-	-
03-Jun	12:54	3A064	YFT	Arrival	13.3	-	-
03-Jun	13:18	8S123	MFM	Departure	11.1	-	-
03-Jun	13:53	3A082	ZUI	Arrival	12.1	-	-
03-Jun	14:10	3A182	ZUI	Departure	12.7	-	-
03-Jun	14:16	3A164	YFT	Departure	13.6	-	-
03-Jun	15:15	3A065	YFT	Arrival	11.4	-	-
03-Jun	16:15	3A167	YFT	Departure	11.8	-	-
03-Jun	16:39	3A083	ZUI	Arrival	13.4	-	-
03-Jun	16:44	8S218	MFM	Arrival	11.7	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
03-Jun	17:00	3A067	YFT	Arrival	13.3	1	-
03-Jun	17:06	3A183	ZUI	Departure	13.6	-	-
03-Jun	17:14	8S126	MFM	Departure	11.5	1	-
03-Jun	19:06	3A166	YFT	Departure	13.2	-	-
03-Jun	19:51	3A084	ZUI	Arrival	13.1	-	-
03-Jun	20:09	3A185	ZUI	Departure	13.1	-	-
03-Jun	20:55	8S2113	MFM	Arrival	12.3	-	-
03-Jun	21:05	3A169	YFT	Departure	12.8	-	-
03-Jun	21:54	8S522	MFM	Departure	11.8	-	-
04-Jun	08:11	3A061	YFT	Arrival	12.8	-	-
04-Jun	08:26	8S210	MFM	Arrival	11.7	-	-
04-Jun	10:00	3A071	MFM	Arrival	12.3	-	-
04-Jun	10:42	3A081	ZUI	Arrival	13.4	-	-
04-Jun	10:52	8S212	MFM	Arrival	12.6	-	-
04-Jun	11:16	8S121	MFM	Departure	13	-	-
04-Jun	11:23	3A063	YFT	Arrival	12.8	-	-
04-Jun	12:22	3A168	YFT	Departure	13	-	-
04-Jun	12:27	3A181	ZUI	Departure	12.7	-	-
04-Jun	12:53	3A064	YFT	Arrival	12.6	-	-
04-Jun	12:56	8S215	MFM	Arrival	12.8	-	-
04-Jun	13:21	8S123	MFM	Departure	13.1	-	-
04-Jun	13:59	3A082	ZUI	Arrival	12.3	-	-
04-Jun	14:29	3A164	YFT	Departure	12.9	-	-
04-Jun	14:30	3A182	ZUI	Departure	12	-	-
04-Jun	15:09	3A065	YFT	Arrival	12.9	-	-
04-Jun	16:18	3A167	YFT	Departure	13.6	-	-
04-Jun	16:52	8S218	MFM	Arrival	12.3	-	-
04-Jun	16:53	3A083	ZUI	Arrival	13.2	-	-
04-Jun	16:56	3A067	YFT	Arrival	12.8	-	-
04-Jun	17:17	8S126	MFM	Departure	13.3	-	-
04-Jun	17:20	3A183	ZUI	Departure	13.5	-	-
04-Jun	19:05	3A166	YFT	Departure	12	-	-
04-Jun	19:54	3A084	ZUI	Arrival	13.3	-	-
04-Jun	20:15	3A185	ZUI	Departure	13.1	-	-
04-Jun	21:01	8S2113	MFM	Arrival	11.9	-	-
04-Jun	21:08	3A169	YFT	Departure	12.5	-	-
04-Jun	21:55	8S522	MFM	Departure	12.3	-	-
05-Jun	08:16	3A061	YFT	Arrival	12.1	-	-
05-Jun	08:29	8S210	MFM	Arrival	12	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
05-Jun	09:48	3A071	MFM	Arrival	13.5	1	-
05-Jun	10:42	3A081	ZUI	Arrival	13.4	-	-
05-Jun	10:45	8S212	MFM	Arrival	12.6	-	-
05-Jun	11:15	8S121	MFM	Departure	12.6	-	-
05-Jun	11:25	3A063	YFT	Arrival	12.2	-	-
05-Jun	12:23	3A181	ZUI	Departure	12.7	-	-
05-Jun	12:24	3A168	YFT	Departure	11.9	-	-
05-Jun	12:56	8S215	MFM	Arrival	11.8	-	-
05-Jun	12:59	3A064	YFT	Arrival	12.4	-	-
05-Jun	13:27	8S123	MFM	Departure	12.9	-	-
05-Jun	14:08	3A082	ZUI	Arrival	13	-	-
05-Jun	14:26	3A182	ZUI	Departure	12.2	-	-
05-Jun	14:31	3A164	YFT	Departure	13	-	-
05-Jun	15:10	3A065	YFT	Arrival	11.6	-	-
05-Jun	16:15	3A167	YFT	Departure	12	-	-
05-Jun	16:39	8S218	MFM	Arrival	10.8	-	-
05-Jun	16:41	3A083	ZUI	Arrival	13.2	-	-
05-Jun	17:03	8S126	MFM	Departure	13	-	-
05-Jun	17:03	3A067	YFT	Arrival	11.7	-	-
05-Jun	17:06	3A183	ZUI	Departure	13.3	-	-
05-Jun	19:07	3A166	YFT	Departure	12.3	-	-
05-Jun	19:47	3A084	ZUI	Arrival	12.5	-	-
05-Jun	20:07	3A185	ZUI	Departure	13.6	-	-
05-Jun	20:55	8S2113	MFM	Arrival	12.8	-	-
05-Jun	21:06	3A169	YFT	Departure	12.2	-	-
05-Jun	21:59	8S522	MFM	Departure	13	-	-
06-Jun	08:16	3A061	YFT	Arrival	11.8	-	-
06-Jun	08:26	8S210	MFM	Arrival	12.2	-	-
06-Jun	10:02	3A071	MFM	Arrival	12.7	-	-
06-Jun	10:43	8S212	MFM	Arrival	12.2	-	-
06-Jun	10:45	3A081	ZUI	Arrival	12.9	-	-
06-Jun	11:12	8S121	MFM	Departure	12.3	-	-
06-Jun	11:24	3A063	YFT	Arrival	12.4	-	-
06-Jun	12:21	3A168	YFT	Departure	11.9	-	-
06-Jun	12:22	3A181	ZUI	Departure	13.7	-	-
06-Jun	12:53	8S215	MFM	Arrival	11.4	-	-
06-Jun	12:58	3A064	YFT	Arrival	12.3	-	-
06-Jun	13:21	8S123	MFM	Departure	12.4	-	-
06-Jun	13:56	3A082	ZUI	Arrival	12.8	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
06-Jun	14:17	3A182	ZUI	Departure	11.8	1	-
06-Jun	14:18	3A164	YFT	Departure	12.4	-	-
06-Jun	15:11	3A065	YFT	Arrival	11.8	-	-
06-Jun	16:20	3A167	YFT	Departure	12.2	-	-
06-Jun	16:41	8S218	MFM	Arrival	11.2	-	-
06-Jun	16:42	3A083	ZUI	Arrival	12.9	-	-
06-Jun	17:01	3A067	YFT	Arrival	11.9	-	-
06-Jun	17:15	3A183	ZUI	Departure	12.7	-	-
06-Jun	17:17	8S126	MFM	Departure	12.7	-	-
06-Jun	19:03	3A166	YFT	Departure	13	-	-
06-Jun	19:51	3A084	ZUI	Arrival	13.2	-	-
06-Jun	20:17	3A185	ZUI	Departure	13.8	-	-
06-Jun	20:59	8S2113	MFM	Arrival	12	-	-
06-Jun	21:06	3A169	YFT	Departure	11.7	-	-
06-Jun	21:57	8S522	MFM	Departure	11.7	-	-
07-Jun	08:19	3A061	YFT	Arrival	11.2	-	-
07-Jun	08:34	8S210	MFM	Arrival	11.6	-	-
07-Jun	09:50	3A071	MFM	Arrival	12.5	-	-
07-Jun	10:50	3A081	ZUI	Arrival	13.5	-	-
07-Jun	10:54	8S212	MFM	Arrival	12.3	-	-
07-Jun	11:23	3A063	YFT	Arrival	13	-	-
07-Jun	11:34	8S121	MFM	Departure	12.2	-	-
07-Jun	12:30	3A181	ZUI	Departure	13.1	-	-
07-Jun	12:31	3A168	YFT	Departure	12.2	-	-
07-Jun	12:54	8S215	MFM	Arrival	11.9	-	-
07-Jun	13:04	3A064	YFT	Arrival	11.4	-	-
07-Jun	13:18	8S123	MFM	Departure	13	-	-
07-Jun	13:57	3A082	ZUI	Arrival	13.5	-	-
07-Jun	14:15	3A182	ZUI	Departure	11.5	-	-
07-Jun	14:22	3A164	YFT	Departure	10.4	-	-
07-Jun	15:21	3A065	YFT	Arrival	12.2	-	-
07-Jun	16:21	3A167	YFT	Departure	12.8	-	-
07-Jun	16:44	3A083	ZUI	Arrival	13.1	-	-
07-Jun	16:54	8S218	MFM	Arrival	12.3	-	-
07-Jun	17:00	3A067	YFT	Arrival	11.4	-	-
07-Jun	17:09	3A183	ZUI	Departure	13	-	-
07-Jun	17:11	8S126	MFM	Departure	12.8	-	-
07-Jun	19:01	3A166	YFT	Departure	12.2	-	-
07-Jun	19:47	3A084	ZUI	Arrival	12.9	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
07-Jun	20:05	3A185	ZUI	Departure	13.8	1	-
07-Jun	20:58	8S2113	MFM	Arrival	12.2	-	-
07-Jun	21:10	3A169	YFT	Departure	12.7	-	-
07-Jun	21:59	8S522	MFM	Departure	13.1	-	-
08-Jun	08:27	3A061	YFT	Arrival	13	-	-
08-Jun	08:40	8S210	MFM	Arrival	12.3	-	-
08-Jun	09:54	3A071	MFM	Arrival	12.1	-	-
08-Jun	10:41	8S212	MFM	Arrival	13	-	-
08-Jun	10:43	3A081	ZUI	Arrival	12.9	-	-
08-Jun	11:10	8S121	MFM	Departure	13.3	-	-
08-Jun	11:19	3A063	YFT	Arrival	11	-	-
08-Jun	11:56	8S213	MFM	Arrival	12.9	-	-
08-Jun	12:12	3A181	ZUI	Departure	13.7	-	-
08-Jun	12:21	3A168	YFT	Departure	10.3	-	-
08-Jun	12:49	8S215	MFM	Arrival	10.2	-	-
08-Jun	12:59	3A064	YFT	Arrival	13.4	-	-
08-Jun	13:17	8S123	MFM	Departure	11.4	-	-
08-Jun	13:46	3A082	ZUI	Arrival	12.1	-	-
08-Jun	14:19	3A182	ZUI	Departure	12.6	-	-
08-Jun	14:20	3A164	YFT	Departure	13.2	-	-
08-Jun	15:08	3A065	YFT	Arrival	11.8	-	-
08-Jun	16:17	3A167	YFT	Departure	9.9	-	-
08-Jun	16:38	8S218	MFM	Arrival	10.8	-	-
08-Jun	16:46	3A083	ZUI	Arrival	12.5	-	-
08-Jun	17:01	8S126	MFM	Departure	12.8	-	-
08-Jun	17:03	3A183	ZUI	Departure	13.5	-	-
08-Jun	17:10	3A067	YFT	Arrival	12.5	<= 5	< 1min
08-Jun	19:22	3A166	YFT	Departure	12.3	-	-
08-Jun	19:54	3A084	ZUI	Arrival	12.2	-	-
08-Jun	20:12	3A185	ZUI	Departure	13.7	-	-
08-Jun	20:56	8S2113	MFM	Arrival	12.3	-	-
08-Jun	21:02	3A169	YFT	Departure	12.8	-	-
08-Jun	21:56	8S522	MFM	Departure	13.3	-	-
09-Jun	08:22	3A061	YFT	Arrival	11.5	-	-
09-Jun	08:33	8S210	MFM	Arrival	10.4	-	-
09-Jun	09:48	3A071	MFM	Arrival	11.7	-	-
09-Jun	10:45	8S212	MFM	Arrival	12.1	-	-
09-Jun	10:45	3A081	ZUI	Arrival	12.7	-	-
09-Jun	11:08	8S121	MFM	Departure	11.7	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) <u>YFT</u> — Macao (Taipa) <u>ZUI</u> - Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
09-Jun	11:22	3A063	YFT	Arrival	12.8	-	-
09-Jun	12:14	3A181	ZUI	Departure	13.8	-	-
09-Jun	12:19	3A168	YFT	Departure	12.3	-	-
09-Jun	12:49	8S215	MFM	Arrival	12.3	-	-
09-Jun	12:59	3A064	YFT	Arrival	11.7	1	-
09-Jun	13:22	8S123	MFM	Departure	12.1	-	-
09-Jun	13:49	3A082	ZUI	Arrival	12.8	-	-
09-Jun	14:11	3A182	ZUI	Departure	13.1	-	-
09-Jun	14:18	3A164	YFT	Departure	11.7	-	-
09-Jun	15:04	3A065	YFT	Arrival	13.1	-	-
09-Jun	16:14	3A167	YFT	Departure	12.2	-	-
09-Jun	16:40	3A083	ZUI	Arrival	12.7	-	-
09-Jun	16:44	8S218	MFM	Arrival	11.2	-	-
09-Jun	17:00	3A183	ZUI	Departure	11.4	1	-
09-Jun	17:07	3A067	YFT	Arrival	12	<= 5	< 1min
09-Jun	17:18	8S126	MFM	Departure	12	-	-
09-Jun	19:00	3A166	YFT	Departure	No AIS Data		
09-Jun	19:51	3A084	ZUI	Arrival	11.7	-	-
09-Jun	20:15	3A185	ZUI	Departure	12	-	-
09-Jun	20:56	8S2113	MFM	Arrival	13.2	-	-
09-Jun	20:58	3A169	YFT	Departure	11.9	-	-
09-Jun	21:57	8S522	MFM	Departure	12.5	-	-
10-Jun	08:17	3A061	YFT	Arrival	11.7	-	-
10-Jun	08:27	8S210	MFM	Arrival	11	-	-
10-Jun	09:53	3A071	MFM	Arrival	13	-	-
10-Jun	10:42	8S212	MFM	Arrival	12	-	-
10-Jun	10:44	3A081	ZUI	Arrival	13.7	-	-
10-Jun	11:05	8S121	MFM	Departure	12.3	-	-
10-Jun	11:17	3A063	YFT	Arrival	No AIS Data		
10-Jun	12:15	3A181	ZUI	Departure	13	-	-
10-Jun	12:16	3A168	YFT	Departure	No AIS Data		
10-Jun	12:47	8S215	MFM	Arrival	12.4	-	-
10-Jun	13:03	3A064	YFT	Arrival	12.1	-	-
10-Jun	13:16	8S123	MFM	Departure	12.8	-	-
10-Jun	13:45	3A082	ZUI	Arrival	12.1	-	-
10-Jun	14:15	3A182	ZUI	Departure	12.2	-	-
10-Jun	14:17	3A164	YFT	Departure	12.5	-	-
10-Jun	15:02	3A065	YFT	Arrival	No AIS Data		
10-Jun	16:11	3A167	YFT	Departure	No AIS Data		

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
10-Jun	16:40	3A083	ZUI	Arrival	13.4	-	-
10-Jun	16:45	8S218	MFM	Arrival	12.7	-	-
10-Jun	17:00	3A183	ZUI	Departure	12.5	1	-
10-Jun	17:00	3A067	YFT	Arrival	11.9	-	-
10-Jun	17:09	8S126	MFM	Departure	13	-	-
10-Jun	18:59	3A166	YFT	Departure	12.5	-	-
10-Jun	19:50	3A084	ZUI	Arrival	12.7	-	-
10-Jun	20:09	3A185	ZUI	Departure	13.5	-	-
10-Jun	20:51	8S2113	MFM	Arrival	11.8	-	-
10-Jun	20:59	3A169	YFT	Departure	12.9	-	-
10-Jun	21:55	8S522	MFM	Departure	12.7	-	-
11-Jun	08:18	3A061	YFT	Arrival	12.1	-	-
11-Jun	08:25	8S210	MFM	Arrival	12.7	-	-
11-Jun	10:06	3A071	MFM	Arrival	11.6	-	-
11-Jun	10:43	3A081	ZUI	Arrival	13.1	-	-
11-Jun	10:46	8S212	MFM	Arrival	13.1	-	-
11-Jun	11:29	8S121	MFM	Departure	12.3	-	-
11-Jun	11:35	3A063	YFT	Arrival	11.3	-	-
11-Jun	12:14	3A168	YFT	Departure	11.5	-	-
11-Jun	12:16	3A181	ZUI	Departure	13.6	-	-
11-Jun	12:48	8S215	MFM	Arrival	13	-	-
11-Jun	13:00	3A064	YFT	Arrival	11.6	-	-
11-Jun	13:18	8S123	MFM	Departure	12.7	-	-
11-Jun	13:46	3A082	ZUI	Arrival	13.4	-	-
11-Jun	14:21	3A164	YFT	Departure	12.6	-	-
11-Jun	14:23	3A182	ZUI	Departure	12	-	-
11-Jun	15:01	3A065	YFT	Arrival	12	-	-
11-Jun	16:23	3A167	YFT	Departure	11.8	-	-
11-Jun	16:43	8S218	MFM	Arrival	13.2	-	-
11-Jun	16:45	3A083	ZUI	Arrival	13.1	-	-
11-Jun	17:04	3A067	YFT	Arrival	11.7	-	-
11-Jun	17:12	3A183	ZUI	Departure	12.4	<= 5	< 1min
11-Jun	17:16	8S126	MFM	Departure	11.9	-	-
11-Jun	19:10	3A166	YFT	Departure	13	-	-
11-Jun	19:57	3A084	ZUI	Arrival	12.4	-	-
11-Jun	20:17	3A185	ZUI	Departure	13.7	-	-
11-Jun	21:00	8S2113	MFM	Arrival	11.8	-	-
11-Jun	21:07	3A169	YFT	Departure	13.7	> 15	< 1min
11-Jun	21:57	8S522	MFM	Departure	12.5	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
12-Jun	08:11	3A061	YFT	Arrival	13.5	1	-
12-Jun	08:31	8S210	MFM	Arrival	12.9	-	-
12-Jun	09:47	3A071	MFM	Arrival	11.7	-	-
12-Jun	10:40	8S212	MFM	Arrival	11	-	-
12-Jun	10:45	3A081	ZUI	Arrival	12.7	-	-
12-Jun	11:13	8S121	MFM	Departure	11.9	-	-
12-Jun	11:18	3A063	YFT	Arrival	12.1	-	-
12-Jun	12:21	3A168	YFT	Departure	11.9	-	-
12-Jun	12:29	3A181	ZUI	Departure	13.3	-	-
12-Jun	13:00	8S215	MFM	Arrival	11.6	-	-
12-Jun	13:03	3A064	YFT	Arrival	11.3	-	-
12-Jun	13:47	8S123	MFM	Departure	13	-	-
12-Jun	13:56	3A082	ZUI	Arrival	12.1	-	-
12-Jun	14:09	3A164	YFT	Departure	10.7	-	-
12-Jun	14:10	3A182	ZUI	Departure	12.4	-	-
12-Jun	15:04	3A065	YFT	Arrival	11.7	-	-
12-Jun	16:21	3A167	YFT	Departure	11.3	-	-
12-Jun	16:44	3A083	ZUI	Arrival	12.9	-	-
12-Jun	16:46	8S218	MFM	Arrival	11.2	-	-
12-Jun	17:02	3A067	YFT	Arrival	10.9	-	-
12-Jun	17:05	3A183	ZUI	Departure	12.7	-	-
13-Jun	08:22	3A061	YFT	Arrival	12.2	-	-
13-Jun	08:42	8S210	MFM	Arrival	10.9	-	-
13-Jun	09:49	3A071	MFM	Arrival	11.6	-	-
13-Jun	10:39	8S212	MFM	Arrival	12.9	-	-
13-Jun	10:43	3A081	ZUI	Arrival	12.8	-	-
13-Jun	11:20	8S121	MFM	Departure	13.3	-	-
13-Jun	11:21	3A063	YFT	Arrival	12.1	-	-
13-Jun	12:12	3A181	ZUI	Departure	13.4	-	-
13-Jun	12:15	3A168	YFT	Departure	13	-	-
13-Jun	12:54	8S215	MFM	Arrival	12.5	-	-
13-Jun	13:06	3A064	YFT	Arrival	12.9	-	-
13-Jun	13:19	8S123	MFM	Departure	12.9	-	-
13-Jun	13:56	3A082	ZUI	Arrival	13	-	-
13-Jun	14:14	3A164	YFT	Departure	12	-	-
13-Jun	14:15	3A182	ZUI	Departure	12.6	-	-
13-Jun	14:59	3A065	YFT	Arrival	12.8	-	-
13-Jun	16:20	3A167	YFT	Departure	13.2	-	-
13-Jun	16:42	3A083	ZUI	Arrival	13.2	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
13-Jun	16:47	8S218	MFM	Arrival	12.2	1	-
13-Jun	17:04	8S126	MFM	Departure	12.9	-	-
13-Jun	17:07	3A183	ZUI	Departure	12.6	1	-
13-Jun	17:13	3A067	YFT	Arrival	12.4	<= 5	< 1min
13-Jun	19:05	3A166	YFT	Departure	12.1	-	-
13-Jun	19:50	3A084	ZUI	Arrival	12.9	-	-
13-Jun	20:09	3A185	ZUI	Departure	13.6	-	-
13-Jun	21:01	8S2113	MFM	Arrival	12.1	-	-
13-Jun	21:02	3A169	YFT	Departure	11.9	-	-
14-Jun	08:17	3A061	YFT	Arrival	13	-	-
14-Jun	08:33	8S210	MFM	Arrival	12	-	-
14-Jun	09:54	3A071	MFM	Arrival	11.5	-	-
14-Jun	10:40	8S212	MFM	Arrival	11.8	-	-
14-Jun	10:44	3A081	ZUI	Arrival	12.7	-	-
14-Jun	11:26	3A063	YFT	Arrival	13.4	-	-
14-Jun	11:29	8S121	MFM	Departure	12.3	-	-
14-Jun	12:22	3A168	YFT	Departure	13.5	-	-
14-Jun	12:26	3A181	ZUI	Departure	12.9	-	-
14-Jun	12:52	8S215	MFM	Arrival	11.1	-	-
14-Jun	13:00	3A064	YFT	Arrival	13.3	-	-
14-Jun	13:17	8S123	MFM	Departure	12	-	-
14-Jun	13:56	3A082	ZUI	Arrival	12.5	-	-
14-Jun	14:15	3A164	YFT	Departure	13.7	-	-
14-Jun	14:16	3A182	ZUI	Departure	13.3	-	-
14-Jun	15:00	3A065	YFT	Arrival	13.4	-	-
14-Jun	16:27	3A167	YFT	Departure	13.5	-	-
14-Jun	16:38	3A083	ZUI	Arrival	13.3	-	-
14-Jun	16:41	8S218	MFM	Arrival	11.4	-	-
14-Jun	16:59	3A067	YFT	Arrival	13.4	-	-
14-Jun	17:04	8S126	MFM	Departure	12.8	-	-
14-Jun	17:10	3A183	ZUI	Departure	12.6	-	-
14-Jun	19:04	3A166	YFT	Departure	11.4	-	-
14-Jun	19:50	3A084	ZUI	Arrival	12.9	-	-
14-Jun	20:06	3A185	ZUI	Departure	13.3	-	-
14-Jun	21:03	3A169	YFT	Departure	11.4	-	-
14-Jun	21:11	8S2113	MFM	Arrival	11.6	-	-
14-Jun	21:57	8S522	MFM	Departure	12.2	-	-
15-Jun	08:19	3A061	YFT	Arrival	12.2	-	-
15-Jun	08:30	8S210	MFM	Arrival	12	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
15-Jun	09:55	3A071	MFM	Arrival	12.8	-	-
15-Jun	10:41	8S212	MFM	Arrival	11.3	-	-
15-Jun	10:48	3A081	ZUI	Arrival	13.1	-	-
15-Jun	11:15	3A063	YFT	Arrival	12.4	-	-
15-Jun	11:20	8S121	MFM	Departure	11.3	-	-
15-Jun	12:15	3A168	YFT	Departure	12	-	-
15-Jun	12:17	3A181	ZUI	Departure	12.8	-	-
15-Jun	12:56	8S215	MFM	Arrival	11.9	-	-
15-Jun	13:02	3A064	YFT	Arrival	12	-	-
15-Jun	13:17	8S123	MFM	Departure	11.1	-	-
15-Jun	13:50	3A082	ZUI	Arrival	12.4	-	-
15-Jun	14:15	3A182	ZUI	Departure	12.4	-	-
15-Jun	14:19	3A164	YFT	Departure	11.9	-	-
15-Jun	14:58	3A065	YFT	Arrival	12.5	-	-
15-Jun	16:23	3A167	YFT	Departure	12.3	-	-
15-Jun	16:42	3A083	ZUI	Arrival	13.2	-	-
15-Jun	16:47	8S218	MFM	Arrival	11.5	-	-
15-Jun	17:03	3A067	YFT	Arrival	12.9	-	-
15-Jun	17:09	3A183	ZUI	Departure	12.2	-	-
15-Jun	17:14	8S126	MFM	Departure	12.1	-	-
15-Jun	19:00	3A166	YFT	Departure	12.9	-	-
15-Jun	19:50	3A084	ZUI	Arrival	12.7	-	-
15-Jun	20:09	3A185	ZUI	Departure	12.7	-	-
15-Jun	20:58	8S2113	MFM	Arrival	12.6	-	-
15-Jun	21:02	3A169	YFT	Departure	12.7	-	-
15-Jun	22:03	8S522	MFM	Departure	12.6	-	-
16-Jun	08:23	3A061	YFT	Arrival	12	-	-
16-Jun	08:34	8S210	MFM	Arrival	12.1	-	-
16-Jun	09:47	3A071	MFM	Arrival	13		
16-Jun	10:41	8S212	MFM	Arrival	11.3	-	-
16-Jun	10:47	3A081	ZUI	Arrival	12.1	-	-
16-Jun	11:10	8S121	MFM	Departure	12.1	-	-
16-Jun	11:19	3A063	YFT	Arrival	12.4	-	-
16-Jun	12:05	3A161	YFT	Departure	12.3	-	-
16-Jun	12:22	3A181	ZUI	Departure	13.1	-	-
16-Jun	12:25	3A168	YFT	Departure	13.3	-	-
16-Jun	12:44	8S215	MFM	Arrival	12.6	-	-
16-Jun	13:03	3A064	YFT	Arrival	11.7	-	-
16-Jun	13:16	8S123	MFM	Departure	12.6		-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
16-Jun	13:44	3A082	ZUI	Arrival	13.4	1	-
16-Jun	14:14	3A182	ZUI	Departure	11.9	-	-
16-Jun	14:16	3A164	YFT	Departure	12.5	-	-
16-Jun	15:14	3A065	YFT	Arrival	12.5	-	-
16-Jun	16:15	3A167	YFT	Departure	12.7	-	-
16-Jun	16:37	8S218	MFM	Arrival	11.8	-	-
16-Jun	16:42	3A083	ZUI	Arrival	12.2	-	-
16-Jun	17:02	3A183	ZUI	Departure	12.6	-	-
16-Jun	17:10	3A067	YFT	Arrival	11.3	-	-
16-Jun	17:10	8S126	MFM	Departure	12.7	-	-
16-Jun	19:07	3A166	YFT	Departure	12.7	-	-
16-Jun	19:51	3A084	ZUI	Arrival	12.3	-	-
16-Jun	20:15	3A185	ZUI	Departure	12.3	-	-
16-Jun	20:58	8S2113	MFM	Arrival	11.7	-	-
16-Jun	21:05	3A169	YFT	Departure	12.9	-	-
16-Jun	22:00	8S522	MFM	Departure	12.1	-	-
17-Jun	08:21	3A061	YFT	Arrival	11	<= 5	< 2min
17-Jun	08:59	8S210	MFM	Arrival	12.8	-	-
17-Jun	09:57	3A071	MFM	Arrival	11.8	-	-
17-Jun	10:37	8S212	MFM	Arrival	12.1	-	-
17-Jun	10:50	3A081	ZUI	Arrival	12.3	-	-
17-Jun	11:07	8S121	MFM	Departure	12	-	-
17-Jun	11:26	3A063	YFT	Arrival	11.5	-	-
17-Jun	12:11	3A168	YFT	Departure	11	-	-
17-Jun	12:16	3A181	ZUI	Departure	13.5	-	-
17-Jun	12:59	3A064	YFT	Arrival	11.8	-	-
17-Jun	13:00	8S215	MFM	Arrival	11.3	-	-
17-Jun	13:24	8S123	MFM	Departure	11.4	-	-
17-Jun	13:48	3A082	ZUI	Arrival	13.1	-	-
17-Jun	14:15	3A164	YFT	Departure	12.6	-	-
17-Jun	14:16	3A182	ZUI	Departure	12.8	-	-
17-Jun	15:03	3A065	YFT	Arrival	11.8	-	-
17-Jun	16:22	3A167	YFT	Departure	12.6	-	-
17-Jun	16:41	8S218	MFM	Arrival	11.7	-	-
17-Jun	16:41	3A083	ZUI	Arrival	13.8	-	-
17-Jun	17:01	3A067	YFT	Arrival	12.8	-	-
17-Jun	17:03	3A183	ZUI	Departure	13.2	-	-
17-Jun	17:12	8S126	MFM	Departure	10.8	-	-
17-Jun	19:04	3A166	YFT	Departure	12.2	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
17-Jun	19:46	3A084	ZUI	Arrival	13.4		
17-Jun	20:11	3A185	ZUI	Departure	13.1	-	-
17-Jun	21:03	8S2113	MFM	Arrival	11.4	1	-
17-Jun	21:06	3A169	YFT	Departure	11.8	-	-
17-Jun	22:03	8S522	MFM	Departure	12.6	-	-
18-Jun	08:15	3A061	YFT	Arrival	13.5	-	-
18-Jun	08:32	8S210	MFM	Arrival	12.2	-	-
18-Jun	10:01	3A071	MFM	Arrival	11.1	-	-
18-Jun	10:45	3A081	ZUI	Arrival	12.3	-	-
18-Jun	10:47	8S212	MFM	Arrival	11.8	-	-
18-Jun	11:12	8S121	MFM	Departure	11.8	-	-
18-Jun	11:22	3A063	YFT	Arrival	12.9	-	-
18-Jun	12:19	3A168	YFT	Departure	13.5	-	-
18-Jun	12:23	3A181	ZUI	Departure	13.2	-	-
18-Jun	12:48	8S215	MFM	Arrival	12	-	-
18-Jun	12:55	3A064	YFT	Arrival	13.1	-	-
18-Jun	13:15	8S123	MFM	Departure	11.9	-	-
18-Jun	13:47	3A082	ZUI	Arrival	12.9	-	-
18-Jun	14:16	3A182	ZUI	Departure	12.1	-	-
18-Jun	14:25	3A164	YFT	Departure	13.8	-	-
18-Jun	15:00	3A065	YFT	Arrival	13.1	-	-
18-Jun	16:20	3A167	YFT	Departure	13.5	-	-
18-Jun	16:49	3A083	ZUI	Arrival	12.9	-	-
18-Jun	16:51	8S218	MFM	Arrival	12	-	-
18-Jun	16:55	3A067	YFT	Arrival	13.8	-	-
18-Jun	17:13	3A183	ZUI	Departure	12.9	-	-
18-Jun	17:18	8S126	MFM	Departure	13	-	-
18-Jun	19:09	3A166	YFT	Departure	12.7	-	-
18-Jun	19:59	3A084	ZUI	Arrival	12.6	-	-
18-Jun	20:25	3A185	ZUI	Departure	12.5	-	-
18-Jun	20:56	8S2113	MFM	Arrival	12.3	-	-
18-Jun	21:03	3A169	YFT	Departure	12.3	-	-
18-Jun	22:08	8S522	MFM	Departure	10.4	-	_
19-Jun	08:16	3A061	YFT	Arrival	12.8	-	-
19-Jun	09:07	8S210	MFM	Arrival	12	-	-
19-Jun	09:48	3A071	MFM	Arrival	12.7	-	-
19-Jun	10:47	3A081	ZUI	Arrival	13.1	-	-
19-Jun	10:51	8S212	MFM	Arrival	12.2	-	-
19-Jun	11:15	8S121	MFM	Departure	11.2		-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
19-Jun	11:24	3A063	YFT	Arrival	12.8	1	-
19-Jun	12:21	3A181	ZUI	Departure	12.6	-	-
19-Jun	12:24	3A168	YFT	Departure	13.4	-	-
19-Jun	12:46	8S215	MFM	Arrival	12.6	-	-
19-Jun	12:58	3A064	YFT	Arrival	12.5	-	-
19-Jun	13:22	8S123	MFM	Departure	13.1	-	-
19-Jun	14:02	3A082	ZUI	Arrival	13.4	-	-
19-Jun	14:18	3A182	ZUI	Departure	12.9	-	-
19-Jun	14:25	3A164	YFT	Departure	12.3	-	-
19-Jun	15:06	3A065	YFT	Arrival	12.5	-	-
19-Jun	16:18	3A167	YFT	Departure	13	-	-
19-Jun	16:41	3A083	ZUI	Arrival	12.5	-	-
19-Jun	16:45	8S218	MFM	Arrival	11.7	-	-
19-Jun	17:07	3A183	ZUI	Departure	13.2	-	-
19-Jun	17:10	3A067	YFT	Arrival	13	-	-
19-Jun	17:20	8S126	MFM	Departure	13.2	-	-
19-Jun	19:03	3A166	YFT	Departure	13.1	-	-
19-Jun	19:50	3A084	ZUI	Arrival	12.4	-	-
19-Jun	20:15	3A185	ZUI	Departure	13.1	-	-
19-Jun	21:00	8S2113	MFM	Arrival	12.4	-	-
19-Jun	21:02	3A169	YFT	Departure	12.3	-	-
19-Jun	22:07	8S522	MFM	Departure	12.3	-	-
20-Jun	08:19	3A061	YFT	Arrival	12.6	-	-
20-Jun	08:27	8S210	MFM	Arrival	13.1	-	-
20-Jun	09:54	3A071	MFM	Arrival	13.7	-	-
20-Jun	10:45	8S212	MFM	Arrival	12.3	-	-
20-Jun	10:50	3A081	ZUI	Arrival	12.7	-	-
20-Jun	11:09	8S121	MFM	Departure	12	-	-
20-Jun	11:18	3A063	YFT	Arrival	11.8	-	-
20-Jun	12:14	3A168	YFT	Departure	12.1	-	-
20-Jun	12:17	3A181	ZUI	Departure	13.3	-	-
20-Jun	12:46	8S215	MFM	Arrival	11.8	-	-
20-Jun	13:03	3A064	YFT	Arrival	12.3	-	-
20-Jun	13:19	8S123	MFM	Departure	12.1	-	-
20-Jun	13:56	3A082	ZUI	Arrival	12.8	-	-
20-Jun	14:22	3A164	YFT	Departure	12.8	-	-
20-Jun	14:24	3A182	ZUI	Departure	13.1	-	-
20-Jun	15:01	3A065	YFT	Arrival	11.6	-	-
20-Jun	16:14	3A167	YFT	Departure	11.5	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
20-Jun	16:42	3A083	ZUI	Arrival	12.6	1	-
20-Jun	16:51	8S218	MFM	Arrival	10.9	-	-
20-Jun	17:04	3A067	YFT	Arrival	12.7	-	-
20-Jun	17:11	3A183	ZUI	Departure	13.3	-	-
20-Jun	17:13	8S126	MFM	Departure	12.7	-	-
20-Jun	19:04	3A166	YFT	Departure	13.3	-	-
20-Jun	19:47	3A084	ZUI	Arrival	12.9	-	-
20-Jun	20:17	3A185	ZUI	Departure	13.3	-	-
20-Jun	20:56	8S2113	MFM	Arrival	12.7	-	-
20-Jun	20:57	3A169	YFT	Departure	12.9	-	-
20-Jun	22:00	8S522	MFM	Departure	12.8	-	-
21-Jun	08:21	3A061	YFT	Arrival	13.1	-	-
21-Jun	08:31	8S210	MFM	Arrival	10.6	-	-
21-Jun	10:07	3A071	MFM	Arrival	12.5	-	-
21-Jun	10:45	8S212	MFM	Arrival	12.4	-	-
21-Jun	10:46	3A081	ZUI	Arrival	12.3	-	-
21-Jun	11:15	8S121	MFM	Departure	12.6	-	-
21-Jun	11:23	3A063	YFT	Arrival	12.7	-	-
21-Jun	12:17	3A181	ZUI	Departure	13.3	-	-
21-Jun	12:21	3A168	YFT	Departure	12.3	-	-
21-Jun	12:50	8S215	MFM	Arrival	13.1	-	-
21-Jun	13:04	3A064	YFT	Arrival	12.6	-	-
21-Jun	13:18	8S123	MFM	Departure	12.9	-	-
21-Jun	13:47	3A082	ZUI	Arrival	11.9	-	-
21-Jun	14:24	3A182	ZUI	Departure	12.8	-	-
21-Jun	14:25	3A164	YFT	Departure	13	-	-
21-Jun	15:09	3A065	YFT	Arrival	12.1	-	-
21-Jun	16:18	3A167	YFT	Departure	11.8	-	-
21-Jun	16:38	3A083	ZUI	Arrival	12.3	-	-
21-Jun	16:43	8S218	MFM	Arrival	13	-	-
21-Jun	17:05	3A067	YFT	Arrival	13.2	-	-
21-Jun	17:14	8S126	MFM	Departure	12.8	-	-
21-Jun	17:19	3A183	ZUI	Departure	13.1	-	-
21-Jun	19:07	3A166	YFT	Departure	12.4	-	-
21-Jun	19:55	3A084	ZUI	Arrival	12.8	-	-
21-Jun	20:10	3A185	ZUI	Departure	13.1	-	-
21-Jun	21:00	8S2113	MFM	Arrival	11.5	-	-
21-Jun	21:06	3A169	YFT	Departure	12.3	-	-
21-Jun	21:58	8S522	MFM	Departure	12.6	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
22-Jun	08:23	3A061	YFT	Arrival	10.8	1	-
22-Jun	08:27	8S210	MFM	Arrival	12.9	-	-
22-Jun	09:53	3A071	MFM	Arrival	12.3	-	-
22-Jun	10:39	8S212	MFM	Arrival	12.5	-	-
22-Jun	10:46	3A081	ZUI	Arrival	13.4	-	-
22-Jun	11:10	8S121	MFM	Departure	12.3	-	-
22-Jun	11:20	3A063	YFT	Arrival	11.4	-	-
22-Jun	12:12	3A181	ZUI	Departure	13	-	-
22-Jun	12:16	3A168	YFT	Departure	11.7	-	-
22-Jun	12:49	8S215	MFM	Arrival	12.7	-	-
22-Jun	13:02	3A064	YFT	Arrival	11.5	-	-
22-Jun	13:11	8S123	MFM	Departure	11.6	-	-
22-Jun	13:48	3A082	ZUI	Arrival	11.8	-	-
22-Jun	14:15	3A182	ZUI	Departure	12.2	-	-
22-Jun	14:17	3A164	YFT	Departure	11.4	-	-
22-Jun	15:01	3A065	YFT	Arrival	11.5	-	-
22-Jun	16:18	3A167	YFT	Departure	12.7	-	-
22-Jun	16:44	3A083	ZUI	Arrival	12.4	-	-
22-Jun	16:47	8S218	MFM	Arrival	12.5	-	-
22-Jun	17:01	3A183	ZUI	Departure	12.4	-	-
22-Jun	17:04	3A067	YFT	Arrival	11.1	-	-
22-Jun	17:06	8S126	MFM	Departure	13.4	-	-
22-Jun	19:05	3A166	YFT	Departure	11.5	-	-
22-Jun	19:48	3A084	ZUI	Arrival	12.3	-	-
22-Jun	20:12	3A185	ZUI	Departure	13.2	-	-
22-Jun	20:48	8S2113	MFM	Arrival	13.5	-	-
22-Jun	21:07	3A169	YFT	Departure	12	-	-
22-Jun	21:56	8S522	MFM	Departure	13.5	-	-
23-Jun	08:20	3A061	YFT	Arrival	12.8	-	-
23-Jun	08:35	8S210	MFM	Arrival	12.2	-	-
23-Jun	09:51	3A071	MFM	Arrival	12	-	-
23-Jun	10:35	8S212	MFM	Arrival	12.7	-	-
23-Jun	10:49	3A081	ZUI	Arrival	12.9	-	-
23-Jun	11:02	8S121	MFM	Departure	12.8	-	-
23-Jun	11:16	3A063	YFT	Arrival	12.3	-	-
23-Jun	12:15	3A181	ZUI	Departure	13.1	-	-
23-Jun	12:18	3A168	YFT	Departure	10.2	-	-
23-Jun	12:38	8S215	MFM	Arrival	12.5	-	-
23-Jun	12:57	3A064	YFT	Arrival	13.2	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
23-Jun	13:15	8S123	MFM	Departure	12.2	-	-
23-Jun	13:42	3A082	ZUI	Arrival	11.9	-	-
23-Jun	14:20	3A182	ZUI	Departure	12.4	-	-
23-Jun	14:24	3A164	YFT	Departure	12.8	-	-
23-Jun	15:03	3A065	YFT	Arrival	12.5	<= 5	< 2min
23-Jun	16:19	3A167	YFT	Departure	10	-	-
23-Jun	16:40	3A083	ZUI	Arrival	12.3	-	-
23-Jun	16:45	8S218	MFM	Arrival	12.4	-	-
23-Jun	17:02	3A183	ZUI	Departure	11.5	-	-
23-Jun	17:02	8S126	MFM	Departure	12.7	-	-
23-Jun	17:08	3A067	YFT	Arrival	12.2	-	-
23-Jun	19:05	3A166	YFT	Departure	12.5	-	-
23-Jun	20:05	3A084	ZUI	Arrival	12.3	-	-
23-Jun	20:24	3A185	ZUI	Departure	13.2	-	-
23-Jun	20:57	8S2113	MFM	Arrival	12.5	-	-
23-Jun	20:59	3A169	YFT	Departure	11.8	-	-
23-Jun	22:01	8S522	MFM	Departure	12.9	-	-
24-Jun	08:18	3A061	YFT	Arrival	12	-	-
24-Jun	08:32	8S210	MFM	Arrival	10.3	-	-
24-Jun	10:00	3A071	MFM	Arrival	11.4	-	-
24-Jun	10:41	8S212	MFM	Arrival	12.1	-	-
24-Jun	10:51	3A081	ZUI	Arrival	13.3	-	-
24-Jun	11:06	8S121	MFM	Departure	11.9	-	-
24-Jun	11:18	3A063	YFT	Arrival	12.4	-	-
24-Jun	12:17	3A168	YFT	Departure	12.3	-	-
24-Jun	12:18	3A181	ZUI	Departure	12	-	-
24-Jun	12:49	8S215	MFM	Arrival	12.2	-	-
24-Jun	13:05	3A064	YFT	Arrival	11.8	-	-
24-Jun	13:16	8S123	MFM	Departure	12.6	-	-
24-Jun	13:47	3A082	ZUI	Arrival	12.1	-	-
24-Jun	14:10	3A182	ZUI	Departure	12.3	-	-
24-Jun	14:15	3A164	YFT	Departure	12.6	-	-
24-Jun	15:01	3A065	YFT	Arrival	12.7	-	-
24-Jun	16:17	3A167	YFT	Departure	12.1	<= 5	< 1min
24-Jun	16:41	3A083	ZUI	Arrival	12.7	-	-
24-Jun	16:44	8S218	MFM	Arrival	12.1	-	-
24-Jun	17:02	3A067	YFT	Arrival	12.2	<= 5	< 1min
24-Jun	17:03	8S126	MFM	Departure	12.4	-	-
24-Jun	17:05	3A183	ZUI	Departure	13.3	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
24-Jun	19:05	3A166	YFT	Departure	12.1	1	-
24-Jun	19:45	3A084	ZUI	Arrival	12.3	-	-
24-Jun	20:06	3A185	ZUI	Departure	13.5	-	-
24-Jun	20:52	8S2113	MFM	Arrival	13	-	-
24-Jun	20:57	3A169	YFT	Departure	13	-	-
24-Jun	21:56	8S522	MFM	Departure	13.4	-	-
25-Jun	08:19	3A061	YFT	Arrival	11.7	-	-
25-Jun	08:32	8S210	MFM	Arrival	12	-	-
25-Jun	10:05	3A071	MFM	Arrival	12.1	-	-
25-Jun	10:42	3A081	ZUI	Arrival	12.9	-	-
25-Jun	10:47	8S212	MFM	Arrival	12.4	-	-
25-Jun	11:11	3A063	YFT	Arrival	13.5	-	-
25-Jun	11:28	8S121	MFM	Departure	12.1	-	-
25-Jun	12:26	3A168	YFT	Departure	13.9	-	-
25-Jun	12:27	3A181	ZUI	Departure	13.6	-	-
25-Jun	12:56	8S215	MFM	Arrival	13.3	-	-
25-Jun	12:58	3A064	YFT	Arrival	12.5	-	-
25-Jun	13:18	8S123	MFM	Departure	12.7	-	-
25-Jun	13:47	3A082	ZUI	Arrival	13	-	-
25-Jun	14:18	3A164	YFT	Departure	12.3	-	-
25-Jun	14:19	3A182	ZUI	Departure	11.7	-	-
25-Jun	15:07	3A065	YFT	Arrival	13.2	-	-
25-Jun	16:23	3A167	YFT	Departure	13.2	-	-
25-Jun	16:47	8S218	MFM	Arrival	12.1	-	-
25-Jun	16:48	3A083	ZUI	Arrival	12.9	-	-
25-Jun	17:01	3A067	YFT	Arrival	11.8	-	-
25-Jun	17:06	8S126	MFM	Departure	12.1	-	-
25-Jun	17:11	3A183	ZUI	Departure	12.5	-	-
25-Jun	19:24	3A166	YFT	Departure	12.3	-	-
25-Jun	19:53	3A084	ZUI	Arrival	12.1	-	-
25-Jun	20:10	3A185	ZUI	Departure	13.5	-	-
25-Jun	20:57	8S2113	MFM	Arrival	11.4	-	-
25-Jun	21:07	3A169	YFT	Departure	11.8	-	-
25-Jun	21:57	8S522	MFM	Departure	12.8	-	-
26-Jun	08:23	3A061	YFT	Arrival	10.1	-	-
26-Jun	08:31	8S210	MFM	Arrival	12.8	-	-
26-Jun	10:00	3A071	MFM	Arrival	11.2	-	-
26-Jun	10:46	3A081	ZUI	Arrival	12.6	-	-
26-Jun	10:48	8S212	MFM	Arrival	13.2	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
26-Jun	11:19	3A063	YFT	Arrival	12.2	1	-
26-Jun	11:19	8S121	MFM	Departure	12.7	-	-
26-Jun	12:11	3A181	ZUI	Departure	12.7	-	-
26-Jun	12:25	3A168	YFT	Departure	12.8	-	-
26-Jun	12:50	8S215	MFM	Arrival	11.3	-	-
26-Jun	13:02	3A064	YFT	Arrival	12.2	-	-
26-Jun	13:18	8S123	MFM	Departure	10.3	-	-
26-Jun	13:49	3A082	ZUI	Arrival	12	-	-
26-Jun	14:18	3A164	YFT	Departure	13.1	-	-
26-Jun	14:19	3A182	ZUI	Departure	12.9	-	-
26-Jun	15:10	3A065	YFT	Arrival	12.5	-	-
26-Jun	16:18	3A167	YFT	Departure	12.2	-	-
26-Jun	16:45	3A083	ZUI	Arrival	12.9	-	-
26-Jun	16:53	8S218	MFM	Arrival	12.2	-	-
26-Jun	17:01	3A067	YFT	Arrival	12.1	-	-
26-Jun	17:10	3A183	ZUI	Departure	11.5	-	-
26-Jun	17:17	8S126	MFM	Departure	11.5	-	-
26-Jun	19:05	3A166	YFT	Departure	12.1	-	-
26-Jun	20:06	3A084	ZUI	Arrival	11.6	-	-
26-Jun	20:32	3A185	ZUI	Departure	13.5	-	-
26-Jun	21:01	8S2113	MFM	Arrival	11.7	-	-
26-Jun	21:08	3A169	YFT	Departure	12.3	-	-
26-Jun	21:53	8S522	MFM	Departure	12.2	-	-
27-Jun	08:22	3A061	YFT	Arrival	11.2	-	-
27-Jun	08:32	8S210	MFM	Arrival	10.6	-	-
27-Jun	09:59	3A071	MFM	Arrival	11.8	-	-
27-Jun	10:39	3A081	ZUI	Arrival	12.4	-	-
27-Jun	10:44	8S212	MFM	Arrival	12.4	-	-
27-Jun	11:13	8S121	MFM	Departure	11.8	-	-
27-Jun	11:24	3A063	YFT	Arrival	11.5	-	-
27-Jun	12:15	3A168	YFT	Departure	11.3	-	-
27-Jun	12:20	3A181	ZUI	Departure	13.4	-	-
27-Jun	12:45	8S215	MFM	Arrival	12.7	-	-
27-Jun	13:04	3A064	YFT	Arrival	11.2	-	-
27-Jun	13:19	8S123	MFM	Departure	12.8	-	-
27-Jun	13:46	3A082	ZUI	Arrival	13.1	-	-
27-Jun	14:14	3A182	ZUI	Departure	13.7	-	-
27-Jun	14:17	3A164	YFT	Departure	11.1	-	-
27-Jun	15:04	3A065	YFT	Arrival	11.7	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
27-Jun	16:09	3A167	YFT	Departure	11.6	1	-
27-Jun	16:47	3A083	ZUI	Arrival	12.8	-	-
27-Jun	16:48	8S218	MFM	Arrival	13	-	-
27-Jun	17:00	3A067	YFT	Arrival	12.6	-	-
27-Jun	17:08	3A183	ZUI	Departure	11.8	-	-
27-Jun	17:18	8S126	MFM	Departure	12.4	-	-
27-Jun	19:05	3A166	YFT	Departure	11.9	-	-
27-Jun	19:53	3A084	ZUI	Arrival	12.3	-	-
27-Jun	20:16	3A185	ZUI	Departure	12.8	-	-
27-Jun	20:59	8S2113	MFM	Arrival	11.6	-	-
27-Jun	21:02	3A169	YFT	Departure	12.3	-	-
27-Jun	22:05	8S522	MFM	Departure	12.8	-	-
28-Jun	08:29	8S210	MFM	Arrival	12.9	-	-
28-Jun	08:31	3A061	YFT	Arrival	12.5	-	-
28-Jun	09:50	3A071	MFM	Arrival	12	-	-
28-Jun	10:40	8S212	MFM	Arrival	12.1	-	-
28-Jun	10:42	3A081	ZUI	Arrival	12.6	-	-
28-Jun	11:07	8S121	MFM	Departure	12.8	-	-
28-Jun	11:19	3A063	YFT	Arrival	12.3	-	-
28-Jun	12:11	3A168	YFT	Departure	12.5	-	-
28-Jun	12:16	3A181	ZUI	Departure	13.4	-	-
28-Jun	12:55	8S215	MFM	Arrival	12.3	-	-
28-Jun	13:05	3A064	YFT	Arrival	11.4	<= 5	< 1min
28-Jun	13:18	8S123	MFM	Departure	13.2	-	-
28-Jun	13:46	3A082	ZUI	Arrival	13.2	-	-
28-Jun	14:13	3A164	YFT	Departure	11.9	-	-
28-Jun	14:15	3A182	ZUI	Departure	13.6	-	-
28-Jun	15:09	3A065	YFT	Arrival	12.9	-	-
28-Jun	16:13	3A167	YFT	Departure	12.5	-	-
28-Jun	16:44	3A083	ZUI	Arrival	12.8	-	-
28-Jun	16:50	8S218	MFM	Arrival	12.2	-	-
28-Jun	17:03	3A067	YFT	Arrival	12.1	-	-
28-Jun	17:09	3A183	ZUI	Departure	12.3	-	-
28-Jun	17:12	8S126	MFM	Departure	13.1	-	-
28-Jun	19:00	3A166	YFT	Departure	12.7	-	-
28-Jun	19:47	3A084	ZUI	Arrival	12.8	-	-
28-Jun	20:11	3A185	ZUI	Departure	12.3	-	-
28-Jun	21:02	8S2113	MFM	Arrival	12.3	-	-
28-Jun	21:04	3A169	YFT	Departure	11.3	<= 5	< 1min

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
28-Jun	21:54	8S522	MFM	Departure	12.7	1	-
29-Jun	08:18	3A061	YFT	Arrival	13.5	-	-
29-Jun	08:36	8S210	MFM	Arrival	12.7	-	-
29-Jun	10:10	3A071	MFM	Arrival	13.3	<= 5	< 1min
29-Jun	10:40	8S212	MFM	Arrival	12.7	-	-
29-Jun	10:45	3A081	ZUI	Arrival	12.8	-	-
29-Jun	11:04	8S121	MFM	Departure	13.3	-	-
29-Jun	11:24	3A063	YFT	Arrival	11.5	-	-
29-Jun	12:13	3A181	ZUI	Departure	13.2	-	-
29-Jun	12:14	3A168	YFT	Departure	12.1	-	-
29-Jun	13:00	8S215	MFM	Arrival	10.3	-	-
29-Jun	13:04	3A064	YFT	Arrival	13.2	-	-
29-Jun	13:21	8S123	MFM	Departure	11.5	-	-
29-Jun	13:46	3A082	ZUI	Arrival	14	-	-
29-Jun	14:17	3A164	YFT	Departure	13.7	-	-
29-Jun	14:19	3A182	ZUI	Departure	12.2	-	-
29-Jun	15:16	3A065	YFT	Arrival	12.3	-	-
29-Jun	16:18	3A167	YFT	Departure	12	-	-
29-Jun	16:41	8S218	MFM	Arrival	11.2	-	-
29-Jun	16:47	3A083	ZUI	Arrival	13.1	-	-
29-Jun	17:02	3A067	YFT	Arrival	13.6	-	-
29-Jun	17:07	3A183	ZUI	Departure	12.6	-	-
29-Jun	17:07	8S126	MFM	Departure	12.4	1	-
29-Jun	19:05	3A166	YFT	Departure	12.4	-	-
29-Jun	19:54	3A084	ZUI	Arrival	13.1	-	-
29-Jun	20:08	3A185	ZUI	Departure	12.1	-	-
29-Jun	20:55	8S2113	MFM	Arrival	12.3	-	-
29-Jun	21:08	3A169	YFT	Departure	13.1	-	-
29-Jun	21:57	8S522	MFM	Departure	12.7	-	-
30-Jun	08:20	3A061	YFT	Arrival	12.9	-	-
30-Jun	08:39	8S210	MFM	Arrival	12.2	-	-
30-Jun	09:58	3A071	MFM	Arrival	11.9	-	-
30-Jun	10:41	8S212	MFM	Arrival	11.9	-	-
30-Jun	10:51	3A081	ZUI	Arrival	12.7	-	-
30-Jun	11:03	8S121	MFM	Departure	11.6	-	-
30-Jun	11:17	3A063	YFT	Arrival	12.4	-	-
30-Jun	12:17	3A181	ZUI	Departure	13	-	-
30-Jun	12:18	3A168	YFT	Departure	12.7	-	-
30-Jun	12:47	8S215	MFM	Arrival	11.5	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM - Macao (Maritime Ferry Terminal) YFT - Macao (Taipa) ZUI - Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
30-Jun	12:59	3A064	YFT	Arrival	12	-	-
30-Jun	13:19	8S123	MFM	Departure	13.1	-	-
30-Jun	13:46	3A082	ZUI	Arrival	12.9	-	-
30-Jun	14:17	3A164	YFT	Departure	12.5	-	-
30-Jun	14:18	3A182	ZUI	Departure	13.4	-	-
30-Jun	14:54	3A065	YFT	Arrival	12.6	-	-
30-Jun	16:11	3A167	YFT	Departure	12.5	-	-
30-Jun	16:40	3A083	ZUI	Arrival	13.2	-	-
30-Jun	16:42	8S218	MFM	Arrival	12.4	-	-
30-Jun	17:01	3A183	ZUI	Departure	13.3	-	-
30-Jun	17:09	8S126	MFM	Departure	13.2	-	-
30-Jun	17:17	3A067	YFT	Arrival	12.9	-	-
30-Jun	19:06	3A166	YFT	Departure	11.7	-	-
30-Jun	19:48	3A084	ZUI	Arrival	12.7		
30-Jun	20:19	3A185	ZUI	Departure	12.9	-	-
30-Jun	21:04	8S2113	MFM	Arrival	11.6	-	-
30-Jun	21:06	3A169	YFT	Departure	12.2	-	-
30-Jun	22:11	8S522	MFM	Departure	11.3	-	-

Follow-up on instantaneous speeding

Referring to the data of SkyPier HSF movements in June 2017, instantaneous speeding (i.e. a sudden change in speed at over 15 knots for a short period of time) within the SCZ was recorded from 12 HSF movements. The duration of instantaneous speeding of 10 HSF movements were less than one minute and the remaining two were less than two minutes. The AlS data and ferry operators' responses showed the cases were due to local strong water currents. The captain had reduced speed and maintained the speed at less than 15 knots after the incidents.

Five HSF movements with no AIS data and 10 HSF movements with insufficient transmission of AIS data were received in June 2017. AIS data were retrieved from other sources such as Marine Traffic Data and Shipxy. Vessel captain was also requested to provide the radar track photos to indicate the vessel entered the SCZ though the gate access point with no speeding in the SCZ.