China Harbour Engineering Company Limited

Contract No. HY/2010/02

Hong Kong – Zhuhai – Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works

Monthly EM&A Report for July 2017

[08/2017]

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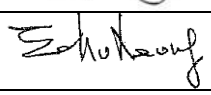
Reviewed, Approved and Certified:	Echo Leong (ETL)	

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RAMBOLL ENVIRON

Ref.: HYDHZMBEEM00_0_5712L.17

14 August 2017

By Fax (3698 5999) and By Post

Ove Arup & Partners Hong Kong Ltd.
Chief Resident Engineer's Office
5 Ying Hei Road, Tung Chung, Lantau
Hong Kong

Attention: Mr. Paul Appleton

Dear Sir,

Re: Agreement No. CE 48/2011 (EP)
Environmental Project Office for the
HZMB Hong Kong Link Road, HZMB Hong Kong Boundary Crossing Facilities, and
Tuen Mun-Chek Lap Kok Link – Investigation

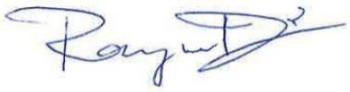
Contract No. HY/2010/02 – HZMB HKBCF – Reclamation Works
Monthly Environmental Monitoring & Audit Report for July 2017

Reference is made to the Environmental Team's submission of the Monthly Environmental Monitoring & Audit Report for July 2017 certified by the ET Leader (ET's ref.: "60249820/C/RMKY17081401" dated 14 August 2017) and provided to us via e-mail on 14 August 2017.

We are pleased to inform you that we have no further comment on the captioned submission. We write to verify the captioned submission in accordance with Condition 5.4 of EP-353/2009/K and Condition 4.4 of EP-354/2009/D (for TM-CLKL Southern Landfall Reclamation only). Please be reminded that our verification of this report does not release any obligations under the EM&A Manual or under the applicable Environmental Permit(s) for this Project.

Thank you very much for your attention and please feel free to contact the undersigned should you require further information.

Yours faithfully,
For and on behalf of
Ramboll Environ Hong Kong Limited



Raymond Dai
Independent Environmental Checker

c.c.	HyD	Mr. Vico Cheung	(By Fax: 3188 6614)
	HyD	Mr. Wai-Ping Lee	(By Fax: 3188 6614)
	AECOM	Ms. Echo Leong	(By Fax: 2317 7609)
	CHEC	Mr. Lim Kim Chuan	(By Fax: 2578 0413)

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TABLE OF CONTENTS

List of Tables

Figures

List of Appendices

EXECUTIVE SUMMARY

Contract No. HY/2010/02 – Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works (here below, known as "the Contract") mainly comprises reclamation at the northeast of the Hong Kong International Airport of an area of about 130-hectare for the construction of an artificial island for the development of the Hong Kong Boundary Crossing Facilities (HKBCF), and about 19-hectare for the southern landfall of the Tuen Mun - Chek Lap Kok Link (TMCLKL). It is a designated Project and is governed by the current permits for the Project, i.e. the amended Environmental Permits (EPs) issued on 11 April 2016 (EP-353/2009/K) and 13 March 2015 (EP-354/2009/D) (for TMCLKL Southern Landfall Reclamation only).

Ove Arup & Partners Hong Kong Limited (Arup) was appointed by Highways Department (HyD) as the consultants for the design and construction assignment for the Project's reclamation works (i.e. the Engineer for the Contract).

China Harbour Engineering Company Limited (CHEC) was awarded by HyD as the Contractor to undertake the construction work of the Contract.

Ramboll Environ Hong Kong Limited was employed by HyD as the Independent Environmental Checker (IEC) and Environmental Project Office (ENPO) for the Project.

AECOM Asia Co. Ltd. (AECOM) was appointed by CHEC to undertake the role of Environmental Team for the Contract for carrying out the environmental monitoring and audit (EM&A) works.

The construction phase of the Project under the EPs was commenced on 12 March 2012. The EM&A programme, including air quality, noise, water quality and dolphin monitoring and environmental site inspections, was commenced on 12 March 2012.

This report documents the findings of EM&A works conducted in the period between 1 and 31 July 2017. As informed by the Contractor, major activities in the reporting period were:-

Marine-base

- Maintenance of localized silt curtain
- Outfall installation
- Additional GI works

Land-base

- Maintenance works of Site Office at Works Area WA2
- Maintenance of Temporary Marine Access at Works Area WA2

A summary of monitoring and audit activities conducted in the reporting period is listed below:

24-hour Total Suspended Particulates (TSP) monitoring	5 sessions
1-hour TSP monitoring	5 sessions
Noise monitoring	4 sessions
Impact water quality monitoring	13 sessions
Impact dolphin monitoring	2 surveys
Joint Environmental site inspection	4 sessions

Breaches of Action and Limit Levels for Air Quality

For impact air quality monitoring, no exceedance of 1-Hour TSP or 24-Hour TSP was recorded at all monitoring stations in the reporting month.

Breaches of Action and Limit Levels for Noise

For construction noise monitoring, no exceedance was recorded at all monitoring stations in the reporting month.

Breaches of Action and Limit Levels for Water Quality

For impact water quality monitoring, 2 action level exceedances of suspended solids were recorded at SR3 during ebb tide on 12 July 2017 and at IS7 during flood tide on 14 July 2017 respectively. After investigation, it was concluded that those exceedance were unlikely to be contract related. No other exceedance was recorded at all monitoring stations in the reporting month.

Summary of Impact Dolphin Monitoring

Dolphin surveys were conducted on 13, 14, 25 and 26 July 2017. A total of 197.7 km of transect line was conducted; 197.7 km of transect line was travelled during Beaufort Sea State 3 or better (favourable water conditions). A total of 9 sightings were made, three “on effort” and six “opportunistic”. Three sightings were recorded on 14 July 2017 with one “on effort” and two “opportunistic” in NWL. Six sightings were recorded on 25 July 2017 with two “on effort” in NWL, three “opportunistic” in NWL and WL, and one “opportunistic” in NEL. Two groups were feeding, three groups were travelling, two groups were engaged in multiple activities and two groups behavior could not be determined. Sighting details are summarized and plotted in Appendix K and Figure 5c, respectively. No resighting in June 2017.

Complaint, Notification of Summons and Successful Prosecution

No complaint, notification of summons or prosecution was received in the reporting period.

Reporting Change

No reporting change in this reporting month

Future Key Issues

Key issues to be considered in the coming month included:

- Site runoff should be properly collected and treated prior to discharge;
- Regular review and maintenance of silt curtain systems, drainage systems and desilting facilities;
- Exposed surfaces/soil stockpiles should be properly treated to avoid generation of silty surface run-off during rainstorm;
- Regular review and maintenance of wheel washing facilities provided at all site entrances/exits;
- Conduct regular inspection of various working machineries and vessels within works areas to avoid any dark smoke emission;
- Suppress dust generated from work processes with use of bagged cements, earth movements, excavation activities, exposed surfaces/soil stockpiles and haul road traffic;
- Quieter powered mechanical equipment should be used;
- Provision of proper and effective noise control measures for operating equipment and machinery on-site, such as erection of movable noise barriers or enclosure for noisy plants;
- Closely check and replace the sound insulation materials regularly;
- Better scheduling of construction works to minimize noise nuisance;
- Properly store and label oil drums and chemical containers placed on site;
- Proper chemicals, chemical wastes and wastes management;
- Maintenance works should be carried out within roofed, paved and confined areas;
- Collection and segregation of construction waste and general refuse on land and in the sea should be carried out properly and regularly; and
- Proper protection and regular inspection of existing trees, transplanted/retained trees.
- Control night-time lighting and glare by hooding all lights.
- Regular review and provide maintenance to dust control measures such as sprinkler system

1 INTRODUCTION

1.1 Background

1.1.1 Contract No. HY/2010/02 – Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works (here below, known as "the Contract") mainly comprises reclamation at the northeast of the Hong Kong International Airport of an area of about 130-hectare for the construction of an artificial island for the development of the Hong Kong Boundary Crossing Facilities (HKBCF), and about 19-hectare for the southern landfall of the Tuen Mun - Chek Lap Kok Link (TMCLKL).

1.1.2 The environmental impact assessment (EIA) reports (Hong Kong – Zhuhai – Macao Bridge Hong Kong Boundary Crossing Facilities – EIA Report (Register No. AEIAR-145/2009) (HKBCFEIA) and Tuen Mun – Chek Lap Kok Link – EIA Report (Register No. AEIAR-146/2009) (TMCLKLEIA), and their environmental monitoring and audit (EM&A) Manuals (original EM&A Manuals), for the Project were approved by Environmental Protection Department (EPD) in October 2009.

1.1.3 EPD subsequently issued the Environmental Permit (EP) for HKBCF in November 2009 (EP-353/2009) and the Variation of Environmental Permit (VEP) in June 2010 (EP-353/2009/A), November 2010 (EP-353/2009/B), November 2011 (EP-353/2009/C), March 2012 (EP-353/2009/D), October 2012 (EP-353/2009/E), April 2013 (EP-353/2009/F), August 2013 (EP-353/2009/G), January 2015 (EP-353/2009/H), July 2015 (EP-353/2009/I), February 2016 (EP-353/2009/J) and April 2016 (EP-353/2009/K). Similarly, EPD issued the Environmental Permit (EP) for TMCLKL in November 2009 (EP-354/2009) and the Variation of Environmental Permit (VEP) in December 2010 (EP-354/2009/A), January 2014 (EP-354/2009/B), December 2014 (EP-354/2009/C) and March 2015 (EP-354/2009/D)

1.1.4 The Project is a designated Project and is governed by the current permits for the Project, i.e. the amended EPs issued on 11 April 2016 (EP-353/2009/K) and 13 March 2015 (EP-354/2009/D) (for TMCLKL Southern Landfall Reclamation only).

1.1.5 A Contract Specific EM&A Manual, which included all Contract -relation contents from the original EM&A Manuals for the Contract, was issued in May 2012.

1.1.6 Ove Arup & Partners Hong Kong Limited (Arup) was appointed by Highways Department (HyD) as the consultants for the design and construction assignment for the Project's reclamation works (i.e. the Engineer for the Contract).

1.1.7 China Harbour Engineering Company Limited (CHEC) was awarded by HyD as the Contractor to undertake the construction work of the Contract.

1.1.8 Ramboll Environ Hong Kong Limited was employed by HyD as the Independent Environmental Checker (IEC) and Environmental Project Office (ENPO) for the Project.

1.1.9 AECOM Asia Co. Ltd. (AECOM) was appointed by CHEC to undertake the role of Environmental Team for the Contract for carrying out the EM&A works.

1.1.10 The construction phase of the Project under the EPs was commenced on 12 March 2012.

1.1.11 According to the Contract Specific EM&A Manual, there is a need of an EM&A programme including air quality, noise, water quality and dolphin monitoring and environmental site inspections. The EM&A programme of the Contract commenced on 12 March 2012.

1.2 Scope of Report

1.2.1 This is the sixty-fifth monthly EM&A Report under the Contract No.HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. This report presents a summary of the environmental monitoring and audit works, list of activities and mitigation measures proposed by the ET for the Contract in July 2017.

1.3 Contract Organization

1.3.1 The Contract organization structure is shown in Appendix A. The key personnel contact names and numbers are summarized in Table 1.1.

Table 1.1 Contact Information of Key Personnel

Party	Position	Name	Telephone	Fax
Engineer's Representative (ER) (Ove Arup & Partners Hong Kong Limited)	Chief Resident Engineer	Paul Appleton	3698 5889	2698 5999
IEC / **ENPO** (Ramboll Environ Hong Kong Limited)	Independent Environmental Checker	Raymond Dai	3465 2888	3465 2899
	Environmental Project Office Leader	Y. H. Hui	3465 2850	3465 2899
Contractor (China Harbour Engineering Company Limited)	Environmental Officer	Louie Chan	3693 2254	2578 0413
	24-hour Hotline	Alan C.C. Yeung	9448 0325	--
ET (AECOM Asia Company Limited)	ET Leader	Echo Leong	3922 9280	2317 7609

1.4 Summary of Construction Works

1.4.1 The construction phase of the Project under the EP commenced on 12 March 2012.

1.4.2 As informed by the Contractor, details of the major works carried out in this reporting period are listed below:

Marine-base
- Maintenance of localized silt curtain
- Outfall installation
- Additional GI works

Land-base
- Maintenance works of Site Office at Works Area WA2
- Maintenance of Temporary Marine Access at Works Area WA2

1.4.3 The 3-month rolling construction programme of the Contract is shown in Appendix B.

1.4.4 The general layout plan of the Contract site showing the detailed works areas is shown in Figure 1.

1.4.5 The environmental mitigation measures implementation schedule are presented in Appendix C.

1.5 Summary of EM&A Programme Requirements

1.5.1 The EM&A programme required environmental monitoring for air quality, noise, water quality, marine ecology and environmental site inspections for air quality, noise, water quality, waste management, marine ecology, and landscape and visual impact. The EM&A requirements for each parameter described in the following sections include:-

- All monitoring parameters;
- Monitoring schedules for the reporting month and forthcoming month;
- Action and Limit levels for all environmental parameters;
- Event / Action Plan;
- Environmental mitigation measures, as recommended in the Project EIA reports; and
- Environmental requirement in contract documents.

2. AIR QUALITY MONITORING

2.1 Monitoring Requirements

2.1.1 In accordance with the Contract Specific EM&A Manual, baseline 1-hour and 24-hour Total Suspended Particulates (TSP) levels at 4 air quality monitoring stations were established. Impact 1-hour TSP monitoring was conducted for at least three times every 6 days, while impact 24-hour TSP monitoring was carried out for at least once every 6 days. The Action and Limit level of the air quality monitoring is provided in Appendix D.

2.2 Monitoring Equipment

2.2.1 24-hour TSP air quality monitoring was performed using High Volume Sampler (HVS) located at each designated monitoring station. The HVS meets all the requirements of the Contract Specific EM&A Manual. Portable direct reading dust meters were used to carry out the 1-hour TSP monitoring. Brand and model of the equipment is given in Table 2.1.

Table 2.1 Air Quality Monitoring Equipment

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

2.3 Monitoring Locations

2.3.1 Monitoring locations AMS2 and AMS7 were set up at the proposed locations in accordance with Contract Specific EM&A Manual. For AMS6 (Dragonair/CNAC (Group) Building), permission on setting up and carrying out impact monitoring works was sought, however, access to the premise has not been granted yet on this report issuing date. For monitoring location AMS3 (Ho Yu College), as proposed in the Contract Specific EM&A Manual, approval for carrying out impact monitoring could not be obtained from the principal of the school. Permission on setting up and carrying out impact monitoring works at nearby sensitive receivers, like Caribbean Coast and Coastal Skyline, was also sought. However, approvals for carrying out impact monitoring works within their premises were not obtained. Impact air quality monitoring was conducted at site boundary of the site office area in Works Area WA2 (AMS3B) respectively. Same baseline and Action Level for air quality, as derived from the baseline monitoring data recorded at Ho Yu College, was adopted for this alternative air quality location.

2.3.2 It was observed that a tree near AMS3B may affect the wind flow around the HVS located at AMS3B. With no further comment received from IEC, the HVS at AMS3B has been relocated on 8 September 2014 to slightly more than 2 meters separation from it, measured horizontally. Same baseline and Action Level for air quality, as derived from the baseline monitoring data recorded at Ho Yu College, was adopted for this alternative air quality location.

2.3.3 Reference is made to ET's proposal of the omission of air monitoring station (AMS 6) dated on 1 November 2012 and EPD's letter dated on 19 November 2012 regarding the conditional approval of the proposed omission of air monitoring station (AMS 6) for Contract No. HY/2010/02. The aforesaid omission of Monitoring Station AMS6 is effective since 19 November 2012.

2.3.4 The impact air quality monitoring station AMS7A (Chu Kong Air-Sea Union Transportation Company Limited) has been relocated to AMS7 (Hong Kong SkyCity Marriott Hotel) on 30 December 2015. The impact air quality monitoring was conducted at AMS7 (Hong Kong SkyCity Marriott Hotel) since January 2016, action Level for air quality, as derived from the baseline monitoring data recorded at Hong Kong SkyCity Marriott Hotel has been adopted for this air quality monitoring location.

2.3.5 Figure 2 shows the locations of monitoring stations. Table 2.2 describes the details of the monitoring stations.

Table 2.2 Locations of Impact Air Quality Monitoring Stations

Monitoring Station	Location	Description
AMS2	Tung Chung Development Pier	Rooftop of the premise
AMS3B	Site Boundary of Site Office Area at Works Area WA2	On ground at the area boundary
AMS6*	Dragonair/CNAC (Group) Building	On ground at boundary of the premise
AMS7	Hong Kong SkyCity Marriott Hotel	On ground at boundary of the premise

#Remarks: Reference is made to EPD conditional approval of the omission of air monitoring station (AMS 6) for the Contract. The omission will be effective on 19 November 2012.

2.4 Monitoring Parameters, Frequency and Duration

2.4.1 Table 2.3 summarizes the monitoring parameters, frequency and duration of impact TSP monitoring.

Table 2.3 Air Quality Monitoring Parameters, Frequency and Duration

Parameter	Frequency and Duration
1-hour TSP	Three times every 6 days while the highest dust impact was expected
24-hour TSP	Once every 6 days

2.5 Monitoring Methodology

2.5.1 24-hour TSP Monitoring

(a) The HVS was installed in the vicinity of the air sensitive receivers. The following criteria were considered in the installation of the HVS.

(i) A horizontal platform with appropriate support to secure the sampler against gusty wind was provided.
(ii) No two samplers should be placed less than 2 meters apart.
(iii) The distance between the HVS and any obstacles, such as buildings, was at least twice the height that the obstacle protrudes above the HVS.
(iv) A minimum of 2 meters separation from walls, parapets and penthouse for rooftop sampler.
(v) A minimum of 2 meters separation from any supporting structure, measured horizontally is required.
(vi) No furnace or incinerator flues nearby.
(vii) Airflow around the sampler was unrestricted.
(viii) Permission was obtained to set up the samplers and access to the monitoring stations.
(ix) A secured supply of electricity was obtained to operate the samplers.
(x) The sampler was located more than 20 meters from any dripline.
(xi) Any wire fence and gate, required to protect the sampler, did not obstruct the monitoring process.
(xii) Flow control accuracy was kept within ±2.5% deviation over 24-hour sampling period.

(b) Preparation of Filter Papers

(i) Glass fibre filters, G810 were labelled and sufficient filters that were clean and without pinholes were selected.
(ii) All filters were equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature was around 25 °C and not variable by more

than ±3 °C; the relative humidity (RH) was < 50% and not variable by more than ±5%. A convenient working RH was 40%.

(iii) All filter papers were prepared and analysed by ALS Technichem (HK) Pty Ltd., which is a HOKLAS accredited laboratory and has comprehensive quality assurance and quality control programmes.

(c) Field Monitoring

(i) The power supply was checked to ensure the HVS works properly.
(ii) The filter holder and the area surrounding the filter were cleaned.
(iii) The filter holder was removed by loosening the four bolts and a new filter, with stamped number upward, on a supporting screen was aligned carefully.
(iv) The filter was properly aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter.
(v) The swing bolts were fastened to hold the filter holder down to the frame. The pressure applied was sufficient to avoid air leakage at the edges.
(vi) Then the shelter lid was closed and was secured with the aluminum strip.
(vii) The HVS was warmed-up for about 5 minutes to establish run-temperature conditions.
(viii) A new flow rate record sheet was set into the flow recorder.
(ix) On site temperature and atmospheric pressure readings were taken and the flow rate of the HVS was checked and adjusted at around 1.1 m^3/min, and complied with the range specified in the updated EM&A Manual (i.e. 0.6-1.7 m^3/min).
(x) The programmable digital timer was set for a sampling period of 24 hrs, and the starting time, weather condition and the filter number were recorded.
(xi) The initial elapsed time was recorded.
(xii) At the end of sampling, on site temperature and atmospheric pressure readings were taken and the final flow rate of the HVS was checked and recorded.
(xiii) The final elapsed time was recorded.
(xiv) The sampled filter was removed carefully and folded in half length so that only surfaces with collected particulate matter were in contact.
(xv) It was then placed in a clean plastic envelope and sealed.
(xvi) All monitoring information was recorded on a standard data sheet.
(xvii) Filters were then sent to ALS Technichem (HK) Pty Ltd. for analysis.

(d) Maintenance and Calibration

(i) The HVS and its accessories were maintained in good working condition, such as replacing motor brushes routinely and checking electrical wiring to ensure a continuous power supply.
(ii) 5-point calibration of the HVS was conducted using TE-5025A Calibration Kit prior to the commencement of baseline monitoring. Bi-monthly 5-point calibration of the HVS will be carried out during impact monitoring.
(iii) Calibration certificate of the HVSs are provided in Appendix E.

2.5.2 1-hour TSP Monitoring

(a) Measuring Procedures

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

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

(xi) Push "START/STOP" switch to start measurement.

(b) Maintenance and Calibration

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

(ii) 1-hour validation checking of the TSP meter against HVS is carried out on half-year basis at the air quality monitoring locations.

2.6 Monitoring Schedule for the Reporting Month

2.6.1 The schedule for air quality monitoring in July 2017 is provided in Appendix F.

2.7 Results and Observations

2.7.1 The monitoring results for 1-hour TSP and 24-hour TSP are summarized in Table 2.4 and 2.5 respectively. Detailed impact air quality monitoring results are presented in Appendix G.

Table 2.4 Summary of 1-hour TSP Monitoring Results in the Reporting Period

	Average ($\mu g/m^3$)	Range ($\mu g/m^3$)	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)
AMS2	70	67-76	374	500
AMS3B	71	68-78	368	500
AMS7	70	67-75	370	500

Table 2.5 Summary of 24-hour TSP Monitoring Results in the Reporting Period

	Average ($\mu g/m^3$)	Range ($\mu g/m^3$)	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)
AMS2	17	14-23	176	260
AMS3B	16	12-23	167	260
AMS7	20	8-28	183	260

2.7.2 The event action plan is annexed in Appendix L.

2.7.3 Meteorological information collected from the wind station during the monitoring periods on the monitoring dates, as shown in Figure 2, including wind speed and wind direction, is annexed in Appendix H.

3. NOISE MONITORING

3.1 Monitoring Requirements

3.1.1 In accordance with the Contract Specific EM&A Manual, impact noise monitoring was conducted for at least once per week during the construction phase of the Contract. The Action and Limit level of the noise monitoring is provided in Appendix D.

3.2 Monitoring Equipment

3.2.1 Noise monitoring was performed using sound level meter at each designated monitoring station. The sound level meters deployed comply with the International Electrotechnical Commission Publications (IEC) 651:1979 (Type 1) and 804:1985 (Type 1) specifications. Acoustic calibrator was deployed to check the sound level meters at a known sound pressure level. Brand and model of the equipment is given in Table 3.1.

Table 3.1 Noise Monitoring Equipment

Equipment	Brand and Model
Integrated Sound Level Meter	Rion NL-31 & B&K2238
Acoustic Calibrator	Rion NC-73 & B&K 4231

3.3 Monitoring Locations

3.3.1 Monitoring locations NMS2 was set up at the proposed locations in accordance with Contract Specific EM&A Manual. However, for monitoring location NMS3 (Ho Yu College), as proposed in the Contract Specific EM&A Manual, approval for carrying out impact monitoring could not be obtained from the principal of the school. Permission on setting up and carrying out impact monitoring works at nearby sensitive receivers, like Caribbean Coast and Coastal Skyline, was also sought. However, approvals for carrying out impact monitoring works within their premises were not obtained. Impact noise monitoring was conducted at site boundary of the site office area in Works Area WA2 (NMS3B) respectively. Same baseline noise level (as derived from the baseline monitoring data recorded at Ho Yu College) and Limit Level were adopted for this alternative noise monitoring location.

3.3.2 Figure 2 shows the locations of the monitoring stations. Table 3.2 describes the details of the monitoring stations.

Table 3.2 Locations of Impact Noise Monitoring Stations

Monitoring Station	Location	Description
NMS2	Seaview Crescent Tower 1	Free-field on the rooftop of the premise
NMS3B	Site Boundary of Site Office Area at Works Area WA2	Free-field on ground at the area boundary.

3.4 Monitoring Parameters, Frequency and Duration

3.4.1 Table 3.3 summarizes the monitoring parameters, frequency and duration of impact noise monitoring.

Table 3.3 Noise Monitoring Parameters, Frequency and Duration

Parameter	Frequency and Duration
30-mins measurement at each monitoring station between 0700 and 1900 on normal weekdays (Monday to Saturday). L_{eq}, L_{10} and L_{90} would be recorded.	At least once per week

3.5 Monitoring Methodology

3.5.1 Monitoring Procedure

(a) The sound level meter was set on a tripod at a height of 1.2 m above the ground for free-field measurements at NMS2. A correction of +3 dB(A) shall be made to the free field measurements.

(b) All measurement at NMS3B were free field measurements in the reporting month at NMS3B. A correction of +3 dB(A) shall be made to the free field measurements.

(c) The battery condition was checked to ensure the correct functioning of the meter.

(d) Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:-

(i) frequency weighting: A
(ii) time weighting: Fast
(iii) time measurement: $L_{eq(30\text{-}minutes)}$ during non-restricted hours i.e. 07:00 – 1900 on normal weekdays.

(e) Prior to and after each noise measurement, the meter was calibrated using the acoustic calibrator for 94dB(A) at 1000 Hz. If the difference in the calibration level before and after measurement was more than 1 dB(A), the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.

(f) During the monitoring period, the L_{eq}, L_{10} and L_{90} were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.

(g) Noise measurement was paused during periods of high intrusive noise (e.g. dog barking, helicopter noise) if possible. Observations were recorded when intrusive noise was unavoidable.

(h) Noise monitoring was cancelled in the presence of fog, rain, wind with a steady speed exceeding 5m/s, or wind with gusts exceeding 10m/s. The wind speed shall be checked with a portable wind speed meter capable of measuring the wind speed in m/s.

3.5.2 Maintenance and Calibration

(a) The microphone head of the sound level meter was cleaned with soft cloth at regular intervals.

(b) The meter and calibrator were sent to the supplier or HOKLAS laboratory to check and calibrate at yearly intervals.

(c) Calibration certificates of the sound level meters and acoustic calibrators are provided in Appendix E.

3.6 Monitoring Schedule for the Reporting Month

3.6.1 The schedule for construction noise monitoring in July 2017 is provided in Appendix F.

3.7 Monitoring Results

3.7.1 The monitoring results for construction noise are summarized in Table 3.4 and the monitoring data is provided in Appendix I.

Table 3.4 Summary of Construction Noise Monitoring Results in the Reporting Period

	Average, dB(A), $L_{eq\ (30\ mins)}$	Range, dB(A), $L_{eq\ (30\ mins)}$	Limit Level, dB(A), $L_{eq\ (30\ mins)}$
NMS2	67	67-67*	75
NMS3B	67	66-69*	70/65^

*+3dB(A) Façade correction included
^ Daytime noise Limit Level of 70 dB(A) applies to education institutions, while 65dB(A) applies during school examination period.

3.7.2 Other major noise sources during the noise monitoring included construction activities of the Contract, construction activities by other contracts and nearby traffic noise. Nonetheless, the Contractor of Contract No.HY/2010/02 was reminded to continue to properly implement all noise mitigation measures.

3.7.3 The event action plan is annexed in Appendix L.

4. WATER QUALITY MONITORING

4.1 Monitoring Requirements

4.1.1 Impact water quality monitoring was carried out to ensure that any deterioration of water quality was detected, and that timely action was taken to rectify the situation. For impact water quality monitoring, measurements were taken in accordance with the Contract Specific EM&A Manual. Appendix D shows the established Action/Limit Levels for the environmental monitoring works.

4.2 Monitoring Equipment

4.2.1 Table 4.1 summarises the equipment used in the impact water quality monitoring programme.

Table 4.1 Water Quality Monitoring Equipment

Equipment	Brand and Model
Dissolved Oxygen (DO) and Temperature Meter, Salinity Meter and Turbidity Meter	YSI Model 6820
pH Meter	YSI Model 6820 or Thermo Orion 230A+
Positioning Equipment	JRC DGPS 224 Model JLR-4341 with J-NAV 500 Model NWZ4551
Water Depth Detector	Eagle Cuda-168 and Lowrance x-4
Water Sampler	Kahlsio Water Sampler (Vertical) 2.2 L with messenger

4.3 Monitoring Parameters, Frequency and Duration

4.3.1 Table 4.2 summarises the monitoring parameters, frequency and monitoring depths of impact water quality monitoring as required in the Contract Specific EM&A Manual.

Table 4.2 Impact Water Quality Monitoring Parameters and Frequency

Monitoring Stations	Parameter, unit	Frequency	No. of depth
Impact Stations: IS5, IS(Mf)6, IS7, IS8, IS(Mf)9, IS10(N), IS(Mf)11, IS(Mf)16, IS17 *Control/Far Field Stations:* CS(Mf)3(N), CS(Mf)5, CS4, CS6, CSA *Sensitive Receiver Stations:* SR3, SR4(N), SR5(N), SR6, SR7, SR10A&SR10B(N)	• Depth, m • Temperature, ^{o}C • Salinity, ppt • Dissolved Oxygen (DO), mg/L • DO Saturation, % • Turbidity, NTU • pH • Suspended Solids (SS), mg/L	Three times per week during mid-ebb and mid-flood tides (within ± 1.75 hour of the predicted time)	3 (1 m below water surface, mid-depth and 1 m above sea bed, except where the water depth is less than 6 m, in which case the mid-depth station may be omitted. Should the water depth be less than 3 m, only the mid-depth station will be monitored).

4.4 Monitoring Locations

4.4.1 In accordance with the Contract Specific EM&A Manual, twenty-one stations (9 Impact Stations, 7 Sensitive Receiver Stations and 5 Control/Far Field Stations) were designated for impact water quality monitoring. The nine Impact Stations (IS) were chosen on the basis of their proximity to the reclamation and thus the greatest potential for water quality impacts, the seven Sensitive Receiver Stations (SR) were chosen as they are close to the key sensitive receives and the five Control/ Far Field Stations (CS) were chosen to facilitate comparison of the water quality of the IS stations with less influence by the Project/ ambient water quality conditions.

4.4.2 Due to safety concern and topographical condition of the original locations of SR4 and SR10B, alternative impact water quality monitoring stations, naming as SR4 (N) and SR10B (N), were adopted, which are situated in vicinity of the original impact water quality monitoring stations (SR4 and SR10B) and could be reachable.

4.4.3 Due to marine work of the Expansion of Hong Kong International Airport into a Three-Runway System (3RS Project), original locations of water quality monitoring stations SR5, IS10 and CS(Mf)3 are enclosed by works boundary of 3RS Project. Alternative impact water quality monitoring stations, naming as SR5(N), IS10(N) and CS(Mf)3(N) was approved in 12 May 2017 and were adopted starting from 15 May 2017 to replace the original locations of water quality monitoring. For details and status of the proposed changes, please refer to section 6.4.9

4.4.4 Same baseline and Action Level for water quality, as derived from the baseline monitoring data recorded, were adopted for these alternative impact water quality monitoring stations.

4.4.5 The locations of these monitoring stations are summarized in Table 4.3 and depicted in Figure 3.

Table 4.3 Impact Water Quality Monitoring Stations

Station	Description	East	North
IS5	Impact Station (Close to HKBCF construction site)	811579	817106
IS(Mf)6	Impact Station (Close to HKBCF construction site)	812101	817873
IS7	Impact Station (Close to HKBCF construction site)	812244	818777
IS8	Impact Station (Close to HKBCF construction site)	814251	818412
IS(Mf)9	Impact Station (Close to HKBCF construction site)	813273	818850
IS10(N)	Impact Station (Close to HKBCF construction site)	812942	820881
IS(Mf)11	Impact Station (Close to HKBCF construction site)	813562	820716
IS(Mf)16	Impact Station (Close to HKBCF construction site)	814328	819497
IS17	Impact Station (Close to HKBCF construction site)	814539	820391
SR3	Sensitive receivers (San Tau SSSI)	810525	816456
SR4(N)	Sensitive receivers (Tai Ho)	814705	817859
SR5(N)	Sensitive receivers (Artificial Reef in NE Airport)	812569	821475
SR6	Sensitive receivers (Sha Chau and Lung Kwu Chau Marine Park)	805837	821818
SR7	Sensitive receivers (Tai Mo Do)	814293	821431
SR10A	Sensitive receivers (Ma Wan FCZ)1	823741	823495
SR10B(N)	Sensitive receivers (Ma Wan FCZ)2	823683	823187
CS(Mf)3(N)	Control Station	808814	822355
CS(Mf)5	Control Station	817990	821129
CS4	Control Station	810025	824004

Station	Description	East	North
CS6	Control Station	817028	823992
CSA	Control Station	818103	823064

4.5 Monitoring Methodology

4.5.1 Instrumentation

(a) The in-situ water quality parameters, viz. dissolved oxygen, temperature, salinity, turbidity and pH, were measured by multi-parameter meters (i.e. Model YSI 6820 CE-C-M-Y) and pH meter (i.e. Thermo Orion 230A+) respectively.

4.5.2 Operating/Analytical Procedures

(a) Digital Differential Global Positioning Systems (DGPS) were used to ensure that the correct location was selected prior to sample collection.

(b) Portable, battery-operated echo sounders were used for the determination of water depth at each designated monitoring station.

(c) All in-situ measurements were taken at 3 water depths, 1 m below water surface, mid-depth and 1 m above sea bed, except where the water depth was less than 6 m, in which case the mid-depth station was omitted. Should the water depth be less than 3 m, only the mid-depth station was monitored.

(d) At each measurement/sampling depth, two consecutive in-situ monitoring (DO concentration and saturation, temperature, turbidity, pH, salinity) and water sample for SS. The probes were retrieved out of the water after the first measurement and then re-deployed for the second measurement. Where the difference in the value between the first and second readings of DO or turbidity parameters was more than 25% of the value of the first reading, the reading was discarded and further readings were taken.

(e) Duplicate samples from each independent sampling event were collected for SS measurement. Water samples were collected using the water samplers and the samples were stored in high-density polythene bottles. Water samples collected were well-mixed in the water sampler prior to pre-rinsing and transferring to sample bottles. Sample bottles were pre-rinsed with the same water samples. The sample bottles were then be packed in cool-boxes (cooled at 4^{o}C without being frozen), and delivered to ALS Technichem (HK) Pty Ltd. for the analysis of suspended solids concentrations. The laboratory determination work would be started within 24 hours after collection of the water samples. ALS Technichem (HK) Pty Ltd. is a HOKLAS accredited laboratory and has comprehensive quality assurance and quality control programmes. For QA/QC procedures, one duplicate samples of every batch of 20 samples was analyzed.

(f) The analysis method and reporting and detection limit for SS is shown in Table 4.4.

Table 4.4 Laboratory Analysis for Suspended Solids

Parameters	Instrumentation	Analytical Method	Reporting Limit	Detection Limit
Suspended Solid (SS)	Weighting	APHA 2540-D	0.5mg/L	0.5mg/L

(g) Other relevant data were recorded, including monitoring location / position, time, water depth, tidal stages, weather conditions and any special phenomena or work underway at the construction site in the field log sheet for information.

4.5.3 Maintenance and Calibration

(a) All in situ monitoring instruments would be calibrated and calibrated by ALS Technichem (HK) Pty Ltd. before use and at 3-monthly intervals throughout all stages of the water quality monitoring programme. Calibration details are provided in Appendix E.

(b) The dissolved oxygen probe of YSI 6820 was calibrated by wet bulb method. Before the calibration routine, the sensor for dissolved oxygen was thermally equilibrated in water-saturated air. Calibration cup is served as a calibration chamber and it was loosened from airtight condition before it is used for the calibration. Calibration at ALS Technichem (HK) Pty Ltd. was carried out once every three months in a water sample with a known concentration of dissolved oxygen. The sensor was immersed in the water and after thermal equilibration, the known mg/L value was keyed in and the calibration was carried out automatically.

(c) The turbidity probe of YSI 6820 is calibrated two times a month. A zero check in distilled water was performed with the turbidity probe of YSI 6820 once per monitoring day. The probe will be calibrated with a solution of known NTU at ALS Technichem (HK) Pty Ltd. once every three months.

4.6 Monitoring Schedule for the Reporting Month

4.6.1 The schedule for impact water quality monitoring in July 2017 is provided in Appendix F.

4.7 Results and Observations

4.7.1 Impact water quality monitoring results and graphical presentations are provided in Appendix J.

Table 4.5 Summary of Water Quality Exceedances

Station	Exceedance Level	DO (S&M)		DO (Bottom)		Turbidity		SS		Total	
		Ebb	Flood	Ebb	Flood	Ebb	Flood	Ebb	Flood	Ebb	Flood
IS5	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
IS(Mf)6	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
IS7	Action	0	0	0	0	0	0	0	**(1) 14 Jul 2017**	0	**1**
	Limit	0	0	0	0	0	0	0	0	0	0
IS8	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
IS(Mf)9	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
IS10(N)	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
IS(Mf)11	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
IS(Mf)16	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
IS17	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
SR3	Action	0	0	0	0	0	0	**(1) 12 Jul 2017**	0	**1**	0
	Limit	0	0	0	0	0	0	0	0	0	0
SR4(N)	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
SR5(N)	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
SR6	Action	0	0	0	0	0	0	0	0	0	0

Station	Exceedance Level	DO (S&M)		DO (Bottom)		Turbidity		SS		Total	
		Ebb	Flood	Ebb	Flood	Ebb	Flood	Ebb	Flood	Ebb	Flood
	Limit	0	0	0	0	0	0	0	0	0	0
SR7	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
SR10A	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
SR10B (N)	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
Total	**Action**	0	0	0	0	0	0	**1**	**1**	**2**	
	Limit	0	0	0	0	0	0	0	0	0	

Note: S: Surface; and
M: Mid-depth.

4.7.2 One SS action level exceedance on 12 July 2017 at monitoring station SR3 during ebb tide. For the location of monitoring stations, please refer to Figure 3.

4.7.2.1 Investigation Result:

4.7.2.2 With referred to the information provided by the Contractor, it is confirmed that no construction activities was conducted when water quality monitoring was conducted at monitoring station SR3 during ebb tide on 12 July 2017.

4.7.2.3 With referred to the monitoring record, no sediment plume has been observed during ebb tide on 12 July 2017.

4.7.2.4 As there were no exceedance at monitoring locations IS7, IS(Mf)6 and IS5 which are located closer to the site boundary of this Contract than it is of monitoring station SR3, the exceedance was likely due to local effects in the vicinity of SR3.

4.7.2.5 As such, the exceedance recorded at SR3 during ebb tide on 12 July 2017 was unlikely to be contract related.

4.7.2.6 Action taken under the action plan:

1. Not applicable as SS was not measured in situ;
2. After considering the above mentioned investigation results, it appears that it was unlikely that the SS exceedance was attributed to the active construction activities of this Contract;
3. IEC, contractor and ER were informed via email;
4. Monitoring data, all plant, equipment and Contractor's working methods were checked;

5-7. Since it is considered that the SS exceedance is unlikely to be project related, as such, actions 5-7. under the EP are not considered applicable.

4.7.2.7 Nevertheless, the Contractor was reminded to properly implement all relevant water quality mitigation measures.

4.7.2.8 The Contractor should properly implement all relevant water quality mitigation measures.

4.7.3 One SS action level exceedance on 14 July 2017 at monitoring station IS7 during flood tide. For the location of monitoring stations, please refer to Figure 3.

4.7.3.1 Investigation Result:

4.7.3.2 With referred to the information provided by the Contractor, it is confirmed that no construction activities was conducted when water quality monitoring was conducted at monitoring station IS7 during flood tide on 14 July 2017.

4.7.3.3 With referred to monitoring record, no sediment plume has been observed and no construction vessel was observed in the vicinity of monitoring station IS7 during flood tide on 14 July 2017. As there were no exceedance at all other monitoring locations, the exceedance was likely due to local effects in the vicinity of IS7.

4.7.3.4 As such, the exceedance recorded at IS7 during flood tide on 14 July 2017 was unlikely to be contract related.

4.7.3.5 Action taken under the action plan:

1. Not applicable as SS was not measured in situ;
2. After considering the above mentioned investigation results, it appears that it was unlikely that the SS exceedance was attributed to the active construction activities of this Contract;
3. IEC, contractor and ER were informed via email;
4. Monitoring data, all plant, equipment and Contractor's working methods were checked;

5-7. Since it is considered that the SS exceedance is unlikely to be project related, as such, actions 5-7. under the EP are not considered applicable.

4.7.3.6 Nevertheless, the Contractor was reminded to properly implement all relevant water quality mitigation measures.

4.7.3.7 The Contractor should properly implement all relevant water quality mitigation measures.

4.7.4 There was no other exceedance recorded at all monitoring stations in the reporting month.

4.7.5 The event action plan is annexed in Appendix L.

5. DOLPHIN MONITORING

5.1 Monitoring Requirements

5.1.1 Vessel based surveys for the Chinese White Dolphin (CWD), *Sousa chinensis,* are to be conducted by a dedicated team comprising a qualified marine mammal ecologist and experienced marine mammal observers (MMOs). The purpose of the surveys are to evaluate the impact of the HKCBF reclamation and, if deemed detrimental, to take appropriate action as per the EM&A manual.

5.1.2 This 'Impact Monitoring' follows several months of 'Baseline Monitoring' so similar survey methodologies have been adopted to facilitate comparisons between datasets. Further, the data collected are compatible with, and are available for, incorporation into the data set managed by the Agriculture, Fisheries and Conservation Department (AFCD) as part of Hong Kong's long term Marine Mammal Monitoring Programme.

5.2 Monitoring Equipment

Table 5.1 summarises the equipment used for the impact dolphin monitoring.

Table 5.1 Dolphin Monitoring Equipment

Equipment	Model
Commercially licensed motor vessel	15m in length with a 4.5m viewing platform
Global Positioning System (GPS) x2	Integrated into T7000 Garmin GPS Map 76C
Computers (T7000 Tablet, Intel Atom)	Windows 7/MSO 13 Logger
Camera	Nikon D7100 300m 2.8D fixed focus Nikon D90 80-400mm zoom lens
Laser Rangefinder	Range Finder Bushnell 1000m
Marine Binocular x3	Nexus 7 x 50 marine binocular with compass and reticules Fujinon 7 x 50 marine binocular with compass and reticules

5.3 Monitoring Frequency and Conditions

5.3.1 Dolphin monitoring is conducted twice per month in each survey area.

5.3.2 Dolphin monitoring is conducted only when visibility is good (e.g., over 1km) and the sea condition is at a Beaufort Sea State of 4 or better.

5.3.3 When thunder storm, black rain or typhoon warnings are in force, all survey effort is stopped.

5.4 Monitoring Methodology and Location

5.4.1 The impact dolphin monitoring is vessel-based and combines line-transect and photo-ID methodology. The survey follows pre-set and fixed transect lines in the two areas defined by AFCD as:

5.4.2 Northeast Lantau survey area; and

5.4.3 Northwest Lantau survey area.

5.4.4 The co-ordinates for the transect lines and layout map have been provided by AFCD and are shown in Table 5.2 and Figure 4.

Table 5.2 Impact Dolphin Monitoring Line Transect Co-ordinates (Provided by AFCD)

	HK Grid System		Long Lat in WGS84	
ID	X	Y	Long	Lat

1	804671	815456	113.870287	22.277678
1	804671	831404	113.869975	22.421696
2	805476	820800	113.878079	22.325952
2	805476	826654	113.878079	22.378814
3	806464	821150	113.887615	22.329130
3	806464	822911	113.887550	22.345030
4	807518	821500	113897833	22.332308
4	807518	829230	113.897663	22.402113
5	808504	821850	113.907397	22.335485
5	808504	828602	113.907252	22.396462
6	809490	822150	113.916965	22.338210
6	809490	825352	113.916884	22.367128
7	810499	822000	113.926749	22.336709
7	810499	824613	113.926688	22.360464
8	811508	821123	113.936539	22.328966
8	811508	824254	113.936486	22.357241
9	812516	821303	113.946320	22.330606
9	812516	824254	113.946279	22.357255
10	813525	820827	113.956112	22.326321
10	813525	824657	113.956066	22.360908
11	814556	818853	113.966155	22.304858
11	814556	820992	113.966125	22.327820
12	815542	818807	113.975726	22.308109
12	815542	824882	113.975647	22.362962
13	816506	819480	113.985072	22.314192
13	816506	824859	113.985005	22.362771
14	817537	820220	113.995070	22.320883
14	817537	824613	113.995018	22.360556
15	818568	820735	114.005071	22.325550
15	818568	824433	114.005030	22.358947
16	819532	821420	114.014420	22.331747
16	819532	824209	114.014390	22.356933
17	820451	822125	114.023333	22.338117
17	820451	823671	114.023317	22.352084
18	821504	822371	114.033556	22.340353
18	821504	823761	114.033544	22.352903
19	822513	823268	114.043340	22.348458
19	822513	824321	114.043331	22.357971
20	823477	823402	114.052695	22.349680
20	823477	824613	114.052686	22.360610
21	805476	827081	113.877878	22.382668
21	805476	830562	113.877811	22.414103
22	806464	824033	113.887520	22.355164
22	806464	829598	113.887416	22.405423
23	814559	821739	113.966142	22.334574
23	814559	824768	113.966101	22.361920
24	805476	815900	113.878028	22.281702
24	805476	819100	113.878028	22.310600

Remarks:

(a) *Due to the presence of deployed silt curtain systems at the site boundaries of the Contract, some of the transect lines shown in Figure 5 could not be fully surveyed during the regular survey. Transect 10 is reduced from 6.4km to approximately 3.6km in length due to the HKBCF construction site.

(b) Coordinates for transect lines 1, 2, 7, 8, 9 and 11 have been updated in respect to the Proposal for Alteration of Transect Line for Dolphin Monitoring approved by EPD on 19 August 2015.

(c) Due to marine work of the Expansion of Hong Kong International Airport into a Three-Runway System (3RS Project), original transect lines of dolphin monitoring 2, 3, 4, 5, 6 and 7 are enclosed by

works boundary of 3RS Project. Alternative dolphin monitoring transect lines 2, 3, 4, 5, 6, 7 and 24 are adopted starting from 17 May 2017 to replace the original transect lines.

(d) Coordinates for transect lines 2, 3, 4, 5, 6 and 7 have been updated and transect line 24 has been adopted in respect to the Proposal for Alteration of Transect Line of Dolphin Monitoring and Alternative Monitoring Location for Impact Water Quality Monitoring (IWQM) Stations Due to Commencement of Third Runway Project approved by EPD on 12 May 2017. The total transect length for both NEL and NWL combined is reduced to approximately 99km.

5.5 Monitoring Procedures

5.5.1 The study area incorporates 24 transects in total, are to be surveyed twice per month. Each survey day lasts approximately 9 hours.

5.5.2 The survey vessel departs from Tung Chung Development Pier, Tsing Yi Public Pier or the nearest safe and convenient pier.

5.5.3 When the vessel reaches the start of a transect line, “on effort” survey begins. Areas between transect lines and traveling to and from the study area are defined as “off effort”.

5.5.4 The transect line is surveyed at a speed of 6-8 knots (11-14 km/hr). For the sake of safety, the speed was sometimes a bit slower to avoid collision with other vessels. During some periods, tide and current flow in the survey areas exceeds 7 knots which can affect survey speed. There are a minimum of four marine mammal observers (MMOs) present on each survey, rotating through four positions, observers (2), data recorder (1) and ‘rest’ (1). Rotations occur every 30 minutes or at the end of dolphin encounters. The data recorder records effort, weather and sightings data directly onto the programme Logger and is not part of the observer team. The observers search with naked eye and binoculars between 90° and 270° abeam (bow being 0°).

5.5.5 When a group of dolphins is sighted, position, bearing and distance data are recorded immediately onto the computer and, after a short observation, an estimate made of group size. These parameters are linked to the time-GPS-ships data which are automatically stored in the programme Logger throughout the survey period. In this manner, information on heading, position, speed, weather, effort and sightings are stored in a format suitable for use with DISTANCE software for subsequent line transect analyses.

5.5.6 Once the vessel leaves the transect line, it is deemed to be “off effort”. The dolphins are approached with the purpose of taking high resolution pictures for proper photo-identification of individual CWD. Attempts to photograph all dolphins in the group are made. Both the left and right hand sides of the dorsal fin area of each dolphin in the group are photographed, if possible. On finishing photographing, the vessel will return to the transect line at the point of departure and “on effort” survey is resumed.

5.5.7 Sightings which are made while on the transect line are referred to as "on effort sightings", while not on the actual transect line are referred to as an “opportunistic sightings” (e.g. another group of dolphins is sighted while travelling back to the transect line). Only “on effort sightings” can be used in analyses which require effort or rate quantification, e.g., encounter rate per 100km searched. This is also how “on effort sightings” are treated in the baseline report. “Opportunistic sightings” provide additional information on individual habitat use and population distribution and they are noted accordingly.

5.5.8 As time and GPS data are automatically logged throughout the survey and are linked to sightings data input, start and end times of encounters and deviation from the transect lines are recorded and can be subsequently reviewed.

5.6 Monitoring Schedule for the Reporting Month

5.6.1 The schedule for dolphin monitoring in July 2017 is provided in Appendix F.

5.6.2 Dolphin monitoring on 24 July 2017 was rescheduled to 26 July 2017 due to adverse weather condition.

5.6.3 Two surveys covering both study areas were completed.

5.7 Results and Observations

5.7.1 Dolphin surveys were conducted on 13, 14, 25 and 26 July 2017. A total of 197.7 km of transect line was conducted; 197.7 km of transect line was travelled during Beaufort Sea State 3 or better (favourable water conditions). The effort summary and sightings data are shown in Tables 5.3 and 5.4, respectively. The survey efforts conducted in July 2017 are plotted in Figure 5a-b. For Table 5.3, only on-effort information is included. Transects conducted in all Beaufort Sea State are included. Compared to previous monthly reports, the whole number Beaufort Sea State scale is used so as to ease comparison with other dolphin monitoring reports.

Table 5.3 Impact Dolphin Monitoring Survey Effort Summary, Effort by Area and Beaufort Sea State

Survey	Date	Area	Beaufort	Effort (km)	Total Distance Travelled (km)
1	07/13/2017	NWL	1	3.3	98.5
	07/13/2017	NWL	2	9	
	07/13/2017	NWL	3	4.9	
	07/13/2017	NEL	1	27.8	
	07/13/2017	NEL	2	9.1	
	07/14/2017	NWL	1	20.6	
	07/14/2017	NWL	2	9.7	
	07/14/2017	NWL	3	14.1	
2	07/25/2017	NWL	1	12.5	99.2
	07/25/2017	NWL	2	27.5	
	07/25/2017	NWL	3	4.5	
	07/26/2017	NWL	1	8.4	
	07/26/2017	NWL	2	9.3	
	07/26/2017	NEL	1	30.3	
	07/26/2017	NEL	2	6.7	
TOTAL in Jul 2017					**197.7**

*Remark: Surveys conduct under Beaufort Sea State 3 or below are considered as under favourable condition.

Table 5.4 Impact Dolphin Monitoring Survey Detail July 2017

Date	Location	No. Sightings "on effort"	No. Sightings "opportunistic"
07/13/2017	NWL	0	0
	NEL	0	0
07/14/2017	NWL	1	2
	NEL	0	0
07/25/2017	NWL/WL	2	3
	NEL	0	1
07/26/2017	NWL	0	0
	NEL	0	0

*Group of dolphin was sighted at WL area while vessel based dolphin monitoring was conducted in NWL.

Table 5.5 The Encounter Rate of Number of Dolphin Sightings & Total Number of Dolphins per Area^

Encounter Rate of Number of Dolphin Sightings (STG)*						
Date	**NEL Track (km)**	**NWL Track (km)**	**NEL Sightings**	**NWL Sightings**	**NEL Encounter Rate**	**NWL Encounter Rate**
13 & 14 July 17	36.9	61.6	0	1	0	1.6
25 & 26 July 17	37.0	62.2	0	2	0	3.2
Encounter Rate of Total Number of Dolphins (ANI)**						
Date	**NEL Track (km)**	**NWL Track (km)**	**NEL Dolphins**	**NWL Dolphins**	**NEL Encounter Rate**	**NWL Encounter Rate**
13 & 14 July 17	36.9	61.6	0	2	0	3.2
25 & 26 July 17	37.0	62.6	0	9	0	14.5

* Encounter Rate of Number of Dolphin Sightings (STG) presents encounter rates in terms of groups per 100km.
** Encounter Rate of Total Number of Dolphins (ANI) presents encounter rates in terms of individuals per 100km. And the encounter rate is not corrected for individuals, calculation may represent double counting.
^The table is made only for reference to the quarterly STG & ANI, which were adopted for the Event & Action Plan.

5.7.2 A total of 9 sightings were made, three “on effort” and six “opportunistic”. Three sighting were made on 14 July 2017 and six sighting were made on 25 July 2017 in WL. One group was feeding and the other was engaged in multiple activities. Three sightings were recorded on 14 July 2017 with one “on effort” and two “opportunistic” in NWL. Six sightings were recorded on 25 July 2017 with two “on effort” in NWL, three “opportunistic” in NWL and WL, and one “opportunistic” in NEL. Two groups were feeding, three groups were travelling, two groups were engaged in multiple activities and two groups behavior could not be determined. Sighting details are summarised and plotted in Appendix K and Figure 5c, respectively. The locations of sighting with different behaviour are mapped in Figure 5d.

5.7.3 No resighting in June 2017.

5.7.4 Noteworthy Observation[1]:

5.7.4.1 The HKLR and HKBCF (and adjoining “Southern Landfall” Projects) effected lines 1 and 11, respectively. The view of the area was partially blocked by the working vessels and in water structures which do not belong to HKBCF Reclamation Works. In time, the fixed structures which do not belong to HKBCF Reclamation Works will affect all survey protocols and dolphin ecology in the long term.

5.7.4.2 Fishing Vessels were noted anchored on lines 1 and 3. Previously, dolphins have been known to be attracted to fishing vessels, both active and anchored, and as such the anchored vessels may have temporarily affected the dolphins distribution.

5.7.4.3 Travel to the northern end of lines 10 was slightly impeded by anchorages. After checking with the Contractor, there are no trans-boundary vessels that are required to anchor at northern ends of line 10 during this reporting period, as such they are unlikely to be related to this Contract. As there are variable numbers of ships in this anchorage through time, it is considered that this could temporarily affect survey protocol, survey data collection and dolphin habitat use.

5.7.4.4 Anchored vessels (usually single) were noted on lines 1, 2, 7, 12, 18 and 23 which caused the monitoring vessel to divert slightly from the trackline or blocked the transect area view. It is unknown who these vessels belong to or even if they were Project related. After checking with the Contractor, there are no trans-boundary vessels that are required to anchor at lines 1, 2, 7, 12, 18 and 23 during this reporting

[1] A noteworthy observation is to show that either the conduct of the surveys themselves is affected, i.e., the noted vessel or works impedes the progress or view of the survey platform. In addition, the vessel or construction works may be different or additional to that observed previously and further, are of such a nature that they are a likely to create an impact on the movement or behaviour of the subject of the impact survey, in this case, the dolphins.

period, as such they are unlikely to be related to this Contract. As there are variable numbers of ships in anchor on the line through time, it is considered that this could temporarily affect survey protocol, survey data collection and dolphin habitat use.

5.7.4.5 New projects, associated with the Third Runway System (3RS) works, including anchored barges and vessels, silt curtain areas and working barges, which do not belongs to this Contract, were noted on lines 2, 3, 4, 5, 6 and 8 which severely restricted the transect area view. These projects have increased dramatically in extent and site access is totally restricted and some areas have silt curtains in place. It is considered that these new projects will affect survey protocol, survey data collection and dolphin habitat use in the long term and to a great degree. In addition, drifting silt curtains from 3RS were noted floating at lines 1 and 2. This poses potential hazard to dolphins and other marine life.

5.7.4.6 The survey effort log notes the areas in which the visibility is limited or the survey is affected so that these can be accounted for in any subsequent analyses. Some of these obstructions will become permanent and some will be temporary as the HZMB is built and other projects progress. The transect lines can no longer be accessed fully due to 3RS and a shortened set of transect lines have been approved on 12 May 2017 by the Authority.

5.7.4.7 The above noteworthy observations are largely a result of multiple and on-going infrastructure projects within the Lantau area. No amendment to EM&A protocols can negate the effects of these projects, e.g., it is a highly dynamic environment and viewing conditions may alter every survey (sometimes within surveys) and most of the survey area is affected, to some degree, by marine construction works. Instead, survey data analyses should incorporate any noteworthy observations which may affect either data collection or dolphin distribution and behavioural changes. The above mentioned activities recorded during boat survey will not affect implementation of the EM&A Programme provided appropriate data analyses are conducted.

5.7.5 The event action plan is annexed in Appendix L.

6 ENVIRONMENTAL SITE INSPECTION AND AUDIT

6.1 Site Inspection

6.1.1 Site Inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures for the Contract. In the reporting month, 4 site inspections were carried out on 6, 13, 20, 27 July 2017.

6.1.2 Particular observations during the site inspections are described below:

Air Quality

6.1.3 Inappropriate size of NRMM label affixed onto the boring machine on the working platform in the vicinity of Portion C1a was observed. The contractor was reminded to affix an appropriate NRMM label with size of at least 200mm in width and 130 mm in height. (Pending for Contractor's rectification)

Noise

6.1.4 No relevant adverse impact was observed in the reporting month.

Water Quality

6.1.5 It was observed that silt curtain near Portion E1 was disconnected on 29 June 2017. The Contractor was reminded to reinstall silt curtain at the concerned area and provide maintenance regularly. As informed by Contractor silt curtain at the concerned area has been removed. (Closed)

Chemical and Waste Management

6.1.6 No relevant adverse impact was observed in the reporting month.

Landscape and Visual Impact

6.1.7 No relevant adverse impact was observed in the reporting month.

Others

6.1.8 No relevant adverse impact was observed in the reporting month.

6.2 Advice on the Solid and Liquid Waste Management Status

6.2.1 The Contractor had registered as a chemical waste producer for this Project. Receptacles were available for general refuse collection and sorting.

6.2.2 As advised by the Contractor, 336kg of paper/cardboard packaging and 19.5m^3 of others, e.g. general refuse were generated and disposed of in the reporting period. Monthly summary of waste flow table is detailed in Appendix M.

6.2.3 The Contractor is advised to properly maintain on site C&D materials and wastes storage, collection, sorting and recording system, dispose of C&D materials and wastes at designated ground and maximize reuse / recycle of C&D materials and wastes. The Contractor is reminded to properly maintain the site tidiness and dispose of the wastes accumulated on site regularly and properly.

6.2.4 The Contractor is reminded that chemical waste should be properly treated and stored temporarily in designated chemical waste storage area on site in accordance with the Code of Practice on the Packaging, Labeling and Storage of Chemical Wastes.

6.2.5 After checking with the Contractor, no surplus surcharge was exported to Macau during the reporting month. The Contractor was reminded to ensure consistency in quantities in case of any C&D material disposed off-site and/or no surcharge material removed off site.

6.3 Environmental Licenses and Permits

6.3.1 The environmental licenses and permits for the Contract and valid in the reporting month is summarized in Table 6.1.

Table 6.1 Summary of Environmental Licensing and Permit Status

Statutory Reference	License/ Permit	License or Permit No.	Valid Period		License/ Permit Holder	Remarks
			From	To		
EIAO	Environmental Permit	EP-353/2009/K	11/04/2016	N/A	HyD	Hong Kong – Zhuhai – Macao Bridge Hong Kong Boundary Crossing Facilities
		EP-354/2009/D	13/03/2015	N/A		Tuen Mun – Chek Lap Kok Link (TMCLKL Southern Landfall Reclamation only)
APCO	NA notification	--	30/12/2011	--	CHEC	Works Area WA2 and WA3
APCO	NA notification	--	25/07/2014	--	CHEC	Works Area WA1
WDO	Chemical Waste Producer Registration	5213-951-C1186-30	28/10/2015	N/A	CHEC	Chemical waste produced in Contract HY/2010/02 (WA1)
WDO	Chemical Waste Producer Registration	5213-951-C1186-21	30/3/2012	N/A	CHEC	Chemical waste produced in Contract HY/2010/02 (WA2)
WDO	Chemical Waste Producer Registration	5213-839-C3750-02	13/09/2012	--	CHEC	Registration as Chemical Waste Producer at TKO 137(FB)
WDO	Billing Account for Disposal of Construction Waste	7014181	05/12/2011	N/A	CHEC	Waste disposal in Contract HY/2010/02
NCO	Construction Noise Permit	GW-RS0320-17	11/04/2017	10/08/2017	CHEC	Reclamation Works in Contract HY/2010/02

6.4 Implementation Status of Environmental Mitigation Measures

6.4.1 In response to the site audit findings, the Contractors carried out corrective actions.

6.4.2 A summary of the Implementation Schedule of Environmental Mitigation Measures (EMIS) is presented in Appendix C. Most of the necessary mitigation measures were implemented properly.

6.4.3 Training of marine travel route for marine vessels operator was given to relevant staff and relevant records were kept properly.

6.4.4 Regarding the implementation of dolphin monitoring and protection measures (i.e. implementation of Dolphin Watching Plan, Dolphin Exclusion Zone and Silt Curtain integrity Check), regular checking were conducted by the experienced MMOs within the works area to ensure no dolphin was trapped by the enclosed silt curtain systems. Any dolphin spotted within the enclosed silt curtain systems was reported and recorded. Relevant procedures were followed and measures were well implemented. Silt curtain systems were also inspected timely in accordance to the submitted plan. All inspection records were kept properly.

6.4.5 Acoustic decoupling measures on noisy plants on construction vessels were checked regularly and the Contractor was reminded to ensure provision of ongoing maintenance to noisy plants and to carry out improvement work once insufficient acoustic decoupling measures were found.

6.4.6 Frequency of watering per day on exposed soil was checked; with reference to the record provided by the Contract, watering was conducted at least 8 times per day on reclaimed land. The frequency of watering is the mainly refer to water truck. Sprinklers are only served to strengthen dust control measure for busy traffic at the entrance of Portion D. As informed by the Contractor, during the mal-function period of sprinkler, water truck will enhance watering at such area. The Contractor was reminded to ensure provision of watering of at least 8 times per day on all exposed soil within the Contract site and associated works areas throughout the construction phase.

6.4.7 After review, no floating grout production was in operation at any time in July 2017 for Contract No.HY/2010/02. Condition 3.26A of EP-353/2009/K for Contract No.HY/2010/02 is complied with during the reporting month.

6.4.8 Further to our letter (ET's letter's ref.: 60249820/rmky16033001) dated 30/3/2016 regarding the notification of silt curtain removal programme and arrangement, as informed by RSS on 18 May 2016, the Contractor provided an updated programme on 31 October 2016 to indicate the current site situation. According to CHEC's latest removal programme during the reporting month, stage 2 (east side of the perimeter silt curtain removal work has been completed and dates for the subsequent stages have also been updated in the reporting month, while the overall phasing arrangement has not changed. A notification email has been sent to IEC/ENPO to inform them that the completion of removal of perimeter silt curtain of Stages 2 and the tentative date for silt curtain removal work of stage 3, 4 and 5. With referred to previous IEC/ENPO comment received on 7 June 2016 if update of proposal was mainly on time schedule and they have no objection in principle. However prior to IEC/ENPO's reply to confirm ET's updated proposal, ET was requested to provide site photos to show ET's checking of the current site condition with respect to the reminders given in their previous letter (Our Ref.: HYDHZMBEEM00_0_4102L.16 dated 22 April 2016).

6.4.9 Due to the commencement of marine work of the Expansion of Hong Kong International Airport into a Three-Runway System (3RS Project), a large portion of works site boundary will be established at the northern part of the existing airport Island. The recent arrangement of works boundary of 3RS Project which delineates the boundary of the designated 3RS Project (for the indicative 3RS boundary, please refer to Figure 5). The works area of 3RS project will affect several water quality monitoring stations and the dolphin monitoring transect lines which are being used for conducting monitoring under Contract No. HY/2010/02. The EM&A Programme for the HZMB HKBCF Project will therefore be affected. As a result, a proposal was prepared by ET in accordance with condition 5.1 of EP-353/2009/K and condition 4.1 of EP-354/2009/D, to relocate water quality monitoring stations from SR5, IS10, CS(Mf)3 and alternate the transect lines of dolphin monitoring 2, 3, 4, 5, 6 and 7. A revised proposal has been updated and sent to IEC/ENPO for their further review on 24 March 2017 and IEC/ENPO verified the revised proposal on the same date. The revised proposal has been sent to authority by

project team for review and approval on 3 April 2017. The authority subsequently approved the proposal on 12 May 2017.

6.5 Summary of Exceedances of the Environmental Quality Performance Limit

6.5.1 For impact air quality monitoring, no exceedance was recorded at all monitoring stations in the reporting month.

6.5.2 For construction noise, no exceedance was recorded at all monitoring stations in the reporting month.

6.5.3 For impact water quality monitoring, 2 action level exceedances of suspended solids were recorded at SR3 during ebb tide on 12 July 2017 and at IS7 during flood tide on 14 July 2017 respectively. After investigation, it was concluded that those exceedance were unlikely to be contract related. No other exceedance was recorded at all monitoring stations in the reporting month.

6.5.4 For dolphin monitoring, dolphin surveys were conducted on 13, 14, 25 and 26 July 2017. A total of 197.7 km of transect line was conducted; 197.7 km of transect line was travelled during Beaufort Sea State 3 or better (favourable water conditions). A total of 9 sightings were made, three “on effort” and six “opportunistic”. Three sightings were recorded on 14 July 2017 with one “on effort” and two “opportunistic” in NWL. Six sightings were recorded on 25 July 2017 with two “on effort” in NWL, three “opportunistic” in NWL and WL, and one “opportunistic” in NEL. Two groups were feeding, three groups were travelling, two groups were engaged in multiple activities and two groups behavior could not be determined. Sighting details are summarized and plotted in Appendix K and Figure 5c, respectively. No resighting in June 2017.

6.5.5 Environmental site inspection was carried out 4 times in July 2017. Recommendations on remedial actions were given to the Contractors for the deficiencies identified during the site audits.

6.5.6 Cumulative statistics on exceedance is provided in Appendix N.

6.6 Summary of Complaints, Notification of Summons and Successful Prosecutions

6.6.1 No complaint, notification of summons or prosecution was received in the reporting period.

6.6.2 The Environmental Complaint Handling Procedure is annexed in Figure 6.

6.6.3 Statistics on complaints, notifications of summons and successful prosecutions are summarized in Appendix N.

7 FUTURE KEY ISSUES

7.1 Construction Programme for the Coming Months

7.1.1 As informed by the Contractor, the major works for the Contract in August and September 2017 will be* as follows:

Marine-base

- Maintenance of localized silt curtain
- Reinstatement of seawall
- Outfall installation
- Additional GI Works

Land-base

- Maintenance works of Site Office at Works Area WA2
- Maintenance of Temporary Marine Access at Works Area WA2

*Construction activities in August and September 2017 will be changed subject to works progress.

7.2 Key Issues for the Coming Month

7.2.1 Key issues to be considered in the coming months:-

- Site runoff should be properly collected and treated prior to discharge;
- Regular review and maintenance of silt curtain systems, drainage systems and desilting facilities;
- Exposed surfaces/soil stockpiles should be properly treated to avoid generation of silty surface run-off during rainstorm;
- Regular review and maintenance of wheel washing facilities provided at all site entrances/exits;
- Conduct regular inspection of various working machineries and vessels within works areas to avoid any dark smoke emission;
- Suppress dust generated from work processes with use of bagged cements, earth movements, excavation activities, exposed surfaces/soil stockpiles and haul road traffic;
- Quieter powered mechanical equipment should be used;
- Provision of proper and effective noise control measures for operating equipment and machinery on-site, such as erection of movable noise barriers or enclosure for noisy plants;
- Closely check and replace the sound insulation materials regularly;
- Better scheduling of construction works to minimize noise nuisance;
- Properly store and label oil drums and chemical containers placed on site;
- Proper chemicals, chemical wastes and wastes management;
- Maintenance works should be carried out within roofed, paved and confined areas;
- Collection and segregation of construction waste and general refuse on land and in the sea should be carried out properly and regularly; and
- Proper protection and regular inspection of existing trees, transplanted/retained trees.
- Control night-time lighting and glare by hooding all lights.
- Regular review and provide maintenance to dust control measures such as sprinkler system.

7.3 Monitoring Schedule for the Coming Month

7.3.1 The tentative schedule for environmental monitoring of August 2017 is provided in Appendix F.

8 CONCLUSIONS AND RECOMMENDATIONS

8.1 Conclusions

8.1.1 For impact air quality monitoring, no exceedance was recorded at all monitoring stations in the reporting month.

8.1.2 For construction noise, no exceedance was recorded at all monitoring stations in the reporting month.

8.1.3 For impact water quality monitoring, 2 action level exceedances of suspended solids were recorded at SR3 during ebb tide on 12 July 2017 and at IS7 during flood tide on 14 July 2017 respectively. After investigation, it was concluded that those exceedance were unlikely to be contract related. No other exceedance was recorded at all monitoring stations in the reporting month.

8.1.4 For dolphin monitoring, dolphin surveys were conducted on 13, 14, 25 and 26 July 2017. A total of 197.7 km of transect line was conducted; 197.7 km of transect line was travelled during Beaufort Sea State 3 or better (favourable water conditions). A total of 9 sightings were made, three “on effort” and six “opportunistic”. Three sightings were recorded on 14 July 2017 with one “on effort” and two “opportunistic” in NWL. Six sightings were recorded on 25 July 2017 with two “on effort” in NWL, three “opportunistic” in NWL and WL, and one “opportunistic” in NEL. Two groups were feeding, three groups were travelling, two groups were engaged in multiple activities and two groups behavior could not be determined. Sighting details are summarized and plotted in Appendix K and Figure 5c, respectively. No resighting in June 2017.

8.1.5 No complaint, notification of summons or prosecution was received in the reporting period.

8.1.6 Environmental site inspection was carried out 4 times in July 2017. Recommendations on remedial actions were given to the Contractors for the deficiencies identified during the site audits.

8.2 Recommendations

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

Air Quality Impact

- All working plants and vessels on site should be regularly inspected and properly maintained to avoid dark smoke emission.
- All vehicles should be washed to remove any dusty materials before leaving the site.
- Haul roads should be sufficiently dampened to minimize fugitive dust generation.
- Wheel washing facilities should be properly maintained and reviewed to ensure properly functioning.
- Temporary exposed slopes and open stockpiles should be properly covered.
- Enclosure should be erected for cement debagging, batching and mixing operations.
- Water spraying should be provided to suppress fugitive dust for any dusty construction activity.
- Regular review and provide maintenance to dust control measures such as sprinkler system.

Construction Noise Impact

- Quieter powered mechanical equipment should be used as far as possible.
- Noisy operations should be oriented to a direction away from sensitive receivers as far as possible.
- Proper and effective noise control measures for operating equipment and machinery on-site should be provided, such as erection of movable noise barriers, enclosure for noisy plants or enhancement works to provide sufficient acoustic decoupling measure(s). Closely check and replace the sound insulation materials regularly
- Vessels and equipment operating should be checked regularly and properly maintained.
- Noise Emission Label (NEL) shall be affixed to the air compressor and hand-held breaker operating within works area.
- Acoustic decoupling measures should be properly implemented for all existing and incoming construction vessels with continuous and regularly checking to ensure effective implementation of acoustic decoupling measures.

Water Quality Impact

- Regular review and maintenance of silt curtain systems, drainage systems and desilting facilities in order to make sure they are functioning effectively.
- Construction of seawall should be completed as early as possible.
- Regular inspect and review the loading process from barges to avoid splashing of material.
- Silt, debris and leaves accumulated at public drains, wheel washing bays and perimeter u-channels and desilting facilities should be cleaned up regularly.
- Silty effluent should be treated/ desilted before discharged. Untreated effluent should be prevented from entering public drain channel.
- Proper drainage channels/bunds should be provided at the site boundaries to collect/intercept the surface run-off from works areas.
- Exposed slopes and stockpiles should be covered up properly during rainstorm.

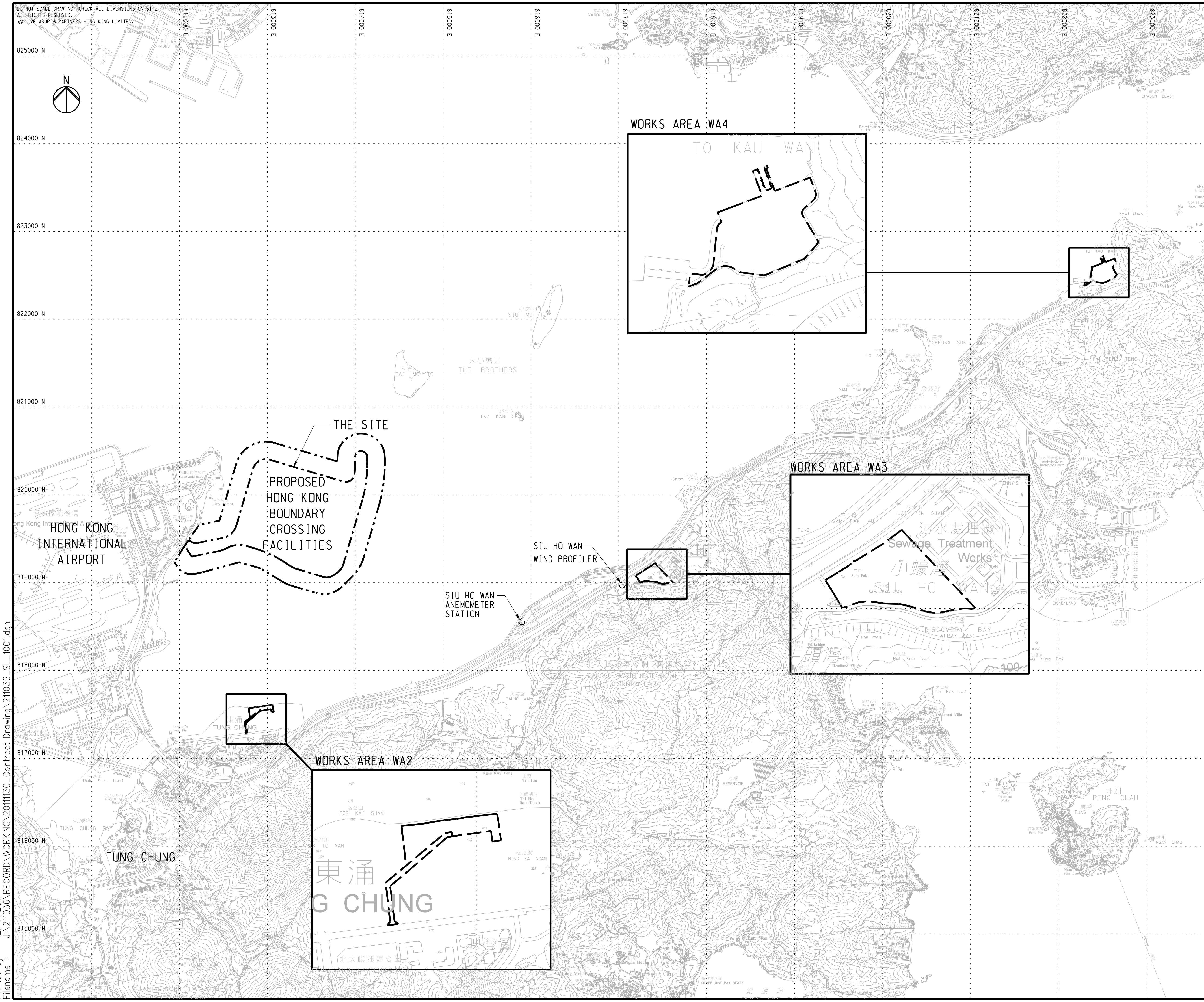
Chemical and Waste Management

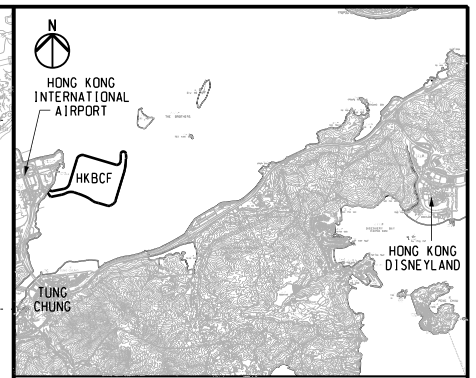
- All types of wastes, both on land and floating in the sea, should be collected and sorted properly and disposed of timely and properly. They should be properly stored in designated areas within works areas temporarily.
- All chemical containers, batteries and oil drums should be properly stored and labelled.
- All plants and vehicles on site should be properly maintained to prevent oil leakage. Proper measures, like drip trays and/or bundings, should be provided for retaining leaked oil/chemical from plants.
- All kinds of maintenance works should be carried out within roofed, paved and confined areas.
- All drain holes of the drip trays utilized within works areas should be properly plugged to avoid any oil and chemical waste leakage.
- Oil stains on soil surface, accumulated oil mixture and empty chemical containers should be cleared and disposed of as chemical waste.
- Regular review should be conducted for working barges and patrol boats to ensure sufficient measures and spill control kits were provided on working barges and patrol boats to avoid any spreading of leaked oil/chemicals.

Landscape and Visual Impact

- All existing, retained/transplanted trees at the works areas should be properly fenced off and regularly inspected.
- Control night-time lighting and glare by hooding all lights.

DO NOT SCALE DRAWING. CHECK ALL DIMENSIONS ON SITE.





KEY PLAN

NOTES

1. ALL COORDINATES ARE RELATED TO HONG KONG 1980 GRID.
2. ALL LEVELS ARE IN METRES ABOVE HONG KONG PRINCIPAL DATUM (mPD).
3. REFER TO DRG NO. 211036/SL/1002 FOR THE DEFINITION OF SETTING OUT LINE (SOL) FOR THE HONG KONG BOUNDARY CROSSING FACILITIES (HKBCF) RECLAMATION SITE.
4. REFER TO DRG NO. 211036/SL/1004 FOR DETAILS OF SITE BOUNDARY.
5. FOR EXTENT OF SORTING FACILITIES AT FILL BANK AT TSEUNG KWAN O AREA 137 REFER TO DRG NO. 211036/SL/1015.

LEGEND

- SITE BOUNDARY
- SETTING OUT LINE (SOL)
- WORKS AREA BOUNDARY

Rev	Description	By	Date
-	FOR CONSTRUCTION	HYJL	11/11

Consultant

ARUP 奧雅納工程顧問 Ove Arup & Partners Hong Kong Limited

Supported By :
- Ecosystems Ltd.
- EDA Marine Ltd.
- Geotechnical Consulting Group (Asia) Ltd.
- Hong Kong Cetacean Research Project
- InteliBuild Technyx Asia Limited
- Tony Gee and Partners LLP

Contract No. and Title:
Contract No. HY/2010/02
Hong Kong-Zhuhai-Macao Bridge
Hong Kong Boundary Crossing Facilities
- Reclamation Works

Drawing title
KEY PLAN

Drawing no.			Rev.
211036/SL/1001			-
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Scale: 1:20000 @A1 1:40000 @A3		Status: WORKING	

路政署 HIGHWAYS DEPARTMENT
港珠澳大橋香港工程管理處
Hong Kong - Zhuhai - Macao Bridge
Hong Kong Project Management Office

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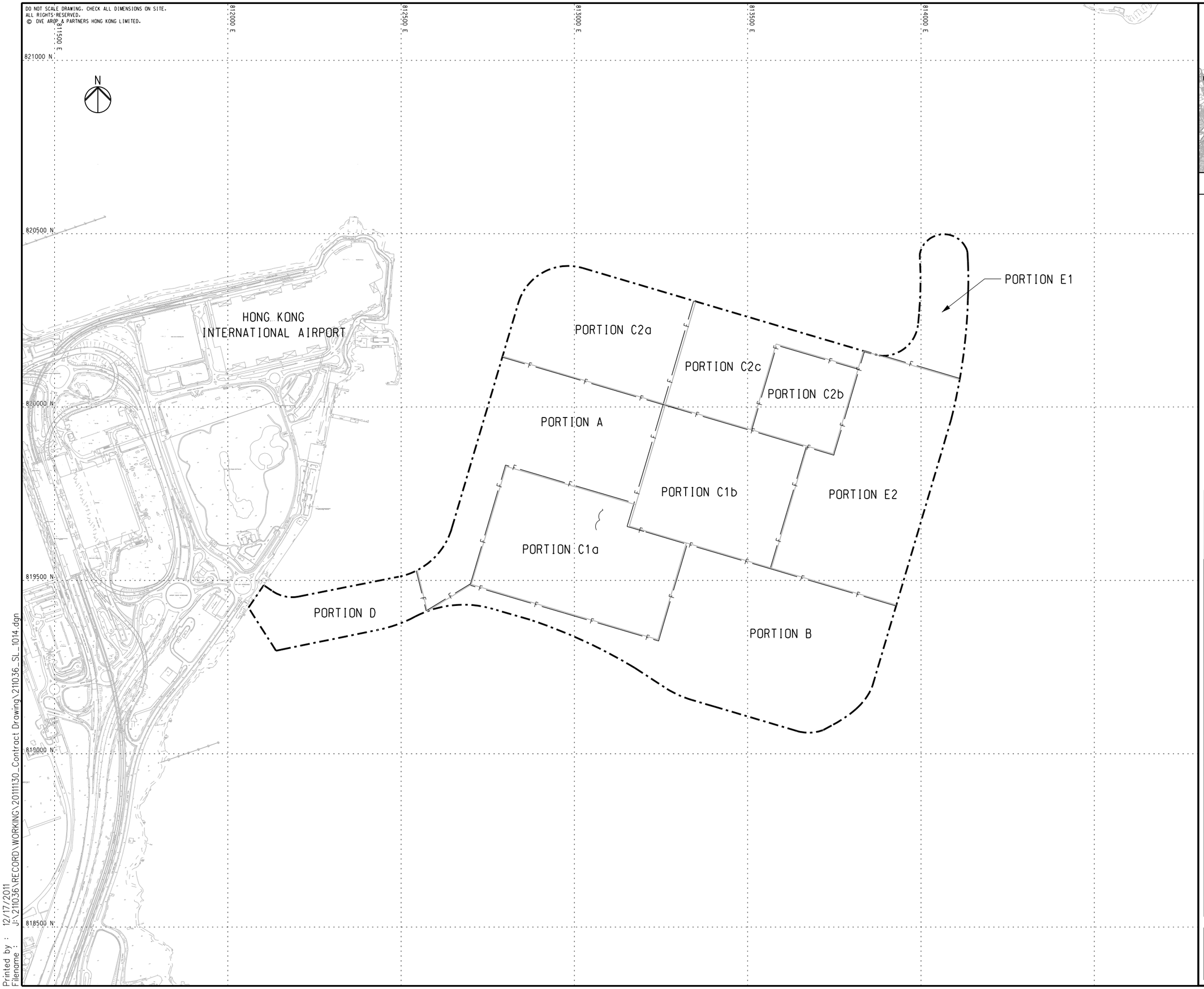

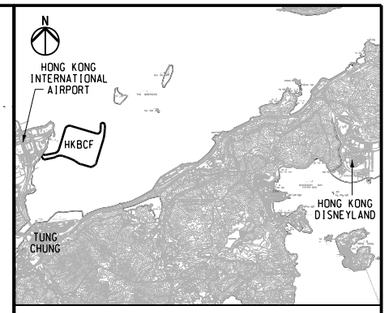

KEY PLAN

NOTES

1. FOR LEGENDS AND NOTES FOR CHAIN LINK FENCE AND GATE REFER TO DRG NO. 211036/SL/1013.
2. THE ERECTION OF CHAIN LINK FENCE AND GATES SHALL BE COMPLETED BY THE HANDOVER DATE OF EACH PORTION OF SITE, OR AS INSTRUCTED BY THE ENGINEER.
3. FOR SETTING OUT COORDINATES OF DIFFERENT PORTIONS OF SITE REFER TO DRG NO. 211036/SL/1003.
4. ACCESS POINTS BETWEEN PORTIONS SHALL BE PROVIDED BY THE CONTRACTOR. AND THE LOCATIONS SHALL BE AGREED WITH THE ENGINEER ON SITE.
5. FOR HOARDING AND FENCE AT FILL BANK AT TSEUNG KWAN O AREA 137 REFER TO DRG NO. 211036/SL/1015.

LEGEND

- SETTING OUT LINE (SOL)
- WORKS AREA BOUNDARY
- PORTIONS BOUNDARY LINE

Rev	Description	By	Date
-	FOR CONSTRUCTION	HYJL	11/11

Consultant

ARUP 奧雅納工程顧問 Ove Arup & Partners Hong Kong Limited

Supported By :
- Ecosystems Ltd.
- EDA Marine Ltd.
- Geotechnical Consulting Group (Asia) Ltd.
- Hong Kong Cetacean Research Project
- InteliBuild Technyx Asia Limited
- Tony Gee and Partners LLP

Contract No. and Title:
Contract No. HY/2010/02
Hong Kong-Zhuhai-Macao Bridge
Hong Kong Boundary Crossing Facilities
- Reclamation Works

Drawing title
WORKS AREA LAYOUT
AND HORADING PLAN
(SHEET 2 OF 3)

Drawing no.	Rev.
211036/SL/1014	-

Drawn	Date	Checked	Approved
RL	06/10	KKY	DML

Scale 1:5000 @A1 1:10000 @A3
Status WORKING

路政署 HIGHWAYS DEPARTMENT
港珠澳大橋香港工程管理處
Hong Kong - Zhuhai - Macao Bridge
Hong Kong Project Management Office

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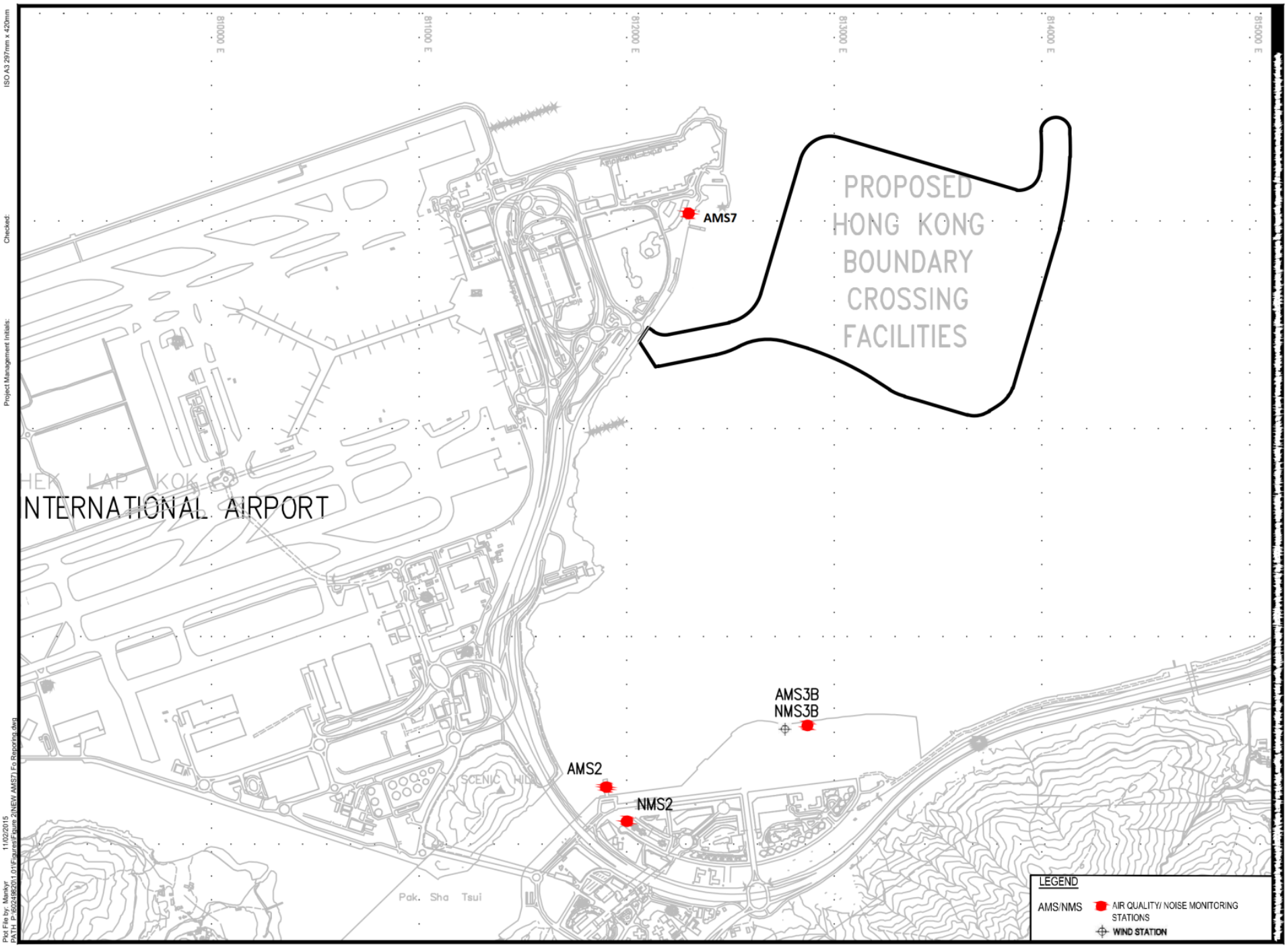

AIR QUALITY AND NOISE MONITORING STATIONS FOR HKBCF

HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

Project No.: -

Date: JANUARY 2015

Figure 2

ISO A3 297mm x 420mm

Checked:

Project Management Initials:

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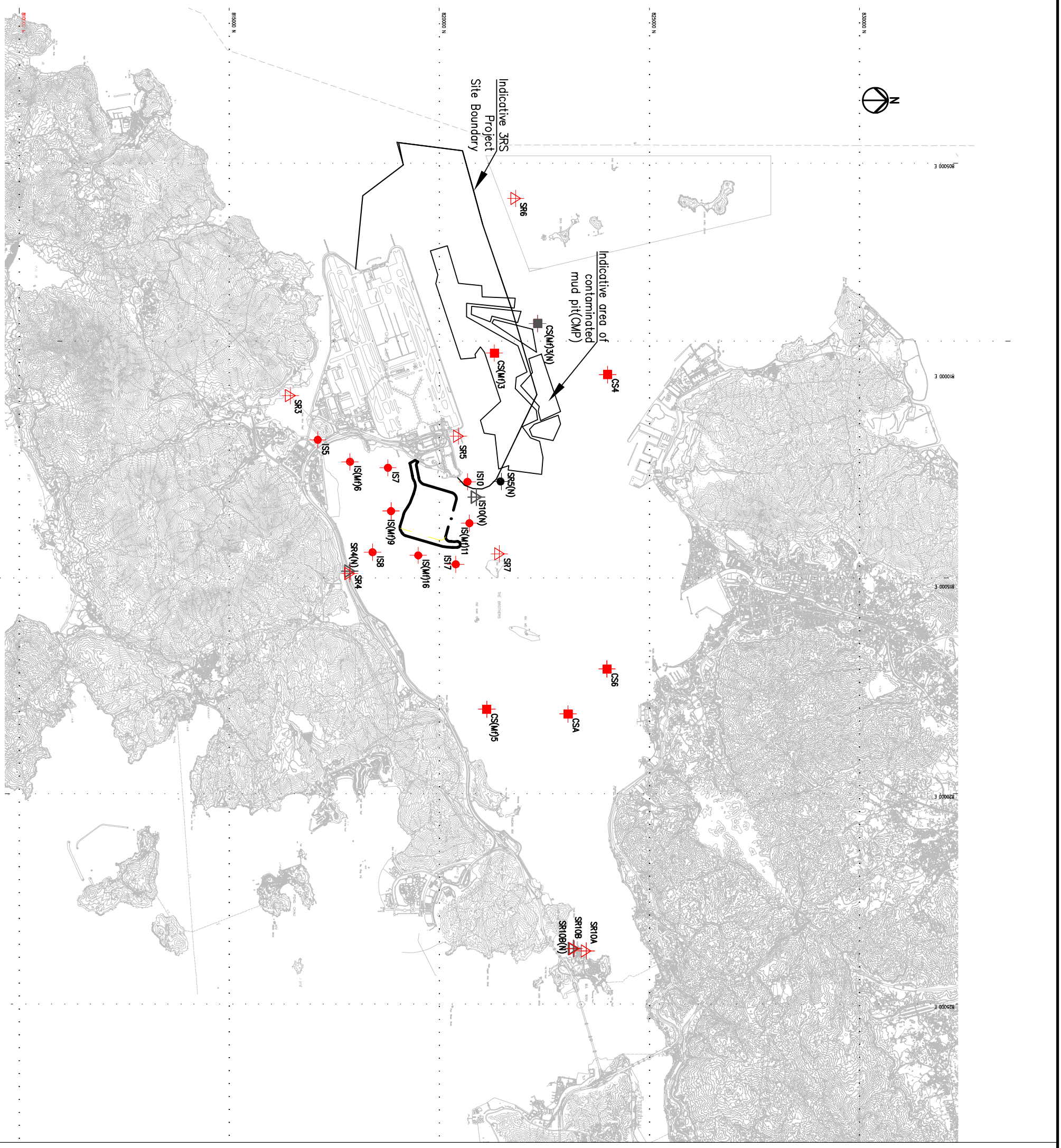


LEGEND

- IS — IMPACT STATIONS
- CS — CONTROL / FAR FIELD STATIONS
- SR — SENSITIVE RECEIVERS STATIONS
- IS — IMPACT STATIONS (RELOCATED)
- SR — SENSITIVE RECEIVERS STATIONS (RELOCATED)
- CS — CONTROL / FAR FIELD STATIONS (RELOCATED)

SETTING OUT SCHEDULE

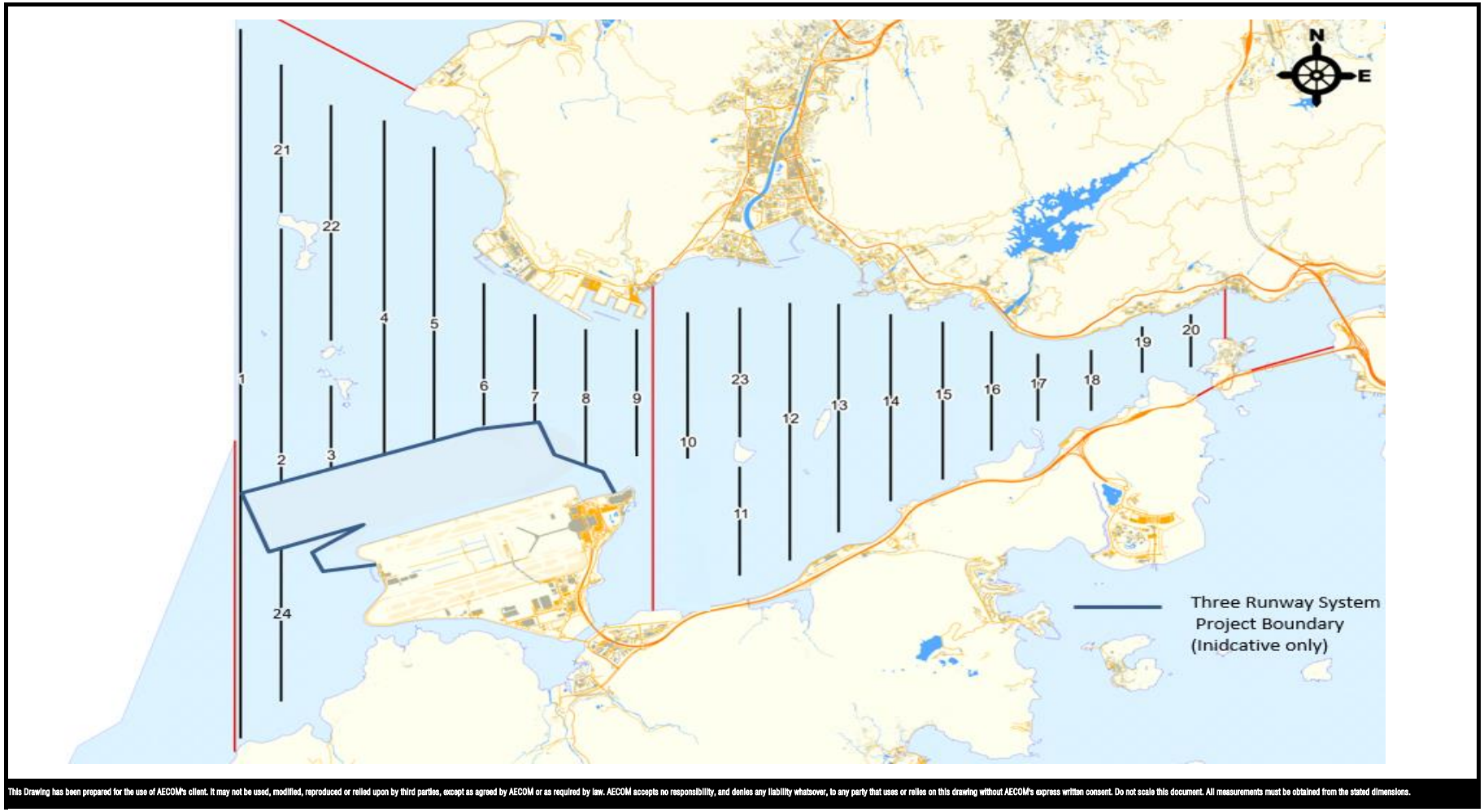
MONITORING STATIONS	CO-ORDINATES	
	EASTING	NORTHING
IS5	811579	817106
IS(Mf)6	812101	817873
IS7	812244	818777
IS8	814251	818412
IS(Mf)9	813273	818850
SR5(N)	812569	821475
IS(Mf)11	813562	820716
IS(Mf)16	814328	819497
IS17	814539	820391
SR3	810525	816456
SR4(N)	814705	817859
IS10(N)	812942	820881
SR6	805837	821818
SR7	814293	821431
SR10A	823741	823495
SR10B(N)	823683	823187
CS(Mf)3(N)	808814	822355
CS(Mf)5	817990	821129
CS4	810025	824004
CS6	817028	823992
CSA	818103	823064
IS10	812577	820670
SR5	811489	820455
CS(Mf)3	809989	821117

HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS
Project No.: 60249820 Date: AUG 2016

WATER QUALITY MONITORING STATION

AECOM

Figure 3



Remarks:

^Coordinates for transect lines 2, 3, 4, 5, 6 and 7 have been updated and line 24 was added in respect to the Proposal for Alteration of Transect Line of Dolphin Monitoring and Alternative Monitoring Location for Impact Water Quality Monitoring (IWQM) Stations due to Commencement of Third Runway Project (3RS) which was approved by EPD on 12 May 2017. The total transect length for both NEL and NWL combined is reduced to approximately 99km.

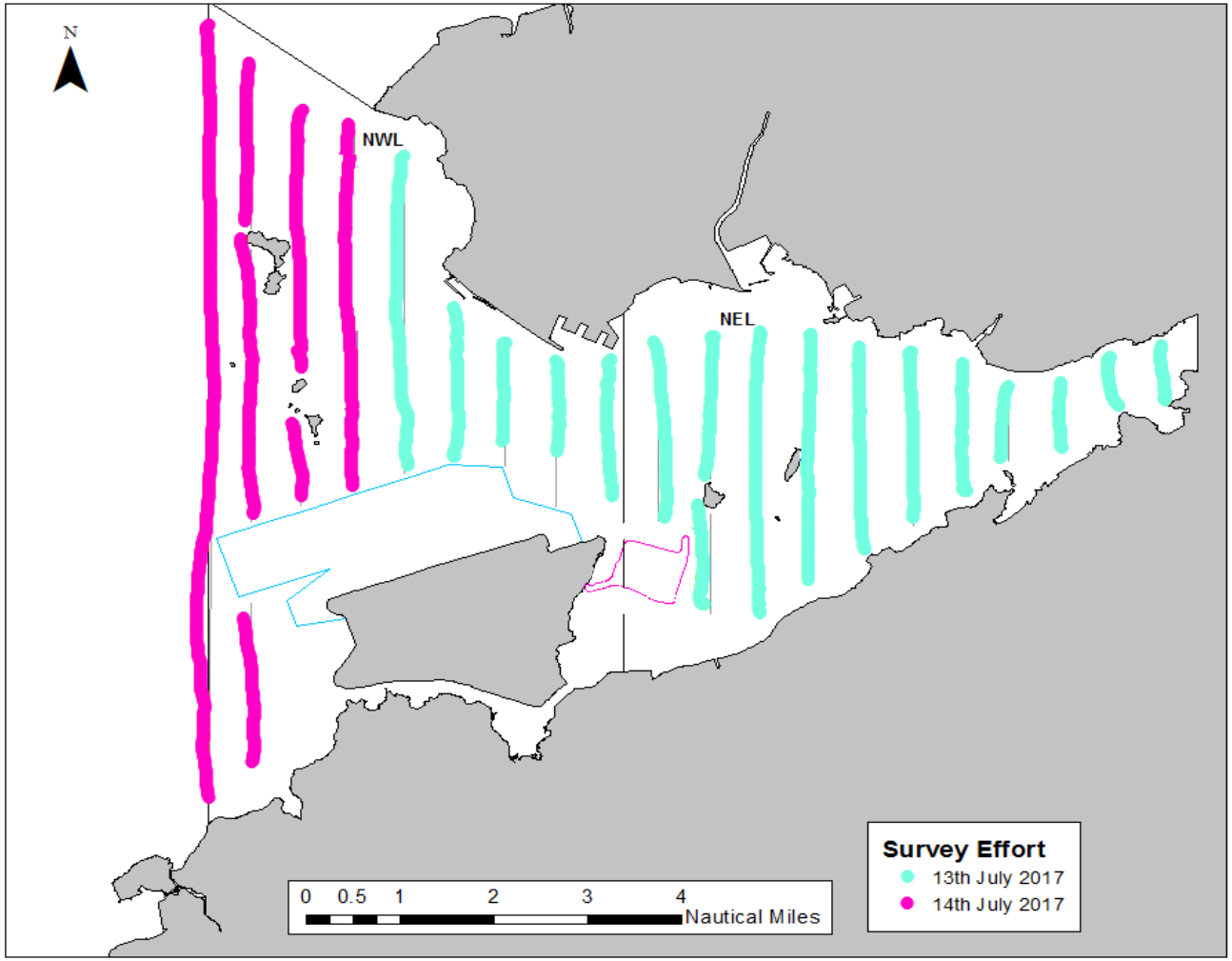
 # New projects, large number of barges/vessels were anchored densely at north of Three Runway System project boundary, access to the transect area on lines 2, 3, 4, 5, 6 and 8 were blocked or affected in Jul 2017.

HONG KONG BOUNDARY CORSSING FACILITIES
- RECLAMATION WORKS
Project No.: 60249820 Date: Aug 2017

Impact Dolphin Monitoring
Line Transect Layout Map

AECOM

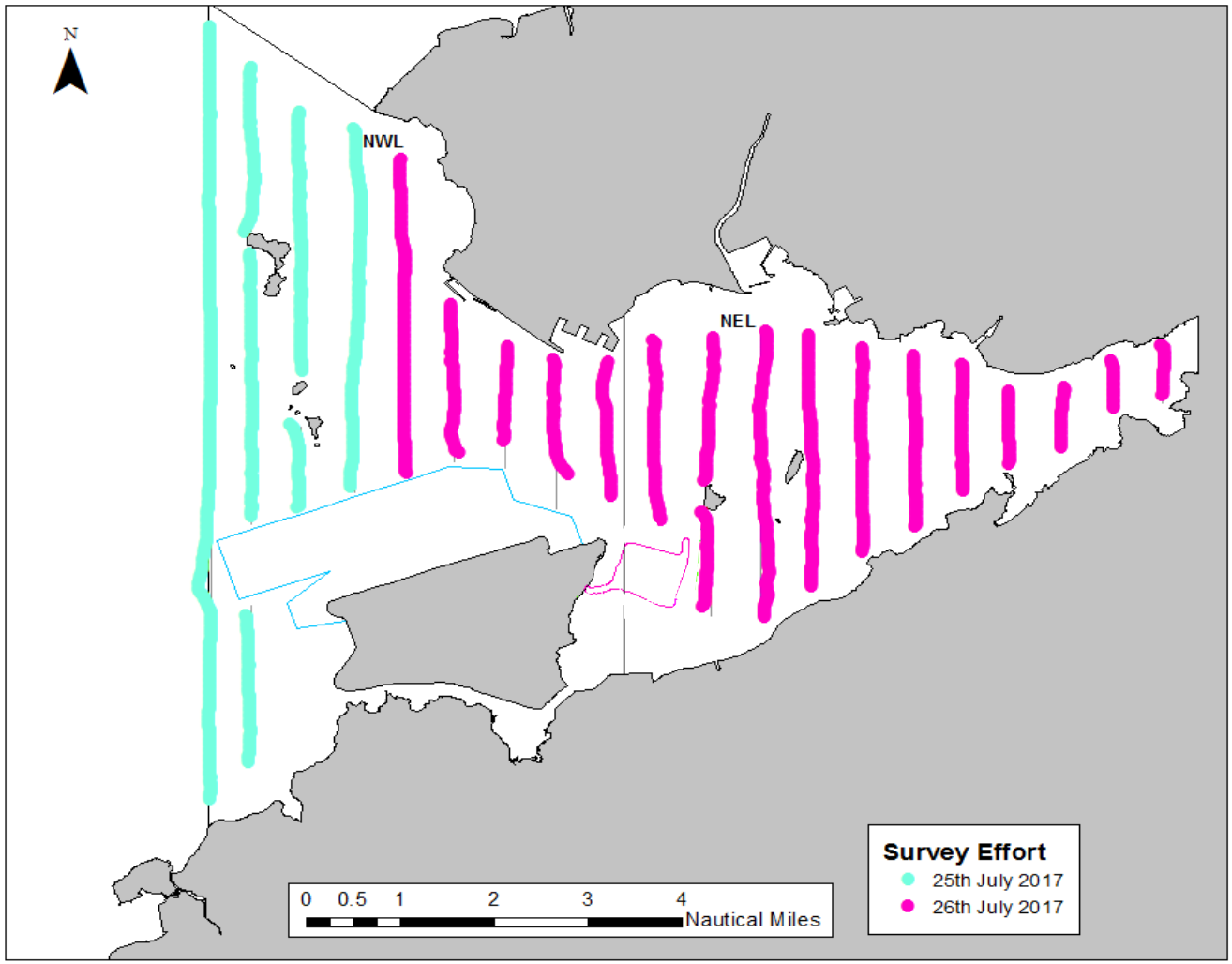
Figure 4



HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES - RECLAMATION WORKS
Project No.: 60249820 **Date: August 2017**

Impact Dolphin Monitoring Survey Efforts on 13 & 14 July 2017

Figure 5a



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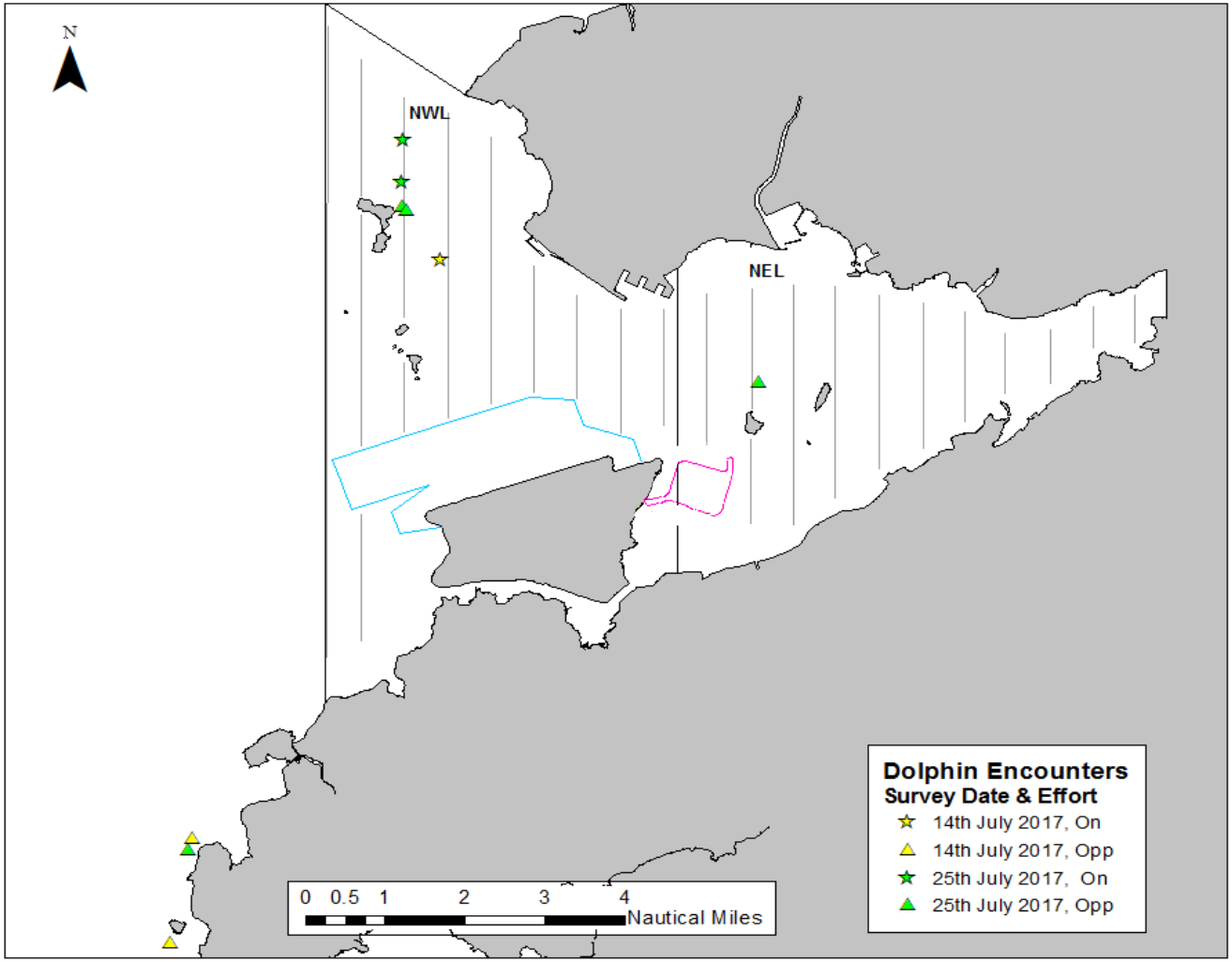
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS
Project No.: 60249820 **Date: August 2017**

Impact Dolphin Monitoring Survey Efforts on 25 and 26 July 2017

Figure 5b



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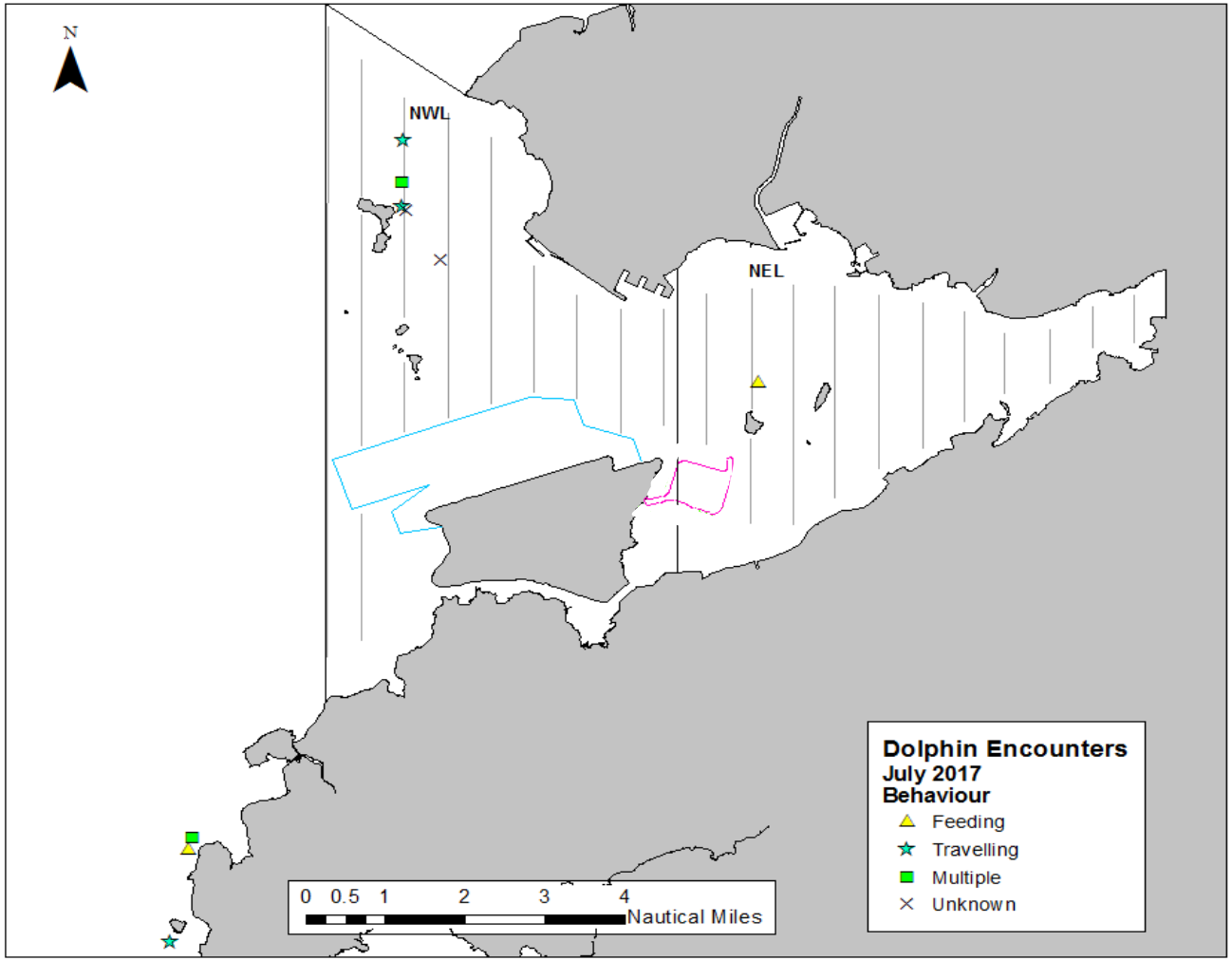
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS
Project No.: 60249820 **Date: August 2017**

Impact Dolphin Monitoring Survey
Sightings in July 2017

Figure 5c



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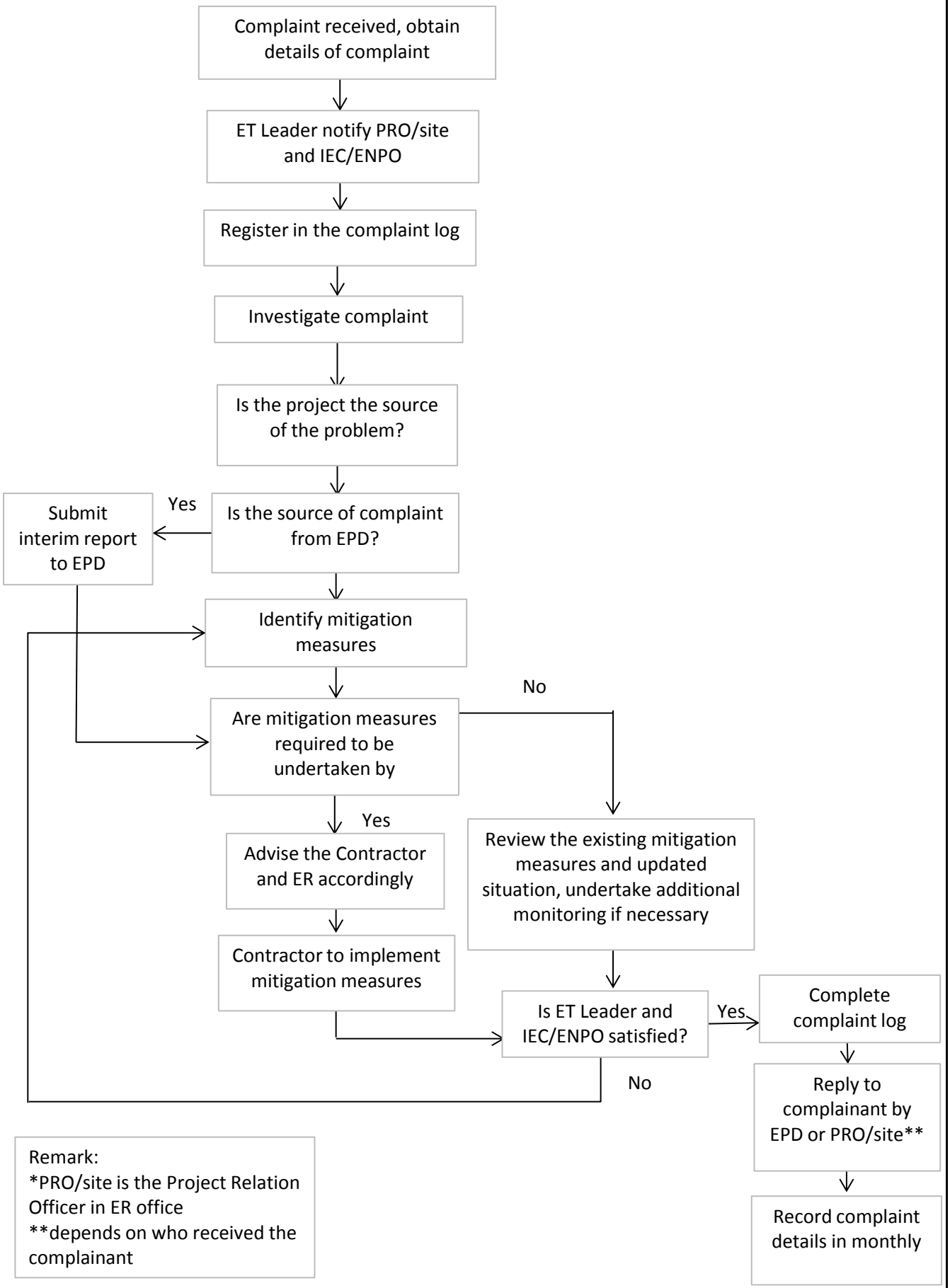
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS
Project No.: 60249820 **Date: August 2017**

Impact Dolphin Monitoring Survey
Behaviour Map in July 2017

Figure 5d



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HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

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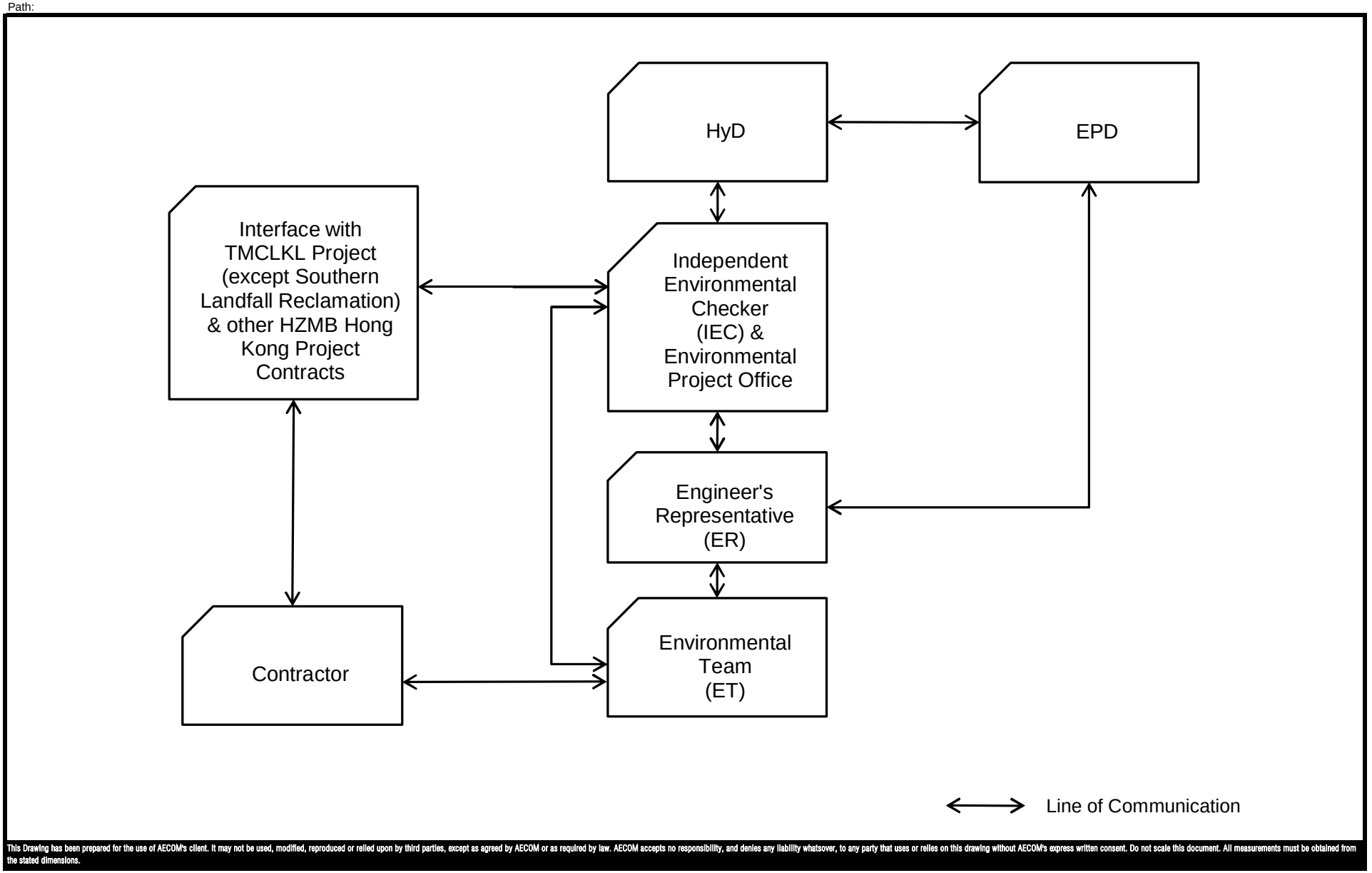
Environmental Complaint Handling Procedure

Project No.: 60249820 **Date: July 2012** **Figure 6**



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HONG KONG BOUNDARY CROSSING FACILITIES
--RECLAMATION WORKS
Project No.: 60249820 Date: April 2013

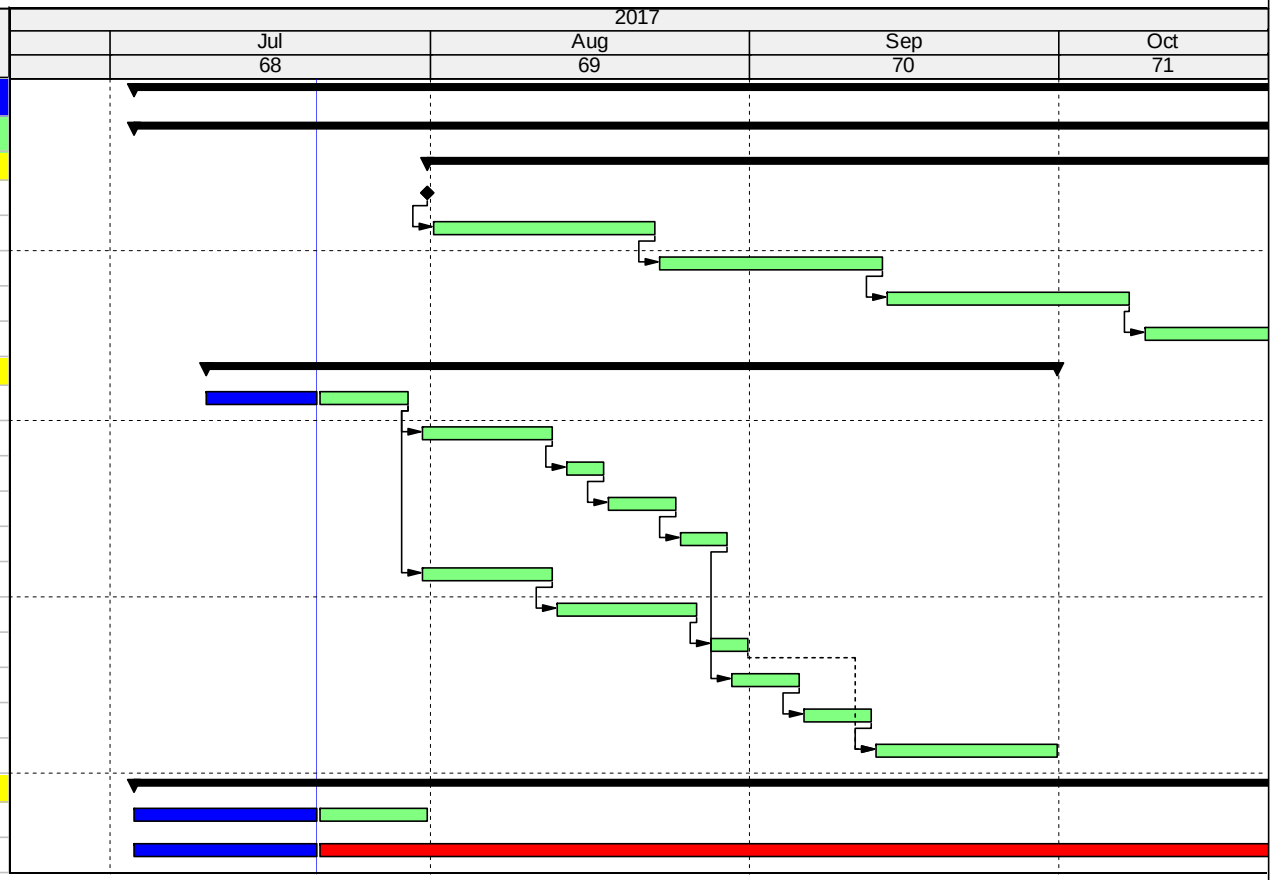
Contract Organisation for

Environmental Works

AECOM

Appendix A

Activity ID	Activity Name
68th Monthly Progress Report Status as on 21July2017	
Additional Works	
Reinstatement of Seawall After Removal of Temporary Jetty by C2 contrac	
OS01-0010	Removal of temporary Jetty by C2 Contractor
OS01-0030	Removal of Temp Rockfill Seaside
OS01-0040	Removal of Temp Rockfill Landside
OS01-0050	Installation Underlayer
OS01-0060	Installation of Rock Armour
Effluent Discharge Pipe K047/048	
OS02-0010	Removal of top soil of existing cell at K047/048
OS02-0020	Cut Down existing steel sheet pile & capping beam
OS02-0030	300mm Rockfill bedding
OS02-0040	Discharge pipe laying
OS02-0050	Discharge Pipe Concrete Surrounding
OS02-0060	Outfall Precast Concrete
OS02-0070	Outfall Curing
OS02-0080	Outfall Installation
OS02-0100	Flexible Joint
OS02-0110	Backfill
OS02-0120	Reinstatement at K047/048
Additional GI Works	
OS03-0010	Outstanding Land Based GI Works 125nos
OS03-0020	Outstanding Marine Based GI Works 194nos



Remaining Level of Effort | Remaining Work | S...
Actual Level of Effort | Critical Remaining Work
Actual Work | Milestone

TASK filter: 3 months rolling programme.

Oracle Corporation

Appendix C - Implementation Schedule of Environmental Mitigation Measures

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
Air Quality				
S5.5.6.1 of HKBCFEIA	A1	The contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation	All construction sites	V
S5.5.6.2 of HKBCFEIA and S4.8.1 of TKCLKLEIA	A2	Proper watering of exposed spoil should be undertaken throughout the construction phase: • Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading; • Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads; • A stockpile of dusty material should not be extend beyond the pedestrian barriers, fencing or traffic cones. • Where practicable, vehicle washing facilities with high pressure water jet should be provided at every discernible or designated vehicle exit point. The area where vehicle washing takes place and the road section between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores; • When there are open excavation and reinstatement works, hoarding of not less than 2.4m high should be provided as far as practicable along the site boundary	All construction sites	V

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
		with provision for public crossing. Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction period; • The portion of any road leading only to construction site that is within 30m of a vehicle entrance or exit should be kept clear of dusty materials; • Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation takes place should be sprayed with water or a dust suppression chemical continuously; • Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet; • Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding; • Any skip hoist for material transport should be totally enclosed by impervious sheeting; • Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides;		

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
		• Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed; • All unpaved roads/exposed area shall be watered which results in dust suppression by forming moist cohesive films among the discrete grains of road surface material. • No burning of debris or other materials on the works areas is allowed; • Water spray shall be used during the handling of fill material at the site and at active cuts, excavation and fill sites where dust is likely to be created; • Open dropping heights for excavated materials shall be controlled to a maximum height of 2m to minimise the fugitive dust arising from unloading; • During transportation by truck, materials shall not be loaded to a level higher than the side and tail boards, and shall be dampened or covered before transport. Materials having the potential to create dust shall not be loaded to a level higher than the side and tail boards, and shall be covered by a clean tarpaulin. The tarpaulin shall be properly secured and shall extend at least 300mm over the edges of the side and tail boards; • Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system; and		

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
		• Exposed earth should be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shotcrete or other suitable surface stabiliser within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies.		
S5.5.6.3 of HKBCFEIA and S4.8.1 of TKCLKLEIA	A3	The Contractor should undertake proper watering on all exposed spoil and associated work areas (with at least 8 times per day) throughout the construction phase.	All construction sites	V
S5.5.6.4 of HKBCFEIA and S4.11 of TKCLKLEIA	A4	Implement regular dust monitoring under EM&A programme during the construction stage.	Selected representative dust monitoring station	V
S5.5.7.1 of HKBCFEIA	A5	The following mitigation measures should be adopted to prevent fugitive dust emissions for concrete batching plant: • Loading, unloading, handling, transfer or storage of any dusty materials should be carried out in totally enclosed system; • All dust-laden air or waste gas generated by the process operations should be properly extracted and vented to fabric filtering system to meet the emission limits for TSP; • Vents for all silos and cement/ pulverised fuel ash (PFA) weighing scale should be fitted with fabric filtering system;	All construction sites	N/A

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
		• The materials which may generate airborne dusty emissions should be wetted by water spray system; • All receiving hoppers should be enclosed on three sides up to 3m above unloading point; • All conveyor transfer points should be totally enclosed; • All access and route roads within the premises should be paved and wetted; and • Vehicle cleaning facilities should be provided and used by all concrete trucks before leaving the premises to wash off any dust on the wheels and/or body.		
S5.5.2.7 of HKBCFEIA	A6	The following mitigation measures should be adopted to prevent fugitive dust emissions at barging point: • All road surface within the barging facilities will be paved; • Dust enclosures will be provided for the loading ramp; • Vehicles will be required to pass through designated wheels wash facilities; and • Continuous water spray at the loading points.	All construction sites	N/A (Construction in process)
Construction Noise (Air borne)				
S6.4.10 of HKBCFEIA	N1	Use of good site practices to limit noise emissions by considering the following: • only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme; • machines and plant (such as trucks, cranes) that may be in intermittent use	All construction sites	V

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
		should be shut down between work periods or should be throttled down to a minimum; • plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs; • silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works; • mobile plant should be sited as far away from NSRs as possible and practicable; • material stockpiles, mobile container site officer and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.		
S6.4.11 of HKBCFEIA	N2	Install temporary hoarding located on the site boundaries between noisy construction activities and NSRs. The conditions of the hoardings shall be properly maintained throughout the construction period.	All construction sites	V
S6.4.12 of HKBCFEIA	N3	Install movable noise barriers (typically density @14kg/m^2), acoustic mat or full enclosure close to noisy plants including air compressor, generators, saw.	For plant items listed in Appendix 6D of the EIA report at all construction sites	N/A
S6.4.13 of HKBCFEIA	N4	Select “Quiet plants” which comply with the BS 5228 Part 1 or TM standards.	For plant items listed in Appendix 6D of the EIA report at all construction sites	V

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
S6.4.14 of HKBCFEIA	N5	Sequencing operation of construction plants where practicable.	All construction sites where practicable	V
S5.1 of TMCLKLEIA	N6	Implement a noise monitoring under EM&A programme.	Selected representative noise monitoring station	V
Waste Management (Construction Waste)				
S12.6 of TMCLKLEIA	WM1	The Contractor shall identify a coordinator for the management of waste.	All construction sites	V
S12.6 of TMCLKLEIA	WM2	The Contractor shall apply for and obtain the appropriate licenses for the disposal of public fill, chemical waste and effluent discharges.	All construction sites	V
S12.6 of TMCLKLEIA	WM3	EM&A of waste handling, storage, transportation, disposal procedures and documentation through the site audit programme shall be undertaken.	All construction sites	V
S8.3.8 of HKBCFEIA and S12.6 of TMCLKLEIA	WM4	*Construction and Demolition Material* The following mitigation measures should be implemented in handling the waste: • Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement; • Carry out on-site sorting; • Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate; • Adopt ‘Selective Demolition’ technique to demolish the existing structures and	All construction sites	V

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
		facilities with a view to recovering broken concrete effectively for recycling purpose, where possible; • Implement a trip-ticket system for each works contract to ensure that the disposal of C&D materials are properly documented and verified; • Implement an enhanced Waste Management Plan similar to ETWBTC (Works) No. 19/2005 – "Environmental Management on Construction Sites" to encourage on-site sorting of C&D materials and to minimize their generation during the course of construction; • In addition, disposal of the C&D materials onto any sensitive locations such as agricultural lands, etc. should be avoided. The Contractor shall propose the final disposal sites to the Project Proponent and get its approval before implementation; and • The surplus surcharge should be transferred to a fill bank.		
S8.3.9-S8.3.11 of HKBCFEIA and S12.6 of TMCLKLEIA	WM5	*C&D Waste* • Standard formwork or pre-fabrication should be used as far as practicable in order to minimise the arising of C&D materials. The use of more durable formwork or plastic facing for the construction works should be considered. Use of wooden hoardings should not be used, as in other projects. Metal hoarding and falsework should be used to enhance the possibility of recycling. The purchasing of construction materials will be carefully planned in order to avoid over ordering	All construction sites	V

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
		and wastage. • The Contractor should recycle as much of the C&D materials as possible on-site. Public fill and C&D waste should be segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal. Where practicable, concrete and masonry can be crushed and used as fill. Steel reinforcement bar can be used by scrap steel mills. Different areas of the sites should be considered for such segregation and storage.		
S8.2.12-S8.3.15 of HKBCFEIA and S12.6 of TMCLKLEIA	WM6	*Chemical Waste* • Chemical waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, should be handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. • Containers used for the storage of chemical wastes should be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; have a capacity of less than 450 liters unless the specification has been approved by the EPD; and display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the regulation. • The storage area for chemical wastes should be clearly labelled and used solely for the storage of chemical waste; enclosed on at least 3 sides; have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20 % of the total volume of waste stored in that area, whichever is the greatest; have adequate ventilation; covered to prevent	All construction sites	V

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
		rainfall entering; and arranged so that incompatible materials are adequately separated. • Disposal of chemical waste should be via a licensed waste collector; be to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Centre which also offers a chemical waste collection service and can supply the necessary storage containers; or be to a reuser of the waste, under approval from the EPD.		
S8.3.16 of HKBCFEIA and S12.6 of TMCLKLEIA	WM7	*Sewage* • Adequate numbers of portable toilets should be provided for the workers. The portable toilets should be maintained in a state, which will not deter the workers from utilizing these portable toilets. Night soil should be collected by licensed collectors regularly.	All construction sites	V
S8.3.17 of HKBCFEIA and S12.6 of TMCLKLEIA	WM8	*General Refuse* • The site and surroundings shall be kept tidy and litter free. General refuse generated on-site should be stored in enclosed bins or compaction units separately from construction and chemical wastes. • A reputable waste collector should be employed by the Contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimize odour, pest and litter impacts. Burning of refuse on construction sites is prohibited by law.	All construction sites	V

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
		• Aluminium cans are often recovered from the waste stream by individual collectors if they are segregated and made easily accessible. Separate labelled bins for their deposit should be provided if feasible. • Office wastes can be reduced through the recycling of paper if volumes are large enough to warrant collection. Participation in a local collection scheme should be considered by the Contractor. In addition, waste separation facilities for paper, aluminum cans, plastic bottles etc., should be provided. • Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedure, including reduction, reuse and recycling of wastes. • Sufficient dustbins shall be provided for storage of waste as required under the Public Cleansing and Prevention of Nuisances By-laws. In addition, general refuse shall be cleared daily and shall be disposed of to the nearest licensed landfill or refuse transfer station. • All waste containers shall be in a secure area on hardstanding.		

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
Water Quality (Construction Phase)				
	W1	Mitigation during the marine works to reduce impacts to within acceptable levels have been recommended and will comprise a series of measures that restrict the method and sequencing of backfilling, as well as protection measures. Details of the measures are provided below: • Reclamation filling for the Project shall not proceed until at least 200m of leading seawall at the reclamation area formed above +2.2mPD, unless otherwise agreement was obtained from EPD, except for the 300m gaps for marine access. All underwater filling works shall be carried out behind seawalls to avoid dispersion of suspended solids outside the Project limit; • Except for the filling of the cellular structures, not more than 15% public fill shall be used for reclamation filling below +2.5mPD during construction of the seawall; • After the seawall is completed except for the 300m marine access as indicated in the EPs, not more than 30% public fill shall be used for reclamation filling below +2.5mPD, unless otherwise agreement from EPD was obtained; • Upon completion of 200m leading seawall, no more than a total of 60 filling barge trips per day shall be made with a cumulative maximum daily filling rate of 60,000 m3 for HKBCF and TMCLKL southern landfall reclamation during the filling operation; and • Upon completion of the whole section of seawall except for the 300m marine	During filling	V

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
		access as indicated in the EPs, no more than a total of 190 filling barge trips per day shall be made with a cumulative maximum daily filling rate of 190,000 m3 for the remaining filling operations for HKBCF and TMCLKL southern landfall reclamation. • Floating type perimeter silt curtains shall be around the HKBCF site before the commencement of marine works. Staggered layers of silt curtain shall be provided to prevent sediment loss at navigation accesses. The length of each staggered layers shall be at least 200m; • Single layer silt curtain to be applied around the North-east airport water intake; • The silt-curtains should be maintained in good condition to ensure the sediment plume generated from filling be confined effectively within the site boundary; • The filling works shall be scheduled to spread the works evenly over a working day; • Cellular structure shall be used for seawall construction; • A layer of geotextile shall be placed on top of the seabed before any filling activities take place inside the cellular structures to form the seawall; • The conveyor belts shall be fitted with windboards and conveyor release points shall be covered with curtain to prevent any spillage of filling materials onto the surrounding waters; and • An additional layer of silt curtain shall be installed near the active stone column		

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
		installation points. A layer of geotextile with stone blanket on top shall be placed on the seabed prior to stone column installation works.		
S9.11.1.3 of HKBCFEIA and S6.10 of TMCLKLEIA	W2	<u>Land Works</u> General construction activities on land should also be governed by standard good working practice. Specific measures to be written into the works contracts should include: • wastewater from temporary site facilities should be controlled to prevent direct discharge to surface or marine waters; • sewage effluent and discharges from on-site kitchen facilities shall be directed to Government sewer in accordance with the requirements of the WPCO or collected for disposal offsite. The use of soakaways shall be avoided; • storm drainage shall be directed to storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sediment basins. Channels, earth bunds or sand bag barriers should be provided on site to properly direct stormwater to such silt removal facilities. Catchpits and perimeter channels should be constructed in advance of site formation works and earthworks; • silt removal facilities, channels and manholes shall be maintained and any deposited silt and grit shall be removed regularly, including specifically	All land-based construction sites	V

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
		at the onset of and after each rainstorm; • temporary access roads should be surfaced with crushed stone or gravel; • rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities; • measures should be taken to prevent the washout of construction materials, soil, silt or debris into any drainage system; • open stockpiles of construction materials (e.g. aggregates and sand) on site should be covered with tarpaulin or similar fabric during rainstorms; • manholes (including any newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers; • discharges of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system; • all vehicles and plant should be cleaned before they leave the construction site to ensure that no earth, mud or debris is deposited by them on roads. A wheel washing bay should be provided at every site exit; • wheel wash overflow shall be directed to silt removal facilities before being discharged to the storm drain;		

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
		• the section of construction road between the wheel washing bay and the public road should be surfaced with crushed stone or coarse gravel; • wastewater generated from concreting, plastering, internal decoration, cleaning work and other similar activities, shall be screened to remove large objects; • vehicle and plant servicing areas, vehicle wash bays and lubrication facilities shall be located under roofed areas. The drainage in these covered areas shall be connected to foul sewers via a petrol interceptor in accordance with the requirements of the WPCO or collected for offsite disposal; • the contractors shall prepare an oil / chemical cleanup plan and ensure that leakages or spillages are contained and cleaned up immediately; • waste oil should be collected and stored for recycling or disposal, in accordance with the Waste Disposal Ordinance; • all fuel tanks and chemical storage areas should be provided with locks and be sited on sealed areas. The storage areas should be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank; and • surface run-off from bunded areas should pass through oil/grease traps prior to discharge to the storm water system..		
S9.14 of HKBCFEIA and S6.10 of	W3	Implement a water quality monitoring programme	At identified monitoring location	V

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
TMCLKLEIA				
S6.10 of TMCLKLEIA	W4	All construction works shall be subject to routine audit to ensure implementation of all EIA recommendations and good working practice.	All construction site areas	V
Ecology (Construction Phase)				
S10.7 of HKBCFEIA and S8.14 of TMCLKLEIA	E1	• Install silt curtain during the construction • Limit works fronts • Construct seawall prior to reclamation filling where practicable • Good site practices • Strict enforcement of no marine dumping • Site runoff control • Spill response plan	Seawall, reclamation area	V
S10.7 of HKBCFEIA	E2	• Watering to reduce dust generation; prevention of siltation of freshwater habitats; Site runoff should be desilted, to reduce the potential for suspended sediments, organics and other contaminants to enter streams and standing freshwater.	Land-based works areas	V
S10.7 of HKBCFEIA and S8.14 of TMCLKLEIA	E3	• Good site practices, including strictly following the permitted works hours, using quieter machines where practicable, and avoiding excessive lightings during night time.	Land-based works areas	V
S10.7 of	E4	• Dolphin Exclusion Zone	Marine works	V

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
HKBCFEIA and S8.14 of TMCLKLEIA		• Dolphin watching plan		
S10.7 of HKBCFEIA and S8.14 of TMCLKLEIA	E5	• Decouple compressors and other equipment on working vessels • Proposal on design and implementation of acoustic decoupling measures applied during reclamation works • Avoidance of percussive piling	Marine works	V
S10.7 of HKBCFEIA and S8.14 of TMCLKLEIA	E6	• Control vessel speed • Skipper training • Predefined and regular routes for working vessels; avoid Brothers Islands	Marine traffic	V
S10.10 of HKBCFEIA and S8.14 of TMCLKLEIA	E7	• Vessel based dolphin monitoring	Northeast and Northwest Lantau	V
Fisheries				
S11.7 of HKBCFEIA	F1	• Reduce re-suspension of sediments • Limit works fronts • Good site practices • Strict enforcement of no marine dumping	Seawall, reclamation area	V

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
		• Spill response plan		
S11.7 of HKBCFEIA	F2	• Install silt-grease trap in the drainage system collecting surface runoff	Reclamation area	V
Landscape & Visual (Construction Phase)				
S14.3.3. 3 of HKBCFEIA and S10.9 of TMCLKLEIA	LV1	*Mitigate Landscape Impacts* G1/CM4 Grass-hydroseed or sheeting bare soil surface and stock pile areas. G9 Reserve of loose natural granite rocks for re-use. Provide new coastline to adopt "natural-look" by means of using armour rocks in the form of natural rock materials and planting strip area accommodating screen buffer to enhance "natural-look" of new coastline.	All construction site areas	N/A
S10.9 of TMCLKLEIA	LV2	*Mitigate Landscape Impacts* CM7 Ensure no run-off into water body adjacent to the Project Area.	All construction site areas	V
S14.3.3. 3 of HKBCFEIA	LV4	*Mitigate Visual Impacts* V1 Minimize time for construction activities during construction period.	All construction site areas	V
S10.9 of TMCLKLEIA	LV5	*Mitigate Visual Impacts* CM6 Control night-time lighting and glare by hooding all lights.	All construction site areas	V
EM&A				
S15.2.2 of HKBCFEIA	EM1	An Independent Environmental Checker needs to be employed as per the EM&A Manual.	All construction site areas	V

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
S15.5 - S15.6 of HKBCFEIA	EM2	• An Environmental Team needs to be employed as per the EM&A Manual. • Prepare a systematic Environmental Management Plan to ensure effective implementation of the mitigation measures. • An environmental impact monitoring needs to be implementing by the Environmental Team to ensure all the requirements given in the EM&A Manual are fully complied with.	All construction site areas	V

Legend: V = implemented; x = not implemented; N/A = not applicable

Appendix D - Summary of Action and Limit Levels

Table 1 – Action and Limit Levels for 1-hour TSP

Location	Action Level	Limit Level
AMS2	374 μg/m^3	500 μg/m^3
AMS3B*	368 μg/m^3	500 μg/m^3
AMS6	360 μg/m^3	500 μg/m^3
AMS7	370 μg/m^3	500 μg/m^3

Remarks: * Action Level set out at AMS3 Ho Yu College is adopted.

Table 2 – Action and Limit Levels for 24-hour TSP

Location	Action Level	Limit Level
AMS2	176 μg/m^3	260 μg/m^3
AMS3B*	167 μg/m^3	260 μg/m^3
AMS6	173 μg/m^3	260 μg/m^3
AMS7	183 μg/m^3	260 μg/m^3

Remarks: * Action Level set out at AMS3 Ho Yu College is adopted.

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

Location	Action Level	Limit Level
NMS2	When one documented complaint, related to 0700 – 1900 hours on normal weekdays, is received from any one of the sensitive receivers	75 dB(A)
NMS3B		*65 / 70 dB(A)

*Daytime noise Limit Level of 70 dB(A) applies to education institutions, while 65dB(A) applies during school examination period.

Table 4 – Action and Limit Levels for Water Quality

Parameters	**Action**	**Limit**
DO in mg L^{-1} (Surface, Middle & Bottom)	Surface and Middle 5.0 Bottom 4.7	Surface and Middle 4 .2 (except 5 mg/L for FCZ) Bottom 3.6
SS in mg L^{-1} (depth-averaged)	23.5 and 120% of upstream control station's SS at the same tide of the same day	34.4 and 130% of upstream control station's SS at the same tide of the same day and 10mg/L for WSD Seawater intakes
Turbidity in NTU (depth-averaged)	27.5 and 120% of upstream control station's turbidity at the same tide of the same day	47.0 and130% of upstream control station's turbidity at the same tide of the same day

Notes:

1. "depth-averaged" is calculated by taking the arithmetic means of reading of all three depths.
2. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
3. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.

Table 5(a) Action and Limit Levels for Chinese White Dolphin Monitoring - Approach to Define Action Level (AL) and Limit Level (LL):

	North Lantau Social Cluster	
	NEL	**NWL**
Action Level	(STG < 70% of baseline) & (ANI < 70% of baseline)	(STG < 70% of baseline) & (ANI < 70% of baseline)
Limit Level	[(STG < 40% of baseline) & (ANI < 40% of baseline)] AND [(STG < 40% of baseline) & (ANI < 40% of baseline)]	

For North Lantau Social Cluster, action level will be trigger if either NEL **or** NWL fall below the criteria; limit level will be triggered if both NEL **and** NWL fall below the criteria.

Table 5(b) Derived Value of Action Level (AL) and Limit Level (LL) for Chinese White Dolphin Monitoring

	North Lantau Social Cluster	
	NEL	**NWL**
Action Level	(STG < 4.2) & (ANI < 15.5)	(STG < 6.9) & (ANI < 31.3)
Limit Level	[(STG < 2.4) & (ANI <8.9)] AND [(STG < 3.9)& (ANI < 17.9)]	

AECOM Asia Company Limited
TSP High Volume Sampler
Field Calibration Report

Station	Tung Chung Development Pier (AMS2)	Operator:	Choi Wing Ho
Cal. Date:	12-May-17	Next Due Date:	12-Jul-17
Equipment No.:	A-001-78T	Serial No.	3383

Ambient Condition			
Temperature, Ta (K)	302.0	Pressure, Pa (mmHg)	756.9

Orifice Transfer Standard Information					
Serial No:	988	Slope, mc	1.99349	Intercept, bc	-0.02737
Last Calibration Date:	31-May-16	**mc x Qstd + bc = [DH x (Pa/760) x (298/Ta)]$^{1/2}$**			
Next Calibration Date:	31-May-17	**Qstd = {[DH x (Pa/760) x (298/Ta)]$^{1/2}$ -bc} / mc**			

Calibration of TSP Sampler

Resistance Plate No.	Orfice			HVS Flow Recorder	
	DH (orifice), in. of water	[DH x (Pa/760) x (298/Ta)]$^{1/2}$	Qstd (m^3/min) **X - axis**	Flow Recorder Reading (CFM)	Continuous Flow Recorder Reading IC (CFM) **Y-axis**
18	7.1	2.64	1.34	46.0	45.60
13	6.1	2.45	1.24	41.0	40.64
10	4.9	2.19	1.11	35.0	34.70
7	3.7	1.91	0.97	29.0	28.75
5	2.8	1.66	0.85	23.0	22.80

By Linear Regression of Y on X

Slope , mw = **45.6340** **Intercept, bw =** **-15.8026**

Correlation Coefficient* = **0.9989**

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 1.30m^3/min

From the Regression Equation, the "Y" value according to

mw x Qstd + bw = IC x [(Pa/760) x (298/Ta)]$^{1/2}$

Therefore, Set Point; IC = (mw x Qstd + bw) x [(760 / Pa) x (Ta / 298)]$^{1/2}$= **43.90**

Remarks:

QC Reviewer: WS CHAN Signature: Date: 12/5/17

AECOM Asia Company Limited
TSP High Volume Sampler
Field Calibration Report

Station	Tung Chung Development Pier (AMS2)	Operator:	Choi Wing Ho
Cal. Date:	12-Jul-17	Next Due Date:	12-Sep-17
Equipment No.:	A-001-78T	Serial No.	3383

Ambient Condition			
Temperature, Ta (K)	304.0	Pressure, Pa (mmHg)	757.0

Orifice Transfer Standard Information					
Serial No:	988	Slope, mc	1.98425	Intercept, bc	-0.0093
Last Calibration Date:	22-May-17	**mc x Qstd + bc = [DH x (Pa/760) x (298/Ta)]$^{1/2}$**			
Next Calibration Date:	22-May-18	**Qstd = {[DH x (Pa/760) x (298/Ta)]$^{1/2}$ -bc} / mc**			

Calibration of TSP Sampler

Resistance Plate No.	Orfice			HVS Flow Recorder	
	DH (orifice), in. of water	[DH x (Pa/760) x (298/Ta)]$^{1/2}$	Qstd (m^3/min) **X - axis**	Flow Recorder Reading (CFM)	Continuous Flow Recorder Reading IC (CFM) **Y-axis**
18	7.0	2.61	1.32	46.0	45.45
13	6.1	2.44	1.23	42.0	41.50
10	4.9	2.19	1.11	35.0	34.58
7	3.7	1.90	0.96	28.0	27.67
5	3.0	1.71	0.87	24.0	23.72

By Linear Regression of Y on X

Slope , mw = 48.5516 **Intercept, bw =** -18.7609

Correlation Coefficient* = 0.9985

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 1.30m^3/min

From the Regression Equation, the "Y" value according to

mw x Qstd + bw = IC x [(Pa/760) x (298/Ta)]$^{1/2}$

Therefore, Set Point; IC = (mw x Qstd + bw) x [(760 / Pa) x (Ta / 298)]$^{1/2}$= **44.89**

Remarks:

QC Reviewer: WS CHAN Signature: [signature] Date: 12/7/17

AECOM Asia Company Limited
TSP High Volume Sampler
Field Calibration Report

Station	Site Boundary of Site Office (WA2) (AMS3B)	Operator:	Shum Kam Yuen
Cal. Date:	28-Jun-17	Next Due Date:	28-Aug-17
Equipment No.:	A-001-79T	Serial No.	3384

Ambient Condition			
Temperature, Ta (K)	305.6	Pressure, Pa (mmHg)	757.8

Orifice Transfer Standard Information					
Serial No:	988	Slope, mc	1.98425	Intercept, bc	-0.0093
Last Calibration Date:	22-May-17	$mc \times Qstd + bc = [DH \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	22-May-18	$Qstd = \{[DH \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler

Resistance Plate No.	Orfice			HVS Flow Recorder	
	DH (orifice), in. of water	$[DH \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (m^3/min) **X - axis**	Flow Recorder Reading (CFM)	Continuous Flow Recorder Reading IC (CFM) **Y-axis**
18	6.9	2.59	1.31	49.0	48.32
13	6.0	2.42	1.22	43.0	42.40
10	4.9	2.18	1.10	37.0	36.48
7	3.2	1.76	0.89	22.0	21.69
5	2.3	1.50	0.76	16.0	15.78

By Linear Regression of Y on X

Slope , mw = **60.0954** **Intercept, bw =** **-30.6308**

Correlation Coefficient* = **0.9956**

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 1.30m^3/min

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = IC \times [(Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; $IC = (mw \times Qstd + bw) \times [(760 / Pa) \times (Ta / 298)]^{1/2} =$ **48.16**

Remarks: _____

QC Reviewer: HY Suen Signature: _____ Date: 28/6/17

AECOM Asia Company Limited
TSP High Volume Sampler
Field Calibration Report

Station	Hong Kong SkyCity Marriott Hotel (AMS7)	Operator:	Sham Kam Yuen
Cal. Date:	28-Jun-17	Next Due Date:	28-Aug-17
Equipment No.:	A-001-80T	Serial No.	3385

Ambient Condition			
Temperature, Ta (K)	305.6	Pressure, Pa (mmHg)	757.8

Orifice Transfer Standard Information					
Serial No:	988	Slope, mc	1.98425	Intercept, bc	-0.0093
Last Calibration Date:	22-May-17	**mc x Qstd + bc = [DH x (Pa/760) x (298/Ta)]$^{1/2}$**			
Next Calibration Date:	22-May-18	**Qstd = {[DH x (Pa/760) x (298/Ta)]$^{1/2}$ -bc} / mc**			

Calibration of TSP Sampler

Resistance Plate No.	Orfice			HVS Flow Recorder	
	DH (orifice), in. of water	[DH x (Pa/760) x (298/Ta)]$^{1/2}$	Qstd (m^3/min) **X - axis**	Flow Recorder Reading (CFM)	Continuous Flow Recorder Reading IC (CFM) **Y-axis**
18	7.1	2.63	1.33	48.0	47.33
13	6.2	2.46	1.24	42.0	41.41
10	4.9	2.18	1.10	36.0	35.50
7	3.3	1.79	0.91	24.0	23.67
5	2.4	1.53	0.77	17.0	16.76

By Linear Regression of Y on X

Slope , mw = **54.6491** **Intercept, bw =** **-25.6230**

Correlation Coefficient* = **0.9977**

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 1.30m^3/min

From the Regression Equation, the "Y" value according to

mw x Qstd + bw = IC x [(Pa/760) x (298/Ta)]$^{1/2}$

Therefore, Set Point; IC = (mw x Qstd + bw) x [(760 / Pa) x (Ta / 298)]$^{1/2}$= **46.06**

Remarks:

QC Reviewer: H Suen Signature: H Date: 28/6/17

TISCH Environmental

TISCH ENVIRONMENTAL, INC.
145 SOUTH MIAMI AVE
VILLAGE OF CLEVES, OH
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877.263.7610 TOLL FREE
513.467.9009 FAX

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - May 22, 2017 Rootsmeter S/N 0438320 Ta (K) - 295
Operator Tisch Orifice I.D. - 0988 Pa (mm) - 754.38

PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER DIFF Hg (mm)	ORFICE DIFF H2O (in.)
1	NA	NA	1.00	1.3910	3.2	2.00
2	NA	NA	1.00	0.9810	6.4	4.00
3	NA	NA	1.00	0.8750	7.9	5.00
4	NA	NA	1.00	0.8330	8.8	5.50
5	NA	NA	1.00	0.6890	12.7	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)		Va	(x axis) Qa	(y axis)
0.9984	0.7178	1.4161		0.9957	0.7158	0.8844
0.9942	1.0135	2.0027		0.9915	1.0107	1.2507
0.9921	1.1338	2.2391		0.9894	1.1308	1.3983
0.9910	1.1897	2.3484		0.9883	1.1865	1.4666
0.9858	1.4307	2.8322		0.9831	1.4269	1.7687
Qstd slope (m) =		1.98425		Qa slope (m) =		1.24250
intercept (b) =		-0.00930		intercept (b) =		-0.00581
coefficient (r) =		0.99998		coefficient (r) =		0.99998
y axis = SQRT[H2O(Pa/760)(298/Ta)]				y axis = SQRT[H2O(Ta/Pa)]		

CALCULATIONS

Vstd = Diff. Vol[(Pa-Diff. Hg)/760](298/Ta)
Qstd = Vstd/Time

Va = Diff Vol [(Pa-Diff Hg)/Pa]
Qa = Va/Time

For subsequent flow rate calculations:

Qstd = 1/m{[SQRT(H2O(Pa/760)(298/Ta))]- b}
Qa = 1/m{[SQRT H2O(Ta/Pa)]- b}

EQUIPMENT CALIBRATION RECORD

Type:	***Laser Dust Monitor***
Manufacturer/Brand:	***SIBATA***
Model No.:	***LD-3***
Equipment No.:	***A.005.07a***
Sensitivity Adjustment Scale Setting:	***557 CPM***
Operator:	*Mike Shek (MSKM)*

Standard Equipment

Equipment:	*Rupprecht & Patashnick TEOM®*
Venue:	*Cyberport (Pui Ying Secondary School)*
Model No.:	*Series 1400AB*
Serial No:	Control: *140AB219899803*
	Sensor: *1200C143659803* K_o: *12500*
Last Calibration Date*:	*6 May 2017*

*Remarks: Recommended interval for hardware calibration is 1 year

Calibration Result

Sensitivity Adjustment Scale Setting (Before Calibration): *557* CPM
Sensitivity Adjustment Scale Setting (After Calibration): *557* CPM

Hour	Date (dd-mm-yy)	Time	Ambient Condition		Concentration[1] (mg/m^3) **Y-axis**	Total Count[2]	Count/ Minute[3] **X-axis**
			Temp (°C)	R.H. (%)			
1	*06-05-17*	*12:30 - 13:30*	*27.5*	*78*	*0.04741*	*1894*	*31.57*
2	*06-05-17*	*13:30 - 14:30*	*27.6*	*78*	*0.04823*	*1933*	*32.22*
3	*06-05-17*	*14:30 - 15:30*	*27.6*	*79*	*0.04968*	*1987*	*33.12*
4	*06-05-17*	*15:30 - 16:30*	*27.6*	*79*	*0.04785*	*1915*	*31.92*

Note:
1. Monitoring data was measured by Rupprecht & Patashnick TEOM®
2. Total Count was logged by Laser Dust Monitor
3. Count/minute was calculated by (Total Count/60)

By Linear Regression of Y or X

Slope (K-factor):	*0.0015*
Correlation coefficient:	*0.9957*
Validity of Calibration Record:	*6 May 2018*

Remarks:

QC Reviewer: *YW Fung* Signature: Date: 08 May 2017

EQUIPMENT CALIBRATION RECORD

Type:	***Laser Dust Monitor***
Manufacturer/Brand:	***SIBATA***
Model No.:	***LD-3***
Equipment No.:	***A.005.08a***
Sensitivity Adjustment Scale Setting:	***702 CPM***
Operator:	*Mike Shek (MSKM)*

Standard Equipment

Equipment:	*Rupprecht & Patashnick TEOM®*		
Venue:	*Cyberport (Pui Ying Secondary School)*		
Model No.:	*Series 1400AB*		
Serial No:	Control: *140AB219899803*		
	Sensor: *1200C143659803*	K_o:	*12500*
Last Calibration Date*:	*6 May 2017*		

*Remarks: Recommended interval for hardware calibration is 1 year

Calibration Result

Sensitivity Adjustment Scale Setting (Before Calibration): *702* CPM
Sensitivity Adjustment Scale Setting (After Calibration): *702* CPM

Hour	Date (dd-mm-yy)	Time	Ambient Condition		Concentration[1] (mg/m^3) **Y-axis**	Total Count[2]	Count/ Minute[3] **X-axis**
			Temp (°C)	R.H. (%)			
1	*06-05-17*	*12:45 - 13:45*	*27.5*	*78*	*0.04885*	*1831*	*30.52*
2	*06-05-17*	*13:45 - 14:45*	*27.6*	*78*	*0.05077*	*1905*	*31.75*
3	*06-05-17*	*14:45 - 15:45*	*27.6*	*79*	*0.05196*	*1946*	*32.43*
4	*06-05-17*	*15:45 - 16:45*	*27.6*	*79*	*0.04903*	*1842*	*30.70*

Note: 1. Monitoring data was measured by Rupprecht & Patashnick TEOM®
2. Total Count was logged by Laser Dust Monitor
3. Count/minute was calculated by (Total Count/60)

By Linear Regression of Y or X
Slope (K-factor): *0.0016*
Correlation coefficient: *0.9979*

Validity of Calibration Record: *6 May 2018*

Remarks:

QC Reviewer: *YW Fung* Signature: Date: 08 May 2017

EQUIPMENT CALIBRATION RECORD

Type: ***Laser Dust Monitor***
Manufacturer/Brand: ***SIBATA***
Model No.: ***LD-3***
Equipment No.: ***A.005.09a***
Sensitivity Adjustment Scale Setting: ***797 CPM***

Operator: *Mike Shek (MSKM)*

Standard Equipment

Equipment: *Rupprecht & Patashnick TEOM®*
Venue: *Cyberport (Pui Ying Secondary School)*
Model No.: *Series 1400AB*
Serial No: Control: *140AB219899803*
Sensor: *1200C143659803* K_o: *12500*
Last Calibration Date*: *6 May 2017*

*Remarks: Recommended interval for hardware calibration is 1 year

Calibration Result

Sensitivity Adjustment Scale Setting (Before Calibration): *797* CPM
Sensitivity Adjustment Scale Setting (After Calibration): *797* CPM

Hour	Date (dd-mm-yy)	Time	Ambient Condition		Concentration[1] (mg/m^3) **Y-axis**	Total Count[2]	Count/ Minute[3] **X-axis**
			Temp (°C)	R.H. (%)			
1	06-05-17	12:00 - 13:00	27.5	78	0.04715	1881	31.35
2	06-05-17	13:00 - 14:00	27.6	78	0.04843	1939	32.32
3	06-05-17	14:00 - 15:00	27.6	79	0.04987	1992	33.20
4	06-05-17	15:00 - 16:00	27.6	79	0.04794	1916	31.93

Note: 1. Monitoring data was measured by Rupprecht & Patashnick TEOM®
2. Total Count was logged by Laser Dust Monitor
3. Count/minute was calculated by (Total Count/60)

By Linear Regression of Y or X
Slope (K-factor): *0.0015*
Correlation coefficient: *0.9961*

Validity of Calibration Record: *6 May 2018*

Remarks:

QC Reviewer: *YW Fung* Signature: Date: 08 May 2017

EQUIPMENT CALIBRATION RECORD

Type: ***Laser Dust Monitor***
Manufacturer/Brand: ***SIBATA***
Model No.: ***LD-3***
Equipment No.: ***A.005.10a***
Sensitivity Adjustment Scale Setting: ***753 CPM***

Operator: *Mike Shek (MSKM)*

Standard Equipment

Equipment: *Rupprecht & Patashnick TEOM®*
Venue: *Cyberport (Pui Ying Secondary School)*
Model No.: *Series 1400AB*
Serial No: Control: *140AB219899803*
Sensor: *1200C143659803* K_o: *12500*
Last Calibration Date*: *6 May 2017*

*Remarks: Recommended interval for hardware calibration is 1 year

Calibration Result

Sensitivity Adjustment Scale Setting (Before Calibration): *753* CPM
Sensitivity Adjustment Scale Setting (After Calibration): *753* CPM

Hour	Date (dd-mm-yy)	Time	Ambient Condition		Concentration[1] (mg/m^3) **Y-axis**	Total Count[2]	Count/ Minute[3] **X-axis**
			Temp (°C)	R.H. (%)			
1	*07-05-17*	*10:00 - 11:00*	*25.5*	*81*	*0.04331*	*1734*	*28.90*
2	*07-05-17*	*11:00 - 12:00*	*25.6*	*81*	*0.04465*	*1789*	*29.82*
3	*07-05-17*	*12:00 - 13:00*	*25.6*	*82*	*0.04559*	*1823*	*30.38*
4	*07-05-17*	*13:00 - 14:00*	*25.7*	*81*	*0.04672*	*1867*	*31.12*

Note: 1. Monitoring data was measured by Rupprecht & Patashnick TEOM®
2. Total Count was logged by Laser Dust Monitor
3. Count/minute was calculated by (Total Count/60)

By Linear Regression of Y or X
Slope (K-factor): *0.0015*
Correlation coefficient: *0.9986*

Validity of Calibration Record: *7 May 2018*

Remarks:

QC Reviewer: *YW Fung* Signature: Date: 08 May 2017

EQUIPMENT CALIBRATION RECORD

Type: ***Laser Dust Monitor***
Manufacturer/Brand: ***SIBATA***
Model No.: ***LD-3***
Equipment No.: ***A.005.11a***
Sensitivity Adjustment Scale Setting: ***799 CPM***

Operator: *Mike Shek (MSKM)*

Standard Equipment

Equipment: *Rupprecht & Patashnick TEOM®*
Venue: *Cyberport (Pui Ying Secondary School)*
Model No.: *Series 1400AB*
Serial No: Control: *140AB219899803*
Sensor: *1200C143659803* K_o: *12500*
Last Calibration Date*: *6 May 2017*

*Remarks: Recommended interval for hardware calibration is 1 year

Calibration Result

Sensitivity Adjustment Scale Setting (Before Calibration): *799* CPM
Sensitivity Adjustment Scale Setting (After Calibration): *799* CPM

Hour	Date (dd-mm-yy)	Time	Ambient Condition		Concentration[1] (mg/m^3) **Y-axis**	Total Count[2]	Count/ Minute[3] **X-axis**
			Temp (°C)	R.H. (%)			
1	07-05-17	09:15 - 10:15	25.5	81	0.04372	1749	29.15
2	07-05-17	10:15 - 11:15	25.5	81	0.04501	1804	30.07
3	07-05-17	11:15 - 12:15	25.6	81	0.04536	1817	30.28
4	07-05-17	12:15 - 13:15	25.6	82	0.04688	1873	31.22

Note: 1. Monitoring data was measured by Rupprecht & Patashnick TEOM®
2. Total Count was logged by Laser Dust Monitor
3. Count/minute was calculated by (Total Count/60)

By Linear Regression of Y or X
Slope (K-factor): *0.0015*
Correlation coefficient: *0.9975*

Validity of Calibration Record: *07 May 2018*

Remarks:

QC Reviewer: *YW Fung* Signature: Date: 08 May 2017

EQUIPMENT CALIBRATION RECORD

Type: ***Laser Dust Monitor***
Manufacturer/Brand: ***SIBATA***
Model No.: ***LD-3B***
Equipment No.: ***A.005.13a***
Sensitivity Adjustment Scale Setting: ***643 CPM***

Operator: *Mike Shek (MSKM)*

Standard Equipment

Equipment: *Rupprecht & Patashnick TEOM®*
Venue: *Cyberport (Pui Ying Secondary School)*
Model No.: *Series 1400AB*
Serial No: Control: *140AB219899803*
Sensor: *1200C143659803* K_o: *12500*
Last Calibration Date*: *6 May 2017*

*Remarks: Recommended interval for hardware calibration is 1 year

Calibration Result

Sensitivity Adjustment Scale Setting (Before Calibration): *643* CPM
Sensitivity Adjustment Scale Setting (After Calibration): *643* CPM

Hour	Date (dd-mm-yy)	Time	Ambient Condition		Concentration[1] (mg/m^3) **Y-axis**	Total Count[2]	Count/ Minute[3] **X-axis**
			Temp (°C)	R.H. (%)			
1	07-05-17	09:45 - 10:45	25.5	81	0.04337	1737	28.95
2	07-05-17	10:45 - 11:45	25.6	81	0.04542	1816	30.27
3	07-05-17	11:45 - 12:45	25.6	82	0.04619	1843	30.72
4	07-05-17	12:45 - 13:45	25.7	81	0.04715	1889	31.48

Note: 1. Monitoring data was measured by Rupprecht & Patashnick TEOM®
2. Total Count was logged by Laser Dust Monitor
3. Count/minute was calculated by (Total Count/60)

By Linear Regression of Y or X
Slope (K-factor): *0.0015*
Correlation coefficient: *0.9971*

Validity of Calibration Record: *7 May 2018*

Remarks:

QC Reviewer: *YW Fung* Signature: Date: 08 May 2017

EQUIPMENT CALIBRATION RECORD

Type:	***Laser Dust Monitor***
Manufacturer/Brand:	***SIBATA***
Model No.:	***LD-3B***
Equipment No.:	***A.005.14a***
Sensitivity Adjustment Scale Setting:	***786 CPM***
Operator:	*Mike Shek (MSKM)*

Standard Equipment

Equipment:	*Rupprecht & Patashnick TEOM®*		
Venue:	*Cyberport (Pui Ying Secondary School)*		
Model No.:	*Series 1400AB*		
Serial No:	Control: *140AB219899803*		
	Sensor: *1200C143659803*	K_o: *12500*	
Last Calibration Date*:	*6 May 2017*		

*Remarks: Recommended interval for hardware calibration is 1 year

Calibration Result

Sensitivity Adjustment Scale Setting (Before Calibration): *786* CPM
Sensitivity Adjustment Scale Setting (After Calibration): *786* CPM

Hour	Date (dd-mm-yy)	Time	Ambient Condition		Concentration[1] (mg/m^3) **Y-axis**	Total Count[2]	Count/ Minute[3] **X-axis**
			Temp (°C)	R.H. (%)			
1	*07-05-17*	*13:45 - 14:45*	*25.7*	*81*	*0.04335*	*1856*	*30.93*
2	*07-05-17*	*14:45 - 15:45*	*25.8*	*82*	*0.04461*	*1913*	*31.88*
3	*07-05-17*	*15:45 - 16:45*	*25.8*	*82*	*0.04602*	*1972*	*32.87*
4	*07-05-17*	*16:45 - 17:45*	*25.9*	*81*	*0.04714*	*2024*	*33.73*

Note: 1. Monitoring data was measured by Rupprecht & Patashnick TEOM®
2. Total Count was logged by Laser Dust Monitor
3. Count/minute was calculated by (Total Count/60)

By Linear Regression of Y or X
Slope (K-factor): *0.0014*
Correlation coefficient: *0.9989*

Validity of Calibration Record: *7 May 2018*

Remarks:

QC Reviewer: *YW Fung* Signature: Date: 08 May 2017

EQUIPMENT CALIBRATION RECORD

Type:	***Laser Dust Monitor***
Manufacturer/Brand:	***SIBATA***
Model No.:	***LD-3B***
Equipment No.:	***A.005.16a***
Sensitivity Adjustment Scale Setting:	***521 CPM***
Operator:	*Mike Shek (MSKM)*

Standard Equipment

Equipment:	*Rupprecht & Patashnick TEOM®*		
Venue:	*Cyberport (Pui Ying Secondary School)*		
Model No.:	*Series 1400AB*		
Serial No:	Control: *140AB219899803*		
	Sensor: *1200C143659803*	K_o: *12500*	
Last Calibration Date*:	*7 May 2016*		

*Remarks: Recommended interval for hardware calibration is 1 year

Calibration Result

Sensitivity Adjustment Scale Setting (Before Calibration): *521* CPM
Sensitivity Adjustment Scale Setting (After Calibration): *521* CPM

Hour	Date (dd-mm-yy)	Time	Ambient Condition		Concentration[1] (mg/m^3) **Y-axis**	Total Count[2]	Count/ Minute[3] **X-axis**
			Temp (°C)	R.H. (%)			
1	*16-07-16*	*10:15 - 11:15*	*30.1*	*76*	*0.05319*	*2135*	*35.58*
2	*16-07-16*	*11:15 - 12:15*	*30.3*	*76*	*0.05615*	*2247*	*37.45*
3	*16-07-16*	*13:00 - 14:00*	*30.5*	*77*	*0.05984*	*2392*	*39.87*
4	*16-07-16*	*14:00 - 15:00*	*30.4*	*77*	*0.05786*	*2313*	*38.55*

Note: 1. Monitoring data was measured by Rupprecht & Patashnick TEOM®
2. Total Count was logged by Laser Dust Monitor
3. Count/minute was calculated by (Total Count/60)

By Linear Regression of Y or X
Slope (K-factor): *0.0015*
Correlation coefficient: *0.9987*

Validity of Calibration Record: *16 July 2017*

Remarks:

QC Reviewer: *YW Fung* Signature: Date: 18 July 2016

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HOKLAS 028
CAL

CERTIFICATE OF CALIBRATION

Certificate No.: 16CA1201 01 **Page:** 1 **of** 2

Item tested

Description:	Acoustical Calibrator (Class 1)
Manufacturer:	Rion Co., Ltd.
Type/Model No.:	NC-73
Serial/Equipment No.:	10307223 (CN.004.08)
Adaptors used:	-

Item submitted by

Curstomer:	AECOM ASIA CO. LTD.
Address of Customer:	-
Request No.:	-
Date of receipt:	01-Dec-2016

Date of test: 05-Dec-2016

Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Lab standard microphone	B&K 4180	2412857	14-Apr-2017	SCL
Preamplifier	B&K 2673	2239857	28-Apr-2017	CEPREI
Measuring amplifier	B&K 2610	2346941	26-Apr-2017	CEPREI
Signal generator	DS 360	61227	18-Apr-2017	CEPREI
Digital multi-meter	34401A	US36087050	18-Apr-2017	CEPREI
Audio analyzer	8903B	GB41300350	19-Apr-2017	CEPREI
Universal counter	53132A	MY40003662	19-Apr-2017	CEPREI

Ambient conditions

Temperature:	22 ± 1 °C
Relative humidity:	55 ± 10 %
Air pressure:	1005 ± 5 hPa

Test specifications

1, The Sound Calibrator has been calibrated in accordance with the requirements as specified in IEC 60942 1997 Annex B and the lab calibration procedure SMTP004-CA-156.

2, The calibrator was tested with its axis vertical facing downwards at the specific frequency using insert voltage technique.

3, The results are rounded to the nearest 0.01 dB and 0.1 Hz and have not been corrected for variations from a reference pressure of 1013.25 hectoPascals as the maker's information indicates that the instrument is insensitive to pressure changes.

Test results

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

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

Approved Signatory: Huang Jian Min/Feng Jun Qi **Date:** 08-Dec-2016 **Company Chop:** SOILS AND MATERIALS ENGINEERING COMPANY LTD. 綜合試驗有限公司

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

綜合試驗有限公司
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HOKLAS 028 CAL

CERTIFICATE OF CALIBRATION

Certificate No.: 16CA0704 03-01 **Page** 1 **of** 2

Item tested

Description:	Sound Level Meter (Type 1)	,	Microphone
Manufacturer:	B & K	,	B & K
Type/Model No.:	2238	,	4188
Serial/Equipment No.:	2800927 / N.009.06	,	2791211
Adaptors used:	-	,	-

Item submitted by

Customer Name:	AECOM ASIA CO., LTD.
Address of Customer:	-
Request No.:	-
Date of receipt:	04-Jul-2016

Date of test: 07-Jul-2016

Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Multi function sound calibrator	B&K 4226	2288444	18-Jun-2017	CIGISMEC
Signal generator	DS 360	33873	18-Apr-2017	CEPREI
Signal generator	DS 360	61227	18-Apr-2017	CEPREI

Ambient conditions

Temperature:	22 ± 1 °C
Relative humidity:	60 ± 10 %
Air pressure:	1000 ± 5 hPa

Test specifications

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

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

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

Test results

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

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

Actual Measurement data are documented on worksheets.

Approved Signatory: Huang Jian Min/Feng Jun Qi **Date:** 09-Jul-2016 **Company Chop:** SOILS AND MATERIALS ENGINEERING COMPANY LTD. 綜合試驗有限公司

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

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HOKLAS 028
CAL

CERTIFICATE OF CALIBRATION

N.009.04

Certificate No.: 17CA0407 01 **Page** 1 **of** 2

Item tested

Description:	Sound Level Meter (Type 1)	,	Microphone
Manufacturer:	B & K	,	B & K
Type/Model No.:	2238	,	4188
Serial/Equipment No.:	2285692	,	2250455
Adaptors used:	-	,	-

Item submitted by

Customer Name:	AECOM ASIA CO., LTD.
Address of Customer:	-
Request No.:	-
Date of receipt:	07-Apr-2017

Date of test: 10-Apr-2017

Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Multi function sound calibrator	B&K 4226	2288444	18-Jun-2017	CIGISMEC
Signal generator	DS 360	33873	18-Apr-2017	CEPREI
Signal generator	DS 360	61227	18-Apr-2017	CEPREI

Ambient conditions

Temperature:	22 ± 1 °C
Relative humidity:	50 ± 10 %
Air pressure:	1010 ± 5 hPa

Test specifications

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

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

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

Test results

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

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

Actual Measurement data are documented on worksheets.

Approved Signatory: Huang Jian Min/Feng Jun Qi **Date:** 11-Apr-2017 **Company Chop:** SOILS AND MATERIALS ENGINEERING COMPANY LTD. 綜合試驗有限公司

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

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CERTIFICATE OF CALIBRATION

(Continuation Page)

1, Electrical Tests

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

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

2, Acoustic tests

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

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

3, Response to associated sound calibrator

N/A

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

- End -

Calibrated by: Lai Sheng Jie Date: 10-Apr-2017

Checked by: Lam Tze Wai Date: 11-Apr-2017

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

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HOKLAS 028 CAL

CERTIFICATE OF CALIBRATION

Certificate No.: 17CA0303 01-01 **Page** 1 **of** 2

Item tested

Description:	Sound Level Meter (Type 1)	Microphone	Preamp
Manufacturer:	B & K	B & K	B & K
Type/Model No.:	2250-L	4950	ZC0032
Serial/Equipment No.:	2681366 N.011.01	2665582	17190
Adaptors used:	-	-	-

Item submitted by

Customer Name:	AECOM ASIA CO LTD
Address of Customer:	-
Request No.:	-
Date of receipt:	03-Mar-2017

Date of test: 07-Mar-2017

Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Multi function sound calibrator	B&K 4226	2288444	18-Jun-2017	CIGISMEC
Signal generator	DS 360	33873	18-Apr-2017	CEPREI
Signal generator	DS 360	61227	18-Apr-2017	CEPREI

Ambient conditions

Temperature:	21 ± 1 °C
Relative humidity:	60 ± 10 %
Air pressure:	1010 ± 5 hPa

Test specifications

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

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

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

Test results

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

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

Actual Measurement data are documented on worksheets.

Approved Signatory: Huang Jian Min/Feng Jun Qi **Date:** 08-Mar-2017 **Company Chop:** SOILS & MATERIALS ENGINEERING COMPANY LTD. 綜合試驗有限公司

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

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

Work Order: HK1716025
Sub-batch: 0
Client: AECOM ASIA COMPANY LIMITED
Date of Issue: 25/04/2017

Description: Multifunctional Meter
Brand Name: YSI
Model No.: 6820 V2
Serial No.: 12A101545
Equipment No.: W.026.35
Date of Calibration: 20 April, 2017 Date of next Calibration: 20 July, 2017

Parameters:

Conductivity **Method Ref: APHA (21th edition), 2510B**

Expected Reading (uS/cm)	Displayed Reading (uS/cm)	Tolerance (%)
146.9	145.0	-1.3
6667	6640	-0.4
12890	12750	-1.1
58670	58560	-0.2
	Tolerance Limit (%)	±10.0

Dissolved Oxygen **Method Ref: APHA (21st edition), 4500O: G**

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
3.40	3.42	+0.02
5.50	5.47	-0.03
7.65	7.61	-0.04
	Tolerance Limit (mg/L)	±0.20

Temperature **Method Ref: Section 6 of International Accreditation New Zealand Technical Guide No. 3 Second edition March 2008: Working Thermometer Calibration Procedure.**

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)
10.5	10.41	-0.1
20.0	20.05	+0.1
37.5	37.52	+0.0
	Tolerance Limit (°C)	±2.0

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

Mr Chan Siu Ming, Vico
Manager - Inorganics

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

Work Order: HK1716025
Sub-Batch: 0
Client: AECOM ASIA COMPANY LIMITED
Date of Issue: 25/04/2017

Description: Multifunctional Meter
Brand Name: YSI
Model No.: 6820 V2
Serial No.: 12A101545
Equipment No.: W.026.35
Date of Calibration: 20 April, 2017 Date of next Calibration: 20 July, 2017

Parameters:

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

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)
0	0.00	--
10	10.05	+0.5
20	20.07	+0.4
30	30.05	+0.2
	Tolerance Limit (%)	±10.0

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

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.0	--
4	4.1	+2.5
10	10.2	+2.0
20	20.4	+2.0
50	49.7	-0.6
100	99.6	-0.4
	Tolerance Limit (%)	±10.0

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

Expected Reading (pH Unit)	Displayed Reading (pH Unit)	Tolerance (pH unit)
4.0	4.01	+0.01
7.0	7.03	+0.03
10.0	10.02	+0.02
	Tolerance Limit (pH Unit)	±0.20

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

Mr Chan Siu Ming, Vico
Manager - Inorganics

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

Work Order: HK1731176
Sub-batch: 0
Client: AECOM ASIA COMPANY LIMITED
Date of Issue: 26/07/2017

Description: Multifunctional Meter
Brand Name: YSI
Model No.: 6820 V2
Serial No.: 12A101545
Equipment No.: W.026.35
Date of Calibration: 20 July, 2017 Date of next Calibration: 20 October, 2017

Parameters:

Conductivity **Method Ref: APHA (21th edition), 2510B**

Expected Reading (uS/cm)	Displayed Reading (uS/cm)	Tolerance (%)
146.9	148	+0.7
6667	6740	+1.1
12890	12760	- 1.0
58670	58770	+0.2
	Tolerance Limit (%)	±10.0

Dissolved Oxygen **Method Ref: APHA (21st edition), 4500O: G**

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
3.60	3.62	+0.02
5.40	5.43	+0.03
7.60	7.57	- 0.03
	Tolerance Limit (mg/L)	±0.20

Temperature **Method Ref: Section 6 of International Accreditation New Zealand Technical Guide No. 3 Second edition March 2008: Working Thermometer Calibration Procedure.**

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)
10.0	10.04	+0.0
20.5	20.47	- 0.0
38.5	38.52	+0.0
	Tolerance Limit (°C)	±2.0

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

Mr Chan Siu Ming, Vico
Manager - Inorganics

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

Work Order: HK1731176
Sub-Batch: 0
Client: AECOM ASIA COMPANY LIMITED
Date of Issue: 26/07/2017

Description: Multifunctional Meter
Brand Name: YSI
Model No.: 6820 V2
Serial No.: 12A101545
Equipment No.: W.026.35
Date of Calibration: 20 July, 2017 Date of next Calibration: 20 October, 2017

Parameters:

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

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)
0	0.00	- -
10	10.01	+0.1
20	20.03	+0.2
30	30.06	+0.2
	Tolerance Limit (%)	±10.0

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

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.0	- -
4	3.9	- 2.5
10	10.2	+2.0
20	20.1	+0.5
50	50.6	+1.2
100	100.0	0.0
	Tolerance Limit (%)	±10.0

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

Expected Reading (pH Unit)	Displayed Reading (pH Unit)	Tolerance (pH unit)
4.0	4.02	+0.02
7.0	7.02	+0.02
10.0	10.05	+0.05
	Tolerance Limit (pH Unit)	±0.20

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

Mr Chan Siu Ming, Vico
Manager - Inorganics

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

Work Order: HK1716023
Sub-batch: 0
Client: AECOM ASIA COMPANY LIMITED
Date of Issue: 25/04/2017

Description: Multifunctional Meter
Brand Name: YSI
Model No.: 6820 V2
Serial No.: 12D100972
Equipment No.: W.026.36
Date of Calibration: 20 April, 2017 Date of next Calibration: 20 July, 2017

Parameters:

Conductivity **Method Ref: APHA (21th edition), 2510B**

Expected Reading (uS/cm)	Displayed Reading (uS/cm)	Tolerance (%)
146.9	147.0	+0.1
6667	6620	-0.7
12890	12820	-0.5
58670	58710	+0.1
	Tolerance Limit (%)	±10.0

Dissolved Oxygen **Method Ref: APHA (21st edition), 4500O: G**

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
3.40	3.42	+0.02
5.50	5.48	-0.02
7.65	7.62	-0.03
	Tolerance Limit (mg/L)	±0.20

Temperature **Method Ref: Section 6 of International Accreditation New Zealand Technical Guide No. 3 Second edition March 2008: Working Thermometer Calibration Procedure.**

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)
10.5	10.46	-0.0
20.0	19.94	-0.1
37.5	37.47	-0.0
	Tolerance Limit (°C)	±2.0

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

Mr Chan Siu Ming, Vico
Manager - Inorganics

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

Work Order: HK1716023
Sub-Batch: 0
Client: AECOM ASIA COMPANY LIMITED
Date of Issue: 25/04/2017

Description: Multifunctional Meter
Brand Name: YSI
Model No.: 6820 V2
Serial No.: 12D100972
Equipment No.: W.026.36
Date of Calibration: 20 April, 2017 Date of next Calibration: 20 July, 2017

Parameters:

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

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)
0	0.00	--
10	10.03	+0.3
20	20.06	+0.3
30	30.04	+0.1
	Tolerance Limit (%)	±10.0

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

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.0	--
4	4.0	0.0
10	9.8	-2.0
20	20.1	+0.5
50	49.6	-0.8
100	99.7	-0.3
	Tolerance Limit (%)	±10.0

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

Expected Reading (pH Unit)	Displayed Reading (pH Unit)	Tolerance (pH unit)
4.0	4.01	+0.01
7.0	7.02	+0.02
10.0	10.00	0.00
	Tolerance Limit (pH Unit)	±0.20

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

Mr Chan Siu Ming, Vico
Manager - Inorganics

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

Work Order: HK1731171
Sub-batch: 0
Client: AECOM ASIA COMPANY LIMITED
Date of Issue: 26/07/2017

Description: Multifunctional Meter
Brand Name: YSI
Model No.: 6820 V2
Serial No.: 12D100972
Equipment No.: W.026.36
Date of Calibration: 20 July, 2017 Date of next Calibration: 20 October, 2017

Parameters:

Conductivity **Method Ref: APHA (21th edition), 2510B**

Expected Reading (uS/cm)	Displayed Reading (uS/cm)	Tolerance (%)
146.9	143	- 2.7
6667	6630	- 0.6
12890	12790	- 0.8
58670	58730	+ 0.1
	Tolerance Limit (%)	± 10.0

Dissolved Oxygen **Method Ref: APHA (21st edition), 4500O: G**

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
3.60	3.57	- 0.03
5.40	5.46	+ 0.06
7.60	7.56	- 0.04
	Tolerance Limit (mg/L)	± 0.20

Temperature **Method Ref: Section 6 of International Accreditation New Zealand Technical Guide No. 3 Second edition March 2008: Working Thermometer Calibration Procedure.**

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)
10.0	10.01	+ 0.0
20.5	20.44	- 0.1
38.5	38.46	- 0.0
	Tolerance Limit (°C)	± 2.0

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

Mr Chan Siu Ming, Vico
Manager - Inorganics

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

Work Order: HK1731171
Sub-Batch: 0
Client: AECOM ASIA COMPANY LIMITED
Date of Issue: 26/07/2017

Description: Multifunctional Meter
Brand Name: YSI
Model No.: 6820 V2
Serial No.: 12D100972
Equipment No.: W.026.36
Date of Calibration: 20 July, 2017 Date of next Calibration: 20 October, 2017

Parameters:

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

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)
0	0.00	- -
10	9.96	- 0.4
20	20.02	+ 0.1
30	30.05	+ 0.2
	Tolerance Limit (%)	± 10.0

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

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.0	- -
4	4.1	+ 2.5
10	10.1	+ 1.0
20	20.4	+ 2.0
50	50.5	+ 1.0
100	99.8	- 0.2
	Tolerance Limit (%)	± 10.0

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

Expected Reading (pH Unit)	Displayed Reading (pH Unit)	Tolerance (pH unit)
4.0	3.98	- 0.02
7.0	6.96	- 0.04
10.0	9.95	- 0.05
	Tolerance Limit (pH Unit)	± 0.20

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

Mr Chan Siu Ming, Vico
Manager - Inorganics

Hong Kong Boundary Crossing Facilities – Reclamation Works
Impact Monitoring Schedule for Jul 2017

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1-Jul
2-Jul	3-Jul	4-Jul	5-Jul	6-Jul	7-Jul	8-Jul
	Mid-Ebb 9:25 Mid-Flood 15:37 24-hour TSP 1-hour TSP Noise		Mid-Ebb 10:58 Mid-Flood 17:47		Mid-Ebb 12:09 Mid-Flood 19:14	24-hour TSP 1-hour TSP
9-Jul	10-Jul	11-Jul	12-Jul	13-Jul	14-Jul	15-Jul
	Mid-Flood 6:55 Mid-Ebb 13:52		Mid-Flood 8:12 Mid-Ebb 15:01	Dolphin Monitoring	Mid-Flood 9:38 Mid-Ebb 16:17 Dolphin Monitoring 24-hour TSP 1-hour TSP Noise	
16-Jul	17-Jul	18-Jul	19-Jul	20-Jul	21-Jul	22-Jul
	Mid-Ebb 7:19 Mid-Flood 13:01		Mid-Ebb 9:24 Mid-Flood 15:57	24-hour TSP 1-hour TSP Noise	Mid-Ebb 11:15 Mid-Flood 18:18	
23-Jul	24-Jul	25-Jul	26-Jul	27-Jul	28-Jul	
	Mid-Flood 6:44 Mid-Ebb 13:41 Dolphin Monitoring	Dolphin Monitoring	Mid-Flood 8:20 Mid-Ebb 15:11 24-hour TSP 1-hour TSP Noise		Mid-Flood 9:56 Mid-Ebb 16:34	
30-Jul	31-Jul					
	Mid-Ebb 7:15 Mid-Flood 13:26					

The schedule is tentative only and subject to change due to completion of marines-based/ land-based construction activities or unforeseeable circumstances (e.g. adverse weather, etc)

Hong Kong Boundary Crossing Facilities – Reclamation Works
Tentative Impact Monitoring Schedule for Aug 2017

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1-Aug	2-Aug	3-Aug	4-Aug	5-Aug
		24-hour TSP 1-hour TSP Noise	Mid-Ebb 9:37 Mid-Flood 16:42		Mid-Ebb 11:08 Mid-Flood 18:22	
6-Aug	7-Aug	8-Aug	9-Aug	10-Aug	11-Aug	12-Aug
	Mid-Flood 6:01 Mid-Ebb 12:57 24-hour TSP 1-hour TSP Noise		Mid-Flood 7:21 Mid-Ebb 14:05		Mid-Flood 8:46 Mid-Ebb 15:14	24-hour TSP 1-hour TSP
13-Aug	14-Aug	15-Aug	16-Aug	17-Aug	18-Aug	19-Aug
	Mid-Flood 11:29 Mid-Ebb 17:24 Dolphin Monitoring	Dolphin Monitoring	Mid-Ebb 7:43 Mid-Flood 14:30		Mid-Ebb 10:05 Mid-Flood 17:22 24-hour TSP 1-hour TSP Noise	
20-Aug	21-Aug	22-Aug	23-Aug	24-Aug	25-Aug	26-Aug
	Mid-Flood 5:51 Mid-Ebb 12:42		Mid-Flood 7:27 Mid-Ebb 14:08	24-hour TSP 1-hour TSP Noise	Mid-Flood 8:56 Mid-Ebb 15:24	
27-Aug	28-Aug	29-Aug	30-Aug	31-Aug		
	Mid-Flood 11:21 Mid-Ebb 17:12 Dolphin Monitoring	Dolphin Monitoring	Mid-Ebb 7:15 Mid-Flood 14:50 24-hour TSP 1-hour TSP Noise			

The schedule is tentative only and subject to change due to completion of marines-based/ land-based construction activities or unforeseeable circumstances (e.g. adverse weather, etc)

Appendix G Impact Air Quality Monitoring Results

1-hour TSP Monitoring Results at Station AMS2 - Tung Chung Development Pier

Date	Session	Weather Condition	averaged Wind Speed (m/s)*	Time (hh:mm)	Conc. ($\mu g/m^3$)	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)
3-Jul-17	1st Hour	Fine	0.01	9:59	67	374	500
3-Jul-17	2nd Hour	Fine	0.04	10:59	68	374	500
3-Jul-17	3rd Hour	Fine	0.36	11:59	70	374	500
8-Jul-17	1st Hour	Fine	0.25	10:30	74	374	500
8-Jul-17	2nd Hour	Fine	0.66	11:30	72	374	500
8-Jul-17	3rd Hour	Fine	0.66	12:30	76	374	500
14-Jul-17	1st Hour	Sunny	0.00	10:45	72	374	500
14-Jul-17	2nd Hour	Sunny	2.73	11:45	69	374	500
14-Jul-17	3rd Hour	Sunny	2.07	12:45	73	374	500
20-Jul-17	1st Hour	Fine	0.00	10:09	67	374	500
20-Jul-17	2nd Hour	Fine	1.12	11:09	67	374	500
20-Jul-17	3rd Hour	Fine	0.91	12:09	67	374	500
26-Jul-17	1st Hour	Sunny	0.00	10:24	70	374	500
26-Jul-17	2nd Hour	Sunny	0.00	11:24	71	374	500
26-Jul-17	3rd Hour	Sunny	0.01	12:24	72	374	500
				Average	70		
				Min	67		
				Max	76		

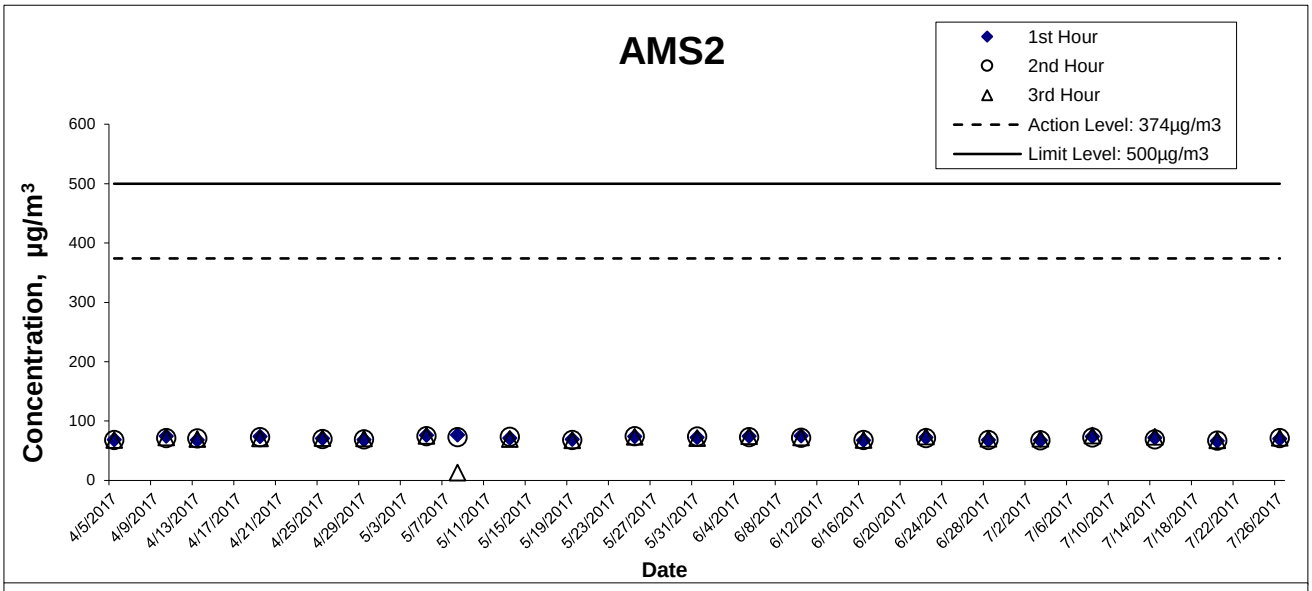
1-hour TSP Monitoring Results at Station AMS3B - Site Boundary of Site Office (WA2)

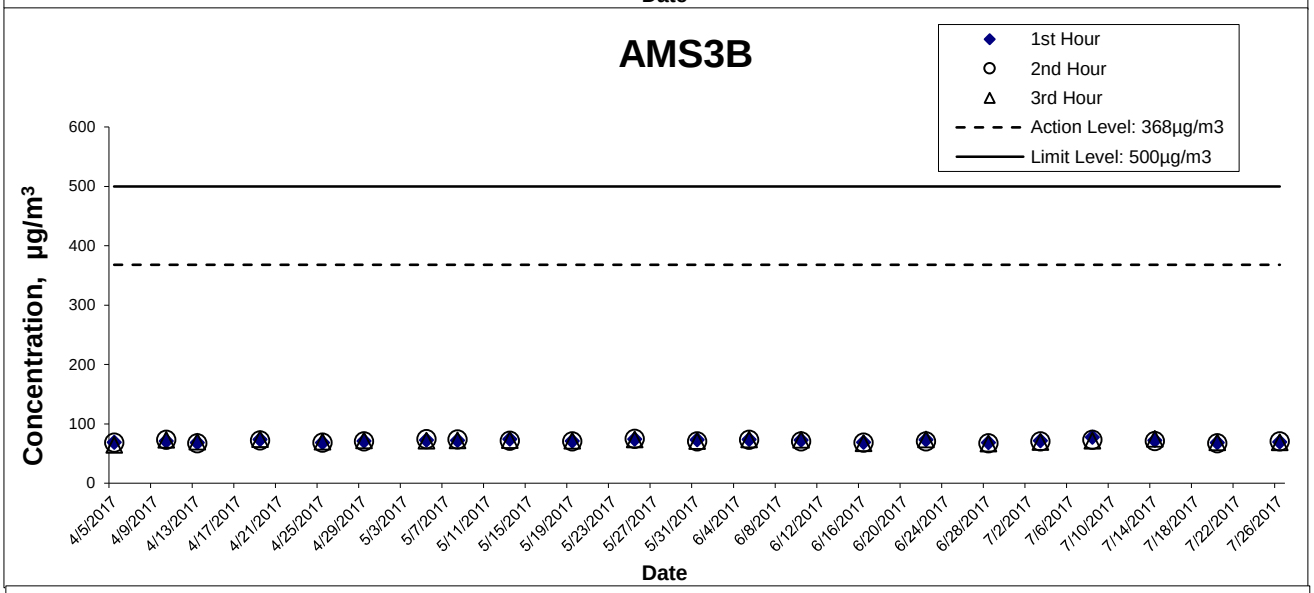
Date	Session	Weather Condition	averaged Wind Speed (m/s)*	Time (hh:mm)	Conc. ($\mu g/m^3$)	Action Level ($\mu g/m^3$) ^	Limit Level ($\mu g/m^3$)
3-Jul-17	1st Hour	Fine	0.01	10:15	72	368	500
3-Jul-17	2nd Hour	Fine	0.04	11:15	71	368	500
3-Jul-17	3rd Hour	Fine	0.36	12:15	70	368	500
8-Jul-17	1st Hour	Fine	0.25	10:45	78	368	500
8-Jul-17	2nd Hour	Fine	0.66	11:45	74	368	500
8-Jul-17	3rd Hour	Fine	0.66	12:45	72	368	500
14-Jul-17	1st Hour	Sunny	0.73	11:20	73	368	500
14-Jul-17	2nd Hour	Sunny	2.46	12:20	71	368	500
14-Jul-17	3rd Hour	Sunny	0.32	13:20	75	368	500
20-Jul-17	1st Hour	Fine	0.22	9:50	68	368	500
20-Jul-17	2nd Hour	Fine	0.00	10:50	68	368	500
20-Jul-17	3rd Hour	Fine	1.12	11:00	69	368	500
26-Jul-17	1st Hour	Sunny	0.00	11:35	70	368	500
26-Jul-17	2nd Hour	Sunny	0.01	12:35	71	368	500
26-Jul-17	3rd Hour	Sunny	0.31	13:35	69	368	500
				Average	71		
				Min	68		
				Max	78		

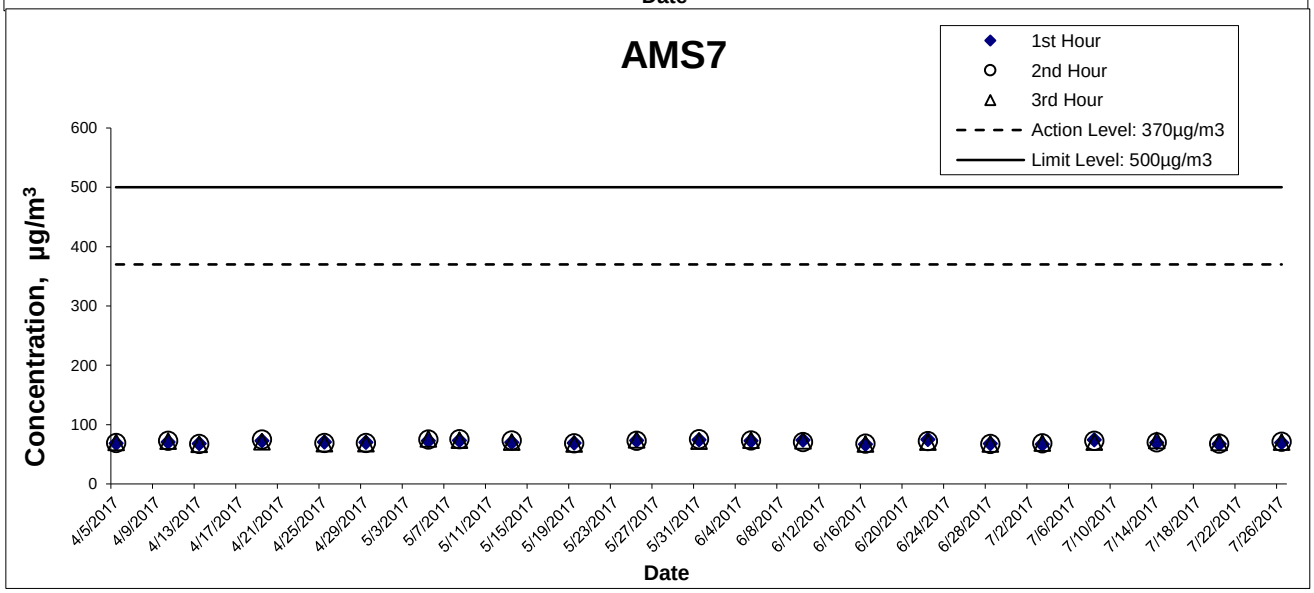
Remarks:
^ Action Level set out at AMS3 Ho Yu College is adopted.

1-hour TSP Monitoring Results at Station AMS7 - Hong Kong SkyCity Marriott Hotel

Date	Session	Weather Condition	averaged Wind Speed (m/s)*	Time (hh:mm)	Conc. ($\mu g/m^3$)	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)
3-Jul-17	1st Hour	Fine	0.01	10:26	67	370	500
3-Jul-17	2nd Hour	Fine	0.04	11:26	69	370	500
3-Jul-17	3rd Hour	Fine	0.36	12:26	69	370	500
8-Jul-17	1st Hour	Fine	0.66	11:00	75	370	500
8-Jul-17	2nd Hour	Fine	0.66	12:00	73	370	500
8-Jul-17	3rd Hour	Fine	0.08	13:00	71	370	500
14-Jul-17	1st Hour	Sunny	2.07	11:40	70	370	500
14-Jul-17	2nd Hour	Sunny	2.46	12:40	70	370	500
14-Jul-17	3rd Hour	Sunny	1.85	13:40	73	370	500
20-Jul-17	1st Hour	Fine	1.12	11:50	68	370	500
20-Jul-17	2nd Hour	Fine	0.91	12:50	68	370	500
20-Jul-17	3rd Hour	Fine	0.04	13:50	70	370	500
26-Jul-17	1st Hour	Sunny	0.00	10:02	70	370	500
26-Jul-17	2nd Hour	Sunny	0.00	11:02	71	370	500
26-Jul-17	3rd Hour	Sunny	0.01	13:02	71	370	500
				Average	70		
				Min	67		
				Max	75		







HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

AECOM

Graphical Presentation of Impact 1-hour TSP Monitoring Results

Project No.: 60249820 **Date: Aug 2017**

Appendix G

Appendix G Impact Air Quality Monitoring Results

24-hour TSP Monitoring Results at Station AMS2 - Tung Chung Development Pier

Start Date	Start Time	End Date	End Time	Weather Condition	Air Temp. (^oC)	Atmospheric Pressure(hPa)	Flow Rate (m^3/min.) Initial	Flow Rate (m^3/min.) Final	Av. flow (m^3/min)	Total vol. (m^3)	Filter Weight (g) Initial	Filter Weight (g) Final	Particulate weight(g)	Elapse Time Initial	Elapse Time Final	Sampling Time(hrs.)	Conc. ($\mu g/m^3$)	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)
3-Jul-17	9:00	4-Jul-17	9:00	Sunny	28.5	1006.1	1.33	1.33	1.33	1909.4	2.8169	2.8610	0.0441	8208.04	8232.04	24.00	23	176	260
7-Jul-17	16:00	8-Jul-17	16:00	Fine	27.3	1008.5	1.33	1.33	1.33	1909.4	2.7997	2.8258	0.0261	8232.04	8256.04	24.00	14	176	260
13-Jul-17	16:00	14-Jul-17	16:00	Sunny	30.2	1008.8	1.33	1.33	1.33	1909.4	2.7705	2.7969	0.0264	8256.04	8280.04	24.00	14	176	260
19-Jul-17	16:00	20-Jul-17	16:00	Fine	27.4	1009.3	1.33	1.33	1.33	1909.4	2.7635	2.7955	0.0320	8280.04	8304.04	24.00	17	176	260
25-Jul-17	16:00	26-Jul-17	16:00	Sunny	29.6	1005.1	1.33	1.33	1.33	1909.4	2.7476	2.7799	0.0323	8304.04	8328.04	24.00	17	176	260
																Average	17		
																Min	14		
																Max	23		

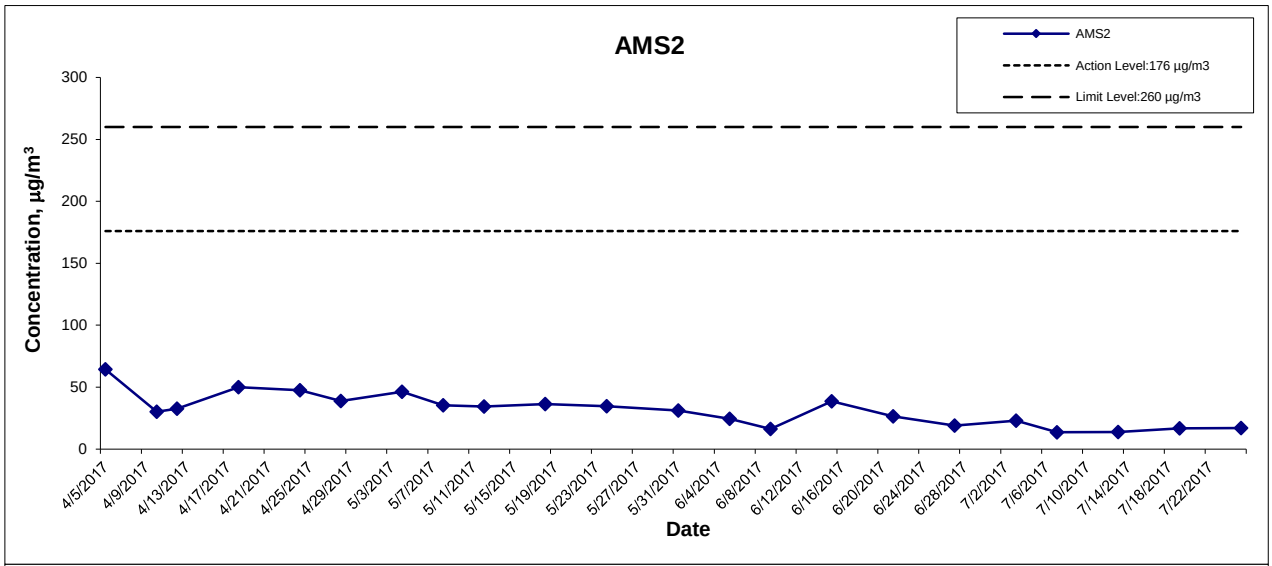
24-hour TSP Monitoring Results at Station AMS3B - Site Boundary of Site Office (WA2)

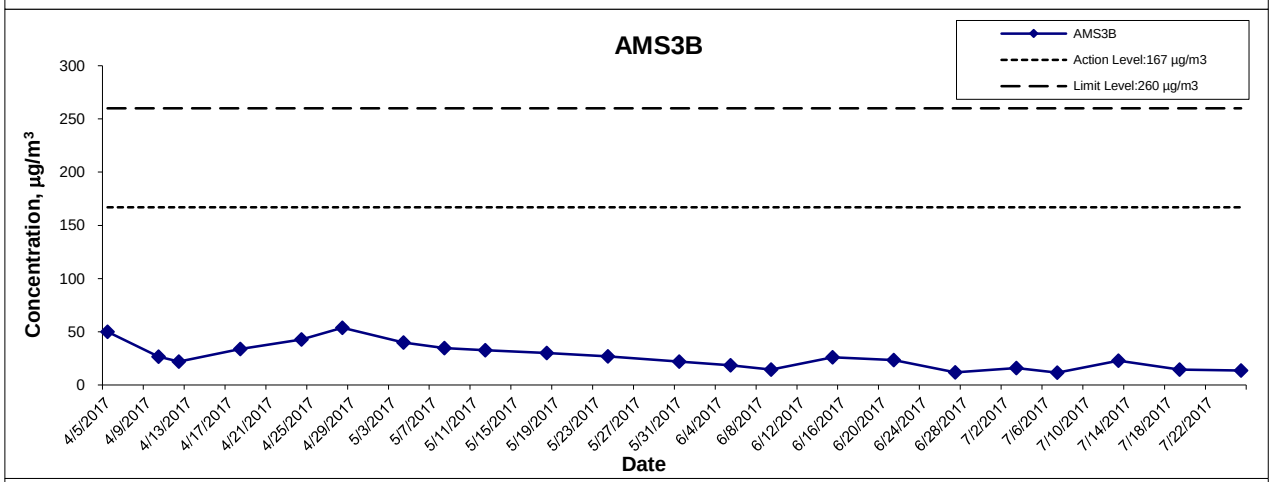
Start Date	Start Time	End Date	End Time	Weather Condition	Air Temp. (^oC)	Atmospheric Pressure(hPa)	Flow Rate (m^3/min.) Initial	Flow Rate (m^3/min.) Final	Av. flow (m^3/min)	Total vol. (m^3)	Filter Weight (g) Initial	Filter Weight (g) Final	Particulate weight(g)	Elapse Time Initial	Elapse Time Final	Sampling Time(hrs.)	Conc. ($\mu g/m^3$)	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)
3-Jul-17	9:00	4-Jul-17	9:00	Sunny	28.5	1006.1	1.34	1.34	1.34	1923.8	2.8153	2.8462	0.0309	8959.38	8983.38	24.00	16	167	260
7-Jul-17	16:00	8-Jul-17	16:00	Fine	27.3	1008.5	1.34	1.34	1.34	1923.8	2.7957	2.8180	0.0223	8983.38	9007.38	24.00	12	167	260
13-Jul-17	16:00	14-Jul-17	16:00	Sunny	30.2	1008.8	1.34	1.34	1.34	1923.8	2.7647	2.8088	0.0441	9007.38	9031.38	24.00	23	167	260
19-Jul-17	16:00	20-Jul-17	16:00	Fine	27.4	1009.3	1.34	1.34	1.34	1923.8	2.7435	2.7712	0.0277	9031.38	9055.38	24.00	14	167	260
25-Jul-17	16:00	26-Jul-17	16:00	Sunny	29.6	1005.1	1.34	1.34	1.34	1923.8	2.7587	2.7848	0.0261	9055.38	9079.38	24.00	14	167	260
																Average	16		
																Min	12		
																Max	23		

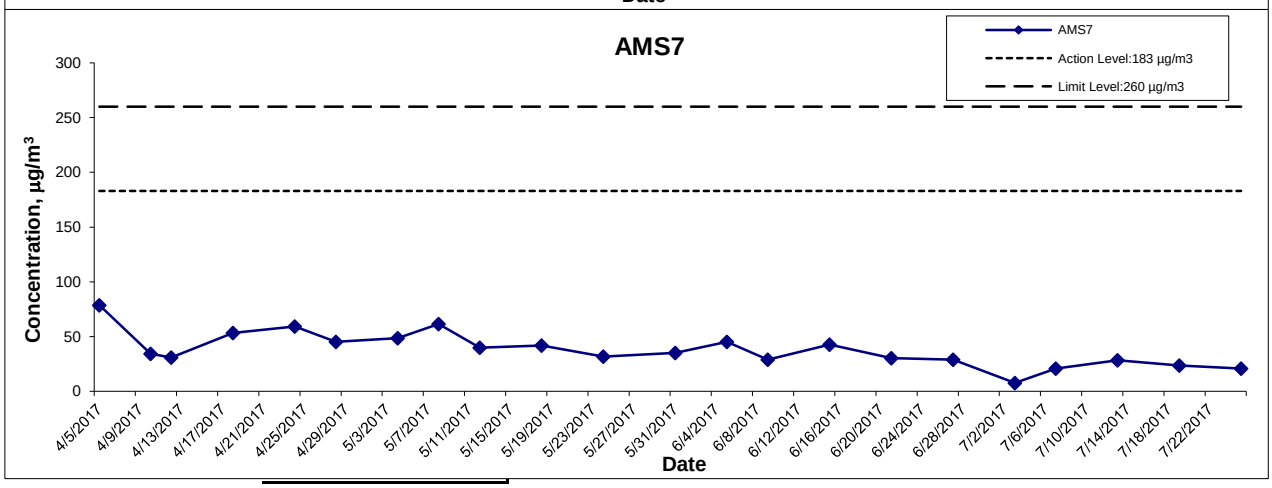
^ Action Level set out at AMS3 Ho Yu College is adopted.

24-hour TSP Monitoring Results at Station AMS7 - Hong Kong SkyCity Marriott Hotel

Start Date	Start Time	End Date	End Time	Weather Condition	Air Temp. (^oC)	Atmospheric Pressure(hPa)	Flow Rate (m^3/min.) Initial	Flow Rate (m^3/min.) Final	Av. flow (m^3/min)	Total vol. (m^3)	Filter Weight (g) Initial	Filter Weight (g) Final	Particulate weight(g)	Elapse Time Initial	Elapse Time Final	Sampling Time(hrs.)	Conc. ($\mu g/m^3$)	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)
3-Jul-17	9:00	4-Jul-17	9:00	Sunny	28.5	1006.1	1.30	1.30	1.30	1869.1	2.8114	2.8257	0.0143	8974.91	8998.91	24.00	8	183	260
7-Jul-17	16:00	8-Jul-17	16:00	Fine	27.3	1008.5	1.30	1.30	1.30	1869.1	2.8394	2.8780	0.0386	8998.91	9022.91	24.00	21	183	260
13-Jul-17	16:00	14-Jul-17	16:00	Sunny	30.2	1008.8	1.30	1.30	1.30	1869.1	2.7519	2.8048	0.0529	9022.91	9046.91	24.00	28	183	260
19-Jul-17	16:00	20-Jul-17	16:00	Fine	27.4	1009.3	1.30	1.30	1.30	1869.1	2.7383	2.7824	0.0441	9046.91	9070.91	24.00	24	183	260
25-Jul-17	16:00	26-Jul-17	16:00	Sunny	29.6	1005.1	1.30	1.30	1.30	1869.1	2.7577	2.7964	0.0387	9070.91	9094.91	24.00	21	183	260
																Average	20		
																Min	8		
																Max	28		







HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

AECOM

Graphical Presentation of Impact 24-hour TSP Monitoring Results

Project No.: 60249820 **Date: Aug 2017**

Appendix G

Appendix H Meterological Data for Monitoring Periods on Monitoring Dates in Jul 2017

WIND DATA

Date	Time	Averaged Wind Speed (m/s)	Averaged Wind Direction (degrees)
3/7/2017	07:11:41	0.84	99
3/7/2017	08:11:41	0.66	100
3/7/2017	09:11:41	0.01	162
3/7/2017	10:11:41	0.01	6
3/7/2017	11:11:41	0.04	22
3/7/2017	12:11:41	0.36	2
3/7/2017	13:11:41	0.00	36
3/7/2017	14:11:41	0.00	147
3/7/2017	15:11:41	0.00	150
3/7/2017	16:11:41	1.33	137
3/7/2017	17:11:41	0.01	5
3/7/2017	18:11:41	0.03	125
3/7/2017	19:11:41	0.08	142
3/7/2017	20:11:41	0.07	139
3/7/2017	21:11:41	0.03	129
3/7/2017	22:11:41	1.73	117
3/7/2017	23:11:41	0.10	105
4/7/2017	00:11:41	2.88	138
4/7/2017	01:11:41	1.01	138
4/7/2017	02:11:41	0.98	126
4/7/2017	03:11:41	0.01	170
4/7/2017	04:11:41	1.23	134
4/7/2017	05:11:41	0.46	57
4/7/2017	06:11:41	0.06	146
4/7/2017	07:11:41	0.04	172
4/7/2017	08:11:41	0.18	179
4/7/2017	09:11:41	0.39	139
4/7/2017	10:11:41	0.50	159
7/7/2017	14:11:41	0.00	328
7/7/2017	15:11:41	0.00	48
7/7/2017	16:11:41	0.32	21
7/7/2017	17:11:41	1.01	154
7/7/2017	18:11:41	0.69	134
7/7/2017	19:11:41	0.15	156
7/7/2017	20:11:41	2.64	122
7/7/2017	21:11:41	1.36	141
7/7/2017	22:11:41	0.77	79
7/7/2017	23:11:41	0.94	175
8/7/2017	00:11:41	1.97	149
8/7/2017	01:11:41	0.00	102
8/7/2017	02:11:41	0.00	106
8/7/2017	03:11:41	0.00	133
8/7/2017	04:11:41	0.00	133
8/7/2017	05:11:41	0.06	257
8/7/2017	06:11:41	0.64	8
8/7/2017	07:11:41	1.24	152
8/7/2017	08:11:41	0.01	140
8/7/2017	09:11:41	0.28	57
8/7/2017	10:11:41	0.25	278
8/7/2017	11:11:41	0.66	159
8/7/2017	12:11:41	0.66	204
8/7/2017	13:11:41	0.08	179
8/7/2017	14:11:41	0.03	54
8/7/2017	15:11:41	0.07	347
8/7/2017	16:11:41	1.48	128
8/7/2017	17:11:41	-0.01	134
13/7/2017	14:11:41	1.16	120
13/7/2017	15:11:41	0.48	113
13/7/2017	16:11:41	3.38	117
13/7/2017	17:11:41	0.20	24
13/7/2017	18:11:41	0.55	81
13/7/2017	19:11:41	2.59	136
13/7/2017	20:11:41	0.08	180
13/7/2017	21:11:41	0.06	41
13/7/2017	22:11:41	0.48	122
13/7/2017	23:11:41	0.06	129
14/7/2017	00:11:41	0.55	76
14/7/2017	01:11:41	0.43	137
14/7/2017	02:11:41	0.67	127
14/7/2017	03:11:41	0.08	62
14/7/2017	04:11:41	1.37	134
14/7/2017	05:11:41	0.06	151
14/7/2017	06:11:41	1.11	146
14/7/2017	07:11:41	0.63	110
14/7/2017	08:11:41	1.12	144
14/7/2017	09:11:41	1.92	152
14/7/2017	10:11:41	0.00	67
14/7/2017	11:11:41	0.73	148

14/7/2017	11:34:33	2.07	141
14/7/2017	12:34:33	2.46	127
14/7/2017	13:34:33	0.32	91
14/7/2017	14:34:33	1.85	129
14/7/2017	15:34:33	2.52	98
14/7/2017	16:34:33	1.33	114
14/7/2017	17:34:33	0.15	111
19/20/717	14:34:33	1.45	122
19/20/717	15:34:33	1.62	188
19/20/717	16:34:33	0.25	28
19/20/717	17:34:33	0.62	137
19/20/717	18:34:33	0.08	138
19/20/717	19:34:33	0.06	4
19/20/717	20:34:33	0.06	319
19/20/717	21:34:33	0.04	298
19/20/717	22:34:33	0.14	127
19/20/717	23:34:33	0.46	348
20/7/2017	00:34:33	0.00	107
20/7/2017	01:34:33	0.00	147
20/7/2017	02:34:33	0.00	348
20/7/2017	03:34:33	1.79	134
20/7/2017	04:34:33	1.20	144
20/7/2017	05:34:33	0.52	112
20/7/2017	06:34:33	1.22	125
20/7/2017	07:34:33	0.25	114
20/7/2017	08:34:33	0.06	101
20/7/2017	09:34:33	0.22	148
20/7/2017	10:34:33	0.00	146
20/7/2017	11:17:46	1.12	161
20/7/2017	12:17:46	0.91	91
20/7/2017	13:17:46	0.04	56
20/7/2017	14:17:46	0.00	272
20/7/2017	15:17:46	0.56	155
20/7/2017	16:17:46	2.00	136
20/7/2017	17:17:46	0.29	267
25/7/2017	15:17:46	0.97	102
25/7/2017	16:17:46	2.27	135
25/7/2017	17:17:46	0.00	83
25/7/2017	18:17:46	0.32	68
25/7/2017	19:17:46	0.15	276
25/7/2017	20:17:46	0.06	307
25/7/2017	21:17:46	0.27	44
25/7/2017	22:17:46	0.92	152
25/7/2017	23:17:46	0.04	141
26/7/2017	00:17:46	0.00	133
26/7/2017	01:17:46	0.00	336
26/7/2017	02:17:46	0.00	146
26/7/2017	03:17:46	0.00	146
26/7/2017	04:17:46	0.00	292
26/7/2017	05:17:46	0.00	282
26/7/2017	06:17:46	0.00	283
26/7/2017	07:17:46	0.00	277
26/7/2017	08:17:46	0.00	122
26/7/2017	09:17:46	0.52	135
26/7/2017	10:17:46	0.00	83
26/7/2017	11:17:46	0.00	132
26/7/2017	12:17:46	0.01	88
26/7/2017	13:17:46	0.31	90
26/7/2017	14:17:46	0.17	37
26/7/2017	15:17:46	0.22	197
26/7/2017	16:17:46	0.95	123
26/7/2017	17:17:46	0.00	233

Appendix I Impact Daytime Construction Noise Monitoring Results

Daytime Noise Monitoring Results at Station NMS2 - Seaview Crescent Tower 1

Date	Weather Condition	Noise Level for 30-min, dB(A)#				Averaged Wind Speed (m/s)	Baseline Noise Level, dB(A)	Limit Level, dB(A)	Exceedance (Y/N)
		Time	L90	L10	Leq				
3-Jul-17	Fine	10:42	64	68	67	<5m/s	62.9	75	N
14-Jul-17	Sunny	10:30	64	69	67	<5m/s	62.9	75	N
20-Jul-17	Fine	10:40	64	68	67	<5m/s	62.9	75	N
26-Jul-17	Sunny	10:43	64	70	67	<5m/s	62.9	75	N
		Min	64	68	67				
		Max	64	70	67				
		Average	--	--	67				

Daytime Noise Monitoring Results at Station NMS3B - Site Boundary of Site Office (WA2)

Date	Weather Condition	Noise Level for 30-min, dB(A)#				Averaged Wind Speed (m/s)	Baseline Noise Level, dB(A) ^	Limit Level, dB(A)**	Exceedance (Y/N)
		Time	L90	L10	Leq				
3-Jul-17	Fine	11:27	63	67	66	<5m/s	66.3	70	N
14-Jul-17	Sunny	11:15	66	71	69	<5m/s	66.3	70	N
20-Jul-17	Fine	11:30	65	69	67	<5m/s	66.3	70	N
26-Jul-17	Sunny	11:35	64	68	66	<5m/s	66.3	70	N
		Min	63	67	66				
		Max	66	71	69				
		Average	--	--	67				

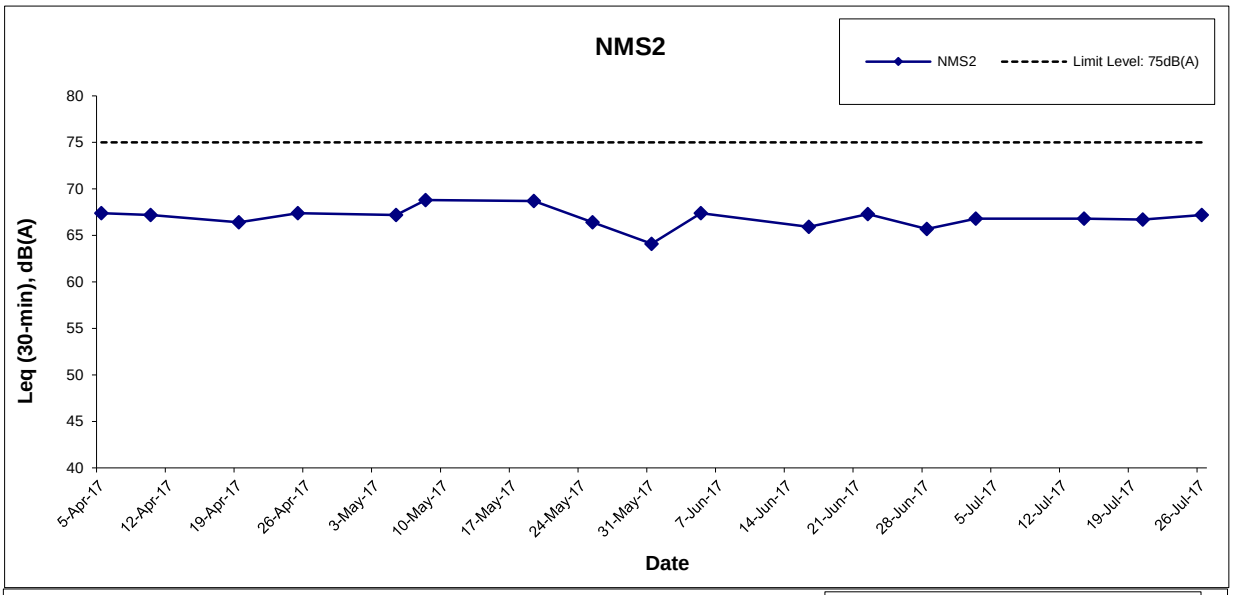
Remark:

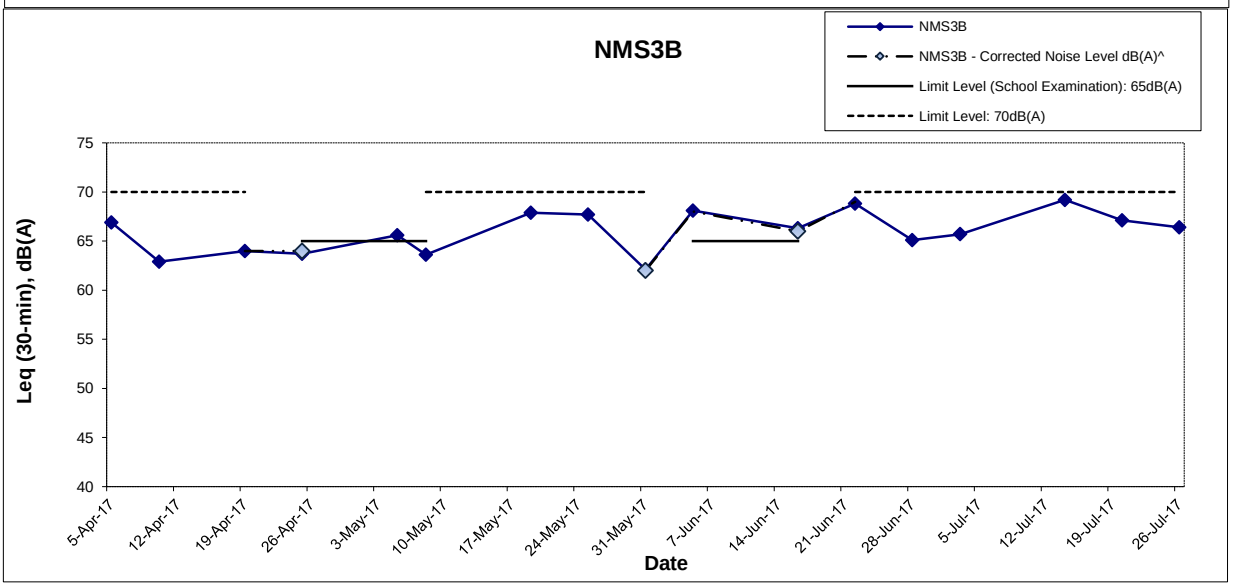
A correction of +3dB(A) was made to the free field measurement.

* Façade measurement.

^ Averaged baseline noise level recorded at NMS3 Ho Yu College is adopted.

** Limit Level of 70dB(A) applies to education institutes while 65dB(A) applies during school examination period.





Remarks: Effective from July 2012, the Limit Level at NMS3A was revised to 70dB(A). Daytime noise Limit Level of 70 dB(A) applies to education institutions, while 65dB(A) applies during school examination period.

>The measured noise level on 5 May 2017 at NMS3B exceeded the noise level of 65dB(A) during examination period but it was below the baseline level. Therefore, it is not considered as an exceedance. As such the EAP was not triggered.

#The measured noise level on 5 Jun 2017 at NMS3B exceeded the noise level of 65dB(A) during examination period. Therefore, baseline correction was carried out and the corrected noise level which solely represent the noise level of Construction works 63.4 dB(A) respectively which is lower than the exceedance level of 65dB(A) . As such the EAP was not triggered.

^The measured noise level on 16 Jun 2017 at NMS3B exceeded the noise level of 65dB(A) during examination period but it was below the baseline level. Therefore, it is not considered as an exceedance. As such the EAP was not triggered.

HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

Graphical Presentation of Impact Daytime Construction Noise Monitoring Results

Project No.: 60249820 **Date: Aug 2017** **Appendix I**

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CS(Mf)3(N) - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	10:08	7.0	Surface	1.0	28.2 28.2	28.2	7.7 7.7	7.7	8.4 8.4	8.4	75.2 75.3	75.3	5.5 5.5	5.5	5.5	5.2 5.0	5.1	6.5	2.9 3.0	3.0	4.1
					Middle	3.5	28.1 28.2	28.1	7.7 7.7	7.7	9.7 9.7	9.7	75.1 75.0	75.1	5.5 5.5	5.5		5.8 6.3	6.1		3.5 4.4	4.0	
					Bottom	6.0	27.6 27.6	27.6	7.6 7.6	7.6	17.6 17.0	17.3	75.2 75.3	75.3	5.5 5.5	5.5	5.5	8.2 8.3	8.3		4.9 5.7	5.3	
5-Jul-17	Cloudy	Moderate	10:46	9.2	Surface	1.1	27.8 28.4	28.1	8.0 8.1	8.1	11.9 12.8	12.3	76.9 75.9	76.4	5.6 5.6	5.6	5.6	6.2 6.3	6.3	6.5	5.7 6.0	5.9	6.1
					Middle	4.6	27.9 27.9	27.9	8.0 8.0	8.0	13.0 13.4	13.2	74.6 75.5	75.1	5.5 5.5	5.5		6.6 6.5	6.6		6.4 5.3	5.9	
					Bottom	8.2	28.2 28.3	28.2	8.0 8.1	8.1	11.1 13.8	12.4	75.3 73.1	74.2	5.5 5.4	5.5	5.5	6.7 6.8	6.8		6.1 6.9	6.5	
7-Jul-17	Rainy	Moderate	11:57	9.1	Surface	1.1	27.5 27.7	27.6	7.8 7.9	7.9	10.1 12.5	11.3	71.6 71.2	71.4	5.4 5.4	5.4	5.4	10.2 10.3	10.3	10.5	11.5 11.5	11.5	11.9
					Middle	4.5	27.6 27.3	27.4	7.8 7.7	7.8	12.6 15.0	13.8	70.0 70.8	70.4	5.4 5.4	5.4		10.5 10.6	10.6		11.5 10.9	11.2	
					Bottom	8.1	27.5 27.4	27.5	7.8 7.7	7.7	15.3 17.1	16.2	69.6 70.2	69.9	5.3 5.3	5.3	5.3	10.8 10.7	10.8		13.8 12.4	13.1	
10-Jul-17	Sunny	Moderate	12:58	8.8	Surface	1.0	27.0 27.1	27.1	7.9 7.9	7.9	13.5 13.4	13.5	72.8 73.2	73.0	5.2 5.3	5.3	5.3	11.0 11.1	11.1	11.3	7.3 7.3	7.3	6.8
					Middle	4.4	26.8 26.9	26.9	7.9 7.9	7.9	15.9 15.0	15.5	72.0 72.8	72.4	5.2 5.2	5.2		11.2 11.3	11.3		6.9 6.9	6.9	
					Bottom	7.8	26.7 26.9	26.8	7.8 7.8	7.8	17.6 17.2	17.4	70.7 71.0	70.9	5.1 5.1	5.1	5.1	11.5 11.4	11.5		6.4 6.1	6.3	
12-Jul-17	Sunny	Moderate	14:01	8.8	Surface	1.0	28.2 28.0	28.1	8.0 8.0	8.0	13.2 13.5	13.4	90.4 89.7	90.1	6.3 6.2	6.3	6.3	4.7 4.6	4.7	5.0	13.5 12.0	12.8	18.1
					Middle	4.4	27.6 27.7	27.7	7.9 7.9	7.9	15.0 14.8	14.9	88.6 88.7	88.7	6.2 6.2	6.2		4.8 4.9	4.9		19.4 19.2	19.3	
					Bottom	7.8	27.8 27.8	27.8	7.9 7.9	7.9	16.3 16.6	16.5	88.3 87.7	88.0	6.1 6.1	6.1	6.1	5.2 5.3	5.3		22.2 22.3	22.3	
14-Jul-17	Sunny	Moderate	15:21	8.9	Surface	1.0	28.6 28.3	28.4	8.2 8.2	8.2	14.6 14.6	14.6	107.6 108.2	107.9	7.7 7.7	7.7	7.6	4.3 4.4	4.4	4.6	11.9 10.5	11.2	12.6
					Middle	4.5	27.7 28.3	28.0	8.1 8.1	8.1	16.3 14.7	15.5	105.2 104.2	104.7	7.5 7.4	7.4		4.5 4.6	4.6		9.8 10.5	10.2	
					Bottom	7.9	27.6 27.8	27.7	8.1 8.1	8.1	18.2 18.0	18.1	103.4 102.8	103.1	7.4 7.4	7.4	7.4	4.8 4.7	4.8		16.0 16.5	16.3	
17-Jul-17	Cloudy	Moderate	7:10	9.3	Surface	1.0	27.9 27.9	27.9	7.9 7.8	7.9	11.3 12.0	11.6	85.3 84.9	85.1	6.3 6.3	6.3	6.2	3.6 3.4	3.5	3.7	2.9 2.5	2.7	2.8
					Middle	4.6	27.8 27.8	27.8	7.8 7.8	7.8	13.8 13.8	13.8	84.3 84.5	84.4	6.1 6.2	6.1		3.7 3.7	3.7		2.7 2.5	2.6	
					Bottom	8.3	27.8 27.8	27.8	7.8 7.8	7.8	13.9 14.0	13.9	82.6 81.7	82.2	6.1 5.9	6.0	6.0	3.7 3.8	3.8		3.6 2.3	3.0	
19-Jul-17	Sunny	Moderate	9:18	9.2	Surface	1.0	27.6 27.7	27.7	7.9 7.9	7.9	11.2 11.7	11.5	73.9 72.7	73.3	5.4 5.5	5.4	5.4	4.3 4.2	4.3	4.5	3.4 2.5	3.0	4.4
					Middle	4.6	27.3 27.3	27.3	7.9 7.8	7.8	13.4 13.5	13.5	71.0 73.4	72.2	5.3 5.4	5.3		4.4 4.5	4.5		4.1 4.6	4.4	
					Bottom	8.2	27.4 27.3	27.4	7.8 7.9	7.8	14.4 14.4	14.4	70.2 69.5	69.9	5.1 5.1	5.1	5.1	4.8 4.7	4.8		6.2 5.6	5.9	
21-Jul-17	Sunny	Moderate	11:36	6.8	Surface	1.0	28.6 28.3	28.4	8.0 8.0	8.0	10.5 10.7	10.6	76.8 77.0	76.9	5.6 5.5	5.6	5.5	5.8 5.5	5.7	5.9	3.6 4.3	4.0	3.7
					Middle	3.4	27.5 27.5	27.5	7.9 8.0	7.9	16.0 16.6	16.3	76.0 76.8	76.4	5.6 5.5	5.5		5.9 5.8	5.9		3.6 4.7	4.2	
					Bottom	5.8	27.9 26.8	27.3	7.9 8.0	8.0	18.1 21.6	19.8	75.1 74.7	74.9	5.4 5.4	5.4	5.4	6.0 6.2	6.1		3.0 3.0	3.0	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CS(Mf)3(N) - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	12:46	7.4	Surface	1.0	27.4 27.4	27.4	7.9 7.9	7.9	21.0 20.9	20.9	75.4 76.6	76.0	5.4 5.5	5.5	5.5	4.0 4.2	4.1	4.8	1.4 1.7	1.6	2.3
					Middle	3.7	27.3 27.5	27.4	7.9 7.9	7.9	21.6 22.2	21.9	74.8 76.1	75.5	5.4 5.5	5.4		5.1 5.0	5.1		1.6 1.7	1.7	
					Bottom	6.4	27.3 27.2	27.2	7.9 7.9	7.9	22.8 22.9	22.9	75.7 74.7	75.2	5.4 5.4	5.4	5.4	5.2 5.4	5.3		3.5 4.0	3.8	
26-Jul-17	Sunny	Moderate	14:13	8.9	Surface	1.0	29.3 29.2	29.2	8.0 8.0	8.0	17.1 17.1	17.1	73.1 72.5	72.8	5.5 5.4	5.4	5.4	7.3 7.2	7.3	7.5	5.2 5.2	5.2	5.6
					Middle	4.4	28.7 28.9	28.8	8.0 8.0	8.0	18.2 17.4	17.8	71.2 71.0	71.1	5.3 5.3	5.3		7.4 7.5	7.5		5.7 5.2	5.5	
					Bottom	7.9	28.9 28.5	28.7	8.0 8.0	8.0	20.5 18.7	19.6	70.9 70.3	70.6	5.2 5.2	5.2	5.2	7.7 7.8	7.8		6.5 5.8	6.2	
28-Jul-17	Sunny	Moderate	15:46	8.9	Surface	1.0	29.4 29.3	29.3	7.8 7.8	7.8	18.7 18.9	18.8	76.3 76.1	76.2	5.3 5.2	5.2	5.2	5.8 5.9	5.9	6.2	4.2 5.1	4.7	5.5
					Middle	4.5	29.3 29.3	29.3	7.8 7.8	7.8	20.4 18.9	19.6	75.4 75.2	75.3	5.2 5.2	5.2		6.1 6.2	6.2		6.9 5.6	6.3	
					Bottom	7.9	29.3 29.3	29.3	7.8 7.8	7.8	21.1 21.0	21.0	75.3 74.6	75.0	5.1 5.1	5.1	5.1	6.4 6.5	6.5		5.2 6.2	5.7	
31-Jul-17	Cloudy	Moderate	7:14	9.2	Surface	1.0	29.6 29.6	29.6	7.9 7.9	7.9	14.1 14.1	14.1	85.7 86.0	85.9	6.0 6.0	6.0	5.9	6.3 6.2	6.3	6.5	3.7 5.1	4.4	5.3
					Middle	4.6	29.6 29.5	29.5	7.9 8.0	7.9	14.5 16.0	15.2	84.5 84.2	84.4	6.0 5.8	5.9		6.4 6.6	6.5		5.8 5.5	5.7	
					Bottom	8.2	29.6 29.5	29.6	7.9 7.9	7.9	19.4 20.6	20.0	81.8 81.3	81.6	5.8 5.7	5.7	5.7	6.8 6.7	6.8		5.5 6.1	5.8	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS4 and CS(Mf)3 are considered as upstream contol stations of mid-ebb tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CS(Mf)3(N) - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	14:46	6.8	Surface	1.0	28.2 28.2	28.2	7.7 7.7	7.7	8.4 8.7	8.5	76.1 76.1	76.1	5.6 5.6	5.6	5.6	5.1 4.9	5.0		6.3 5.8	6.1	
					Middle	3.4	28.2 28.1	28.1	7.7 7.7	7.7	10.3 10.5	10.4	75.8 76.1	76.0	5.6 5.6	5.6		4.6 4.3	4.5	4.5	7.8 6.3	7.1	7.1
					Bottom	5.8	27.8 28.0	27.9	7.7 7.7	7.7	18.6 16.5	17.5	75.9 76.1	76.0	5.6 5.6	5.6	5.6	4.0 4.1	4.1		8.6 7.4	8.0	
5-Jul-17	Cloudy	Moderate	17:27	9.2	Surface	1.0	28.8 28.8	28.8	7.9 7.9	7.9	13.7 11.6	12.6	75.0 75.1	75.1	5.5 5.5	5.5	5.5	6.4 6.3	6.4		7.0 7.5	7.3	
					Middle	4.6	28.7 28.7	28.7	7.9 7.9	7.9	13.7 14.7	14.2	74.1 74.8	74.5	5.5 5.5	5.5		6.6 6.6	6.6	6.6	6.7 6.8	6.8	7.0
					Bottom	8.2	28.8 28.8	28.8	7.9 7.9	7.9	13.2 10.7	11.9	73.5 73.5	73.5	5.4 5.4	5.4	5.4	6.9 6.8	6.9		6.4 7.6	7.0	
7-Jul-17	Rainy	Moderate	18:55	9.1	Surface	1.1	27.7 27.7	27.7	7.8 7.8	7.8	10.0 10.0	10.0	69.6 69.9	69.8	5.2 5.2	5.2	5.2	9.1 8.9	9.0		10.1 10.9	10.5	
					Middle	4.6	27.4 27.6	27.5	7.8 7.8	7.8	12.2 11.7	12.0	68.8 67.5	68.2	5.1 5.1	5.1		9.3 9.1	9.2	9.3	10.4 10.9	10.7	10.8
					Bottom	8.1	27.4 27.3	27.3	7.7 7.7	7.7	14.5 15.0	14.8	66.9 67.1	67.0	5.1 5.1	5.1	5.1	9.5 9.6	9.6		10.8 11.5	11.2	
10-Jul-17	Sunny	Moderate	07:29	8.9	Surface	1.0	27.8 27.7	27.8	8.0 8.0	8.0	11.6 11.8	11.7	74.2 74.1	74.2	5.4 5.4	5.4	5.4	6.2 6.0	6.1		4.3 5.5	4.9	
					Middle	4.5	26.5 27.3	26.9	8.0 8.0	8.0	14.4 13.6	14.0	73.6 74.0	73.8	5.3 5.3	5.3		6.5 6.4	6.5	6.4	4.8 4.2	4.5	4.5
					Bottom	7.9	26.4 27.0	26.7	7.9 7.9	7.9	21.1 19.5	20.3	71.8 72.4	72.1	5.2 5.2	5.2	5.2	6.6 6.7	6.7		4.3 4.0	4.2	
12-Jul-17	Sunny	Moderate	08:45	9.0	Surface	1.0	27.6 27.8	27.7	7.9 7.9	7.9	15.4 14.7	15.0	84.8 84.2	84.5	5.9 5.9	5.9	5.9	5.4 5.5	5.5		13.4 13.3	13.4	
					Middle	4.5	26.5 26.5	26.5	7.8 7.8	7.8	22.0 21.6	21.8	83.8 83.7	83.8	5.8 5.8	5.8		5.5 5.5	5.5	5.6	13.7 12.5	13.1	13.8
					Bottom	8.0	26.4 26.4	26.4	7.8 7.8	7.8	22.6 22.7	22.6	82.4 82.4	82.4	5.7 5.7	5.7	5.7	5.7 5.6	5.7		14.2 15.6	14.9	
14-Jul-17	Sunny	Moderate	10:07	9.1	Surface	1.0	27.9 27.9	27.9	8.1 8.1	8.1	16.7 16.5	16.6	112.2 112.0	112.1	8.0 8.0	8.0	8.0	3.3 3.2	3.3		11.1 10.0	10.6	
					Middle	4.6	27.8 27.8	27.8	8.1 8.1	8.1	17.0 16.9	17.0	111.8 111.8	111.8	8.0 8.0	8.0		3.4 3.5	3.5	3.5	11.2 10.5	10.9	11.0
					Bottom	8.1	27.8 27.8	27.8	8.1 8.1	8.1	17.1 17.0	17.0	110.7 110.5	110.6	7.9 7.9	7.9	7.9	3.9 3.7	3.8		11.0 11.9	11.5	
17-Jul-17	Cloudy	Moderate	12:45	9.3	Surface	1.1	27.9 27.9	27.9	7.9 7.9	7.9	11.7 11.7	11.7	81.9 81.5	81.7	6.0 5.9	6.0	5.9	3.2 3.3	3.3		3.0 3.3	3.2	
					Middle	4.7	27.8 27.8	27.8	7.8 7.8	7.8	14.2 14.2	14.2	80.2 81.7	81.0	5.8 6.0	5.9		3.4 3.5	3.5	3.5	3.8 3.0	3.4	3.3
					Bottom	8.3	27.8 27.7	27.7	7.8 7.8	7.8	14.7 14.9	14.8	79.4 79.6	79.5	5.8 5.8	5.8	5.8	3.8 3.7	3.8		3.5 2.9	3.2	
19-Jul-17	Sunny	Moderate	15:41	9.2	Surface	1.1	28.1 28.1	28.1	8.1 8.0	8.1	10.0 11.9	11.0	77.0 76.3	76.7	5.5 5.6	5.6	5.6	3.2 3.1	3.2		2.2 3.0	2.6	
					Middle	4.6	27.7 27.6	27.7	8.0 8.0	8.0	10.5 10.5	10.5	76.3 74.9	75.6	5.5 5.5	5.5		3.3 3.4	3.4	3.4	2.7 3.4	3.1	3.2
					Bottom	8.2	27.3 27.8	27.5	7.9 8.0	7.9	16.3 17.6	16.9	71.9 72.3	72.1	5.3 5.4	5.4	5.4	3.6 3.5	3.6		4.5 3.1	3.8	
21-Jul-17	Sunny	Moderate	17:07	7.2	Surface	1.0	28.9 29.0	28.9	7.9 7.9	7.9	10.5 10.3	10.4	76.5 75.6	76.1	5.3 5.3	5.3	5.3	4.5 4.5	4.5		6.3 7.1	6.7	
					Middle	3.6	27.2 27.3	27.2	7.8 7.8	7.8	17.9 17.7	17.8	75.9 75.4	75.7	5.3 5.2	5.3		4.1 4.4	4.3	4.5	6.8 6.0	6.4	6.4
					Bottom	6.2	27.1 27.1	27.1	7.8 7.8	7.8	20.1 20.0	20.0	72.9 73.6	73.3	5.1 5.1	5.1	5.1	4.7 5.0	4.9		6.1 6.0	6.1	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CS(Mf)3(N) - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	7:25	7.3	Surface	1.0	27.5 27.7	27.6	7.9 7.9	7.9	18.8 17.9	18.4	81.0 77.8	79.4	5.8 5.6	5.7	5.7	3.1 3.3	3.2	3.6	2.9 3.3	3.1	3.1
					Middle	3.7	27.3 27.4	27.3	7.9 7.9	7.9	20.5 19.9	20.2	78.3 76.9	77.6	5.7 5.5	5.6		3.3 3.7	3.5		2.9 3.0	3.0	
					Bottom	6.3	27.0 27.1	27.1	7.9 7.9	7.9	24.0 23.7	23.9	77.8 76.2	77.0	5.6 5.5	5.6	5.6	4.1 4.3	4.2		2.7 3.6	3.2	
26-Jul-17	Sunny	Moderate	8:44	9.0	Surface	1.1	28.4 28.4	28.4	7.9 7.9	7.9	18.7 18.6	18.7	73.3 72.9	73.1	5.3 5.3	5.3	5.3	7.4 7.5	7.5	7.6	4.9 3.9	4.4	4.8
					Middle	4.5	28.2 28.1	28.1	7.9 7.9	7.9	19.3 19.8	19.6	71.2 71.7	71.5	5.2 5.2	5.2		7.5 7.6	7.6		5.1 4.8	5.0	
					Bottom	8.0	28.1 28.1	28.1	7.9 7.9	7.9	20.2 19.8	20.0	71.0 70.7	70.9	5.1 5.1	5.1	5.1	7.7 7.9	7.8		4.8 5.2	5.0	
28-Jul-17	Sunny	Moderate	10:39	9.0	Surface	1.0	28.6 28.5	28.6	7.9 7.9	7.9	20.3 20.5	20.4	76.7 76.4	76.6	5.4 5.4	5.4	5.3	8.6 8.5	8.6	8.8	7.2 6.8	7.0	8.1
					Middle	4.5	28.5 28.4	28.4	7.9 7.9	7.9	20.7 21.0	20.9	75.1 75.2	75.2	5.3 5.3	5.3		8.9 8.9	8.9		9.3 8.8	9.1	
					Bottom	8.0	28.5 28.5	28.5	7.9 7.9	7.9	20.8 20.9	20.8	74.0 74.8	74.4	5.2 5.2	5.2	5.2	9.0 9.1	9.1		9.0 7.7	8.4	
31-Jul-17	Cloudy	Moderate	13:15	9.3	Surface	1.1	29.6 29.6	29.6	8.0 8.0	8.0	14.7 14.8	14.7	80.3 81.7	81.0	5.6 5.7	5.7	5.6	5.4 5.3	5.4	5.6	5.7 4.8	5.3	5.7
					Middle	4.6	29.5 29.5	29.5	8.0 8.0	8.0	16.3 17.3	16.8	79.8 80.9	80.4	5.6 5.6	5.6		5.6 5.6	5.6		5.9 6.6	6.3	
					Bottom	8.3	29.3 29.5	29.4	7.9 7.9	7.9	20.6 19.3	20.0	78.1 77.1	77.6	5.3 5.4	5.3	5.3	5.7 5.8	5.8		5.7 5.4	5.6	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS6, CSA and CS(Mf)5 are considered as upstream contol stations of mid-flood tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CS4 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	10:26	16.3	Surface	1.0	28.2 28.2	28.2	7.8 7.8	7.8	8.4 8.5	8.5	75.6 75.9	75.8	5.6 5.6	5.6	5.6	5.9 6.0	6.0	7.4	5.4 4.9	5.2	5.9
					Middle	8.2	28.0 27.8	27.9	7.7 7.7	7.7	13.2 10.6	11.9	75.1 75.2	75.2	5.5 5.5	5.5		8.0 8.1	8.1		6.2 5.5	5.9	
					Bottom	15.3	27.4 27.3	27.4	7.6 7.6	7.6	21.3 20.2	20.7	75.5 75.3	75.4	5.6 5.5	5.5		7.9 8.2	8.1		6.3 6.7	6.5	
5-Jul-17	Cloudy	Moderate	11:07	15.8	Surface	1.0	28.3 28.6	28.4	8.1 8.1	8.1	12.8 11.8	12.3	77.8 78.6	78.2	5.7 5.8	5.7	5.7	7.2 7.3	7.3	7.5	5.8 6.7	6.3	6.6
					Middle	7.9	28.0 28.4	28.2	8.0 8.1	8.1	11.2 12.8	12.0	75.7 75.7	75.7	5.6 5.6	5.6		7.4 7.5	7.5		7.4 6.5	7.0	
					Bottom	14.8	28.0 28.0	28.0	8.0 8.0	8.0	13.0 13.1	13.1	75.5 75.9	75.7	5.6 5.5	5.5	5.5	7.8 7.7	7.8		6.5 6.8	6.7	
7-Jul-17	Rainy	Moderate	12:19	15.4	Surface	1.0	27.7 27.5	27.6	7.8 7.8	7.8	10.0 10.5	10.3	70.6 70.4	70.5	5.3 5.2	5.3	5.2	9.1 8.9	9.0	9.2	13.5 12.6	13.1	13.3
					Middle	7.7	27.5 27.3	27.4	7.8 7.7	7.8	13.1 14.1	13.6	69.4 68.8	69.1	5.2 5.2	5.2		9.3 9.2	9.3		13.6 13.0	13.3	
					Bottom	14.4	27.2 27.5	27.4	7.7 7.8	7.7	17.1 15.9	16.5	67.3 67.7	67.5	5.1 5.1	5.1	5.1	9.4 9.5	9.5		13.5 13.6	13.6	
10-Jul-17	Sunny	Moderate	12:37	15.4	Surface	1.0	27.0 28.1	27.6	7.9 8.0	7.9	13.2 12.8	13.0	73.2 73.4	73.3	5.3 5.3	5.3	5.3	10.1 10.1	10.1	10.3	8.1 7.6	7.9	9.1
					Middle	7.7	26.8 27.2	27.0	7.8 7.9	7.9	15.2 12.2	13.7	73.3 72.7	73.0	5.3 5.2	5.2		10.3 10.2	10.3		9.4 8.5	9.0	
					Bottom	14.4	26.9 26.9	26.9	7.8 7.8	7.8	15.8 16.7	16.3	72.3 72.9	72.6	5.2 5.2	5.2	5.2	10.5 10.6	10.6		11.1 9.8	10.5	
12-Jul-17	Sunny	Moderate	13:39	15.3	Surface	1.0	28.3 28.2	28.2	8.0 8.0	8.0	13.3 13.3	13.3	85.0 85.7	85.4	5.9 6.0	5.9	5.9	4.2 4.2	4.2	4.5	8.2 6.6	7.4	12.4
					Middle	7.7	27.7 27.8	27.8	7.9 8.0	8.0	14.8 14.7	14.7	83.7 83.8	83.8	5.8 5.8	5.8		4.5 4.4	4.5		14.2 14.9	14.6	
					Bottom	14.3	27.7 28.0	27.9	7.9 7.9	7.9	16.3 16.1	16.2	82.1 83.2	82.7	5.7 5.8	5.7	5.7	4.8 4.7	4.8		15.9 14.6	15.3	
14-Jul-17	Sunny	Moderate	14:59	15.3	Surface	1.0	28.5 28.4	28.5	8.2 8.2	8.2	14.6 14.7	14.7	107.8 108.4	108.1	7.7 7.7	7.7	7.6	3.7 3.8	3.8	4.0	16.9 15.3	16.1	16.3
					Middle	7.7	28.3 27.8	28.1	8.2 8.1	8.2	14.9 15.7	15.3	105.5 104.7	105.1	7.5 7.5	7.5		3.9 4.1	4.0		16.3 15.3	15.8	
					Bottom	14.3	27.7 27.6	27.7	8.1 8.1	8.1	17.9 17.9	17.9	104.5 103.7	104.1	7.5 7.4	7.4	7.4	4.2 4.3	4.3		16.4 17.5	17.0	
17-Jul-17	Cloudy	Moderate	7:31	15.9	Surface	1.0	27.9 27.9	27.9	7.8 7.8	7.8	11.5 11.9	11.7	84.9 84.8	84.9	6.2 6.2	6.2	6.1	3.4 3.3	3.4	3.6	2.5 3.1	2.8	3.1
					Middle	7.9	27.8 27.8	27.8	7.8 7.8	7.8	13.6 13.7	13.7	82.6 83.0	82.8	6.0 6.1	6.1		3.5 3.6	3.6		3.0 3.2	3.1	
					Bottom	14.9	27.8 27.7	27.8	7.8 7.8	7.8	13.8 13.9	13.9	80.2 81.8	81.0	5.8 6.0	5.9	5.9	3.8 3.9	3.9		2.8 3.8	3.3	
19-Jul-17	Sunny	Moderate	9:39	15.7	Surface	1.0	27.6 27.5	27.6	7.9 7.9	7.9	11.6 11.4	11.5	71.9 72.1	72.0	5.3 5.3	5.3	5.3	3.2 3.1	3.2	3.3	5.5 4.2	4.9	5.6
					Middle	7.8	27.4 27.4	27.4	7.8 7.8	7.8	13.5 12.7	13.1	70.5 70.2	70.4	5.3 5.3	5.3		3.3 3.3	3.3		6.4 6.7	6.6	
					Bottom	14.7	27.4 27.4	27.4	7.8 7.8	7.8	13.7 13.6	13.6	70.0 69.6	69.8	5.1 5.1	5.1	5.1	3.5 3.4	3.5		5.9 4.7	5.3	
21-Jul-17	Sunny	Moderate	11:56	16.3	Surface	1.0	28.6 28.7	28.6	7.9 7.9	7.9	14.2 14.0	14.1	72.9 73.2	73.1	5.2 5.3	5.3	5.3	5.9 5.8	5.9	6.2	4.5 3.5	4.0	4.1
					Middle	8.1	27.0 27.1	27.0	7.8 7.8	7.8	19.7 21.3	20.5	72.5 72.7	72.6	5.3 5.2	5.2		5.7 5.5	5.6		4.3 3.6	4.0	
					Bottom	15.3	26.8 26.8	26.8	7.8 7.8	7.8	22.1 22.1	22.1	70.1 69.9	70.0	5.0 5.0	5.0	5.0	7.2 7.0	7.1		4.0 4.6	4.3	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CS4 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	12:28	16.3	Surface	1.1	27.3 27.4	27.4	7.8 7.9	7.8	20.9 20.9	20.9	75.6 74.5	75.1	5.5 5.4	5.4	5.4	3.8 4.0	3.9	4.3	3.9 3.5	3.7	3.6
					Middle	8.2	27.1 27.2	27.2	7.8 7.8	7.8	22.8 22.7	22.8	75.3 72.9	74.1	5.4 5.2	5.3		4.4 4.7	4.6		3.7 3.9	3.8	
					Bottom	15.3	27.0 27.0	27.0	7.8 7.8	7.8	23.8 24.2	24.0	72.3 74.9	73.6	5.2 5.4	5.3	5.3	4.6 4.4	4.5		3.6 3.0	3.3	
26-Jul-17	Sunny	Moderate	13:51	15.2	Surface	1.0	29.3 29.2	29.2	8.0 8.1	8.1	17.1 17.2	17.2	71.9 72.0	72.0	5.3 5.4	5.3	5.3	6.3 6.4	6.4	6.6	5.7 6.5	6.1	5.6
					Middle	7.6	29.0 28.8	28.9	8.0 8.1	8.1	17.4 18.0	17.7	70.1 70.7	70.4	5.3 5.3	5.3		6.6 6.5	6.6		5.1 5.6	5.4	
					Bottom	14.2	29.0 28.7	28.8	8.0 8.1	8.1	18.5 20.9	19.7	69.2 69.3	69.3	5.2 5.2	5.2	5.2	6.8 6.9	6.9		5.2 5.6	5.4	
28-Jul-17	Sunny	Moderate	15:23	15.4	Surface	1.1	29.3 29.4	29.3	7.9 7.9	7.9	18.9 18.6	18.8	75.6 76.1	75.9	5.2 5.3	5.2	5.2	6.4 6.7	6.6	6.8	7.3 6.3	6.8	7.0
					Middle	7.7	29.2 29.2	29.2	7.9 7.9	7.9	20.5 20.6	20.6	75.0 75.8	75.4	5.1 5.2	5.2		6.8 6.9	6.9		7.5 6.7	7.1	
					Bottom	14.4	28.9 29.2	29.1	7.9 7.8	7.9	22.9 22.3	22.6	75.6 75.1	75.4	5.1 5.1	5.1	5.1	7.1 7.0	7.1		6.6 7.3	7.0	
31-Jul-17	Cloudy	Moderate	7:27	15.6	Surface	1.0	29.6 29.7	29.6	7.9 7.9	7.9	14.2 14.1	14.1	82.8 82.0	82.4	5.7 5.8	5.7	5.7	6.2 6.3	6.3	6.5	4.3 5.2	4.8	4.9
					Middle	7.8	29.6 29.4	29.5	7.9 7.9	7.9	15.3 16.3	15.8	81.8 79.1	80.5	5.7 5.6	5.7		6.4 6.5	6.5		5.3 4.2	4.8	
					Bottom	14.6	29.3 29.6	29.4	7.8 7.9	7.9	22.0 17.8	19.9	76.2 79.7	78.0	5.3 5.4	5.4	5.4	6.8 6.8	6.8		5.5 4.8	5.2	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS4 and CS(Mf)3 are considered as upstream contol stations of mid-ebb tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CS4 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	14:24	16.2	Surface	1.0	28.2 28.2	28.2	7.7 7.7	7.7	8.5 8.5	8.5	76.5 76.1	76.3	5.6 5.6	5.6	5.6	5.6 5.4	5.5	5.5	5.3 4.4	4.9	5.8
					Middle	8.1	28.0 27.8	27.9	7.7 7.7	7.7	16.8 16.2	16.5	75.7 76.0	75.9	5.6 5.6	5.6		5.2 5.6	5.4		6.4 5.1	5.8	
					Bottom	15.2	27.2 27.8	27.5	7.7 7.7	7.7	25.1 22.3	23.7	75.9 75.6	75.8	5.6 5.6	5.6		5.9 5.5	5.7		6.6 7.0	6.8	
5-Jul-17	Cloudy	Moderate	17:06	15.9	Surface	1.1	28.7 28.9	28.8	7.9 7.9	7.9	12.8 12.7	12.7	71.8 71.7	71.8	5.3 5.3	5.3	5.3	5.6 5.7	5.7	5.9	6.6 6.6	6.6	6.8
					Middle	7.9	28.4 28.7	28.6	7.9 7.9	7.9	13.8 14.8	14.3	71.3 71.9	71.6	5.2 5.2	5.2		5.8 5.9	5.9		6.4 7.3	6.9	
					Bottom	14.9	28.8 28.5	28.6	7.9 7.9	7.9	13.3 15.9	14.6	70.6 70.2	70.4	5.2 5.2	5.2	5.2	6.3 6.2	6.3		6.4 7.3	6.9	
7-Jul-17	Rainy	Moderate	18:33	15.5	Surface	1.0	27.7 27.8	27.7	7.9 7.9	7.9	10.4 10.4	10.4	69.7 68.1	68.9	5.1 5.2	5.2	5.1	9.2 9.3	9.3	9.5	11.9 12.3	12.1	12.8
					Middle	7.8	27.5 27.5	27.5	7.8 7.8	7.8	11.7 11.4	11.6	68.7 67.8	68.3	5.1 5.1	5.1		9.5 9.4	9.5		13.6 12.6	13.1	
					Bottom	14.5	27.3 27.6	27.5	7.8 7.8	7.8	14.5 14.4	14.5	66.5 66.9	66.7	5.1 5.1	5.1	5.1	9.7 9.8	9.8		13.1 13.4	13.3	
10-Jul-17	Sunny	Moderate	07:51	15.5	Surface	1.0	27.2 27.4	27.3	8.0 8.0	8.0	12.0 12.0	12.0	74.2 74.2	74.2	5.4 5.4	5.4	5.4	9.2 9.1	9.2	9.5	3.0 3.6	3.3	5.1
					Middle	7.8	26.6 26.8	26.7	7.9 7.9	7.9	17.6 14.4	16.0	74.1 74.0	74.1	5.4 5.4	5.4		9.5 9.4	9.5		6.8 6.3	6.6	
					Bottom	14.5	26.6 27.1	26.8	7.8 7.9	7.9	20.8 20.5	20.7	73.8 73.9	73.9	5.3 5.4	5.3	5.3	9.6 9.7	9.7		5.4 5.4	5.4	
12-Jul-17	Sunny	Moderate	09:06	15.4	Surface	1.0	27.9 26.8	27.3	7.9 7.8	7.9	14.3 16.5	15.4	85.7 84.8	85.3	6.0 5.9	5.9	5.9	3.5 3.4	3.5	3.6	18.7 19.1	18.9	19.4
					Middle	7.7	26.4 26.4	26.4	7.8 7.8	7.8	22.5 22.5	22.5	84.0 84.4	84.2	5.8 5.9	5.8		3.5 3.6	3.6		19.4 19.5	19.5	
					Bottom	14.4	26.4 26.5	26.5	7.8 7.8	7.8	22.6 22.7	22.7	83.2 82.7	83.0	5.8 5.7	5.8	5.8	3.7 3.8	3.8		20.3 19.4	19.9	
14-Jul-17	Sunny	Moderate	10:27	15.4	Surface	1.0	27.9 27.9	27.9	8.1 8.1	8.1	16.7 16.4	16.5	111.4 111.2	111.3	8.0 8.0	8.0	7.9	4.2 4.3	4.3	4.6	8.6 8.6	8.6	14.2
					Middle	7.7	27.8 27.6	27.7	8.1 8.1	8.1	16.8 16.8	16.8	109.2 109.4	109.3	7.8 7.8	7.8		4.5 4.6	4.6		15.6 15.4	15.5	
					Bottom	14.4	27.8 27.4	27.6	8.1 8.1	8.1	17.2 19.6	18.4	106.9 107.5	107.2	7.6 7.7	7.6	7.6	4.9 4.7	4.8		18.5 18.3	18.4	
17-Jul-17	Cloudy	Moderate	12:23	15.9	Surface	1.1	27.8 27.8	27.8	7.9 7.9	7.9	11.6 12.5	12.0	84.0 82.4	83.2	6.1 6.0	6.1	6.0	2.5 2.6	2.6	2.8	1.4 1.7	1.6	2.5
					Middle	8.0	27.8 27.8	27.8	7.8 7.8	7.8	13.7 14.3	14.0	81.9 81.5	81.7	6.0 5.9	6.0		2.7 2.8	2.8		4.2 2.4	3.3	
					Bottom	14.9	27.7 27.7	27.7	7.8 7.8	7.8	15.0 15.0	15.0	80.3 79.9	80.1	5.8 5.8	5.8	5.8	3.0 3.1	3.1		2.4 3.0	2.7	
19-Jul-17	Sunny	Moderate	15:21	15.7	Surface	1.0	28.1 28.0	28.1	8.0 8.0	8.0	11.8 10.1	11.0	77.7 77.3	77.5	5.7 5.7	5.7	5.7	2.9 3.1	3.0	3.2	2.9 3.4	3.2	2.9
					Middle	7.9	27.7 27.6	27.6	8.0 8.0	8.0	10.7 10.7	10.7	76.7 76.5	76.6	5.5 5.7	5.6		3.2 3.3	3.3		3.3 2.7	3.0	
					Bottom	14.7	27.4 27.7	27.5	7.9 8.0	8.0	15.8 16.7	16.3	72.0 74.0	73.0	5.4 5.5	5.4	5.4	3.4 3.5	3.5		2.5 2.8	2.7	
21-Jul-17	Sunny	Moderate	16:45	16.1	Surface	1.1	28.7 28.3	28.5	7.9 7.8	7.9	11.0 11.8	11.4	78.1 77.3	77.7	5.5 5.4	5.5	5.3	5.0 4.9	5.0	5.5	4.6 3.5	4.1	4.8
					Middle	8.1	27.0 27.0	27.0	7.8 7.8	7.8	20.2 20.5	20.3	74.2 72.3	73.3	5.1 5.1	5.1		5.6 5.7	5.7		3.7 4.3	4.0	
					Bottom	15.1	27.0 27.0	27.0	7.8 7.8	7.8	20.4 21.0	20.7	73.3 72.8	73.1	5.2 5.0	5.1	5.1	5.8 6.0	5.9		6.2 6.3	6.3	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CS4 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	7:47	16.2	Surface	1.0	27.7 27.7	27.7	7.9 7.9	7.9	17.9 18.2	18.0	76.4 76.9	76.7	5.5 5.6	5.5	5.4	3.6 3.4	3.5	4.3	1.9 1.9	1.9	3.1
					Middle	8.1	27.0 27.0	27.0	7.9 7.9	7.9	24.0 24.1	24.0	73.8 74.1	74.0	5.3 5.3	5.3		4.9 4.8	4.9		4.2 3.0	3.6	
					Bottom	15.2	27.0 27.0	27.0	7.9 7.9	7.9	24.1 24.3	24.2	74.6 74.9	74.8	5.4 5.4	5.4	5.4	4.4 4.7	4.6		3.9 3.8	3.9	
26-Jul-17	Sunny	Moderate	9:07	15.4	Surface	1.0	28.4 28.4	28.4	7.9 7.9	7.9	18.6 18.6	18.6	72.8 72.3	72.6	5.3 5.3	5.3	5.3	5.2 5.3	5.3	5.5	5.1 5.8	5.5	5.2
					Middle	7.7	28.2 28.3	28.3	7.9 7.9	7.9	18.9 18.7	18.8	71.2 71.5	71.4	5.2 5.2	5.2		5.4 5.5	5.5		4.8 5.3	5.1	
					Bottom	14.4	28.2 28.2	28.2	7.9 7.9	7.9	19.7 19.7	19.7	70.9 70.7	70.8	5.1 5.1	5.1	5.1	5.8 5.7	5.8		5.6 4.5	5.1	
28-Jul-17	Sunny	Moderate	11:02	15.4	Surface	1.1	28.6 28.6	28.6	7.9 7.9	7.9	20.5 20.5	20.5	78.5 78.4	78.5	5.6 5.6	5.6	5.5	8.5 8.4	8.5	8.7	4.9 3.6	4.3	4.5
					Middle	7.7	28.2 28.6	28.4	7.9 7.9	7.9	21.6 20.4	21.0	77.0 77.5	77.3	5.5 5.4	5.4		8.7 8.6	8.7		4.2 4.7	4.5	
					Bottom	14.4	28.5 28.1	28.3	7.9 7.9	7.9	20.9 22.8	21.8	75.4 75.7	75.6	5.2 5.3	5.3	5.3	8.8 8.9	8.9		4.8 4.5	4.7	
31-Jul-17	Cloudy	Moderate	12:52	15.6	Surface	1.1	29.6 29.6	29.6	8.0 8.0	8.0	16.0 15.1	15.6	79.9 78.7	79.3	5.6 5.5	5.5	5.5	5.2 5.3	5.3	5.5	5.4 4.4	4.9	5.6
					Middle	7.8	29.5 29.5	29.5	8.0 8.0	8.0	18.6 16.9	17.7	78.6 77.1	77.9	5.3 5.4	5.4		5.6 5.4	5.5		4.4 5.6	5.0	
					Bottom	14.6	29.3 29.2	29.2	7.9 7.9	7.9	21.1 21.8	21.5	75.3 76.0	75.7	5.2 5.2	5.2	5.2	5.7 5.8	5.8		7.2 6.7	7.0	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS6, CSA and CS(Mf)5 are considered as upstream contol stations of mid-flood tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CS(Mf)5 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	08:59	12.2	Surface	1.0	28.3 28.2	28.2	8.1 8.2	8.2	13.3 13.0	13.2	75.3 75.1	75.2	5.5 5.4	5.4	5.3	4.6 4.6	4.6	4.6	7.6 7.2	7.4	6.8
					Middle	6.1	27.6 26.9	27.2	8.1 8.1	8.1	21.9 24.0	23.0	73.5 70.6	72.1	5.1 5.0	5.1		4.4 4.7	4.6		6.5 6.5	6.5	
					Bottom	11.2	25.9 25.7	25.8	7.9 8.0	8.0	34.7 33.4	34.1	69.5 70.0	69.8	4.9 5.0	4.9	4.9	4.5 4.6	4.6		6.9 6.1	6.5	
5-Jul-17	Cloudy	Moderate	10:20	12.4	Surface	1.1	28.0 28.1	28.1	8.1 8.1	8.1	12.2 12.0	12.1	70.8 71.1	71.0	5.1 5.2	5.2	5.1	4.4 4.3	4.4	4.4	4.3 3.8	4.1	5.6
					Middle	6.2	26.7 27.4	27.0	8.0 8.0	8.0	21.7 20.6	21.2	70.5 70.4	70.5	5.1 5.1	5.1		4.4 4.3	4.4		6.1 7.2	6.7	
					Bottom	11.4	25.6 25.0	25.3	7.9 7.8	7.9	32.7 33.3	33.0	68.5 68.1	68.3	4.9 4.8	4.8	4.8	4.4 4.4	4.4		6.0 6.3	6.2	
7-Jul-17	Rainy	Moderate	11:32	13.7	Surface	1.0	27.4 27.3	27.3	7.9 7.9	7.9	13.8 13.8	13.8	76.1 75.0	75.6	5.2 5.1	5.1	5.1	4.9 4.8	4.9	5.1	5.4 6.9	6.2	5.8
					Middle	6.8	27.0 27.0	27.0	7.9 7.9	7.9	17.8 19.1	18.5	74.1 74.1	74.1	5.0 5.0	5.0		5.2 4.9	5.1		5.2 5.6	5.4	
					Bottom	12.7	27.0 27.2	27.1	7.9 7.9	7.9	18.7 17.8	18.3	75.6 74.8	75.2	5.1 5.1	5.1	5.1	5.4 5.2	5.3		6.3 5.6	6.0	
10-Jul-17	Sunny	Moderate	14:32	13.2	Surface	1.0	27.6 27.7	27.7	8.0 8.0	8.0	13.6 13.6	13.6	75.5 72.8	74.2	5.5 5.3	5.4	5.3	2.0 2.0	2.0	2.7	4.3 4.1	4.2	4.3
					Middle	6.6	27.1 27.0	27.0	8.0 8.0	8.0	17.1 17.3	17.2	71.9 70.9	71.4	5.2 5.1	5.1		3.0 2.9	3.0		4.5 3.9	4.2	
					Bottom	12.2	26.9 27.3	27.1	8.1 8.0	8.0	17.4 17.7	17.5	69.5 70.3	69.9	5.0 5.1	5.1	5.1	2.9 3.2	3.1		4.7 4.1	4.4	
12-Jul-17	Sunny	Moderate	15:26	13.4	Surface	1.0	28.4 28.4	28.4	8.4 8.4	8.4	15.4 15.4	15.4	91.2 91.6	91.4	6.5 6.5	6.5	6.0	3.3 3.6	3.5	3.4	4.4 4.4	4.4	9.2
					Middle	6.7	25.7 25.7	25.7	8.1 8.1	8.1	27.1 27.1	27.1	77.2 77.5	77.4	5.4 5.4	5.4		2.7 2.9	2.8		9.7 8.7	9.2	
					Bottom	12.4	25.1 25.1	25.1	8.1 8.1	8.1	30.8 30.8	30.8	74.3 74.2	74.3	5.1 5.1	5.1	5.1	3.9 3.7	3.8		13.7 14.0	13.9	
14-Jul-17	Sunny	Moderate	16:18	12.2	Surface	1.0	28.9 28.9	28.9	8.5 8.5	8.5	16.9 16.9	16.9	110.9 110.0	110.5	7.8 7.7	7.8	7.5	3.6 3.6	3.6	3.7	16.2 14.8	15.5	16.5
					Middle	6.1	27.4 27.6	27.5	8.3 8.3	8.3	21.2 21.7	21.4	105.4 102.0	103.7	7.3 7.0	7.1		3.8 3.6	3.7		17.1 16.9	17.0	
					Bottom	11.2	26.3 26.2	26.3	8.3 8.3	8.3	28.2 28.1	28.2	88.8 90.8	89.8	6.2 6.4	6.3	6.3	3.6 3.8	3.7		17.1 16.9	17.0	
17-Jul-17	Cloudy	Moderate	7:13	12.3	Surface	1.1	27.6 27.7	27.6	8.1 8.1	8.1	17.7 17.1	17.4	70.8 71.1	71.0	5.1 5.1	5.1	5.0	1.4 1.5	1.5	1.5	2.4 3.4	2.9	2.8
					Middle	6.2	27.4 27.6	27.5	8.2 8.2	8.2	18.6 18.4	18.5	70.6 70.1	70.4	5.0 5.0	5.0		1.4 1.5	1.5		2.2 3.1	2.7	
					Bottom	11.3	26.8 27.3	27.0	8.0 8.1	8.0	27.9 27.5	27.7	70.3 69.7	70.0	4.8 4.8	4.8	4.8	1.5 1.4	1.5		2.7 3.2	3.0	
19-Jul-17	Sunny	Moderate	9:16	12.3	Surface	1.2	27.5 27.4	27.5	8.1 8.1	8.1	11.5 11.8	11.6	72.6 76.6	74.6	5.4 5.3	5.4	5.3	2.2 2.2	2.2	2.4	2.2 2.1	2.2	2.9
					Middle	6.1	27.1 27.1	27.1	8.1 8.1	8.1	14.9 14.7	14.8	73.5 72.0	72.8	5.1 5.3	5.2		2.4 2.5	2.5		3.8 3.7	3.8	
					Bottom	11.3	26.9 27.1	27.0	7.9 7.9	7.9	25.2 25.0	25.1	71.0 70.2	70.6	5.2 5.1	5.1	5.1	2.5 2.6	2.6		2.6 3.1	2.9	
21-Jul-17	Sunny	Moderate	11:11	12.3	Surface	1.1	28.4 28.4	28.4	8.1 8.1	8.1	14.1 14.1	14.1	69.9 70.1	70.0	5.0 5.0	5.0	5.0	2.5 2.3	2.4	2.7	3.8 3.4	3.6	3.9
					Middle	6.1	27.0 27.0	27.0	8.0 8.0	8.0	20.4 20.4	20.4	69.5 69.7	69.6	5.0 5.0	5.0		2.8 2.8	2.8		3.6 4.4	4.0	
					Bottom	11.3	27.4 26.9	27.2	8.0 8.0	8.0	23.9 24.2	24.0	69.1 68.8	69.0	4.8 4.8	4.8	4.8	2.9 2.8	2.9		4.6 3.5	4.1	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CS(Mf)5 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	13:47	12.3	Surface	1.1	27.9 28.0	28.0	8.2 8.2	8.2	18.4 17.6	18.0	75.3 73.9	74.6	5.3 5.2	5.3	5.2	2.6 2.7	2.7	3.2	1.7 1.3	1.5	1.5
					Middle	6.2	27.3 26.8	27.1	8.2 8.2	8.2	22.9 21.9	22.4	72.1 71.7	71.9	5.0 5.1	5.0		3.6 3.5	3.6		1.1 1.4	1.3	
					Bottom	11.3	26.6 27.3	27.0	8.1 8.2	8.2	27.1 26.7	26.9	70.5 70.9	70.7	4.9 4.9	4.9	4.9	3.5 3.5	3.5		1.6 1.6	1.6	
26-Jul-17	Sunny	Moderate	15:11	12.0	Surface	1.1	29.6 29.7	29.7	8.2 8.2	8.2	18.9 18.9	18.9	77.1 79.3	78.2	5.4 5.5	5.5	5.4	5.4 5.3	5.4	5.4	4.1 4.6	4.4	5.2
					Middle	6.0	28.0 28.0	28.0	8.2 8.2	8.2	21.1 21.5	21.3	74.2 75.9	75.1	5.2 5.3	5.3		5.5 5.3	5.4		5.2 4.4	4.8	
					Bottom	11.0	27.6 27.6	27.6	8.2 8.2	8.2	25.6 26.3	25.9	72.3 73.2	72.8	5.2 5.2	5.2	5.2	5.5 5.3	5.4		6.0 7.0	6.5	
28-Jul-17	Sunny	Moderate	17:00	13.5	Surface	1.0	29.8 29.4	29.6	8.2 8.2	8.2	19.0 20.0	19.5	78.7 77.7	78.2	5.4 5.3	5.3	5.2	7.1 6.8	7.0	8.2	5.2 6.5	5.9	8.1
					Middle	6.8	28.2 28.1	28.2	8.1 8.1	8.1	23.6 23.8	23.7	74.3 75.0	74.7	5.1 5.1	5.1		8.7 8.9	8.8		9.1 8.1	8.6	
					Bottom	12.5	28.1 28.2	28.2	8.1 8.1	8.1	24.7 24.4	24.6	73.7 73.6	73.7	5.0 5.0	5.0	5.0	8.8 9.0	8.9		9.9 9.5	9.7	
31-Jul-17	Cloudy	Moderate	7:16	12.5	Surface	1.1	29.5 29.5	29.5	8.2 8.2	8.2	20.4 20.6	20.5	75.2 75.5	75.4	5.1 5.2	5.1	5.1	4.4 4.4	4.4	4.5	6.3 6.5	6.4	5.8
					Middle	6.2	29.2 29.1	29.2	8.1 8.1	8.1	22.2 22.2	22.2	74.4 74.5	74.5	5.1 5.0	5.1		4.5 4.5	4.5		6.0 5.2	5.6	
					Bottom	11.5	27.9 27.7	27.8	8.1 8.1	8.1	31.0 31.8	31.4	73.9 73.8	73.9	4.9 4.9	4.9	4.9	4.5 4.5	4.5		5.1 5.4	5.3	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS4 and CS(Mf)3 are considered as upstream contol stations of mid-ebb tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CS(Mf)5 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	15:41	12.9	Surface	1.0	28.4 28.4	28.4	8.2 8.2	8.2	12.6 12.8	12.7	81.6 80.8	81.2	5.8 5.9	5.8	5.7	3.9 3.8	3.9	3.8	5.5 4.5	5.0	5.4
					Middle	6.5	28.0 28.0	28.0	8.1 8.1	8.1	17.1 16.1	16.6	79.7 80.4	80.1	5.5 5.4	5.5		3.8 3.8	3.8		4.9 5.8	5.4	
					Bottom	11.9	25.8 26.3	26.1	8.0 8.0	8.0	32.9 32.2	32.6	72.4 72.1	72.3	5.2 5.2	5.2	5.2	3.8 3.8	3.8		5.2 6.2	5.7	
5-Jul-17	Cloudy	Moderate	17:53	12.7	Surface	1.1	28.6 28.6	28.6	8.1 8.1	8.1	14.4 14.4	14.4	74.9 73.8	74.4	5.2 5.2	5.2	5.2	2.8 3.0	2.9	2.8	4.1 4.4	4.3	5.6
					Middle	6.3	26.4 26.6	26.5	8.0 8.0	8.0	25.2 23.2	24.2	73.2 72.8	73.0	5.2 5.2	5.2		2.7 2.8	2.8		6.9 6.5	6.7	
					Bottom	11.7	26.6 26.4	26.5	7.9 8.0	8.0	26.5 26.6	26.6	72.9 72.1	72.5	5.1 5.1	5.1	5.1	2.7 2.8	2.8		6.1 5.7	5.9	
7-Jul-17	Rainy	Moderate	19:31	13.4	Surface	1.0	27.6 27.6	27.6	7.9 7.9	7.9	12.1 11.9	12.0	77.5 76.9	77.2	5.3 5.2	5.2	5.1	4.2 4.3	4.3	4.2	4.2 5.5	4.9	5.8
					Middle	6.7	27.4 27.4	27.4	7.9 7.9	7.9	14.2 14.4	14.3	73.8 73.9	73.9	5.0 5.0	5.0		4.2 4.0	4.1		6.4 5.9	6.2	
					Bottom	12.4	27.4 27.4	27.4	7.9 7.9	7.9	14.6 15.3	14.9	74.9 74.6	74.8	5.1 5.1	5.1	5.1	4.2 4.4	4.3		5.9 6.9	6.4	
10-Jul-17	Sunny	Moderate	06:40	13.3	Surface	1.0	27.6 27.6	27.6	8.0 8.0	8.0	13.6 13.5	13.6	75.6 75.5	75.6	5.8 5.8	5.8	5.5	2.0 1.9	2.0	1.9	6.2 5.7	6.0	6.4
					Middle	6.7	25.4 25.4	25.4	7.9 7.9	7.9	27.9 28.0	28.0	68.3 69.1	68.7	5.1 5.2	5.1		1.8 1.6	1.7		4.9 5.3	5.1	
					Bottom	12.3	25.4 25.0	25.2	7.9 7.9	7.9	30.3 31.4	30.9	73.2 75.2	74.2	5.4 5.5	5.5	5.5	1.9 1.9	1.9		8.5 7.8	8.2	
12-Jul-17	Sunny	Moderate	07:41	13.6	Surface	1.0	26.8 26.8	26.8	8.1 8.1	8.1	18.0 18.0	18.0	72.3 72.6	72.5	5.2 5.2	5.2	5.2	3.6 3.4	3.5	4.4	11.7 11.9	11.8	14.0
					Middle	6.8	25.8 25.8	25.8	8.0 8.0	8.0	24.2 25.3	24.7	72.8 71.8	72.3	5.2 5.1	5.1		4.4 4.3	4.4		14.6 14.8	14.7	
					Bottom	12.6	24.8 24.8	24.8	8.0 8.0	8.0	29.4 29.2	29.3	70.3 70.4	70.4	4.9 4.9	4.9	4.9	5.4 5.0	5.2		15.8 15.3	15.6	
14-Jul-17	Sunny	Moderate	09:21	12.6	Surface	1.0	27.7 27.7	27.7	8.1 8.1	8.1	18.1 17.9	18.0	71.6 72.1	71.9	5.1 5.1	5.1	5.1	3.1 3.2	3.2	3.4	8.2 9.1	8.7	11.7
					Middle	6.3	26.1 26.1	26.1	8.1 8.1	8.1	27.1 27.0	27.0	71.1 71.1	71.1	5.0 5.1	5.0		3.4 3.6	3.5		10.9 11.3	11.1	
					Bottom	11.6	25.3 25.8	25.5	8.0 8.0	8.0	30.6 30.4	30.5	70.3 70.8	70.6	4.8 4.9	4.8	4.8	3.5 3.4	3.5		15.5 14.9	15.2	
17-Jul-17	Cloudy	Moderate	13:00	12.6	Surface	1.2	27.7 27.7	27.7	8.2 8.2	8.2	16.3 16.4	16.4	80.0 77.3	78.7	5.6 5.5	5.6	5.5	2.6 2.6	2.6	3.4	1.8 1.7	1.8	1.8
					Middle	6.3	27.2 27.3	27.2	8.2 8.2	8.2	20.1 20.3	20.2	78.0 76.5	77.3	5.5 5.3	5.4		3.8 3.6	3.7		1.2 1.5	1.4	
					Bottom	11.6	27.1 27.1	27.1	8.2 8.1	8.1	26.4 26.5	26.5	72.8 74.8	73.8	5.2 5.3	5.2	5.2	3.7 3.8	3.8		2.2 2.5	2.4	
19-Jul-17	Sunny	Moderate	16:06	12.8	Surface	1.0	28.1 28.1	28.1	8.2 8.2	8.2	11.6 11.7	11.6	74.8 74.2	74.5	5.4 5.4	5.4	5.3	3.3 3.3	3.3	3.4	1.0 1.4	1.2	1.9
					Middle	6.4	27.2 26.9	27.1	8.1 8.1	8.1	15.7 16.7	16.2	74.4 74.1	74.3	5.2 5.2	5.2		3.5 3.4	3.5		2.3 2.3	2.3	
					Bottom	11.8	27.3 26.6	27.0	8.1 8.0	8.1	22.0 22.2	22.1	68.7 67.6	68.2	5.0 4.8	4.9	4.9	3.5 3.5	3.5		2.5 2.1	2.3	
21-Jul-17	Sunny	Moderate	18:15	12.7	Surface	1.2	28.7 28.8	28.7	8.3 8.3	8.3	16.9 16.7	16.8	82.4 83.2	82.8	5.8 5.9	5.8	5.6	2.3 2.5	2.4	3.9	2.6 3.0	2.8	3.8
					Middle	6.3	27.3 27.5	27.4	8.2 8.2	8.2	21.7 19.2	20.4	76.7 78.4	77.6	5.3 5.5	5.4		4.7 4.4	4.6		2.5 3.9	3.2	
					Bottom	11.7	27.3 27.1	27.2	8.2 8.2	8.2	23.2 23.8	23.5	72.4 68.5	70.5	5.1 4.8	5.0	5.0	4.8 4.5	4.7		5.5 5.2	5.4	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CS(Mf)5 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	6:28	12.4	Surface	1.1	27.4 27.4	27.4	8.2 8.2	8.2	22.9 21.6	22.2	75.8 85.6	80.7	5.5 6.1	5.8	5.5	2.4 2.4	2.4	2.5	3.7 2.8	3.3	3.7
					Middle	6.2	26.6 26.6	26.6	8.2 8.2	8.2	26.3 26.5	26.4	74.6 74.0	74.3	5.3 5.3	5.3		2.5 2.5	2.5		2.7 2.5	2.6	
					Bottom	11.4	26.5 26.5	26.5	8.1 8.1	8.1	27.9 28.0	28.0	70.2 70.6	70.4	5.0 5.1	5.0	5.0	2.5 2.6	2.6		5.8 4.6	5.2	
26-Jul-17	Sunny	Moderate	8:03	12.8	Surface	1.2	28.0 27.5	27.8	8.1 8.1	8.1	20.8 20.9	20.9	69.8 70.5	70.2	5.1 5.2	5.1	5.1	5.8 6.2	6.0	5.9	4.0 5.2	4.6	4.6
					Middle	6.4	26.8 26.9	26.8	8.1 8.1	8.1	27.3 27.8	27.5	68.4 67.3	67.9	5.1 5.0	5.0		5.8 5.8	5.8		4.2 4.8	4.5	
					Bottom	11.8	26.7 26.8	26.8	8.1 8.1	8.1	29.1 28.8	29.0	67.4 66.7	67.1	4.9 4.9	4.9	4.9	5.8 5.9	5.9		5.1 4.0	4.6	
28-Jul-17	Sunny	Moderate	9:42	13.3	Surface	1.0	28.8 28.9	28.9	8.1 8.1	8.1	18.4 18.3	18.3	77.7 76.0	76.9	5.4 5.3	5.3	5.2	5.0 5.2	5.1	5.2	3.5 3.5	3.5	4.0
					Middle	6.6	27.7 27.9	27.8	8.1 8.1	8.1	27.8 27.6	27.7	74.6 75.5	75.1	5.0 5.1	5.1		5.3 5.2	5.3		3.4 3.4	3.4	
					Bottom	12.3	27.4 27.4	27.4	8.1 8.1	8.1	28.4 28.3	28.3	74.2 75.2	74.7	5.0 5.1	5.1	5.1	5.2 5.5	5.4		4.7 5.6	5.2	
31-Jul-17	Cloudy	Moderate	13:27	12.5	Surface	1.1	29.8 29.8	29.8	8.3 8.3	8.3	19.2 19.3	19.3	91.0 86.7	88.9	6.2 5.9	6.1	5.8	4.8 4.9	4.9	5.0	5.4 6.3	5.9	5.5
					Middle	6.3	29.6 29.6	29.6	8.3 8.3	8.3	23.0 22.5	22.8	77.7 84.9	81.3	5.2 5.7	5.5		5.1 5.2	5.2		4.5 5.7	5.1	
					Bottom	11.5	27.3 27.4	27.3	8.2 8.2	8.2	29.1 30.9	30.0	77.3 78.9	78.1	5.2 5.3	5.2	5.2	5.1 5.1	5.1		5.1 6.2	5.7	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS6, CSA and CS(Mf)5 are considered as upstream contol stations of mid-flood tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CS6 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	08:50	10.0	Surface	1.0	28.2 28.2	28.2	7.7 7.7	7.7	9.8 7.9	8.9	74.7 74.7	74.7	5.5 5.5	5.5	5.5	3.9 4.0	4.0	3.3	6.5 6.7	6.6	8.0
					Middle	5.0	27.9 27.8	27.9	7.7 7.7	7.7	15.1 14.1	14.6	74.3 74.5	74.4	5.5 5.5	5.5		3.1 2.9	3.0		5.6 6.9	6.3	
					Bottom	9.0	27.7 27.7	27.7	7.6 7.6	7.6	16.0 16.9	16.4	74.5 74.4	74.5	5.5 5.5	5.5	5.5	2.8 3.1	3.0		11.9 10.2	11.1	
5-Jul-17	Cloudy	Moderate	9:25	10.2	Surface	1.0	27.8 27.8	27.8	8.2 8.2	8.2	11.3 11.2	11.3	78.4 79.1	78.8	5.6 5.7	5.7	5.6	6.0 6.0	6.0	6.2	4.2 2.9	3.6	4.7
					Middle	5.1	27.5 27.6	27.5	8.1 8.1	8.1	13.5 13.2	13.3	77.2 75.7	76.5	5.5 5.5	5.5		6.2 6.3	6.3		4.9 3.9	4.4	
					Bottom	9.2	27.8 27.8	27.8	8.1 8.1	8.1	16.2 16.2	16.2	75.3 75.4	75.4	5.6 5.5	5.5	5.5	6.4 6.5	6.5		6.4 6.1	6.3	
7-Jul-17	Rainy	Moderate	10:37	10.1	Surface	1.1	27.5 27.4	27.4	7.9 7.9	7.9	15.1 15.2	15.2	73.3 73.5	73.4	5.4 5.4	5.4	5.4	3.8 3.9	3.9	4.2	6.4 6.0	6.2	5.7
					Middle	5.1	27.3 27.4	27.3	7.9 7.9	7.9	17.3 16.8	17.1	72.5 73.2	72.9	5.3 5.4	5.4		4.2 4.1	4.2		6.1 5.0	5.6	
					Bottom	9.1	27.3 27.2	27.3	7.9 7.8	7.9	18.2 18.5	18.4	73.0 71.8	72.4	5.3 5.3	5.3	5.3	4.4 4.5	4.5		5.2 5.5	5.4	
10-Jul-17	Sunny	Moderate	14:20	9.9	Surface	1.0	27.5 27.1	27.3	8.0 8.0	8.0	11.8 14.2	13.0	74.2 74.0	74.1	5.2 5.2	5.2	5.2	5.3 5.2	5.3	5.6	3.5 3.6	3.6	5.6
					Middle	5.0	26.7 26.4	26.6	8.0 7.9	8.0	16.5 19.3	17.9	73.3 73.5	73.4	5.2 5.2	5.2		5.4 5.6	5.5		3.9 4.5	4.2	
					Bottom	8.9	26.4 26.7	26.6	7.9 7.9	7.9	21.2 19.8	20.5	72.4 72.8	72.6	5.1 5.1	5.1	5.1	5.9 5.8	5.9		9.0 8.9	9.0	
12-Jul-17	Sunny	Moderate	15:29	9.9	Surface	1.0	28.1 27.3	27.7	8.1 8.0	8.1	19.0 20.0	19.5	86.8 85.5	86.2	6.0 5.9	6.0	5.9	4.3 4.2	4.3	4.5	16.7 16.4	16.6	18.0
					Middle	5.0	27.7 27.6	27.7	8.1 8.1	8.1	18.0 18.4	18.2	83.2 84.1	83.7	5.8 5.8	5.8		4.5 4.4	4.5		18.3 19.6	19.0	
					Bottom	8.9	27.6 27.6	27.6	8.1 8.1	8.1	18.4 18.4	18.4	81.4 81.2	81.3	5.7 5.6	5.6	5.6	4.6 4.7	4.7		18.2 18.8	18.5	
14-Jul-17	Sunny	Moderate	16:43	10.1	Surface	1.0	27.9 27.6	27.7	8.2 8.1	8.2	18.4 19.1	18.8	105.0 105.2	105.1	7.4 7.4	7.4	7.4	2.8 2.9	2.9	3.2	21.5 20.4	21.0	20.8
					Middle	5.1	27.1 27.6	27.4	8.1 8.2	8.1	20.9 18.9	19.9	104.4 104.6	104.5	7.4 7.4	7.4		3.1 3.2	3.2		19.2 20.6	19.9	
					Bottom	9.1	27.1 27.0	27.1	8.1 8.2	8.1	21.1 21.3	21.2	103.1 102.5	102.8	7.3 7.3	7.3	7.3	3.3 3.4	3.4		22.2 20.9	21.6	
17-Jul-17	Cloudy	Moderate	5:51	10.3	Surface	1.1	27.8 27.8	27.8	7.9 7.9	7.9	13.1 13.0	13.0	95.1 94.4	94.8	6.9 6.7	6.8	6.8	1.3 1.3	1.3	1.5	1.4 1.4	1.4	1.9
					Middle	5.2	27.7 27.7	27.7	7.9 7.9	7.9	14.6 14.8	14.7	93.2 94.1	93.7	6.8 6.9	6.8		1.5 1.4	1.5		1.8 1.8	1.8	
					Bottom	9.3	27.5 27.5	27.5	7.9 7.8	7.8	17.8 17.8	17.8	93.3 92.7	93.0	6.7 6.7	6.7	6.7	1.7 1.8	1.8		2.4 2.3	2.4	
19-Jul-17	Sunny	Moderate	7:56	10.2	Surface	1.1	27.2 27.5	27.3	7.9 7.9	7.9	12.2 11.3	11.8	75.7 75.4	75.6	5.5 5.6	5.5	5.4	1.3 1.3	1.3	1.6	1.2 1.4	1.3	2.7
					Middle	5.1	27.0 27.2	27.1	7.9 8.0	7.9	16.8 15.0	15.9	71.6 73.2	72.4	5.3 5.3	5.3		1.5 1.6	1.6		1.8 1.5	1.7	
					Bottom	9.2	27.3 26.9	27.1	7.9 7.9	7.9	16.6 18.4	17.5	72.7 70.8	71.8	5.2 5.1	5.2	5.2	1.7 1.9	1.8		4.2 5.8	5.0	
21-Jul-17	Sunny	Moderate	10:13	9.8	Surface	1.0	28.3 28.3	28.3	8.0 8.0	8.0	14.9 14.9	14.9	78.0 78.0	78.0	5.6 5.6	5.6	5.6	2.1 2.1	2.1	2.1	0.5 0.5	0.5	0.9
					Middle	4.9	27.0 27.1	27.0	8.0 8.0	8.0	21.9 21.2	21.5	76.1 77.6	76.9	5.4 5.6	5.5		2.1 2.0	2.1		1.0 0.9	1.0	
					Bottom	8.8	27.2 26.9	27.0	8.0 8.0	8.0	21.8 22.1	21.9	76.3 75.3	75.8	5.5 5.4	5.4	5.4	2.2 2.0	2.1		1.4 1.1	1.3	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CS6 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	14:11	10.2	Surface	1.0	27.4 27.5	27.4	7.9 7.9	7.9	22.5 21.5	22.0	80.2 80.1	80.2	5.7 5.8	5.7	5.7	2.0 1.8	1.9	1.9	0.5 0.5	0.5	2.0
					Middle	5.1	27.1 27.1	27.1	7.9 7.9	7.9	24.0 23.9	24.0	79.5 80.1	79.8	5.7 5.7	5.7		1.9 1.9	1.9		0.6 0.5	0.6	
					Bottom	9.2	27.1 27.2	27.1	8.0 7.9	7.9	24.0 24.0	24.0	81.0 79.9	80.5	5.8 5.7	5.7	5.7	1.8 2.0	1.9		5.3 4.5	4.9	
26-Jul-17	Sunny	Moderate	15:41	9.9	Surface	1.1	28.7 28.9	28.8	8.0 8.0	8.0	19.4 19.0	19.2	75.6 74.5	75.1	5.6 5.6	5.6	5.5	5.6 5.7	5.7	5.9	6.0 6.4	6.2	6.1
					Middle	4.9	28.6 28.4	28.5	8.0 8.0	8.0	19.3 19.7	19.5	71.0 74.5	72.8	5.3 5.3	5.3		5.9 5.8	5.9		5.3 6.7	6.0	
					Bottom	8.9	27.6 27.9	27.8	8.0 8.0	8.0	23.5 22.0	22.8	71.2 70.2	70.7	5.1 5.2	5.2	5.2	6.2 6.3	6.3		6.4 5.7	6.1	
28-Jul-17	Sunny	Moderate	17:18	9.9	Surface	1.0	29.6 29.5	29.6	7.8 7.8	7.8	19.3 19.3	19.3	75.8 75.7	75.8	5.2 5.2	5.2	5.2	6.3 6.2	6.3	6.5	5.5 5.6	5.6	5.9
					Middle	5.0	29.0 29.0	29.0	7.8 7.8	7.8	20.9 21.0	20.9	74.8 75.1	75.0	5.2 5.2	5.2		6.5 6.4	6.5		5.6 6.4	6.0	
					Bottom	8.9	28.6 28.7	28.7	7.8 7.8	7.8	21.5 21.4	21.4	74.3 73.7	74.0	5.1 5.1	5.1	5.1	6.7 6.8	6.8		6.1 6.0	6.1	
31-Jul-17	Cloudy	Moderate	5:47	10.2	Surface	1.1	29.4 29.4	29.4	7.9 7.9	7.9	17.5 17.2	17.3	80.0 80.1	80.1	5.5 5.6	5.5	5.5	3.2 3.3	3.3	3.5	3.8 4.5	4.2	4.8
					Middle	5.1	29.3 29.3	29.3	7.9 8.0	7.9	18.9 18.8	18.8	80.2 79.5	79.9	5.5 5.5	5.5		3.4 3.6	3.5		4.1 5.7	4.9	
					Bottom	9.2	29.2 29.1	29.1	8.0 7.8	7.9	20.5 20.6	20.5	78.6 79.0	78.8	5.4 5.4	5.4	5.4	3.7 3.6	3.7		5.2 5.5	5.4	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS4 and CS(Mf)3 are considered as upstream contol stations of mid-ebb tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CS6 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	16:08	10.1	Surface	1.0	28.2 27.7	28.0	7.8 7.7	7.7	11.0 11.1	11.1	74.6 74.6	74.6	5.5 5.5	5.5	5.5	3.2 3.1	3.2	3.2	3.9 3.8	3.9	4.5
					Middle	5.1	27.0 27.4	27.2	7.6 7.6	7.6	20.9 20.7	20.8	74.5 74.3	74.4	5.5 5.5	5.5		3.1 3.0	3.1		5.3 4.7	5.0	
					Bottom	9.1	26.6 26.5	26.5	7.6 7.5	7.6	24.7 24.9	24.8	74.3 75.0	74.7	5.5 5.5	5.5		3.2 3.4	3.3		4.5 4.7	4.6	
5-Jul-17	Cloudy	Moderate	19:01	10.3	Surface	1.0	27.9 27.8	27.8	7.9 7.9	7.9	15.7 15.6	15.7	75.7 75.8	75.8	5.6 5.6	5.6	5.5	6.3 6.3	6.3	6.5	2.6 3.3	3.0	5.1
					Middle	5.2	27.6 27.6	27.6	7.9 7.9	7.9	16.2 15.9	16.0	75.6 75.2	75.4	5.4 5.5	5.5		6.4 6.5	6.5		4.8 5.2	5.0	
					Bottom	9.3	27.9 26.6	27.3	7.9 7.8	7.9	17.9 21.6	19.8	74.5 74.9	74.7	5.4 5.4	5.4	5.4	6.7 6.6	6.7		7.1 7.8	7.5	
7-Jul-17	Rainy	Moderate	20:14	10.3	Surface	1.0	27.1 27.0	27.1	7.9 7.9	7.9	17.9 19.7	18.8	73.3 73.6	73.5	5.5 5.4	5.4	5.4	3.2 3.3	3.3	3.5	4.3 4.8	4.6	4.7
					Middle	5.1	26.7 26.9	26.8	7.9 7.9	7.9	22.4 21.3	21.9	72.8 72.4	72.6	5.4 5.4	5.4		3.5 3.4	3.5		3.7 4.2	4.0	
					Bottom	9.3	26.9 26.7	26.8	7.9 7.9	7.9	23.5 23.1	23.3	71.1 71.3	71.2	5.3 5.3	5.3	5.3	3.7 3.6	3.7		5.9 5.1	5.5	
10-Jul-17	Sunny	Moderate	06:07	10.0	Surface	1.0	26.3 26.2	26.3	8.0 8.0	8.0	20.8 20.9	20.9	73.5 73.1	73.3	5.3 5.3	5.3	5.3	3.2 3.3	3.3	3.6	6.6 6.4	6.5	5.8
					Middle	5.0	26.0 26.0	26.0	8.0 8.0	8.0	22.1 21.8	21.9	73.0 73.1	73.1	5.2 5.3	5.2		3.8 3.6	3.7		5.1 5.7	5.4	
					Bottom	9.0	25.9 25.9	25.9	7.9 7.9	7.9	24.5 24.6	24.6	73.0 72.8	72.9	5.2 5.2	5.2	5.2	3.9 3.9	3.9		5.2 5.8	5.5	
12-Jul-17	Sunny	Moderate	07:24	10.1	Surface	1.0	26.4 26.6	26.5	7.9 7.9	7.9	23.3 22.8	23.1	87.8 88.9	88.4	6.1 6.2	6.1	6.1	4.1 4.1	4.1	4.2	19.7 19.3	19.5	20.3
					Middle	5.1	26.3 26.5	26.4	7.9 7.9	7.9	24.1 22.6	23.3	87.3 88.4	87.9	6.0 6.1	6.1		4.2 4.2	4.2		18.3 18.0	18.2	
					Bottom	9.1	26.0 26.1	26.1	7.8 7.8	7.8	24.0 24.0	24.0	84.8 85.4	85.1	5.9 5.9	5.9	5.9	4.3 4.4	4.4		23.5 22.9	23.2	
14-Jul-17	Sunny	Moderate	08:50	10.3	Surface	1.0	28.0 28.1	28.1	8.0 8.0	8.0	15.5 15.4	15.4	98.3 98.7	98.5	7.1 7.1	7.1	7.1	3.7 3.8	3.8	3.9	6.7 7.0	6.9	9.7
					Middle	5.2	27.9 28.0	27.9	8.0 8.0	8.0	15.7 15.3	15.5	97.9 98.3	98.1	7.0 7.1	7.1		3.9 3.9	3.9		5.9 6.7	6.3	
					Bottom	9.3	27.8 27.9	27.9	7.9 8.0	7.9	17.7 17.2	17.4	97.9 98.1	98.0	7.0 7.0	7.0	7.0	4.0 4.1	4.1		16.0 15.8	15.9	
17-Jul-17	Cloudy	Moderate	14:01	10.5	Surface	1.0	27.9 28.0	27.9	8.0 8.0	8.0	14.0 14.0	14.0	99.3 99.7	99.5	7.2 7.2	7.2	7.1	1.4 1.5	1.5	1.7	0.5 0.7	0.6	1.0
					Middle	5.2	27.7 27.8	27.8	7.9 7.9	7.9	15.7 15.5	15.6	97.2 96.0	96.6	6.9 6.9	6.9		1.6 1.8	1.7		1.1 1.5	1.3	
					Bottom	9.5	27.7 27.7	27.7	7.9 7.9	7.9	16.5 16.3	16.4	95.7 95.1	95.4	6.9 6.9	6.9	6.9	1.8 1.9	1.9		1.2 1.2	1.2	
19-Jul-17	Sunny	Moderate	16:59	10.3	Surface	1.0	27.3 27.5	27.4	8.1 8.1	8.1	15.3 14.7	15.0	72.8 72.6	72.7	5.2 5.2	5.2	5.2	1.1 1.2	1.2	1.3	2.3 3.7	3.0	3.1
					Middle	5.2	27.0 27.2	27.1	8.1 8.0	8.1	16.3 16.1	16.2	71.0 71.5	71.3	5.2 5.2	5.2		1.2 1.3	1.3		3.4 2.2	2.8	
					Bottom	9.3	27.2 26.9	27.0	8.0 8.1	8.1	17.4 19.3	18.4	70.4 70.0	70.2	5.1 5.1	5.1	5.1	1.5 1.4	1.5		4.0 3.0	3.5	
21-Jul-17	Sunny	Moderate	18:32	9.9	Surface	1.1	28.2 28.2	28.2	8.0 8.0	8.0	16.0 16.0	16.0	84.9 86.3	85.6	5.8 5.9	5.9	5.9	2.2 2.2	2.2	2.4	2.4 3.0	2.7	2.9
					Middle	5.0	27.4 27.4	27.4	7.9 7.9	7.9	19.5 19.4	19.4	83.7 85.0	84.4	5.8 5.9	5.8		2.5 2.4	2.5		3.5 3.7	3.6	
					Bottom	8.9	27.4 27.5	27.4	8.0 7.9	8.0	19.6 19.8	19.7	82.3 80.6	81.5	5.7 5.6	5.6	5.6	2.4 2.4	2.4		2.4 2.4	2.4	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CS6 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	6:04	9.8	Surface	1.0	26.9 26.9	26.9	7.9 7.9	7.9	25.2 25.2	25.2	74.7 74.7	74.7	5.3 5.3	5.3	5.3	1.8 1.9	1.9	1.9	1.8 1.5	1.7	1.5
					Middle	4.9	26.7 26.7	26.7	7.9 7.9	7.9	26.7 27.7	27.2	73.1 73.8	73.5	5.2 5.3	5.2		1.8 1.9	1.9		1.1 1.0	1.1	
					Bottom	8.8	26.7 26.6	26.7	7.9 7.9	7.9	28.3 28.4	28.4	74.1 73.1	73.6	5.3 5.2	5.2	5.2	2.0 1.8	1.9		1.8 1.8	1.8	
26-Jul-17	Sunny	Moderate	7:32	9.9	Surface	1.1	28.0 28.0	28.0	7.8 7.8	7.8	21.5 21.4	21.4	72.4 72.8	72.6	5.3 5.4	5.3	5.3	3.5 3.6	3.6	3.7	4.6 3.2	3.9	4.6
					Middle	5.0	28.0 27.7	27.9	7.8 7.8	7.8	21.4 21.5	21.5	71.2 71.0	71.1	5.3 5.3	5.3		3.7 3.7	3.7		4.9 4.8	4.9	
					Bottom	8.9	28.0 27.4	27.7	7.8 7.8	7.8	21.1 25.6	23.4	69.1 69.4	69.3	5.1 5.1	5.1	5.1	3.8 3.9	3.9		4.2 5.6	4.9	
28-Jul-17	Sunny	Moderate	9:12	10.1	Surface	1.1	28.5 28.5	28.5	7.8 7.8	7.8	19.9 19.6	19.7	79.8 78.5	79.2	5.5 5.4	5.4	5.4	4.3 4.4	4.4	4.6	3.5 4.4	4.0	3.5
					Middle	5.0	28.3 28.2	28.2	7.7 7.8	7.7	21.8 21.6	21.7	77.4 76.9	77.2	5.4 5.3	5.3		4.6 4.7	4.7		2.7 3.5	3.1	
					Bottom	9.1	28.2 28.2	28.2	7.7 7.7	7.7	22.5 24.6	23.5	76.4 75.2	75.8	5.2 5.2	5.2	5.2	4.8 4.8	4.8		3.0 3.6	3.3	
31-Jul-17	Cloudy	Moderate	14:26	10.2	Surface	1.0	29.7 29.7	29.7	8.0 8.0	8.0	16.4 16.3	16.3	85.5 85.8	85.7	5.9 6.0	6.0	5.9	3.6 3.4	3.5	3.7	5.3 4.6	5.0	5.4
					Middle	5.1	29.4 29.3	29.3	8.0 8.0	8.0	19.0 19.0	19.0	83.4 85.0	84.2	5.8 5.9	5.8		3.8 3.7	3.8		5.1 4.3	4.7	
					Bottom	9.2	29.1 29.3	29.2	7.9 8.0	8.0	21.7 20.5	21.1	81.1 79.8	80.5	5.5 5.5	5.5	5.5	3.8 3.9	3.9		6.7 6.2	6.5	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS6, CSA and CS(Mf)5 are considered as upstream contol stations of mid-flood tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CSA - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	08:35	34.8	Surface	1.0	28.2 28.3	28.2	7.8 7.8	7.8	8.0 8.1	8.0	74.8 74.3	74.6	5.5 5.5	5.5	5.5	4.3 4.1	4.2	3.8	8.7 9.9	9.3	10.0
					Middle	17.4	27.5 27.6	27.5	7.7 7.6	7.6	18.0 16.2	17.1	74.2 73.8	74.0	5.5 5.4	5.4		3.5 3.3	3.4		9.7 8.3	9.0	
					Bottom	33.8	27.5 27.6	27.5	7.7 7.6	7.6	18.4 18.4	18.4	73.8 74.1	74.0	5.4 5.5	5.4	5.4	3.7 3.6	3.7		11.8 11.4	11.6	
5-Jul-17	Cloudy	Moderate	9:15	35.0	Surface	1.0	27.9 27.7	27.8	8.2 8.1	8.2	11.8 11.8	11.8	76.4 76.2	76.3	5.6 5.6	5.6	5.5	4.1 3.8	4.0	4.3	5.6 6.5	6.1	5.9
					Middle	17.5	27.7 27.4	27.5	8.1 8.1	8.1	12.0 14.6	13.3	75.4 75.6	75.5	5.5 5.4	5.5		4.3 4.2	4.3		5.7 6.3	6.0	
					Bottom	34.0	27.7 27.6	27.6	8.1 8.0	8.1	16.2 17.1	16.6	74.4 74.3	74.4	5.5 5.5	5.5	5.5	4.6 4.5	4.6		5.1 6.3	5.7	
7-Jul-17	Rainy	Moderate	10:26	34.9	Surface	1.0	27.4 27.5	27.4	7.9 7.9	7.9	15.7 15.1	15.4	75.5 74.4	75.0	5.6 5.5	5.6	5.5	3.8 3.9	3.9	4.0	5.5 5.1	5.3	5.4
					Middle	17.5	27.3 27.4	27.4	7.9 7.9	7.9	17.3 15.3	16.3	74.4 73.9	74.2	5.4 5.5	5.5		4.0 4.1	4.1		5.6 4.9	5.3	
					Bottom	33.9	27.3 27.3	27.3	7.8 7.9	7.9	17.8 18.0	17.9	73.0 72.0	72.5	5.3 5.3	5.3	5.3	4.2 4.2	4.2		5.2 6.3	5.8	
10-Jul-17	Sunny	Moderate	14:30	34.5	Surface	1.0	27.3 27.0	27.1	8.0 8.0	8.0	13.2 15.1	14.2	76.0 75.1	75.6	5.6 5.5	5.5	5.5	5.6 5.7	5.7	6.0	3.6 3.9	3.8	3.8
					Middle	17.3	26.7 26.4	26.6	7.9 7.9	7.9	17.8 19.6	18.7	75.5 75.4	75.5	5.5 5.5	5.5		5.8 6.1	6.0		3.8 4.0	3.9	
					Bottom	33.5	26.5 26.9	26.7	7.9 7.9	7.9	20.6 18.9	19.8	74.0 74.4	74.2	5.4 5.4	5.4	5.4	6.3 6.2	6.3		4.0 3.4	3.7	
12-Jul-17	Sunny	Moderate	15:40	34.4	Surface	1.0	28.3 28.5	28.4	8.1 8.2	8.2	15.1 15.0	15.0	87.1 88.3	87.7	6.1 6.1	6.1	6.1	4.2 4.1	4.2	4.5	10.2 11.7	11.0	13.2
					Middle	17.2	27.9 27.9	27.9	8.1 8.1	8.1	16.3 17.8	17.0	87.2 85.9	86.6	6.0 6.0	6.0		4.6 4.5	4.6		12.7 12.9	12.8	
					Bottom	33.4	28.0 27.4	27.7	8.1 8.0	8.1	17.4 19.7	18.6	85.4 85.7	85.6	5.9 6.0	5.9	5.9	4.8 4.7	4.8		15.7 15.8	15.8	
14-Jul-17	Sunny	Moderate	16:56	34.6	Surface	1.0	28.3 28.6	28.4	8.2 8.3	8.3	16.5 16.3	16.4	109.5 108.5	109.0	7.8 7.7	7.8	7.7	2.7 2.6	2.7	2.9	15.1 15.9	15.5	17.4
					Middle	17.3	27.6 28.0	27.8	8.1 8.2	8.2	19.0 17.2	18.1	105.0 105.6	105.3	7.4 7.5	7.5		2.9 2.8	2.9		17.7 16.1	16.9	
					Bottom	33.6	27.2 27.1	27.1	8.1 8.1	8.1	20.9 21.7	21.3	103.0 103.2	103.1	7.3 7.3	7.3	7.3	3.2 3.1	3.2		19.3 20.3	19.8	
17-Jul-17	Cloudy	Moderate	5:38	34.7	Surface	1.1	27.8 27.8	27.8	7.9 7.9	7.9	13.2 13.0	13.1	95.2 95.0	95.1	7.0 6.9	6.9	6.8	1.4 1.5	1.5	1.7	1.1 1.5	1.3	1.5
					Middle	17.5	27.7 27.7	27.7	7.8 7.9	7.8	15.8 15.8	15.8	93.1 94.9	94.0	6.7 6.8	6.7		1.8 1.6	1.7		1.8 1.4	1.6	
					Bottom	33.7	27.6 27.5	27.5	7.8 7.7	7.8	18.2 18.3	18.3	91.1 90.0	90.6	6.6 6.4	6.5	6.5	1.8 1.9	1.9		1.7 1.5	1.6	
19-Jul-17	Sunny	Moderate	7:46	34.8	Surface	1.0	27.2 27.3	27.3	7.9 7.8	7.9	13.7 11.5	12.6	72.8 74.2	73.5	5.4 5.3	5.4	5.3	1.1 1.1	1.1	1.3	4.0 3.1	3.6	5.3
					Middle	17.4	27.0 27.1	27.0	7.8 7.9	7.9	16.9 16.8	16.8	71.8 71.8	71.8	5.2 5.3	5.2		1.3 1.2	1.3		5.7 4.6	5.2	
					Bottom	33.8	26.9 27.1	27.0	7.9 8.0	7.9	18.4 17.8	18.1	70.7 70.0	70.4	5.1 5.1	5.1	5.1	1.5 1.4	1.5		7.6 7.0	7.3	
21-Jul-17	Sunny	Moderate	9:59	34.9	Surface	1.0	28.3 28.3	28.3	8.0 8.0	8.0	14.9 14.9	14.9	79.0 76.2	77.6	5.6 5.4	5.5	5.5	2.1 2.2	2.2	2.1	1.2 1.2	1.2	1.2
					Middle	17.2	26.6 26.6	26.6	8.0 8.0	8.0	24.9 24.5	24.7	77.9 75.7	76.8	5.6 5.5	5.5		2.0 1.8	1.9		1.4 1.8	1.6	
					Bottom	33.9	26.7 26.6	26.6	8.0 8.0	8.0	25.6 25.6	25.6	74.1 75.6	74.9	5.3 5.4	5.3	5.3	2.2 2.2	2.2		0.9 0.8	0.9	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CSA - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	14:26	35.0	Surface	1.0	27.2 27.4	27.3	8.0 8.0	8.0	22.8 22.1	22.5	77.2 78.1	77.7	5.5 5.6	5.6	5.5	1.7 1.7	1.7	1.8	0.5 0.5	0.5	0.5
					Middle	17.5	26.9 26.8	26.9	7.9 7.9	7.9	25.5 26.3	25.9	76.6 75.6	76.1	5.5 5.4	5.4		1.9 2.0	2.0		0.5 0.5	0.5	
					Bottom	34.0	26.8 27.0	26.9	7.9 7.9	7.9	26.3 25.9	26.1	76.6 77.8	77.2	5.5 5.5	5.5	5.5	1.8 1.6	1.7		0.5 0.5	0.5	
26-Jul-17	Sunny	Moderate	15:53	34.4	Surface	1.1	28.4 28.5	28.5	8.0 8.0	8.0	19.3 19.1	19.2	70.7 71.5	71.1	5.3 5.3	5.3	5.2	7.3 7.2	7.3	7.5	7.1 6.7	6.9	7.0
					Middle	17.3	27.8 27.9	27.8	8.0 8.0	8.0	21.7 21.0	21.3	69.3 70.5	69.9	5.2 5.1	5.1		7.4 7.5	7.5		7.5 7.0	7.3	
					Bottom	33.4	27.6 28.1	27.8	8.0 8.0	8.0	23.8 23.4	23.6	67.9 69.8	68.9	5.1 5.9	5.5	5.5	7.8 7.7	7.8		7.1 6.8	7.0	
28-Jul-17	Sunny	Moderate	17:31	34.5	Surface	1.0	29.3 28.9	29.1	7.8 7.8	7.8	19.1 19.6	19.3	76.6 77.6	77.1	5.2 5.3	5.3	5.2	6.9 6.9	6.9	7.0	3.5 4.6	4.1	6.0
					Middle	17.4	28.8 28.6	28.7	7.8 7.8	7.8	21.3 21.6	21.5	76.7 75.5	76.1	5.2 5.2	5.2		7.0 6.9	7.0		6.4 7.5	7.0	
					Bottom	33.5	28.4 29.1	28.8	7.8 7.8	7.8	22.7 23.2	22.9	75.0 75.1	75.1	5.1 5.1	5.1	5.1	7.3 7.2	7.3		6.3 7.5	6.9	
31-Jul-17	Cloudy	Moderate	5:33	34.7	Surface	1.0	29.5 29.4	29.4	7.9 7.9	7.9	17.3 18.1	17.7	79.8 80.8	80.3	5.5 5.6	5.6	5.5	3.4 3.3	3.4	3.5	6.2 5.2	5.7	5.0
					Middle	17.5	29.3 29.3	29.3	7.9 7.8	7.9	19.7 19.2	19.5	79.7 79.2	79.5	5.5 5.5	5.5		3.4 3.5	3.5		4.7 5.0	4.9	
					Bottom	33.7	29.2 29.2	29.2	7.9 7.9	7.9	20.1 20.5	20.3	78.4 78.5	78.5	5.4 5.4	5.4	5.4	3.6 3.7	3.7		4.6 4.5	4.6	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS4 and CS(Mf)3 are considered as upstream contol stations of mid-ebb tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CSA - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	16:21	35.2	Surface	1.0	28.2 28.2	28.2	7.8 7.8	7.8	11.3 11.2	11.2	73.3 73.8	73.6	5.4 5.4	5.4	5.4	3.4 3.4	3.4	3.5	5.4 4.6	5.0	4.7
					Middle	17.6	26.3 26.2	26.2	7.6 7.5	7.6	27.6 27.8	27.7	73.3 73.3	73.3	5.4 5.4	5.4		3.6 3.6	3.6		4.2 4.4	4.3	
					Bottom	34.2	26.4 26.1	26.2	7.5 7.6	7.5	27.9 28.2	28.0	73.7 73.8	73.8	5.4 5.4	5.4	5.4	3.4 3.6	3.5		5.2 4.2	4.7	
5-Jul-17	Cloudy	Moderate	19:13	35.1	Surface	1.1	27.9 28.0	28.0	8.0 8.0	8.0	15.4 15.3	15.4	75.4 76.6	76.0	5.4 5.5	5.5	5.5	6.2 6.3	6.3	6.5	4.4 5.1	4.8	5.1
					Middle	17.6	27.8 28.0	27.9	8.0 8.0	8.0	15.5 15.3	15.4	75.1 76.4	75.8	5.4 5.5	5.5		6.6 6.5	6.6		4.5 4.9	4.7	
					Bottom	34.1	28.0 28.0	28.0	8.0 8.0	8.0	15.4 15.6	15.5	76.1 75.0	75.6	5.5 5.4	5.4	5.4	6.7 6.8	6.8		5.9 5.6	5.8	
7-Jul-17	Rainy	Moderate	20:26	35.0	Surface	1.1	27.1 27.0	27.0	7.9 8.0	8.0	19.7 19.3	19.5	72.8 73.1	73.0	5.4 5.4	5.4	5.3	3.2 3.1	3.2	3.4	5.0 4.7	4.9	4.9
					Middle	17.5	26.9 26.8	26.9	7.9 7.9	7.9	21.0 22.0	21.5	72.7 72.2	72.5	5.3 5.3	5.3		3.4 3.4	3.4		5.5 5.0	5.3	
					Bottom	34.0	26.9 26.7	26.8	7.9 7.9	7.9	22.6 22.9	22.7	71.2 71.5	71.4	5.3 5.3	5.3	5.3	3.6 3.5	3.6		4.6 4.6	4.6	
10-Jul-17	Sunny	Moderate	05:55	34.7	Surface	1.0	26.2 26.2	26.2	8.0 8.0	8.0	21.3 21.1	21.2	73.2 73.3	73.3	5.3 5.3	5.3	5.3	4.3 4.2	4.3	4.6	4.9 4.8	4.9	5.7
					Middle	17.4	26.1 25.9	26.0	8.0 8.0	8.0	21.4 22.4	21.9	73.1 71.7	72.4	5.3 5.2	5.2		4.5 4.6	4.6		4.7 4.7	4.7	
					Bottom	33.7	25.7 25.6	25.6	8.0 8.0	8.0	25.5 25.7	25.6	71.1 71.6	71.4	5.1 5.1	5.1	5.1	4.8 4.7	4.8		7.0 8.1	7.6	
12-Jul-17	Sunny	Moderate	07:13	34.5	Surface	1.0	26.6 26.6	26.6	7.9 7.9	7.9	22.1 22.1	22.1	86.3 87.6	87.0	6.0 6.1	6.0	6.0	3.3 3.1	3.2	3.4	5.9 4.5	5.2	9.2
					Middle	17.3	26.6 26.7	26.6	7.9 7.9	7.9	22.4 22.0	22.2	84.7 84.8	84.8	5.9 5.9	5.9		3.3 3.4	3.4		9.5 8.3	8.9	
					Bottom	33.5	26.5 26.6	26.6	7.9 7.9	7.9	22.7 22.3	22.5	83.2 82.8	83.0	5.8 5.8	5.8	5.8	3.5 3.6	3.6		13.6 13.4	13.5	
14-Jul-17	Sunny	Moderate	08:38	34.6	Surface	1.0	28.0 27.9	28.0	7.9 8.0	8.0	15.4 15.5	15.5	98.3 98.2	98.3	7.1 7.1	7.1	7.1	3.6 3.7	3.7	4.0	8.8 8.8	8.8	11.2
					Middle	17.3	27.9 27.7	27.8	7.9 7.9	7.9	16.1 17.3	16.7	97.0 97.4	97.2	7.0 7.0	7.0		3.8 3.9	3.9		10.7 11.5	11.1	
					Bottom	33.6	27.9 27.6	27.7	7.9 7.9	7.9	17.0 19.5	18.3	96.5 96.9	96.7	6.9 6.9	6.9	6.9	4.3 4.2	4.3		13.2 14.0	13.6	
17-Jul-17	Cloudy	Moderate	14:14	34.9	Surface	1.1	28.0 27.9	27.9	8.0 8.0	8.0	13.6 14.4	14.0	96.2 95.5	95.9	6.9 6.9	6.9	6.9	1.1 1.1	1.1	1.3	0.5 0.6	0.6	0.9
					Middle	17.4	27.8 27.7	27.7	7.9 7.9	7.9	15.6 16.0	15.8	94.8 95.5	95.2	6.8 6.9	6.9		1.3 1.2	1.3		1.4 1.9	1.7	
					Bottom	33.9	27.7 27.7	27.7	7.9 7.9	7.9	16.2 16.5	16.3	94.0 94.7	94.4	6.8 6.8	6.8	6.8	1.5 1.4	1.5		0.5 0.6	0.6	
19-Jul-17	Sunny	Moderate	17:11	34.9	Surface	1.0	27.4 27.1	27.3	8.1 8.1	8.1	15.3 16.2	15.7	71.9 72.1	72.0	5.3 5.3	5.3	5.3	1.1 1.1	1.1	1.2	1.2 1.6	1.4	2.8
					Middle	17.4	26.9 27.0	26.9	8.0 8.1	8.1	17.8 17.0	17.4	70.8 70.6	70.7	5.2 5.2	5.2		1.2 1.2	1.2		3.7 2.3	3.0	
					Bottom	33.9	26.8 26.8	26.8	8.0 8.0	8.0	21.1 20.1	20.6	70.2 69.8	70.0	5.1 5.1	5.1	5.1	1.3 1.3	1.3		3.4 4.7	4.1	
21-Jul-17	Sunny	Moderate	18:46	35.1	Surface	1.0	28.4 28.2	28.3	8.0 8.0	8.0	15.9 16.0	16.0	85.5 85.3	85.4	5.9 5.9	5.9	5.7	2.1 2.3	2.2	2.7	1.8 1.4	1.6	1.7
					Middle	17.5	27.3 27.4	27.4	7.9 7.9	7.9	19.5 19.4	19.5	79.5 80.6	80.1	5.5 5.5	5.5		2.8 2.9	2.9		1.8 1.8	1.8	
					Bottom	34.1	27.3 27.3	27.3	7.9 7.9	7.9	19.9 20.0	20.0	77.0 77.8	77.4	5.3 5.3	5.3	5.3	2.8 3.0	2.9		1.9 1.6	1.8	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CSA - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	5:44	34.5	Surface	1.0	26.9 26.9	26.9	7.9 7.8	7.8	25.3 25.4	25.3	74.1 75.0	74.6	5.3 5.4	5.3	5.2	1.9 1.9	1.9	2.5	1.7 1.5	1.6	1.7
					Middle	17.3	26.4 26.4	26.4	7.8 7.8	7.8	29.1 29.2	29.1	71.0 71.2	71.1	5.1 5.1	5.1		2.5 2.8	2.7		1.5 1.9	1.7	
					Bottom	33.5	26.4 26.4	26.4	7.8 7.8	7.8	29.4 29.3	29.3	71.7 71.4	71.6	5.1 5.1	5.1	5.1	2.8 3.0	2.9		1.8 1.9	1.9	
26-Jul-17	Sunny	Moderate	7:20	34.4	Surface	1.0	28.2 28.1	28.2	7.8 7.8	7.8	19.7 20.0	19.9	72.9 73.3	73.1	5.4 5.4	5.4	5.3	3.9 4.1	4.0	4.2	5.1 3.8	4.5	4.8
					Middle	17.2	28.1 28.0	28.0	7.8 7.8	7.8	20.6 21.4	21.0	71.2 72.4	71.8	5.2 5.3	5.3		4.3 4.2	4.3		6.2 4.8	5.5	
					Bottom	33.4	27.9 27.7	27.8	7.8 7.8	7.8	22.0 23.2	22.6	70.4 69.8	70.1	5.1 5.1	5.1	5.1	4.4 4.5	4.5		4.6 4.0	4.3	
28-Jul-17	Sunny	Moderate	9:02	34.6	Surface	1.0	28.4 28.4	28.4	7.7 7.7	7.7	20.6 20.7	20.6	79.3 78.6	79.0	5.4 5.4	5.4	5.3	4.4 4.5	4.5	4.6	4.6 4.5	4.6	4.0
					Middle	17.3	28.2 28.3	28.2	7.7 7.7	7.7	21.8 21.4	21.6	76.9 77.7	77.3	5.3 5.3	5.3		4.7 4.6	4.7		4.0 3.2	3.6	
					Bottom	33.6	28.3 27.9	28.1	7.7 7.7	7.7	23.0 24.2	23.6	76.2 76.1	76.2	5.2 5.2	5.2	5.2	4.8 4.8	4.8		3.6 3.9	3.8	
31-Jul-17	Cloudy	Moderate	14:39	34.8	Surface	1.1	29.5 29.6	29.6	8.0 8.0	8.0	17.2 17.1	17.1	82.0 83.2	82.6	5.7 5.8	5.7	5.7	3.1 3.3	3.2	3.5	4.9 4.4	4.7	5.0
					Middle	17.4	29.4 29.3	29.3	8.0 7.9	8.0	18.9 19.1	19.0	82.1 81.4	81.8	5.6 5.6	5.6		3.6 3.5	3.6		4.6 4.9	4.8	
					Bottom	33.8	29.3 29.2	29.2	7.9 7.9	7.9	21.0 20.8	20.9	81.9 80.9	81.4	5.6 5.6	5.6	5.6	3.7 3.8	3.8		6.2 5.0	5.6	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS6, CSA and CS(Mf)5 are considered as upstream contol stations of mid-flood tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS(Mf)6 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	10:10	3.2	Surface	1.0	28.4 28.5	28.5	8.3 8.3	8.3	14.5 14.8	14.7	93.4 90.1	91.8	6.7 6.4	6.6	6.6	3.6 3.5	3.6	3.7	3.0 4.5	3.8	5.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.2	28.7 28.4	28.5	8.3 8.2	8.2	17.2 18.7	18.0	93.4 90.5	92.0	6.6 6.4	6.5	6.5	3.6 3.7	3.7		7.1 6.7	6.9	
5-Jul-17	Cloudy	Moderate	11:49	3.1	Surface	1.1	28.4 28.5	28.5	8.2 8.2	8.2	13.9 12.9	13.4	89.8 88.1	89.0	6.5 6.4	6.4	6.4	4.1 3.5	3.8	3.8	6.0 6.5	6.3	6.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.1	28.1 28.2	28.1	8.1 8.2	8.2	15.1 14.4	14.8	89.3 86.1	87.7	6.4 6.2	6.3	6.3	4.1 3.4	3.8		8.3 6.6	7.5	
7-Jul-17	Rainy	Moderate	12:50	3.2	Surface	1.1	27.9 27.9	27.9	8.1 8.1	8.1	15.1 15.4	15.3	83.9 82.9	83.4	5.7 5.6	5.6	5.6	3.1 3.2	3.2	4.2	9.6 8.8	9.2	8.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.2	27.3 27.6	27.5	8.0 8.1	8.1	18.0 17.1	17.6	83.3 85.7	84.5	5.6 5.8	5.7	5.7	5.3 5.1	5.2		8.3 9.0	8.7	
10-Jul-17	Sunny	Moderate	13:12	3.4	Surface	1.0	28.4 28.0	28.2	8.3 8.3	8.3	13.6 14.1	13.9	97.2 94.0	95.6	7.0 6.8	6.9	6.9	2.5 2.3	2.4	3.3	8.7 7.4	8.1	8.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.4	27.6 27.7	27.7	8.3 8.3	8.3	16.4 16.3	16.4	93.2 94.9	94.1	6.7 6.8	6.8	6.8	4.2 3.9	4.1		8.2 8.2	8.2	
12-Jul-17	Sunny	Moderate	14:09	3.1	Surface	1.0	28.3 28.3	28.3	8.5 8.5	8.5	16.9 16.9	16.9	124.8 125.1	125.0	8.9 8.9	8.9	8.9	6.2 6.4	6.3	6.5	16.3 15.1	15.7	15.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.1	28.3 28.3	28.3	8.5 8.5	8.5	17.1 17.2	17.1	114.3 115.6	115.0	8.1 8.2	8.1	8.1	6.7 6.5	6.6		15.8 14.8	15.3	
14-Jul-17	Sunny	Moderate	15:07	3.2	Surface	1.0	28.8 28.8	28.8	8.6 8.6	8.6	16.9 16.8	16.9	132.0 128.1	130.1	9.3 9.0	9.1	9.1	5.5 5.6	5.6	5.6	8.0 7.7	7.9	12.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.2	28.7 28.7	28.7	8.6 8.5	8.5	17.0 17.0	17.0	130.4 119.9	125.2	9.2 8.4	8.8	8.8	5.5 5.5	5.5		16.0 17.6	16.8	
17-Jul-17	Cloudy	Moderate	8:21	3.3	Surface	1.2	27.7 27.7	27.7	8.1 8.1	8.1	17.6 17.6	17.6	78.4 80.2	79.3	5.6 5.7	5.7	5.7	2.3 2.4	2.4	2.4	3.8 2.3	3.1	5.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.3	27.4 27.7	27.5	8.1 8.1	8.1	18.5 18.3	18.4	73.6 79.6	76.6	5.3 5.7	5.5	5.5	2.4 2.4	2.4		7.5 8.6	8.1	
19-Jul-17	Sunny	Moderate	10:20	3.2	Surface	1.0	27.5 27.5	27.5	8.1 8.1	8.1	12.7 12.7	12.7	83.7 82.5	83.1	6.2 6.1	6.1	6.1	3.3 3.2	3.3	3.3	0.7 0.8	0.8	1.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.2	27.3 27.3	27.3	8.1 8.0	8.1	13.8 13.8	13.8	85.8 82.7	84.3	6.3 6.1	6.2	6.2	3.2 3.4	3.3		2.3 2.5	2.4	
21-Jul-17	Sunny	Moderate	12:21	3.3	Surface	1.0	29.0 29.0	29.0	8.2 8.2	8.2	15.6 15.5	15.6	89.4 89.5	89.5	6.3 6.3	6.3	6.3	3.3 3.6	3.5	3.5	4.0 3.1	3.6	4.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.3	29.0 28.9	28.9	8.2 8.2	8.2	15.7 15.7	15.7	89.4 89.6	89.5	6.3 6.3	6.3	6.3	3.5 3.5	3.5		4.4 4.6	4.5	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS(Mf)6 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	12:34	3.2	Surface	1.0	28.1 28.0	28.0	8.2 8.2	8.2	17.6 17.8	17.7	92.8 87.2	90.0	6.6 6.1	6.4	6.4	2.5 2.5	2.5	2.5	1.8 1.9	1.9	1.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.2	28.0 28.0	28.0	8.3 8.2	8.2	18.4 19.0	18.7	88.7 85.7	87.2	6.3 6.1	6.2	6.2	2.5 2.4	2.5		1.3 1.6	1.5	
26-Jul-17	Sunny	Moderate	14:06	3.3	Surface	1.1	29.8 29.9	29.9	8.2 8.2	8.2	17.5 17.4	17.5	81.1 84.7	82.9	5.6 5.9	5.7	5.7	10.4 10.3	10.4	10.4	2.4 3.7	3.1	3.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.3	29.6 29.4	29.5	8.2 8.3	8.2	18.3 18.3	18.3	80.7 82.4	81.6	5.6 5.7	5.6	5.6	10.5 10.5	10.5		4.2 4.9	4.6	
28-Jul-17	Sunny	Moderate	15:34	3.3	Surface	1.0	29.8 29.8	29.8	8.2 8.2	8.2	19.5 19.4	19.5	85.0 86.3	85.7	5.8 5.9	5.8	5.8	10.4 10.4	10.4	10.4	10.2 10.3	10.3	12.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.3	29.6 29.5	29.6	8.2 8.2	8.2	19.7 19.8	19.7	85.3 87.6	86.5	5.8 6.0	5.9	5.9	10.5 10.3	10.4		14.1 15.7	14.9	
31-Jul-17	Cloudy	Moderate	8:25	3.1	Surface	1.0	30.0 30.1	30.1	8.3 8.3	8.3	19.6 19.5	19.6	87.0 89.6	88.3	5.9 6.1	6.0	6.0	4.4 4.6	4.5	4.5	6.0 5.9	6.0	7.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.1	29.5 29.7	29.6	8.3 8.3	8.3	22.8 24.2	23.5	86.2 87.4	86.8	5.8 5.8	5.8	5.8	4.5 4.5	4.5		9.1 8.4	8.8	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS4 and CS(Mf)3 are considered as upstream contol stations of mid-ebb tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS(Mf)6 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	14:28	3.3	Surface	1.0	28.5 28.5	28.5	8.3 8.2	8.3	14.4 14.4	14.4	97.6 96.9	97.3	7.0 6.9	7.0	7.0	2.3 2.4	2.4	2.4	4.4 4.1	4.3	4.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.3	28.5 28.5	28.5	8.2 8.2	8.2	14.6 14.6	14.6	97.1 98.2	97.7	7.0 7.0	7.0	7.0	2.3 2.3	2.3		4.3 5.0	4.7	
5-Jul-17	Cloudy	Moderate	16:38	3.3	Surface	1.1	28.8 28.8	28.8	7.9 7.9	7.9	14.4 14.4	14.4	92.6 91.5	92.1	6.6 6.5	6.6	6.6	4.1 4.1	4.1	4.1	9.3 8.3	8.8	10.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.3	28.8 28.8	28.8	7.9 7.8	7.9	14.6 14.7	14.6	92.0 94.4	93.2	6.6 6.7	6.6	6.6	4.1 4.1	4.1		12.6 11.1	11.9	
7-Jul-17	Rainy	Moderate	18:05	3.3	Surface	1.0	27.8 27.8	27.8	8.1 8.2	8.1	15.3 14.9	15.1	86.3 85.5	85.9	5.8 5.7	5.8	5.8	5.6 5.4	5.5	5.4	4.4 3.8	4.1	5.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.3	27.8 27.7	27.8	8.2 8.1	8.1	15.4 16.4	15.9	84.8 85.8	85.3	5.7 5.8	5.7	5.7	5.2 5.5	5.4		6.9 7.2	7.1	
10-Jul-17	Sunny	Moderate	08:02	3.2	Surface	1.0	28.0 28.0	28.0	8.2 8.2	8.2	14.4 14.3	14.4	96.5 96.9	96.7	7.0 7.0	7.0	7.0	3.3 3.0	3.2	3.2	11.0 10.9	11.0	10.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.2	28.0 28.1	28.1	8.2 8.2	8.2	14.7 14.7	14.7	96.8 97.4	97.1	7.0 7.0	7.0	7.0	3.1 3.3	3.2		9.9 9.9	9.9	
12-Jul-17	Sunny	Moderate	08:53	3.3	Surface	1.0	27.8 27.8	27.8	8.3 8.3	8.3	15.7 15.8	15.7	103.3 103.9	103.6	7.4 7.5	7.4	7.4	4.7 4.7	4.7	4.9	13.4 13.0	13.2	13.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.3	27.7 27.7	27.7	8.3 8.3	8.3	16.1 16.0	16.1	102.9 103.3	103.1	7.4 7.4	7.4	7.4	5.1 5.0	5.1		13.6 14.1	13.9	
14-Jul-17	Sunny	Moderate	10:24	3.2	Surface	1.0	28.2 28.1	28.2	8.4 8.4	8.4	17.4 17.7	17.5	106.7 109.5	108.1	7.6 7.8	7.7	7.7	3.5 3.8	3.7	3.6	16.6 17.8	17.2	17.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.2	28.1 28.1	28.1	8.4 8.4	8.4	17.9 18.1	18.0	108.0 103.4	105.7	7.6 7.3	7.5	7.5	3.5 3.5	3.5		17.0 16.9	17.0	
17-Jul-17	Cloudy	Moderate	11:49	3.1	Surface	1.1	27.7 27.7	27.7	8.2 8.2	8.2	17.3 17.2	17.2	86.8 90.4	88.6	6.2 6.5	6.3	6.3	2.7 2.7	2.7	2.7	2.2 2.1	2.2	2.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.1	27.6 27.7	27.7	8.2 8.2	8.2	18.3 17.0	17.6	88.2 94.2	91.2	6.3 6.7	6.5	6.5	2.7 2.7	2.7		3.1 2.5	2.8	
19-Jul-17	Sunny	Moderate	14:50	3.2	Surface	1.0	28.0 28.0	28.0	8.2 8.2	8.2	11.1 11.2	11.2	91.2 90.0	90.6	6.7 6.6	6.7	6.7	2.4 2.5	2.5	2.4	2.5 2.2	2.4	2.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.2	27.9 27.9	27.9	8.2 8.3	8.2	11.2 11.2	11.2	90.4 93.0	91.7	6.7 6.9	6.8	6.8	2.3 2.4	2.4		3.4 2.4	2.9	
21-Jul-17	Sunny	Moderate	17:01	3.3	Surface	1.0	29.3 29.3	29.3	8.2 8.2	8.2	16.8 16.8	16.8	98.6 98.7	98.7	6.9 6.9	6.9	6.9	7.8 7.9	7.9	7.8	3.1 4.3	3.7	4.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.3	29.3 29.3	29.3	8.2 8.2	8.2	16.8 16.7	16.8	98.7 98.5	98.6	6.9 6.9	6.9	6.9	7.7 7.8	7.8		5.9 4.5	5.2	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS(Mf)6 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	7:34	3.4	Surface	1.1	28.0 28.0	28.0	8.2 8.2	8.2	19.2 19.2	19.2	79.7 79.4	79.6	5.6 5.6	5.6	5.6	3.2 3.4	3.3	3.4	3.0 4.3	3.7	3.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.4	28.0 28.0	28.0	8.2 8.2	8.2	19.3 19.2	19.2	79.8 79.5	79.7	5.6 5.6	5.6	5.6	3.3 3.5	3.4		2.8 2.9	2.9	
26-Jul-17	Sunny	Moderate	9:03	3.2	Surface	1.1	28.9 28.9	28.9	8.2 8.2	8.2	19.8 19.8	19.8	76.1 76.2	76.2	5.3 5.3	5.3	5.3	8.3 8.0	8.2	8.2	5.6 6.6	6.1	7.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.2	28.8 28.8	28.8	8.2 8.2	8.2	19.9 19.9	19.9	76.2 76.0	76.1	5.3 5.3	5.3	5.3	8.1 8.5	8.3		9.9 8.9	9.4	
28-Jul-17	Sunny	Moderate	11:00	3.3	Surface	1.0	29.5 29.4	29.5	8.2 8.2	8.2	19.5 19.5	19.5	85.0 84.8	84.9	5.8 5.8	5.8	5.8	4.6 4.7	4.7	4.7	2.4 2.3	2.4	2.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.3	29.1 29.4	29.2	8.2 8.2	8.2	19.9 19.6	19.7	83.9 84.7	84.3	5.8 5.8	5.8	5.8	4.8 4.7	4.8		2.5 3.2	2.9	
31-Jul-17	Cloudy	Moderate	12:18	3.3	Surface	1.1	29.7 29.7	29.7	8.3 8.3	8.3	22.3 22.5	22.4	91.2 91.9	91.6	6.1 6.2	6.2	6.2	5.7 5.5	5.6	5.6	6.6 6.4	6.5	6.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.3	29.5 29.6	29.6	8.3 8.3	8.3	24.0 23.9	24.0	94.7 92.0	93.4	6.3 6.1	6.2	6.2	5.6 5.5	5.6		6.5 5.3	5.9	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS6, CSA and CS(Mf)5 are considered as upstream contol stations of mid-flood tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS(Mf)9 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	09:55	3.7	Surface	1.0	28.5 28.5	28.5	8.3 8.3	8.3	14.8 14.8	14.8	93.5 94.8	94.2	6.7 6.8	6.7	6.7	3.8 3.7	3.8	3.8	4.0 4.4	4.2	4.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	28.6 28.6	28.6	8.2 8.2	8.2	18.8 20.3	19.5	97.8 94.6	96.2	6.8 6.6	6.7	6.7	3.8 3.6	3.7		3.0 4.6	3.8	
5-Jul-17	Cloudy	Moderate	11:13	3.7	Surface	1.1	28.6 28.5	28.5	8.1 8.1	8.1	14.0 14.0	14.0	88.7 88.1	88.4	6.4 6.3	6.3	6.3	4.7 4.5	4.6	4.7	8.8 8.5	8.7	10.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	28.5 28.3	28.4	8.1 8.1	8.1	14.2 14.5	14.3	88.4 88.0	88.2	6.3 6.3	6.3	6.3	4.8 4.7	4.8		11.9 11.8	11.9	
7-Jul-17	Rainy	Moderate	12:36	3.5	Surface	1.0	28.0 27.8	27.9	8.1 8.1	8.1	14.9 14.9	14.9	82.7 82.7	82.7	5.6 5.6	5.6	5.6	5.4 5.2	5.3	6.0	6.4 7.1	6.8	7.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.5	27.5 27.8	27.7	8.1 8.1	8.1	17.2 17.3	17.2	82.8 82.4	82.6	5.6 5.6	5.6	5.6	6.6 6.8	6.7		7.6 7.9	7.8	
10-Jul-17	Sunny	Moderate	13:25	3.7	Surface	1.0	28.0 28.1	28.1	8.3 8.3	8.3	14.5 14.3	14.4	101.4 100.8	101.1	7.3 7.3	7.3	7.3	5.9 5.9	5.9	6.2	7.6 8.4	8.0	7.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	28.0 28.1	28.0	8.4 8.3	8.3	15.3 15.3	15.3	102.6 103.2	102.9	7.4 7.4	7.4	7.4	6.2 6.5	6.4		7.0 7.9	7.5	
12-Jul-17	Sunny	Moderate	14:27	3.4	Surface	1.0	28.2 28.1	28.2	8.4 8.4	8.4	15.9 15.9	15.9	113.0 113.0	113.0	8.1 8.1	8.1	8.1	5.9 6.3	6.1	6.9	12.0 11.7	11.9	12.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.4	27.7 27.8	27.8	8.3 8.3	8.3	17.6 17.6	17.6	101.2 102.4	101.8	7.2 7.3	7.3	7.3	7.5 7.6	7.6		12.1 12.0	12.1	
14-Jul-17	Sunny	Moderate	15:22	3.7	Surface	1.0	28.6 28.5	28.5	8.5 8.5	8.5	16.7 16.6	16.6	114.6 113.5	114.1	8.1 8.1	8.1	8.1	8.7 8.9	8.8	8.8	16.3 15.9	16.1	17.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	28.1 28.5	28.3	8.4 8.5	8.5	16.8 16.7	16.7	105.5 110.4	108.0	7.5 7.8	7.6	7.6	8.6 8.9	8.8		18.3 19.9	19.1	
17-Jul-17	Cloudy	Moderate	8:07	3.7	Surface	1.1	27.7 27.7	27.7	8.2 8.2	8.2	16.2 16.3	16.3	85.5 86.1	85.8	6.1 6.2	6.2	6.2	2.6 2.7	2.7	2.6	3.8 2.3	3.1	2.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	27.7 27.7	27.7	8.2 8.2	8.2	17.0 16.8	16.9	85.9 85.4	85.7	6.2 6.1	6.1	6.1	2.6 2.5	2.6		2.4 2.1	2.3	
19-Jul-17	Sunny	Moderate	10:06	3.7	Surface	1.1	27.5 27.5	27.5	8.1 8.1	8.1	12.2 12.2	12.2	81.8 84.5	83.2	6.0 6.2	6.1	6.1	3.4 3.4	3.4	3.5	3.4 2.2	2.8	2.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	27.3 27.2	27.2	8.0 8.0	8.0	14.7 14.7	14.7	82.8 87.3	85.1	6.1 6.4	6.2	6.2	3.5 3.5	3.5		2.7 3.4	3.1	
21-Jul-17	Sunny	Moderate	12:07	3.5	Surface	1.1	29.0 29.1	29.0	8.3 8.4	8.3	15.0 14.8	14.9	89.8 90.9	90.4	6.4 6.4	6.4	6.4	3.3 3.3	3.3	3.3	3.4 4.4	3.9	3.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.5	28.9 29.0	28.9	8.3 8.4	8.4	15.2 14.9	15.0	90.3 90.8	90.6	6.4 6.4	6.4	6.4	3.2 3.3	3.3		3.1 3.6	3.4	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS(Mf)9 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	12:49	3.6	Surface	1.2	27.9 27.9	27.9	8.2 8.2	8.2	17.2 17.4	17.3	81.1 78.6	79.9	5.8 5.6	5.7	5.7	4.2 4.3	4.3	4.2	2.6 2.2	2.4	2.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.6	27.9 27.9	27.9	8.2 8.2	8.2	17.8 17.8	17.8	83.1 79.7	81.4	5.9 5.7	5.8	5.8	4.2 4.2	4.2		2.3 3.8	3.1	
26-Jul-17	Sunny	Moderate	14:18	3.6	Surface	1.0	29.7 30.3	30.0	8.3 8.2	8.3	17.1 17.1	17.1	82.6 81.2	81.9	5.7 5.6	5.7	5.7	9.3 9.5	9.4	9.5	3.1 4.7	3.9	3.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.6	29.3 29.2	29.2	8.2 8.3	8.3	18.6 18.1	18.3	81.0 81.2	81.1	5.6 5.6	5.6	5.6	9.7 9.5	9.6		4.0 3.5	3.8	
28-Jul-17	Sunny	Moderate	15:48	3.7	Surface	1.1	29.0 29.1	29.1	8.1 8.1	8.1	19.5 19.5	19.5	77.0 81.2	79.1	5.3 5.6	5.5	5.5	9.2 8.9	9.1	9.4	8.2 9.1	8.7	9.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	29.0 29.0	29.0	8.2 8.1	8.2	19.6 19.5	19.6	75.5 75.9	75.7	5.2 5.2	5.2	5.2	9.7 9.9	9.8		10.9 11.2	11.1	
31-Jul-17	Cloudy	Moderate	8:10	3.6	Surface	1.0	29.6 29.6	29.6	8.4 8.4	8.4	21.0 21.1	21.0	101.8 103.5	102.7	6.9 7.0	7.0	7.0	5.2 5.3	5.3	5.2	6.4 5.3	5.9	8.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.6	29.6 29.5	29.6	8.4 8.3	8.4	21.7 22.1	21.9	102.0 100.9	101.5	6.9 6.8	6.9	6.9	5.2 5.2	5.2		10.2 10.0	10.1	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS4 and CS(Mf)3 are considered as upstream contol stations of mid-ebb tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS(Mf)9 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	14:46	3.7	Surface	1.0	28.5 28.5	28.5	8.2 8.2	8.2	14.3 14.4	14.4	95.1 94.4	94.8	6.8 6.8	6.8	6.8	5.5 5.4	5.5	5.6	4.8 5.4	5.1	6.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	28.5 28.5	28.5	8.2 8.2	8.2	14.6 14.7	14.7	95.7 94.4	95.1	6.9 6.8	6.8	6.8	5.5 5.7	5.6		7.8 6.7	7.3	
5-Jul-17	Cloudy	Moderate	16:53	3.7	Surface	1.1	28.8 28.8	28.8	8.0 8.0	8.0	14.6 14.4	14.5	89.6 89.6	89.6	6.4 6.4	6.4	6.4	3.6 3.4	3.5	3.5	6.7 8.1	7.4	9.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	28.8 28.8	28.8	8.0 8.0	8.0	14.9 15.4	15.1	89.7 90.1	89.9	6.4 6.4	6.4	6.4	3.7 3.4	3.6		10.1 11.8	11.0	
7-Jul-17	Rainy	Moderate	18:20	3.6	Surface	1.0	27.7 27.6	27.7	8.1 8.1	8.1	15.8 15.9	15.8	87.3 88.3	87.8	5.9 5.9	5.9	5.9	7.4 7.1	7.3	7.6	5.5 4.0	4.8	5.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.6	27.5 27.5	27.5	8.1 8.1	8.1	18.8 18.2	18.5	86.7 87.7	87.2	5.8 5.9	5.8	5.8	8.0 7.8	7.9		5.2 6.8	6.0	
10-Jul-17	Sunny	Moderate	07:46	3.5	Surface	1.0	27.8 27.7	27.8	8.0 8.0	8.0	13.7 13.7	13.7	83.6 84.6	84.1	6.1 6.2	6.1	6.1	3.1 3.3	3.2	3.3	7.2 8.3	7.8	8.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.5	27.8 27.6	27.7	8.0 8.0	8.0	14.4 14.6	14.5	84.0 86.4	85.2	6.1 6.3	6.2	6.2	3.3 3.4	3.4		8.1 8.3	8.2	
12-Jul-17	Sunny	Moderate	08:35	3.6	Surface	1.0	27.7 27.7	27.7	8.2 8.2	8.2	15.9 15.9	15.9	87.4 87.5	87.5	6.3 6.3	6.3	6.3	5.4 5.7	5.6	6.1	14.7 14.2	14.5	14.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.6	27.5 27.4	27.5	8.2 8.2	8.2	16.8 16.9	16.8	88.7 88.6	88.7	6.4 6.4	6.4	6.4	6.6 6.5	6.6		13.2 13.5	13.4	
14-Jul-17	Sunny	Moderate	10:11	3.8	Surface	1.0	28.1 28.0	28.1	8.3 8.3	8.3	17.1 17.3	17.2	94.2 95.4	94.8	6.7 6.8	6.7	6.7	13.2 13.4	13.3	13.3	20.2 22.0	21.1	21.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.8	28.0 28.0	28.0	8.2 8.2	8.2	17.9 17.7	17.8	96.5 94.6	95.6	6.8 6.7	6.8	6.8	13.2 13.1	13.2		22.5 20.9	21.7	
17-Jul-17	Cloudy	Moderate	12:04	3.6	Surface	1.0	27.7 27.7	27.7	8.2 8.2	8.2	17.1 16.9	17.0	86.2 86.6	86.4	6.2 6.2	6.2	6.2	2.6 2.5	2.6	2.5	0.5 0.5	0.5	1.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.6	27.7 27.7	27.7	8.2 8.2	8.2	18.0 17.9	17.9	85.7 86.7	86.2	6.1 6.2	6.1	6.1	2.5 2.5	2.5		1.6 1.3	1.5	
19-Jul-17	Sunny	Moderate	15:09	3.7	Surface	1.1	27.9 27.9	27.9	8.1 8.1	8.1	12.0 12.0	12.0	83.5 83.2	83.4	6.1 6.1	6.1	6.1	3.5 3.6	3.6	3.6	3.0 4.1	3.6	3.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	27.6 27.6	27.6	8.1 8.1	8.1	13.1 13.9	13.5	82.9 83.1	83.0	6.1 6.1	6.1	6.1	3.5 3.6	3.6		3.2 2.7	3.0	
21-Jul-17	Sunny	Moderate	17:14	3.5	Surface	1.1	28.8 29.0	28.9	8.3 8.3	8.3	17.4 17.3	17.4	95.7 99.2	97.5	6.7 6.9	6.8	6.8	2.9 2.8	2.9	3.1	3.1 2.3	2.7	2.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.5	28.7 28.7	28.7	8.3 8.3	8.3	18.7 18.5	18.6	97.7 96.3	97.0	6.8 6.7	6.8	6.8	3.5 3.3	3.4		2.7 2.3	2.5	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS(Mf)9 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	7:19	3.7	Surface	1.1	27.9 27.9	27.9	8.2 8.2	8.2	17.0 17.0	17.0	76.4 76.8	76.6	5.5 5.5	5.5	5.5	3.5 3.5	3.5	3.5	1.7 1.8	1.8	2.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	27.9 27.9	27.9	8.1 8.1	8.1	18.2 18.1	18.1	76.3 76.7	76.5	5.4 5.4	5.4	5.4	3.5 3.6	3.6		3.3 2.6	3.0	
26-Jul-17	Sunny	Moderate	8:51	3.7	Surface	1.1	28.6 28.6	28.6	8.1 8.1	8.1	17.2 17.3	17.2	72.3 72.5	72.4	5.2 5.2	5.2	5.2	5.5 5.3	5.4	5.4	4.9 3.4	4.2	4.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	28.4 28.5	28.4	8.1 8.1	8.1	18.4 18.5	18.5	72.0 72.1	72.1	5.2 5.2	5.2	5.2	5.5 5.2	5.4		4.6 4.8	4.7	
28-Jul-17	Sunny	Moderate	10:46	3.6	Surface	1.0	29.2 29.2	29.2	8.2 8.2	8.2	19.7 19.7	19.7	86.3 85.1	85.7	5.9 5.9	5.9	5.9	4.9 4.9	4.9	5.0	0.8 0.8	0.8	1.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.6	29.0 29.1	29.1	8.2 8.2	8.2	19.9 19.9	19.9	87.9 85.5	86.7	6.1 5.9	6.0	6.0	5.0 5.0	5.0		1.3 1.1	1.2	
31-Jul-17	Cloudy	Moderate	12:35	3.7	Surface	1.1	29.8 29.7	29.8	8.4 8.3	8.3	22.4 22.4	22.4	96.7 89.9	93.3	6.5 6.0	6.3	6.3	5.0 5.1	5.1	5.1	7.5 6.8	7.2	7.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	29.7 29.5	29.6	8.3 8.3	8.3	23.2 23.8	23.5	94.6 89.2	91.9	6.3 6.0	6.1	6.1	5.1 5.1	5.1		6.6 8.0	7.3	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS6, CSA and CS(Mf)5 are considered as upstream contol stations of mid-flood tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS10(N) - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	09:45	11.2	Surface	1.0	28.2 28.2	28.2	7.7 7.7	7.7	8.5 8.7	8.6	75.6 75.2	75.4	5.6 5.5	5.5	5.5	5.8 6.2	6.0	7.2	7.0 6.8	6.9	7.3
					Middle	5.6	27.9 28.1	28.0	7.6 7.7	7.6	16.0 17.6	16.8	75.2 75.2	75.2	5.5 5.5	5.5		8.1 7.7	7.9		7.4 7.1	7.3	
					Bottom	10.2	27.7 27.7	27.7	7.6 7.6	7.6	19.6 18.1	18.8	75.0 75.9	75.5	5.5 5.6	5.6	5.6	7.9 7.3	7.6		7.9 7.3	7.6	
5-Jul-17	Cloudy	Moderate	10:14	12.0	Surface	1.1	28.3 28.3	28.3	8.1 8.1	8.1	10.3 10.5	10.4	77.1 76.9	77.0	5.7 5.6	5.7	5.6	8.3 8.2	8.3	8.5	6.6 6.8	6.7	6.4
					Middle	6.0	27.8 27.8	27.8	8.1 8.0	8.0	12.5 12.2	12.4	75.4 74.5	75.0	5.5 5.5	5.5		8.4 8.6	8.5		6.3 6.3	6.3	
					Bottom	11.0	27.9 27.8	27.9	8.0 8.0	8.0	13.6 13.6	13.6	71.9 72.7	72.3	5.3 5.4	5.3	5.3	8.8 8.7	8.8		6.0 6.1	6.1	
7-Jul-17	Rainy	Moderate	11:29	11.9	Surface	1.1	27.6 27.6	27.6	7.9 7.9	7.9	11.1 11.0	11.1	74.6 75.4	75.0	5.7 5.7	5.7	5.6	7.9 7.8	7.9	8.2	10.8 10.5	10.7	11.3
					Middle	5.9	27.4 27.5	27.5	7.9 7.9	7.9	10.5 10.3	10.4	70.5 71.8	71.2	5.4 5.4	5.4		8.2 8.2	8.2		11.7 11.0	11.4	
					Bottom	10.9	27.5 27.4	27.4	7.9 7.8	7.8	12.8 13.2	13.0	69.5 70.1	69.8	5.3 5.4	5.3	5.3	8.4 8.4	8.4		11.9 12.0	12.0	
10-Jul-17	Sunny	Moderate	13:27	11.8	Surface	1.0	27.3 27.2	27.3	7.9 7.9	7.9	11.5 12.0	11.8	74.9 74.3	74.6	5.6 5.5	5.5	5.5	7.3 7.1	7.2	7.6	11.6 10.7	11.2	11.0
					Middle	5.9	27.0 27.0	27.0	7.8 7.8	7.8	14.5 14.8	14.7	73.9 74.0	74.0	5.4 5.4	5.4		7.6 7.5	7.6		11.1 10.6	10.9	
					Bottom	10.8	27.1 27.1	27.1	7.8 7.8	7.8	15.3 15.6	15.5	74.1 73.8	74.0	5.4 5.4	5.4	5.4	7.9 7.8	7.9		10.8 10.7	10.8	
12-Jul-17	Sunny	Moderate	14:28	11.8	Surface	1.0	27.7 28.1	27.9	8.0 8.0	8.0	14.8 14.5	14.6	86.1 84.5	85.3	6.0 5.9	5.9	5.9	4.2 4.2	4.2	4.4	13.5 14.1	13.8	13.4
					Middle	5.9	27.4 27.5	27.5	7.9 7.9	7.9	15.9 15.4	15.7	85.0 81.9	83.5	5.9 5.7	5.8		4.5 4.4	4.5		12.7 13.1	12.9	
					Bottom	10.8	27.7 27.5	27.6	7.9 7.9	7.9	17.8 18.0	17.9	80.5 83.7	82.1	5.6 5.8	5.7	5.7	4.6 4.6	4.6		13.9 13.0	13.5	
14-Jul-17	Sunny	Moderate	15:44	11.7	Surface	1.0	28.4 28.4	28.4	8.2 8.2	8.2	14.6 14.6	14.6	107.9 108.3	108.1	7.7 7.8	7.8	7.7	4.2 4.3	4.3	4.4	11.5 10.1	10.8	12.2
					Middle	5.9	28.4 27.9	28.1	8.1 8.1	8.1	14.6 14.8	14.7	105.3 106.1	105.7	7.5 7.6	7.6		4.4 4.4	4.4		10.8 10.9	10.9	
					Bottom	10.7	27.4 27.5	27.4	8.0 8.1	8.1	19.6 18.2	18.9	102.8 103.9	103.4	7.3 7.4	7.4	7.4	4.5 4.6	4.6		14.9 14.6	14.8	
17-Jul-17	Cloudy	Moderate	6:45	12.2	Surface	1.0	27.8 27.9	27.8	7.9 7.8	7.8	11.7 11.4	11.5	91.2 91.1	91.2	6.7 6.7	6.7	6.6	2.2 2.3	2.3	2.5	1.6 1.5	1.6	1.3
					Middle	6.1	27.9 27.6	27.8	7.8 7.8	7.8	11.7 13.6	12.6	86.8 87.2	87.0	6.4 6.5	6.4		2.4 2.5	2.5		1.0 1.0	1.0	
					Bottom	11.2	27.6 27.7	27.7	7.8 7.8	7.8	14.9 12.1	13.5	85.6 84.7	85.2	6.2 6.2	6.2	6.2	2.7 2.8	2.8		1.1 1.4	1.3	
19-Jul-17	Sunny	Moderate	8:49	12.0	Surface	1.0	27.7 27.7	27.7	7.9 7.9	7.9	11.7 11.8	11.8	76.1 76.4	76.3	5.7 5.7	5.7	5.6	4.2 4.2	4.2	4.4	4.4 4.7	4.6	4.9
					Middle	6.0	27.4 27.4	27.4	7.9 7.8	7.8	10.4 13.0	11.7	75.8 75.1	75.5	5.6 5.5	5.6		4.4 4.3	4.4		5.2 5.2	5.2	
					Bottom	11.0	27.4 27.5	27.4	7.8 7.8	7.8	14.4 15.1	14.7	75.5 74.1	74.8	5.5 5.6	5.5	5.5	4.7 4.6	4.7		5.4 4.2	4.8	
21-Jul-17	Sunny	Moderate	11:08	10.8	Surface	1.0	28.3 28.5	28.4	7.9 8.0	8.0	13.4 12.4	12.9	79.6 80.5	80.1	5.8 5.8	5.8	5.6	3.6 3.7	3.7	4.4	0.9 0.9	0.9	1.3
					Middle	5.4	27.5 27.5	27.5	7.9 7.9	7.9	18.9 18.8	18.8	76.5 76.1	76.3	5.5 5.5	5.5		4.5 4.7	4.6		1.6 1.4	1.5	
					Bottom	9.8	27.5 27.5	27.5	7.9 7.9	7.9	18.8 19.0	18.9	77.4 79.9	78.7	5.6 5.7	5.6	5.6	4.7 5.0	4.9		1.7 1.5	1.6	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS10(N) - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	13:16	10.9	Surface	1.0	27.5 27.5	27.5	7.9 7.9	7.9	20.3 20.3	20.3	75.6 75.9	75.8	5.5 5.5	5.5	5.4	6.3 6.0	6.2	6.6	2.5 2.5	2.5	2.4
					Middle	5.5	27.5 27.5	27.5	7.9 7.9	7.9	22.5 22.5	22.5	75.2 74.7	75.0	5.4 5.4	5.4		6.7 6.6	6.7		2.2 2.8	2.5	
					Bottom	9.9	27.4 27.2	27.3	7.9 7.9	7.9	22.7 22.9	22.8	76.1 74.9	75.5	5.5 5.4	5.4	5.4	7.2 7.0	7.1		2.1 2.3	2.2	
26-Jul-17	Sunny	Moderate	14:45	11.8	Surface	1.0	29.2 29.0	29.1	8.1 8.1	8.1	17.0 17.2	17.1	73.4 73.3	73.4	5.4 5.5	5.4	5.4	6.5 6.4	6.5	6.6	4.7 5.2	5.0	5.2
					Middle	5.9	28.6 28.6	28.6	8.1 8.1	8.1	18.0 19.8	18.9	71.0 71.4	71.2	5.3 5.3	5.3		6.5 6.6	6.6		5.6 5.7	5.7	
					Bottom	10.8	28.8 28.7	28.7	8.0 8.1	8.0	20.9 20.5	20.7	70.5 70.5	70.5	5.3 5.3	5.3	5.3	6.8 6.9	6.9		4.9 4.8	4.9	
28-Jul-17	Sunny	Moderate	16:13	12.0	Surface	1.1	29.5 29.6	29.5	7.8 7.8	7.8	18.5 18.4	18.5	76.7 77.3	77.0	5.3 5.3	5.3	5.3	5.2 5.4	5.3	5.6	6.0 5.4	5.7	6.3
					Middle	6.0	29.4 29.2	29.3	7.8 7.8	7.8	19.8 19.7	19.8	76.4 76.6	76.5	5.3 5.2	5.2		5.6 5.5	5.6		6.2 7.4	6.8	
					Bottom	11.0	28.8 29.2	29.0	7.8 7.8	7.8	23.0 21.7	22.3	74.8 74.1	74.5	5.1 5.1	5.1	5.1	5.9 5.8	5.9		6.7 6.2	6.5	
31-Jul-17	Cloudy	Moderate	6:46	12.1	Surface	1.0	29.6 29.6	29.6	7.9 7.9	7.9	14.8 14.7	14.7	83.8 83.5	83.7	5.9 5.9	5.9	5.8	5.2 5.1	5.2	5.3	6.1 5.0	5.6	5.1
					Middle	6.0	29.3 29.5	29.4	7.9 7.9	7.9	17.8 15.5	16.7	81.8 82.3	82.1	5.7 5.8	5.7		5.3 5.3	5.3		5.1 4.9	5.0	
					Bottom	11.1	29.3 29.3	29.3	7.9 7.8	7.9	21.4 21.4	21.4	79.8 80.2	80.0	5.4 5.6	5.5	5.5	5.6 5.5	5.6		4.8 4.5	4.7	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS4 and CS(Mf)3 are considered as upstream contol stations of mid-ebb tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS10(N) - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	15:07	11.2	Surface	1.0	28.2 28.2	28.2	7.7 7.7	7.7	8.3 8.4	8.4	75.7 75.4	75.6	5.6 5.6	5.6	5.6	5.6 5.4	5.5	5.8	6.4 6.1	6.3	6.1
					Middle	5.6	28.2 28.1	28.1	7.6 7.6	7.6	14.2 16.4	15.3	75.1 75.2	75.2	5.5 5.5	5.5		5.4 5.5	5.5		6.7 5.3	6.0	
					Bottom	10.2	27.9 28.0	28.0	7.6 7.6	7.6	17.1 18.3	17.7	74.8 75.6	75.2	5.5 5.6	5.5	5.5	6.6 6.3	6.5		5.5 6.5	6.0	
5-Jul-17	Cloudy	Moderate	18:01	12.2	Surface	1.0	28.7 28.6	28.6	7.9 7.9	7.9	12.6 12.6	12.6	79.4 78.9	79.2	5.8 5.8	5.8	5.8	7.2 7.2	7.2	7.4	8.5 8.3	8.4	8.7
					Middle	6.1	28.5 28.8	28.6	7.9 7.9	7.9	12.6 13.6	13.1	78.7 78.7	78.7	5.8 5.8	5.8		7.4 7.3	7.4		8.7 8.7	8.7	
					Bottom	11.2	28.7 28.7	28.7	7.9 7.9	7.9	15.9 13.5	14.7	78.3 78.3	78.3	5.7 5.8	5.7	5.7	7.6 7.5	7.6		9.5 8.4	9.0	
7-Jul-17	Rainy	Moderate	19:22	11.9	Surface	1.1	27.8 27.7	27.8	7.9 7.9	7.9	13.6 11.7	12.7	71.3 71.3	71.3	5.4 5.5	5.4	5.4	10.6 10.7	10.7	10.9	11.5 12.9	12.2	11.9
					Middle	6.0	27.6 27.5	27.6	7.8 7.8	7.8	12.6 10.7	11.7	71.0 70.1	70.6	5.4 5.4	5.4		10.9 10.7	10.8		11.3 11.9	11.6	
					Bottom	10.9	27.6 27.6	27.6	7.8 7.8	7.8	11.4 11.1	11.2	69.9 70.1	70.0	5.3 5.3	5.3	5.3	11.3 11.2	11.3		12.7 11.1	11.9	
10-Jul-17	Sunny	Moderate	06:59	11.8	Surface	1.0	27.4 27.5	27.5	8.0 8.0	8.0	11.7 11.4	11.6	74.2 74.1	74.2	5.4 5.4	5.4	5.4	6.2 6.2	6.2	6.4	5.5 5.3	5.4	6.6
					Middle	5.9	27.2 27.3	27.3	8.0 8.0	8.0	13.3 12.1	12.7	74.2 74.1	74.2	5.4 5.4	5.4		6.4 6.3	6.4		7.6 6.7	7.2	
					Bottom	10.8	27.2 27.2	27.2	7.9 8.0	8.0	15.4 15.3	15.4	73.7 73.1	73.4	5.3 5.3	5.3	5.3	6.6 6.5	6.6		7.9 6.2	7.1	
12-Jul-17	Sunny	Moderate	08:17	11.9	Surface	1.0	27.7 27.0	27.3	7.9 7.9	7.9	14.7 17.2	15.9	87.8 86.0	86.9	6.1 6.0	6.0	6.0	5.3 5.1	5.2	5.5	7.5 9.2	8.4	9.0
					Middle	6.0	26.3 26.5	26.4	7.8 7.8	7.8	23.3 22.5	22.9	84.7 85.5	85.1	5.9 5.9	5.9		5.4 5.6	5.5		8.7 9.2	9.0	
					Bottom	10.9	26.3 26.3	26.3	7.8 7.8	7.8	23.3 23.4	23.4	83.7 83.2	83.5	5.8 5.8	5.8	5.8	5.9 5.8	5.9		10.0 9.2	9.6	
14-Jul-17	Sunny	Moderate	09:37	11.8	Surface	1.0	28.0 27.9	28.0	8.1 8.1	8.1	16.2 16.4	16.3	106.0 106.7	106.4	7.6 7.6	7.6	7.6	8.1 8.2	8.2	8.4	12.4 12.5	12.5	13.4
					Middle	5.9	27.7 27.7	27.7	8.1 8.1	8.1	17.3 18.0	17.6	105.5 105.4	105.5	7.5 7.5	7.5		8.4 8.3	8.4		12.8 12.0	12.4	
					Bottom	10.8	27.6 27.6	27.6	8.1 8.1	8.1	18.5 18.5	18.5	103.8 103.5	103.7	7.4 7.4	7.4	7.4	8.5 8.6	8.6		15.2 15.6	15.4	
17-Jul-17	Cloudy	Moderate	13:11	12.3	Surface	1.1	27.8 27.8	27.8	7.9 7.9	7.9	11.6 11.5	11.6	87.0 87.9	87.5	6.4 6.5	6.4	6.4	2.8 2.9	2.9	3.2	3.3 2.4	2.9	3.2
					Middle	6.2	27.7 27.7	27.7	7.8 7.8	7.8	12.7 12.5	12.6	87.1 87.1	87.1	6.4 6.4	6.4		3.2 3.1	3.2		3.4 3.8	3.6	
					Bottom	11.3	27.7 27.7	27.7	7.8 7.8	7.8	13.2 14.6	13.9	86.7 87.5	87.1	6.4 6.4	6.4	6.4	3.5 3.4	3.5		3.2 3.3	3.3	
19-Jul-17	Sunny	Moderate	16:09	12.2	Surface	1.1	27.9 27.8	27.9	8.0 8.0	8.0	11.9 12.0	11.9	72.4 72.8	72.6	5.4 5.3	5.4	5.3	2.2 2.4	2.3	2.5	3.2 3.6	3.4	2.9
					Middle	6.1	27.4 27.4	27.4	8.0 8.0	8.0	13.5 13.4	13.5	72.7 71.1	71.9	5.3 5.3	5.3		2.5 2.5	2.5		2.3 2.7	2.5	
					Bottom	11.2	27.4 27.5	27.4	8.0 8.0	8.0	13.6 14.0	13.8	69.7 71.3	70.5	5.1 5.2	5.2	5.2	2.6 2.7	2.7		2.9 2.9	2.9	
21-Jul-17	Sunny	Moderate	17:36	11.2	Surface	1.0	28.7 28.6	28.7	7.9 7.9	7.9	12.0 11.6	11.8	77.4 77.3	77.4	5.4 5.3	5.4	5.4	3.9 3.9	3.9	3.9	4.6 4.4	4.5	4.0
					Middle	5.6	27.2 27.2	27.2	7.8 7.8	7.8	19.4 19.4	19.4	76.4 76.5	76.5	5.4 5.3	5.3		4.2 3.8	4.0		3.7 3.0	3.4	
					Bottom	10.2	27.2 27.2	27.2	7.8 7.8	7.8	19.5 19.4	19.4	73.6 73.5	73.6	5.1 5.1	5.1	5.1	3.7 3.9	3.8		4.2 3.9	4.1	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS10(N) - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	6:56	10.9	Surface	1.0	27.8 27.7	27.8	7.9 7.9	7.9	18.2 18.2	18.2	80.1 80.7	80.4	5.8 7.8	6.8	6.3	3.5 3.3	3.4	4.5	3.6 2.9	3.3	3.0
					Middle	5.4	27.1 27.1	27.1	7.8 7.9	7.9	23.1 23.1	23.1	80.1 78.4	79.3	5.8 5.7	5.7		4.7 5.0	4.9		2.5 2.7	2.6	
					Bottom	9.9	27.4 27.1	27.2	7.8 7.9	7.9	23.9 24.1	24.0	79.3 76.6	78.0	5.7 5.5	5.6	5.6	5.0 5.3	5.2		3.3 2.8	3.1	
26-Jul-17	Sunny	Moderate	8:19	11.9	Surface	1.1	28.2 28.2	28.2	7.9 7.9	7.9	19.8 19.7	19.7	74.1 73.3	73.7	5.5 5.4	5.4	5.4	7.2 7.2	7.2	7.4	2.7 3.7	3.2	4.8
					Middle	5.9	28.1 28.1	28.1	7.9 7.9	7.9	20.2 20.2	20.2	71.2 72.3	71.8	5.2 5.3	5.3		7.4 7.3	7.4		5.3 6.2	5.8	
					Bottom	10.9	28.1 27.9	28.0	7.9 7.9	7.9	20.7 21.1	20.9	69.6 70.2	69.9	5.1 5.2	5.2	5.2	7.5 7.6	7.6		5.8 5.1	5.5	
28-Jul-17	Sunny	Moderate	10:05	12.1	Surface	1.0	28.5 28.6	28.6	7.8 7.8	7.8	19.3 19.2	19.2	78.8 78.7	78.8	5.6 5.5	5.5	5.5	6.9 6.8	6.9	7.1	5.6 5.0	5.3	7.5
					Middle	6.1	28.3 28.5	28.4	7.8 7.8	7.8	21.0 19.3	20.2	77.2 77.5	77.4	5.5 5.4	5.4		7.1 7.1	7.1		7.9 8.2	8.1	
					Bottom	11.1	28.4 28.2	28.3	7.8 7.8	7.8	21.8 21.6	21.7	78.2 77.3	77.8	5.3 5.4	5.4	5.4	7.3 7.4	7.4		8.3 9.9	9.1	
31-Jul-17	Cloudy	Moderate	13:38	12.2	Surface	1.1	29.7 29.7	29.7	7.9 8.0	8.0	14.6 14.6	14.6	85.0 84.4	84.7	6.0 5.9	5.9	5.9	5.1 5.3	5.2	5.5	5.6 5.5	5.6	5.0
					Middle	6.1	29.6 29.6	29.6	7.9 7.9	7.9	15.7 16.0	15.9	84.5 83.9	84.2	5.8 5.9	5.8		5.6 5.5	5.6		4.1 4.3	4.2	
					Bottom	11.2	29.7 29.5	29.6	7.9 7.9	7.9	18.6 19.0	18.8	82.6 82.9	82.8	5.8 5.7	5.7	5.7	5.8 5.9	5.9		5.6 4.7	5.2	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS6, CSA and CS(Mf)5 are considered as upstream contol stations of mid-flood tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS(Mf)11 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	09:39	10.6	Surface	1.0	28.3 28.3	28.3	7.7 7.7	7.7	8.0 7.9	8.0	75.2 76.0	75.6	5.5 5.6	5.5	5.5	5.9 5.9	5.9	7.0	7.2 6.2	6.7	6.9
					Middle	5.3	27.7 27.7	27.7	7.5 7.6	7.6	16.4 17.6	17.0	75.4 75.2	75.3	5.6 5.5	5.5		7.6 7.4	7.5		6.8 6.6	6.7	
					Bottom	9.6	27.6 27.4	27.5	7.5 7.5	7.5	20.2 20.8	20.5	75.2 75.8	75.5	5.5 5.6	5.6	5.6	7.3 7.7	7.5		7.5 7.3	7.4	
5-Jul-17	Cloudy	Moderate	10:03	10.7	Surface	1.1	28.5 28.6	28.6	8.0 8.1	8.1	11.9 12.7	12.3	79.8 80.2	80.0	5.9 5.9	5.9	5.9	7.3 7.2	7.3	7.5	6.2 6.6	6.4	6.0
					Middle	5.3	28.6 28.5	28.5	8.0 8.0	8.0	14.9 13.9	14.4	79.6 79.8	79.7	5.8 5.9	5.8		7.5 7.4	7.5		5.5 5.3	5.4	
					Bottom	9.7	28.6 28.6	28.6	8.0 8.0	8.0	14.9 15.8	15.3	79.4 79.2	79.3	5.8 5.8	5.8	5.8	7.8 7.7	7.8		5.5 6.6	6.1	
7-Jul-17	Rainy	Moderate	11:21	10.7	Surface	1.0	27.4 27.5	27.5	7.9 7.9	7.9	10.4 10.2	10.3	70.5 69.5	70.0	5.2 5.3	5.3	5.2	6.4 6.3	6.4	6.6	7.5 8.9	8.2	7.9
					Middle	5.3	27.4 27.4	27.4	7.8 7.9	7.9	13.0 11.4	12.2	70.4 67.8	69.1	5.2 5.1	5.2		6.5 6.7	6.6		7.3 8.6	8.0	
					Bottom	9.7	27.5 27.4	27.4	7.8 7.8	7.8	15.4 15.1	15.3	68.0 67.0	67.5	5.1 5.1	5.1	5.1	6.8 6.9	6.9		7.6 7.2	7.4	
10-Jul-17	Sunny	Moderate	13:35	10.4	Surface	1.0	27.7 27.8	27.7	7.9 7.9	7.9	14.1 12.1	13.1	72.8 73.3	73.1	5.4 5.4	5.4	5.4	8.2 8.3	8.3	8.5	8.3 9.5	8.9	8.6
					Middle	5.2	28.0 28.0	28.0	8.0 7.9	8.0	11.5 12.5	12.0	72.5 73.1	72.8	5.3 5.3	5.3		8.4 8.5	8.5		8.3 8.6	8.5	
					Bottom	9.4	27.3 27.5	27.4	7.9 7.9	7.9	13.9 12.1	13.0	71.7 72.0	71.9	5.2 5.2	5.2	5.2	8.7 8.8	8.8		8.4 8.2	8.3	
12-Jul-17	Sunny	Moderate	14:43	10.5	Surface	1.0	27.4 27.4	27.4	7.9 7.9	7.9	17.2 17.4	17.3	87.0 87.6	87.3	6.1 6.1	6.1	6.1	5.2 5.3	5.3	5.5	15.6 14.0	14.8	14.9
					Middle	5.3	27.1 27.1	27.1	7.9 7.9	7.9	18.7 18.7	18.7	86.0 86.3	86.2	6.0 6.0	6.0		5.6 5.4	5.5		15.6 15.1	15.4	
					Bottom	9.5	27.0 26.8	26.9	7.9 7.9	7.9	20.0 20.3	20.1	84.4 85.0	84.7	5.9 5.9	5.9	5.9	5.7 5.8	5.8		14.5 14.2	14.4	
14-Jul-17	Sunny	Moderate	15:59	10.6	Surface	1.0	28.4 28.5	28.5	8.2 8.2	8.2	15.1 15.1	15.1	118.2 117.4	117.8	8.4 8.4	8.4	8.4	3.6 3.5	3.6	3.9	12.4 11.5	12.0	11.3
					Middle	5.3	28.2 28.0	28.1	8.2 8.1	8.2	15.3 15.9	15.6	115.3 116.9	116.1	8.2 8.3	8.3		3.7 3.9	3.8		10.5 11.0	10.8	
					Bottom	9.6	28.0 27.9	28.0	8.1 8.1	8.1	18.3 16.6	17.5	110.1 110.4	110.3	7.9 7.9	7.9	7.9	4.1 4.2	4.2		10.8 11.6	11.2	
17-Jul-17	Cloudy	Moderate	6:34	10.7	Surface	1.1	27.8 27.8	27.8	7.9 7.8	7.9	11.4 11.4	11.4	88.2 88.2	88.2	6.5 6.5	6.5	6.5	3.3 3.2	3.3	3.5	3.4 3.8	3.6	3.3
					Middle	5.3	27.8 27.8	27.8	7.9 7.8	7.8	11.5 12.0	11.8	88.1 88.1	88.1	6.5 6.5	6.5		3.4 3.6	3.5		2.8 3.0	2.9	
					Bottom	9.7	27.8 27.8	27.8	7.8 7.8	7.8	12.1 12.4	12.3	88.0 87.8	87.9	6.5 6.5	6.5	6.5	3.8 3.7	3.8		3.4 3.6	3.5	
19-Jul-17	Sunny	Moderate	8:40	10.6	Surface	1.1	27.6 27.6	27.6	7.8 7.9	7.9	10.6 11.5	11.0	70.3 72.3	71.3	5.3 5.2	5.3	5.2	4.1 4.2	4.2	4.4	5.0 4.5	4.8	5.2
					Middle	5.3	27.3 27.3	27.3	7.8 7.8	7.8	11.9 13.2	12.6	69.5 70.5	70.0	5.2 5.1	5.1		4.3 4.5	4.4		4.7 5.2	5.0	
					Bottom	9.6	27.2 27.3	27.2	7.8 7.8	7.8	15.4 15.4	15.4	68.1 70.0	69.1	5.1 5.1	5.1	5.1	4.7 4.6	4.7		5.7 5.9	5.8	
21-Jul-17	Sunny	Moderate	10:58	10.5	Surface	1.0	28.7 28.7	28.7	8.0 8.0	8.0	13.4 13.3	13.3	80.9 80.2	80.6	5.8 5.8	5.8	5.6	3.3 3.2	3.3	5.8	1.4 1.4	1.4	1.3
					Middle	5.3	27.5 27.6	27.5	8.0 8.0	8.0	17.9 18.2	18.0	75.4 75.9	75.7	5.4 5.4	5.4		6.7 6.5	6.6		0.9 0.7	0.8	
					Bottom	9.5	27.5 27.4	27.5	8.0 8.0	8.0	18.8 19.3	19.1	77.6 76.3	77.0	5.6 5.5	5.5	5.5	7.3 7.9	7.6		1.6 1.9	1.8	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS(Mf)11 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	13:25	10.6	Surface	1.0	27.4 27.3	27.4	7.9 7.9	7.9	20.9 20.8	20.9	76.1 74.4	75.3	5.5 5.4	5.4	5.4	3.9 4.2	4.1	4.5	3.2 2.7	3.0	3.7
					Middle	5.3	27.1 27.1	27.1	7.9 7.9	7.9	23.5 23.3	23.4	75.8 73.7	74.8	5.5 5.3	5.4		4.9 4.7	4.8		4.9 3.8	4.4	
					Bottom	9.6	27.1 27.0	27.1	7.9 7.9	7.9	24.8 24.0	24.4	74.6 77.1	75.9	5.3 5.5	5.4	5.4	4.8 4.5	4.7		4.0 3.8	3.9	
26-Jul-17	Sunny	Moderate	14:51	10.1	Surface	1.1	29.0 29.0	29.0	8.1 8.1	8.1	17.9 17.8	17.8	74.5 75.4	75.0	5.6 5.6	5.6	5.5	7.2 7.3	7.3	7.5	5.4 5.9	5.7	5.7
					Middle	5.1	28.8 28.9	28.8	8.1 8.1	8.1	18.2 18.1	18.1	74.7 72.4	73.6	5.6 5.4	5.5		7.4 7.7	7.6		4.8 5.8	5.3	
					Bottom	9.1	28.7 28.8	28.8	8.1 8.0	8.1	20.1 20.3	20.2	71.5 70.3	70.9	5.3 5.2	5.3	5.3	7.7 7.8	7.8		6.6 5.4	6.0	
28-Jul-17	Sunny	Moderate	16:30	10.7	Surface	1.1	29.8 29.8	29.8	7.8 7.8	7.8	19.2 19.6	19.4	79.2 79.6	79.4	5.4 5.4	5.4	5.4	6.0 5.9	6.0	6.2	7.2 7.0	7.1	6.5
					Middle	5.3	29.6 29.5	29.6	7.8 7.8	7.8	19.3 20.2	19.8	78.6 78.9	78.8	5.4 5.4	5.4		6.2 6.1	6.2		6.4 5.8	6.1	
					Bottom	9.7	29.5 29.4	29.5	7.8 7.8	7.8	20.4 20.4	20.4	78.3 77.0	77.7	5.4 5.3	5.3	5.3	6.4 6.5	6.5		6.3 6.4	6.4	
31-Jul-17	Cloudy	Moderate	6:33	10.7	Surface	1.0	29.6 29.6	29.6	7.9 7.9	7.9	16.0 15.7	15.9	82.7 80.5	81.6	5.7 5.6	5.6	5.6	4.1 4.1	4.1	4.3	4.3 3.9	4.1	4.0
					Middle	5.3	29.5 29.5	29.5	7.9 7.9	7.9	16.6 18.0	17.3	80.4 79.7	80.1	5.5 5.6	5.5		4.2 4.2	4.2		4.1 3.5	3.8	
					Bottom	9.7	29.4 29.5	29.4	7.8 7.8	7.8	19.7 19.5	19.6	79.2 78.5	78.9	5.5 5.5	5.5	5.5	4.5 4.4	4.5		4.9 3.0	4.0	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS4 and CS(Mf)3 are considered as upstream contol stations of mid-ebb tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS(Mf)11 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	15:16	10.7	Surface	1.0	28.2	28.2	7.7	7.7	9.6	9.4	76.2	76.1	5.6	5.6	5.6	4.9	5.1		7.4	7.5	
							28.2		7.7		9.3		75.9		5.6			5.2			7.5		
					Middle	5.4	28.3	28.3	7.7	7.7	13.8	13.8	75.3	75.9	5.5	5.6		6.6	6.5	6.2	6.4	6.5	7.2
							28.3		7.6		13.9		76.4		5.6			6.3			6.5		
					Bottom	9.7	28.2	28.2	7.6	7.6	13.9	13.9	76.2	75.7	5.6	5.6	5.6	7.3	7.1		7.3	7.5	
							28.2		7.7		13.9		75.2		5.5			6.9			7.7		
5-Jul-17	Cloudy	Moderate	18:14	10.7	Surface	1.0	28.4	28.4	7.9	7.9	13.3	13.3	77.4	77.2	5.6	5.6	5.5	8.4	8.4		5.3	4.9	
							28.4		7.9		13.4		77.0		5.6			8.3			4.4		
					Middle	5.4	27.9	28.1	7.9	7.9	13.7	13.5	76.3	76.9	5.5	5.5		8.6	8.7	8.6	5.2	5.0	4.9
							28.3		7.9		13.4		77.4		5.5			8.7			4.7		
					Bottom	9.7	28.0	28.0	7.9	7.8	17.8	16.3	75.6	75.4	5.5	5.5	5.5	8.8	8.9		5.0	4.9	
							28.1		7.8		14.8		75.1		5.5			8.9			4.7		
7-Jul-17	Rainy	Moderate	19:28	10.8	Surface	1.1	27.6	27.6	7.8	7.8	10.8	11.6	69.4	70.1	5.4	5.4	5.3	9.2	9.3		13.2	12.9	
							27.7		7.8		12.4		70.8		5.4			9.3			12.6		
					Middle	5.4	27.7	27.6	7.8	7.8	12.6	12.2	68.1	68.4	5.1	5.2		9.5	9.6	9.5	13.6	13.8	13.2
							27.5		7.8		11.9		68.6		5.2			9.6			13.9		
					Bottom	9.8	27.7	27.6	7.8	7.8	11.0	11.9	67.5	67.5	5.1	5.1	5.1	9.8	9.8		13.4	13.0	
							27.4		7.7		12.8		67.5		5.1			9.8			12.5		
10-Jul-17	Sunny	Moderate	06:48	10.4	Surface	1.0	28.0	28.0	8.0	8.0	12.0	11.9	74.4	74.4	5.4	5.4	5.4	7.3	7.2		5.2	5.0	
							27.9		8.0		11.8		74.3		5.4			7.1			4.8		
					Middle	5.2	27.7	27.7	8.0	8.0	12.7	12.3	74.2	74.2	5.4	5.4		7.4	7.5	7.5	6.4	6.2	5.6
							27.8		8.0		11.9		74.2		5.4			7.5			6.0		
					Bottom	9.4	27.5	27.5	7.9	7.9	13.7	13.8	74.3	74.2	5.4	5.4	5.4	7.8	7.8		5.3	5.6	
							27.5		7.9		13.9		74.1		5.4			7.7			5.9		
12-Jul-17	Sunny	Moderate	08:07	10.5	Surface	1.0	28.1	28.1	7.9	7.9	14.1	14.1	87.4	87.6	6.1	6.1	6.1	6.3	6.3		7.4	8.1	
							28.2		7.9		14.0		87.8		6.1			6.2			8.8		
					Middle	5.3	27.3	27.5	7.9	7.9	15.5	15.4	86.3	86.3	6.0	6.0		6.6	6.6	6.6	9.0	9.9	9.6
							27.6		7.9		15.3		86.3		6.0			6.5			10.8		
					Bottom	9.5	27.5	27.3	7.8	7.8	19.2	19.7	84.2	84.6	5.9	5.9	5.9	6.7	6.8		10.9	10.8	
							27.2		7.8		20.3		85.0		5.9			6.8			10.7		
14-Jul-17	Sunny	Moderate	09:30	10.6	Surface	1.0	28.0	28.0	8.0	8.0	16.5	16.4	103.0	103.2	7.4	7.4	7.4	5.1	5.2		15.3	14.7	
							28.0		8.0		16.3		103.4		7.4			5.2			14.0		
					Middle	5.3	28.0	28.0	8.0	8.0	16.6	16.6	102.9	102.9	7.4	7.4		5.4	5.4	5.4	15.9	15.8	15.3
							28.0		8.0		16.6		102.8		7.4			5.3			15.6		
					Bottom	9.6	27.9	27.9	8.0	8.0	16.9	16.8	102.7	102.8	7.3	7.3	7.3	5.6	5.7		16.0	15.4	
							27.9		8.0		16.7		102.8		7.3			5.8			14.8		
17-Jul-17	Cloudy	Moderate	13:18	10.8	Surface	1.1	27.7	27.7	7.9	7.9	12.8	12.5	90.7	90.9	6.6	6.7	6.6	4.0	4.1		4.9	4.6	
							27.7		7.8		12.3		91.1		6.7			4.1			4.2		
					Middle	5.4	27.7	27.7	7.9	7.9	13.9	13.2	88.6	88.9	6.5	6.5		4.2	4.2	4.2	4.7	4.4	4.2
							27.7		7.8		12.6		89.1		6.5			4.2			4.0		
					Bottom	9.8	27.6	27.6	7.8	7.8	15.3	15.1	87.9	88.1	6.4	6.4	6.4	4.4	4.4		3.7	3.8	
							27.7		7.8		14.9		88.3		6.4			4.3			3.8		
19-Jul-17	Sunny	Moderate	16:18	10.8	Surface	1.1	27.7	27.7	8.0	8.1	13.6	13.5	74.8	74.4	5.5	5.4	5.4	4.3	4.3		3.8	3.6	
							27.7		8.1		13.5		74.0		5.4			4.2			3.3		
					Middle	5.4	27.4	27.4	8.0	8.0	15.0	15.6	73.7	73.6	5.3	5.4		4.4	4.5	4.5	3.7	4.0	4.2
							27.3		8.0		16.1		73.5		5.4			4.6			4.3		
					Bottom	9.8	27.4	27.4	8.0	8.0	16.7	16.4	72.5	72.3	5.2	5.2	5.2	4.7	4.8		4.1	5.0	
							27.3		8.0		16.2		72.0		5.2			4.8			5.8		
21-Jul-17	Sunny	Moderate	17:45	10.5	Surface	1.0	28.0	27.9	7.9	7.9	15.9	16.3	77.1	77.3	5.4	5.4	5.3	3.4	3.5		4.1	3.7	
							27.8		7.9		16.7		77.5		5.3			3.6			3.2		
					Middle	5.3	27.2	27.2	7.9	7.9	19.3	19.2	75.0	75.7	5.1	5.2		4.1	4.1	3.8	4.8	4.6	4.3
							27.3		7.9		19.2		76.3		5.3			4.0			4.4		
					Bottom	9.5	27.0	27.1	7.9	7.9	21.5	22.0	74.6	73.7	5.1	5.1	5.1	3.9	3.9		4.8	4.5	
							27.2		7.9		22.5		72.7		5.0			3.8			4.2		

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS(Mf)11 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	6:48	10.3	Surface	1.0	27.2 27.3	27.3	7.9 7.9	7.9	20.4 20.4	20.4	73.3 73.9	73.6	5.3 5.3	5.3	5.3	5.3 4.8	5.1	5.2	3.8 3.5	3.7	3.3
					Middle	5.2	26.7 26.7	26.7	7.9 7.9	7.9	25.8 25.8	25.8	72.5 73.5	73.0	5.2 5.2	5.2		5.0 5.4	5.2		3.0 2.6	2.8	
					Bottom	9.3	26.9 26.6	26.7	7.8 7.9	7.9	27.3 27.7	27.5	72.6 71.9	72.3	5.2 5.2	5.2	5.2	5.6 5.3	5.5		4.0 2.9	3.5	
26-Jul-17	Sunny	Moderate	8:08	10.3	Surface	1.1	28.2 28.2	28.2	7.9 7.9	7.9	18.8 18.9	18.8	74.5 75.3	74.9	5.5 5.5	5.5	5.5	4.8 4.7	4.8	4.9	5.0 5.1	5.1	5.2
					Middle	5.1	28.2 28.1	28.1	7.9 7.9	7.9	18.9 18.9	18.9	73.8 73.0	73.4	5.4 5.4	5.4		4.8 4.9	4.9		5.3 4.6	5.0	
					Bottom	9.3	28.2 28.0	28.1	7.9 7.8	7.9	19.2 22.1	20.7	71.5 70.9	71.2	5.2 5.2	5.2	5.2	5.1 5.2	5.2		5.6 5.6	5.6	
28-Jul-17	Sunny	Moderate	9:55	10.7	Surface	1.0	28.3 28.3	28.3	7.8 7.8	7.8	21.5 21.5	21.5	77.5 76.5	77.0	5.4 5.4	5.4	5.3	7.1 7.2	7.2	7.4	10.5 11.7	11.1	11.1
					Middle	5.4	28.2 28.2	28.2	7.8 7.8	7.8	21.5 21.5	21.5	77.3 76.7	77.0	5.3 5.3	5.3		7.4 7.5	7.5		10.6 11.9	11.3	
					Bottom	9.7	28.2 28.2	28.2	7.9 7.8	7.8	21.6 21.5	21.5	76.5 75.7	76.1	5.2 5.3	5.2	5.2	7.6 7.7	7.7		11.5 10.3	10.9	
31-Jul-17	Cloudy	Moderate	13:46	10.8	Surface	1.0	29.6 29.5	29.5	8.0 8.0	8.0	17.3 19.7	18.5	84.5 82.6	83.6	5.9 5.8	5.8	5.8	4.7 4.9	4.8	5.1	5.3 4.7	5.0	4.8
					Middle	5.4	29.7 29.6	29.6	8.0 8.0	8.0	15.0 16.9	15.9	82.7 83.0	82.9	5.7 5.7	5.7		5.0 5.1	5.1		5.0 4.3	4.7	
					Bottom	9.8	29.5 29.6	29.5	8.0 8.0	8.0	18.6 17.4	18.0	82.4 80.5	81.5	5.6 5.6	5.6	5.6	5.4 5.3	5.4		4.1 5.5	4.8	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS6, CSA and CS(Mf)5 are considered as upstream contol stations of mid-flood tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS(Mf)16 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (^{o}C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	09:34	6.2	Surface	1.0	28.4 28.4	28.4	8.2 8.2	8.2	15.1 15.0	15.0	88.4 90.3	89.4	6.3 6.5	6.4	6.4	5.3 5.3	5.3	6.1	5.1 5.3	5.2	5.6
					Middle	3.1	28.5 28.5	28.5	8.2 8.2	8.2	16.5 16.6	16.5	89.3 88.3	88.8	6.3 6.3	6.3		6.5 6.5	6.5		4.8 5.7	5.3	
					Bottom	5.2	28.2 28.4	28.3	8.1 8.2	8.1	19.7 19.2	19.5	83.7 83.8	83.8	5.9 5.9	5.9	5.9	6.5 6.4	6.5		5.8 6.7	6.3	
5-Jul-17	Cloudy	Moderate	10:51	5.9	Surface	1.1	28.3 28.5	28.4	8.1 8.1	8.1	13.8 13.7	13.7	81.2 79.2	80.2	5.8 5.7	5.7	5.7	6.3 6.2	6.3	6.2	6.5 6.5	6.5	8.1
					Middle	3.0	28.0 27.9	27.9	8.1 8.1	8.1	14.8 15.6	15.2	79.9 77.2	78.6	5.7 5.5	5.6		6.1 6.5	6.3		9.8 8.7	9.3	
					Bottom	4.9	27.5 27.2	27.4	8.1 8.0	8.0	20.8 20.5	20.7	78.8 74.2	76.5	5.7 5.3	5.5	5.5	6.1 6.1	6.1		8.2 8.7	8.5	
7-Jul-17	Rainy	Moderate	12:06	6.7	Surface	1.0	27.5 27.4	27.4	7.9 7.9	7.9	13.4 14.3	13.9	76.7 76.6	76.7	5.2 5.2	5.2	5.2	4.2 4.1	4.2	4.3	6.9 6.8	6.9	6.3
					Middle	3.3	27.3 27.3	27.3	7.9 7.9	7.9	15.4 15.5	15.5	76.4 76.2	76.3	5.2 5.2	5.2		4.1 4.4	4.3		5.2 5.2	5.2	
					Bottom	5.7	27.1 27.1	27.1	7.9 7.9	7.9	17.4 17.3	17.3	76.3 76.7	76.5	5.2 5.2	5.2	5.2	4.6 4.3	4.5		7.3 6.1	6.7	
10-Jul-17	Sunny	Moderate	13:55	6.3	Surface	1.0	27.6 27.5	27.6	8.0 8.1	8.1	13.9 13.4	13.6	73.6 74.8	74.2	5.3 5.3	5.3	5.3	3.1 2.8	3.0	3.0	8.4 7.5	8.0	8.5
					Middle	3.2	27.0 27.1	27.0	8.0 8.0	8.0	17.1 16.8	17.0	72.7 72.2	72.5	5.3 5.3	5.3		3.1 2.9	3.0		9.4 8.3	8.9	
					Bottom	5.3	26.7 26.8	26.8	8.0 8.1	8.0	20.4 19.5	19.9	71.0 70.5	70.8	5.1 5.1	5.1	5.1	3.0 3.0	3.0		8.9 8.4	8.7	
12-Jul-17	Sunny	Moderate	14:58	6.4	Surface	1.0	28.0 28.0	28.0	8.3 8.3	8.3	16.9 16.9	16.9	90.5 89.1	89.8	6.4 6.4	6.4	6.1	4.5 4.6	4.6	4.5	15.5 15.7	15.6	17.6
					Middle	3.2	26.7 26.7	26.7	8.1 8.1	8.1	21.8 21.7	21.8	82.1 82.0	82.1	5.8 5.8	5.8		4.4 4.5	4.5		19.6 18.1	18.9	
					Bottom	5.4	26.0 26.1	26.1	8.1 8.1	8.1	25.9 26.0	25.9	78.1 78.6	78.4	5.5 5.5	5.5	5.5	4.3 4.2	4.3		17.9 18.8	18.4	
14-Jul-17	Sunny	Moderate	15:43	6.0	Surface	1.0	28.8 28.8	28.8	8.5 8.5	8.5	16.9 16.9	16.9	121.9 120.7	121.3	8.6 8.5	8.5	8.5	4.3 4.3	4.3	4.2	19.9 19.8	19.9	18.9
					Middle	3.0	28.6 28.6	28.6	8.5 8.5	8.5	17.0 17.1	17.1	119.4 118.6	119.0	8.4 8.4	8.4		4.1 4.2	4.2		18.5 18.9	18.7	
					Bottom	5.0	28.5 28.4	28.4	8.5 8.5	8.5	18.1 18.0	18.0	112.9 111.2	112.1	8.0 7.8	7.9	7.9	4.1 4.1	4.1		18.3 17.6	18.0	
17-Jul-17	Cloudy	Moderate	7:42	6.1	Surface	1.2	27.8 27.7	27.8	8.2 8.2	8.2	13.4 14.4	13.9	81.9 82.4	82.2	5.9 6.0	6.0	5.9	2.1 2.1	2.1	2.1	5.4 5.4	5.4	4.9
					Middle	3.1	27.7 27.7	27.7	8.2 8.2	8.2	17.0 17.0	17.0	82.0 81.4	81.7	5.9 5.8	5.9		2.1 2.1	2.1		4.6 5.1	4.9	
					Bottom	5.1	27.7 27.7	27.7	8.1 8.1	8.1	18.5 18.5	18.5	80.4 79.0	79.7	5.7 5.6	5.7	5.7	2.2 2.1	2.2		4.9 4.2	4.6	
19-Jul-17	Sunny	Moderate	9:44	6.3	Surface	1.0	27.6 27.6	27.6	8.1 8.1	8.1	12.1 12.1	12.1	84.5 87.9	86.2	6.2 6.4	6.3	6.2	2.2 2.2	2.2	2.9	0.9 0.7	0.8	1.8
					Middle	3.1	27.4 27.4	27.4	8.1 8.1	8.1	12.5 12.4	12.4	84.7 83.9	84.3	6.3 6.2	6.2		3.2 3.2	3.2		1.9 1.5	1.7	
					Bottom	5.3	27.5 27.3	27.4	8.0 8.1	8.1	15.3 15.4	15.4	83.3 84.4	83.9	6.1 6.2	6.2	6.2	3.4 3.2	3.3		2.6 3.1	2.9	
21-Jul-17	Sunny	Moderate	11:41	6.0	Surface	1.2	28.8 28.7	28.7	8.2 8.2	8.2	16.3 16.4	16.4	85.2 85.9	85.6	6.0 6.1	6.1	6.0	4.6 4.4	4.5	4.5	1.4 1.1	1.3	2.3
					Middle	3.0	28.5 28.7	28.6	8.2 8.2	8.2	17.1 17.1	17.1	84.7 83.5	84.1	5.9 5.9	5.9		4.5 4.6	4.6		3.2 3.7	3.5	
					Bottom	5.0	27.2 28.4	27.8	8.2 8.2	8.2	20.0 20.2	20.1	80.0 83.6	81.8	5.6 5.9	5.8	5.8	4.6 4.5	4.6		2.4 2.2	2.3	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS(Mf)16 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	13:13	6.1	Surface	1.1	27.9 27.9	27.9	8.2 8.2	8.2	17.6 17.7	17.6	76.0 74.1	75.1	5.4 5.2	5.3	5.3	4.5 4.6	4.6	4.6	3.1 2.2	2.7	2.9
					Middle	3.0	27.7 27.5	27.6	8.2 8.2	8.2	19.1 19.8	19.4	75.3 73.1	74.2	5.3 5.2	5.2		4.5 4.5	4.5		3.9 2.5	3.2	
					Bottom	5.1	27.8 27.3	27.5	8.2 8.2	8.2	20.8 23.2	22.0	74.7 71.1	72.9	5.3 5.0	5.2	5.2	4.6 4.6	4.6		2.8 2.7	2.8	
26-Jul-17	Sunny	Moderate	14:42	6.2	Surface	1.2	29.7 29.3	29.5	8.2 8.2	8.2	18.8 19.0	18.9	74.5 75.4	75.0	5.1 5.2	5.2	5.1	5.7 5.7	5.7	5.8	4.6 4.5	4.6	5.1
					Middle	3.1	28.4 28.5	28.5	8.2 8.2	8.2	20.5 20.3	20.4	74.0 73.5	73.8	5.1 5.1	5.1		5.9 5.8	5.9		5.7 5.1	5.4	
					Bottom	5.2	28.3 28.3	28.3	8.2 8.2	8.2	20.9 20.7	20.8	72.0 72.2	72.1	5.0 5.0	5.0	5.0	5.6 5.9	5.8		5.6 5.0	5.3	
28-Jul-17	Sunny	Moderate	16:26	6.3	Surface	1.0	29.3 29.5	29.4	8.2 8.2	8.2	20.6 20.3	20.4	80.7 79.9	80.3	5.5 5.5	5.5	5.4	6.6 6.5	6.6	6.8	8.3 9.1	8.7	7.9
					Middle	3.1	29.2 29.0	29.1	8.2 8.2	8.2	20.6 20.9	20.7	78.5 78.2	78.4	5.4 5.4	5.4		6.9 6.9	6.9		8.5 8.0	8.3	
					Bottom	5.3	29.0 28.9	29.0	8.2 8.2	8.2	22.0 21.2	21.6	79.6 79.9	79.8	5.4 5.5	5.5	5.5	7.2 6.9	7.1		6.9 6.4	6.7	
31-Jul-17	Cloudy	Moderate	7:44	6.1	Surface	1.2	29.6 29.6	29.6	8.3 8.3	8.3	20.2 20.3	20.3	90.8 91.9	91.4	6.1 6.3	6.2	6.2	4.1 4.2	4.2	4.2	7.4 6.0	6.7	7.0
					Middle	3.1	29.5 29.5	29.5	8.3 8.3	8.3	21.7 21.6	21.7	91.6 90.3	91.0	6.2 6.1	6.2		4.2 4.1	4.2		6.8 6.4	6.6	
					Bottom	5.1	29.5 29.5	29.5	8.3 8.3	8.3	22.3 22.7	22.5	91.1 90.3	90.7	6.2 6.1	6.1	6.1	4.4 4.1	4.3		8.1 7.2	7.7	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS4 and CS(Mf)3 are considered as upstream contol stations of mid-ebb tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS(Mf)16 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	15:11	6.3	Surface	1.0	28.4 28.4	28.4	8.2 8.2	8.2	13.3 12.9	13.1	87.1 85.0	86.1	6.3 6.2	6.2	6.1	5.1 5.4	5.3	5.3	4.3 4.1	4.2	4.0
					Middle	3.2	28.3 28.3	28.3	8.2 8.2	8.2	15.0 14.3	14.7	86.6 83.6	85.1	6.2 5.9	6.0		5.2 5.2	5.2		3.4 3.1	3.3	
					Bottom	5.3	28.4 28.1	28.2	8.2 8.1	8.1	16.3 18.1	17.2	85.5 82.0	83.8	6.1 5.9	6.0	6.0	5.4 5.2	5.3		4.8 4.3	4.6	
5-Jul-17	Cloudy	Moderate	17:17	6.1	Surface	1.0	28.6 28.6	28.6	8.1 8.1	8.1	14.8 14.7	14.7	80.7 81.0	80.9	5.8 5.8	5.8	5.6	2.1 2.1	2.1	2.2	4.5 4.0	4.3	4.8
					Middle	3.1	28.5 28.0	28.2	8.0 8.0	8.0	15.2 16.8	16.0	77.5 76.0	76.8	5.5 5.4	5.4		2.1 2.2	2.2		5.0 5.4	5.2	
					Bottom	5.1	26.9 26.7	26.8	8.0 7.9	8.0	22.8 23.5	23.2	72.3 70.6	71.5	5.1 5.0	5.1	5.1	2.3 2.2	2.3		4.1 5.9	5.0	
7-Jul-17	Rainy	Moderate	18:56	6.3	Surface	1.0	28.0 28.0	28.0	8.2 8.2	8.2	15.3 15.3	15.3	81.6 81.5	81.6	5.6 5.6	5.6	5.5	8.0 7.3	7.7	7.4	4.6 3.6	4.1	4.5
					Middle	3.2	27.9 27.9	27.9	8.1 8.1	8.1	15.5 15.5	15.5	80.8 81.0	80.9	5.5 5.5	5.5		7.1 7.5	7.3		4.0 4.2	4.1	
					Bottom	5.3	27.4 27.5	27.5	8.1 8.1	8.1	19.9 19.6	19.7	82.7 81.2	82.0	5.6 5.5	5.5	5.5	7.2 7.4	7.3		5.6 5.2	5.4	
10-Jul-17	Sunny	Moderate	07:15	6.2	Surface	1.0	27.2 27.4	27.3	8.0 8.0	8.0	16.4 15.4	15.9	75.2 77.1	76.2	5.7 5.9	5.8	5.7	1.7 1.6	1.7	1.7	7.4 6.9	7.2	8.4
					Middle	3.1	26.6 26.6	26.6	8.0 8.0	8.0	18.4 19.0	18.7	73.4 72.8	73.1	5.6 5.5	5.6		1.7 1.6	1.7		9.4 9.6	9.5	
					Bottom	5.2	26.6 26.2	26.4	7.9 7.9	7.9	22.7 23.0	22.8	74.1 73.4	73.8	5.6 5.5	5.5	5.5	1.7 1.7	1.7		8.4 8.8	8.6	
12-Jul-17	Sunny	Moderate	08:08	6.6	Surface	1.0	27.5 27.4	27.5	8.1 8.1	8.1	16.2 16.3	16.3	79.3 79.6	79.5	5.7 5.7	5.7	5.5	4.3 4.4	4.4	5.0	15.0 14.4	14.7	16.1
					Middle	3.3	27.3 27.2	27.2	8.1 8.1	8.1	17.2 17.2	17.2	74.1 73.6	73.9	5.3 5.3	5.3		5.0 5.1	5.1		14.8 15.5	15.2	
					Bottom	5.6	27.0 26.9	27.0	8.0 8.0	8.0	18.6 18.6	18.6	72.6 73.0	72.8	5.2 5.2	5.2	5.2	5.4 5.5	5.5		18.4 18.3	18.4	
14-Jul-17	Sunny	Moderate	09:45	6.1	Surface	1.0	28.1 28.0	28.0	8.2 8.2	8.2	16.8 17.1	16.9	85.9 83.7	84.8	6.1 6.0	6.0	6.0	4.8 4.5	4.7	4.8	12.7 11.8	12.3	13.2
					Middle	3.1	27.6 27.6	27.6	8.2 8.2	8.2	19.0 19.1	19.0	85.2 83.4	84.3	6.0 5.9	6.0		4.8 4.8	4.8		13.1 13.4	13.3	
					Bottom	5.1	27.4 27.7	27.6	8.2 8.2	8.2	20.1 20.0	20.1	80.6 82.8	81.7	5.7 5.9	5.8	5.8	4.8 4.9	4.9		13.2 14.6	13.9	
17-Jul-17	Cloudy	Moderate	12:29	6.2	Surface	1.2	27.7 27.7	27.7	8.2 8.2	8.2	16.5 15.6	16.1	86.0 92.0	89.0	6.1 6.6	6.3	6.3	2.4 2.3	2.4	2.4	0.5 0.6	0.6	1.2
					Middle	3.1	27.7 27.7	27.7	8.2 8.2	8.2	17.3 17.2	17.3	85.2 88.7	87.0	6.1 6.3	6.2		2.5 2.5	2.5		1.6 1.3	1.5	
					Bottom	5.2	27.7 27.7	27.7	8.2 8.2	8.2	18.1 18.6	18.3	87.3 85.1	86.2	6.3 6.1	6.2	6.2	2.5 2.4	2.5		1.6 1.8	1.7	
19-Jul-17	Sunny	Moderate	15:33	6.3	Surface	1.1	27.9 27.9	27.9	8.2 8.2	8.2	11.8 11.8	11.8	76.4 82.5	79.5	5.6 6.0	5.8	5.7	3.3 3.1	3.2	3.3	1.7 1.3	1.5	1.7
					Middle	3.1	27.3 27.4	27.3	8.1 8.1	8.1	14.7 14.8	14.7	76.2 78.5	77.4	5.5 5.8	5.7		3.3 3.3	3.3		1.2 1.4	1.3	
					Bottom	5.3	27.3 27.3	27.3	8.1 8.1	8.1	15.9 15.8	15.8	78.2 74.6	76.4	5.7 5.4	5.6	5.6	3.2 3.3	3.3		2.2 2.2	2.2	
21-Jul-17	Sunny	Moderate	17:41	6.2	Surface	1.1	28.5 28.4	28.5	8.3 8.3	8.3	16.6 17.4	17.0	79.9 84.0	82.0	5.7 5.9	5.8	5.7	3.8 3.9	3.9	3.8	4.8 5.1	5.0	4.7
					Middle	3.1	27.7 28.0	27.9	8.2 8.2	8.2	18.2 18.3	18.2	77.6 83.0	80.3	5.5 5.9	5.7		3.7 3.8	3.8		4.4 4.4	4.4	
					Bottom	5.2	27.4 27.9	27.7	8.2 8.2	8.2	20.7 20.7	20.7	73.7 80.6	77.2	5.2 5.7	5.5	5.5	3.7 3.8	3.8		4.1 5.1	4.6	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS(Mf)16 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	6:56	6.3	Surface	1.2	27.3 27.4	27.3	8.2 8.2	8.2	21.8 21.9	21.9	73.8 74.8	74.3	5.3 5.4	5.4	5.3	3.8 3.7	3.8	3.6	2.3 2.3	2.3	3.2
					Middle	3.1	27.1 27.1	27.1	8.2 8.2	8.2	23.1 23.1	23.1	73.1 74.1	73.6	5.3 5.3	5.3		3.5 3.6	3.6		4.0 3.9	4.0	
					Bottom	5.3	27.2 26.7	26.9	8.2 8.2	8.2	24.2 24.9	24.5	74.0 72.8	73.4	5.3 5.2	5.3	5.3	3.6 3.5	3.6		3.6 2.9	3.3	
26-Jul-17	Sunny	Moderate	8:28	6.2	Surface	1.1	28.4 28.3	28.3	8.1 8.1	8.1	17.9 18.1	18.0	71.7 71.2	71.5	5.2 5.2	5.2	5.1	4.7 4.7	4.7	4.7	4.4 3.0	3.7	3.9
					Middle	3.1	28.1 28.1	28.1	8.1 8.1	8.1	19.0 19.6	19.3	71.1 71.3	71.2	5.1 5.1	5.1		4.6 4.6	4.6		3.1 4.4	3.8	
					Bottom	5.2	28.0 28.0	28.0	8.1 8.1	8.1	21.9 22.4	22.1	71.1 70.8	71.0	5.1 5.1	5.1	5.1	4.7 4.7	4.7		4.2 4.3	4.3	
28-Jul-17	Sunny	Moderate	10:15	6.2	Surface	1.0	28.6 28.6	28.6	8.1 8.1	8.1	19.5 19.8	19.7	78.7 80.1	79.4	5.4 5.5	5.5	5.4	5.2 5.2	5.2	5.2	3.0 3.8	3.4	3.5
					Middle	3.1	28.3 28.3	28.3	8.1 8.1	8.1	20.9 21.0	20.9	78.9 76.5	77.7	5.4 5.3	5.4		5.1 5.2	5.2		3.2 4.0	3.6	
					Bottom	5.2	28.3 28.0	28.2	8.1 8.1	8.1	23.1 23.3	23.2	78.8 75.4	77.1	5.4 5.2	5.3	5.3	5.1 5.1	5.1		3.7 3.3	3.5	
31-Jul-17	Cloudy	Moderate	13:00	6.1	Surface	1.2	29.6 29.7	29.7	8.3 8.3	8.3	20.9 20.4	20.7	91.9 93.4	92.7	6.2 6.3	6.3	6.2	5.9 5.9	5.9	5.8	8.6 9.5	9.1	8.7
					Middle	3.1	29.6 29.5	29.5	8.3 8.3	8.3	21.8 21.7	21.7	91.7 91.8	91.8	6.2 6.2	6.2		5.8 5.8	5.8		8.6 9.2	8.9	
					Bottom	5.1	29.5 29.3	29.4	8.3 8.3	8.3	22.8 22.8	22.8	87.1 85.0	86.1	5.9 5.7	5.8	5.8	5.8 5.8	5.8		8.0 8.3	8.2	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS6, CSA and CS(Mf)5 are considered as upstream contol stations of mid-flood tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS5 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	10:22	8.2	Surface	1.0	28.5 28.5	28.5	8.2 8.2	8.2	13.6 13.6	13.6	76.7 78.3	77.5	5.5 5.6	5.6	5.5	4.6 4.4	4.5	4.5	3.9 4.1	4.0	4.1
					Middle	4.1	27.2 27.6	27.4	7.9 8.1	8.0	26.9 24.3	25.6	75.8 74.1	75.0	5.4 5.3	5.3		4.5 4.5	4.5		3.5 3.8	3.7	
					Bottom	7.2	26.3 26.2	26.2	8.0 7.9	7.9	30.8 30.9	30.8	72.8 72.1	72.5	4.9 5.0	5.0	5.0	4.5 4.5	4.5		4.9 4.1	4.5	
5-Jul-17	Cloudy	Moderate	11:49	8.3	Surface	1.0	28.4 28.5	28.4	8.2 8.2	8.2	13.8 14.0	13.9	90.3 82.2	86.3	6.5 5.9	6.2	6.0	3.9 4.8	4.4	4.8	5.6 5.5	5.6	6.0
					Middle	4.2	28.3 26.3	27.3	8.2 8.0	8.1	14.2 26.5	20.4	88.7 72.1	80.4	6.4 5.2	5.8		4.0 5.0	4.5		4.4 4.5	4.5	
					Bottom	7.3	25.7 25.7	25.7	8.0 8.0	8.0	30.4 30.6	30.5	70.2 69.7	70.0	5.1 5.0	5.0	5.0	5.5 5.6	5.6		7.0 8.9	8.0	
7-Jul-17	Rainy	Moderate	13:01	8.3	Surface	1.0	27.7 27.8	27.7	8.0 8.1	8.0	15.4 15.3	15.4	80.9 80.9	80.9	5.5 5.5	5.5	5.5	7.1 7.3	7.2	7.9	5.7 5.4	5.6	7.0
					Middle	4.1	26.9 26.8	26.8	8.0 8.0	8.0	20.5 20.1	20.3	80.3 80.5	80.4	5.4 5.5	5.4		7.2 7.5	7.4		7.1 8.8	8.0	
					Bottom	7.3	27.4 26.7	27.1	8.0 8.0	8.0	21.1 21.3	21.2	80.8 81.2	81.0	5.5 5.5	5.5	5.5	9.2 8.8	9.0		7.8 7.3	7.6	
10-Jul-17	Sunny	Moderate	12:44	8.7	Surface	1.0	27.8 27.4	27.6	8.1 8.1	8.1	13.8 14.4	14.1	86.9 86.3	86.6	6.3 6.3	6.3	6.0	4.7 4.4	4.6	5.8	9.9 8.9	9.4	12.7
					Middle	4.4	26.4 26.3	26.4	8.1 8.1	8.1	20.9 22.0	21.4	77.4 79.4	78.4	5.5 5.6	5.6		5.5 5.2	5.4		10.8 10.7	10.8	
					Bottom	7.7	26.1 26.2	26.1	8.1 8.1	8.1	23.5 23.9	23.7	72.7 71.7	72.2	5.2 5.2	5.2	5.2	7.3 7.6	7.5		18.5 17.5	18.0	
12-Jul-17	Sunny	Moderate	14:01	8.4	Surface	1.0	28.0 28.1	28.0	8.4 8.4	8.4	17.1 17.0	17.0	106.2 107.6	106.9	7.6 7.7	7.6	7.1	5.9 5.7	5.8	6.6	14.4 15.7	15.1	16.0
					Middle	4.2	27.6 27.6	27.6	8.3 8.3	8.3	18.3 18.2	18.3	90.2 90.9	90.6	6.4 6.5	6.5		6.8 6.6	6.7		16.5 15.8	16.2	
					Bottom	7.4	27.0 27.0	27.0	8.3 8.3	8.3	21.2 21.3	21.3	88.7 89.6	89.2	6.3 6.3	6.3	6.3	7.1 7.3	7.2		16.3 17.0	16.7	
14-Jul-17	Sunny	Moderate	14:59	8.3	Surface	1.0	28.3 28.3	28.3	8.4 8.4	8.4	16.4 16.3	16.3	113.2 109.7	111.5	8.1 7.8	7.9	7.9	5.4 5.5	5.5	5.5	13.7 14.3	14.0	13.8
					Middle	4.2	27.8 28.1	27.9	8.4 8.4	8.4	16.8 17.0	16.9	109.2 112.5	110.9	7.8 8.0	7.9		5.5 5.5	5.5		14.5 13.8	14.2	
					Bottom	7.3	28.2 27.5	27.9	8.4 8.4	8.4	17.7 18.8	18.3	110.9 104.0	107.5	7.9 7.4	7.7	7.7	5.6 5.6	5.6		12.6 13.8	13.2	
17-Jul-17	Cloudy	Moderate	8:30	8.3	Surface	1.1	27.8 27.8	27.8	8.1 8.1	8.1	17.4 17.4	17.4	75.0 74.9	75.0	5.3 5.3	5.3	5.3	3.2 3.4	3.3	3.4	2.6 2.5	2.6	2.9
					Middle	4.1	27.2 27.2	27.2	8.1 8.1	8.1	20.8 21.2	21.0	73.8 74.2	74.0	5.2 5.2	5.2		3.5 3.3	3.4		2.2 3.6	2.9	
					Bottom	7.3	27.1 27.3	27.2	8.1 8.1	8.1	22.8 22.7	22.8	67.1 68.7	67.9	4.8 4.9	4.8	4.8	3.3 3.6	3.5		3.7 2.6	3.2	
19-Jul-17	Sunny	Moderate	10:26	8.4	Surface	1.0	27.4 27.3	27.4	8.1 8.1	8.1	12.9 13.0	13.0	78.9 72.0	75.5	5.5 5.2	5.4	5.3	2.6 2.5	2.6	2.5	1.2 1.1	1.2	2.7
					Middle	4.2	26.5 26.6	26.5	8.0 8.0	8.0	22.8 22.0	22.4	71.0 72.5	71.8	5.0 5.3	5.2		2.5 2.5	2.5		2.4 3.6	3.0	
					Bottom	7.4	26.7 26.5	26.6	8.0 8.0	8.0	24.5 24.6	24.5	67.1 66.8	67.0	4.8 4.8	4.8	4.8	2.5 2.5	2.5		4.0 4.1	4.1	
21-Jul-17	Sunny	Moderate	12:31	8.3	Surface	1.1	28.9 28.8	28.8	8.2 8.2	8.2	15.7 16.1	15.9	86.1 82.2	84.2	6.0 5.8	5.9	5.8	5.5 5.4	5.5	5.5	4.8 3.6	4.2	4.5
					Middle	4.2	28.5 28.6	28.5	8.1 8.2	8.1	16.5 16.4	16.5	80.7 83.3	82.0	5.7 5.9	5.8		5.5 5.6	5.6		3.8 4.3	4.1	
					Bottom	7.3	28.4 28.3	28.4	8.1 8.1	8.1	18.9 19.2	19.0	81.8 79.1	80.5	5.8 5.6	5.7	5.7	5.6 5.6	5.6		5.5 4.9	5.2	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS5 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	12:26	8.4	Surface	1.1	28.0 28.0	28.0	8.3 8.3	8.3	19.5 19.5	19.5	79.5 80.2	79.9	5.6 5.6	5.6	5.6	4.4 4.3	4.4	5.9	2.4 3.0	2.7	3.1
					Middle	4.2	28.0 28.0	28.0	8.3 8.3	8.3	20.3 20.0	20.1	79.3 79.6	79.5	5.5 5.6	5.6		6.7 6.5	6.6		3.0 3.1	3.1	
					Bottom	7.4	28.0 28.0	28.0	8.3 8.3	8.3	21.2 21.5	21.3	79.5 79.1	79.3	5.6 5.5	5.5	5.5	6.5 6.9	6.7		3.2 3.6	3.4	
26-Jul-17	Sunny	Moderate	13:56	8.3	Surface	1.1	29.1 29.1	29.1	8.3 8.3	8.3	17.0 17.4	17.2	77.7 75.9	76.8	5.4 5.3	5.4	5.4	11.5 11.2	11.4	11.3	12.6 12.8	12.7	12.6
					Middle	4.2	28.9 29.0	28.9	8.3 8.3	8.3	17.6 17.2	17.4	75.6 77.1	76.4	5.3 5.4	5.3		11.4 11.2	11.3		11.6 12.8	12.2	
					Bottom	7.3	28.9 28.9	28.9	8.4 8.3	8.3	17.4 17.8	17.6	76.8 75.5	76.2	5.4 5.3	5.3	5.3	11.2 11.1	11.2		13.0 12.6	12.8	
28-Jul-17	Sunny	Moderate	15:24	8.3	Surface	1.0	29.7 29.5	29.6	8.2 8.1	8.2	18.4 18.9	18.7	82.0 80.0	81.0	5.6 5.5	5.6	5.6	8.3 8.1	8.2	9.8	9.5 9.6	9.6	8.9
					Middle	4.2	29.3 29.1	29.2	8.2 8.2	8.2	18.8 19.6	19.2	80.7 80.2	80.5	5.6 5.5	5.6		9.7 9.3	9.5		8.3 8.9	8.6	
					Bottom	7.3	29.2 29.4	29.3	8.2 8.2	8.2	19.0 19.5	19.2	81.6 81.3	81.5	5.6 5.6	5.6	5.6	11.5 12.1	11.8		8.8 8.4	8.6	
31-Jul-17	Cloudy	Moderate	8:36	8.3	Surface	1.1	30.0 30.0	30.0	8.3 8.3	8.3	20.2 20.2	20.2	80.1 78.5	79.3	5.3 5.4	5.3	5.3	5.7 5.9	5.8	5.8	5.6 6.5	6.1	5.9
					Middle	4.1	29.2 29.3	29.2	8.2 8.2	8.2	24.9 24.7	24.8	77.4 78.9	78.2	5.2 5.3	5.2		5.8 5.8	5.8		5.7 6.3	6.0	
					Bottom	7.3	29.1 29.6	29.3	8.2 8.2	8.2	27.0 26.7	26.9	75.0 75.0	75.0	5.0 5.0	5.0	5.0	5.8 5.8	5.8		5.5 5.6	5.6	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS4 and CS(Mf)3 are considered as upstream contol stations of mid-ebb tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS5 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (^{o}C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	14:22	8.1	Surface	1.0	28.5 28.5	28.5	8.2 8.2	8.2	14.7 15.0	14.8	82.6 80.9	81.8	5.9 5.8	5.8	5.7	5.6 5.6	5.6	5.6	3.1 4.2	3.7	4.3
					Middle	4.1	28.0 27.8	27.9	8.1 8.1	8.1	19.8 20.5	20.2	83.1 80.0	81.6	5.7 5.5	5.6		5.5 5.6	5.6		3.7 5.0	4.4	
					Bottom	7.1	27.3 28.0	27.7	8.0 8.1	8.1	26.6 25.4	26.0	70.6 76.2	73.4	5.0 5.4	5.2	5.2	5.5 5.5	5.5		4.3 5.1	4.7	
5-Jul-17	Cloudy	Moderate	16:32	8.1	Surface	1.1	28.8 28.9	28.8	8.2 8.2	8.2	14.2 14.3	14.2	82.0 82.1	82.1	5.7 5.8	5.8	5.7	5.5 5.5	5.5	5.5	11.8 12.1	12.0	13.2
					Middle	4.0	28.2 28.2	28.2	8.0 8.1	8.1	17.8 17.9	17.8	81.1 80.1	80.6	5.6 5.6	5.6		5.5 5.5	5.5		12.2 13.1	12.7	
					Bottom	7.1	26.2 26.3	26.2	8.0 7.9	8.0	28.8 28.9	28.9	72.8 70.1	71.5	5.1 5.0	5.0	5.0	5.6 5.5	5.6		15.0 14.9	15.0	
7-Jul-17	Rainy	Moderate	17:55	8.7	Surface	1.0	27.4 27.4	27.4	8.0 8.0	8.0	15.6 15.7	15.6	82.2 83.0	82.6	5.6 5.6	5.6	5.6	8.1 8.3	8.2	8.0	5.3 5.0	5.2	6.8
					Middle	4.3	26.7 26.7	26.7	7.9 7.9	7.9	21.2 21.1	21.1	82.1 81.3	81.7	5.6 5.5	5.5		7.2 7.9	7.6		7.4 7.2	7.3	
					Bottom	7.7	26.7 27.0	26.9	7.9 7.9	7.9	22.8 22.5	22.7	82.4 81.6	82.0	5.6 5.5	5.6	5.6	8.1 8.5	8.3		8.5 7.6	8.1	
10-Jul-17	Sunny	Moderate	08:13	8.4	Surface	1.0	27.7 27.7	27.7	8.1 8.1	8.1	14.2 14.3	14.2	81.6 79.7	80.7	5.9 5.8	5.9	5.9	6.3 6.1	6.2	6.9	10.6 10.8	10.7	11.4
					Middle	4.2	27.6 27.5	27.6	8.0 8.1	8.1	16.3 16.2	16.3	78.6 81.4	80.0	5.7 5.9	5.8		7.1 6.8	7.0		12.0 11.9	12.0	
					Bottom	7.4	27.5 27.5	27.5	8.1 8.0	8.0	16.3 16.5	16.4	83.3 79.9	81.6	6.0 5.8	5.9	5.9	7.4 7.3	7.4		11.4 11.5	11.5	
12-Jul-17	Sunny	Moderate	09:04	8.6	Surface	1.0	27.9 27.9	27.9	8.3 8.4	8.4	16.1 16.2	16.2	104.6 104.5	104.6	7.5 7.5	7.5	6.7	6.3 6.5	6.4	7.2	13.3 13.9	13.6	14.4
					Middle	4.3	27.5 27.5	27.5	8.2 8.2	8.2	17.5 17.5	17.5	83.8 82.7	83.3	6.0 5.9	5.9		7.2 7.3	7.3		13.8 14.2	14.0	
					Bottom	7.6	26.5 26.5	26.5	8.1 8.1	8.1	22.4 22.4	22.4	79.6 78.7	79.2	5.6 5.6	5.6	5.6	7.9 7.7	7.8		15.4 15.6	15.5	
14-Jul-17	Sunny	Moderate	10:36	8.8	Surface	1.0	28.2 28.4	28.3	8.4 8.5	8.4	18.1 17.9	18.0	108.8 106.7	107.8	7.6 7.5	7.6	7.5	5.8 5.9	5.9	5.8	14.8 15.6	15.2	16.7
					Middle	4.4	28.0 27.9	27.9	8.4 8.3	8.4	19.2 18.5	18.8	107.6 100.3	104.0	7.6 7.0	7.3		5.7 5.8	5.8		17.1 18.1	17.6	
					Bottom	7.8	27.9 27.5	27.7	8.4 8.3	8.4	21.6 21.4	21.5	102.8 95.2	99.0	7.2 6.7	7.0	7.0	5.8 5.8	5.8		17.1 17.6	17.4	
17-Jul-17	Cloudy	Moderate	11:40	8.6	Surface	1.0	27.7 27.6	27.7	8.2 8.2	8.2	17.2 17.2	17.2	79.5 76.1	77.8	5.6 5.3	5.4	5.4	4.7 4.6	4.7	4.6	0.7 0.6	0.7	0.8
					Middle	4.3	27.3 27.2	27.3	8.1 8.1	8.1	18.9 19.2	19.1	75.3 71.9	73.6	5.4 5.2	5.3		4.5 4.5	4.5		0.5 0.5	0.5	
					Bottom	7.6	27.1 27.4	27.2	8.1 8.1	8.1	22.9 22.7	22.8	71.9 71.4	71.7	5.1 5.1	5.1	5.1	4.5 4.6	4.6		1.2 1.3	1.3	
19-Jul-17	Sunny	Moderate	14:42	8.4	Surface	1.1	28.0 27.8	27.9	8.2 8.3	8.2	10.5 10.6	10.6	80.6 74.9	77.8	6.0 5.5	5.7	5.6	5.6 5.5	5.6	5.6	3.6 3.4	3.5	3.2
					Middle	4.2	27.5 27.3	27.4	8.2 8.2	8.2	12.1 11.9	12.0	76.8 73.9	75.4	5.6 5.5	5.5		5.8 5.6	5.7		2.5 3.3	2.9	
					Bottom	7.4	27.5 26.9	27.2	8.2 8.2	8.2	16.0 16.6	16.3	71.3 68.4	69.9	5.2 5.1	5.1	5.1	5.7 5.6	5.7		3.4 3.1	3.3	
21-Jul-17	Sunny	Moderate	16:50	8.8	Surface	1.0	29.0 28.9	29.0	8.2 8.2	8.2	16.9 17.0	17.0	88.8 92.3	90.6	6.2 6.4	6.3	6.2	6.6 6.2	6.4	6.5	3.0 3.5	3.3	3.0
					Middle	4.4	28.5 28.5	28.5	8.2 8.2	8.2	17.5 17.4	17.5	88.0 87.9	88.0	6.1 6.2	6.1		6.5 6.6	6.6		2.9 2.5	2.7	
					Bottom	7.8	28.7 28.9	28.8	8.2 8.2	8.2	19.4 20.2	19.8	87.0 86.7	86.9	6.1 6.1	6.1	6.1	6.5 6.4	6.5		2.3 3.6	3.0	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS5 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	7:44	8.4	Surface	1.1	28.0 28.0	28.0	8.2 8.2	8.2	19.1 19.1	19.1	77.3 77.9	77.6	5.4 5.5	5.4	5.4	6.5 6.6	6.6	6.7	1.6 1.2	1.4	1.5
					Middle	4.2	28.0 28.0	28.0	8.2 8.2	8.2	19.9 19.8	19.9	77.0 77.5	77.3	5.4 5.5	5.4		6.8 6.8	6.8		1.6 1.5	1.6	
					Bottom	7.4	28.0 28.0	28.0	8.2 8.2	8.2	20.2 20.4	20.3	76.6 76.9	76.8	5.4 5.4	5.4	5.4	6.8 6.8	6.8		1.7 1.6	1.7	
26-Jul-17	Sunny	Moderate	9:13	8.5	Surface	1.1	28.8 28.8	28.8	8.2 8.2	8.2	19.7 19.7	19.7	75.6 75.5	75.6	5.2 5.2	5.2	5.2	10.6 10.5	10.6	10.5	7.2 7.0	7.1	8.0
					Middle	4.2	28.7 28.7	28.7	8.2 8.2	8.2	19.8 19.9	19.9	75.3 75.3	75.3	5.2 5.2	5.2		10.2 10.4	10.3		8.1 9.3	8.7	
					Bottom	7.5	28.7 28.7	28.7	8.2 8.2	8.2	20.1 19.9	20.0	75.2 75.2	75.2	5.2 5.2	5.2	5.2	10.5 10.5	10.5		8.4 8.2	8.3	
28-Jul-17	Sunny	Moderate	11:12	8.7	Surface	1.0	29.1 29.1	29.1	8.2 8.2	8.2	19.5 19.5	19.5	86.7 83.2	85.0	6.0 5.7	5.9	5.7	5.6 5.8	5.7	5.8	3.1 3.4	3.3	3.2
					Middle	4.3	29.0 29.0	29.0	8.2 8.2	8.2	19.9 19.7	19.8	81.2 78.6	79.9	5.6 5.4	5.5		5.8 5.8	5.8		2.3 3.9	3.1	
					Bottom	7.7	29.0 29.0	29.0	8.2 8.2	8.2	19.9 19.9	19.9	78.9 79.5	79.2	5.4 5.5	5.5	5.5	5.9 6.0	6.0		3.7 2.9	3.3	
31-Jul-17	Cloudy	Moderate	12:12	8.5	Surface	1.1	29.9 29.9	29.9	8.3 8.3	8.3	20.1 20.1	20.1	82.5 81.8	82.2	5.5 5.5	5.5	5.4	7.5 7.1	7.3	7.4	4.9 3.8	4.4	5.2
					Middle	4.3	29.2 29.2	29.2	8.2 8.2	8.2	24.7 24.6	24.7	80.8 79.6	80.2	5.3 5.4	5.4		7.5 7.4	7.5		5.6 5.6	5.6	
					Bottom	7.5	29.3 29.1	29.2	8.2 8.2	8.2	27.3 27.3	27.3	74.9 74.4	74.7	5.0 5.0	5.0	5.0	7.5 7.5	7.5		5.3 6.0	5.7	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS6, CSA and CS(Mf)5 are considered as upstream contol stations of mid-flood tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS7 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	10:02	3.2	Surface	1.0	28.6 28.5	28.6	8.3 8.3	8.3	14.9 14.7	14.8	90.6 85.8	88.2	6.5 6.1	6.3	6.3	3.8 3.8	3.8	3.9	3.5 4.8	4.2	5.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.2	28.3 28.5	28.4	8.2 8.2	8.2	17.8 18.3	18.1	80.2 88.8	84.5	5.7 6.2	5.9	5.9	4.0 3.8	3.9		6.2 5.9	6.1	
5-Jul-17	Cloudy	Moderate	11:26	2.2	Surface	0.8	28.4 28.4	28.4	8.2 8.2	8.2	14.2 14.3	14.3	93.8 93.2	93.5	6.7 6.7	6.7	6.7	3.8 3.9	3.9	3.6	5.0 3.9	4.5	4.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	1.2	28.4 28.2	28.3	8.2 8.3	8.2	12.7 14.8	13.8	86.8 93.3	90.1	6.3 6.7	6.5	6.5	3.4 3.4	3.4		4.1 4.1	4.1	
7-Jul-17	Rainy	Moderate	12:42	3.5	Surface	1.1	27.8 27.9	27.8	8.1 8.1	8.1	14.1 14.1	14.1	81.9 80.5	81.2	5.5 5.4	5.5	5.5	4.5 4.3	4.4	4.9	6.9 6.5	6.7	6.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.5	27.6 27.7	27.6	8.1 8.1	8.1	17.1 17.3	17.2	79.0 81.2	80.1	5.3 5.5	5.4	5.4	5.5 5.4	5.5		6.1 6.1	6.1	
10-Jul-17	Sunny	Moderate	12:57	3.7	Surface	1.0	28.1 28.1	28.1	8.2 8.2	8.2	14.1 14.0	14.1	94.4 94.4	94.4	6.8 6.8	6.8	6.8	3.0 3.2	3.1	3.3	6.5 7.1	6.8	7.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	27.9 28.0	28.0	8.1 8.2	8.2	14.5 14.3	14.4	95.3 94.7	95.0	6.9 6.8	6.9	6.9	3.3 3.5	3.4		7.4 8.5	8.0	
12-Jul-17	Sunny	Moderate	14:18	3.2	Surface	1.0	27.9 27.9	27.9	8.4 8.4	8.4	16.0 16.1	16.0	113.3 113.7	113.5	8.1 8.2	8.1	8.1	6.8 6.9	6.9	7.2	12.8 11.5	12.2	12.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.2	27.9 27.9	27.9	8.4 8.4	8.4	16.6 16.7	16.7	109.0 108.1	108.6	7.8 7.8	7.8	7.8	7.4 7.6	7.5		12.3 12.4	12.4	
14-Jul-17	Sunny	Moderate	15:12	3.2	Surface	1.0	28.8 28.8	28.8	8.6 8.6	8.6	17.0 17.1	17.0	135.9 135.4	135.7	9.5 9.5	9.5	9.5	4.5 4.7	4.6	4.6	13.1 14.2	13.7	15.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.2	28.7 28.6	28.7	8.6 8.5	8.6	17.2 17.2	17.2	134.8 134.5	134.7	9.5 9.5	9.5	9.5	4.5 4.5	4.5		18.4 17.6	18.0	
17-Jul-17	Cloudy	Moderate	8:14	3.3	Surface	1.1	27.8 27.8	27.8	8.1 8.1	8.1	17.5 17.5	17.5	85.3 91.6	88.5	6.1 6.5	6.3	6.3	2.6 2.6	2.6	2.6	2.9 3.9	3.4	4.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.3	27.6 27.7	27.6	8.0 8.1	8.1	18.5 18.3	18.4	87.0 84.0	85.5	6.2 6.0	6.1	6.1	2.6 2.6	2.6		4.1 5.4	4.8	
19-Jul-17	Sunny	Moderate	10:14	3.3	Surface	1.0	27.7 27.5	27.6	8.0 8.0	8.0	12.2 12.2	12.2	82.6 79.6	81.1	6.1 5.9	6.0	6.0	4.6 4.5	4.6	4.5	1.3 1.0	1.2	1.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.3	27.3 27.2	27.3	8.0 8.0	8.0	13.1 13.4	13.3	80.6 79.2	79.9	5.9 5.8	5.9	5.9	4.6 4.4	4.5		1.4 1.0	1.2	
21-Jul-17	Sunny	Moderate	12:14	3.1	Surface	1.0	29.0 29.0	29.0	8.2 8.2	8.2	15.1 15.3	15.2	89.8 89.9	89.9	6.4 6.4	6.4	6.4	2.8 2.9	2.9	2.8	2.8 3.2	3.0	3.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.1	28.9 29.0	29.0	8.2 8.2	8.2	15.4 15.4	15.4	89.6 89.9	89.8	6.3 6.4	6.3	6.3	2.8 2.8	2.8		3.2 4.0	3.6	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS7 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	12:40	3.3	Surface	1.1	28.0 28.0	28.0	8.2 8.2	8.2	18.0 18.1	18.0	82.2 82.8	82.5	5.8 5.8	5.8	5.8	2.6 2.6	2.6	2.6	1.5 1.5	1.5	1.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.3	28.0 28.0	28.0	8.2 8.2	8.2	19.0 19.2	19.1	81.9 82.1	82.0	5.8 5.8	5.8	5.8	2.5 2.6	2.6		1.8 1.6	1.7	
26-Jul-17	Sunny	Moderate	14:14	3.3	Surface	1.1	29.8 29.7	29.8	8.2 8.2	8.2	17.6 17.6	17.6	79.5 79.3	79.4	5.5 5.5	5.5	5.5	9.2 9.4	9.3	9.4	3.7 4.4	4.1	5.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.3	29.6 29.4	29.5	8.2 8.2	8.2	18.5 18.3	18.4	79.1 79.1	79.1	5.4 5.5	5.5	5.5	9.6 9.5	9.6		6.2 7.1	6.7	
28-Jul-17	Sunny	Moderate	15:40	3.4	Surface	1.0	29.9 29.7	29.8	8.2 8.2	8.2	19.6 20.0	19.8	86.0 83.7	84.9	5.9 5.7	5.8	5.8	9.2 8.7	9.0	8.8	6.9 6.4	6.7	6.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.4	29.7 29.5	29.6	8.2 8.2	8.2	19.8 20.1	19.9	85.9 84.1	85.0	5.9 5.7	5.8	5.8	8.6 8.8	8.7		5.7 5.2	5.5	
31-Jul-17	Cloudy	Moderate	8:17	3.3	Surface	1.0	30.0 30.0	30.0	8.3 8.3	8.3	20.1 20.2	20.2	88.2 86.6	87.4	6.0 5.9	5.9	5.9	5.6 5.6	5.6	5.6	6.0 5.6	5.8	5.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.3	29.6 29.7	29.6	8.3 8.3	8.3	24.0 24.3	24.1	88.5 87.5	88.0	5.9 5.8	5.9	5.9	5.6 5.6	5.6		6.5 5.4	6.0	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS4 and CS(Mf)3 are considered as upstream contol stations of mid-ebb tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS7 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	14:35	3.3	Surface	1.0	28.5 28.5	28.5	8.3 8.3	8.3	14.5 14.4	14.4	97.2 96.5	96.9	7.0 6.9	6.9	6.9	2.5 2.6	2.6	2.6	3.2 4.0	3.6	3.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.3	28.6 28.5	28.5	8.3 8.3	8.3	14.8 14.7	14.7	97.3 97.0	97.2	7.0 6.9	6.9	6.9	2.5 2.4	2.5		3.6 3.9	3.8	
5-Jul-17	Cloudy	Moderate	16:45	3.3	Surface	1.0	28.8 28.8	28.8	8.0 8.0	8.0	14.5 14.4	14.5	88.6 89.8	89.2	6.3 6.4	6.4	6.4	3.5 3.5	3.5	3.5	12.7 13.3	13.0	13.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.3	28.8 28.7	28.7	8.0 7.9	8.0	14.6 14.8	14.7	89.2 88.0	88.6	6.4 6.3	6.3	6.3	3.5 3.5	3.5		14.4 13.5	14.0	
7-Jul-17	Rainy	Moderate	18:13	3.3	Surface	1.1	27.7 27.7	27.7	8.1 8.1	8.1	16.1 16.1	16.1	86.3 86.5	86.4	5.8 5.8	5.8	5.8	5.8 6.1	6.0	6.4	4.5 5.4	5.0	5.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.3	27.7 27.3	27.5	8.1 8.1	8.1	16.4 18.7	17.6	86.2 86.2	86.2	5.8 5.8	5.8	5.8	7.0 6.8	6.9		6.8 6.2	6.5	
10-Jul-17	Sunny	Moderate	07:53	3.2	Surface	1.0	27.8 27.9	27.9	8.0 8.0	8.0	14.0 13.8	13.9	81.5 82.3	81.9	5.9 6.0	6.0	6.0	3.3 3.1	3.2	3.2	8.2 9.3	8.8	9.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.2	27.6 27.6	27.6	8.0 8.0	8.0	14.4 14.5	14.4	81.5 80.3	80.9	5.9 5.8	5.9	5.9	3.2 3.2	3.2		9.2 9.3	9.3	
12-Jul-17	Sunny	Moderate	08:45	3.4	Surface	1.0	27.8 27.8	27.8	8.2 8.2	8.2	15.5 15.6	15.6	90.1 90.4	90.3	6.5 6.5	6.5	6.5	5.3 5.2	5.3	5.8	12.2 13.1	12.7	12.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.4	27.5 27.5	27.5	8.2 8.2	8.2	16.6 16.6	16.6	89.9 90.0	90.0	6.5 6.5	6.5	6.5	6.1 6.2	6.2		12.1 12.3	12.2	
14-Jul-17	Sunny	Moderate	10:17	3.4	Surface	1.0	28.1 28.1	28.1	8.3 8.3	8.3	17.1 17.0	17.0	96.3 95.3	95.8	6.8 6.8	6.8	6.8	10.1 10.5	10.3	10.3	20.7 21.6	21.2	**24.9**
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.4	28.0 28.0	28.0	8.3 8.3	8.3	17.8 17.9	17.9	95.0 95.7	95.4	6.7 6.8	6.8	6.8	10.1 10.2	10.2		28.5 28.5	28.5	
17-Jul-17	Cloudy	Moderate	11:57	3.3	Surface	1.1	27.7 27.7	27.7	8.2 8.2	8.2	17.2 17.1	17.2	84.0 81.2	82.6	6.0 5.8	5.9	5.9	2.1 2.1	2.1	2.1	0.6 0.8	0.7	0.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.3	27.7 27.6	27.6	8.2 8.2	8.2	17.8 18.3	18.0	82.9 79.6	81.3	5.9 5.7	5.8	5.8	2.2 2.1	2.2		0.8 0.9	0.9	
19-Jul-17	Sunny	Moderate	14:59	3.2	Surface	1.1	28.0 28.0	28.0	8.2 8.2	8.2	11.2 11.2	11.2	89.3 89.1	89.2	6.6 6.6	6.6	6.6	3.6 3.4	3.5	3.5	2.2 2.9	2.6	2.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.2	28.0 27.9	27.9	8.2 8.2	8.2	11.3 11.3	11.3	89.3 89.1	89.2	6.6 6.6	6.6	6.6	3.5 3.4	3.5		3.0 3.2	3.1	
21-Jul-17	Sunny	Moderate	17:06	3.1	Surface	1.0	29.1 29.0	29.1	8.3 8.3	8.3	16.8 16.9	16.9	96.7 96.2	96.5	6.8 6.7	6.8	6.8	7.5 7.5	7.5	7.5	2.6 2.7	2.7	2.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.1	29.1 29.0	29.0	8.3 8.3	8.3	16.8 16.9	16.9	96.3 96.7	96.5	6.7 6.8	6.8	6.8	7.1 7.7	7.4		2.7 2.3	2.5	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS7 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	7:27	3.3	Surface	1.1	28.0 28.0	28.0	8.2 8.2	8.2	19.2 19.2	19.2	81.3 83.8	82.6	5.7 5.9	5.8	5.8	2.6 2.6	2.6	2.6	3.0 4.5	3.8	3.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.3	28.0 28.0	28.0	8.2 8.2	8.2	19.3 19.3	19.3	82.2 86.7	84.5	5.8 6.1	5.9	5.9	2.7 2.6	2.7		3.6 3.3	3.5	
26-Jul-17	Sunny	Moderate	8:57	3.5	Surface	1.0	28.8 28.8	28.8	8.2 8.2	8.2	20.1 20.0	20.0	83.3 78.6	81.0	5.8 5.4	5.6	5.6	8.4 8.2	8.3	8.4	10.5 10.2	10.4	10.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.5	28.8 28.8	28.8	8.2 8.2	8.2	20.1 20.2	20.1	77.6 80.2	78.9	5.4 5.5	5.5	5.5	8.5 8.6	8.6		10.2 10.9	10.6	
28-Jul-17	Sunny	Moderate	10:52	3.4	Surface	1.0	29.2 29.2	29.2	8.2 8.2	8.2	19.7 19.7	19.7	83.9 84.3	84.1	5.8 5.8	5.8	5.8	4.8 4.9	4.9	5.4	0.5 0.5	0.5	0.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.4	29.0 29.2	29.1	8.2 8.2	8.2	19.9 19.8	19.8	83.6 83.9	83.8	5.8 5.8	5.8	5.8	6.0 5.8	5.9		0.5 0.5	0.5	
31-Jul-17	Cloudy	Moderate	12:27	3.2	Surface	1.1	29.9 29.7	29.8	8.3 8.3	8.3	21.1 21.9	21.5	91.1 89.2	90.2	6.2 6.0	6.1	6.1	5.9 5.8	5.9	5.8	4.2 5.8	5.0	5.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.2	29.5 29.6	29.5	8.3 8.3	8.3	24.0 23.8	23.9	89.9 90.4	90.2	6.0 6.0	6.0	6.0	5.8 5.8	5.8		5.6 6.3	6.0	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS6, CSA and CS(Mf)5 are considered as upstream contol stations of mid-flood tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS8 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	09:39	4.0	Surface	1.0	28.6 28.6	28.6	8.3 8.3	8.3	14.7 15.0	14.9	101.1 98.8	100.0	7.1 7.0	7.1	7.1	8.7 8.6	8.7	8.7	4.3 3.3	3.8	4.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.0	28.6 28.7	28.7	8.3 8.3	8.3	16.8 16.8	16.8	98.0 99.1	98.6	7.0 7.1	7.0	7.0	8.5 8.8	8.7		4.9 5.1	5.0	
5-Jul-17	Cloudy	Moderate	10:58	4.0	Surface	1.2	28.5 28.5	28.5	8.1 8.1	8.1	13.8 13.8	13.8	87.1 87.4	87.3	6.3 6.3	6.3	6.3	4.7 4.8	4.8	4.8	4.2 5.0	4.6	6.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.0	28.4 28.2	28.3	8.1 8.1	8.1	14.4 14.9	14.6	87.1 86.6	86.9	6.3 6.2	6.2	6.2	4.8 4.8	4.8		7.7 7.9	7.8	
7-Jul-17	Rainy	Moderate	12:17	3.8	Surface	1.0	27.9 28.0	27.9	8.1 8.1	8.1	14.7 14.6	14.7	84.0 83.7	83.9	5.7 5.7	5.7	5.7	6.9 7.5	7.2	8.2	7.5 7.5	7.5	7.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.8	27.8 27.3	27.6	8.1 8.1	8.1	17.3 17.1	17.2	83.8 83.1	83.5	5.7 5.6	5.6	5.6	9.0 9.3	9.2		7.5 8.4	8.0	
10-Jul-17	Sunny	Moderate	13:42	3.9	Surface	1.0	27.8 27.8	27.8	8.1 8.1	8.1	14.8 14.8	14.8	83.4 85.9	84.7	6.0 6.2	6.1	6.1	6.4 6.5	6.5	6.8	8.7 9.3	9.0	10.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.9	27.2 27.6	27.4	8.1 8.1	8.1	19.6 17.8	18.7	82.8 89.4	86.1	5.9 6.4	6.1	6.1	7.2 7.0	7.1		11.5 10.6	11.1	
12-Jul-17	Sunny	Moderate	14:47	3.7	Surface	1.0	28.3 28.3	28.3	8.4 8.4	8.4	16.3 16.4	16.4	111.3 110.1	110.7	7.9 7.9	7.9	7.9	6.7 6.6	6.7	6.9	14.8 15.7	15.3	15.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	27.5 27.6	27.5	8.3 8.3	8.3	18.7 18.6	18.6	105.5 106.4	106.0	7.5 7.6	7.5	7.5	7.1 7.0	7.1		15.2 14.0	14.6	
14-Jul-17	Sunny	Moderate	15:36	4.0	Surface	1.0	28.5 28.5	28.5	8.5 8.5	8.5	16.9 16.8	16.9	115.1 117.6	116.4	8.1 8.3	8.2	8.2	6.5 6.4	6.5	6.6	17.2 16.9	17.1	17.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.0	28.2 28.3	28.3	8.4 8.4	8.4	17.7 18.0	17.9	115.7 114.0	114.9	8.2 8.1	8.1	8.1	6.6 6.5	6.6		17.6 17.2	17.4	
17-Jul-17	Cloudy	Moderate	7:49	4.1	Surface	1.1	27.8 27.7	27.7	8.2 8.2	8.2	16.5 16.6	16.5	91.1 86.7	88.9	6.5 6.2	6.4	6.4	2.3 2.3	2.3	2.3	3.5 3.6	3.6	3.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	27.7 27.7	27.7	8.1 8.2	8.2	17.0 17.2	17.1	86.5 87.8	87.2	6.2 6.3	6.2	6.2	2.3 2.3	2.3		3.0 4.1	3.6	
19-Jul-17	Sunny	Moderate	9:52	3.9	Surface	1.0	27.4 27.3	27.3	8.1 8.1	8.1	12.6 12.6	12.6	85.6 89.3	87.5	6.3 6.5	6.4	6.4	5.7 5.7	5.7	5.8	2.9 2.6	2.8	2.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.9	27.2 27.2	27.2	8.1 8.1	8.1	14.5 14.6	14.6	85.9 84.6	85.3	6.4 6.3	6.3	6.3	5.8 5.8	5.8		3.2 2.5	2.9	
21-Jul-17	Sunny	Moderate	11:48	4.1	Surface	1.1	29.0 29.0	29.0	8.2 8.2	8.2	15.8 16.0	15.9	81.4 84.9	83.2	5.7 5.9	5.8	5.8	8.2 8.1	8.2	8.4	1.2 1.4	1.3	1.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	27.5 27.5	27.5	8.2 8.2	8.2	22.2 22.5	22.4	79.2 81.3	80.3	5.6 5.7	5.7	5.7	8.7 8.5	8.6		2.1 2.7	2.4	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS8 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	13:05	3.9	Surface	1.1	27.9 27.8	27.8	8.2 8.2	8.2	17.5 17.6	17.6	77.4 77.4	77.4	5.5 5.5	5.5	5.5	4.3 4.4	4.4	4.3	2.5 2.7	2.6	3.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.9	27.9 27.9	27.9	8.2 8.1	8.2	17.8 17.9	17.8	77.1 76.8	77.0	5.5 5.5	5.5	5.5	4.2 4.3	4.3		4.6 4.2	4.4	
26-Jul-17	Sunny	Moderate	14:34	3.9	Surface	1.1	29.9 30.4	30.2	8.2 8.2	8.2	17.8 17.5	17.6	81.1 80.5	80.8	5.6 5.5	5.6	5.6	7.3 7.5	7.4	7.5	3.1 3.5	3.3	3.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.9	29.6 29.1	29.4	8.2 8.2	8.2	18.9 19.3	19.1	80.4 80.3	80.4	5.5 5.5	5.5	5.5	7.5 7.5	7.5		3.2 3.8	3.5	
28-Jul-17	Sunny	Moderate	16:09	4.1	Surface	1.0	29.3 29.2	29.3	8.2 8.2	8.2	19.7 19.7	19.7	78.9 79.9	79.4	5.4 5.5	5.5	5.5	8.4 8.1	8.3	9.0	5.4 5.2	5.3	5.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	29.2 29.1	29.1	8.2 8.2	8.2	21.0 21.0	21.0	79.6 81.2	80.4	5.4 5.6	5.5	5.5	10.1 9.5	9.8		5.2 5.0	5.1	
31-Jul-17	Cloudy	Moderate	7:53	4.2	Surface	1.0	29.7 29.7	29.7	8.4 8.3	8.3	21.2 21.1	21.1	103.5 102.1	102.8	7.0 6.9	7.0	7.0	6.4 6.5	6.5	6.5	6.3 6.7	6.5	6.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	29.7 29.7	29.7	8.3 8.3	8.3	21.9 22.0	22.0	102.9 101.4	102.2	6.9 6.8	6.9	6.9	6.6 6.5	6.6		6.5 7.4	7.0	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS4 and CS(Mf)3 are considered as upstream contol stations of mid-ebb tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS8 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	15:00	4.0	Surface	1.0	28.5 28.5	28.5	8.3 8.3	8.3	14.4 14.4	14.4	94.3 94.5	94.4	6.8 6.8	6.8	6.8	5.5 5.3	5.4	5.5	5.5 5.7	5.6	5.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.0	28.5 28.5	28.5	8.2 8.2	8.2	15.0 15.7	15.3	94.1 94.1	94.1	6.7 6.7	6.7	6.7	5.6 5.3	5.5		5.3 6.8	6.1	
5-Jul-17	Cloudy	Moderate	17:10	4.1	Surface	1.2	28.8 28.8	28.8	8.1 8.1	8.1	14.5 14.5	14.5	89.0 89.7	89.4	6.3 6.4	6.4	6.4	3.5 3.5	3.5	3.6	6.6 6.5	6.6	6.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	28.7 28.7	28.7	8.0 8.0	8.0	15.3 15.4	15.3	89.8 89.3	89.6	6.4 6.3	6.4	6.4	3.8 3.7	3.8		6.9 7.2	7.1	
7-Jul-17	Rainy	Moderate	18:40	3.8	Surface	1.0	27.7 27.6	27.7	8.1 8.1	8.1	15.6 15.7	15.6	85.0 85.1	85.1	5.7 5.7	5.7	5.7	5.8 5.5	5.7	5.9	5.2 6.4	5.8	5.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.8	27.5 27.2	27.4	8.0 8.0	8.0	18.8 19.3	19.1	84.9 84.8	84.9	5.7 5.7	5.7	5.7	6.1 6.3	6.2		5.7 6.2	6.0	
10-Jul-17	Sunny	Moderate	07:28	3.8	Surface	1.0	27.8 27.8	27.8	8.1 8.1	8.1	14.2 14.1	14.2	86.3 86.6	86.5	6.3 6.3	6.3	6.3	3.9 3.7	3.8	3.9	8.8 8.0	8.4	8.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.8	27.8 27.8	27.8	8.1 8.1	8.1	14.6 14.6	14.6	86.5 86.8	86.7	6.3 6.3	6.3	6.3	4.0 3.8	3.9		8.8 7.2	8.0	
12-Jul-17	Sunny	Moderate	08:16	3.8	Surface	1.0	27.6 27.6	27.6	8.1 8.2	8.2	15.4 15.4	15.4	84.8 85.2	85.0	6.1 6.2	6.1	6.1	5.8 5.5	5.7	6.5	13.9 13.3	13.6	14.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.8	27.4 27.4	27.4	8.1 8.1	8.1	16.3 16.4	16.4	85.0 84.7	84.9	6.1 6.1	6.1	6.1	7.2 7.2	7.2		16.3 16.1	16.2	
14-Jul-17	Sunny	Moderate	09:52	4.3	Surface	1.0	27.9 27.9	27.9	8.2 8.2	8.2	17.1 17.0	17.1	90.5 87.9	89.2	6.4 6.3	6.4	6.4	10.6 10.5	10.6	10.7	8.1 6.7	7.4	7.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.3	27.8 27.9	27.9	8.2 8.2	8.2	17.7 17.4	17.5	88.5 87.6	88.1	6.3 6.2	6.3	6.3	10.5 10.8	10.7		6.9 8.0	7.5	
17-Jul-17	Cloudy	Moderate	12:23	4.3	Surface	1.1	27.7 27.7	27.7	8.2 8.2	8.2	17.2 17.1	17.1	91.3 95.3	93.3	6.5 6.8	6.7	6.7	3.7 3.7	3.7	3.7	1.9 1.5	1.7	2.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.3	27.6 27.7	27.7	8.2 8.2	8.2	17.7 17.4	17.5	92.1 90.6	91.4	6.6 6.5	6.5	6.5	3.7 3.7	3.7		3.2 3.0	3.1	
19-Jul-17	Sunny	Moderate	15:25	3.9	Surface	1.1	27.9 27.8	27.8	8.1 8.1	8.1	12.0 12.0	12.0	83.0 81.2	82.1	6.1 6.0	6.0	6.0	5.1 5.2	5.2	5.1	0.9 1.7	1.3	2.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.9	27.5 27.8	27.7	8.1 8.1	8.1	13.7 13.6	13.7	81.2 82.3	81.8	5.9 6.0	6.0	6.0	5.1 5.1	5.1		2.4 2.9	2.7	
21-Jul-17	Sunny	Moderate	17:33	4.3	Surface	1.1	28.9 28.9	28.9	8.2 8.2	8.2	17.5 17.4	17.5	92.5 92.3	92.4	6.5 6.5	6.5	6.5	4.8 4.9	4.9	4.9	2.4 3.1	2.8	2.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.3	28.7 28.4	28.6	8.2 8.2	8.2	18.9 19.0	18.9	92.9 92.9	92.9	6.5 6.5	6.5	6.5	4.8 4.9	4.9		2.2 2.2	2.2	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS8 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	7:03	4.3	Surface	1.1	27.9 27.9	27.9	8.2 8.2	8.2	16.9 17.0	16.9	80.8 78.7	79.8	5.8 5.6	5.7	5.7	4.2 4.1	4.2	4.1	1.3 1.2	1.3	1.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.3	27.9 27.9	27.9	8.2 8.2	8.2	18.1 18.1	18.1	83.8 79.7	81.8	5.9 5.6	5.8	5.8	4.2 4.0	4.1		1.5 1.7	1.6	
26-Jul-17	Sunny	Moderate	8:35	4.0	Surface	1.1	28.4 28.5	28.5	8.1 8.1	8.1	17.7 17.3	17.5	77.3 74.8	76.1	5.6 5.4	5.5	5.5	5.4 5.4	5.4	5.3	3.9 4.4	4.2	4.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.0	28.3 28.4	28.3	8.1 8.1	8.1	18.7 18.7	18.7	80.4 75.9	78.2	5.8 5.5	5.6	5.6	5.1 5.3	5.2		5.1 4.5	4.8	
28-Jul-17	Sunny	Moderate	10:29	3.8	Surface	1.0	28.8 28.9	28.8	8.1 8.1	8.1	19.0 19.0	19.0	92.4 89.1	90.8	6.3 6.1	6.2	6.2	6.2 6.3	6.3	6.7	7.1 8.2	7.7	7.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.8	28.7 28.9	28.8	8.2 8.1	8.1	19.4 19.0	19.2	92.9 95.6	94.3	6.4 6.6	6.5	6.5	6.9 7.3	7.1		7.2 8.5	7.9	
31-Jul-17	Cloudy	Moderate	12:51	4.1	Surface	1.1	29.9 29.8	29.9	8.4 8.4	8.4	22.3 22.4	22.3	100.9 102.0	101.5	6.8 6.8	6.8	6.8	5.1 5.1	5.1	5.2	6.5 5.7	6.1	6.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	29.7 29.5	29.6	8.4 8.4	8.4	22.8 23.5	23.2	103.0 100.2	101.6	6.9 6.7	6.8	6.8	5.1 5.4	5.3		5.9 6.6	6.3	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS6, CSA and CS(Mf)5 are considered as upstream contol stations of mid-flood tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS17 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	09:27	10.3	Surface	1.0	28.4 28.3	28.4	8.2 8.1	8.1	12.0 13.0	12.5	74.7 75.0	74.9	5.4 5.4	5.4	5.3	4.4 4.4	4.4	4.4	9.1 8.1	8.6	8.7
					Middle	5.2	28.1 27.9	28.0	8.1 8.0	8.0	20.6 21.5	21.0	73.4 72.7	73.1	5.1 5.1	5.1		4.4 4.2	4.3		8.0 8.5	8.3	
					Bottom	9.3	26.7 26.7	26.7	7.9 8.0	7.9	30.4 27.8	29.1	69.4 70.6	70.0	4.9 5.0	5.0	5.0	4.5 4.5	4.5		9.7 8.4	9.1	
5-Jul-17	Cloudy	Moderate	10:42	10.5	Surface	1.1	28.5 28.4	28.4	8.1 8.1	8.1	11.9 12.0	12.0	76.2 73.9	75.1	5.5 5.4	5.5	5.3	6.1 6.1	6.1	6.2	5.1 4.6	4.9	6.6
					Middle	5.3	27.8 27.1	27.5	8.1 8.1	8.1	16.9 16.8	16.8	70.4 70.7	70.6	5.1 5.1	5.1		6.1 6.1	6.1		5.6 6.7	6.2	
					Bottom	9.5	25.1 26.6	25.8	7.9 8.0	8.0	29.5 23.8	26.6	68.7 69.9	69.3	4.9 5.0	4.9	4.9	6.6 6.2	6.4		8.0 9.8	8.9	
7-Jul-17	Rainy	Moderate	11:52	10.9	Surface	1.0	27.4 27.4	27.4	7.9 7.9	7.9	13.4 13.6	13.5	78.1 76.8	77.5	5.3 5.2	5.3	5.3	4.5 4.4	4.5	4.6	5.0 6.1	5.6	5.9
					Middle	5.5	27.1 27.0	27.1	7.9 7.9	7.9	17.4 17.2	17.3	76.7 77.7	77.2	5.2 5.3	5.2		4.8 4.4	4.6		5.8 6.8	6.3	
					Bottom	9.9	26.9 27.1	27.0	7.9 7.9	7.9	17.9 17.6	17.8	76.3 77.2	76.8	5.2 5.3	5.2	5.2	4.7 4.6	4.7		5.8 5.8	5.8	
10-Jul-17	Sunny	Moderate	14:09	10.9	Surface	1.0	27.8 27.8	27.8	8.0 8.0	8.0	13.2 13.3	13.2	75.0 76.5	75.8	5.5 5.6	5.5	5.4	3.5 3.6	3.6	4.5	9.3 9.4	9.4	9.2
					Middle	5.5	26.4 26.6	26.5	8.0 8.0	8.0	20.8 19.1	19.9	74.4 72.4	73.4	5.4 5.2	5.3		4.9 4.4	4.7		8.8 9.2	9.0	
					Bottom	9.9	26.4 26.4	26.4	7.9 7.9	7.9	21.8 22.2	22.0	73.1 71.8	72.5	5.3 5.2	5.3	5.3	5.2 5.3	5.3		9.3 9.1	9.2	
12-Jul-17	Sunny	Moderate	15:09	10.8	Surface	1.0	28.3 28.3	28.3	8.4 8.4	8.4	15.5 15.5	15.5	93.5 93.0	93.3	6.7 6.6	6.7	6.2	3.7 3.5	3.6	2.6	15.5 15.4	15.5	15.7
					Middle	5.4	25.8 25.7	25.8	8.1 8.1	8.1	26.8 26.7	26.8	80.8 80.2	80.5	5.7 5.6	5.6		2.1 2.0	2.1		15.0 16.4	15.7	
					Bottom	9.8	25.2 25.2	25.2	8.1 8.1	8.1	30.2 30.2	30.2	75.2 74.1	74.7	5.2 5.2	5.2	5.2	2.0 2.0	2.0		15.3 16.3	15.8	
14-Jul-17	Sunny	Moderate	15:51	10.0	Surface	1.0	28.9 28.8	28.9	8.5 8.5	8.5	16.9 16.9	16.9	118.1 113.0	115.6	8.3 7.9	8.1	7.9	2.5 2.4	2.5	2.5	11.1 9.6	10.4	14.8
					Middle	5.0	28.0 27.8	27.9	8.3 8.3	8.3	18.2 18.7	18.5	109.7 110.7	110.2	7.6 7.7	7.7		2.5 2.5	2.5		15.0 14.5	14.8	
					Bottom	9.0	26.6 26.6	26.6	8.3 8.3	8.3	25.9 26.1	26.0	99.2 97.7	98.5	7.0 6.9	7.0	7.0	2.6 2.5	2.6		18.5 20.0	19.3	
17-Jul-17	Cloudy	Moderate	7:36	10.4	Surface	1.0	27.8 27.7	27.8	8.2 8.2	8.2	13.5 13.2	13.3	78.4 78.9	78.7	5.6 5.7	5.7	5.5	2.5 2.5	2.5	2.5	2.3 3.7	3.0	3.9
					Middle	5.2	27.3 27.4	27.4	8.2 8.2	8.2	18.5 18.6	18.6	77.3 75.1	76.2	5.3 5.4	5.4		2.5 2.5	2.5		3.4 4.5	4.0	
					Bottom	9.4	27.2 26.5	26.8	8.1 8.1	8.1	27.0 27.3	27.1	76.7 74.1	75.4	5.2 5.3	5.3	5.3	2.5 2.5	2.5		4.1 5.1	4.6	
19-Jul-17	Sunny	Moderate	9:39	10.1	Surface	1.1	27.3 27.4	27.4	8.1 8.1	8.1	12.4 12.3	12.3	75.5 81.4	78.5	5.4 5.8	5.6	5.5	2.5 2.5	2.5	2.9	0.7 0.9	0.8	1.3
					Middle	5.0	27.2 27.1	27.1	8.1 8.1	8.1	14.7 15.0	14.9	76.2 72.6	74.4	5.6 5.3	5.5		2.6 2.5	2.6		1.5 1.8	1.7	
					Bottom	9.1	27.0 26.9	27.0	8.0 8.0	8.0	21.3 21.0	21.1	72.1 74.7	73.4	5.3 5.5	5.4	5.4	3.5 3.7	3.6		1.6 1.3	1.5	
21-Jul-17	Sunny	Moderate	11:37	10.2	Surface	1.1	28.6 28.6	28.6	8.2 8.2	8.2	15.4 15.2	15.3	76.6 83.8	80.2	5.4 5.9	5.6	5.6	2.7 2.7	2.7	3.3	1.9 1.8	1.9	1.8
					Middle	5.1	27.6 27.9	27.8	8.2 8.2	8.2	18.9 18.6	18.7	75.7 79.2	77.5	5.4 5.6	5.5		3.7 3.9	3.8		1.9 1.9	1.9	
					Bottom	9.2	27.1 27.2	27.1	8.1 8.2	8.2	22.1 21.7	21.9	72.4 77.3	74.9	5.1 5.5	5.3	5.3	3.5 3.5	3.5		1.6 1.5	1.6	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS17 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	13:20	10.1	Surface	1.1	28.0 28.0	28.0	8.2 8.2	8.2	17.7 17.5	17.6	73.9 74.2	74.1	5.2 5.3	5.3	5.2	2.6 2.6	2.6	3.6	1.9 1.5	1.7	1.6
					Middle	5.1	27.3 27.2	27.2	8.2 8.2	8.2	20.9 22.1	21.5	71.9 71.8	71.9	5.1 5.1	5.1		4.1 4.1	4.1		1.6 1.4	1.5	
					Bottom	9.1	26.8 26.9	26.8	8.1 8.1	8.1	26.6 26.5	26.6	70.9 69.9	70.4	4.9 4.8	4.9	4.9	4.1 4.1	4.1		1.6 1.6	1.6	
26-Jul-17	Sunny	Moderate	14:48	10.2	Surface	1.1	29.7 29.8	29.8	8.2 8.2	8.2	18.9 18.8	18.8	77.8 79.7	78.8	5.4 5.6	5.5	5.5	5.3 5.5	5.4	5.4	3.8 3.8	3.8	4.5
					Middle	5.1	28.3 28.2	28.2	8.2 8.2	8.2	20.6 20.7	20.7	76.6 76.6	76.6	5.4 5.4	5.4		5.4 5.2	5.3		4.5 4.4	4.5	
					Bottom	9.2	27.9 28.3	28.1	8.2 8.2	8.2	24.4 24.5	24.5	72.8 73.8	73.3	5.2 5.3	5.2	5.2	5.5 5.4	5.5		5.2 5.1	5.2	
28-Jul-17	Sunny	Moderate	16:41	10.7	Surface	1.0	29.4 29.6	29.5	8.2 8.2	8.2	19.8 19.7	19.8	80.3 80.4	80.4	5.5 5.5	5.5	5.4	7.2 6.9	7.1	7.7	7.2 8.8	8.0	7.5
					Middle	5.3	28.5 28.4	28.4	8.1 8.1	8.1	22.5 22.4	22.4	78.6 77.4	78.0	5.4 5.3	5.3		8.4 8.1	8.3		8.6 8.9	8.8	
					Bottom	9.7	28.6 28.1	28.3	8.1 8.1	8.1	24.5 24.6	24.6	80.3 79.6	80.0	5.5 5.4	5.4	5.4	8.0 7.8	7.9		5.4 6.3	5.9	
31-Jul-17	Cloudy	Moderate	7:38	10.3	Surface	1.2	29.5 29.5	29.5	8.3 8.3	8.3	20.7 21.0	20.8	81.8 86.9	84.4	5.6 5.8	5.7	5.5	4.2 4.2	4.2	4.3	5.0 3.6	4.3	5.1
					Middle	5.1	28.8 29.2	29.0	8.2 8.2	8.2	22.9 22.6	22.7	80.8 80.9	80.9	5.3 5.5	5.4		4.2 4.3	4.3		5.0 5.5	5.3	
					Bottom	9.3	27.8 28.9	28.3	8.2 8.2	8.2	30.0 28.2	29.1	75.7 74.9	75.3	5.1 5.1	5.1	5.1	4.5 4.4	4.5		5.2 6.0	5.6	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS4 and CS(Mf)3 are considered as upstream contol stations of mid-ebb tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS17 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (^{o}C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	15:17	10.4	Surface	1.0	28.4 28.4	28.4	8.2 8.2	8.2	12.7 12.3	12.5	84.0 79.9	82.0	6.1 5.8	5.9	5.7	6.4 6.6	6.5	6.5	3.7 3.3	3.5	4.3
					Middle	5.2	28.3 27.4	27.9	8.2 8.1	8.1	15.2 15.6	15.4	79.4 77.3	78.4	5.7 5.3	5.5		6.5 6.3	6.4		4.3 3.8	4.1	
					Bottom	9.4	27.1 27.6	27.4	8.0 8.0	8.0	26.6 25.8	26.2	72.7 79.6	76.2	5.3 5.4	5.4	5.4	6.5 6.5	6.5		5.2 5.6	5.4	
5-Jul-17	Cloudy	Moderate	17:25	10.9	Surface	1.2	28.6 28.6	28.6	8.1 8.1	8.1	14.5 14.4	14.4	72.8 73.2	73.0	5.2 5.2	5.2	5.1	3.3 3.3	3.3	3.4	3.3 4.4	3.9	5.4
					Middle	5.4	26.4 26.4	26.4	7.9 7.9	7.9	23.4 23.5	23.5	72.0 71.8	71.9	5.1 5.1	5.1		3.5 3.3	3.4		6.8 5.8	6.3	
					Bottom	9.9	26.4 26.4	26.4	8.0 7.9	8.0	27.1 27.0	27.1	68.5 68.8	68.7	4.9 4.9	4.9	4.9	3.6 3.5	3.6		5.4 6.5	6.0	
7-Jul-17	Rainy	Moderate	19:08	10.6	Surface	1.0	27.6 27.6	27.6	8.0 8.0	8.0	12.1 12.4	12.2	80.1 79.5	79.8	5.5 5.4	5.4	5.4	3.9 3.8	3.9	3.7	6.2 5.7	6.0	6.5
					Middle	5.3	27.5 27.5	27.5	7.9 8.0	8.0	14.0 13.9	13.9	77.0 78.7	77.9	5.2 5.3	5.3		3.5 3.7	3.6		6.7 7.5	7.1	
					Bottom	9.6	27.4 27.5	27.5	7.9 8.0	8.0	14.7 14.2	14.4	77.9 79.7	78.8	5.3 5.4	5.3	5.3	3.6 3.8	3.7		6.1 6.7	6.4	
10-Jul-17	Sunny	Moderate	07:00	10.7	Surface	1.0	27.5 27.7	27.6	8.1 8.1	8.1	13.5 13.5	13.5	72.5 74.3	73.4	5.4 5.7	5.6	5.4	2.1 2.2	2.2	2.5	7.5 6.5	7.0	7.9
					Middle	5.4	26.1 25.8	26.0	8.0 8.0	8.0	23.1 24.2	23.6	67.4 68.0	67.7	5.1 5.1	5.1		2.7 2.7	2.7		8.7 9.0	8.9	
					Bottom	9.7	25.4 25.4	25.4	7.9 8.0	8.0	26.9 27.7	27.3	70.3 71.5	70.9	5.3 5.3	5.3	5.3	2.6 2.7	2.7		7.9 7.8	7.9	
12-Jul-17	Sunny	Moderate	07:57	11.0	Surface	1.0	27.6 27.6	27.6	8.1 8.1	8.1	14.4 14.4	14.4	72.3 74.0	73.2	5.3 5.4	5.3	5.2	3.8 3.6	3.7	4.0	11.9 12.2	12.1	12.1
					Middle	5.5	26.6 26.6	26.6	8.1 8.1	8.1	19.1 19.1	19.1	71.1 70.8	71.0	5.1 5.1	5.1		3.9 4.0	4.0		12.3 12.0	12.2	
					Bottom	10.0	25.8 25.8	25.8	8.1 8.0	8.1	27.8 27.9	27.9	68.8 69.0	68.9	4.8 4.8	4.8	4.8	4.3 4.4	4.4		11.4 12.5	12.0	
14-Jul-17	Sunny	Moderate	09:38	10.8	Surface	1.0	28.0 28.2	28.1	8.2 8.2	8.2	17.0 16.1	16.6	82.7 84.9	83.8	5.9 6.1	6.0	5.8	2.6 2.5	2.6	2.6	9.1 8.1	8.6	11.2
					Middle	5.4	27.5 27.2	27.3	8.2 8.2	8.2	19.7 19.9	19.8	79.5 80.3	79.9	5.6 5.6	5.6		2.5 2.5	2.5		11.6 12.9	12.3	
					Bottom	9.8	26.6 27.1	26.9	8.1 8.1	8.1	25.3 23.1	24.2	76.9 77.5	77.2	5.5 5.5	5.5	5.5	2.5 2.7	2.6		12.6 12.6	12.6	
17-Jul-17	Cloudy	Moderate	12:36	10.7	Surface	1.1	27.7 27.7	27.7	8.2 8.2	8.2	16.4 16.4	16.4	78.6 78.8	78.7	5.7 5.5	5.6	5.5	2.5 2.4	2.5	2.7	1.8 1.8	1.8	1.5
					Middle	5.4	27.4 27.1	27.3	8.2 8.2	8.2	18.9 19.9	19.4	77.6 77.1	77.4	5.5 5.5	5.5		2.8 2.8	2.8		1.3 1.5	1.4	
					Bottom	9.7	27.5 26.8	27.2	8.2 8.1	8.2	24.3 25.9	25.1	76.9 74.2	75.6	5.4 5.3	5.4	5.4	2.7 2.8	2.8		1.3 1.2	1.3	
19-Jul-17	Sunny	Moderate	15:40	10.5	Surface	1.2	28.0 28.0	28.0	8.2 8.2	8.2	11.7 11.7	11.7	73.8 73.9	73.9	5.4 5.4	5.4	5.3	4.4 4.5	4.5	4.5	2.3 2.4	2.4	2.7
					Middle	5.3	27.0 27.1	27.1	8.1 8.1	8.1	15.8 15.7	15.8	73.2 72.7	73.0	5.2 5.2	5.2		4.6 4.5	4.6		3.9 2.2	3.1	
					Bottom	9.5	26.8 27.2	27.0	8.0 8.1	8.0	21.8 21.7	21.8	67.5 69.3	68.4	4.9 5.1	5.0	5.0	4.5 4.6	4.6		3.0 2.3	2.7	
21-Jul-17	Sunny	Moderate	17:48	10.4	Surface	1.1	28.9 28.5	28.7	8.2 8.2	8.2	16.4 16.9	16.6	76.9 78.1	77.5	5.4 5.4	5.4	5.3	3.3 3.1	3.2	4.8	5.0 5.3	5.2	5.4
					Middle	5.2	27.3 27.4	27.3	8.2 8.2	8.2	20.8 20.9	20.9	75.8 73.9	74.9	5.3 5.2	5.3		5.5 5.5	5.5		5.0 5.1	5.1	
					Bottom	9.4	27.2 27.5	27.3	8.2 8.2	8.2	23.1 23.2	23.2	69.9 69.4	69.7	4.9 4.9	4.9	4.9	5.5 5.6	5.6		6.6 5.5	6.1	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS17 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	6:49	10.7	Surface	1.1	27.4 27.1	27.3	8.2 8.2	8.2	21.6 22.1	21.8	80.5 76.6	78.6	5.8 5.5	5.6	5.6	4.0 3.9	4.0	4.3	3.3 3.0	3.2	3.2
					Middle	5.3	26.7 26.7	26.7	8.2 8.2	8.2	24.6 24.6	24.6	74.6 79.1	76.9	5.4 5.7	5.6		4.4 4.3	4.4		2.7 2.4	2.6	
					Bottom	9.7	26.8 26.5	26.6	8.2 8.2	8.2	26.7 26.7	26.7	74.6 75.3	75.0	5.4 5.4	5.4	5.4	4.6 4.3	4.5		4.3 3.7	4.0	
26-Jul-17	Sunny	Moderate	8:22	10.8	Surface	1.2	28.2 28.4	28.3	8.2 8.2	8.2	17.7 17.6	17.7	74.9 82.8	78.9	5.4 5.8	5.6	5.5	4.9 4.9	4.9	5.0	3.7 2.1	2.9	4.3
					Middle	5.4	27.5 27.6	27.5	8.2 8.1	8.1	22.8 22.4	22.6	76.9 72.5	74.7	5.5 5.2	5.3		5.1 5.1	5.1		4.8 5.6	5.2	
					Bottom	9.8	27.5 27.7	27.6	8.1 8.1	8.1	24.5 24.6	24.5	70.5 70.9	70.7	5.1 5.1	5.1	5.1	5.2 5.0	5.1		5.2 4.5	4.9	
28-Jul-17	Sunny	Moderate	10:03	10.8	Surface	1.0	28.5 28.6	28.5	8.2 8.2	8.2	19.7 19.5	19.6	77.9 76.0	77.0	5.4 5.3	5.3	5.3	5.2 5.2	5.2	5.3	1.4 0.7	1.1	3.0
					Middle	5.4	28.0 28.0	28.0	8.2 8.1	8.1	23.3 23.4	23.3	77.6 74.1	75.9	5.3 5.1	5.2		5.2 5.3	5.3		3.3 4.7	4.0	
					Bottom	9.8	28.1 28.0	28.1	8.1 8.2	8.1	23.7 23.6	23.6	76.7 75.1	75.9	5.2 5.2	5.2	5.2	5.3 5.3	5.3		4.3 3.4	3.9	
31-Jul-17	Cloudy	Moderate	13:06	10.5	Surface	1.2	29.8 29.9	29.9	8.3 8.3	8.3	18.4 18.7	18.6	91.3 91.3	91.3	6.3 6.2	6.2	5.9	4.6 4.6	4.6	5.1	4.8 5.3	5.1	6.6
					Middle	5.3	29.6 29.6	29.6	8.3 8.3	8.3	21.8 22.0	21.9	82.2 83.6	82.9	5.5 5.6	5.6		5.3 5.4	5.4		6.4 5.7	6.1	
					Bottom	9.5	27.9 28.1	28.0	8.2 8.2	8.2	28.4 30.5	29.4	79.6 80.0	79.8	5.3 5.3	5.3	5.3	5.6 5.3	5.5		8.5 9.0	8.8	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS6, CSA and CS(Mf)5 are considered as upstream contol stations of mid-flood tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR3 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	-	1.2	Surface	-	-	-	-	-	-	-	-	-	-	-	6.9	-	-		-	-	
					Middle	0.6	28.5 28.6	28.6	8.3 8.3	8.3	13.4 13.5	13.4	96.3 95.2	95.8	6.9 6.9	6.9		3.5 3.6	3.6	3.6	4.1 5.1	4.6	4.6
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
5-Jul-17	Cloudy	Moderate	-	2.3	Surface	-	-	-	-	-	-	-	-	-	-	-	5.5	-	-		-	-	
					Middle	1.1	28.4 26.1	27.2	8.2 8.0	8.1	14.1 27.9	21.0	79.3 72.8	76.1	5.7 5.3	5.5		5.5 5.5	5.5	5.5	8.4 7.2	7.8	7.8
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
7-Jul-17	Rainy	Moderate	-	1.6	Surface	-	-	-	-	-	-	-	-	-	-	-	5.5	-	-		-	-	
					Middle	0.8	27.8 27.8	27.8	8.1 8.1	8.1	15.6 15.5	15.5	81.8 81.9	81.9	5.5 5.5	5.5		5.5 5.8	5.7	5.7	8.4 7.0	7.7	7.7
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
10-Jul-17	Sunny	Moderate	-	1.6	Surface	-	-	-	-	-	-	-	-	-	-	-	6.6	-	-		-	-	
					Middle	0.8	27.8 27.8	27.8	8.1 8.1	8.1	12.4 12.4	12.4	88.5 90.6	89.6	6.5 6.6	6.6		4.0 3.9	4.0	4.0	9.2 9.4	9.3	9.3
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
12-Jul-17	Sunny	Moderate	-	1.2	Surface	-	-	-	-	-	-	-	-	-	-	-	8.3	-	-		-	-	
					Middle	0.6	28.1 28.1	28.1	8.6 8.5	8.5	16.4 16.6	16.5	116.0 115.7	115.9	8.3 8.2	8.3		6.5 6.8	6.7	6.7	24.4 24.9	24.7	**24.7**
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
14-Jul-17	Sunny	Moderate	-	1.6	Surface	-	-	-	-	-	-	-	-	-	-	-	8.3	-	-		-	-	
					Middle	0.8	28.3 28.3	28.3	8.6 8.5	8.6	15.4 15.6	15.5	113.7 118.3	116.0	8.1 8.5	8.3		4.3 4.2	4.3	4.3	10.4 11.1	10.8	10.8
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
17-Jul-17	Cloudy	Moderate	-	1.3	Surface	-	-	-	-	-	-	-	-	-	-	-	5.8	-	-		-	-	
					Middle	0.6	27.8 27.8	27.8	8.2 8.2	8.2	17.3 17.3	17.3	82.5 81.3	81.9	5.9 5.8	5.8		1.8 1.8	1.8	1.8	2.8 2.2	2.5	2.5
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
19-Jul-17	Sunny	Moderate	-	1.3	Surface	-	-	-	-	-	-	-	-	-	-	-	5.7	-	-		-	-	
					Middle	0.7	27.3 27.3	27.3	8.1 8.1	8.1	13.6 13.5	13.5	77.6 78.3	78.0	5.7 5.8	5.7		3.5 3.4	3.5	3.5	0.5 0.5	0.5	0.5
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
21-Jul-17	Sunny	Moderate	-	1.7	Surface	-	-	-	-	-	-	-	-	-	-	-	6.9	-	-		-	-	
					Middle	0.9	29.2 29.2	29.2	8.2 8.2	8.2	15.6 15.5	15.6	97.2 99.1	98.2	6.8 7.0	6.9		2.5 2.4	2.5	2.5	3.9 4.3	4.1	4.1
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR3 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	-	1.5	Surface	-	-	-	-	-	-	-	-	-	-	-	6.2	-	-	2.6	-	-	2.9
					Middle	0.8	28.0 28.0	28.0	8.3 8.3	8.3	19.4 19.3	19.4	85.3 89.7	87.5	6.0 6.3	6.2		2.6 2.5	2.6		2.5 3.3	2.9	
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
26-Jul-17	Sunny	Moderate	-	1.2	Surface	-	-	-	-	-	-	-	-	-	-	-	5.7	-	-	10.1	-	-	11.3
					Middle	0.6	29.2 29.2	29.2	8.3 8.3	8.3	16.5 16.4	16.4	80.0 81.5	80.8	5.6 5.7	5.7		10.1 10.1	10.1		10.6 11.9	11.3	
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
28-Jul-17	Sunny	Moderate	-	1.6	Surface	-	-	-	-	-	-	-	-	-	-	-	6.2	-	-	7.4	-	-	8.4
					Middle	0.8	29.8 29.7	29.8	8.2 8.2	8.2	17.4 17.6	17.5	90.2 89.2	89.7	6.2 6.2	6.2		7.4 7.4	7.4		7.8 8.9	8.4	
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
31-Jul-17	Cloudy	Moderate	-	1.5	Surface	-	-	-	-	-	-	-	-	-	-	-	6.0	-	-	4.6	-	-	6.2
					Middle	0.7	30.2 30.0	30.1	8.3 8.3	8.3	20.0 20.3	20.1	90.4 87.6	89.0	6.1 5.9	6.0		4.6 4.6	4.6		5.5 6.9	6.2	
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS4 and CS(Mf)3 are considered as upstream contol stations of mid-ebb tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR3 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	-	1.4	Surface	-	-	-	-	-	-	-	-	-	-	-	7.0	-	-		-	-	
					Middle	0.7	28.5 28.5	28.5	8.1 8.0	8.1	15.2 15.1	15.1	97.9 97.9	97.9	7.0 7.0	7.0		3.5 3.7	3.6	3.6	6.2 6.4	6.3	6.3
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
5-Jul-17	Cloudy	Moderate	-	1.4	Surface	-	-	-	-	-	-	-	-	-	-	-	7.3	-	-		-	-	
					Middle	0.7	29.1 29.1	29.1	8.1 8.0	8.0	15.0 15.4	15.2	103.2 102.0	102.6	7.3 7.2	7.2		3.9 3.8	3.9	3.9	14.2 14.5	14.4	14.4
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
7-Jul-17	Rainy	Moderate	-	1.6	Surface	-	-	-	-	-	-	-	-	-	-	-	5.8	-	-		-	-	
					Middle	0.8	27.8 27.8	27.8	8.1 8.1	8.1	15.4 15.6	15.5	84.5 84.6	84.6	5.8 5.8	5.8		5.1 5.0	5.1	5.1	6.1 7.2	6.7	6.7
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
10-Jul-17	Sunny	Moderate	-	1.6	Surface	-	-	-	-	-	-	-	-	-	-	-	6.0	-	-		-	-	
					Middle	0.8	27.7 27.7	27.7	8.1 8.0	8.1	14.5 14.5	14.5	82.7 82.9	82.8	6.0 6.0	6.0		4.8 5.0	4.9	4.9	13.1 12.6	12.9	12.9
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
12-Jul-17	Sunny	Moderate	-	1.4	Surface	-	-	-	-	-	-	-	-	-	-	-	8.4	-	-		-	-	
					Middle	0.7	28.0 28.0	28.0	8.5 8.4	8.5	16.2 16.2	16.2	118.2 117.8	118.0	8.4 8.4	8.4		5.6 5.7	5.7	5.7	18.2 17.7	18.0	18.0
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
14-Jul-17	Sunny	Moderate	-	1.2	Surface	-	-	-	-	-	-	-	-	-	-	-	8.3	-	-		-	-	
					Middle	0.6	28.3 28.2	28.2	8.5 8.5	8.5	18.2 18.2	18.2	118.8 117.5	118.2	8.4 8.3	8.3		3.8 3.6	3.7	3.7	17.3 16.0	16.7	16.7
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
17-Jul-17	Cloudy	Moderate	-	1.4	Surface	-	-	-	-	-	-	-	-	-	-	-	6.6	-	-		-	-	
					Middle	0.7	27.8 27.8	27.8	8.2 8.2	8.2	17.3 17.3	17.3	95.3 90.5	92.9	6.8 6.5	6.6		1.6 1.6	1.6	1.6	1.4 1.6	1.5	1.5
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
19-Jul-17	Sunny	Moderate	-	1.4	Surface	-	-	-	-	-	-	-	-	-	-	-	6.8	-	-		-	-	
					Middle	0.7	28.0 28.0	28.0	8.8 8.6	8.7	10.0 10.1	10.1	92.0 90.3	91.2	6.8 6.7	6.7		2.6 2.6	2.6	2.6	4.4 3.7	4.1	4.1
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
21-Jul-17	Sunny	Moderate	-	1.3	Surface	-	-	-	-	-	-	-	-	-	-	-	6.8	-	-		-	-	
					Middle	0.6	29.2 29.3	29.2	8.4 8.4	8.4	16.3 15.9	16.1	97.0 96.8	96.9	6.8 6.8	6.8		2.6 2.6	2.6	2.6	4.0 3.7	3.9	3.9
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR3 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (^{o}C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	-	1.2	Surface	-	- -	-	- -	-	- -	-	- -	-	- -	-	5.6	- -	-		- -	-	
					Middle	0.6	28.0 28.0	28.0	8.2 8.2	8.2	19.1 19.1	19.1	78.9 79.0	79.0	5.6 5.6	5.6		2.7 2.6	2.7	2.7	2.4 2.9	2.7	2.7
					Bottom	-	- -	-	- -	-	- -	-	- -	-	- -	-	-	- -	-		- -	-	
26-Jul-17	Sunny	Moderate	-	1.7	Surface	-	- -	-	- -	-	- -	-	- -	-	- -	-	5.2	- -	-		- -	-	
					Middle	0.8	28.8 28.9	28.9	8.2 8.2	8.2	19.7 19.7	19.7	75.7 75.9	75.8	5.2 5.2	5.2		7.8 7.5	7.7	7.7	11.6 11.2	11.4	11.4
					Bottom	-	- -	-	- -	-	- -	-	- -	-	- -	-	-	- -	-		- -	-	
28-Jul-17	Sunny	Moderate	-	1.7	Surface	-	- -	-	- -	-	- -	-	- -	-	- -	-	5.5	- -	-		- -	-	
					Middle	0.8	29.1 29.1	29.1	8.2 8.2	8.2	19.6 19.6	19.6	79.2 79.2	79.2	5.5 5.5	5.5		5.0 5.4	5.2	5.2	9.4 8.1	8.8	8.8
					Bottom	-	- -	-	- -	-	- -	-	- -	-	- -	-	-	- -	-		- -	-	
31-Jul-17	Cloudy	Moderate	-	1.2	Surface	-	- -	-	- -	-	- -	-	- -	-	- -	-	6.4	- -	-		- -	-	
					Middle	0.6	30.1 30.1	30.1	8.3 8.3	8.3	19.7 19.7	19.7	92.5 95.6	94.1	6.3 6.5	6.4		4.4 4.3	4.4	4.4	4.1 4.6	4.4	4.4
					Bottom	-	- -	-	- -	-	- -	-	- -	-	- -	-	-	- -	-		- -	-	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS6, CSA and CS(Mf)5 are considered as upstream contol stations of mid-flood tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR4(N) - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	09:47	3.8	Surface	1.0	28.6 28.5	28.6	8.3 8.3	8.3	14.8 14.7	14.8	95.4 92.8	94.1	6.8 6.6	6.7	6.7	9.5 9.4	9.5	9.6	5.2 5.5	5.4	5.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.8	28.7 28.5	28.6	8.3 8.2	8.3	18.6 17.3	17.9	96.3 91.1	93.7	6.7 6.4	6.6	6.6	9.6 9.5	9.6		5.7 5.5	5.6	
5-Jul-17	Cloudy	Moderate	11:05	3.7	Surface	1.2	28.5 28.5	28.5	8.1 8.1	8.1	13.9 13.9	13.9	85.7 86.1	85.9	6.2 6.2	6.2	6.2	4.8 4.7	4.8	4.8	7.4 6.6	7.0	7.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	28.3 28.2	28.3	8.1 8.1	8.1	14.5 14.4	14.5	85.8 84.2	85.0	6.2 6.1	6.1	6.1	4.7 5.0	4.9		8.3 7.5	7.9	
7-Jul-17	Rainy	Moderate	12:26	3.7	Surface	1.0	27.9 27.9	27.9	8.1 8.1	8.1	15.0 14.8	14.9	83.5 83.2	83.4	5.6 5.6	5.6	5.6	6.0 5.9	6.0	6.1	4.7 4.7	4.7	5.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	27.8 27.7	27.8	8.1 8.1	8.1	16.8 17.3	17.0	83.1 83.4	83.3	5.6 5.6	5.6	5.6	6.3 6.1	6.2		5.6 5.9	5.8	
10-Jul-17	Sunny	Moderate	13:33	3.7	Surface	1.0	27.8 27.9	27.9	8.3 8.2	8.2	14.1 14.2	14.1	94.1 92.2	93.2	6.8 6.7	6.8	6.8	6.1 5.9	6.0	6.5	5.5 6.2	5.9	7.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	27.9 27.8	27.8	8.2 8.3	8.3	15.0 15.4	15.2	93.6 97.4	95.5	6.8 7.0	6.9	6.9	6.8 7.2	7.0		9.5 9.3	9.4	
12-Jul-17	Sunny	Moderate	14:38	3.5	Surface	1.0	28.0 28.0	28.0	8.4 8.4	8.4	16.5 16.6	16.5	106.9 107.5	107.2	7.6 7.7	7.7	7.7	6.6 6.8	6.7	7.0	12.4 13.4	12.9	13.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.5	27.4 27.5	27.5	8.3 8.3	8.3	18.6 18.5	18.6	104.9 104.7	104.8	7.5 7.5	7.5	7.5	7.1 7.4	7.3		14.2 13.0	13.6	
14-Jul-17	Sunny	Moderate	15:29	3.7	Surface	1.0	28.5 28.6	28.5	8.5 8.5	8.5	16.8 16.8	16.8	118.0 119.7	118.9	8.3 8.5	8.4	8.4	8.6 8.5	8.6	8.6	16.9 15.0	16.0	15.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	28.4 28.5	28.5	8.5 8.5	8.5	17.0 17.0	17.0	117.3 119.1	118.2	8.3 8.4	8.4	8.4	8.6 8.5	8.6		15.6 15.1	15.4	
17-Jul-17	Cloudy	Moderate	7:57	3.8	Surface	1.1	27.7 27.7	27.7	8.2 8.2	8.2	16.4 16.4	16.4	85.9 86.4	86.2	6.2 6.2	6.2	6.2	2.5 2.5	2.5	2.5	2.2 2.5	2.4	2.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.8	27.7 27.7	27.7	8.2 8.2	8.2	16.9 17.3	17.1	85.4 85.8	85.6	6.1 6.1	6.1	6.1	2.6 2.5	2.6		2.8 2.2	2.5	
19-Jul-17	Sunny	Moderate	9:57	3.6	Surface	1.0	27.3 27.2	27.3	8.1 8.1	8.1	12.6 12.6	12.6	82.5 83.0	82.8	6.1 6.1	6.1	6.1	4.6 4.7	4.7	4.6	3.3 2.6	3.0	2.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.6	27.2 27.2	27.2	8.0 8.1	8.0	14.6 14.4	14.5	82.0 82.4	82.2	6.1 6.0	6.0	6.0	4.5 4.5	4.5		2.5 2.8	2.7	
21-Jul-17	Sunny	Moderate	11:55	3.7	Surface	1.1	28.3 28.0	28.2	8.2 8.2	8.2	17.5 17.9	17.7	76.5 82.8	79.7	5.4 5.8	5.6	5.6	7.8 7.5	7.7	7.7	1.7 1.9	1.8	2.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	27.8 28.0	27.9	8.2 8.1	8.2	19.5 21.5	20.5	77.9 75.9	76.9	5.5 5.3	5.4	5.4	7.6 7.8	7.7		2.6 2.8	2.7	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR4(N) - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	12:59	3.8	Surface	1.1	27.9 27.8	27.9	8.2 8.2	8.2	17.5 17.5	17.5	80.0 79.4	79.7	5.7 5.6	5.7	5.7	2.5 2.5	2.5	2.5	3.4 4.2	3.8	3.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.8	27.9 27.9	27.9	8.2 8.2	8.2	17.8 17.8	17.8	78.4 79.3	78.9	5.6 5.6	5.6	5.6	2.6 2.5	2.6		2.2 2.6	2.4	
26-Jul-17	Sunny	Moderate	14:27	3.7	Surface	1.1	29.8 30.3	30.1	8.2 8.2	8.2	17.6 17.4	17.5	80.5 79.8	80.2	5.5 5.5	5.5	5.5	6.8 6.6	6.7	6.6	3.4 3.7	3.6	3.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	29.0 29.6	29.3	8.2 8.2	8.2	19.1 18.7	18.9	79.2 80.0	79.6	5.4 5.5	5.5	5.5	6.5 6.5	6.5		4.3 3.9	4.1	
28-Jul-17	Sunny	Moderate	15:58	3.9	Surface	1.0	30.3 29.4	29.8	8.2 8.2	8.2	18.5 19.3	18.9	88.8 84.0	86.4	6.0 5.8	5.9	5.9	9.9 10.4	10.2	10.8	3.9 5.3	4.6	5.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.9	29.3 29.2	29.3	8.2 8.2	8.2	20.8 20.7	20.7	85.9 84.3	85.1	5.9 5.8	5.8	5.8	11.7 11.0	11.4		6.9 6.5	6.7	
31-Jul-17	Cloudy	Moderate	8:00	3.7	Surface	1.1	29.6 29.6	29.6	8.4 8.4	8.4	21.1 21.2	21.1	104.3 104.6	104.5	7.1 7.1	7.1	7.1	5.4 5.3	5.4	5.4	7.4 7.4	7.4	7.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	29.7 29.7	29.7	8.4 8.4	8.4	22.0 21.9	22.0	104.7 104.3	104.5	7.1 7.0	7.0	7.0	5.3 5.4	5.4		8.6 8.3	8.5	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS4 and CS(Mf)3 are considered as upstream contol stations of mid-ebb tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR4(N) - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	14:55	3.7	Surface	1.0	28.5 28.5	28.5	8.2 8.2	8.2	14.5 14.5	14.5	93.5 93.8	93.7	6.7 6.7	6.7	6.7	5.1 5.0	5.1	5.1	6.0 6.1	6.1	5.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	28.5 28.5	28.5	8.2 8.2	8.2	14.7 14.7	14.7	93.3 93.5	93.4	6.7 6.7	6.7	6.7	5.1 5.0	5.1		5.6 5.3	5.5	
5-Jul-17	Cloudy	Moderate	17:03	3.7	Surface	1.1	28.8 28.8	28.8	8.0 8.0	8.0	14.7 14.5	14.6	89.4 89.4	89.4	6.4 6.4	6.4	6.4	3.3 3.3	3.3	3.3	6.2 6.9	6.6	7.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	28.7 28.8	28.7	8.0 8.0	8.0	15.0 15.0	15.0	89.3 89.6	89.5	6.4 6.4	6.4	6.4	3.3 3.3	3.3		9.6 9.0	9.3	
7-Jul-17	Rainy	Moderate	18:30	3.8	Surface	1.0	27.6 27.7	27.7	8.1 8.1	8.1	15.7 15.6	15.7	85.3 85.0	85.2	5.8 5.7	5.8	5.8	5.0 4.7	4.9	5.1	4.9 5.3	5.1	5.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.8	27.6 27.7	27.6	8.1 8.1	8.1	18.7 18.3	18.5	85.1 82.2	83.7	5.7 5.6	5.6	5.6	5.6 5.2	5.4		5.4 6.5	6.0	
10-Jul-17	Sunny	Moderate	07:37	3.7	Surface	1.0	27.8 27.8	27.8	8.1 8.1	8.1	13.5 13.8	13.7	84.0 84.4	84.2	6.1 6.1	6.1	6.1	3.4 3.5	3.5	3.8	8.6 9.4	9.0	10.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	27.8 27.8	27.8	8.1 8.1	8.1	14.6 14.6	14.6	83.9 84.2	84.1	6.1 6.1	6.1	6.1	4.0 3.9	4.0		12.0 11.7	11.9	
12-Jul-17	Sunny	Moderate	08:26	3.7	Surface	1.0	27.7 27.6	27.7	8.1 8.1	8.1	15.3 15.3	15.3	84.6 85.2	84.9	6.1 6.2	6.1	6.1	6.1 6.0	6.1	6.5	13.6 12.5	13.1	15.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	27.4 27.4	27.4	8.1 8.1	8.1	16.4 16.5	16.4	84.5 84.1	84.3	6.1 6.1	6.1	6.1	6.8 6.9	6.9		17.7 16.3	17.0	
14-Jul-17	Sunny	Moderate	10:01	3.9	Surface	1.0	28.1 28.1	28.1	8.2 8.2	8.2	16.2 16.0	16.1	88.7 88.2	88.5	6.3 6.3	6.3	6.3	10.3 10.6	10.5	10.7	12.8 13.0	12.9	17.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.9	27.9 28.0	27.9	8.2 8.2	8.2	17.4 17.2	17.3	87.8 88.6	88.2	6.3 6.3	6.3	6.3	10.6 10.9	10.8		21.7 21.1	21.4	
17-Jul-17	Cloudy	Moderate	12:15	3.7	Surface	1.1	27.7 27.7	27.7	8.2 8.2	8.2	17.3 17.1	17.2	91.5 95.0	93.3	6.5 6.8	6.7	6.7	2.8 2.8	2.8	2.8	2.3 3.4	2.9	6.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	27.7 27.7	27.7	8.2 8.2	8.2	17.3 17.5	17.4	92.5 90.8	91.7	6.6 6.5	6.6	6.6	2.8 2.6	2.7		9.5 9.3	9.4	
19-Jul-17	Sunny	Moderate	15:19	3.7	Surface	1.1	27.9 27.8	27.8	8.1 8.1	8.1	12.0 12.0	12.0	81.6 80.5	81.1	6.0 5.9	5.9	5.9	4.6 4.4	4.5	4.5	2.4 3.8	3.1	3.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	27.5 27.6	27.6	8.1 8.1	8.1	13.9 13.8	13.8	80.1 80.7	80.4	5.9 5.9	5.9	5.9	4.4 4.5	4.5		3.0 3.3	3.2	
21-Jul-17	Sunny	Moderate	17:26	3.5	Surface	1.1	29.0 28.9	28.9	8.3 8.2	8.3	17.4 17.4	17.4	93.9 92.3	93.1	6.6 6.5	6.5	6.5	4.5 4.5	4.5	4.5	3.3 2.0	2.7	3.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.5	28.5 28.8	28.7	8.2 8.2	8.2	18.8 18.7	18.7	92.8 93.1	93.0	6.5 6.5	6.5	6.5	4.6 4.4	4.5		4.5 5.0	4.8	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR4(N) - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	7:10	3.8	Surface	1.2	27.9 27.9	27.9	8.2 8.2	8.2	16.9 16.9	16.9	75.1 76.5	75.8	5.4 5.5	5.4	5.4	3.6 3.4	3.5	3.5	1.2 1.2	1.2	2.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.8	27.9 27.7	27.8	8.2 8.2	8.2	18.0 18.3	18.1	75.7 74.6	75.2	5.4 5.3	5.3	5.3	3.6 3.5	3.6		2.9 2.8	2.9	
26-Jul-17	Sunny	Moderate	8:43	3.8	Surface	1.1	28.6 28.5	28.5	8.1 8.1	8.1	17.2 17.2	17.2	72.3 72.3	72.3	5.2 5.2	5.2	5.2	5.4 5.6	5.5	5.5	3.3 2.7	3.0	4.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.8	28.4 28.3	28.3	8.1 8.1	8.1	18.6 18.6	18.6	71.9 72.3	72.1	5.2 5.2	5.2	5.2	5.5 5.5	5.5		6.0 7.0	6.5	
28-Jul-17	Sunny	Moderate	10:37	3.8	Surface	1.0	28.7 28.8	28.7	8.1 8.1	8.1	19.3 19.1	19.2	88.4 89.3	88.9	6.1 6.1	6.1	6.1	9.7 10.9	10.3	10.9	3.0 3.0	3.0	4.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.8	28.6 28.6	28.6	8.1 8.1	8.1	19.6 19.8	19.7	89.7 88.6	89.2	6.2 6.1	6.1	6.1	11.2 11.7	11.5		4.6 5.5	5.1	
31-Jul-17	Cloudy	Moderate	12:44	3.6	Surface	1.1	29.8 29.8	29.8	8.4 8.4	8.4	22.4 22.3	22.4	101.2 100.1	100.7	6.8 6.7	6.7	6.8	5.2 5.2	5.2	5.2	6.5 6.3	6.4	9.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.6	29.7 29.7	29.7	8.4 8.4	8.4	22.8 22.9	22.8	101.4 101.3	101.4	6.8 6.8	6.8	6.8	5.3 5.1	5.2		13.0 11.6	12.3	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS6, CSA and CS(Mf)5 are considered as upstream contol stations of mid-flood tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR5(N) - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	09:52	7.8	Surface	1.0	28.2 28.2	28.2	7.7 7.7	7.7	8.6 8.5	8.5	75.9 75.9	75.9	5.6 5.6	5.6	5.6	5.0 5.4	5.2	6.1	3.9 4.1	4.0	8.0
					Middle	3.9	28.3 28.2	28.2	7.7 7.7	7.7	9.8 10.0	9.9	75.6 76.1	75.9	5.6 5.6	5.6		5.5 5.8	5.7		9.1 8.5	8.8	
					Bottom	6.8	27.7 28.2	28.0	7.6 7.6	7.6	10.5 10.4	10.5	75.6 75.9	75.8	5.6 5.6	5.6	5.6	7.4 7.2	7.3		10.8 11.7	11.3	
5-Jul-17	Cloudy	Moderate	10:30	8.7	Surface	1.0	28.2 28.2	28.2	8.1 8.1	8.1	10.3 10.6	10.5	75.7 77.2	76.5	5.5 5.6	5.6	5.5	6.1 6.2	6.2	6.4	4.0 5.2	4.6	7.0
					Middle	4.3	27.9 27.8	27.9	8.1 8.1	8.1	12.2 12.2	12.2	74.8 74.7	74.8	5.5 5.5	5.5		6.4 6.5	6.5		7.0 6.5	6.8	
					Bottom	7.7	27.8 27.9	27.8	8.0 8.1	8.1	13.6 13.5	13.5	73.2 72.7	73.0	5.4 5.3	5.3	5.3	6.6 6.7	6.7		9.6 9.6	9.6	
7-Jul-17	Rainy	Moderate	11:42	8.5	Surface	1.0	27.6 27.6	27.6	7.9 7.9	7.9	12.0 11.0	11.5	72.0 71.6	71.8	5.4 5.4	5.4	5.4	8.1 8.3	8.2	8.6	10.3 8.9	9.6	10.3
					Middle	4.2	27.4 27.4	27.4	7.8 7.8	7.8	11.9 11.2	11.5	70.5 70.6	70.6	5.3 5.4	5.3		8.7 8.6	8.7		11.5 10.3	10.9	
					Bottom	7.5	27.3 27.5	27.4	7.8 7.8	7.8	13.4 13.6	13.5	68.7 68.7	68.7	5.2 5.3	5.2	5.2	8.9 8.9	8.9		10.8 10.1	10.5	
10-Jul-17	Sunny	Moderate	13:13	8.2	Surface	1.0	27.5 27.2	27.4	7.9 7.9	7.9	10.3 12.1	11.2	74.5 74.7	74.6	5.5 5.5	5.5	5.4	8.3 8.2	8.3	8.5	4.2 3.7	4.0	6.1
					Middle	4.1	27.1 27.0	27.1	7.9 7.8	7.9	13.1 14.0	13.5	73.9 73.9	73.9	5.3 5.4	5.3		8.6 8.4	8.5		7.7 6.3	7.0	
					Bottom	7.2	27.1 27.1	27.1	7.8 7.8	7.8	15.6 15.2	15.4	72.5 72.8	72.7	5.2 5.2	5.2	5.2	8.7 8.8	8.8		6.9 7.6	7.3	
12-Jul-17	Sunny	Moderate	14:17	8.4	Surface	1.0	28.2 27.2	27.7	8.0 7.9	7.9	16.8 18.8	17.8	85.4 84.8	85.1	5.9 5.9	5.9	5.9	6.2 6.3	6.3	6.5	16.2 16.5	16.4	16.3
					Middle	4.2	27.9 27.3	27.6	8.0 7.9	7.9	15.2 17.0	16.1	83.7 83.8	83.8	5.8 5.8	5.8		6.5 6.4	6.5		15.8 17.0	16.4	
					Bottom	7.4	27.2 27.1	27.2	7.9 7.9	7.9	17.7 18.1	17.9	82.2 82.9	82.6	5.7 5.8	5.7	5.7	6.7 6.6	6.7		15.9 16.0	16.0	
14-Jul-17	Sunny	Moderate	15:35	8.4	Surface	1.0	28.4 28.4	28.4	8.2 8.1	8.2	14.6 14.6	14.6	106.2 106.5	106.4	7.6 7.6	7.6	7.6	3.1 3.2	3.2	3.4	10.6 11.6	11.1	15.6
					Middle	4.2	27.5 27.8	27.7	8.1 8.1	8.1	18.3 15.9	17.1	104.6 104.2	104.4	7.5 7.5	7.5		3.3 3.4	3.4		17.6 17.3	17.5	
					Bottom	7.4	27.5 27.5	27.5	8.1 8.1	8.1	18.7 18.6	18.6	102.3 102.6	102.5	7.3 7.3	7.3	7.3	3.5 3.6	3.6		17.6 18.5	18.1	
17-Jul-17	Cloudy	Moderate	6:57	8.7	Surface	1.0	27.8 27.8	27.8	7.8 7.8	7.8	11.5 11.6	11.6	86.7 87.4	87.1	6.4 6.4	6.4	6.4	3.4 3.5	3.5	3.7	1.0 1.1	1.1	1.4
					Middle	4.4	27.7 27.7	27.7	7.8 7.8	7.8	12.0 11.8	11.9	86.0 87.1	86.6	6.3 6.3	6.3		3.8 3.6	3.7		1.7 1.8	1.8	
					Bottom	7.7	27.7 27.7	27.7	7.8 7.8	7.8	12.7 14.4	13.5	85.7 86.0	85.9	6.3 6.3	6.3	6.3	3.9 3.9	3.9		1.4 1.1	1.3	
19-Jul-17	Sunny	Moderate	9:02	8.6	Surface	1.0	27.5 27.7	27.6	7.9 7.9	7.9	11.7 11.3	11.5	72.1 72.5	72.3	5.3 5.2	5.3	5.2	2.7 2.8	2.8	3.0	4.7 4.1	4.4	4.5
					Middle	4.3	27.3 27.3	27.3	7.9 7.9	7.9	13.0 13.2	13.1	71.6 71.5	71.6	5.2 5.2	5.2		3.1 2.9	3.0		4.4 4.3	4.4	
					Bottom	7.6	27.2 27.3	27.2	7.8 7.8	7.8	15.7 15.7	15.7	70.8 71.1	71.0	5.1 5.1	5.1	5.1	3.2 3.3	3.3		4.5 4.8	4.7	
21-Jul-17	Sunny	Moderate	11:16	7.7	Surface	1.0	28.1 28.0	28.1	7.9 7.9	7.9	13.7 13.7	13.7	79.2 77.9	78.6	5.7 5.7	5.7	5.6	3.9 3.6	3.8	3.8	0.5 0.7	0.6	2.0
					Middle	3.9	27.6 27.5	27.6	7.9 7.9	7.9	17.4 17.1	17.2	78.4 76.4	77.4	5.6 5.5	5.6		4.0 3.9	4.0		1.9 1.8	1.9	
					Bottom	6.7	27.5 27.9	27.7	7.9 7.9	7.9	18.4 17.8	18.1	76.0 77.5	76.8	5.5 5.6	5.5	5.5	3.7 3.9	3.8		3.4 3.8	3.6	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR5(N) - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	13:06	8.3	Surface	1.0	27.5 27.5	27.5	7.9 7.9	7.9	20.3 20.3	20.3	81.2 78.7	80.0	5.8 5.6	5.7	5.7	5.0 4.9	5.0	5.3	2.7 2.9	2.8	2.7
					Middle	4.1	27.5 27.5	27.5	7.9 7.9	7.9	22.2 22.4	22.3	77.2 78.2	77.7	5.6 5.6	5.6		5.5 5.2	5.4		2.9 2.7	2.8	
					Bottom	7.3	27.5 27.3	27.4	7.9 7.9	7.9	22.6 22.6	22.6	77.8 77.0	77.4	5.6 5.5	5.5	5.5	5.8 5.3	5.6		2.1 2.7	2.4	
26-Jul-17	Sunny	Moderate	14:32	8.4	Surface	1.1	29.0 28.9	28.9	8.1 8.1	8.1	17.1 17.2	17.2	74.6 74.0	74.3	5.5 5.5	5.5	5.5	7.3 7.1	7.2	7.5	5.4 5.2	5.3	5.5
					Middle	4.2	28.6 28.7	28.6	8.1 8.1	8.1	19.9 17.9	18.9	73.1 73.3	73.2	5.5 5.5	5.5		7.4 7.5	7.5		6.2 5.8	6.0	
					Bottom	7.4	28.7 28.8	28.7	8.1 8.0	8.1	20.9 20.9	20.9	72.1 72.6	72.4	5.3 5.3	5.3	5.3	7.7 7.8	7.8		5.2 5.3	5.3	
28-Jul-17	Sunny	Moderate	16:00	8.6	Surface	1.1	29.4 29.4	29.4	7.8 7.8	7.8	18.7 18.8	18.8	77.1 78.7	77.9	5.3 5.4	5.3	5.3	6.3 6.1	6.2	6.4	6.0 5.4	5.7	5.8
					Middle	4.3	29.3 29.2	29.2	7.8 7.8	7.8	20.7 20.9	20.8	76.6 76.9	76.8	5.2 5.3	5.3		6.2 6.5	6.4		5.2 5.0	5.1	
					Bottom	7.6	28.9 29.1	29.0	7.8 7.8	7.8	22.5 22.6	22.6	76.0 76.1	76.1	5.2 5.2	5.2	5.2	6.6 6.7	6.7		6.9 6.2	6.6	
31-Jul-17	Cloudy	Moderate	7:00	8.6	Surface	1.0	29.6 29.6	29.6	8.0 7.9	7.9	14.9 14.8	14.8	84.8 84.8	84.8	5.9 6.0	5.9	5.8	5.3 5.2	5.3	5.5	4.8 5.7	5.3	5.0
					Middle	4.3	29.6 29.6	29.6	7.9 7.9	7.9	16.9 16.8	16.8	83.9 81.9	82.9	5.7 5.7	5.7		5.6 5.4	5.5		4.5 5.1	4.8	
					Bottom	7.6	29.4 29.5	29.5	7.9 7.9	7.9	19.9 20.5	20.2	81.9 82.9	82.4	5.7 5.7	5.7	5.7	5.8 5.7	5.8		5.1 4.8	5.0	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS4 and CS(Mf)3 are considered as upstream contol stations of mid-ebb tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR5(N) - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	14:59	7.6	Surface	1.0	28.2 28.2	28.2	7.7 7.7	7.7	8.1 8.2	8.2	77.6 76.9	77.3	5.7 5.7	5.7	5.7	5.5 5.2	5.4	5.5	6.8 5.0	5.9	6.5
					Middle	3.8	28.2 28.1	28.2	7.7 7.6	7.7	10.1 10.2	10.2	76.6 78.2	77.4	5.6 5.8	5.7		4.8 4.5	4.7		6.7 6.4	6.6	
					Bottom	6.6	27.5 27.9	27.7	7.6 7.5	7.6	17.9 17.2	17.6	79.5 77.0	78.3	5.8 5.7	5.8	5.8	6.3 6.6	6.5		6.7 7.2	7.0	
5-Jul-17	Cloudy	Moderate	17:45	8.8	Surface	1.1	28.8 28.8	28.8	7.9 7.9	7.9	12.5 12.6	12.6	76.7 76.8	76.8	5.7 5.7	5.7	5.7	5.8 5.9	5.9	6.3	7.7 7.7	7.7	7.9
					Middle	4.4	28.4 28.8	28.6	7.9 7.9	7.9	12.6 13.6	13.1	76.5 77.0	76.8	5.7 5.6	5.6		6.2 6.3	6.3		7.6 7.7	7.7	
					Bottom	7.8	28.8 28.8	28.8	7.9 7.9	7.9	13.1 10.5	11.8	76.3 76.5	76.4	5.6 5.6	5.6	5.6	6.6 6.7	6.7		8.2 8.6	8.4	
7-Jul-17	Rainy	Moderate	19:13	8.6	Surface	1.1	27.7 27.6	27.6	7.9 7.8	7.9	11.6 10.2	10.9	76.5 75.2	75.9	5.8 5.7	5.7	5.7	10.3 10.3	10.3	10.5	10.5 10.5	10.5	11.7
					Middle	4.3	27.6 27.5	27.5	7.8 7.9	7.9	11.0 10.6	10.8	73.9 73.5	73.7	5.6 5.6	5.6		10.5 10.4	10.5		11.6 12.5	12.1	
					Bottom	7.6	27.7 27.5	27.6	7.8 7.9	7.9	11.8 11.6	11.7	72.1 71.4	71.8	5.5 5.4	5.4	5.4	10.7 10.8	10.8		12.7 12.1	12.4	
10-Jul-17	Sunny	Moderate	07:12	8.4	Surface	1.0	26.9 26.9	26.9	7.9 7.9	7.9	16.3 19.3	17.8	74.7 74.9	74.8	5.4 5.4	5.4	5.4	8.1 7.9	8.0	8.3	5.3 5.7	5.5	6.0
					Middle	4.2	27.1 27.0	27.0	7.9 7.9	7.9	17.7 19.3	18.5	74.1 74.1	74.1	5.4 5.4	5.4		8.2 8.3	8.3		5.3 4.7	5.0	
					Bottom	7.4	26.8 27.1	26.9	7.9 7.9	7.9	14.1 17.5	15.8	74.0 74.0	74.0	5.3 5.3	5.3	5.3	8.5 8.4	8.5		7.1 7.7	7.4	
12-Jul-17	Sunny	Moderate	08:26	8.5	Surface	1.0	27.8 27.7	27.8	7.9 7.9	7.9	14.5 14.7	14.6	86.7 87.4	87.1	6.0 6.1	6.0	6.0	4.1 4.3	4.2	4.5	7.6 8.8	8.2	10.4
					Middle	4.3	26.8 26.9	26.9	7.9 7.8	7.9	20.6 19.0	19.8	85.5 84.7	85.1	5.9 5.9	5.9		4.4 4.5	4.5		8.3 7.4	7.9	
					Bottom	7.5	26.8 26.4	26.6	7.8 7.8	7.8	21.9 23.1	22.5	84.2 84.7	84.5	5.8 5.9	5.9	5.9	4.8 4.7	4.8		15.4 14.8	15.1	
14-Jul-17	Sunny	Moderate	09:51	8.6	Surface	1.0	27.9 28.0	27.9	8.1 8.1	8.1	16.5 16.3	16.4	104.2 104.8	104.5	7.4 7.5	7.4	7.4	6.3 6.1	6.2	6.5	16.9 16.1	16.5	17.1
					Middle	4.3	27.7 27.8	27.8	8.1 8.1	8.1	17.9 17.2	17.5	102.8 103.4	103.1	7.3 7.4	7.4		6.5 6.4	6.5		16.4 15.7	16.1	
					Bottom	7.6	27.6 27.6	27.6	8.1 8.1	8.1	18.3 18.5	18.4	101.6 101.2	101.4	7.3 7.2	7.2	7.2	6.8 6.7	6.8		18.7 18.5	18.6	
17-Jul-17	Cloudy	Moderate	12:58	8.9	Surface	1.0	27.8 27.8	27.8	7.9 7.8	7.9	11.8 12.0	11.9	91.6 92.5	92.1	6.7 6.8	6.8	6.7	2.1 2.1	2.1	2.3	2.5 2.1	2.3	2.5
					Middle	4.4	27.7 27.7	27.7	7.8 7.8	7.8	13.0 12.7	12.9	90.4 89.7	90.1	6.6 6.6	6.6		2.3 2.2	2.3		2.6 2.2	2.4	
					Bottom	7.9	27.7 27.7	27.7	7.8 7.8	7.8	13.3 13.3	13.3	87.8 88.3	88.1	6.5 6.5	6.5	6.5	2.4 2.5	2.5		2.5 3.0	2.8	
19-Jul-17	Sunny	Moderate	16:01	8.7	Surface	1.0	27.7 27.8	27.7	8.0 8.0	8.0	10.4 11.1	10.7	74.0 73.4	73.7	5.5 5.4	5.4	5.4	1.9 2.1	2.0	2.2	2.7 2.4	2.6	3.0
					Middle	4.4	27.5 27.5	27.5	8.0 8.0	8.0	13.4 13.3	13.3	73.4 72.6	73.0	5.4 5.3	5.4		2.2 2.3	2.3		2.8 2.9	2.9	
					Bottom	7.7	27.5 27.5	27.5	8.0 8.0	8.0	13.4 13.4	13.4	71.8 71.6	71.7	5.3 5.3	5.3	5.3	2.4 2.5	2.5		3.4 3.8	3.6	
21-Jul-17	Sunny	Moderate	17:28	7.9	Surface	1.0	28.5 28.8	28.7	7.9 7.9	7.9	13.5 11.7	12.6	85.4 78.9	82.2	5.9 5.5	5.7	5.6	3.8 3.9	3.9	4.1	5.2 5.4	5.3	4.4
					Middle	3.9	27.3 27.2	27.2	7.8 7.8	7.8	18.7 18.7	18.7	76.5 78.8	77.7	5.3 5.5	5.4		4.2 4.3	4.3		3.7 4.1	3.9	
					Bottom	6.9	27.2 27.2	27.2	7.8 7.8	7.8	19.6 19.1	19.3	75.2 74.1	74.7	5.2 5.1	5.2	5.2	4.1 4.0	4.1		4.1 4.0	4.1	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR5(N) - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	7:05	8.2	Surface	1.0	27.7 27.8	27.8	7.9 7.9	7.9	17.8 17.7	17.7	77.2 78.9	78.1	5.6 5.7	5.7	5.6	3.4 3.4	3.4	3.9	3.1 3.7	3.4	3.2
					Middle	4.1	27.2 27.2	27.2	7.9 7.9	7.9	22.4 22.5	22.4	76.1 75.7	75.9	5.5 5.4	5.5		4.2 4.0	4.1		2.7 3.1	2.9	
					Bottom	7.2	27.1 27.2	27.2	7.9 7.8	7.9	23.1 23.2	23.1	76.7 76.9	76.8	5.5 5.5	5.5	5.5	4.4 4.2	4.3		3.1 3.4	3.3	
26-Jul-17	Sunny	Moderate	8:28	8.5	Surface	1.0	28.3 28.2	28.2	7.9 7.9	7.9	19.6 19.7	19.6	72.8 73.1	73.0	5.4 5.3	5.3	5.3	6.3 6.4	6.4	6.5	5.2 6.2	5.7	5.7
					Middle	4.2	28.2 28.1	28.2	7.9 7.9	7.9	19.9 19.9	19.9	71.6 71.2	71.4	5.2 5.2	5.2		6.5 6.5	6.5		5.9 5.2	5.6	
					Bottom	7.5	28.0 28.1	28.1	7.9 7.9	7.9	20.5 20.5	20.5	70.6 70.8	70.7	5.2 5.1	5.1	5.1	6.8 6.6	6.7		5.6 6.0	5.8	
28-Jul-17	Sunny	Moderate	10:20	8.7	Surface	1.1	28.4 28.6	28.5	7.9 7.8	7.9	19.8 19.1	19.4	77.9 77.8	77.9	5.5 5.4	5.4	5.4	6.4 6.3	6.4	6.6	6.9 6.8	6.9	7.0
					Middle	4.3	28.3 28.5	28.4	7.8 7.9	7.9	21.1 19.3	20.2	76.7 77.3	77.0	5.4 5.4	5.4		6.6 6.6	6.6		6.3 7.0	6.7	
					Bottom	7.7	28.3 28.3	28.3	7.8 7.8	7.8	21.2 21.5	21.4	75.7 76.5	76.1	5.2 5.3	5.3	5.3	6.9 6.8	6.9		7.0 7.9	7.5	
31-Jul-17	Cloudy	Moderate	13:24	8.7	Surface	1.1	29.6 29.7	29.7	8.0 8.0	8.0	14.7 14.5	14.6	85.6 84.9	85.3	5.9 6.0	5.9	5.9	5.4 5.4	5.4	5.7	5.3 4.7	5.0	5.2
					Middle	4.4	29.6 29.6	29.6	8.0 7.9	8.0	17.5 18.2	17.9	83.1 84.8	84.0	5.8 5.9	5.8		5.6 5.8	5.7		6.0 5.6	5.8	
					Bottom	7.7	29.5 29.4	29.5	7.9 8.0	7.9	19.9 19.2	19.5	83.0 81.7	82.4	5.7 5.6	5.7	5.7	6.1 6.1	6.1		4.6 5.0	4.8	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS6, CSA and CS(Mf)5 are considered as upstream contol stations of mid-flood tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR6 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	10:46	4.2	Surface	1.0	28.2 28.2	28.2	7.7 7.7	7.7	8.4 8.5	8.5	76.1 76.4	76.3	5.6 5.6	5.6	5.6	4.9 5.3	5.1	5.1	6.1 5.7	5.9	5.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	28.3 28.2	28.3	7.7 7.7	7.7	9.7 9.4	9.5	75.5 76.1	75.8	5.6 5.6	5.6	5.6	5.0 5.2	5.1		5.1 5.4	5.3	
5-Jul-17	Cloudy	Moderate	11:28	4.0	Surface	1.1	28.2 28.0	28.1	8.1 8.1	8.1	12.3 13.8	13.1	71.9 71.7	71.8	5.3 5.2	5.2	5.2	9.1 9.1	9.1	9.3	7.3 7.6	7.5	9.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.0	27.8 27.5	27.7	8.0 8.0	8.0	14.1 15.6	14.9	71.2 71.1	71.2	5.1 5.1	5.1	5.1	9.6 9.5	9.6		10.7 10.3	10.5	
7-Jul-17	Rainy	Moderate	12:41	4.1	Surface	1.1	27.5 27.6	27.5	7.8 7.8	7.8	10.5 10.2	10.4	69.4 69.7	69.6	5.3 5.2	5.3	5.3	10.3 10.4	10.4	10.6	11.1 11.6	11.4	11.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	27.5 27.5	27.5	7.7 7.7	7.7	15.5 15.7	15.6	68.9 67.8	68.4	5.2 5.2	5.2	5.2	10.8 10.7	10.8		11.7 10.6	11.2	
10-Jul-17	Sunny	Moderate	12:16	3.7	Surface	1.0	27.5 27.2	27.4	8.0 8.1	8.1	12.9 12.6	12.7	73.6 73.4	73.5	5.3 5.3	5.3	5.3	7.3 7.2	7.3	7.4	6.9 6.3	6.6	8.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	26.7 27.0	26.8	8.0 8.0	8.0	17.5 16.8	17.1	73.2 73.2	73.2	5.3 5.3	5.3	5.3	7.4 7.5	7.5		10.0 11.1	10.6	
12-Jul-17	Sunny	Moderate	13:20	3.9	Surface	1.0	27.9 28.2	28.0	8.1 8.0	8.0	13.7 13.4	13.6	84.7 84.1	84.4	5.9 5.8	5.9	5.9	6.4 6.5	6.5	6.7	9.4 8.1	8.8	11.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.9	27.3 27.6	27.4	8.1 8.0	8.0	17.4 16.9	17.2	82.9 82.1	82.5	5.8 5.7	5.7	5.7	6.8 6.8	6.8		14.2 12.8	13.5	
14-Jul-17	Sunny	Moderate	14:36	3.8	Surface	1.0	28.5 28.5	28.5	8.3 8.2	8.3	14.6 14.6	14.6	110.4 110.2	110.3	7.9 7.9	7.9	7.9	4.1 4.2	4.2	4.3	15.5 16.3	15.9	15.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.8	27.6 27.6	27.6	8.2 8.3	8.2	17.8 17.6	17.7	109.4 109.1	109.3	7.8 7.8	7.8	7.8	4.4 4.4	4.4		15.4 14.2	14.8	
17-Jul-17	Cloudy	Moderate	7:51	4.1	Surface	1.0	27.9 27.8	27.9	7.9 7.8	7.8	12.0 13.2	12.6	83.5 83.0	83.3	6.1 6.1	6.1	6.1	2.2 2.3	2.3	2.4	3.0 2.7	2.9	3.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	27.8 27.8	27.8	7.8 7.8	7.8	13.7 13.8	13.8	82.4 82.7	82.6	6.0 6.0	6.0	6.0	2.5 2.6	2.6		3.6 3.1	3.4	
19-Jul-17	Sunny	Moderate	10:00	4.1	Surface	1.0	27.6 27.7	27.7	7.9 7.9	7.9	11.5 11.5	11.5	72.6 73.5	73.1	5.5 5.4	5.4	5.4	4.3 4.2	4.3	4.4	3.9 4.6	4.3	4.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	27.4 27.4	27.4	7.8 7.8	7.8	13.6 13.8	13.7	71.5 73.0	72.3	5.4 5.4	5.4	5.4	4.5 4.6	4.6		4.7 5.7	5.2	
21-Jul-17	Sunny	Moderate	12:15	4.1	Surface	1.0	28.2 28.5	28.4	7.9 7.9	7.9	11.4 12.9	12.1	75.3 73.3	74.3	5.5 5.3	5.4	5.4	4.4 4.4	4.4	4.3	3.3 3.8	3.6	3.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	27.4 27.9	27.7	7.8 7.8	7.8	17.3 16.9	17.1	71.6 74.2	72.9	5.2 5.3	5.3	5.3	4.2 4.3	4.3		3.0 3.8	3.4	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR6 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	12:06	4.3	Surface	1.0	27.4 27.4	27.4	7.8 7.8	7.8	20.2 20.5	20.3	82.5 84.2	83.4	5.9 6.1	6.0	6.0	3.1 3.0	3.1	3.2	0.8 0.8	0.8	1.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.3	27.3 27.4	27.3	7.8 7.8	7.8	21.3 21.2	21.2	79.9 81.1	80.5	5.8 5.8	5.8	5.8	3.5 3.3	3.4		1.9 1.7	1.8	
26-Jul-17	Sunny	Moderate	13:30	3.8	Surface	1.0	29.1 28.9	29.0	8.1 8.1	8.1	17.2 17.7	17.4	71.2 72.8	72.0	5.2 5.3	5.2	5.3	8.0 8.2	8.1	8.3	4.8 4.9	4.9	5.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.8	28.6 28.8	28.7	8.2 8.1	8.1	20.4 20.6	20.5	70.2 70.5	70.4	5.1 5.2	5.1	5.1	8.5 8.4	8.5		6.4 5.1	5.8	
28-Jul-17	Sunny	Moderate	15:01	3.9	Surface	1.1	29.2 29.2	29.2	7.9 7.9	7.9	20.3 20.0	20.2	76.5 75.4	76.0	5.2 5.2	5.2	5.2	7.8 7.9	7.9	8.1	4.8 5.9	5.4	5.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.9	29.1 28.8	28.9	7.9 8.0	7.9	22.7 23.4	23.1	75.5 74.9	75.2	5.1 5.1	5.1	5.1	8.3 8.5	8.4		6.8 5.8	6.3	
31-Jul-17	Cloudy	Moderate	7:51	4.2	Surface	1.0	29.6 29.3	29.4	7.9 7.9	7.9	17.0 16.2	16.6	80.0 78.0	79.0	5.5 5.5	5.5	5.5	6.2 6.1	6.2	6.3	3.8 4.8	4.3	4.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	29.6 28.7	29.2	7.9 7.8	7.9	18.2 22.4	20.3	75.7 75.5	75.6	5.2 5.1	5.2	5.2	6.4 6.3	6.4		4.2 4.4	4.3	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS4 and CS(Mf)3 are considered as upstream contol stations of mid-ebb tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR6 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	14:04	4.2	Surface	1.0	28.2 28.2	28.2	7.7 7.7	7.7	8.3 8.4	8.3	77.0 77.2	77.1	5.7 5.7	5.7	5.7	5.2 5.3	5.3	5.2	6.5 6.5	6.5	6.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	28.2 28.2	28.2	7.7 7.6	7.6	10.4 10.5	10.5	76.4 76.7	76.6	5.6 5.6	5.6	5.6	5.0 5.1	5.1		7.7 6.7	7.2	
5-Jul-17	Cloudy	Moderate	16:47	4.2	Surface	1.1	28.8 28.9	28.8	7.9 7.9	7.9	12.7 13.7	13.2	73.2 72.6	72.9	5.2 5.2	5.2	5.2	7.5 7.4	7.5	7.6	6.7 5.6	6.2	6.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	28.1 28.2	28.2	7.8 7.8	7.8	14.8 16.0	15.4	71.6 71.2	71.4	5.1 5.1	5.1	5.1	7.7 7.8	7.8		6.7 7.5	7.1	
7-Jul-17	Rainy	Moderate	18:14	4.2	Surface	1.0	27.7 27.8	27.8	7.9 8.0	8.0	11.9 11.7	11.8	75.5 75.9	75.7	5.7 5.7	5.7	5.7	10.2 10.1	10.2	10.3	12.2 12.4	12.3	12.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	27.6 27.7	27.7	8.0 7.9	7.9	11.6 11.8	11.7	73.1 73.6	73.4	5.6 5.6	5.6	5.6	10.5 10.4	10.5		13.4 12.5	13.0	
10-Jul-17	Sunny	Moderate	08:17	3.9	Surface	1.0	27.2 27.1	27.2	8.0 7.9	7.9	17.5 20.4	18.9	74.5 75.0	74.8	5.5 5.4	5.5	5.5	8.6 8.6	8.6	8.7	4.2 5.4	4.8	5.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.9	27.6 27.3	27.5	8.0 7.9	7.9	16.2 18.3	17.3	74.4 74.4	74.4	5.4 5.5	5.4	5.4	8.7 8.6	8.7		5.9 6.9	6.4	
12-Jul-17	Sunny	Moderate	09:24	3.9	Surface	1.0	26.4 28.2	27.3	7.8 7.9	7.9	22.5 21.0	21.7	86.1 87.3	86.7	6.0 6.1	6.0	6.0	4.6 4.5	4.6	4.7	7.8 7.6	7.7	9.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.9	26.5 26.6	26.6	7.8 7.8	7.8	22.4 22.4	22.4	85.3 84.5	84.9	5.9 5.9	5.9	5.9	4.7 4.7	4.7		10.4 11.8	11.1	
14-Jul-17	Sunny	Moderate	10:47	3.9	Surface	1.0	27.9 28.0	27.9	8.1 8.1	8.1	16.3 16.1	16.2	113.8 114.3	114.1	8.1 8.1	8.1	8.1	7.4 7.4	7.4	7.5	12.7 12.4	12.6	12.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.9	27.7 27.7	27.7	8.1 8.1	8.1	18.2 18.6	18.4	110.0 111.4	110.7	7.9 7.9	7.9	7.9	7.6 7.6	7.6		12.1 13.8	13.0	
17-Jul-17	Cloudy	Moderate	12:03	4.2	Surface	1.1	27.7 27.8	27.8	7.8 7.8	7.8	14.6 13.4	14.0	89.4 88.7	89.1	6.5 6.4	6.5	6.5	2.4 2.5	2.5	2.6	2.5 3.4	3.0	3.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	27.7 27.8	27.7	7.8 7.8	7.8	15.1 14.1	14.6	85.6 86.6	86.1	6.2 6.3	6.3	6.3	2.7 2.8	2.8		4.0 2.9	3.5	
19-Jul-17	Sunny	Moderate	15:03	4.2	Surface	1.0	27.9 27.8	27.8	8.1 8.1	8.1	11.9 11.9	11.9	74.5 75.6	75.1	5.5 5.5	5.5	5.5	3.2 3.3	3.3	3.4	3.1 2.9	3.0	2.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	27.3 27.6	27.4	8.1 8.0	8.0	15.8 13.9	14.9	73.9 74.7	74.3	5.5 5.4	5.5	5.5	3.5 3.4	3.5		2.3 3.1	2.7	
21-Jul-17	Sunny	Moderate	16:24	4.1	Surface	1.0	28.9 29.0	29.0	7.9 7.9	7.9	11.0 10.3	10.6	81.7 81.0	81.4	5.7 5.7	5.7	5.7	4.8 5.0	4.9	4.8	5.7 6.5	6.1	5.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	27.5 27.4	27.4	7.8 7.8	7.8	19.2 18.1	18.6	82.6 81.5	82.1	5.7 5.7	5.7	5.7	4.8 4.6	4.7		6.4 5.0	5.7	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR6 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	8:08	4.2	Surface	1.0	27.6 27.8	27.7	7.9 7.9	7.9	17.8 18.2	18.0	78.4 78.2	78.3	5.7 5.7	5.7	5.7	3.0 2.9	3.0	3.1	1.5 1.8	1.7	2.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	27.6 27.4	27.5	7.9 7.9	7.9	20.4 21.3	20.9	78.7 77.8	78.3	5.7 5.6	5.6	5.6	3.1 3.2	3.2		2.4 2.6	2.5	
26-Jul-17	Sunny	Moderate	9:31	4.0	Surface	1.0	28.3 28.3	28.3	7.9 7.9	7.9	18.6 18.7	18.7	71.6 71.4	71.5	5.2 5.2	5.2	5.2	5.5 5.6	5.6	5.7	5.7 4.4	5.1	6.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.0	28.2 28.2	28.2	7.9 7.9	7.9	19.8 19.4	19.6	70.6 70.4	70.5	5.1 5.1	5.1	5.1	5.8 5.7	5.8		8.1 8.1	8.1	
28-Jul-17	Sunny	Moderate	11:24	4.1	Surface	1.0	28.4 28.5	28.5	7.9 7.9	7.9	20.7 20.5	20.6	78.6 78.2	78.4	5.5 5.5	5.5	5.5	8.8 8.9	8.9	9.2	7.2 7.7	7.5	7.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	28.2 28.4	28.3	7.9 7.9	7.9	21.7 20.9	21.3	78.1 77.9	78.0	5.5 5.5	5.5	5.5	9.6 9.5	9.6		8.0 7.4	7.7	
31-Jul-17	Cloudy	Moderate	12:30	4.2	Surface	1.0	29.6 29.5	29.5	8.0 8.0	8.0	16.1 16.1	16.1	83.1 84.0	83.6	5.8 5.8	5.8	5.8	6.1 6.2	6.2	6.3	5.2 4.5	4.9	5.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	29.5 29.6	29.5	8.0 8.0	8.0	17.0 16.5	16.7	82.7 82.9	82.8	5.8 5.8	5.8	5.8	6.4 6.4	6.4		6.7 5.3	6.0	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS6, CSA and CS(Mf)5 are considered as upstream contol stations of mid-flood tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR7 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (^{o}C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	09:31	4.2	Surface	1.0	28.3 28.2	28.2	7.6 7.6	7.6	8.0 8.0	8.0	77.2 77.7	77.5	5.7 5.7	5.7	5.7	5.2 5.5	5.4	6.1	6.5 5.9	6.2	6.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	27.7 27.6	27.6	7.6 7.6	7.6	16.7 16.7	16.7	77.0 78.9	78.0	5.7 5.8	5.7	5.7	6.6 6.9	6.8		5.5 5.8	5.7	
5-Jul-17	Cloudy	Moderate	9:55	4.2	Surface	1.0	28.6 28.4	28.5	8.0 8.0	8.0	11.8 13.8	12.8	80.4 80.3	80.4	5.9 5.9	5.9	5.9	8.5 8.6	8.6	8.7	6.1 6.7	6.4	8.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	28.5 28.6	28.6	8.0 8.0	8.0	11.1 14.9	13.0	79.1 79.7	79.4	5.8 5.8	5.8	5.8	8.9 8.7	8.8		11.9 10.4	11.2	
7-Jul-17	Rainy	Moderate	11:09	4.1	Surface	1.1	27.4 27.5	27.5	7.9 7.9	7.9	10.7 10.4	10.5	69.4 68.8	69.1	5.3 5.2	5.3	5.3	5.7 5.8	5.8	6.0	6.6 7.0	6.8	7.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	27.5 27.4	27.4	7.9 7.9	7.9	15.1 14.7	14.9	69.7 70.1	69.9	5.2 5.2	5.2	5.2	6.1 6.3	6.2		7.8 6.9	7.4	
10-Jul-17	Sunny	Moderate	13:48	3.8	Surface	1.0	27.7 27.5	27.6	7.9 7.9	7.9	12.6 11.5	12.1	73.5 73.7	73.6	5.5 5.5	5.5	5.5	6.3 6.4	6.4	6.6	4.9 4.4	4.7	4.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.8	27.4 27.4	27.4	7.9 7.8	7.9	14.0 15.0	14.5	73.6 73.0	73.3	5.4 5.4	5.4	5.4	6.7 6.6	6.7		4.5 4.4	4.5	
12-Jul-17	Sunny	Moderate	14:57	3.8	Surface	1.0	27.9 27.5	27.7	8.0 8.0	8.0	15.2 17.3	16.3	84.1 83.1	83.6	5.8 5.8	5.8	5.8	4.1 4.1	4.1	4.2	11.2 10.9	11.1	12.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.8	27.3 27.5	27.4	7.9 8.0	7.9	18.5 17.4	18.0	82.1 82.5	82.3	5.7 5.7	5.7	5.7	4.3 4.2	4.3		13.8 13.5	13.7	
14-Jul-17	Sunny	Moderate	16:11	3.9	Surface	1.0	28.6 28.1	28.3	8.2 8.1	8.2	14.9 15.6	15.3	111.3 111.9	111.6	8.0 7.9	7.9	7.9	3.6 3.5	3.6	3.8	11.8 12.0	11.9	13.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.9	27.7 28.2	28.0	8.1 8.1	8.1	19.1 15.5	17.3	109.9 108.3	109.1	7.8 7.8	7.8	7.8	3.9 3.8	3.9		14.2 13.7	14.0	
17-Jul-17	Cloudy	Moderate	6:21	4.1	Surface	1.1	27.8 27.7	27.8	7.9 7.9	7.9	11.3 11.6	11.5	90.3 90.4	90.4	6.6 6.6	6.6	6.6	2.4 2.3	2.4	2.6	4.9 3.5	4.2	3.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	27.7 27.7	27.7	7.9 7.9	7.9	14.8 13.9	14.4	88.5 88.9	88.7	6.5 6.6	6.5	6.5	2.8 2.9	2.9		3.6 3.4	3.5	
19-Jul-17	Sunny	Moderate	8:32	4.2	Surface	1.1	27.8 27.6	27.7	7.8 7.8	7.8	11.7 11.5	11.6	73.1 74.0	73.6	5.5 5.4	5.5	5.5	4.2 4.2	4.2	4.3	4.9 4.6	4.8	4.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	27.4 27.4	27.4	7.8 7.8	7.8	13.1 13.3	13.2	71.9 73.7	72.8	5.4 5.4	5.4	5.4	4.5 4.4	4.5		4.8 3.2	4.0	
21-Jul-17	Sunny	Moderate	10:49	3.8	Surface	1.0	28.6 28.6	28.6	8.1 8.1	8.1	13.4 13.4	13.4	83.9 83.4	83.7	6.1 6.0	6.0	6.0	2.6 2.8	2.7	2.9	0.5 0.7	0.6	0.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.8	28.2 28.5	28.4	8.0 8.1	8.1	14.7 14.6	14.7	83.7 83.9	83.8	6.0 6.0	6.0	6.0	3.1 3.0	3.1		0.9 1.0	1.0	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR7 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	13:33	3.9	Surface	1.0	27.4 27.4	27.4	7.9 7.9	7.9	21.4 21.1	21.2	75.3 75.3	75.3	5.4 5.4	5.4	5.4	4.3 4.0	4.2	4.4	1.4 1.8	1.6	1.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.9	27.3 27.2	27.3	7.9 7.9	7.9	21.8 22.3	22.0	75.4 74.7	75.1	5.4 5.4	5.4	5.4	4.8 4.5	4.7		1.2 1.5	1.4	
26-Jul-17	Sunny	Moderate	15:05	3.7	Surface	1.1	29.2 29.1	29.1	8.1 8.1	8.1	17.3 17.3	17.3	73.0 73.3	73.2	5.4 5.4	5.4	5.4	6.5 6.6	6.6	6.7	2.8 3.2	3.0	3.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	28.9 28.8	28.9	8.1 8.1	8.1	19.1 19.6	19.4	71.6 71.7	71.7	5.4 5.4	5.4	5.4	6.8 6.8	6.8		4.8 4.6	4.7	
28-Jul-17	Sunny	Moderate	16:44	4.0	Surface	1.1	29.8 29.7	29.7	7.8 7.8	7.8	18.8 18.9	18.8	78.3 78.1	78.2	5.4 5.3	5.4	5.4	5.5 5.4	5.5	5.7	7.9 8.6	8.3	7.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.0	29.7 29.4	29.5	7.8 7.8	7.8	20.2 20.5	20.3	78.0 77.9	78.0	5.3 5.3	5.3	5.3	5.9 5.8	5.9		7.0 7.1	7.1	
31-Jul-17	Cloudy	Moderate	6:19	4.1	Surface	1.0	29.6 29.6	29.6	7.9 7.9	7.9	15.2 15.2	15.2	80.5 80.7	80.6	5.5 5.7	5.6	5.6	4.0 3.8	3.9	4.0	4.7 4.5	4.6	4.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	29.5 29.4	29.5	7.8 7.9	7.9	18.5 19.5	19.0	79.4 76.0	77.7	5.6 5.2	5.4	5.4	4.1 4.1	4.1		4.5 4.9	4.7	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS4 and CS(Mf)3 are considered as upstream contol stations of mid-ebb tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR7 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	15:25	4.1	Surface	1.0	28.2 28.2	28.2	7.7 7.7	7.7	9.5 9.4	9.4	76.3 76.6	76.5	5.6 5.6	5.6	5.6	4.0 4.0	4.0	4.1	6.5 6.3	6.4	7.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	28.2 28.2	28.2	7.7 7.7	7.7	11.6 11.5	11.5	76.3 76.1	76.2	5.6 5.6	5.6	5.6	4.1 4.2	4.2		8.6 7.1	7.9	
5-Jul-17	Cloudy	Moderate	18:31	4.2	Surface	1.0	28.0 28.4	28.2	8.0 8.0	8.0	13.4 13.3	13.4	77.2 77.1	77.2	5.5 5.5	5.5	5.5	8.4 8.5	8.5	8.6	6.0 4.9	5.5	6.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	28.3 28.4	28.3	7.9 7.9	7.9	16.7 14.6	15.7	76.7 75.0	75.9	5.5 5.5	5.5	5.5	8.8 8.7	8.8		6.9 6.2	6.6	
7-Jul-17	Rainy	Moderate	19:40	4.2	Surface	1.0	27.5 27.6	27.5	7.8 7.8	7.8	11.9 12.5	12.2	68.1 67.2	67.7	5.1 5.1	5.1	5.1	7.9 7.8	7.9	8.1	12.4 13.0	12.7	13.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	27.4 27.6	27.5	7.7 7.8	7.8	12.8 11.7	12.3	67.2 67.1	67.2	5.1 5.1	5.1	5.1	8.2 8.3	8.3		13.3 13.4	13.4	
10-Jul-17	Sunny	Moderate	06:36	3.9	Surface	1.0	27.5 27.5	27.5	8.0 8.0	8.0	12.9 13.4	13.2	74.3 74.3	74.3	5.4 5.4	5.4	5.4	5.2 5.2	5.2	5.5	10.3 9.1	9.7	10.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.9	27.3 27.2	27.3	8.0 8.1	8.0	14.4 15.1	14.8	74.2 74.3	74.3	5.4 5.4	5.4	5.4	5.7 5.6	5.7		11.8 11.6	11.7	
12-Jul-17	Sunny	Moderate	07:53	4.0	Surface	1.0	27.8 28.1	27.9	7.9 8.0	8.0	14.4 14.2	14.3	88.6 88.3	88.5	6.2 6.1	6.1	6.1	5.2 5.4	5.3	5.5	11.0 11.2	11.1	12.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.0	26.9 27.4	27.2	7.9 7.9	7.9	20.4 19.2	19.8	87.3 87.0	87.2	6.1 6.0	6.1	6.1	5.6 5.5	5.6		14.8 14.3	14.6	
14-Jul-17	Sunny	Moderate	09:17	4.1	Surface	1.0	27.9 28.0	27.9	8.1 8.1	8.1	16.7 16.7	16.7	102.0 102.5	102.3	7.3 7.3	7.3	7.3	4.6 4.4	4.5	4.7	15.2 15.2	15.2	16.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	27.8 27.8	27.8	8.1 8.1	8.1	17.2 17.8	17.5	101.7 101.6	101.7	7.3 7.2	7.3	7.3	4.7 4.8	4.8		18.2 17.4	17.8	
17-Jul-17	Cloudy	Moderate	13:30	4.3	Surface	1.0	27.7 27.8	27.7	7.9 7.9	7.9	14.3 11.7	13.0	87.3 86.8	87.1	6.4 6.4	6.4	6.4	4.3 4.2	4.3	4.4	4.0 2.8	3.4	3.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.3	27.6 27.8	27.7	7.8 7.9	7.9	15.2 12.7	13.9	87.4 86.7	87.1	6.3 6.4	6.3	6.3	4.5 4.7	4.6		3.7 3.1	3.4	
19-Jul-17	Sunny	Moderate	16:29	4.2	Surface	1.1	27.3 27.5	27.4	8.0 8.1	8.1	16.0 14.8	15.4	70.8 71.1	71.0	5.2 5.3	5.3	5.3	5.4 5.5	5.5	5.6	4.8 4.2	4.5	4.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	27.2 27.2	27.2	8.0 8.0	8.0	16.7 16.9	16.8	70.2 69.7	70.0	5.2 5.1	5.1	5.1	5.7 5.8	5.8		4.1 3.4	3.8	
21-Jul-17	Sunny	Moderate	17:53	4.1	Surface	1.0	28.0 28.1	28.0	7.9 7.9	7.9	15.4 15.5	15.5	79.6 82.1	80.9	5.6 5.7	5.6	5.7	2.8 3.0	2.9	3.0	5.6 4.5	5.1	5.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	27.9 27.4	27.6	7.9 7.9	7.9	18.2 18.8	18.5	80.9 78.8	79.9	5.6 5.5	5.5	5.5	3.0 3.2	3.1		7.2 6.4	6.8	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR7 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	6:41	3.8	Surface	1.0	27.4 27.5	27.4	7.9 7.9	7.9	20.2 20.0	20.1	88.9 83.5	86.2	6.4 6.0	6.2	6.2	2.8 2.9	2.9	2.9	2.1 2.7	2.4	2.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.8	27.2 27.2	27.2	7.9 7.9	7.9	23.5 23.5	23.5	81.0 77.4	79.2	5.8 5.6	5.7	5.7	3.0 2.9	3.0		2.5 2.3	2.4	
26-Jul-17	Sunny	Moderate	7:58	3.9	Surface	1.0	28.2 28.2	28.2	7.9 7.9	7.9	18.9 18.8	18.9	70.1 71.6	70.9	5.1 5.3	5.2	5.2	4.2 4.3	4.3	4.4	5.0 5.8	5.4	5.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.9	28.2 27.6	27.9	7.9 7.8	7.9	19.3 24.9	22.1	69.4 69.2	69.3	5.1 5.1	5.1	5.1	4.5 4.6	4.6		6.4 5.9	6.2	
28-Jul-17	Sunny	Moderate	9:42	4.2	Surface	1.1	28.3 28.3	28.3	7.8 7.8	7.8	21.3 21.3	21.3	76.0 76.9	76.5	5.4 5.4	5.4	5.4	7.1 7.2	7.2	7.5	6.8 7.2	7.0	7.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	28.3 28.3	28.3	7.8 7.8	7.8	21.4 21.3	21.3	75.9 76.2	76.1	5.2 5.3	5.3	5.3	7.8 7.7	7.8		6.4 7.8	7.1	
31-Jul-17	Cloudy	Moderate	13:59	4.1	Surface	1.1	29.6 29.6	29.6	8.0 8.0	8.0	16.2 15.6	15.9	83.7 84.1	83.9	5.8 5.9	5.8	5.8	4.3 4.2	4.3	4.5	4.8 4.6	4.7	5.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	29.6 29.5	29.5	8.0 7.9	8.0	18.0 18.5	18.2	81.4 82.3	81.9	5.7 5.7	5.7	5.7	4.8 4.7	4.8		6.5 5.9	6.2	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS6, CSA and CS(Mf)5 are considered as upstream contol stations of mid-flood tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR10A - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	08:27	6.3	Surface	1.0	28.3 28.3	28.3	8.0 8.0	8.0	14.3 14.6	14.5	84.0 84.2	84.1	6.0 6.0	6.0	6.0	4.5 4.8	4.7	4.6	8.8 8.8	8.8	9.1
					Middle	3.2	28.4 28.4	28.4	8.0 8.0	8.0	15.1 15.5	15.3	84.0 84.2	84.1	6.0 6.0	6.0		4.5 4.6	4.6		8.2 8.8	8.5	
					Bottom	5.3	28.3 28.4	28.4	8.0 8.0	8.0	15.7 16.9	16.3	84.0 83.8	83.9	6.0 6.0	6.0	6.0	4.5 4.5	4.5		9.5 10.4	10.0	
5-Jul-17	Cloudy	Moderate	9:46	6.5	Surface	1.1	28.0 27.9	27.9	8.0 8.0	8.0	12.3 12.3	12.3	74.3 73.9	74.1	5.4 5.4	5.4	5.4	4.6 4.6	4.6	4.5	7.4 8.0	7.7	8.1
					Middle	3.2	27.6 27.7	27.7	8.0 8.0	8.0	14.5 14.5	14.5	73.3 71.9	72.6	5.3 5.2	5.3		4.5 4.5	4.5		7.9 7.1	7.5	
					Bottom	5.5	27.5 27.0	27.3	8.0 7.9	8.0	15.5 16.5	16.0	69.3 72.6	71.0	5.0 5.3	5.1	5.1	4.5 4.4	4.5		8.5 9.5	9.0	
7-Jul-17	Rainy	Moderate	10:53	6.6	Surface	1.0	27.5 27.5	27.5	7.9 7.9	7.9	14.0 14.1	14.0	76.5 76.7	76.6	5.2 5.2	5.2	5.2	4.6 4.7	4.7	4.8	5.4 5.5	5.5	5.8
					Middle	3.3	27.2 27.1	27.1	7.9 7.9	7.9	17.2 18.3	17.7	76.3 76.4	76.4	5.2 5.2	5.2		4.9 5.2	5.1		6.0 5.4	5.7	
					Bottom	5.6	27.1 27.0	27.0	7.9 7.9	7.9	18.3 19.2	18.7	76.6 76.8	76.7	5.2 5.2	5.2	5.2	4.7 4.5	4.6		6.4 6.0	6.2	
10-Jul-17	Sunny	Moderate	15:13	6.6	Surface	1.0	27.8 27.7	27.8	8.0 8.0	8.0	14.0 13.8	13.9	72.5 73.0	72.8	5.3 5.3	5.3	5.3	2.0 2.2	2.1	2.2	4.6 4.6	4.6	3.9
					Middle	3.3	27.5 27.5	27.5	8.0 8.0	8.0	15.2 15.1	15.1	71.0 71.4	71.2	5.2 5.2	5.2		2.1 2.0	2.1		3.4 3.4	3.4	
					Bottom	5.6	27.4 27.3	27.4	8.0 8.0	8.0	15.4 15.6	15.5	70.1 69.4	69.8	5.1 5.0	5.1	5.1	2.4 2.5	2.5		3.7 3.5	3.6	
12-Jul-17	Sunny	Moderate	15:59	6.4	Surface	1.0	28.4 28.4	28.4	8.3 8.3	8.3	15.4 15.4	15.4	92.2 92.7	92.5	6.6 6.6	6.6	6.2	3.0 3.0	3.0	2.6	6.6 7.8	7.2	11.2
					Middle	3.2	26.9 26.9	26.9	8.2 8.2	8.2	21.8 21.8	21.8	81.7 81.2	81.5	5.8 5.7	5.7		2.3 2.1	2.2		9.2 10.0	9.6	
					Bottom	5.4	26.1 26.0	26.1	8.2 8.2	8.2	26.7 26.6	26.6	79.1 78.9	79.0	5.5 5.5	5.5	5.5	2.4 2.5	2.5		16.5 17.3	16.9	
14-Jul-17	Sunny	Moderate	16:51	6.3	Surface	1.0	28.8 28.9	28.9	8.5 8.5	8.5	17.0 17.1	17.1	120.4 124.3	122.4	8.4 8.7	8.6	8.5	4.1 4.1	4.1	4.2	16.8 16.8	16.8	21.1
					Middle	3.2	28.3 28.6	28.5	8.4 8.5	8.4	17.5 17.4	17.5	116.9 119.4	118.2	8.2 8.4	8.3		4.3 4.1	4.2		23.4 22.5	23.0	
					Bottom	5.3	28.7 27.9	28.3	8.5 8.4	8.4	18.7 18.6	18.6	109.7 111.0	110.4	7.7 7.9	7.8	7.8	4.2 4.1	4.2		23.8 23.2	23.5	
17-Jul-17	Cloudy	Moderate	6:31	6.7	Surface	1.1	27.7 27.7	27.7	8.0 8.0	8.0	18.0 18.0	18.0	71.8 72.4	72.1	5.1 5.1	5.1	5.1	2.0 1.8	1.9	2.1	3.4 3.4	3.4	2.8
					Middle	3.4	27.6 27.6	27.6	8.1 8.0	8.1	18.5 18.3	18.4	72.2 71.7	72.0	5.1 5.1	5.1		2.2 2.3	2.3		2.2 2.6	2.4	
					Bottom	5.7	27.6 27.6	27.6	8.0 8.0	8.0	18.4 18.8	18.6	71.6 72.1	71.9	5.1 5.1	5.1	5.1	2.2 2.2	2.2		2.9 2.5	2.7	
19-Jul-17	Sunny	Moderate	8:37	6.4	Surface	1.1	27.6 27.5	27.6	8.0 8.0	8.0	11.7 11.8	11.8	78.7 79.8	79.3	5.8 5.8	5.8	5.8	2.3 2.2	2.3	2.3	3.9 4.5	4.2	4.1
					Middle	3.2	27.4 27.4	27.4	8.0 8.0	8.0	13.2 13.3	13.2	78.0 78.6	78.3	5.7 5.8	5.8		2.2 2.2	2.2		4.7 4.5	4.6	
					Bottom	5.4	27.4 27.4	27.4	8.0 8.0	8.0	14.2 14.4	14.3	77.1 78.1	77.6	5.7 5.7	5.7	5.7	2.4 2.2	2.3		3.3 3.5	3.4	
21-Jul-17	Sunny	Moderate	10:27	6.4	Surface	1.1	28.3 28.3	28.3	8.1 8.1	8.1	14.0 14.1	14.0	71.8 71.4	71.6	5.2 5.1	5.1	5.1	2.5 2.6	2.6	2.5	3.3 4.4	3.9	3.8
					Middle	3.2	27.7 27.7	27.7	8.0 8.0	8.0	16.8 16.7	16.8	70.9 71.3	71.1	5.1 5.1	5.1		2.5 2.5	2.5		3.6 4.2	3.9	
					Bottom	5.4	27.3 27.9	27.6	8.0 8.0	8.0	20.3 17.7	19.0	69.3 70.5	69.9	5.0 5.1	5.0	5.0	2.6 2.4	2.5		3.2 4.1	3.7	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR10A - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	14:21	6.5	Surface	1.0	27.9 28.0	28.0	8.2 8.2	8.2	18.0 17.9	18.0	76.2 75.0	75.6	5.4 5.3	5.3	5.3	1.7 1.8	1.8	1.8	0.5 0.5	0.5	0.9
					Middle	3.3	27.7 27.7	27.7	8.2 8.2	8.2	19.4 19.2	19.3	75.8 74.9	75.4	5.3 5.3	5.3		1.9 1.8	1.9		0.5 0.5	0.5	
					Bottom	5.5	27.8 27.6	27.7	8.2 8.2	8.2	22.4 20.5	21.4	74.5 72.3	73.4	5.3 5.1	5.2	5.2	1.8 1.8	1.8		1.5 1.7	1.6	
26-Jul-17	Sunny	Moderate	15:45	6.6	Surface	1.0	29.6 29.5	29.6	8.2 8.2	8.2	19.1 19.2	19.1	81.4 81.9	81.7	5.7 5.8	5.7	5.7	5.9 6.1	6.0	6.2	4.6 4.9	4.8	4.8
					Middle	3.3	28.8 29.2	29.0	8.2 8.2	8.2	19.6 19.5	19.5	80.4 81.8	81.1	5.7 5.8	5.7		6.4 6.1	6.3		4.5 5.2	4.9	
					Bottom	5.6	29.2 28.4	28.8	8.2 8.2	8.2	20.3 21.0	20.6	80.4 78.1	79.3	5.7 5.5	5.6	5.6	6.4 6.5	6.5		4.8 4.9	4.9	
28-Jul-17	Sunny	Moderate	17:38	6.6	Surface	1.0	29.6 29.5	29.6	8.2 8.2	8.2	19.3 19.6	19.4	75.1 75.6	75.4	5.2 5.2	5.2	5.1	6.5 6.7	6.6	7.4	4.4 4.2	4.3	5.2
					Middle	3.3	28.8 28.9	28.9	8.2 8.2	8.2	20.9 20.9	20.9	73.5 73.3	73.4	5.1 5.1	5.1		7.4 7.5	7.5		6.4 5.9	6.2	
					Bottom	5.6	28.3 28.4	28.4	8.1 8.1	8.1	23.0 23.0	23.0	73.5 72.7	73.1	5.0 5.0	5.0	5.0	8.0 8.2	8.1		4.7 5.6	5.2	
31-Jul-17	Cloudy	Moderate	6:41	6.5	Surface	1.0	29.5 29.5	29.5	8.1 8.1	8.1	21.0 21.1	21.0	78.8 79.0	78.9	5.4 5.4	5.4	5.3	4.2 4.4	4.3	4.5	5.8 6.0	5.9	5.7
					Middle	3.3	29.4 29.4	29.4	8.1 8.1	8.1	22.1 21.8	22.0	78.6 78.8	78.7	5.3 5.3	5.3		4.5 4.5	4.5		5.2 4.5	4.9	
					Bottom	5.5	29.4 29.4	29.4	8.1 8.1	8.1	22.5 23.2	22.9	78.5 77.9	78.2	5.3 5.3	5.3	5.3	4.5 4.6	4.6		5.9 6.8	6.4	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS4 and CS(Mf)3 are considered as upstream contol stations of mid-ebb tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR10A - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	16:11	6.5	Surface	1.0	28.4 28.4	28.4	8.2 8.2	8.2	13.2 13.2	13.2	89.2 88.7	89.0	6.4 6.4	6.4	6.4	3.4 3.4	3.4		6.2 6.2	6.2	
					Middle	3.3	28.4 28.4	28.4	8.2 8.2	8.2	14.0 14.1	14.1	87.0 89.0	88.0	6.3 6.4	6.3		3.2 3.4	3.3	3.3	5.5 6.0	5.8	6.3
					Bottom	5.5	28.4 28.2	28.3	8.2 8.2	8.2	15.5 15.6	15.5	88.0 87.6	87.8	6.3 6.3	6.3	6.3	3.4 3.2	3.3		7.2 6.3	6.8	
5-Jul-17	Cloudy	Moderate	18:31	6.7	Surface	1.1	28.2 28.5	28.3	8.1 8.1	8.1	14.5 14.5	14.5	77.4 75.0	76.2	5.4 5.4	5.4	5.3	2.0 1.9	2.0		3.3 4.2	3.8	
					Middle	3.4	27.4 28.1	27.7	8.0 8.1	8.0	18.0 15.9	16.9	73.7 73.7	73.7	5.3 5.2	5.2		2.3 2.1	2.2	2.1	5.7 4.5	5.1	4.9
					Bottom	5.7	27.0 26.8	26.9	8.0 8.0	8.0	23.0 23.2	23.1	72.9 70.6	71.8	5.2 5.1	5.1	5.1	2.1 2.1	2.1		5.8 5.8	5.8	
7-Jul-17	Rainy	Moderate	20:10	6.3	Surface	1.0	27.6 27.6	27.6	7.9 7.9	7.9	11.8 12.0	11.9	77.8 78.2	78.0	5.3 5.3	5.3	5.2	4.0 3.8	3.9		6.2 5.9	6.1	
					Middle	3.1	27.6 27.6	27.6	7.9 7.9	7.9	13.6 13.8	13.7	76.1 76.2	76.2	5.2 5.2	5.2		3.4 3.6	3.5	3.8	6.3 5.7	6.0	5.9
					Bottom	5.3	27.5 27.6	27.6	7.9 7.9	7.9	14.1 14.0	14.0	76.0 76.3	76.2	5.2 5.2	5.2	5.2	4.0 3.8	3.9		5.2 5.8	5.5	
10-Jul-17	Sunny	Moderate	05:59	6.6	Surface	1.0	27.5 27.5	27.5	8.0 8.1	8.0	13.6 14.1	13.9	79.0 74.8	76.9	6.1 5.8	5.9	5.7	1.6 1.5	1.6		5.0 5.4	5.2	
					Middle	3.3	26.4 25.9	26.1	8.0 8.0	8.0	21.6 22.9	22.3	74.9 70.8	72.9	5.6 5.4	5.5		1.6 1.5	1.6	1.6	4.1 4.5	4.3	6.0
					Bottom	5.6	25.5 25.7	25.6	7.9 7.9	7.9	28.3 28.0	28.2	72.2 76.1	74.2	5.4 5.6	5.5	5.5	1.6 1.5	1.6		8.3 8.5	8.4	
12-Jul-17	Sunny	Moderate	07:08	6.6	Surface	1.0	27.5 27.6	27.6	8.1 8.1	8.1	17.5 17.5	17.5	76.6 76.8	76.7	5.5 5.5	5.5	5.4	3.7 3.5	3.6		11.5 10.1	10.8	
					Middle	3.3	26.2 26.2	26.2	8.0 8.0	8.0	22.7 22.8	22.8	72.7 72.5	72.6	5.2 5.1	5.2		4.0 4.1	4.1	4.0	15.2 16.7	16.0	14.8
					Bottom	5.6	25.9 25.9	25.9	8.0 8.0	8.0	24.8 24.8	24.8	71.3 71.3	71.3	5.0 5.0	5.0	5.0	4.3 4.5	4.4		17.6 17.5	17.6	
14-Jul-17	Sunny	Moderate	08:46	6.6	Surface	1.0	27.6 27.6	27.6	8.1 8.1	8.1	18.1 18.2	18.2	74.5 72.8	73.7	5.3 5.1	5.2	5.2	1.5 1.5	1.5		6.5 7.2	6.9	
					Middle	3.3	26.9 27.3	27.1	8.1 8.1	8.1	22.1 21.1	21.6	71.9 72.2	72.1	5.1 5.1	5.1		1.5 1.5	1.5	1.5	6.6 6.4	6.5	9.5
					Bottom	5.6	26.2 26.1	26.1	8.0 8.1	8.0	27.4 27.3	27.3	71.1 69.0	70.1	4.9 4.9	4.9	4.9	1.6 1.5	1.6		15.6 14.8	15.2	
17-Jul-17	Cloudy	Moderate	13:30	6.4	Surface	1.0	27.7 27.7	27.7	8.2 8.2	8.2	16.4 16.4	16.4	82.9 83.8	83.4	6.0 6.0	6.0	6.0	2.5 2.4	2.5		0.5 0.5	0.5	
					Middle	3.2	27.7 27.7	27.7	8.2 8.2	8.2	17.4 17.4	17.4	82.9 83.5	83.2	5.9 5.9	5.9		2.8 2.8	2.8	2.7	1.7 1.6	1.7	1.3
					Bottom	5.4	27.7 27.7	27.7	8.2 8.2	8.2	19.3 19.5	19.4	83.2 82.2	82.7	5.9 5.9	5.9	5.9	2.8 2.8	2.8		1.9 1.5	1.7	
19-Jul-17	Sunny	Moderate	16:42	6.5	Surface	1.1	27.9 27.9	27.9	8.1 8.1	8.1	11.9 11.8	11.9	74.4 74.1	74.3	5.5 5.4	5.4	5.4	2.4 2.5	2.5		1.5 1.6	1.6	
					Middle	3.3	27.4 27.4	27.4	8.1 8.1	8.1	14.8 14.8	14.8	73.8 73.9	73.9	5.3 5.4	5.4		2.5 2.6	2.6	2.6	1.5 1.5	1.5	1.5
					Bottom	5.5	27.4 27.3	27.4	8.1 8.1	8.1	16.2 15.9	16.1	72.4 72.3	72.4	5.3 5.3	5.3	5.3	2.7 2.6	2.7		1.6 1.5	1.6	
21-Jul-17	Sunny	Moderate	18:50	6.5	Surface	1.2	28.7 28.7	28.7	8.3 8.3	8.3	17.1 17.0	17.1	95.0 89.9	92.5	6.7 6.3	6.5	6.4	1.9 2.0	2.0		1.8 1.6	1.7	
					Middle	3.3	28.6 28.4	28.5	8.3 8.2	8.3	17.3 17.3	17.3	92.3 85.0	88.7	6.5 6.0	6.2		2.5 2.6	2.6	2.6	0.8 0.8	0.8	2.0
					Bottom	5.5	28.2 27.6	27.9	8.3 8.2	8.2	18.3 18.6	18.5	73.5 70.6	72.1	5.2 5.0	5.1	5.1	3.1 3.2	3.2		3.8 3.1	3.5	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR10A - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	6:00	6.3	Surface	1.2	27.1 27.2	27.1	8.2 8.2	8.2	22.9 23.1	23.0	76.1 76.0	76.1	5.5 5.5	5.5	5.4	1.6 1.8	1.7	1.8	2.8 2.2	2.5	2.7
					Middle	3.2	26.8 26.8	26.8	8.2 8.1	8.2	24.9 25.2	25.1	75.0 75.0	75.0	5.4 5.4	5.4		1.8 1.8	1.8		3.1 2.5	2.8	
					Bottom	5.3	26.6 26.6	26.6	8.1 8.1	8.1	26.6 26.6	26.6	74.3 73.9	74.1	5.3 5.3	5.3	5.3	1.7 1.8	1.8		2.7 2.7	2.7	
26-Jul-17	Sunny	Moderate	7:35	6.7	Surface	1.0	27.8 27.9	27.8	8.1 8.1	8.1	21.6 21.3	21.4	70.8 70.9	70.9	5.2 5.2	5.2	5.2	4.7 4.7	4.7	4.6	3.3 3.5	3.4	4.5
					Middle	3.3	27.3 27.3	27.3	8.1 8.1	8.1	25.7 25.8	25.7	70.3 70.1	70.2	5.1 5.1	5.1		4.6 4.7	4.7		4.5 3.7	4.1	
					Bottom	5.7	27.2 27.5	27.4	8.1 8.1	8.1	27.1 26.5	26.8	68.9 69.4	69.2	5.1 5.1	5.1	5.1	4.5 4.5	4.5		6.6 5.1	5.9	
28-Jul-17	Sunny	Moderate	9:01	6.6	Surface	1.1	28.9 29.0	28.9	8.1 8.1	8.1	18.9 19.0	18.9	80.0 78.6	79.3	5.5 5.4	5.5	5.4	4.8 4.9	4.9	4.8	3.5 4.4	4.0	4.3
					Middle	3.3	28.6 28.5	28.5	8.1 8.1	8.1	20.0 20.1	20.1	78.1 76.9	77.5	5.4 5.3	5.3		4.7 4.9	4.8		4.3 4.8	4.6	
					Bottom	5.6	28.4 27.5	27.9	8.0 8.0	8.0	27.1 28.6	27.9	78.1 76.4	77.3	5.3 5.2	5.2	5.2	4.8 4.6	4.7		4.6 4.4	4.5	
31-Jul-17	Cloudy	Moderate	14:06	6.7	Surface	1.1	29.8 29.7	29.8	8.3 8.3	8.3	19.4 19.6	19.5	98.5 97.1	97.8	6.7 6.6	6.6	6.6	4.3 4.3	4.3	4.4	4.9 5.1	5.0	6.0
					Middle	3.3	29.7 29.7	29.7	8.3 8.3	8.3	20.6 20.8	20.7	96.6 97.6	97.1	6.6 6.7	6.6		4.5 4.4	4.5		6.1 5.3	5.7	
					Bottom	5.7	29.7 29.7	29.7	8.3 8.3	8.3	22.4 22.5	22.5	97.5 93.4	95.5	6.6 6.3	6.4	6.4	4.5 4.5	4.5		7.3 7.5	7.4	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS6, CSA and CS(Mf)5 are considered as upstream contol stations of mid-flood tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR7 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (^{o}C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	09:31	4.2	Surface	1.0	28.3 28.2	28.2	7.6 7.6	7.6	8.0 8.0	8.0	77.2 77.7	77.5	5.7 5.7	5.7	5.7	5.2 5.5	5.4	6.1	6.5 5.9	6.2	6.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	27.7 27.6	27.6	7.6 7.6	7.6	16.7 16.7	16.7	77.0 78.9	78.0	5.7 5.8	5.7	5.7	6.6 6.9	6.8		5.5 5.8	5.7	
5-Jul-17	Cloudy	Moderate	9:55	4.2	Surface	1.0	28.6 28.4	28.5	8.0 8.0	8.0	11.8 13.8	12.8	80.4 80.3	80.4	5.9 5.9	5.9	5.9	8.5 8.6	8.6	8.7	6.1 6.7	6.4	8.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	28.5 28.6	28.6	8.0 8.0	8.0	11.1 14.9	13.0	79.1 79.7	79.4	5.8 5.8	5.8	5.8	8.9 8.7	8.8		11.9 10.4	11.2	
7-Jul-17	Rainy	Moderate	11:09	4.1	Surface	1.1	27.4 27.5	27.5	7.9 7.9	7.9	10.7 10.4	10.5	69.4 68.8	69.1	5.3 5.2	5.3	5.3	5.7 5.8	5.8	6.0	6.6 7.0	6.8	7.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	27.5 27.4	27.4	7.9 7.9	7.9	15.1 14.7	14.9	69.7 70.1	69.9	5.2 5.2	5.2	5.2	6.1 6.3	6.2		7.8 6.9	7.4	
10-Jul-17	Sunny	Moderate	13:48	3.8	Surface	1.0	27.7 27.5	27.6	7.9 7.9	7.9	12.6 11.5	12.1	73.5 73.7	73.6	5.5 5.5	5.5	5.5	6.3 6.4	6.4	6.6	4.9 4.4	4.7	4.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.8	27.4 27.4	27.4	7.9 7.8	7.9	14.0 15.0	14.5	73.6 73.0	73.3	5.4 5.4	5.4	5.4	6.7 6.6	6.7		4.5 4.4	4.5	
12-Jul-17	Sunny	Moderate	14:57	3.8	Surface	1.0	27.9 27.5	27.7	8.0 8.0	8.0	15.2 17.3	16.3	84.1 83.1	83.6	5.8 5.8	5.8	5.8	4.1 4.1	4.1	4.2	11.2 10.9	11.1	12.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.8	27.3 27.5	27.4	7.9 8.0	7.9	18.5 17.4	18.0	82.1 82.5	82.3	5.7 5.7	5.7	5.7	4.3 4.2	4.3		13.8 13.5	13.7	
14-Jul-17	Sunny	Moderate	16:11	3.9	Surface	1.0	28.6 28.1	28.3	8.2 8.1	8.2	14.9 15.6	15.3	111.3 111.9	111.6	8.0 7.9	7.9	7.9	3.6 3.5	3.6	3.8	11.8 12.0	11.9	13.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.9	27.7 28.2	28.0	8.1 8.1	8.1	19.1 15.5	17.3	109.9 108.3	109.1	7.8 7.8	7.8	7.8	3.9 3.8	3.9		14.2 13.7	14.0	
17-Jul-17	Cloudy	Moderate	6:21	4.1	Surface	1.1	27.8 27.7	27.8	7.9 7.9	7.9	11.3 11.6	11.5	90.3 90.4	90.4	6.6 6.6	6.6	6.6	2.4 2.3	2.4	2.6	4.9 3.5	4.2	3.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	27.7 27.7	27.7	7.9 7.9	7.9	14.8 13.9	14.4	88.5 88.9	88.7	6.5 6.6	6.5	6.5	2.8 2.9	2.9		3.6 3.4	3.5	
19-Jul-17	Sunny	Moderate	8:32	4.2	Surface	1.1	27.8 27.6	27.7	7.8 7.8	7.8	11.7 11.5	11.6	73.1 74.0	73.6	5.5 5.4	5.5	5.5	4.2 4.2	4.2	4.3	4.9 4.6	4.8	4.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	27.4 27.4	27.4	7.8 7.8	7.8	13.1 13.3	13.2	71.9 73.7	72.8	5.4 5.4	5.4	5.4	4.5 4.4	4.5		4.8 3.2	4.0	
21-Jul-17	Sunny	Moderate	10:49	3.8	Surface	1.0	28.6 28.6	28.6	8.1 8.1	8.1	13.4 13.4	13.4	83.9 83.4	83.7	6.1 6.0	6.0	6.0	2.6 2.8	2.7	2.9	0.5 0.7	0.6	0.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.8	28.2 28.5	28.4	8.0 8.1	8.1	14.7 14.6	14.7	83.7 83.9	83.8	6.0 6.0	6.0	6.0	3.1 3.0	3.1		0.9 1.0	1.0	

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR7 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	13:33	3.9	Surface	1.0	27.4 27.4	27.4	7.9 7.9	7.9	21.4 21.1	21.2	75.3 75.3	75.3	5.4 5.4	5.4	5.4	4.3 4.0	4.2	4.4	1.4 1.8	1.6	1.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.9	27.3 27.2	27.3	7.9 7.9	7.9	21.8 22.3	22.0	75.4 74.7	75.1	5.4 5.4	5.4	5.4	4.8 4.5	4.7		1.2 1.5	1.4	
26-Jul-17	Sunny	Moderate	15:05	3.7	Surface	1.1	29.2 29.1	29.1	8.1 8.1	8.1	17.3 17.3	17.3	73.0 73.3	73.2	5.4 5.4	5.4	5.4	6.5 6.6	6.6	6.7	2.8 3.2	3.0	3.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	28.9 28.8	28.9	8.1 8.1	8.1	19.1 19.6	19.4	71.6 71.7	71.7	5.4 5.4	5.4	5.4	6.8 6.8	6.8		4.8 4.6	4.7	
28-Jul-17	Sunny	Moderate	16:44	4.0	Surface	1.1	29.8 29.7	29.7	7.8 7.8	7.8	18.8 18.9	18.8	78.3 78.1	78.2	5.4 5.3	5.4	5.4	5.5 5.4	5.5	5.7	7.9 8.6	8.3	7.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.0	29.7 29.4	29.5	7.8 7.8	7.8	20.2 20.5	20.3	78.0 77.9	78.0	5.3 5.3	5.3	5.3	5.9 5.8	5.9		7.0 7.1	7.1	
31-Jul-17	Cloudy	Moderate	6:19	4.1	Surface	1.0	29.6 29.6	29.6	7.9 7.9	7.9	15.2 15.2	15.2	80.5 80.7	80.6	5.5 5.7	5.6	5.6	4.0 3.8	3.9	4.0	4.7 4.5	4.6	4.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	29.5 29.4	29.5	7.8 7.9	7.9	18.5 19.5	19.0	79.4 76.0	77.7	5.6 5.2	5.4	5.4	4.1 4.1	4.1		4.5 4.9	4.7	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS4 and CS(Mf)3 are considered as upstream contol stations of mid-ebb tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR7 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
3-Jul-17	Cloudy	Moderate	15:25	4.1	Surface	1.0	28.2 28.2	28.2	7.7 7.7	7.7	9.5 9.4	9.4	76.3 76.6	76.5	5.6 5.6	5.6	5.6	4.0 4.0	4.0	4.1	6.5 6.3	6.4	7.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	28.2 28.2	28.2	7.7 7.7	7.7	11.6 11.5	11.5	76.3 76.1	76.2	5.6 5.6	5.6	5.6	4.1 4.2	4.2		8.6 7.1	7.9	
5-Jul-17	Cloudy	Moderate	18:31	4.2	Surface	1.0	28.0 28.4	28.2	8.0 8.0	8.0	13.4 13.3	13.4	77.2 77.1	77.2	5.5 5.5	5.5	5.5	8.4 8.5	8.5	8.6	6.0 4.9	5.5	6.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	28.3 28.4	28.3	7.9 7.9	7.9	16.7 14.6	15.7	76.7 75.0	75.9	5.5 5.5	5.5	5.5	8.8 8.7	8.8		6.9 6.2	6.6	
7-Jul-17	Rainy	Moderate	19:40	4.2	Surface	1.0	27.5 27.6	27.5	7.8 7.8	7.8	11.9 12.5	12.2	68.1 67.2	67.7	5.1 5.1	5.1	5.1	7.9 7.8	7.9	8.1	12.4 13.0	12.7	13.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	27.4 27.6	27.5	7.7 7.8	7.8	12.8 11.7	12.3	67.2 67.1	67.2	5.1 5.1	5.1	5.1	8.2 8.3	8.3		13.3 13.4	13.4	
10-Jul-17	Sunny	Moderate	06:36	3.9	Surface	1.0	27.5 27.5	27.5	8.0 8.0	8.0	12.9 13.4	13.2	74.3 74.3	74.3	5.4 5.4	5.4	5.4	5.2 5.2	5.2	5.5	10.3 9.1	9.7	10.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.9	27.3 27.2	27.3	8.0 8.1	8.0	14.4 15.1	14.8	74.2 74.3	74.3	5.4 5.4	5.4	5.4	5.7 5.6	5.7		11.8 11.6	11.7	
12-Jul-17	Sunny	Moderate	07:53	4.0	Surface	1.0	27.8 28.1	27.9	7.9 8.0	8.0	14.4 14.2	14.3	88.6 88.3	88.5	6.2 6.1	6.1	6.1	5.2 5.4	5.3	5.5	11.0 11.2	11.1	12.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.0	26.9 27.4	27.2	7.9 7.9	7.9	20.4 19.2	19.8	87.3 87.0	87.2	6.1 6.0	6.1	6.1	5.6 5.5	5.6		14.8 14.3	14.6	
14-Jul-17	Sunny	Moderate	09:17	4.1	Surface	1.0	27.9 28.0	27.9	8.1 8.1	8.1	16.7 16.7	16.7	102.0 102.5	102.3	7.3 7.3	7.3	7.3	4.6 4.4	4.5	4.7	15.2 15.2	15.2	16.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	27.8 27.8	27.8	8.1 8.1	8.1	17.2 17.8	17.5	101.7 101.6	101.7	7.3 7.2	7.3	7.3	4.7 4.8	4.8		18.2 17.4	17.8	
17-Jul-17	Cloudy	Moderate	13:30	4.3	Surface	1.0	27.7 27.8	27.7	7.9 7.9	7.9	14.3 11.7	13.0	87.3 86.8	87.1	6.4 6.4	6.4	6.4	4.3 4.2	4.3	4.4	4.0 2.8	3.4	3.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.3	27.6 27.8	27.7	7.8 7.9	7.9	15.2 12.7	13.9	87.4 86.7	87.1	6.3 6.4	6.3	6.3	4.5 4.7	4.6		3.7 3.1	3.4	
19-Jul-17	Sunny	Moderate	16:29	4.2	Surface	1.1	27.3 27.5	27.4	8.0 8.1	8.1	16.0 14.8	15.4	70.8 71.1	71.0	5.2 5.3	5.3	5.3	5.4 5.5	5.5	5.6	4.8 4.2	4.5	4.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	27.2 27.2	27.2	8.0 8.0	8.0	16.7 16.9	16.8	70.2 69.7	70.0	5.2 5.1	5.1	5.1	5.7 5.8	5.8		4.1 3.4	3.8	
21-Jul-17	Sunny	Moderate	17:53	4.1	Surface	1.0	28.0 28.1	28.0	7.9 7.9	7.9	15.4 15.5	15.5	79.6 82.1	80.9	5.6 5.7	5.6	5.7	2.8 3.0	2.9	3.0	5.6 4.5	5.1	5.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	27.9 27.4	27.6	7.9 7.9	7.9	18.2 18.8	18.5	80.9 78.8	79.9	5.6 5.5	5.5	5.5	3.0 3.2	3.1		7.2 6.4	6.8	

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

Appendix J - Marine Water Quality Monitoring Results

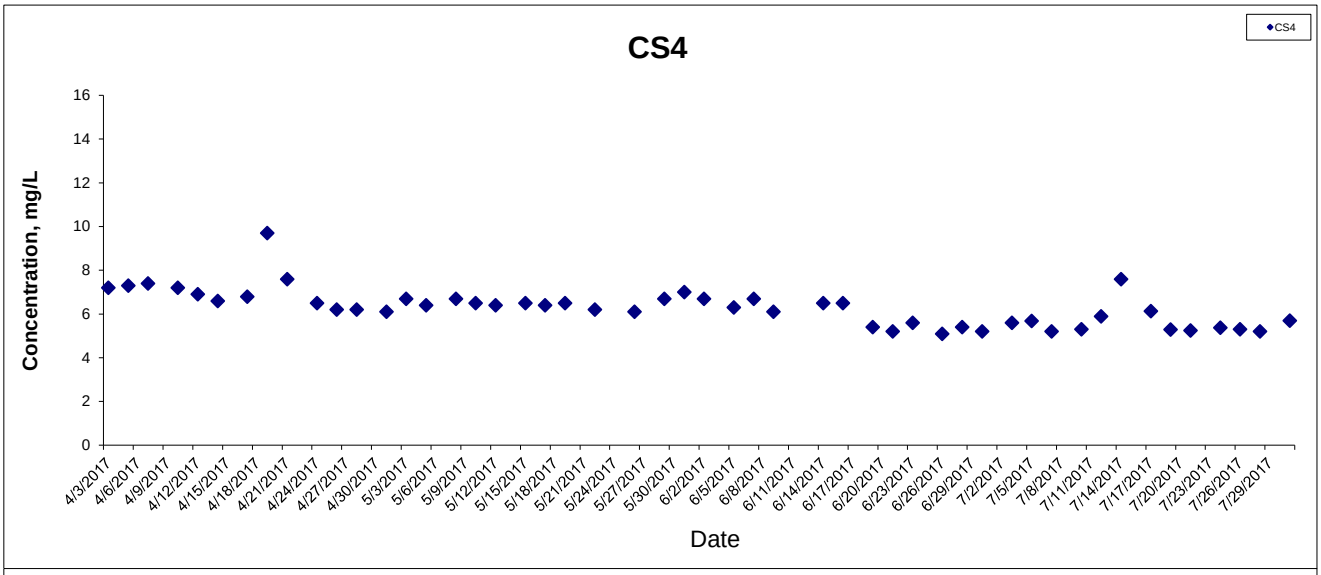
Water Quality Monitoring Results at SR7 - Mid-FloodTide

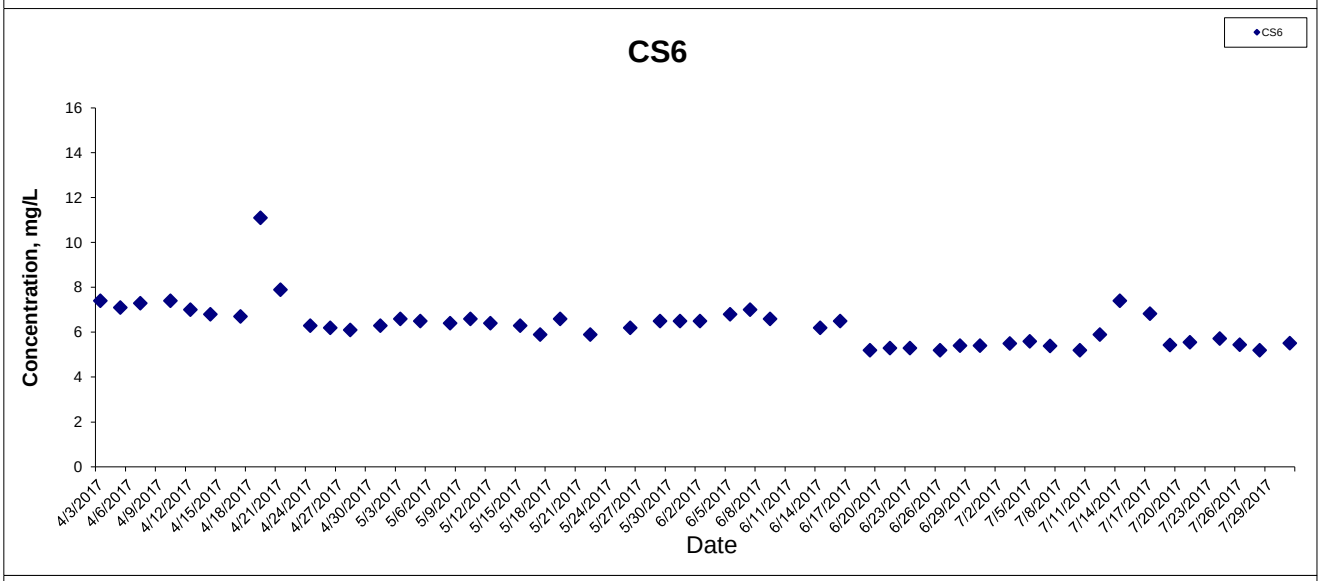
Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
24-Jul-17	Fine	Moderate	6:41	3.8	Surface	1.0	27.4 27.5	27.4	7.9 7.9	7.9	20.2 20.0	20.1	88.9 83.5	86.2	6.4 6.0	6.2	6.2	2.8 2.9	2.9	2.9	2.1 2.7	2.4	2.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.8	27.2 27.2	27.2	7.9 7.9	7.9	23.5 23.5	23.5	81.0 77.4	79.2	5.8 5.6	5.7	5.7	3.0 2.9	3.0		2.5 2.3	2.4	
26-Jul-17	Sunny	Moderate	7:58	3.9	Surface	1.0	28.2 28.2	28.2	7.9 7.9	7.9	18.9 18.8	18.9	70.1 71.6	70.9	5.1 5.3	5.2	5.2	4.2 4.3	4.3	4.4	5.0 5.8	5.4	5.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.9	28.2 27.6	27.9	7.9 7.8	7.9	19.3 24.9	22.1	69.4 69.2	69.3	5.1 5.1	5.1	5.1	4.5 4.6	4.6		6.4 5.9	6.2	
28-Jul-17	Sunny	Moderate	9:42	4.2	Surface	1.1	28.3 28.3	28.3	7.8 7.8	7.8	21.3 21.3	21.3	76.0 76.9	76.5	5.4 5.4	5.4	5.4	7.1 7.2	7.2	7.5	6.8 7.2	7.0	7.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	28.3 28.3	28.3	7.8 7.8	7.8	21.4 21.3	21.3	75.9 76.2	76.1	5.2 5.3	5.3	5.3	7.8 7.7	7.8		6.4 7.8	7.1	
31-Jul-17	Cloudy	Moderate	13:59	4.1	Surface	1.1	29.6 29.6	29.6	8.0 8.0	8.0	16.2 15.6	15.9	83.7 84.1	83.9	5.8 5.9	5.8	5.8	4.3 4.2	4.3	4.5	4.8 4.6	4.7	5.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	29.6 29.5	29.5	8.0 7.9	8.0	18.0 18.5	18.2	81.4 82.3	81.9	5.7 5.7	5.7	5.7	4.8 4.7	4.8		6.5 5.9	6.2	

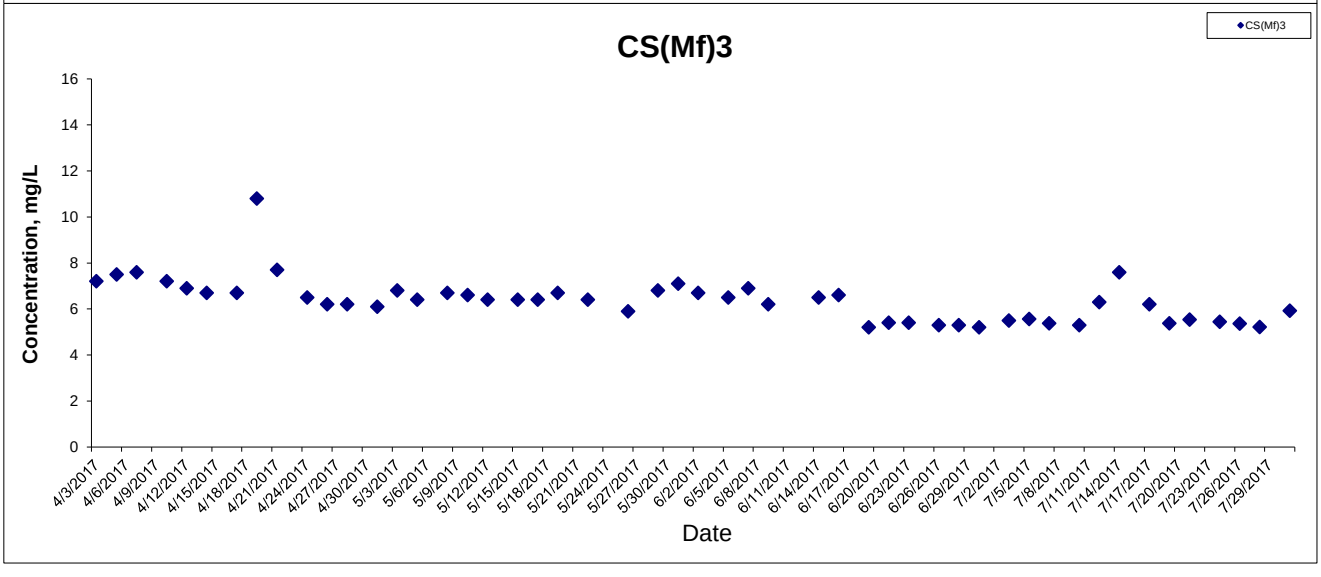
Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
CS6, CSA and CS(Mf)5 are considered as upstream contol stations of mid-flood tide. The averaged turbidity and suspended solid values of these stations will be used for determination of Action and Limit Levels.

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

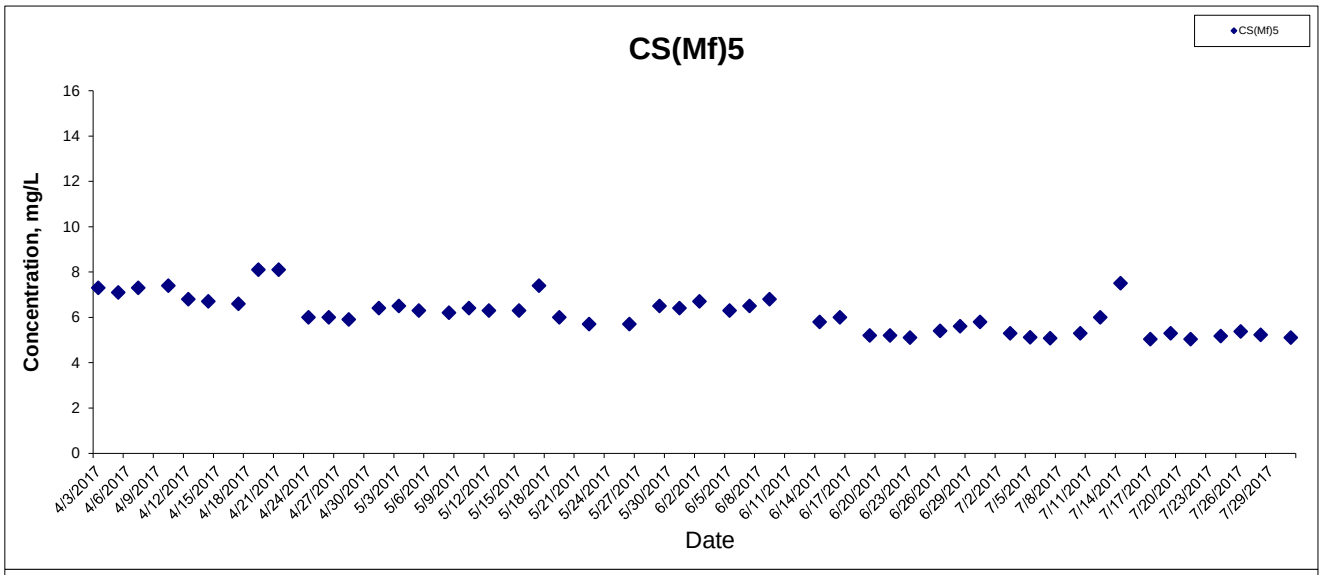
Dissolved Oxygen (Surface & Middle) at Mid-Ebb Tide

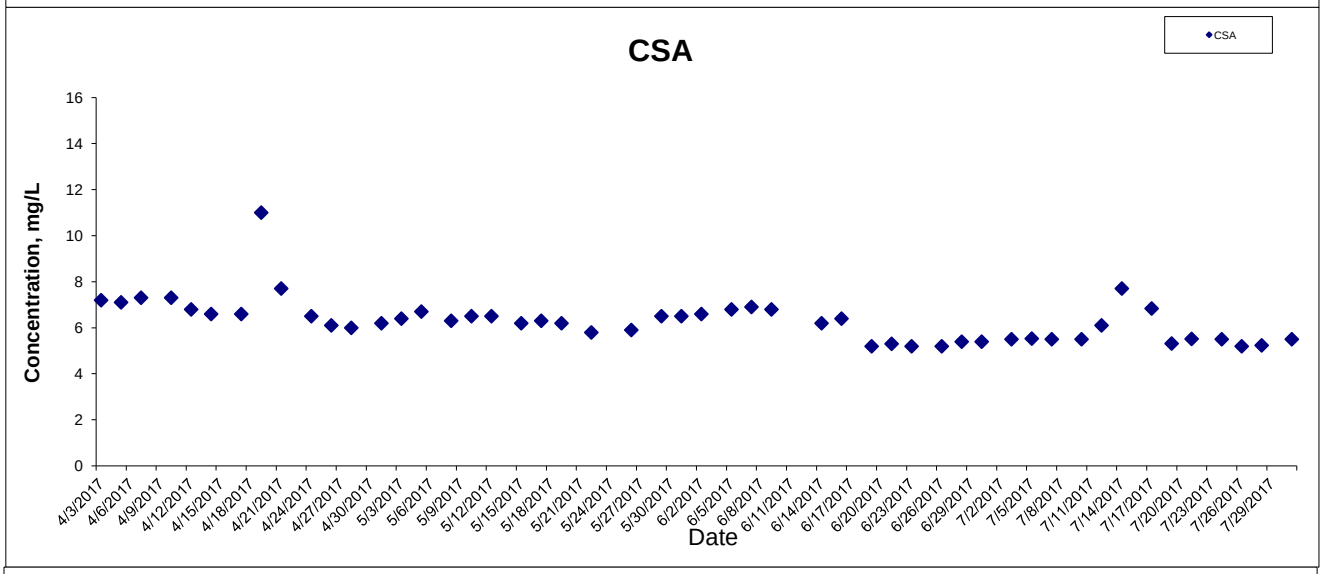


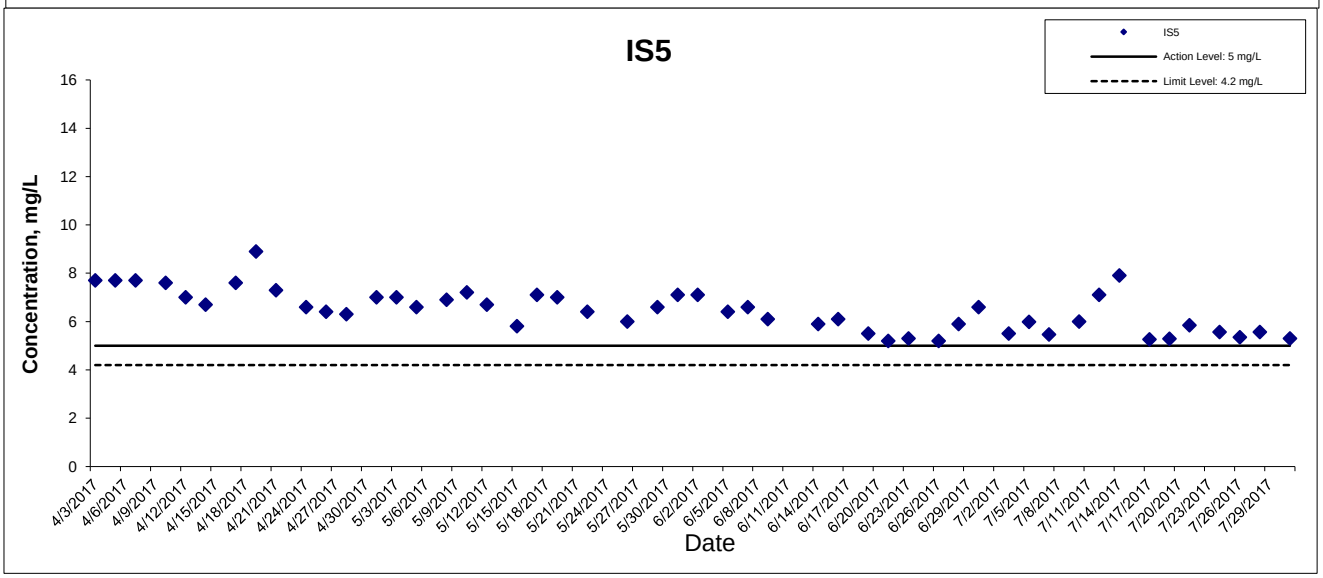




Dissolved Oxygen (Surface & Middle) at Mid-Ebb Tide







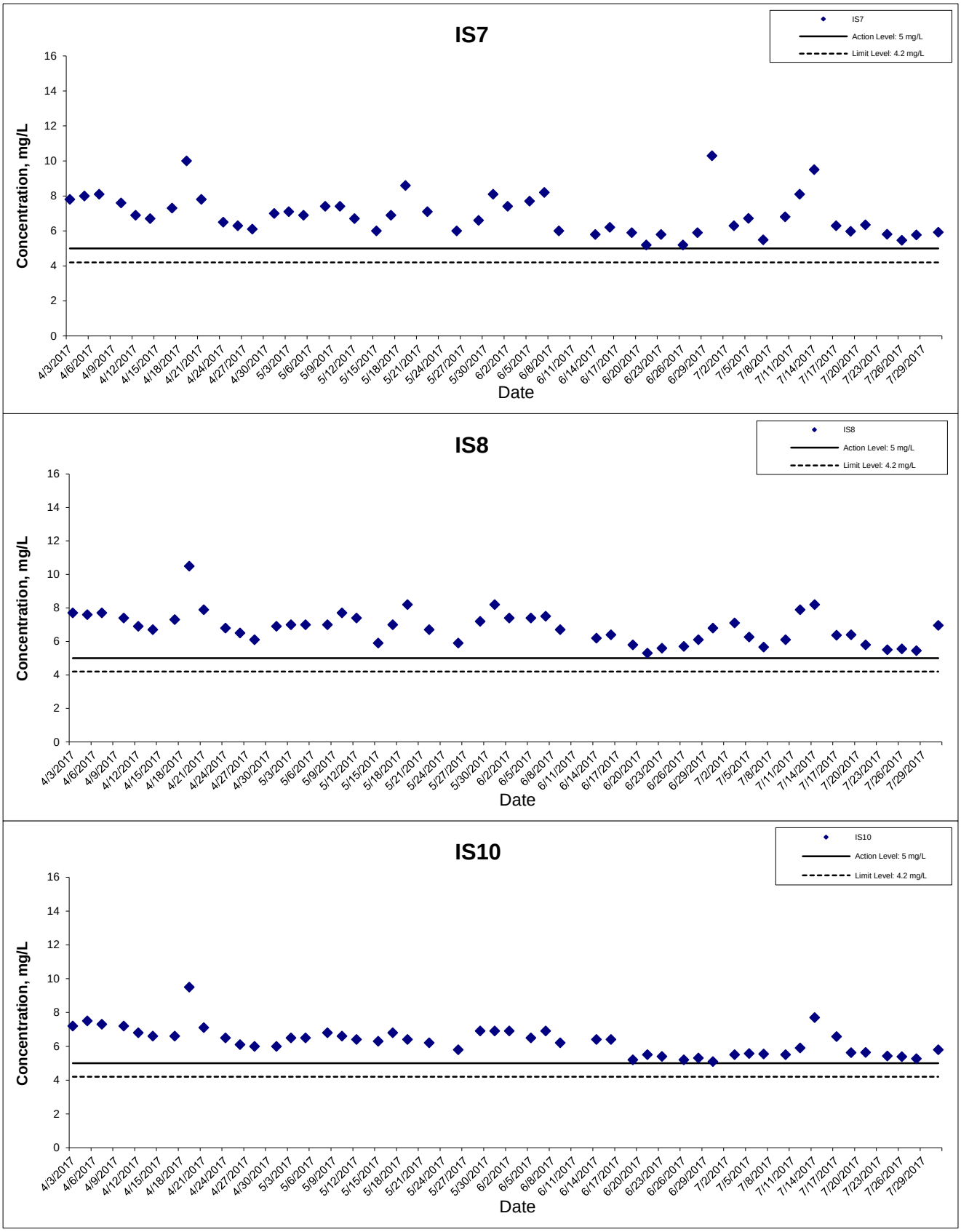
HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

Graphical Presentation of Impact Water Quality Monitoring Results

Project No.: 60249820 **Date: Aug 2017**

Appendix J

Dissolved Oxygen (Surface & Middle) at Mid-Ebb Tide



HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

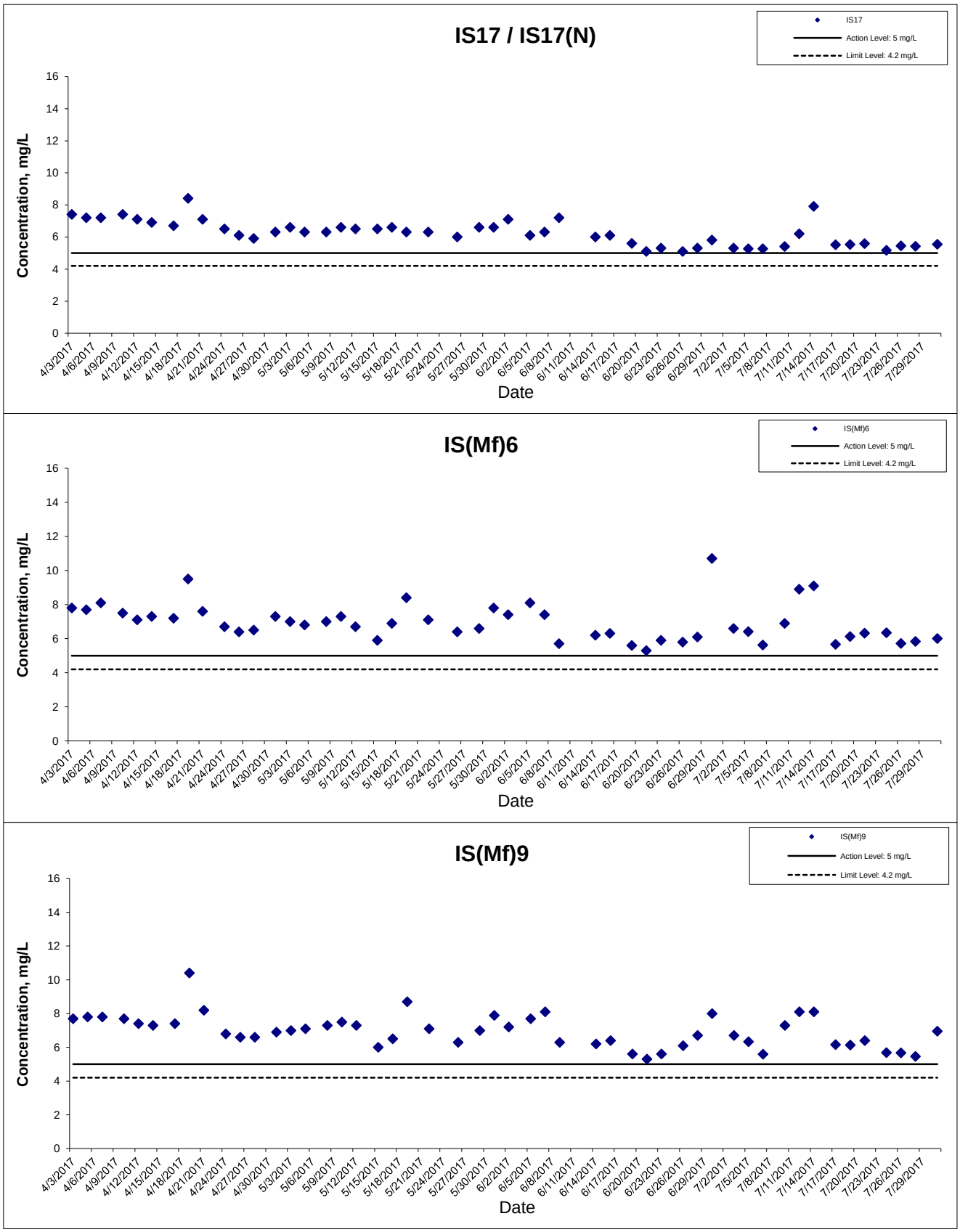
AECOM

Graphical Presentation of Impact Water Quality Monitoring Results

Project No.: 60249820 **Date: Aug 2017**

Appendix J

Dissolved Oxygen (Surface & Middle) at Mid-Ebb Tide

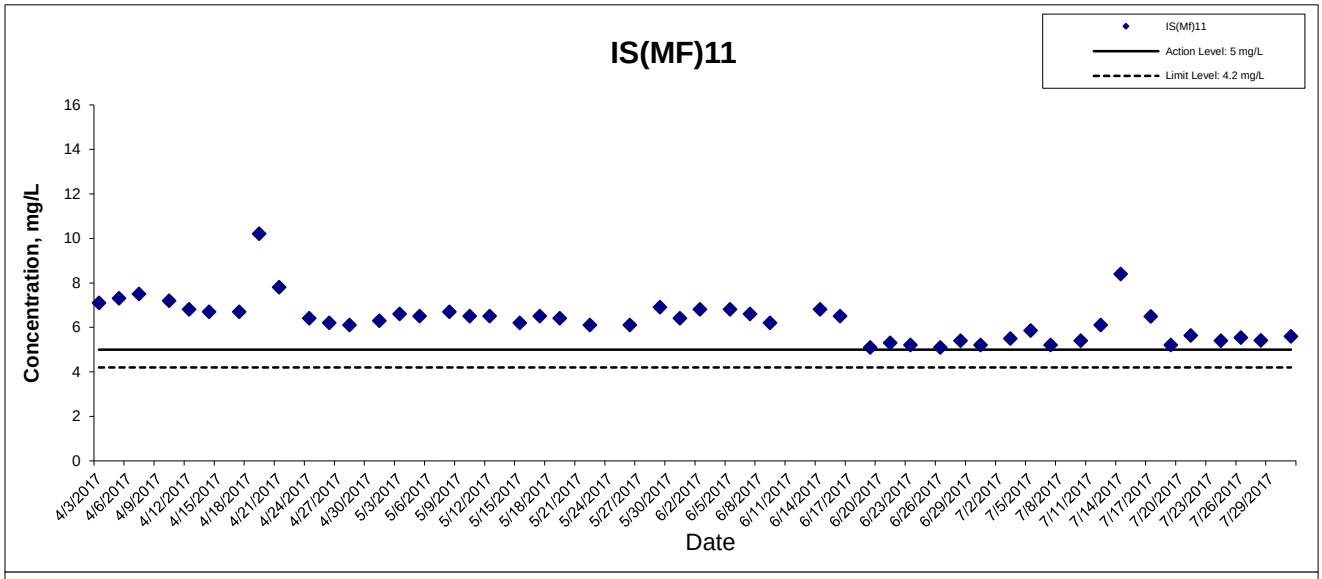


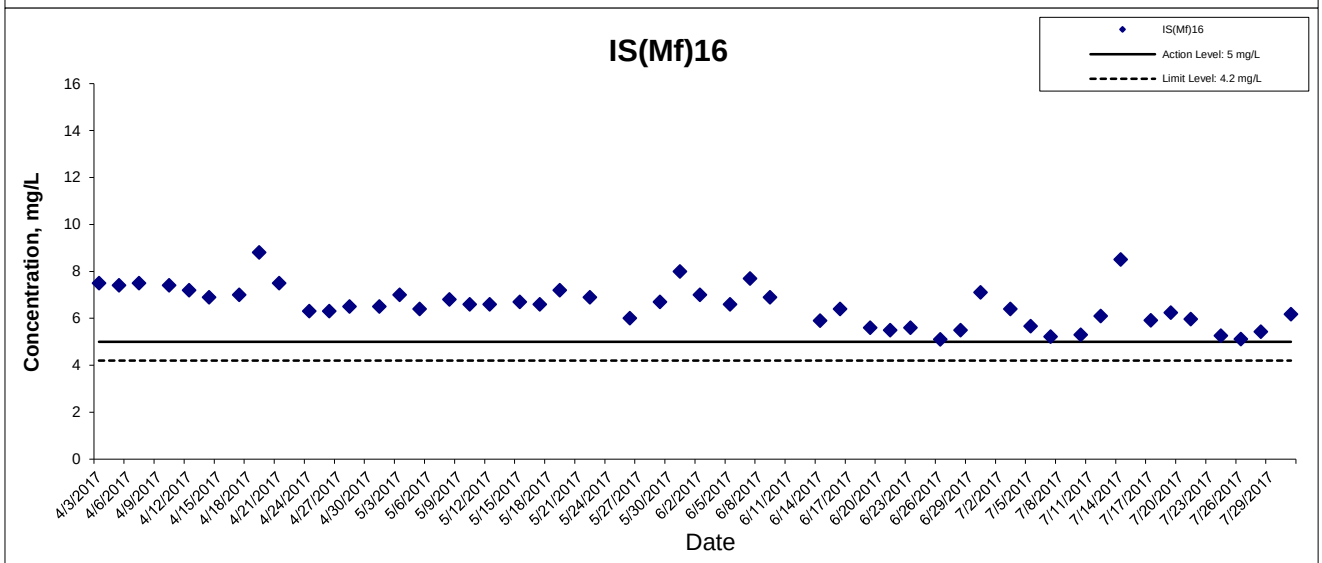
HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

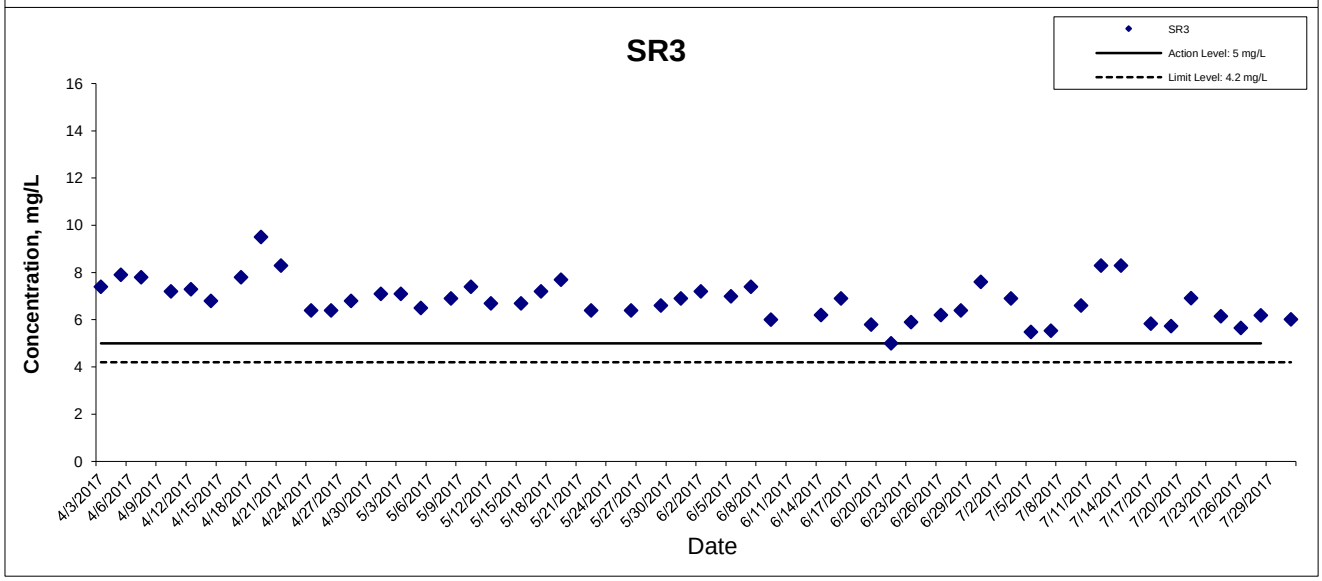
Graphical Presentation of Impact Water Quality Monitoring Results

Project No.: 60249820 **Date: Aug 2017**

Appendix J







HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

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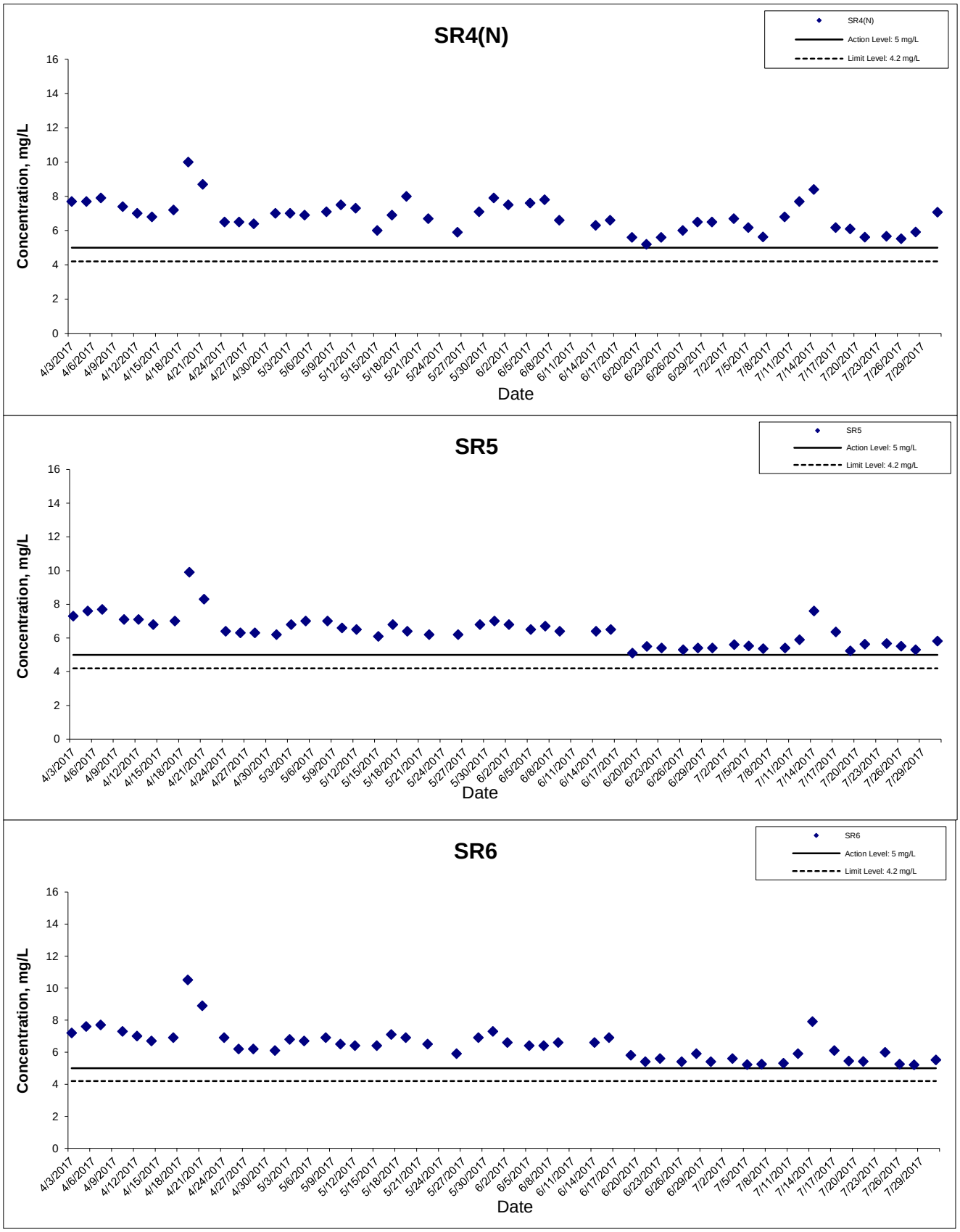
Graphical Presentation of Impact Water Quality Monitoring Results

Project No.: 60249820 **Date: Aug 2017**

Appendix J



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HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

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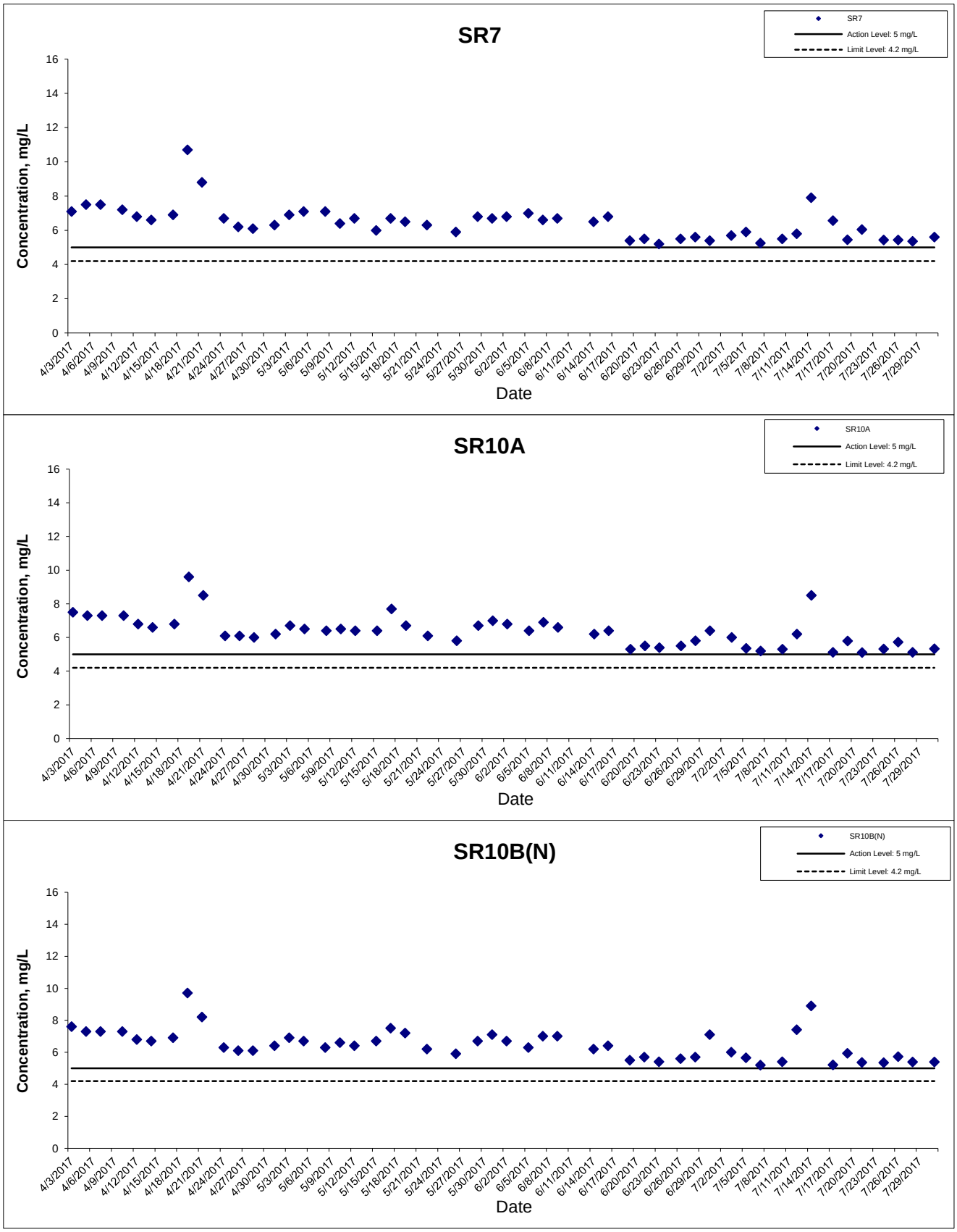
Graphical Presentation of Impact Water Quality Monitoring Results

Project No.: 60249820 **Date: Aug 2017**

Appendix J



HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

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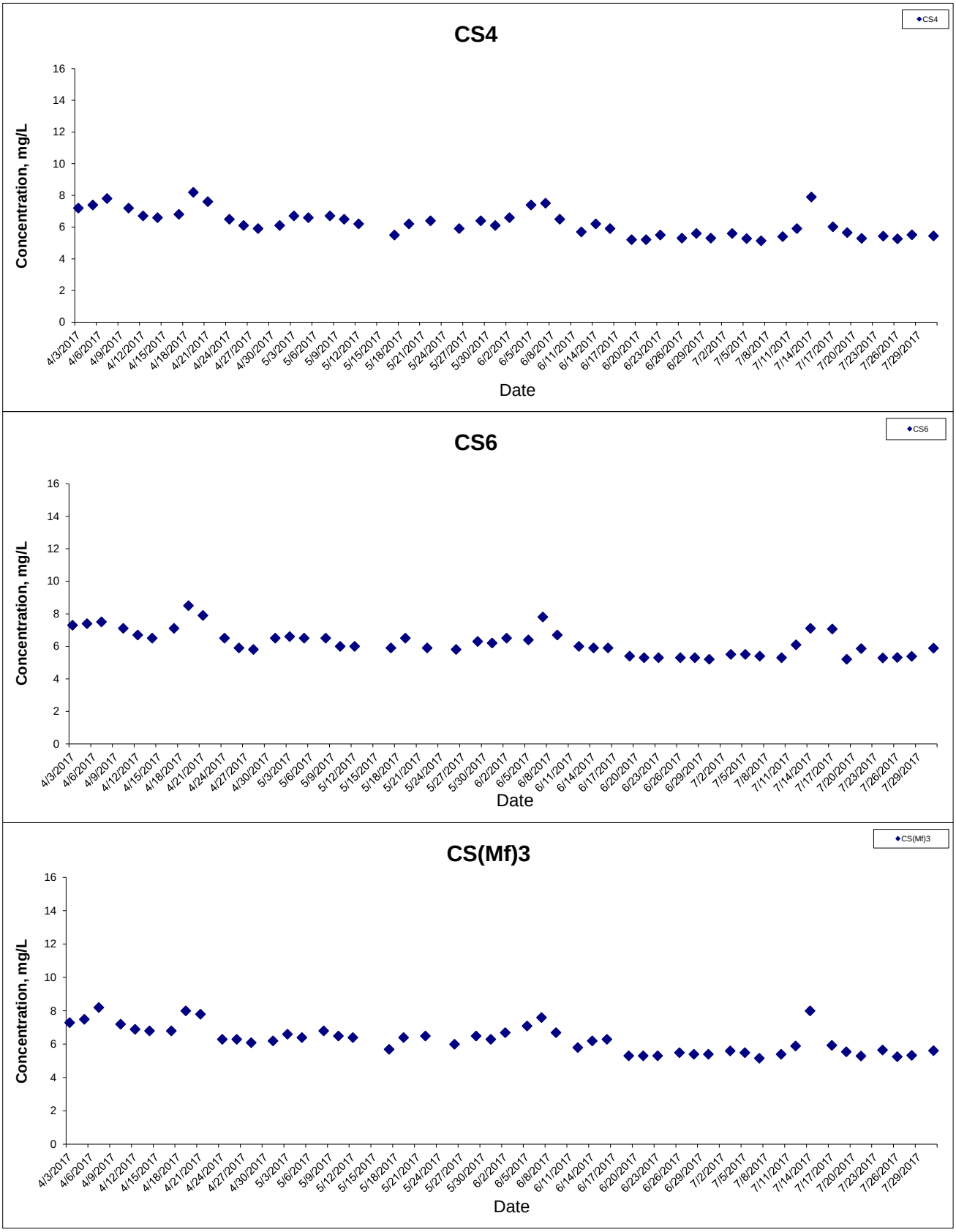
Graphical Presentation of Impact Water Quality Monitoring Results

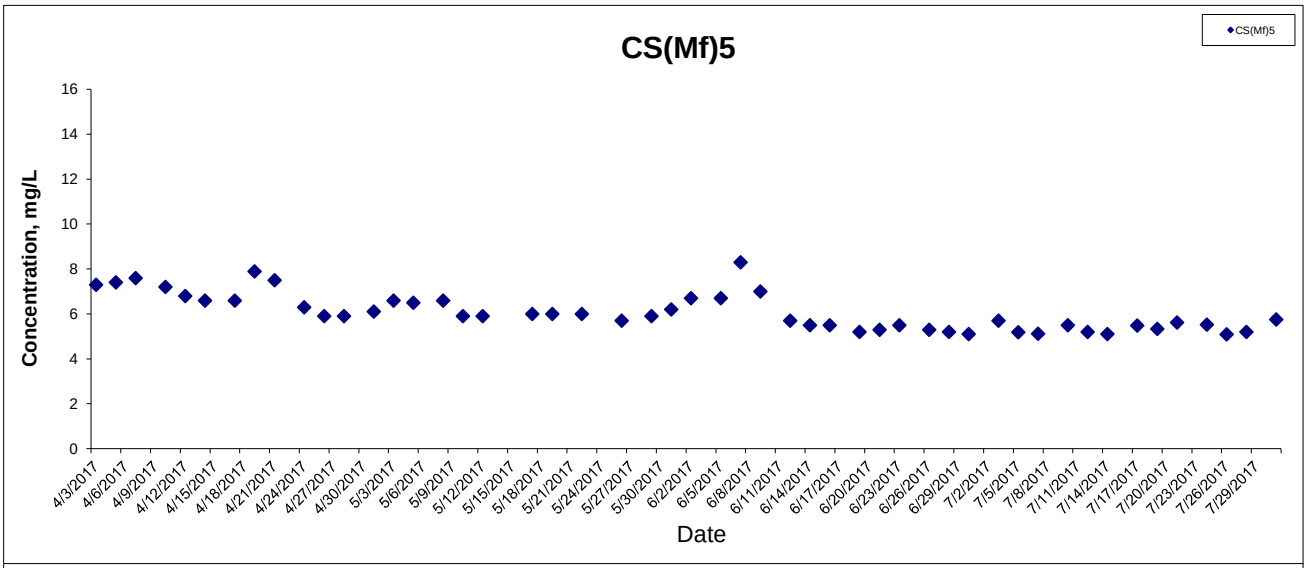
Project No.: 60249820 **Date: Aug 2017**

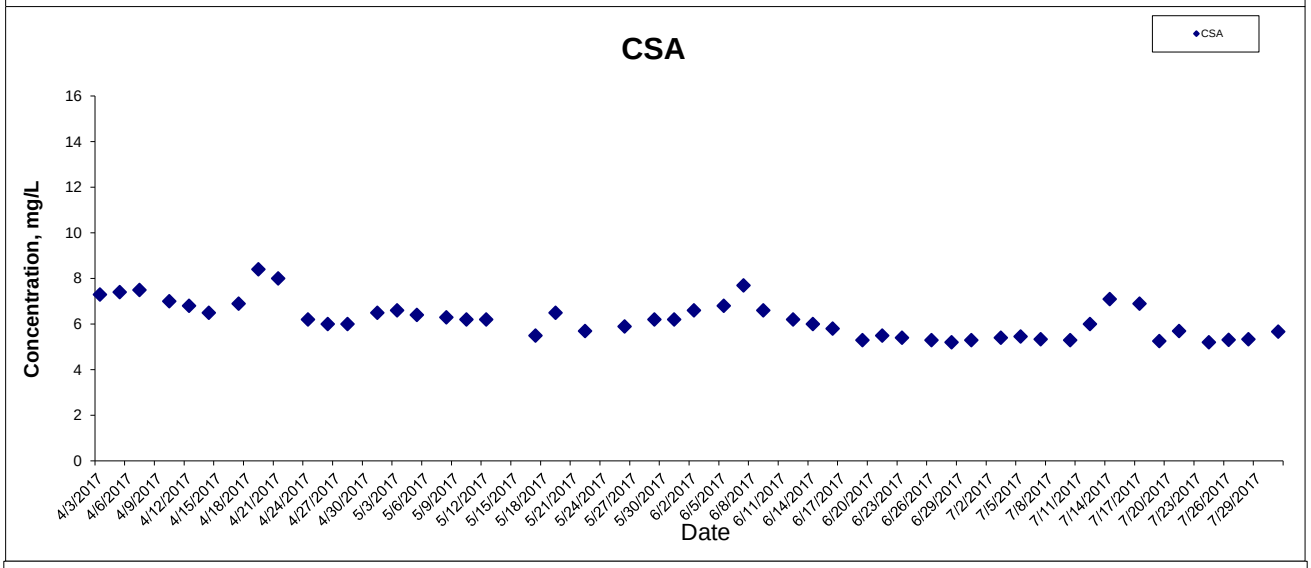
Appendix J

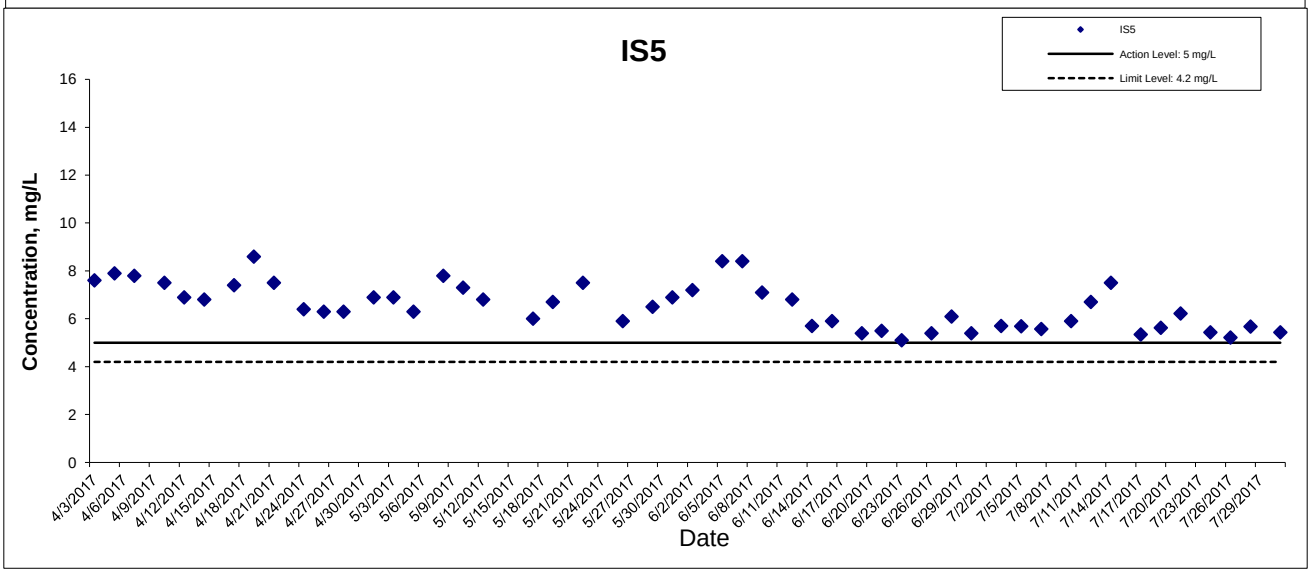
Dissolved Oxygen (Surface & Middle) at Mid-Flood Tide



Dissolved Oxygen (Surface & Middle) at Mid-Flood Tide







HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

Graphical Presentation of Impact Water Quality Monitoring Results

Project No.: 60249820 **Date: Aug 2017**

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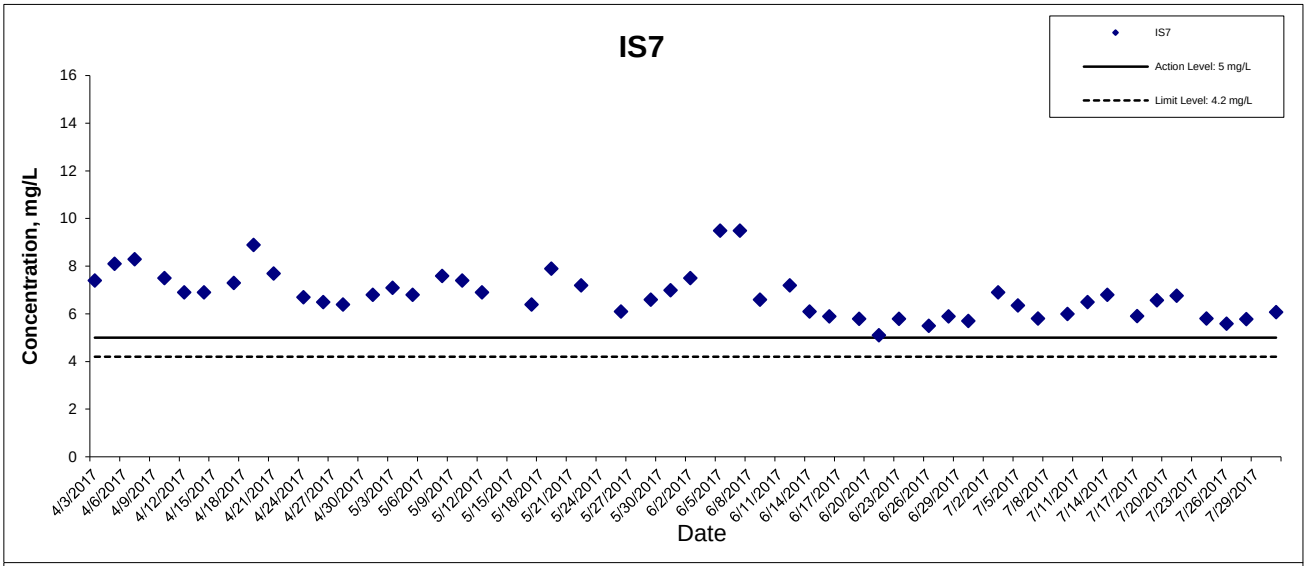

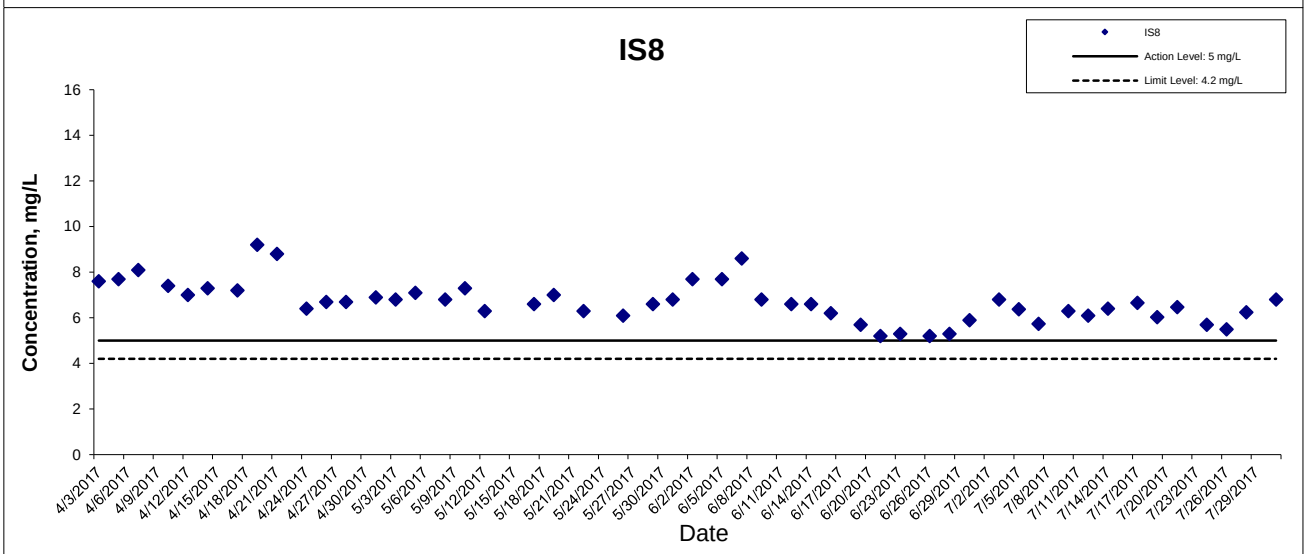

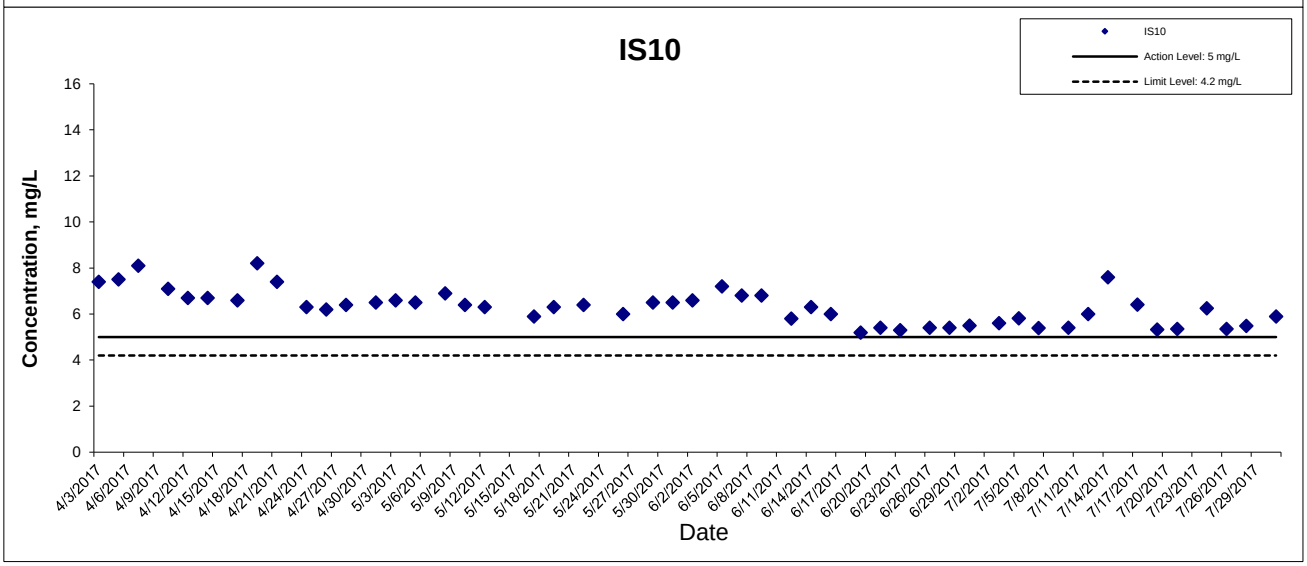

HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

Graphical Presentation of Impact Water Quality Monitoring Results

Project No.: 60249820 **Date: Aug 2017**

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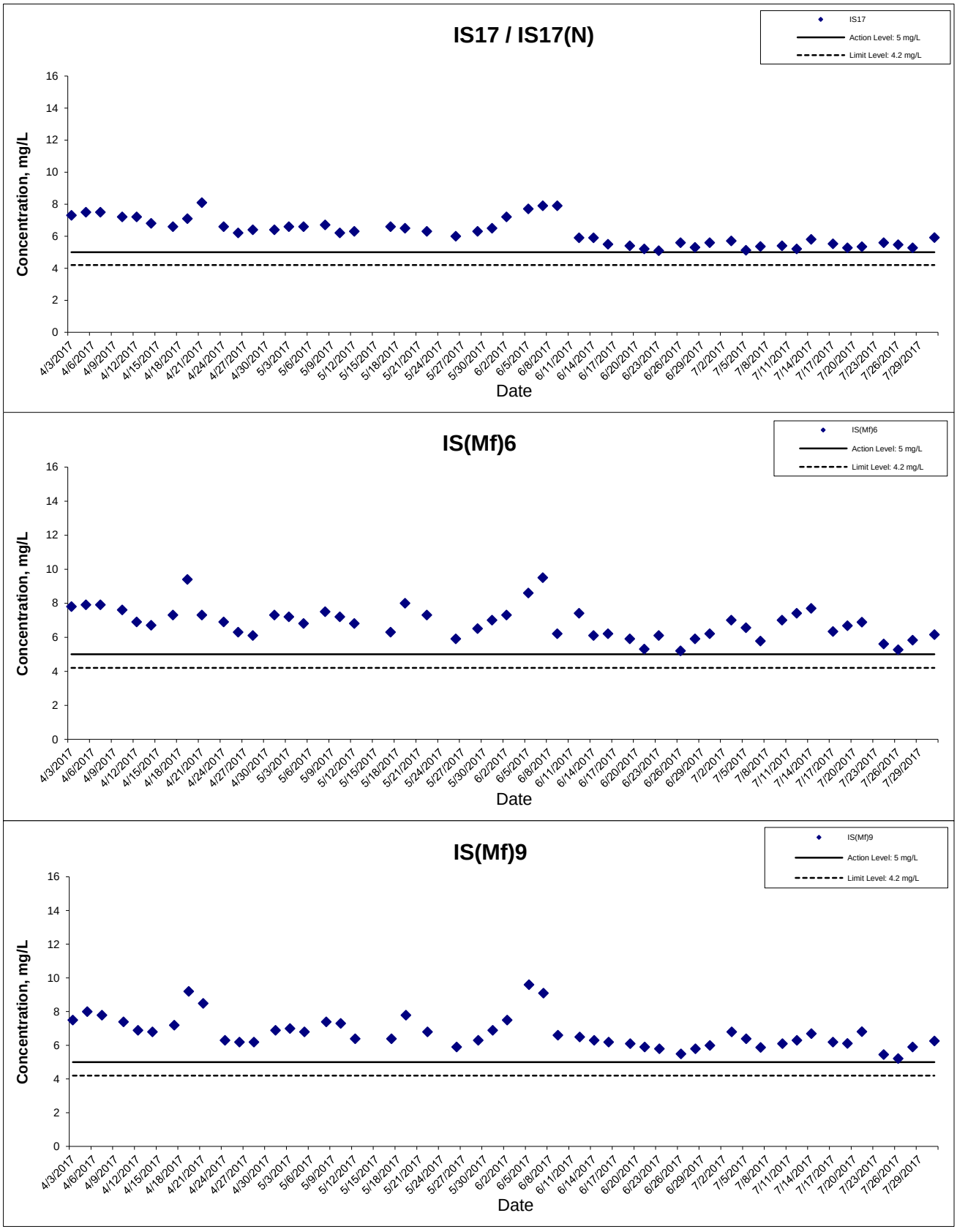

HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

Graphical Presentation of Impact Water Quality Monitoring Results

Project No.: 60249820 **Date: Aug 2017**

Appendix J

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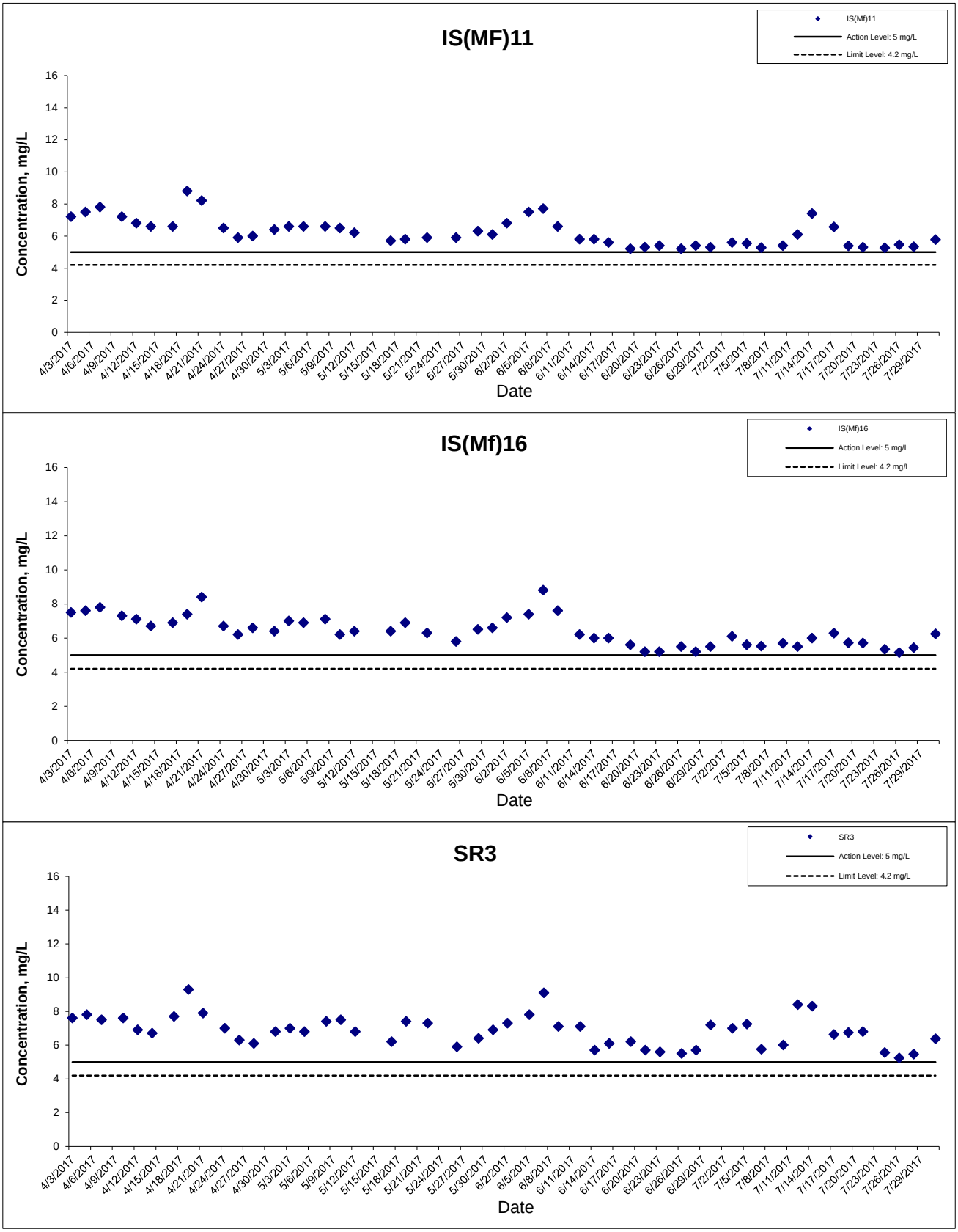

HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

Graphical Presentation of Impact Water Quality Monitoring Results

Project No.: 60249820 **Date: Aug 2017** **Appendix J**

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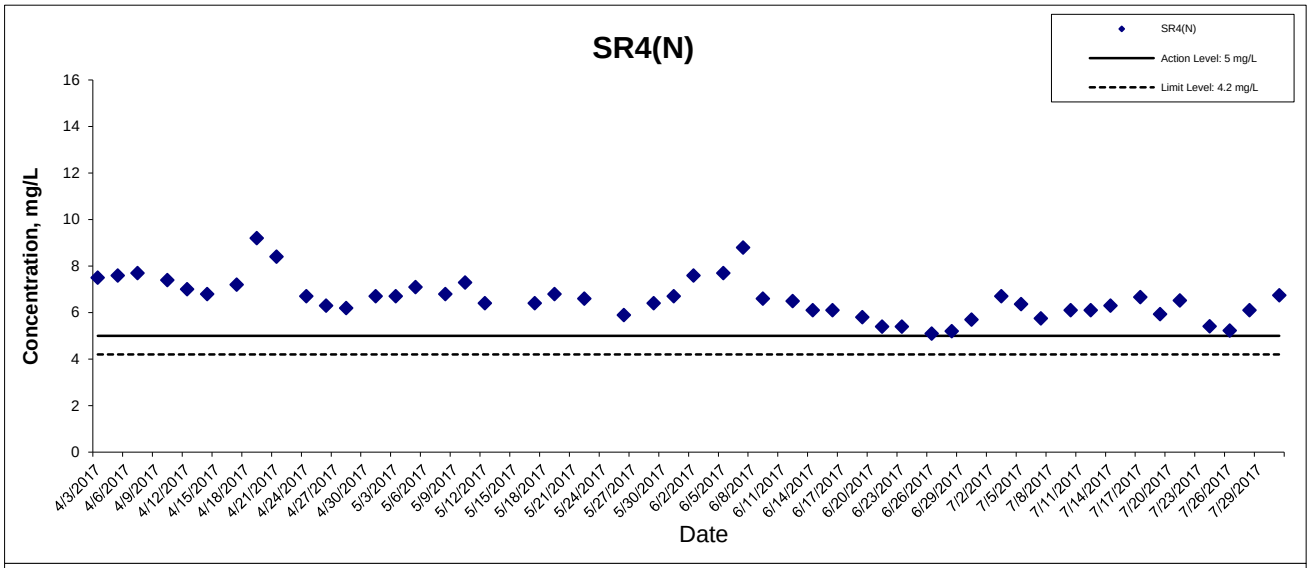

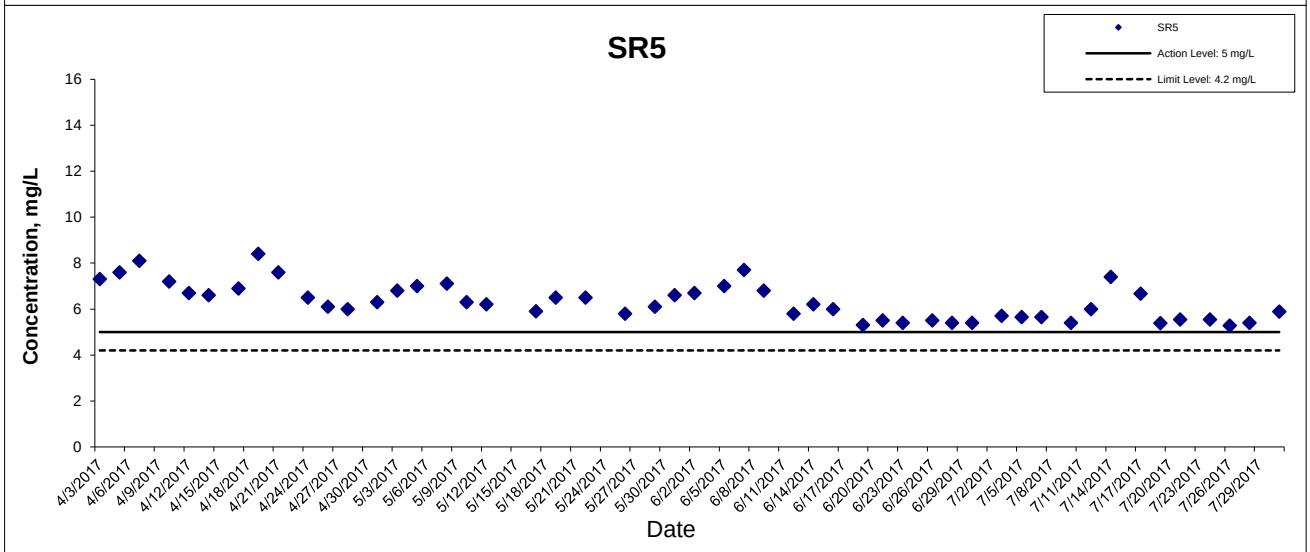

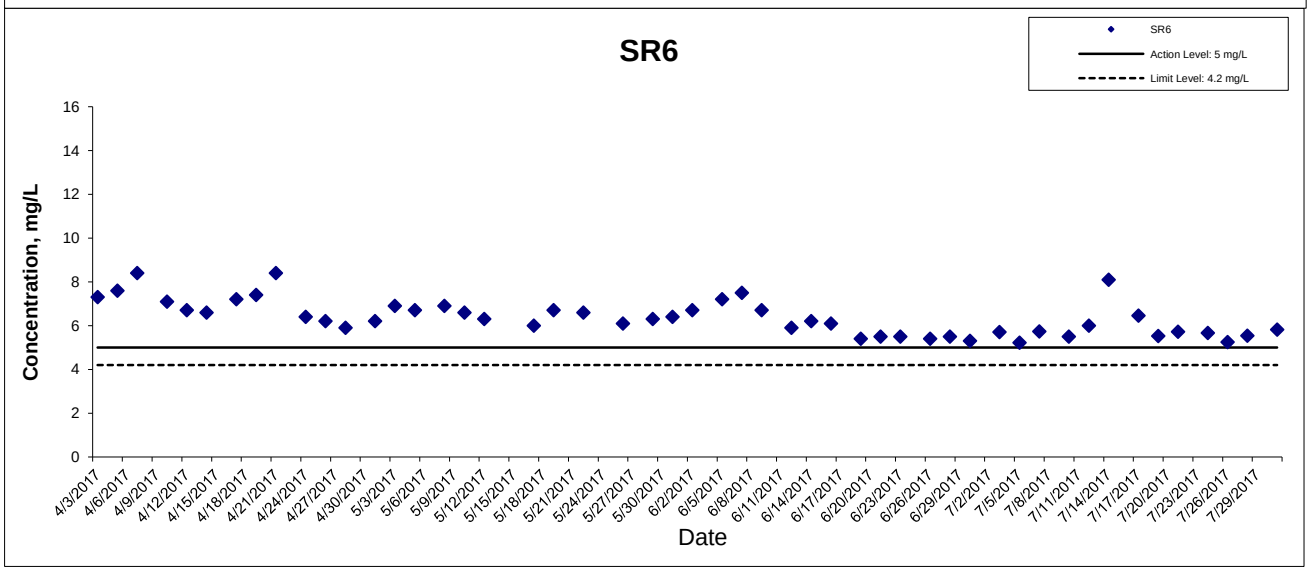

HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

Graphical Presentation of Impact Water Quality Monitoring Results

Project No.: 60249820 **Date: Aug 2017**

Appendix J

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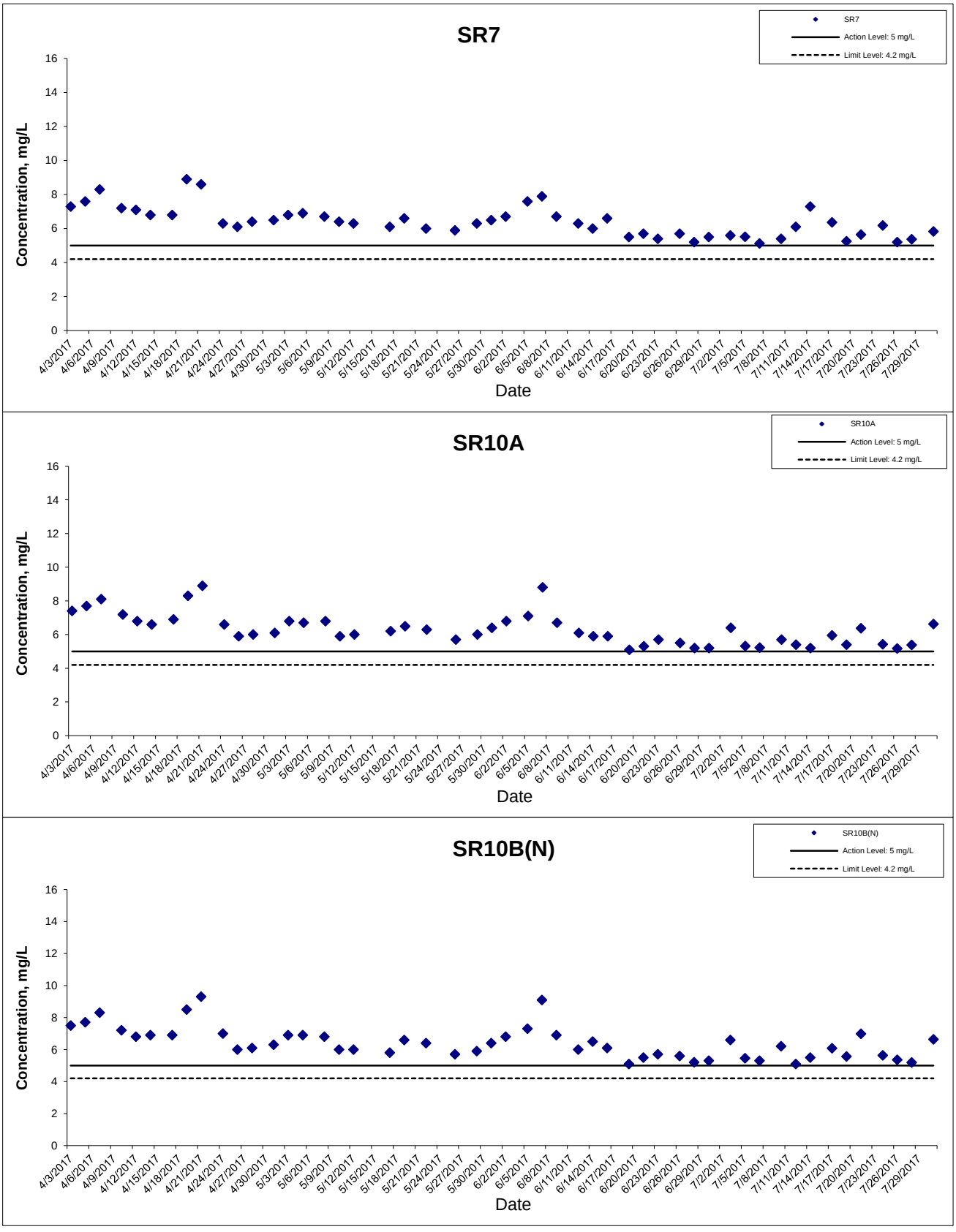


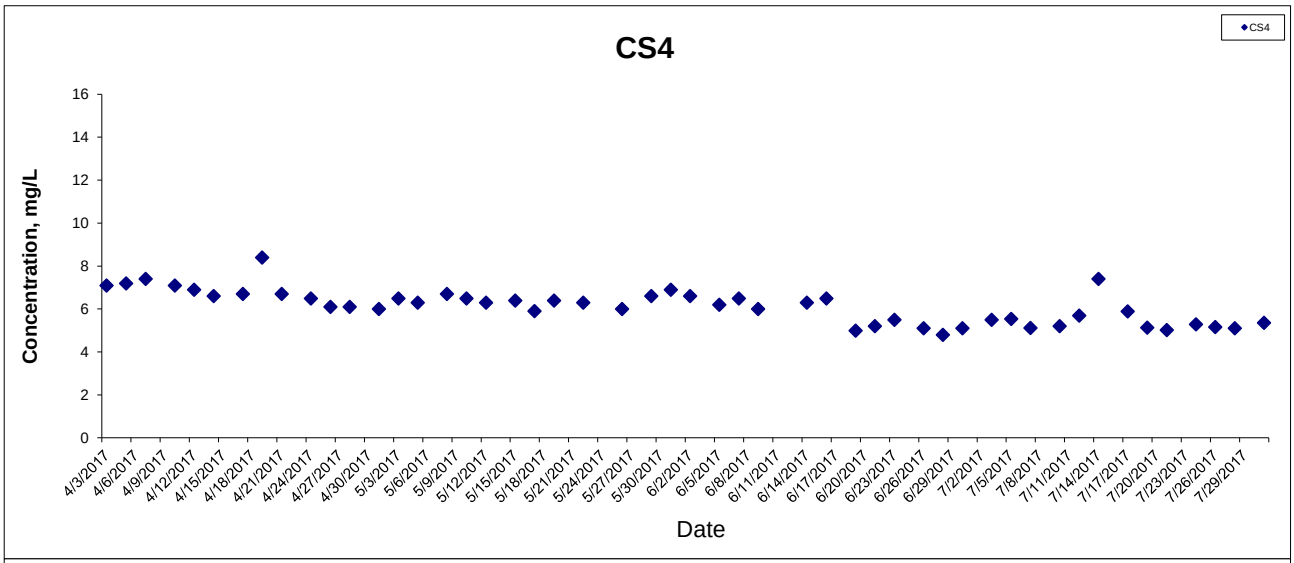
HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

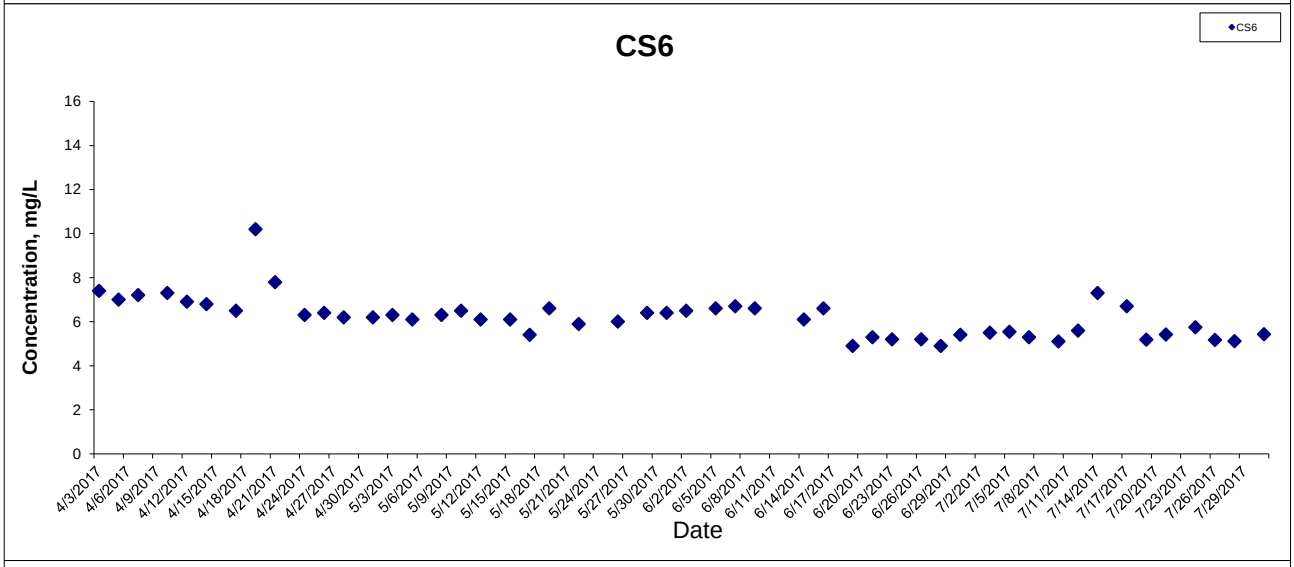
Graphical Presentation of Impact Water Quality Monitoring Results

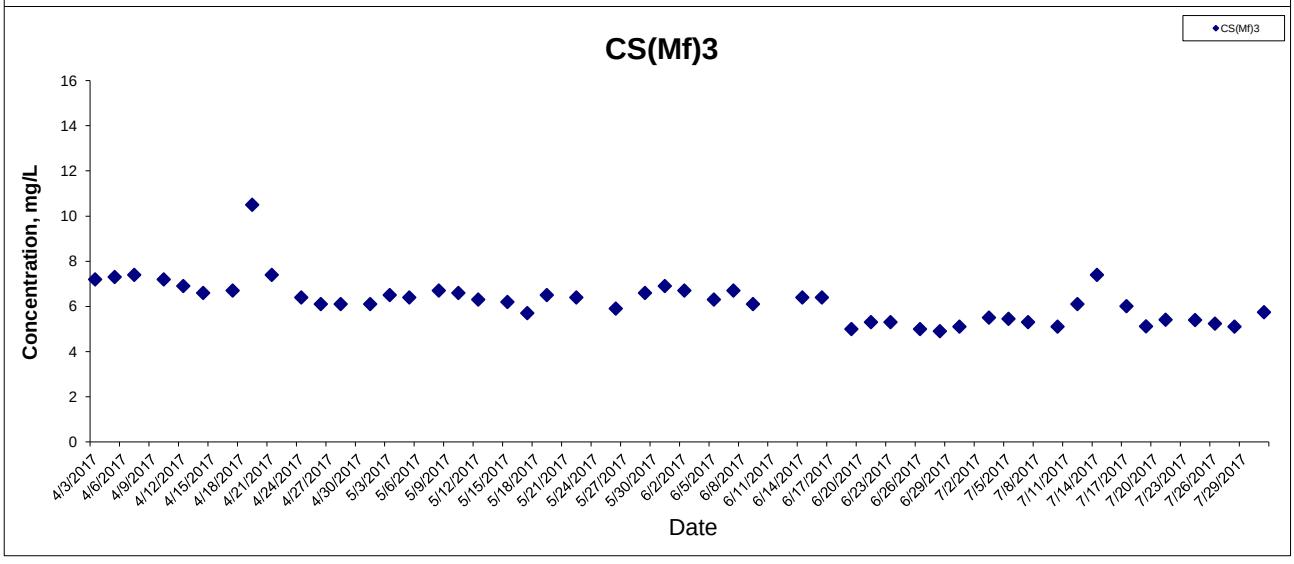
Project No.: 60249820 **Date: Aug 2017**

Appendix J

Dissolved Oxygen (Bottom) at Mid-Ebb Tide





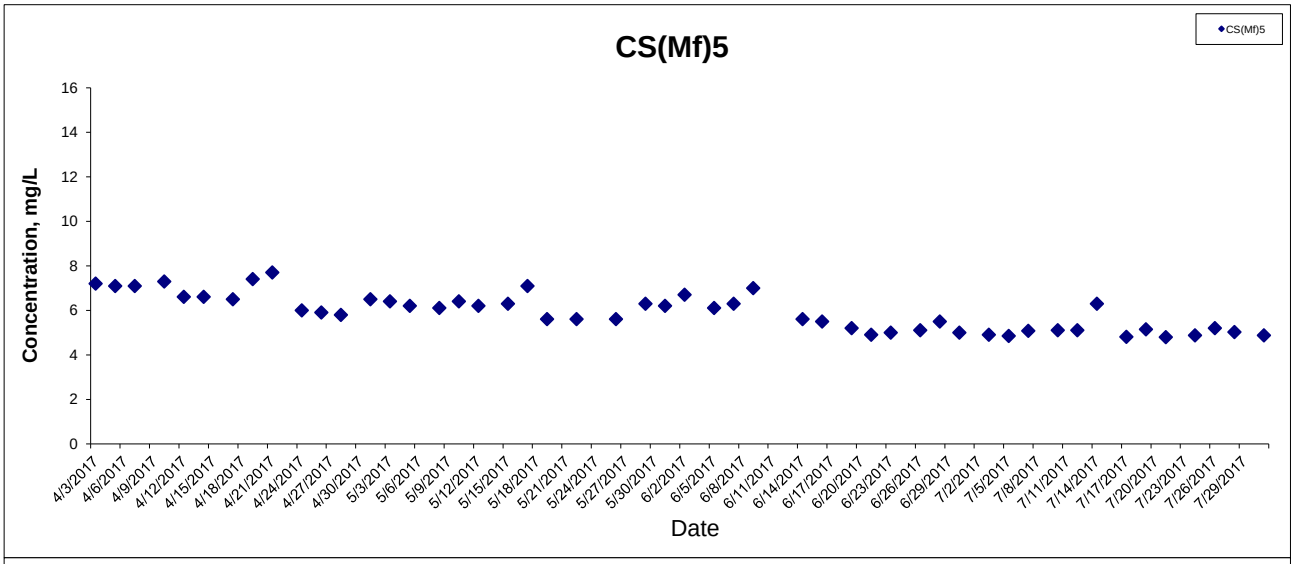


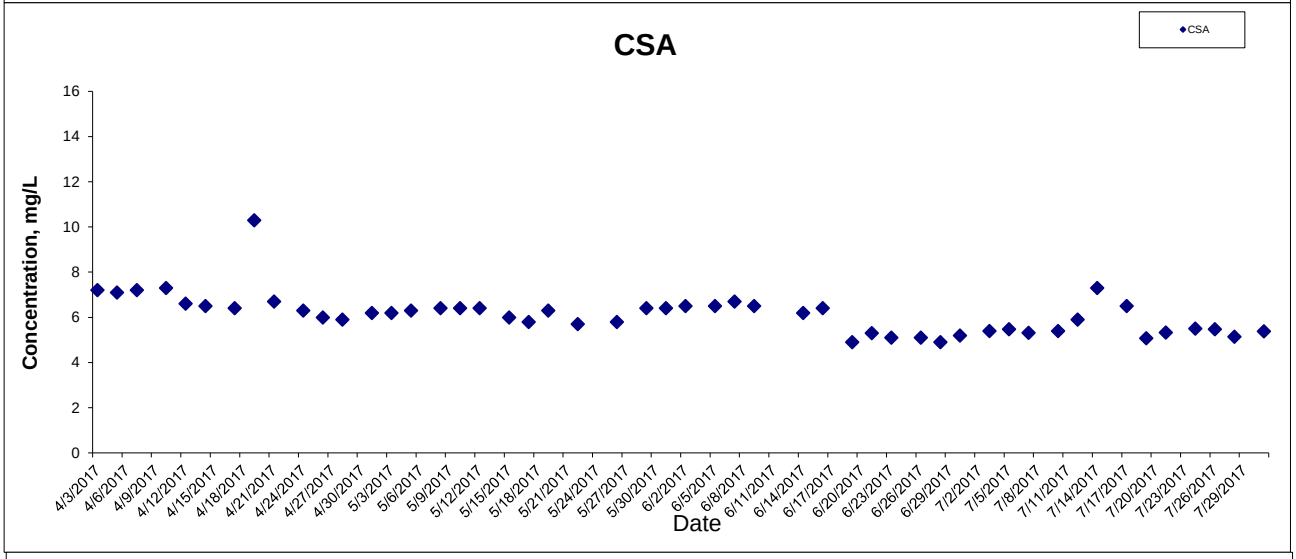
HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

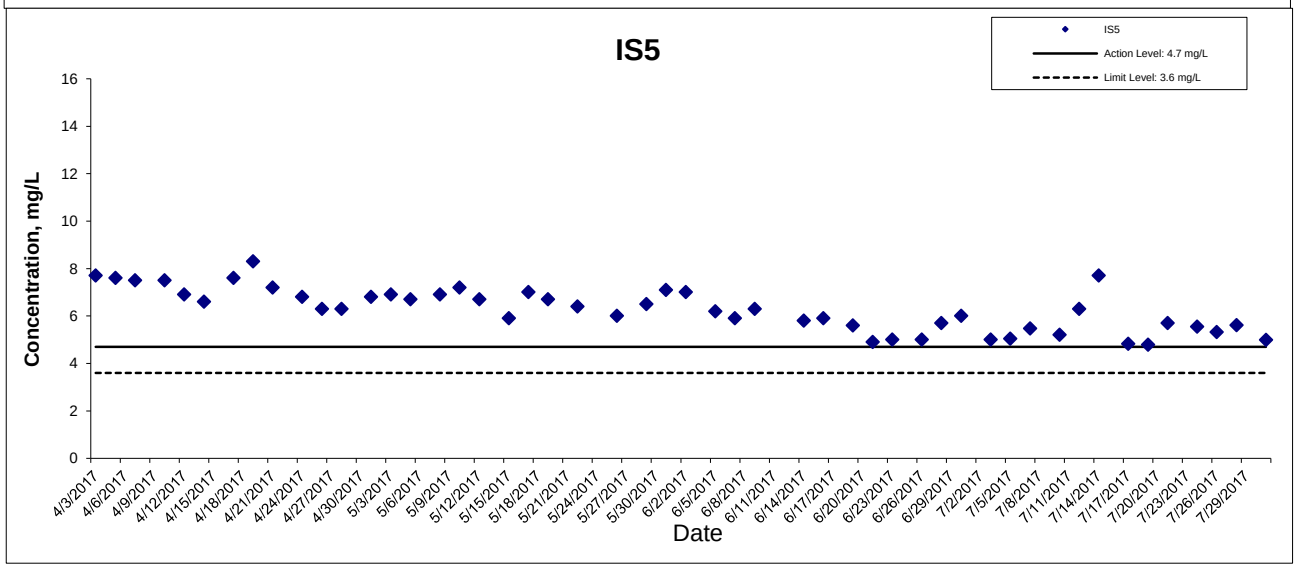
Graphical Presentation of Impact Water Quality Monitoring Results

Project No.: 60249820 **Date: Aug 2017** **Appendix G**

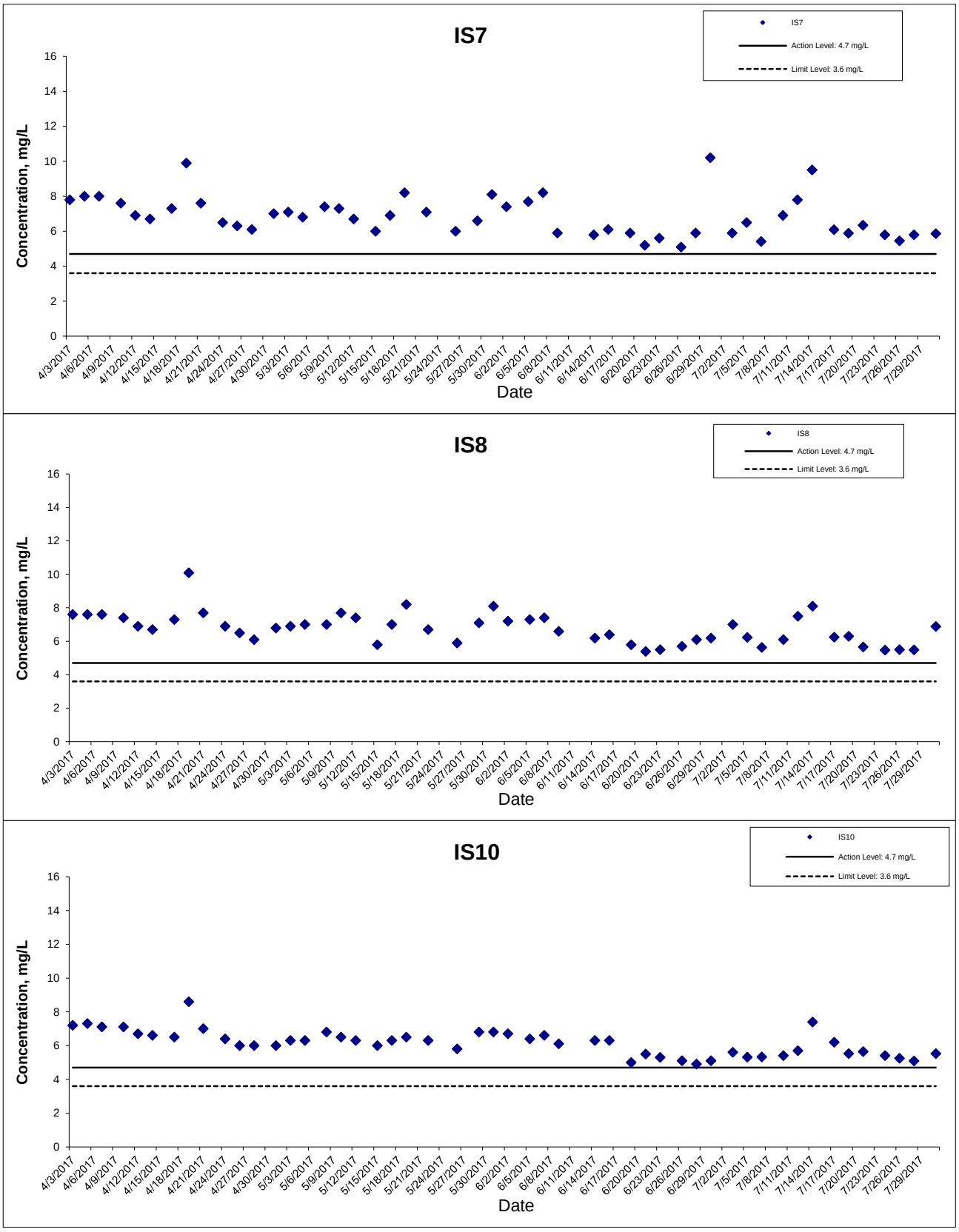
Dissolved Oxygen (Bottom) at Mid-Ebb Tide



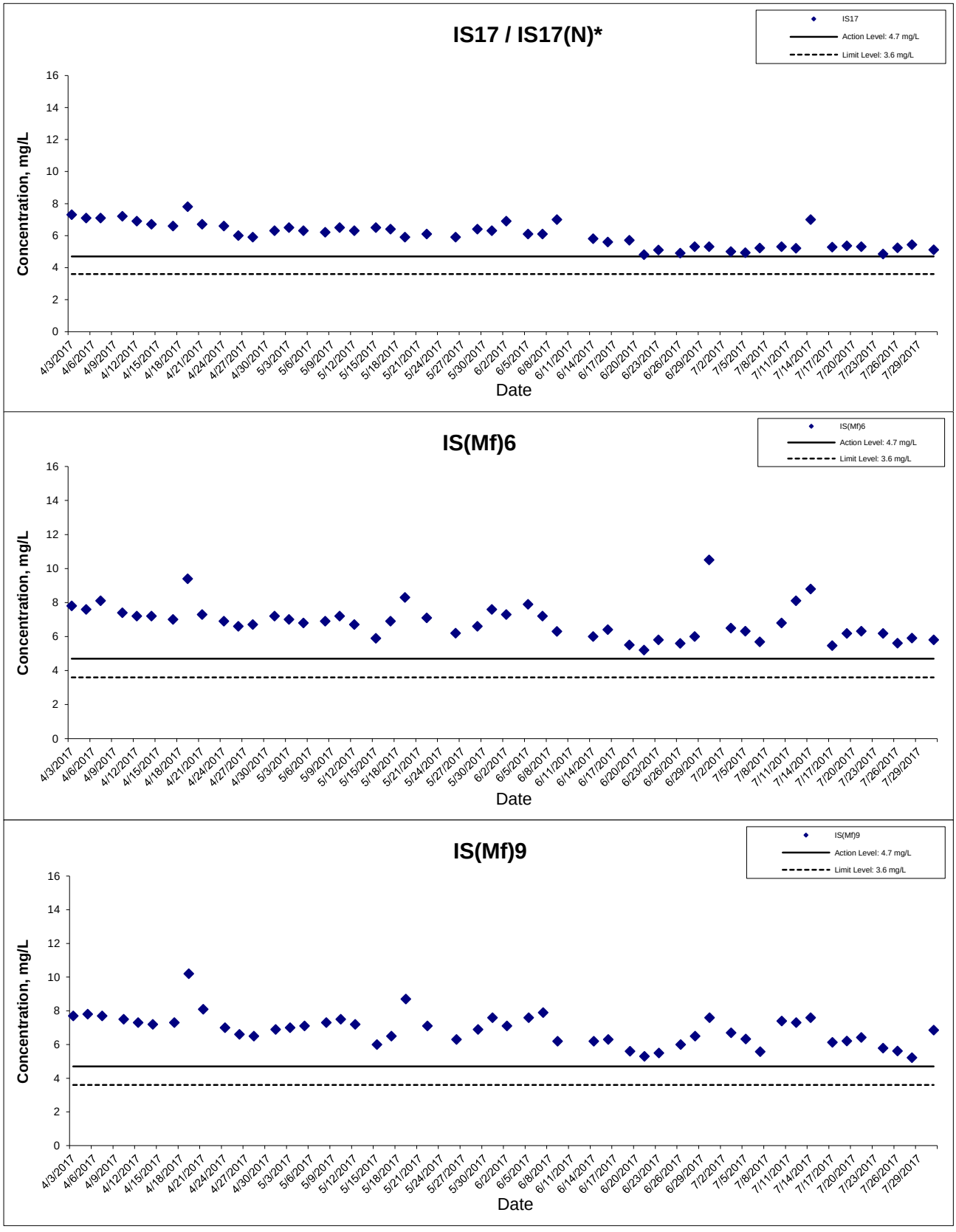




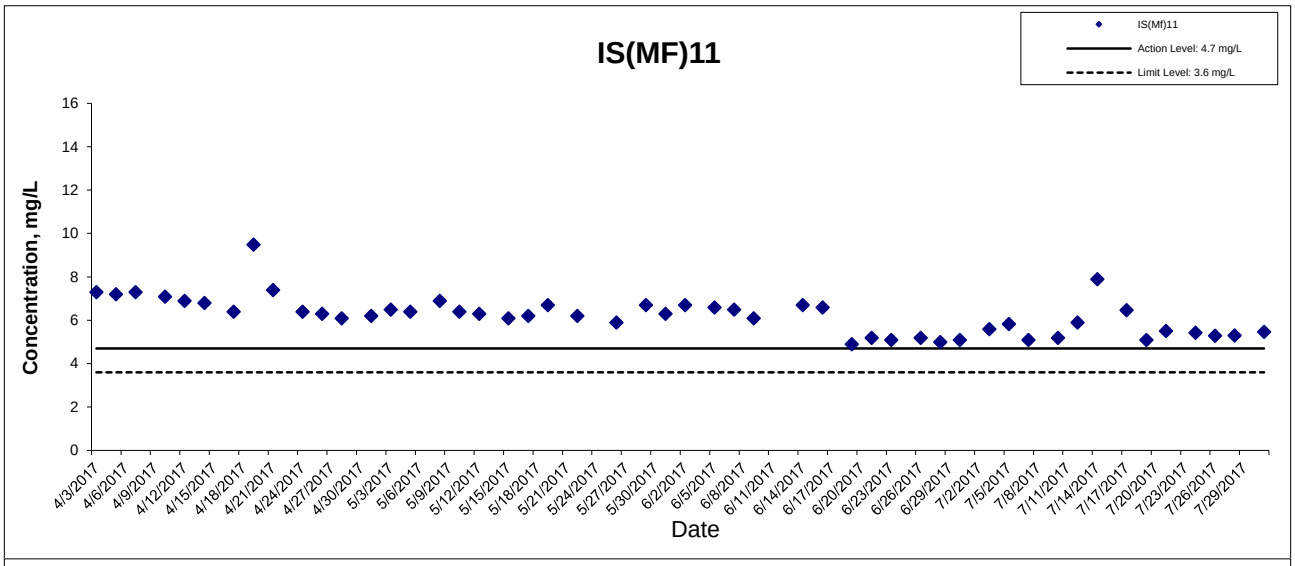
Dissolved Oxygen (Bottom) at Mid-Ebb Tide

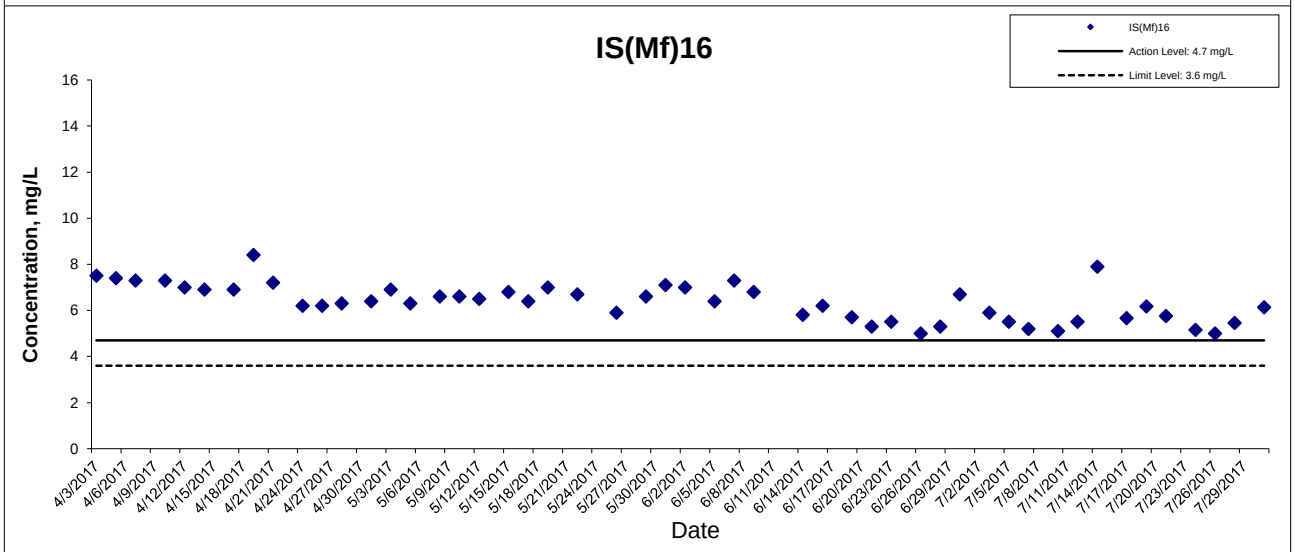


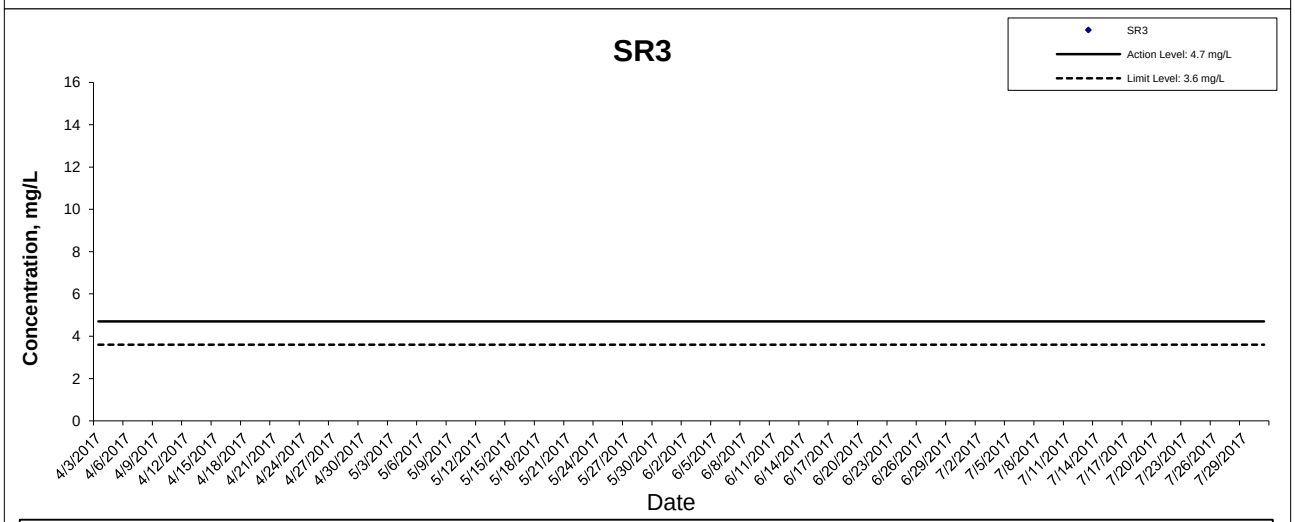
Dissolved Oxygen (Bottom) at Mid-Ebb Tide



Dissolved Oxygen (Bottom) at Mid-Ebb Tide







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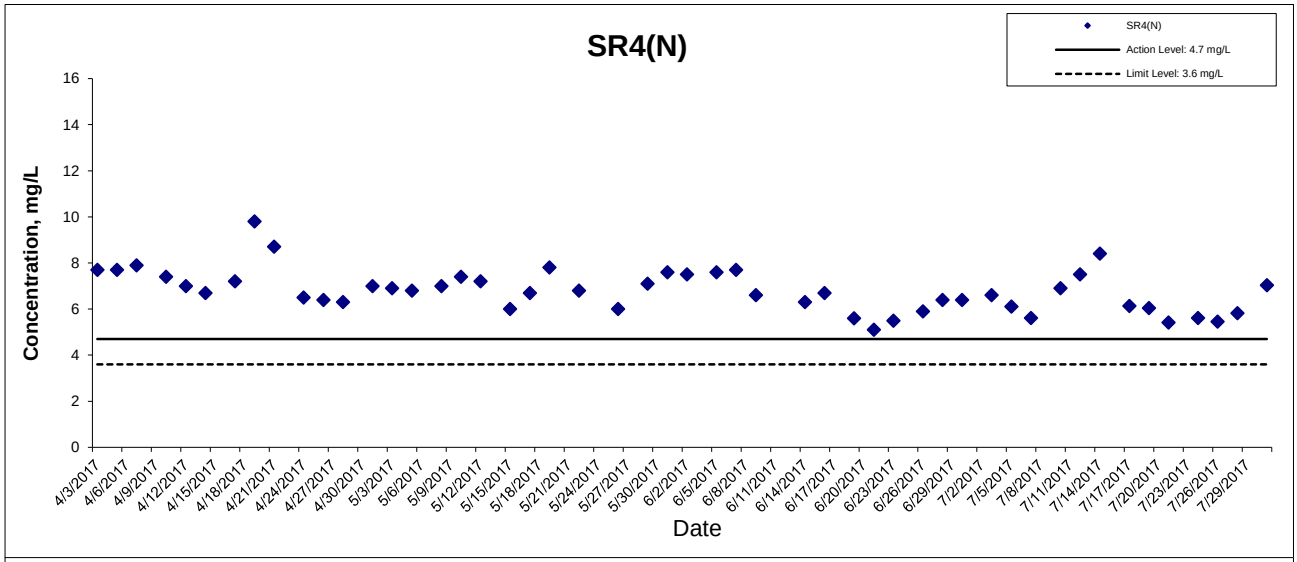
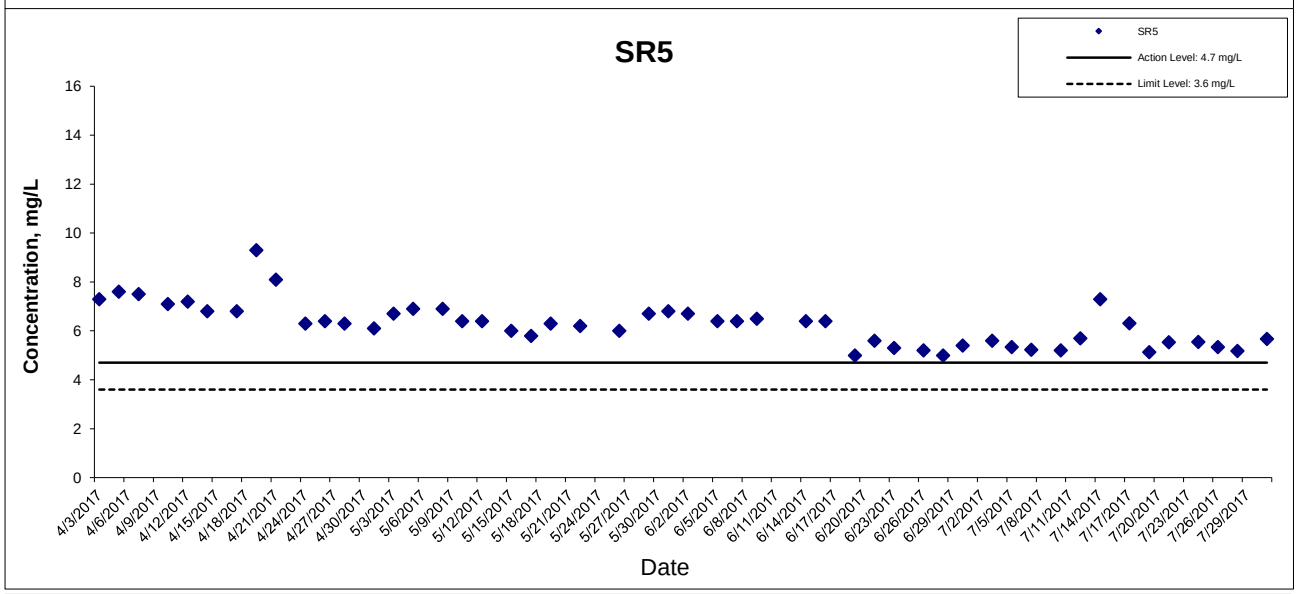
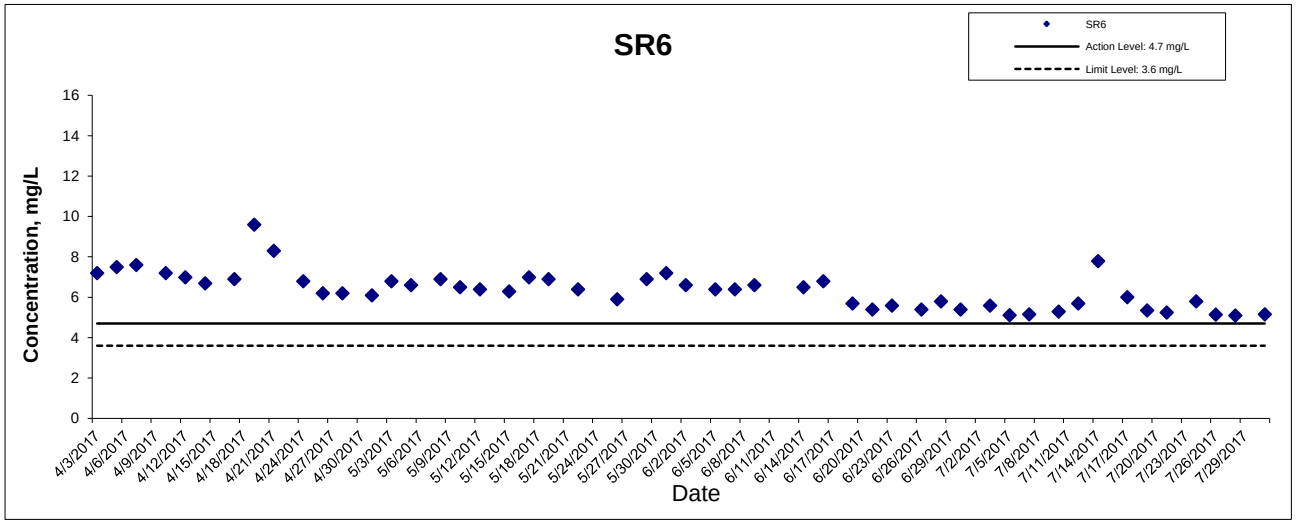
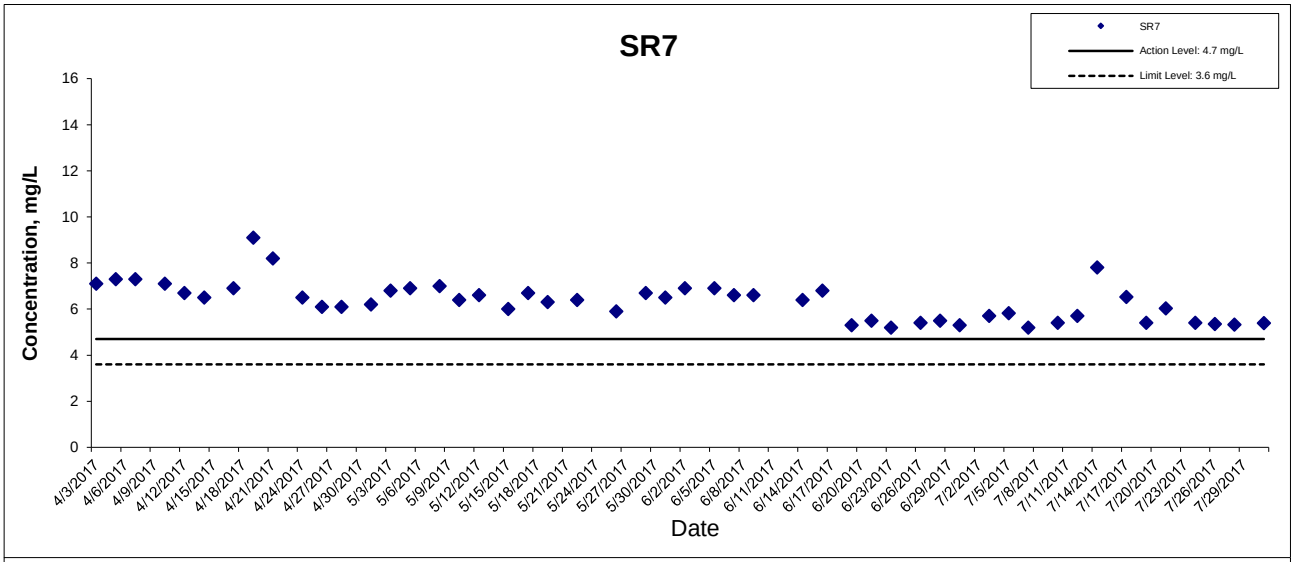
Dissolved Oxygen (Bottom) at Mid-Ebb Tide

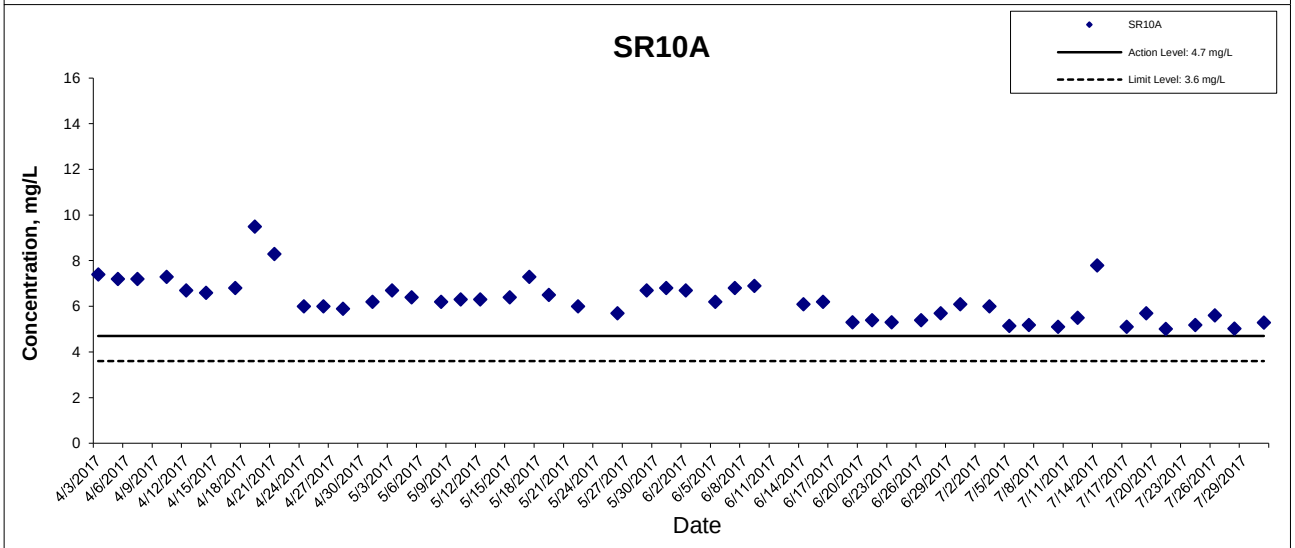


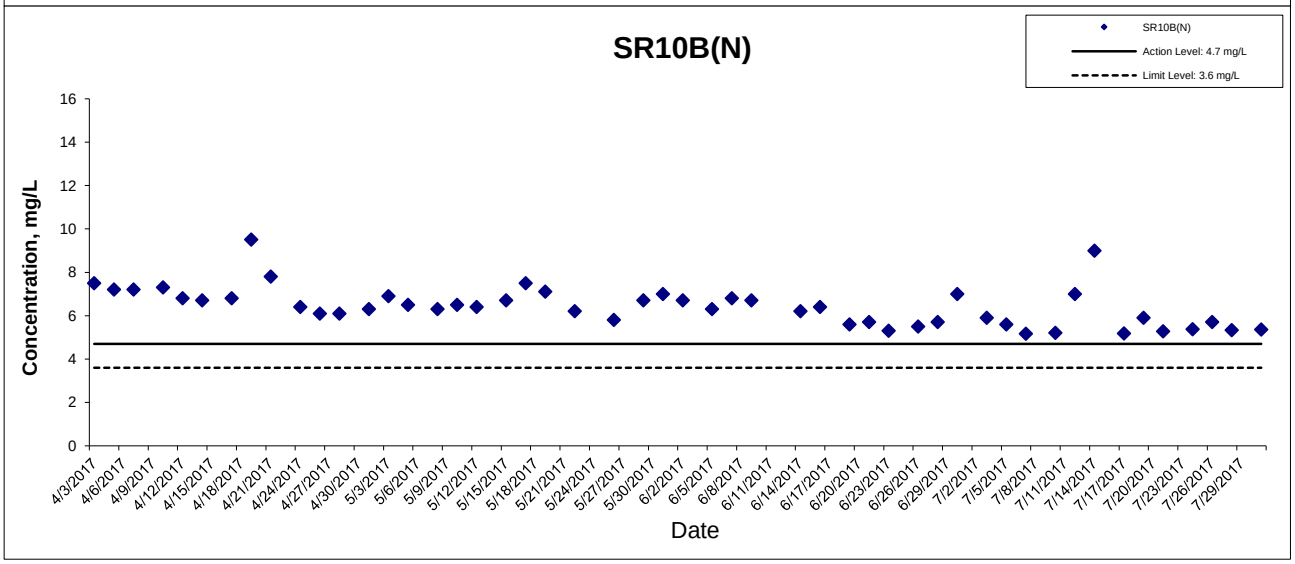




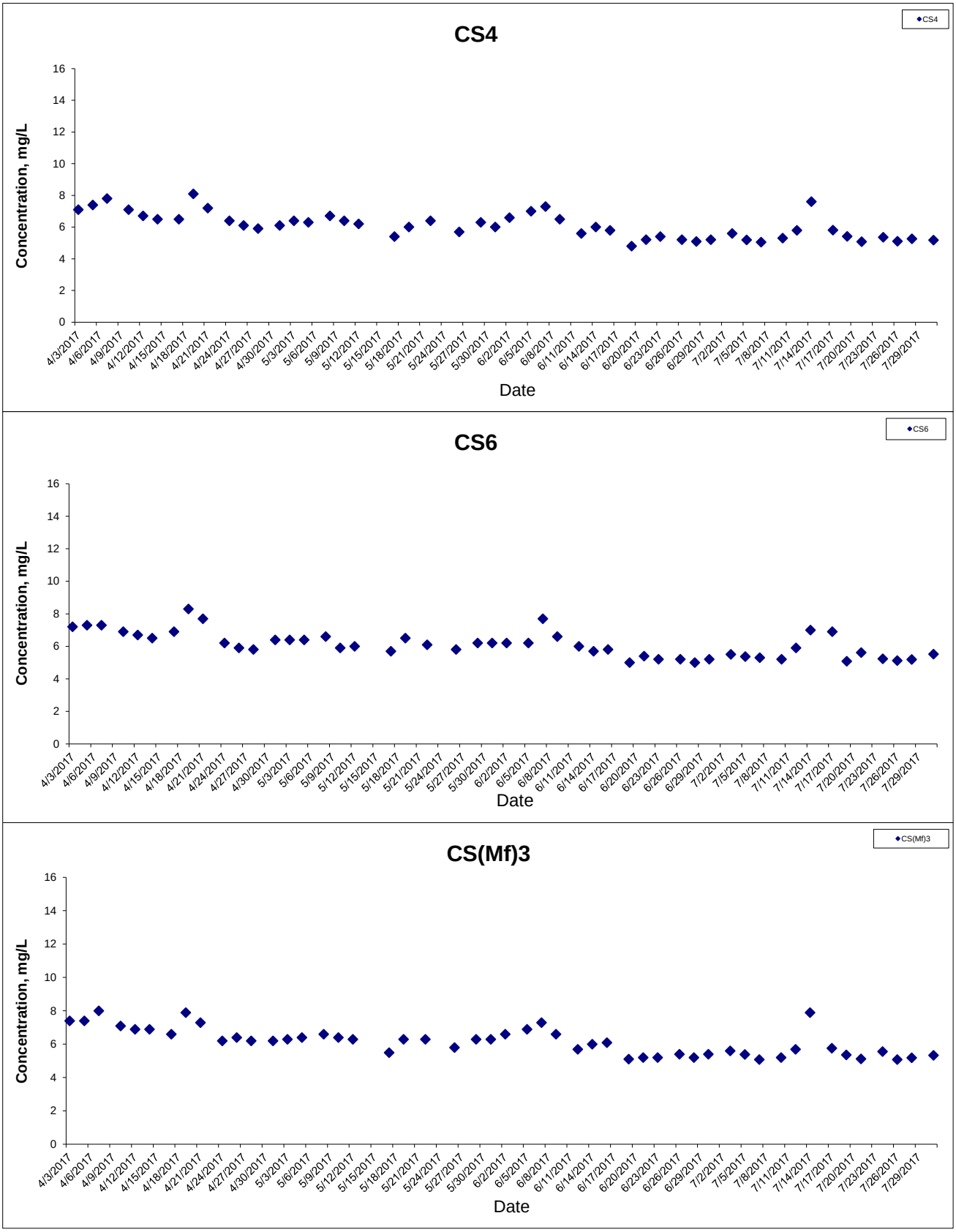
Dissolved Oxygen (Bottom) at Mid-Ebb Tide







Dissolved Oxygen (Bottom) at Mid-Flood Tide



HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

Graphical Presentation of Impact Water Quality Monitoring Results

Project No.: 60249820 **Date: Aug 2017**

Appendix G

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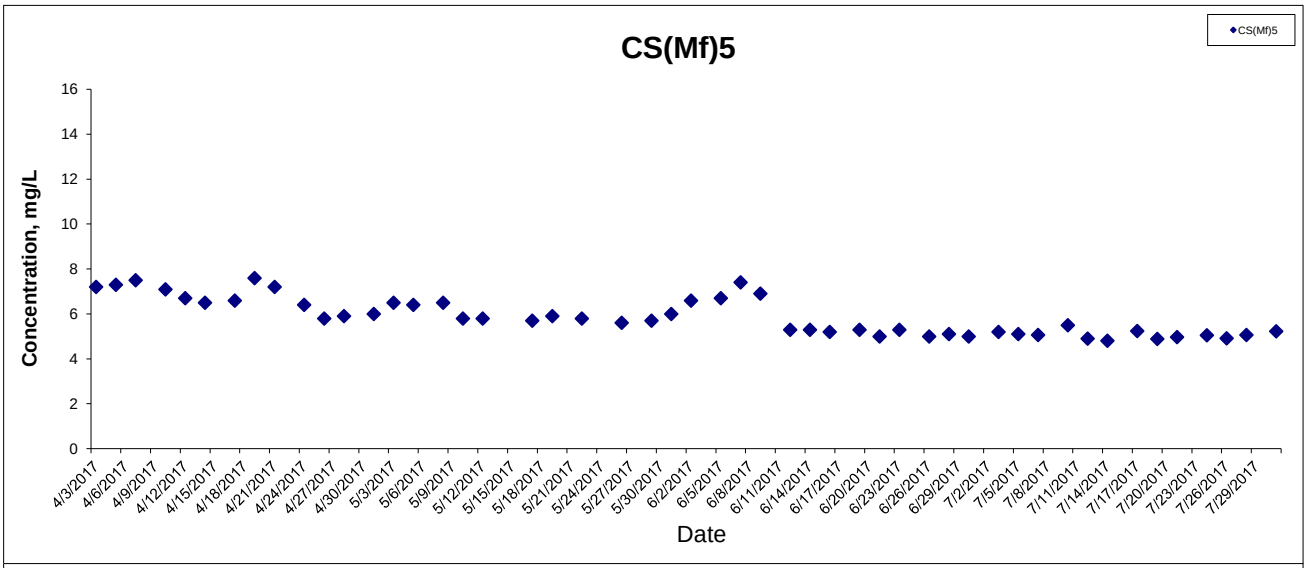

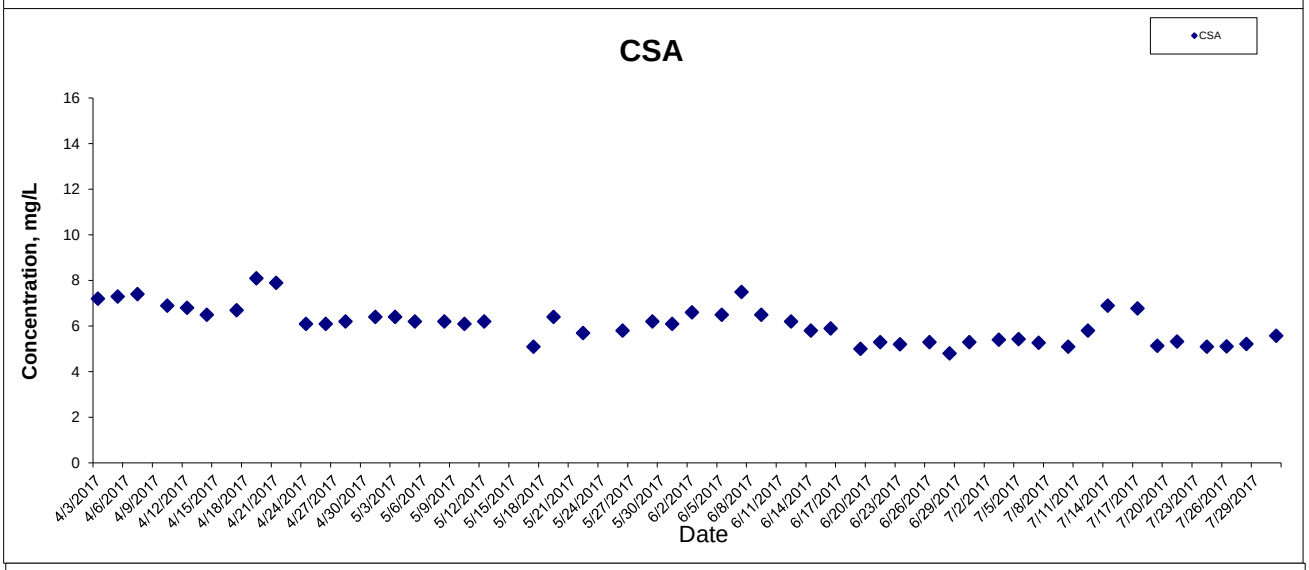

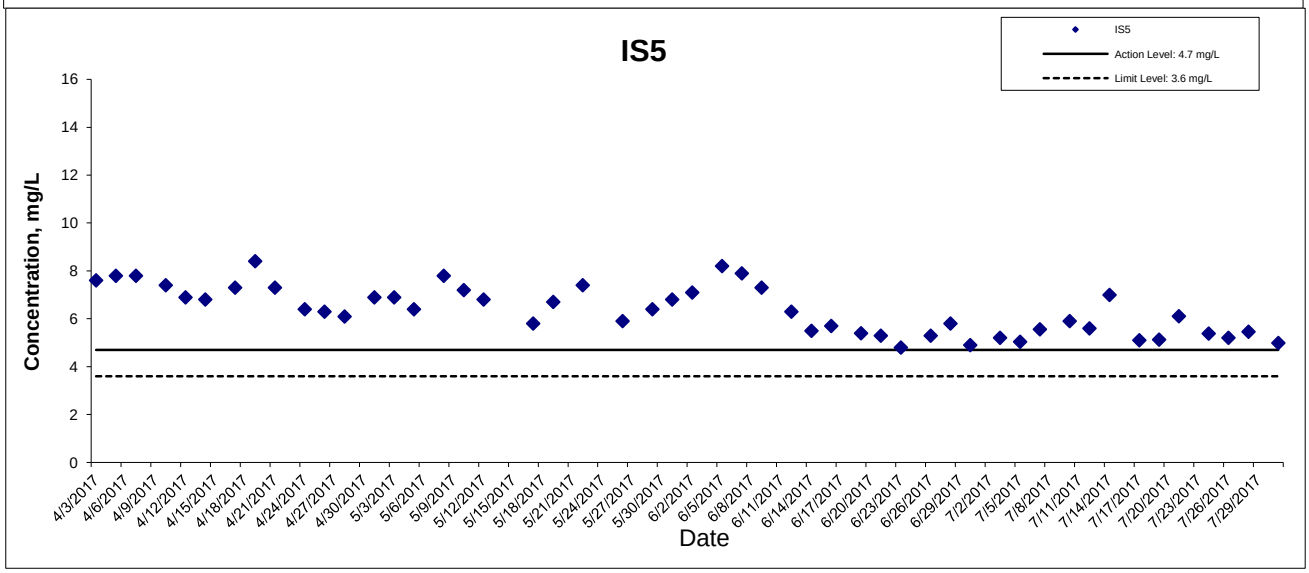

HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

Graphical Presentation of Impact Water Quality Monitoring Results

Project No.: 60249820 **Date: Aug 2017** **Appendix G**

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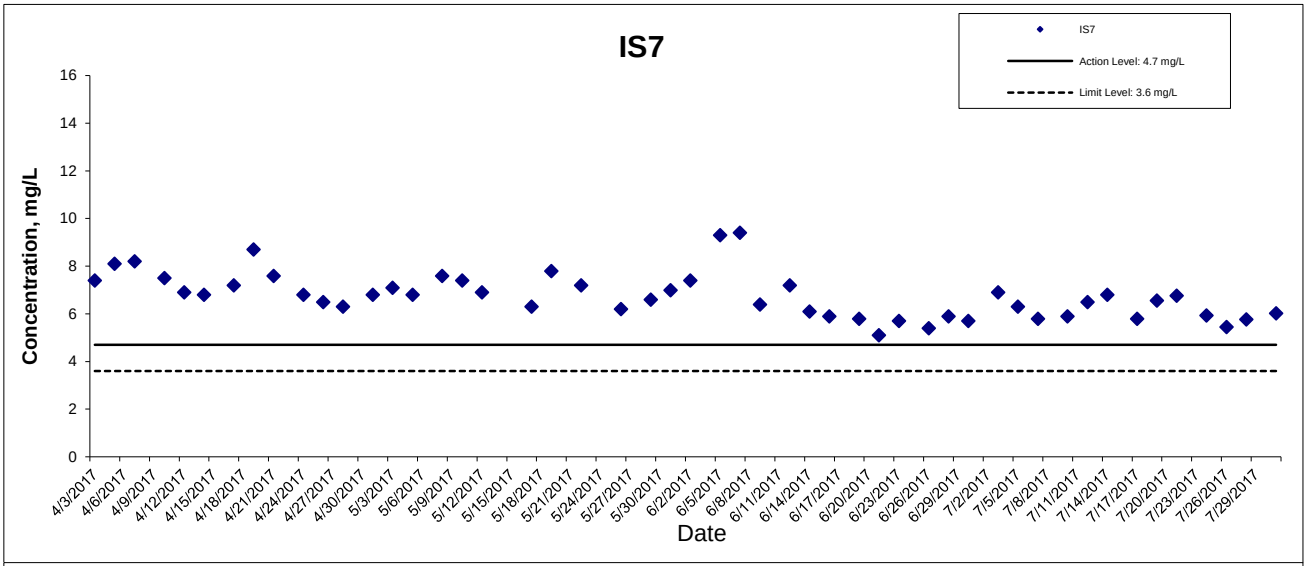
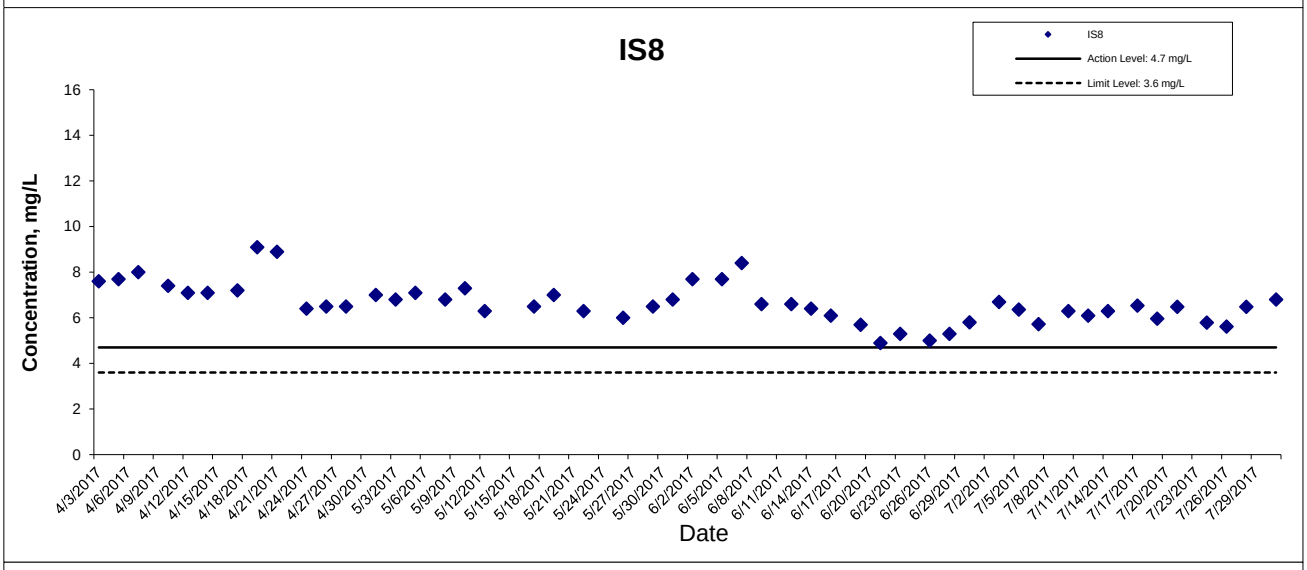
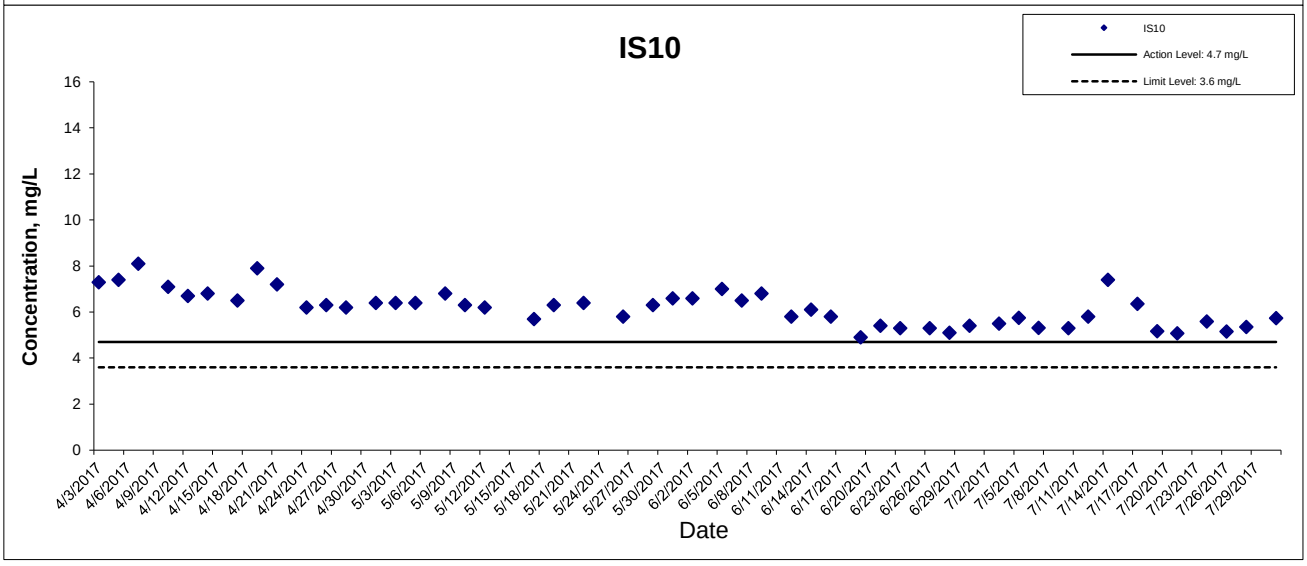
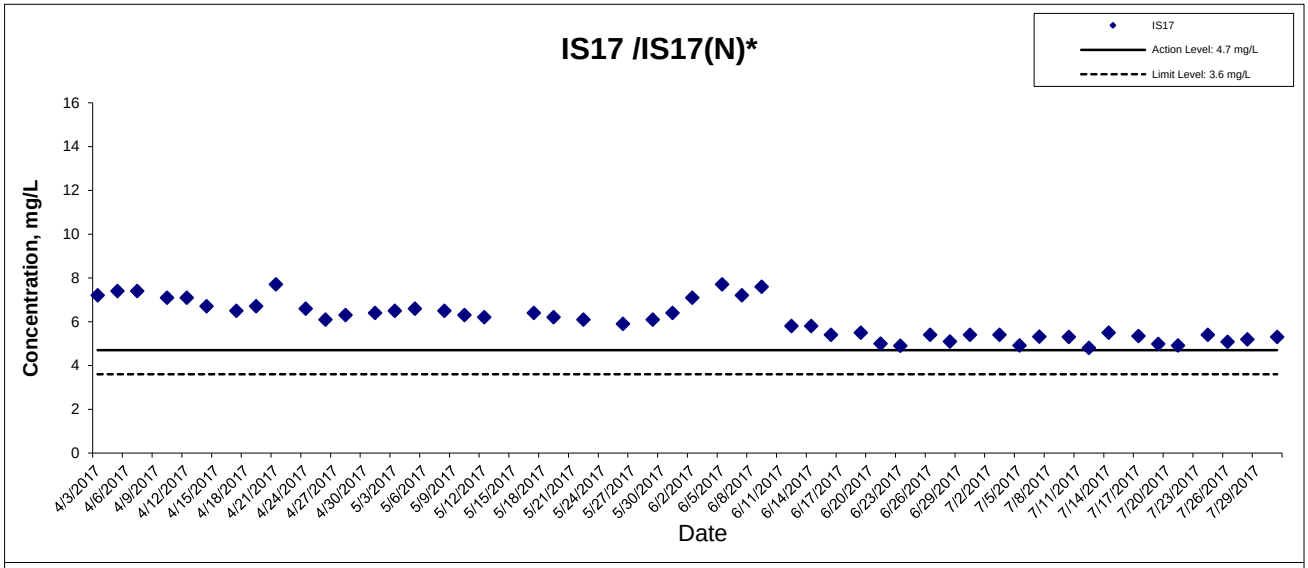
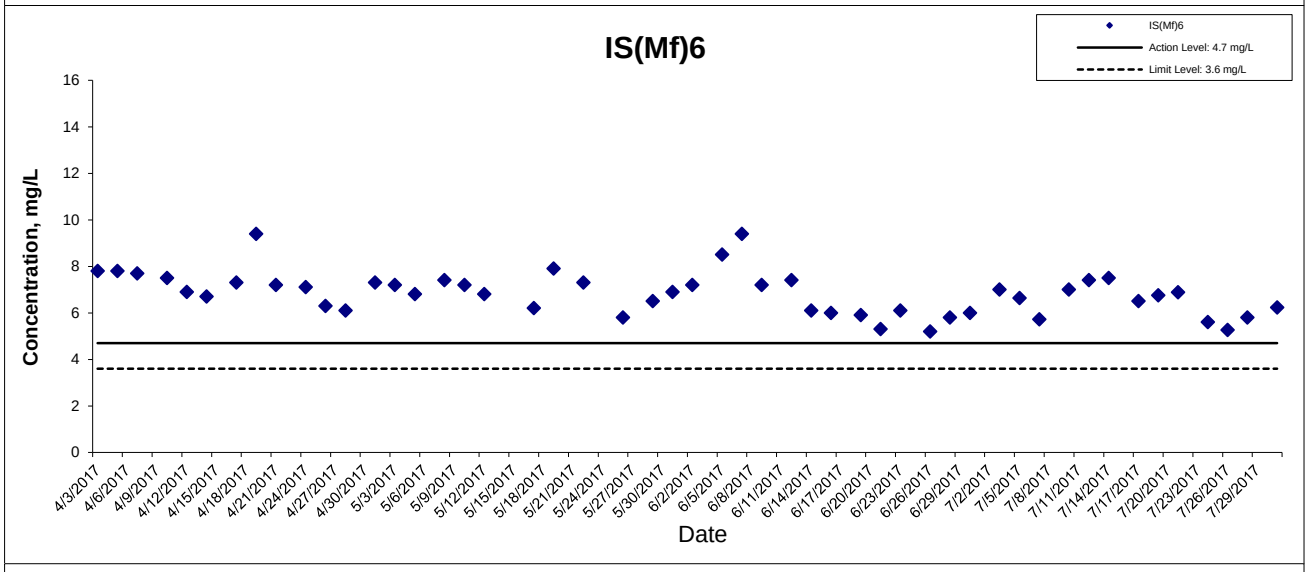


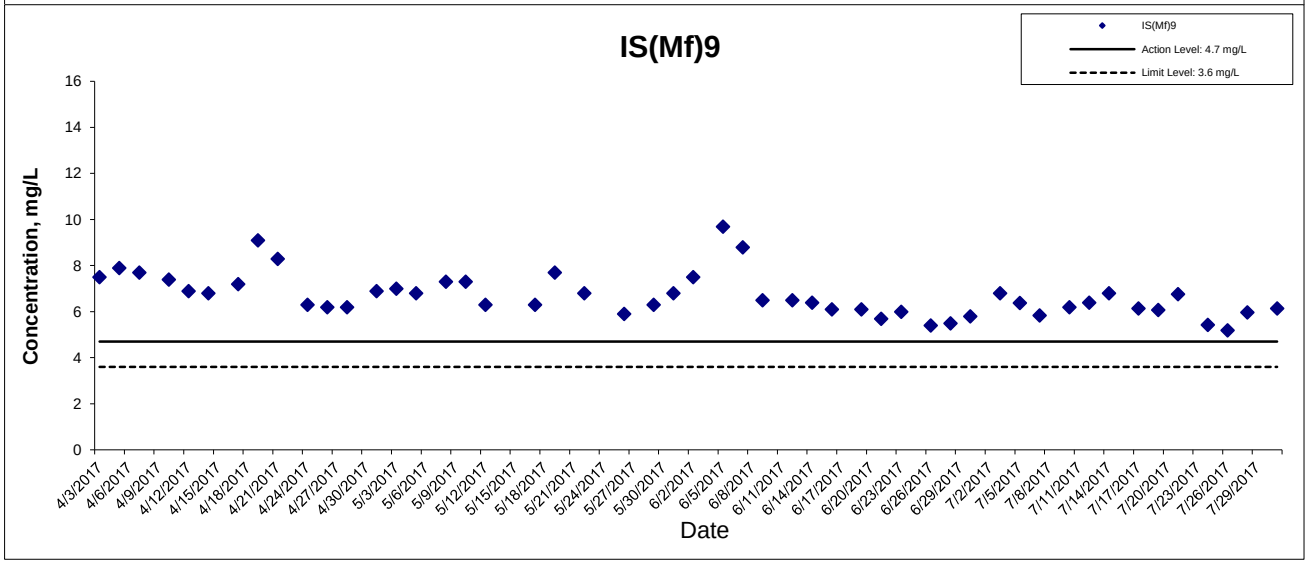




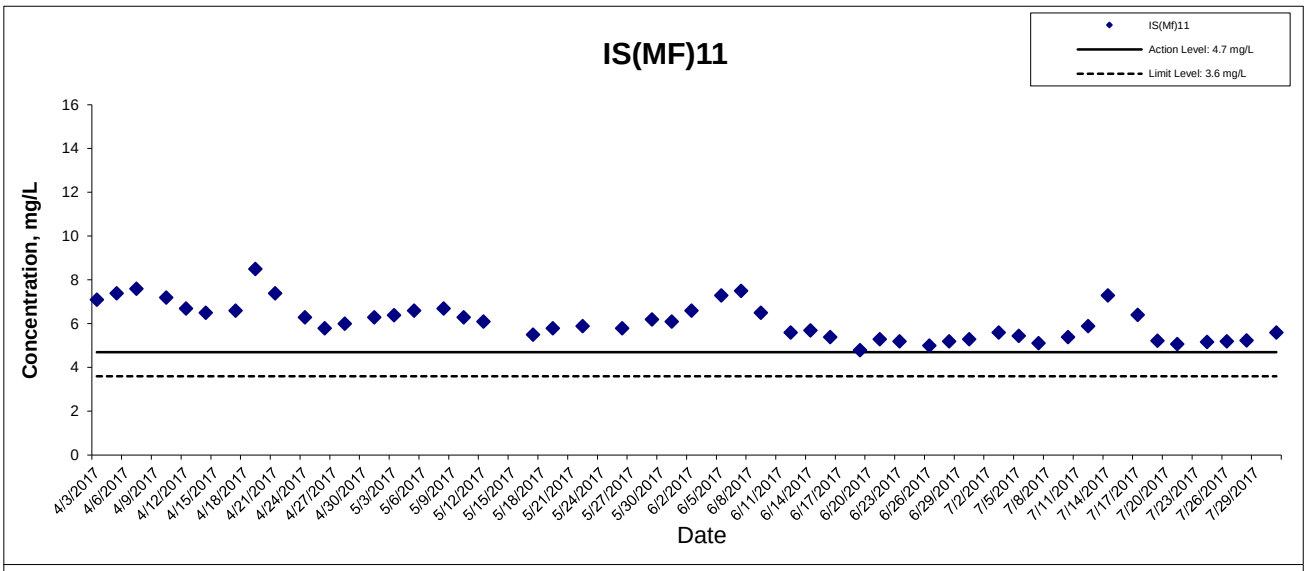
Dissolved Oxygen (Bottom) at Mid-Flood Tide

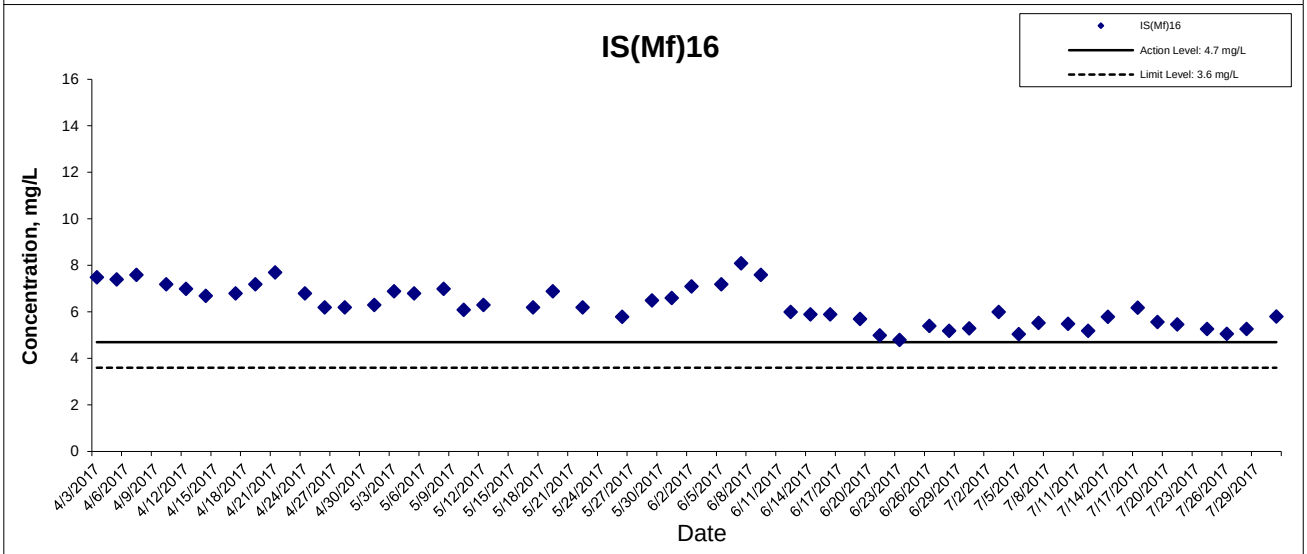


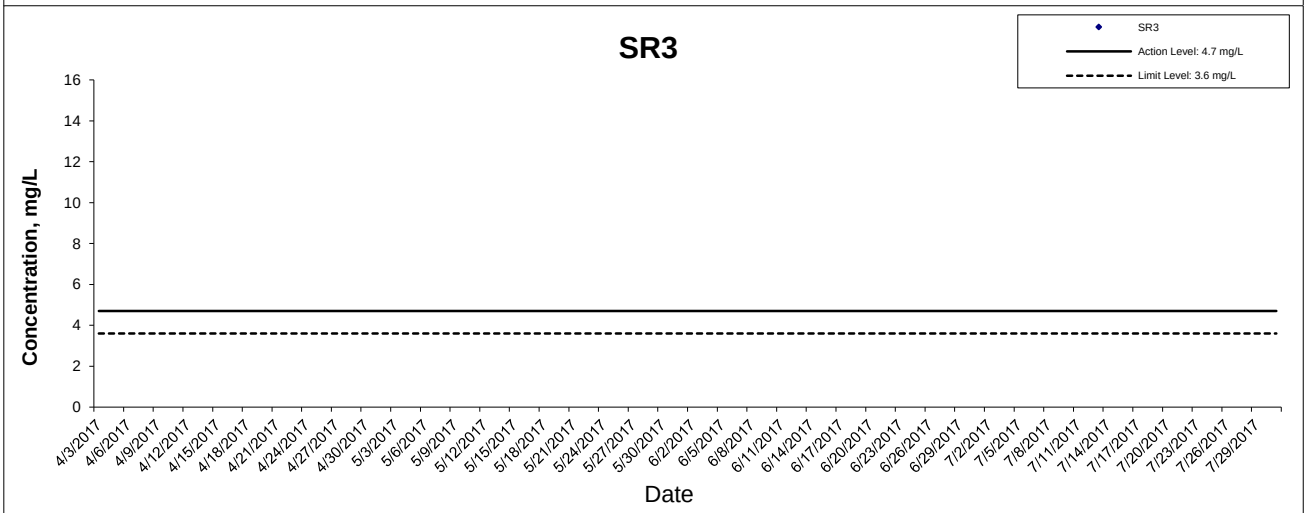




Dissolved Oxygen (Bottom) at Mid-Flood Tide







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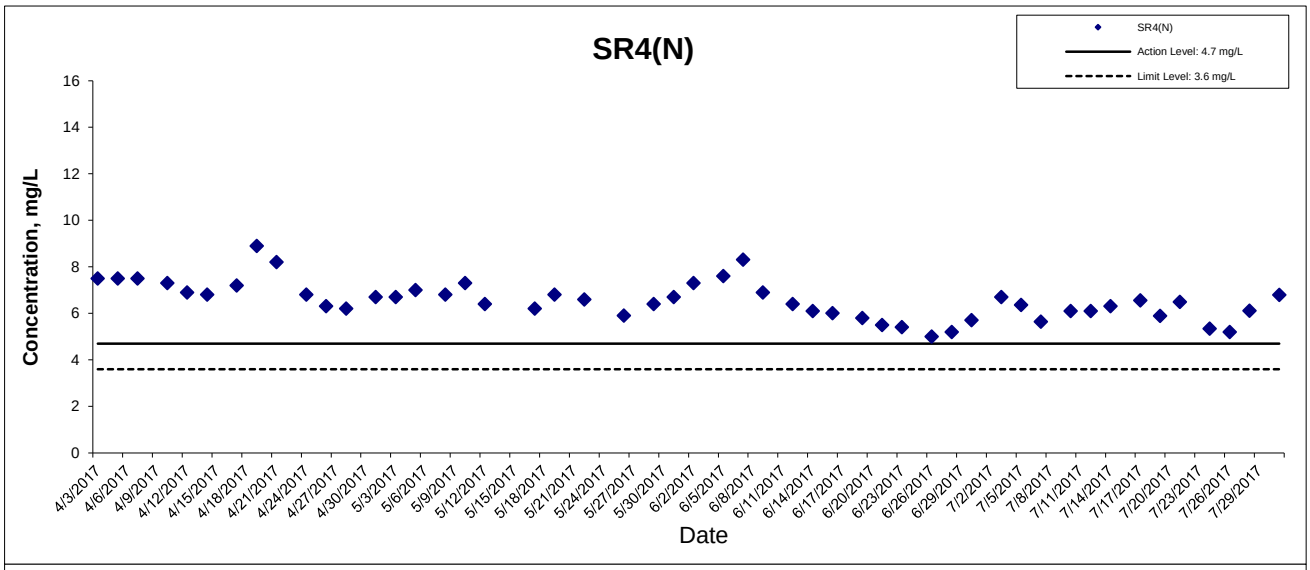
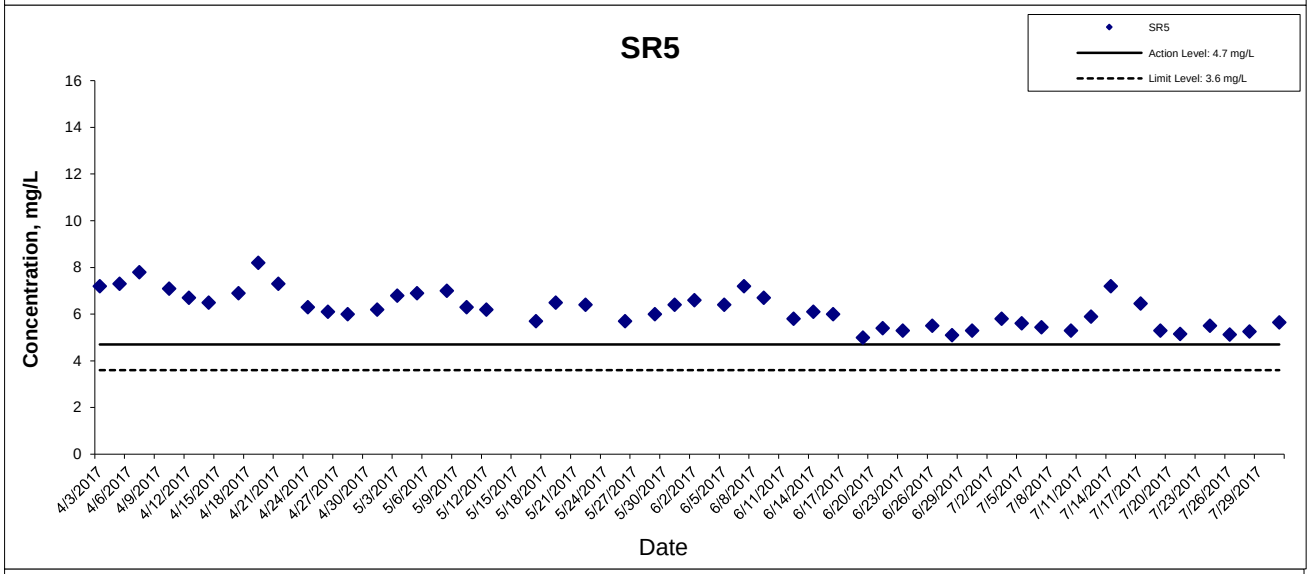
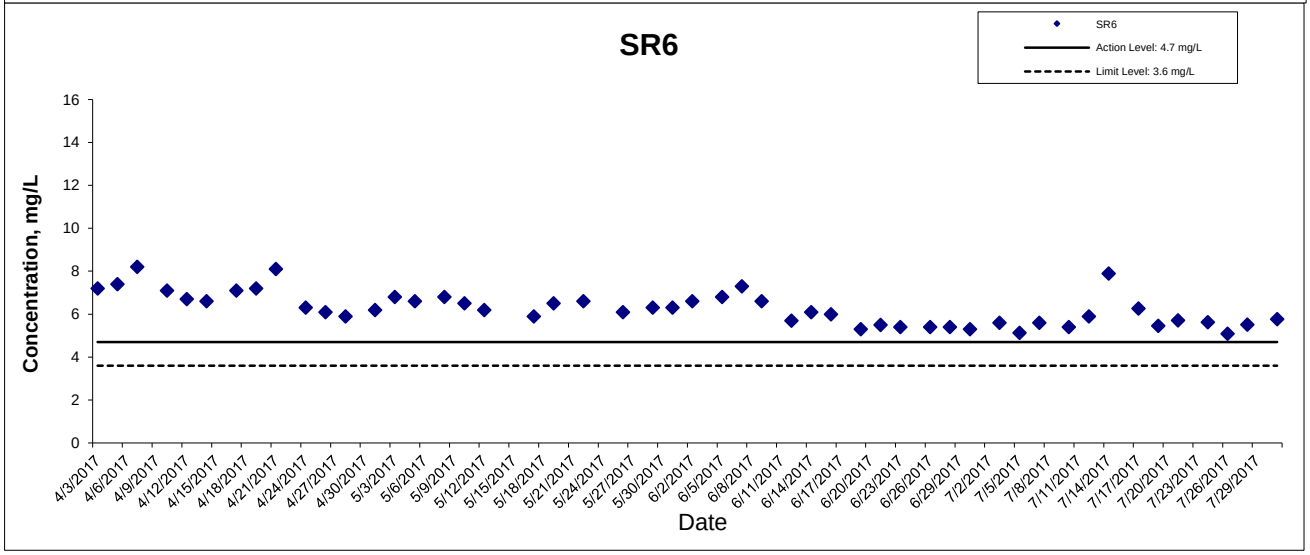
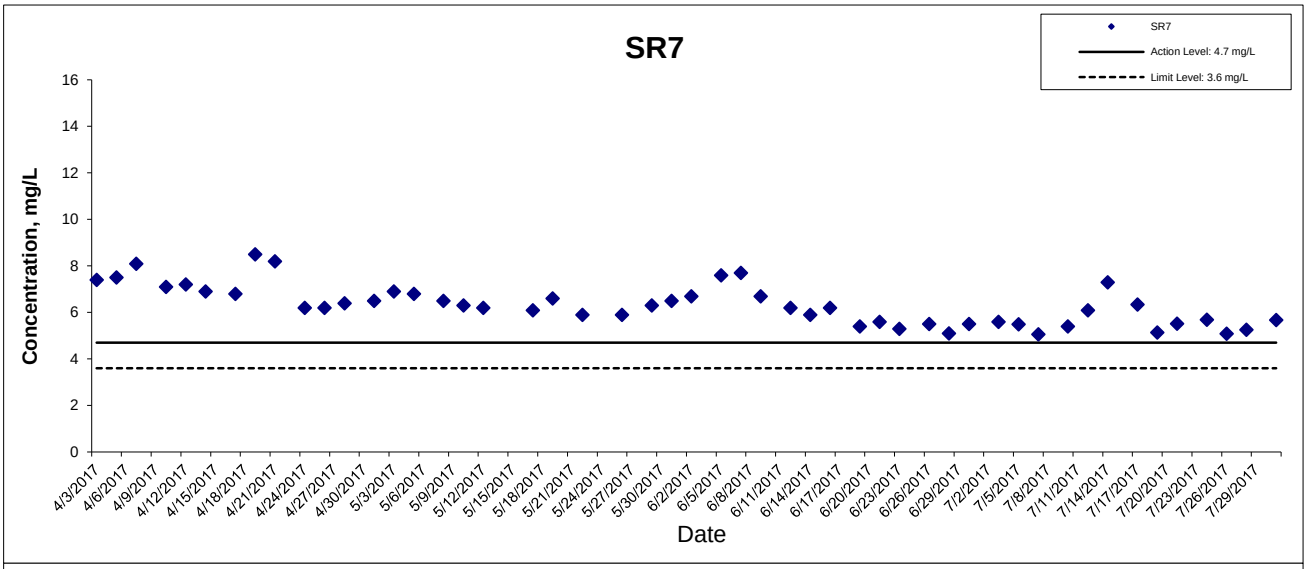
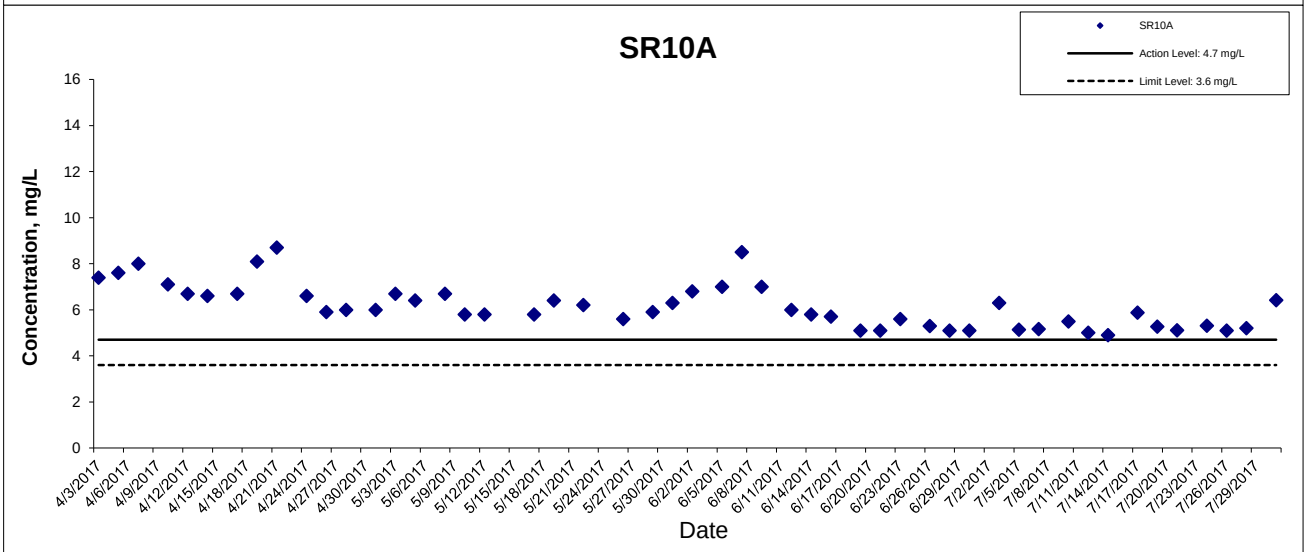


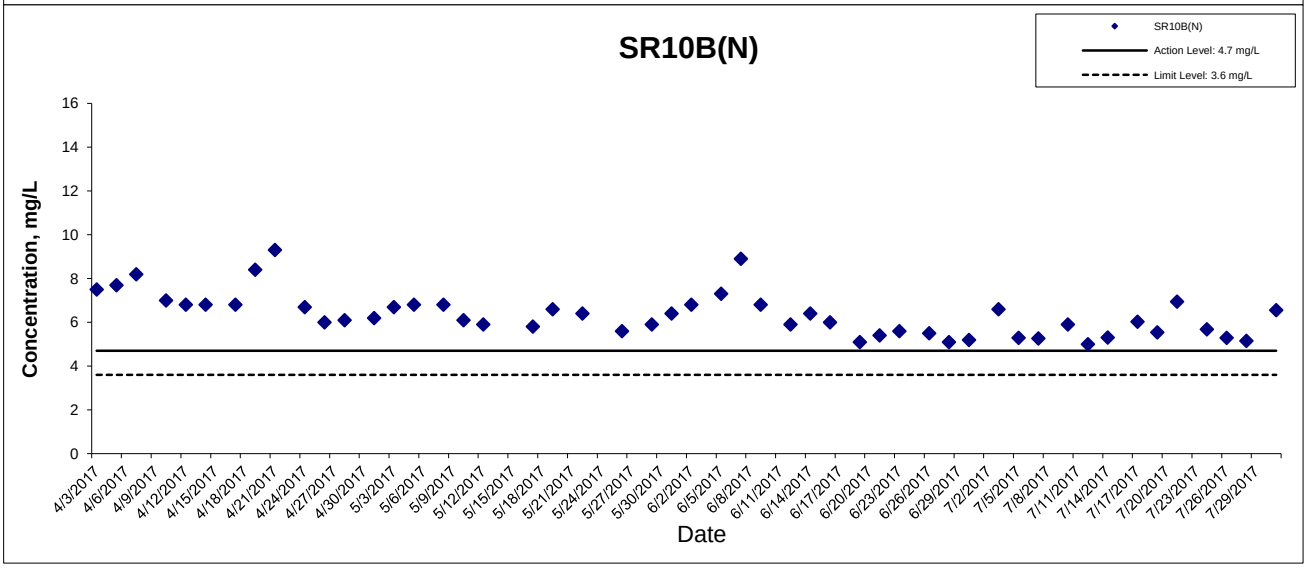




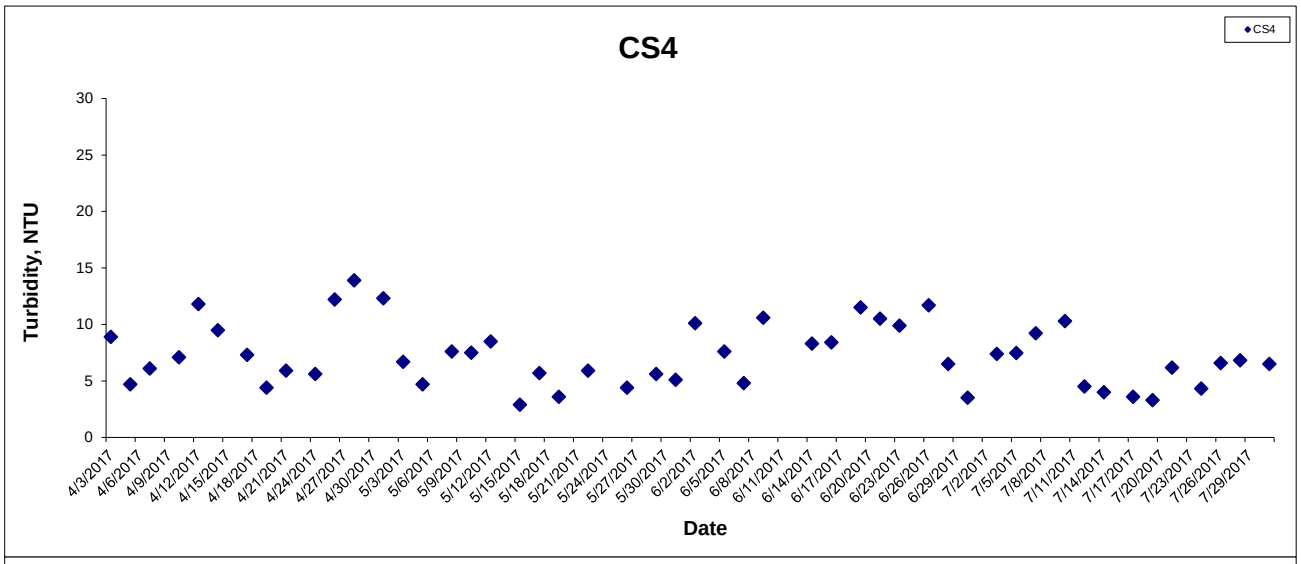
Dissolved Oxygen (Bottom) at Mid-Flood Tide

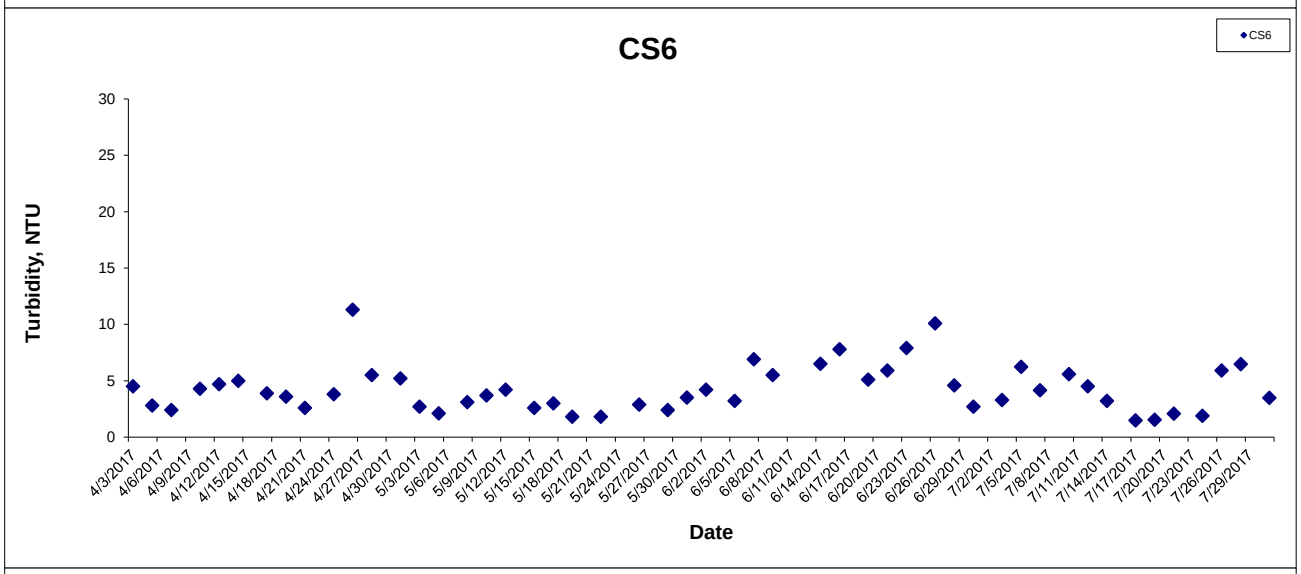


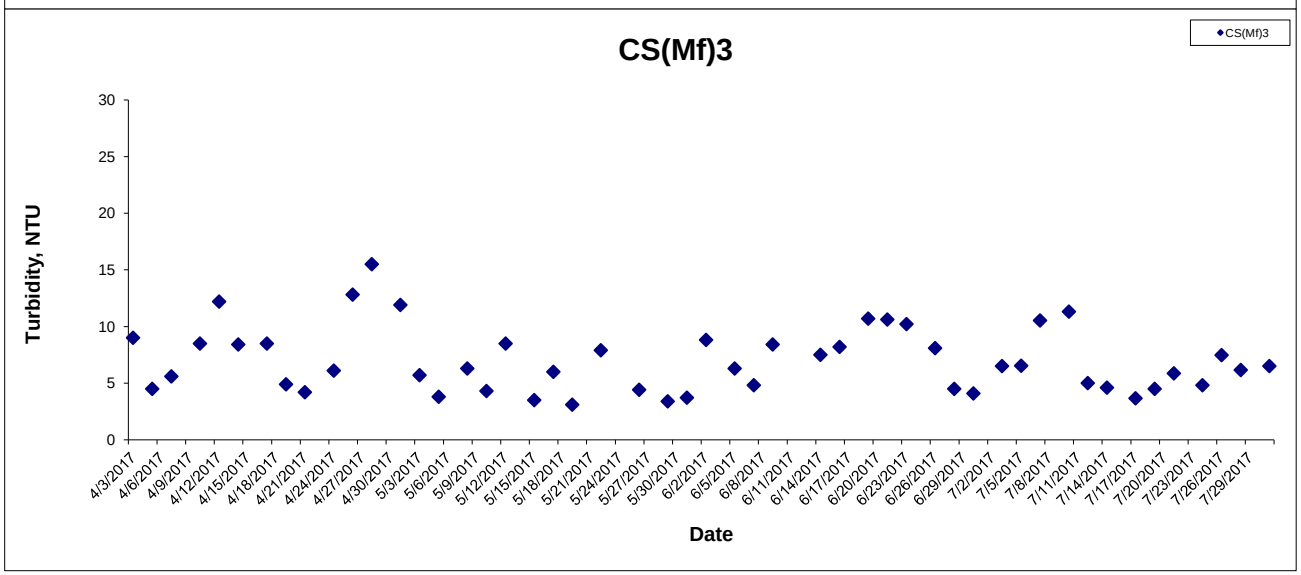




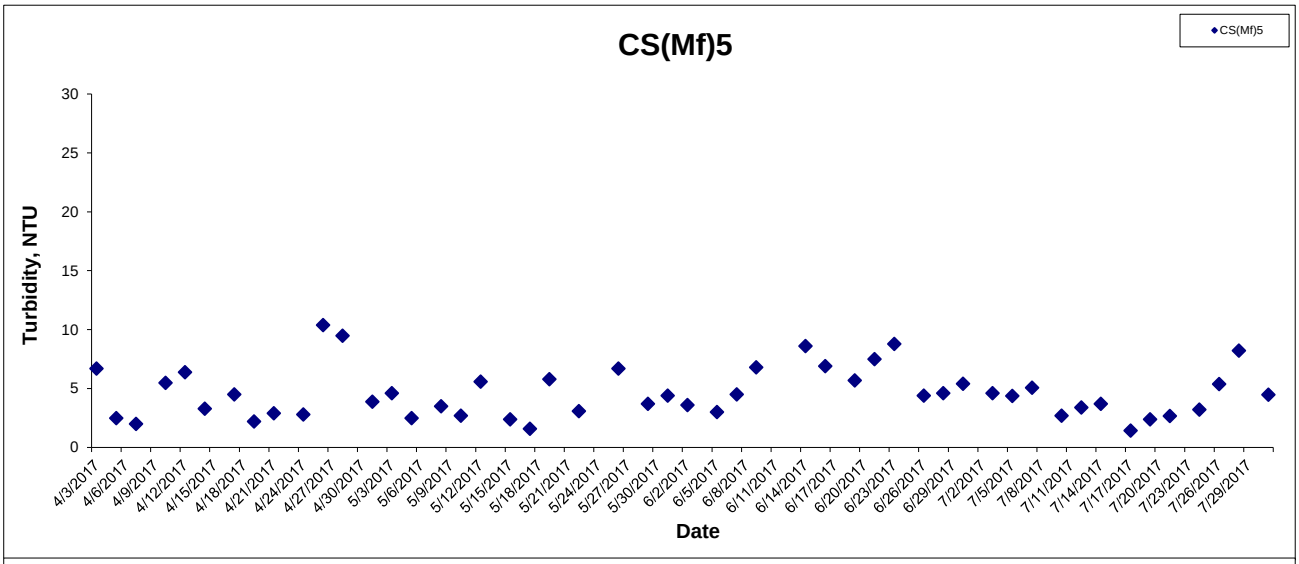
Turbidity at Mid-Ebb Tide

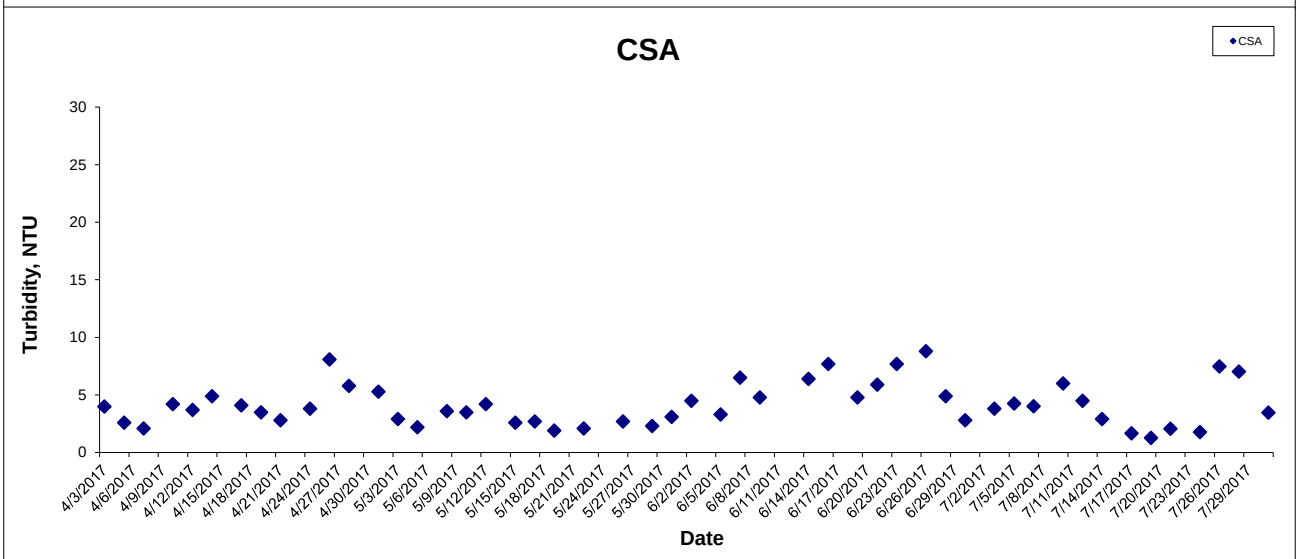


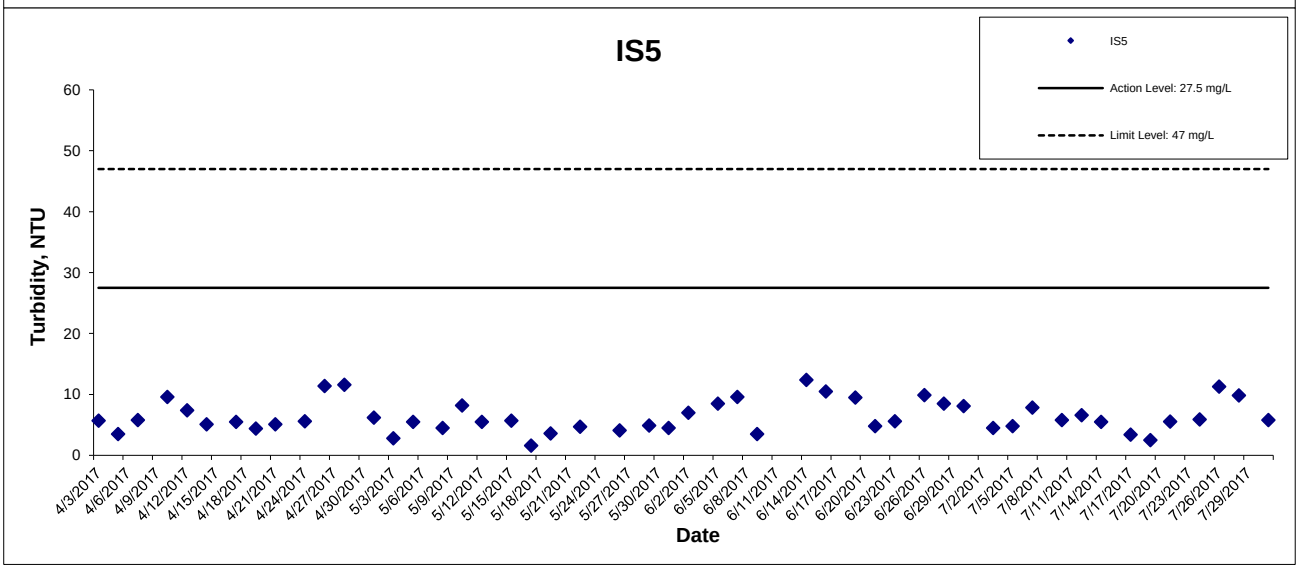




Turbidity at Mid-Ebb Tide







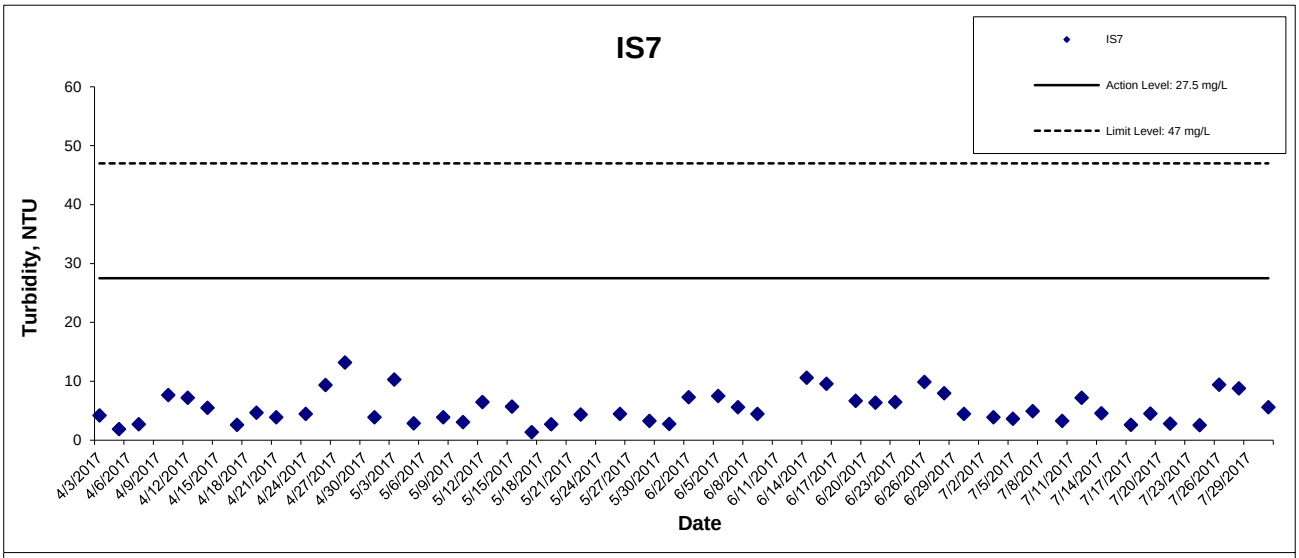
HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

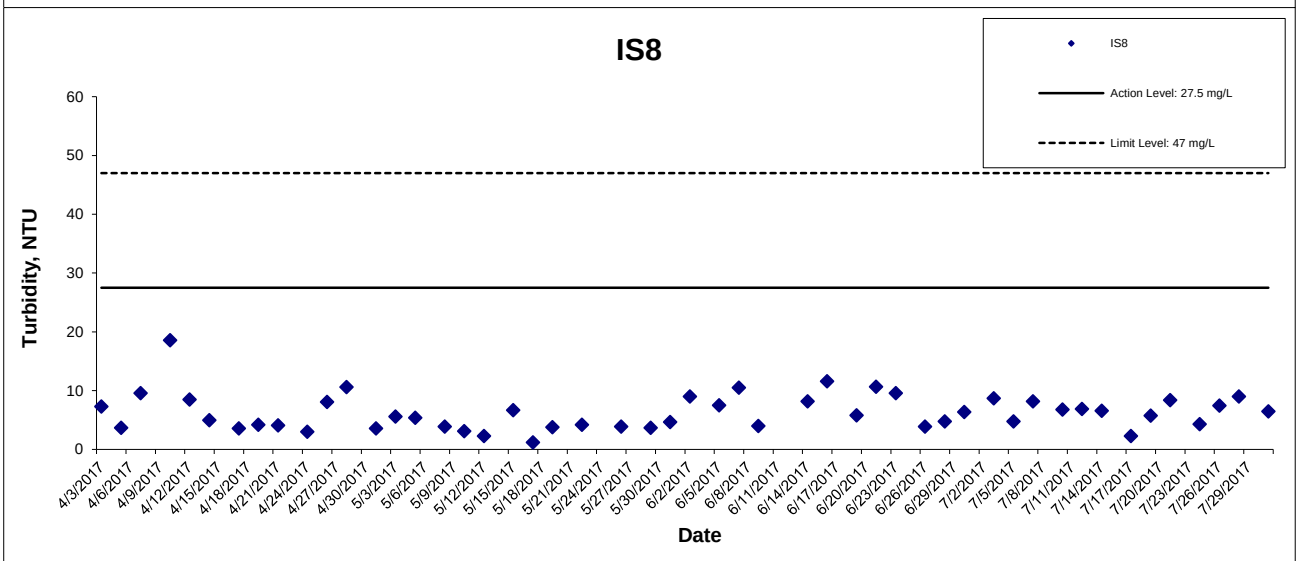
Graphical Presentation of Impact Water Quality Monitoring Results

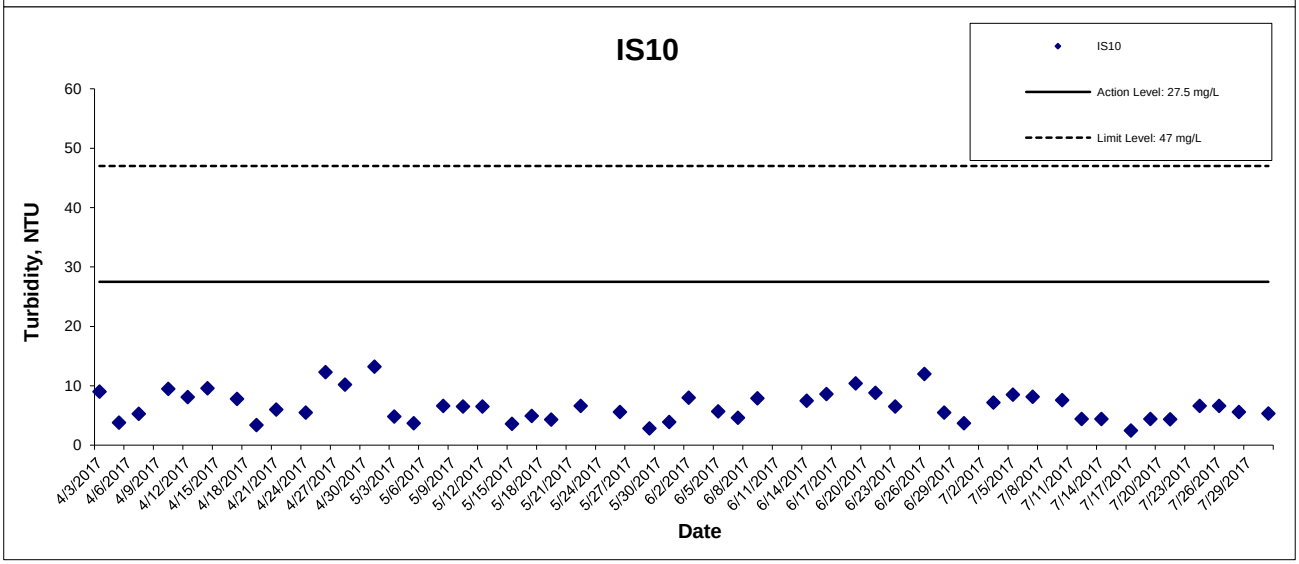
Project No.: 60249820 **Date: Aug 2017**

Appendix J

Turbidity at Mid-Ebb Tide







HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

AECOM

Graphical Presentation of Impact Water Quality Monitoring Results

Project No.: 60249820 **Date: Aug 2017**

Appendix J

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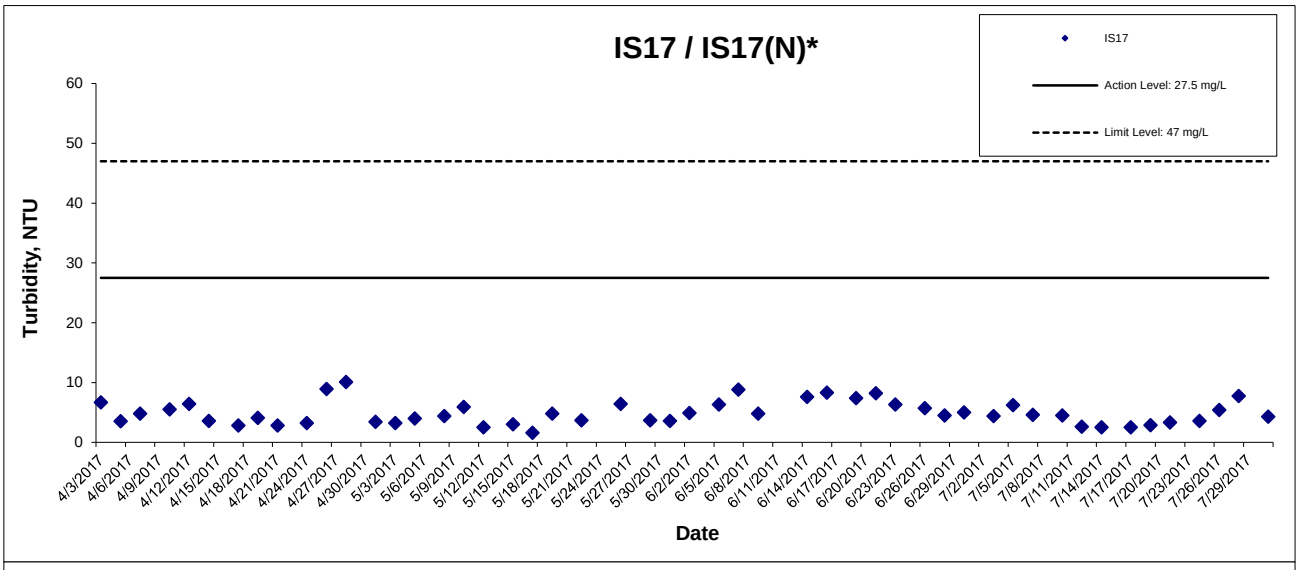

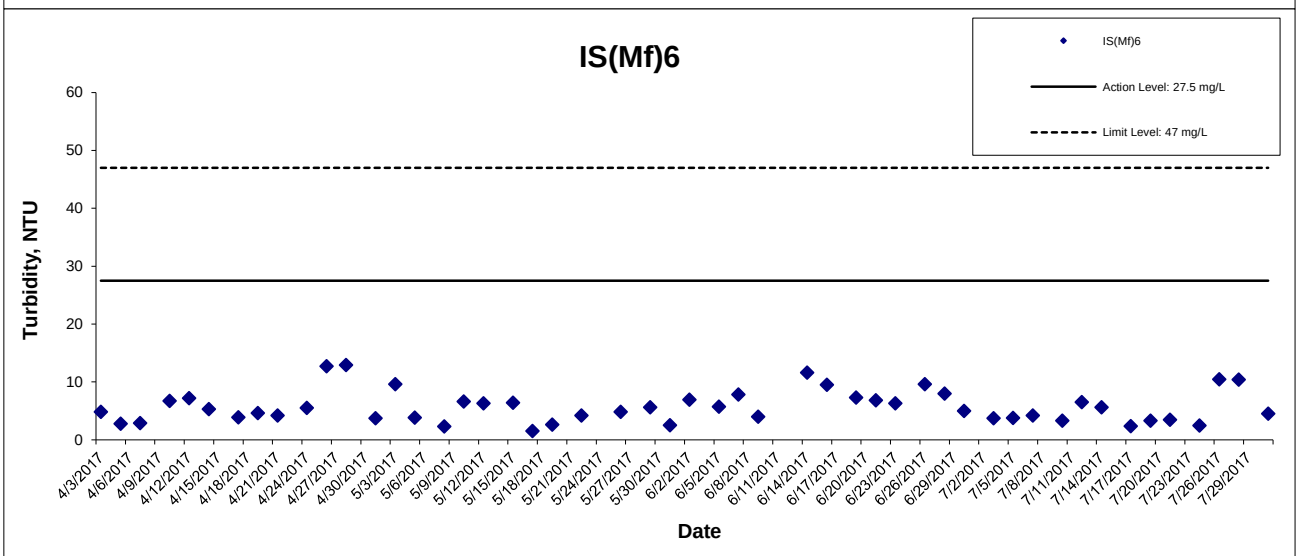

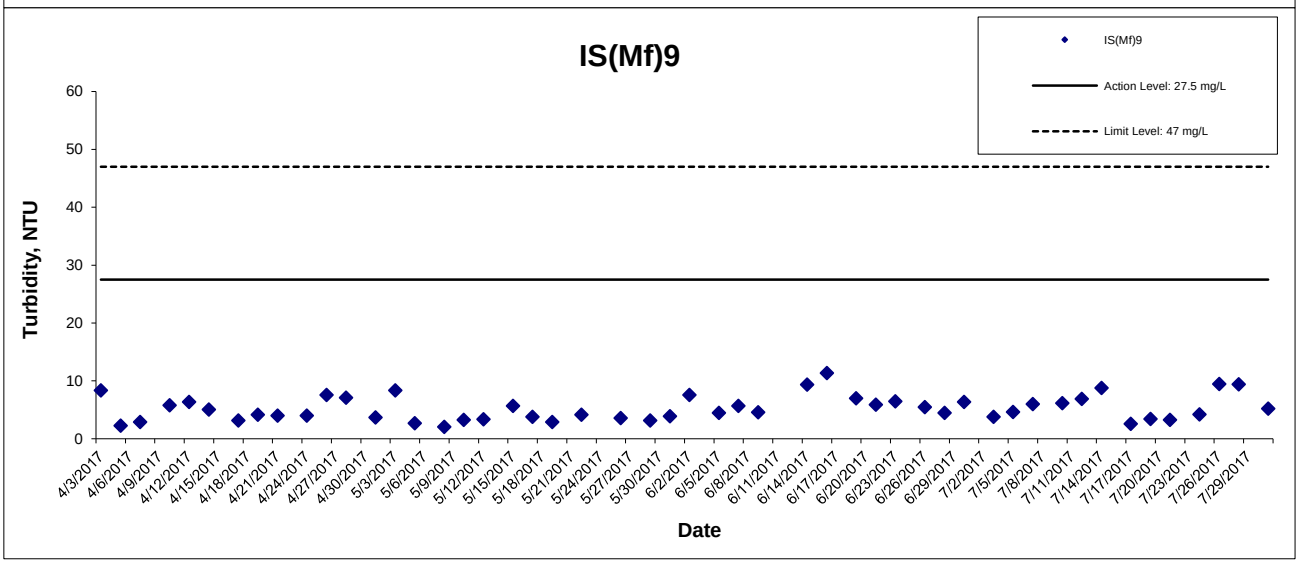

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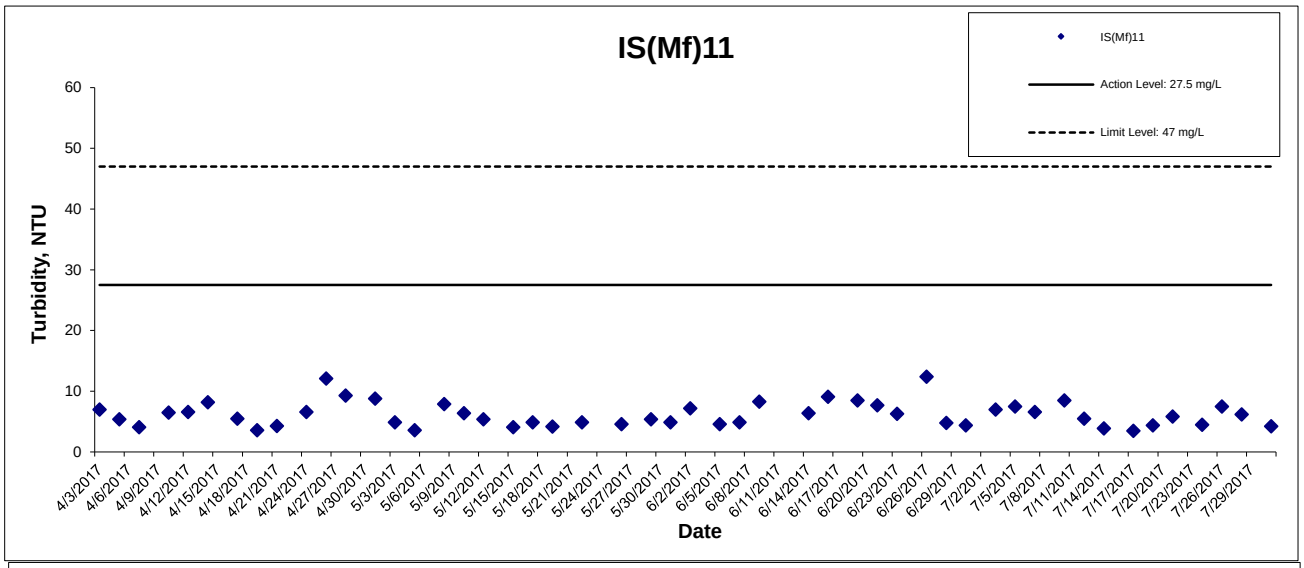

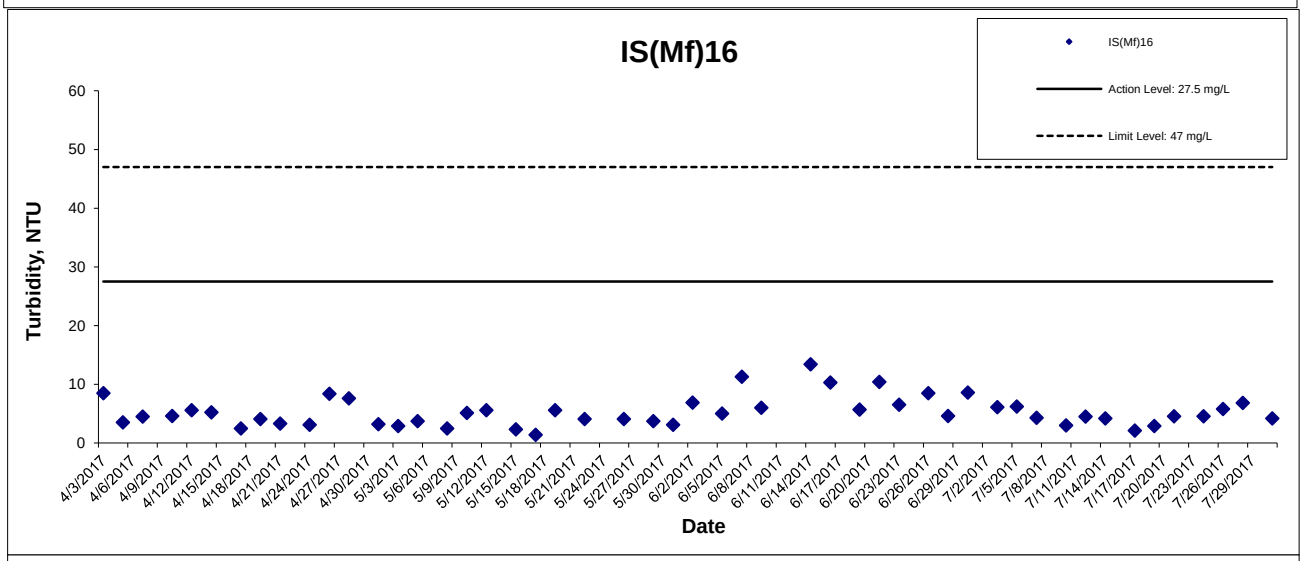

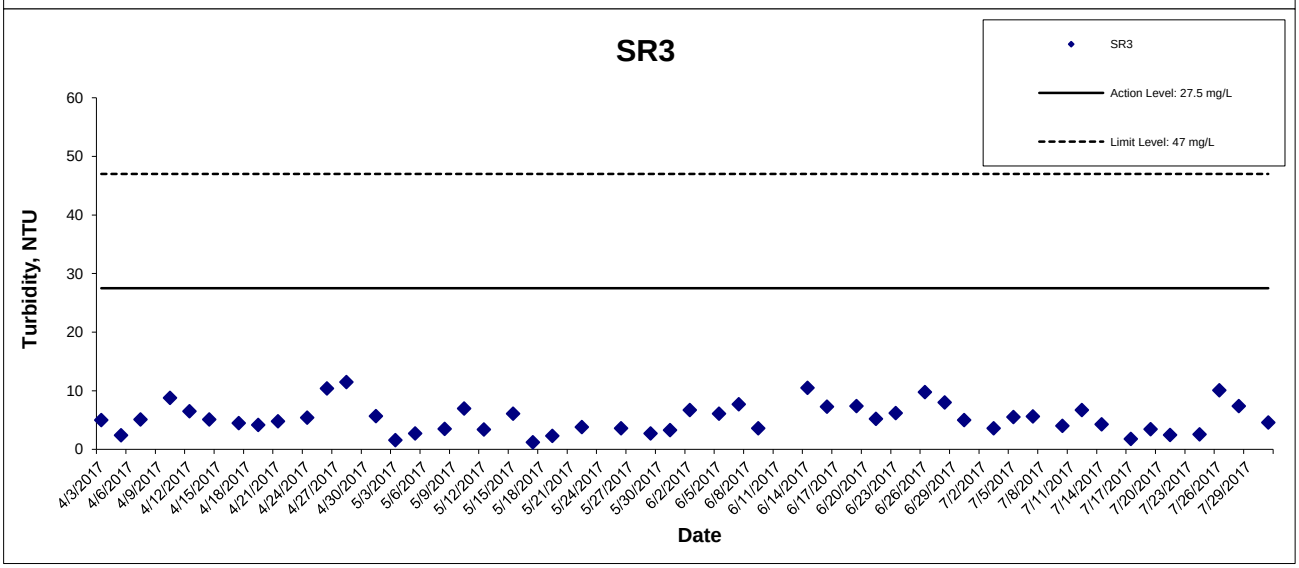

HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

AECOM

Graphical Presentation of Impact Water Quality Monitoring Results

Project No.: 60249820 **Date: Aug 2017**

Appendix J

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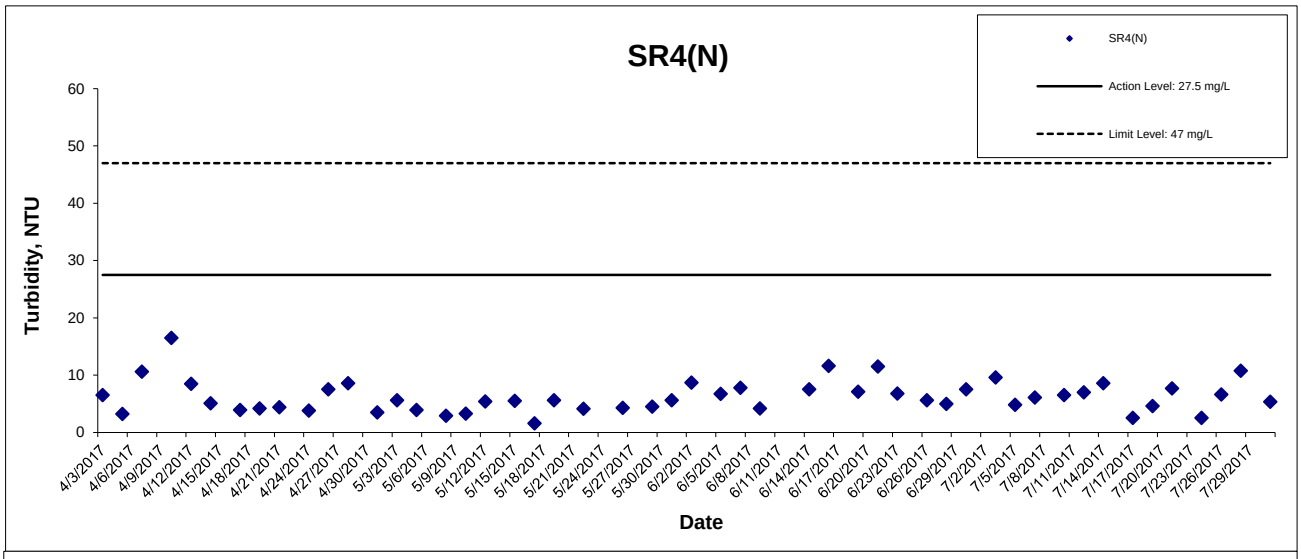

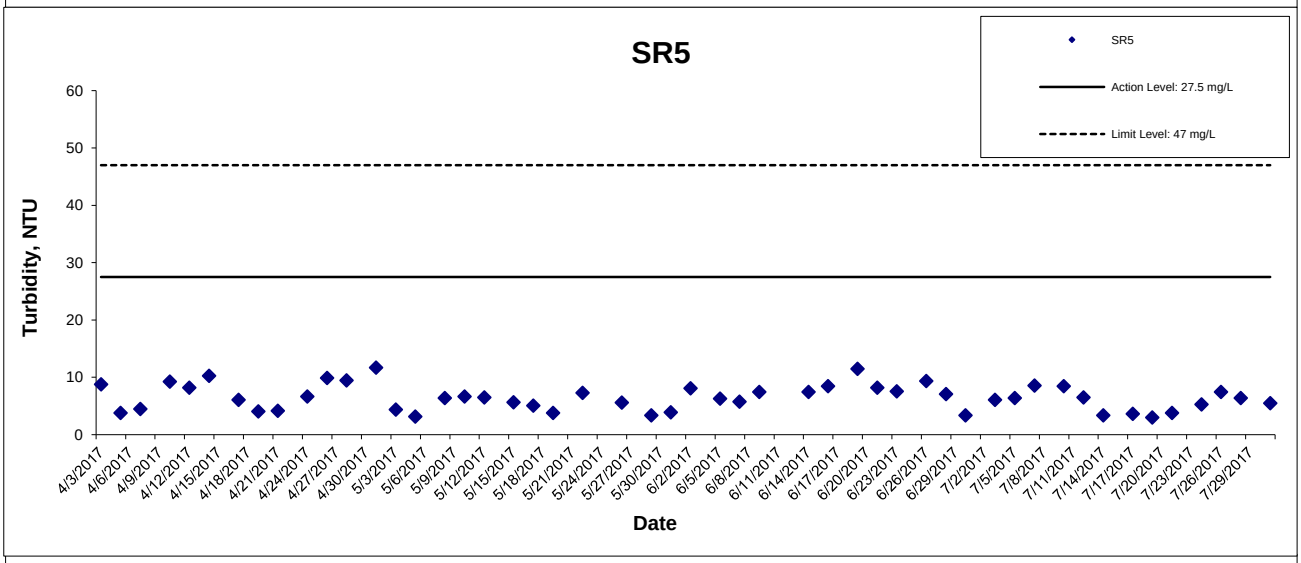

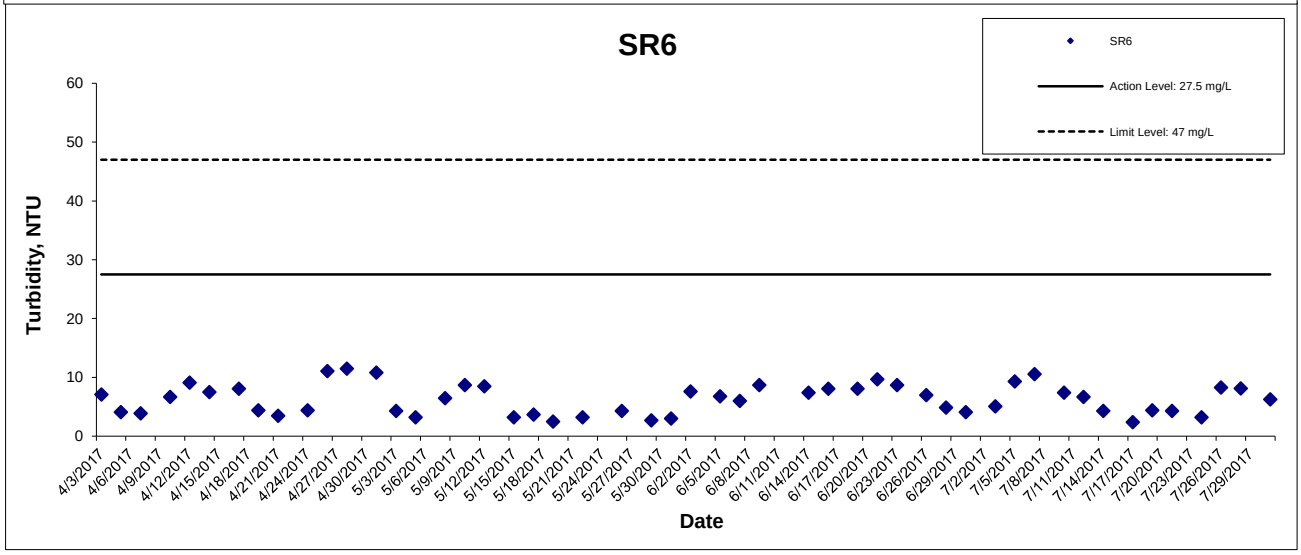

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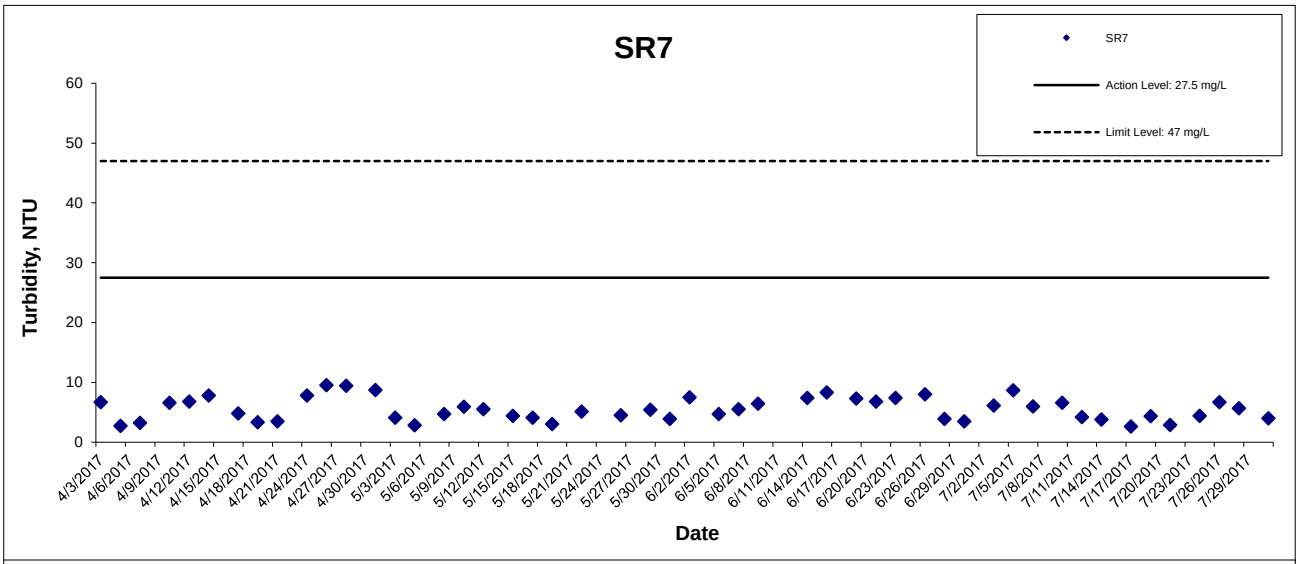
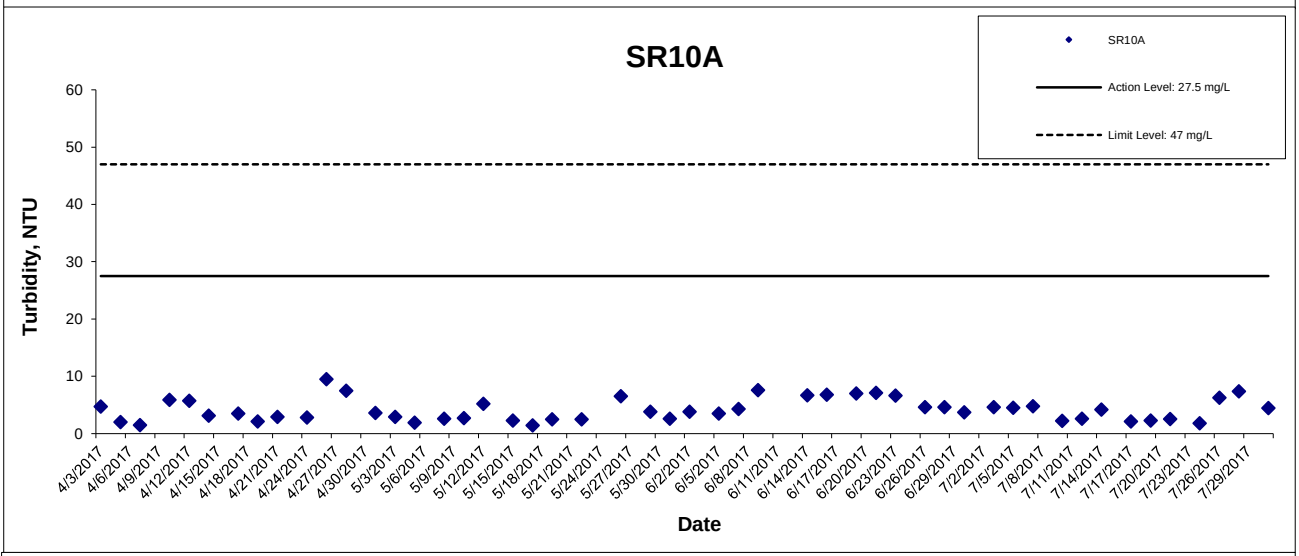
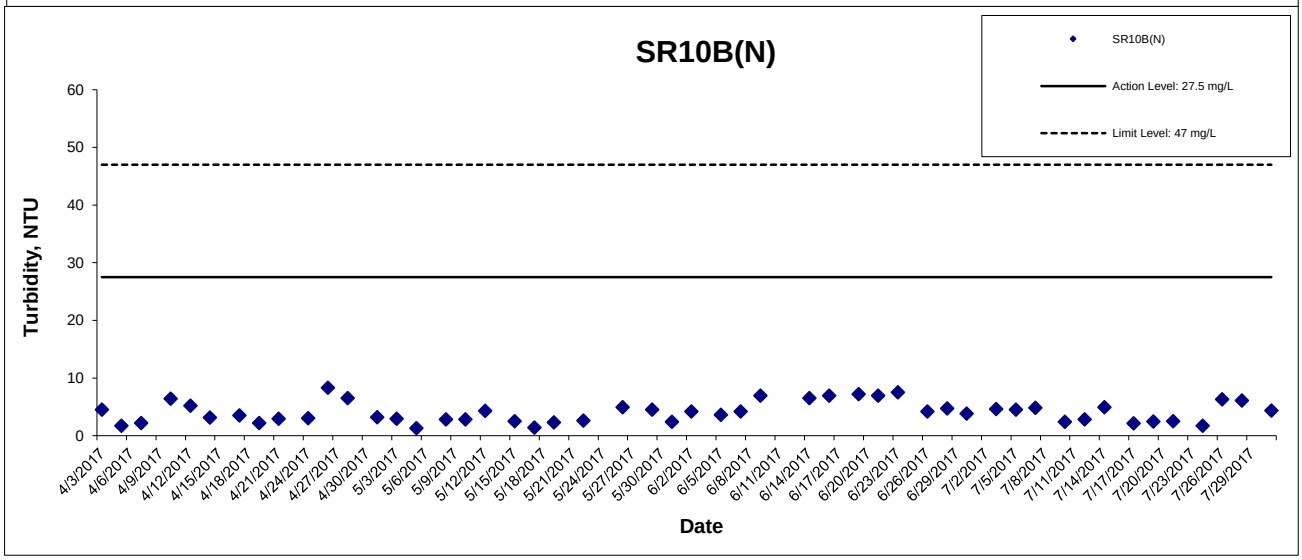




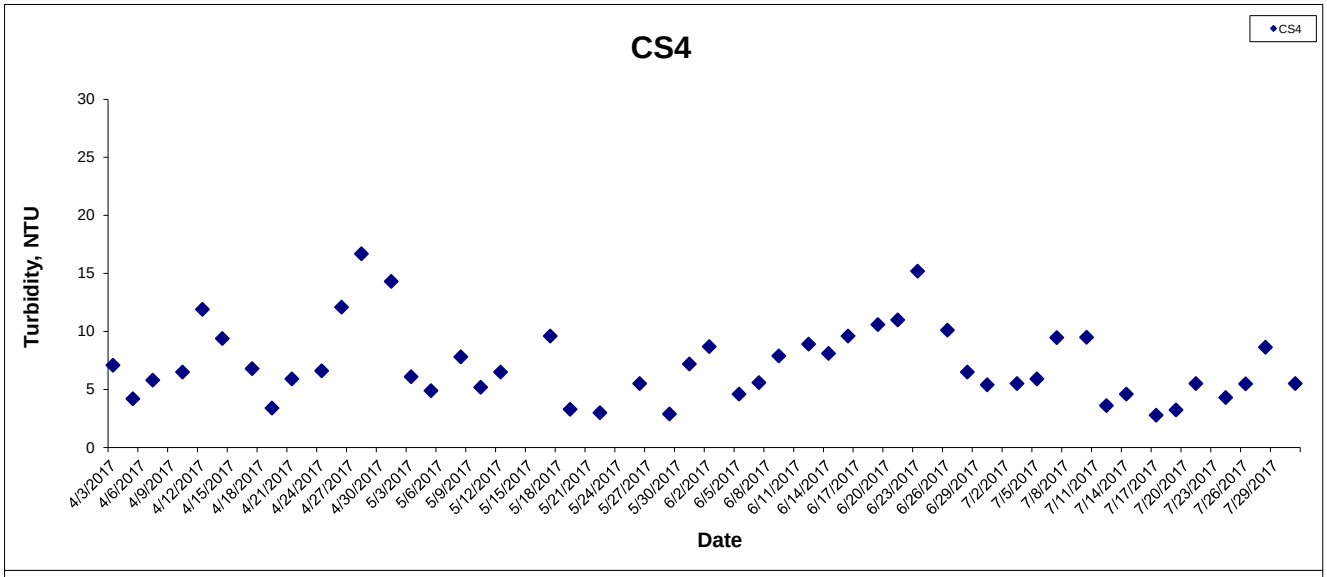


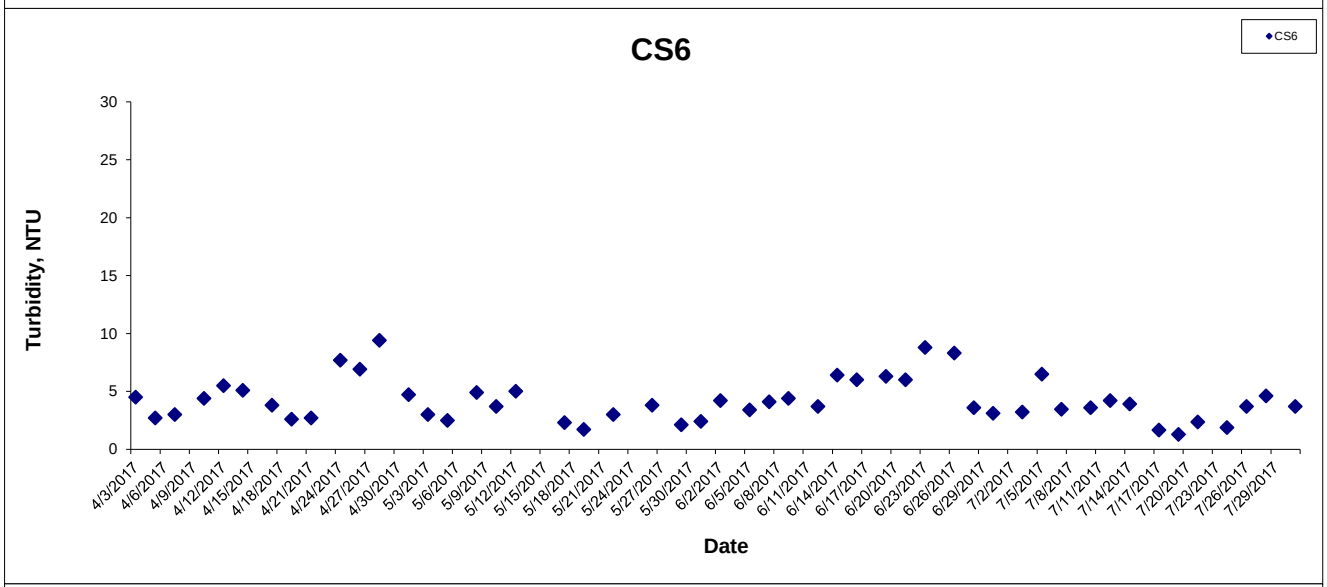
HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

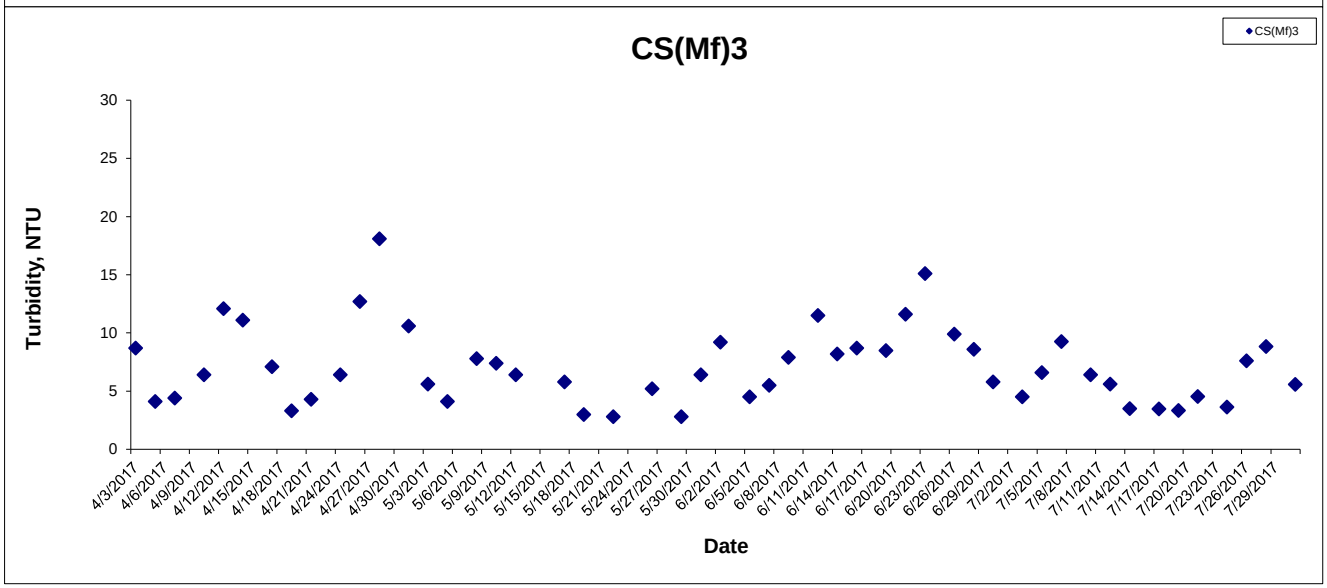
Graphical Presentation of Impact Water Quality Monitoring Results

Project No.: 60249820 **Date: Aug 2017** **Appendix J**

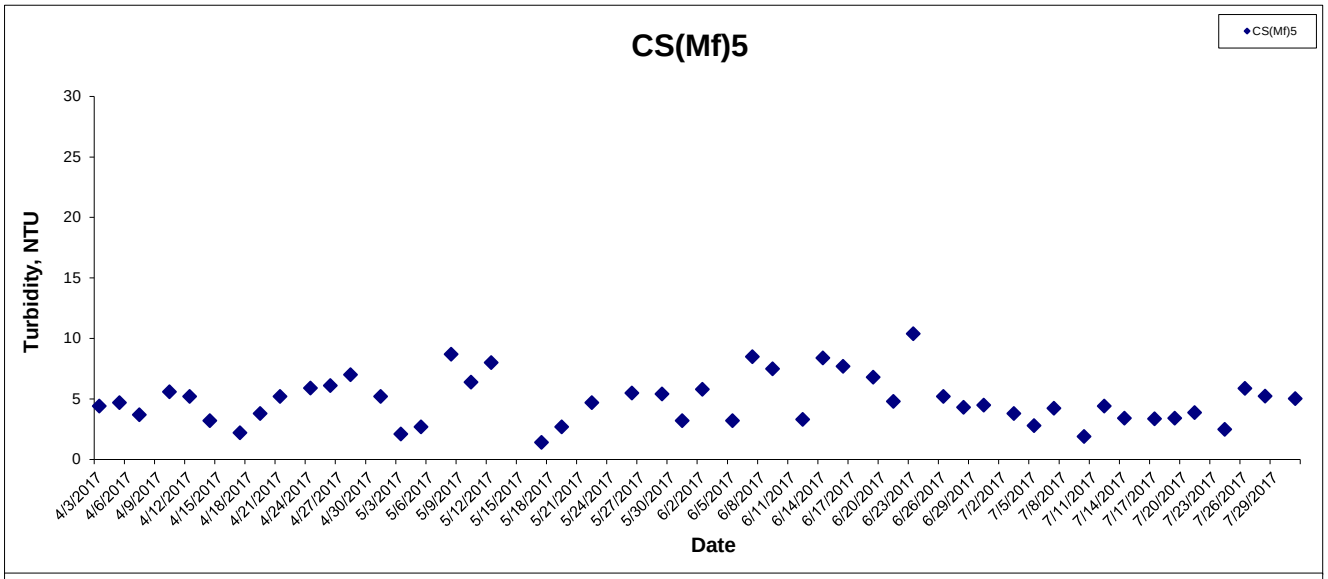
Turbidity at Mid-Flood Tide

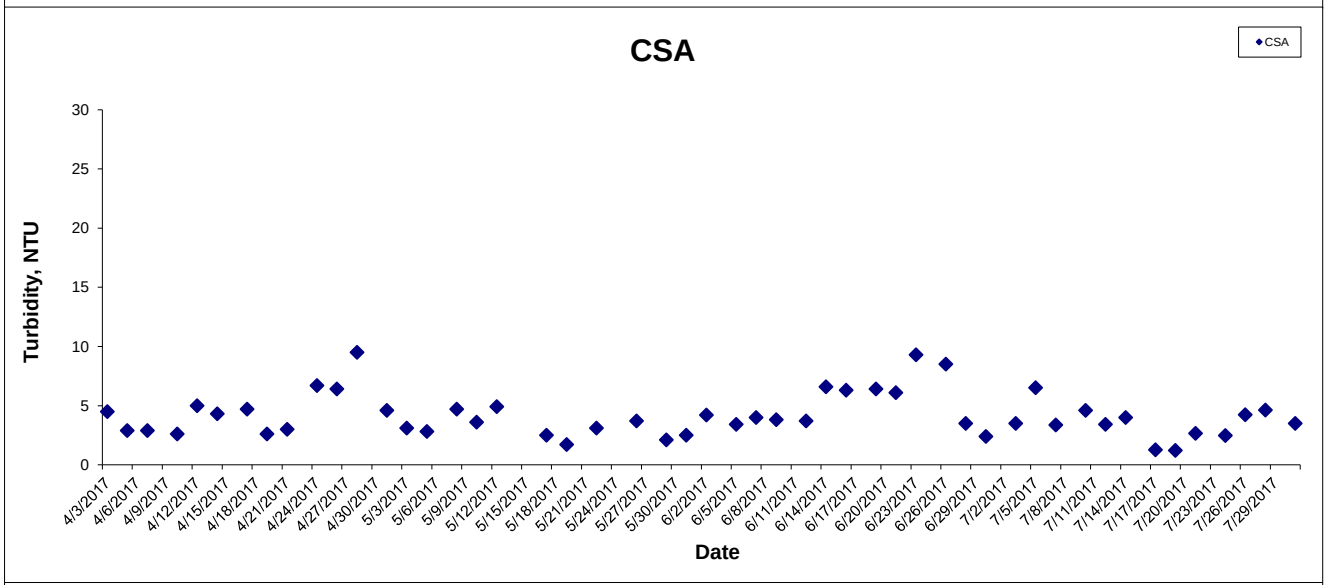


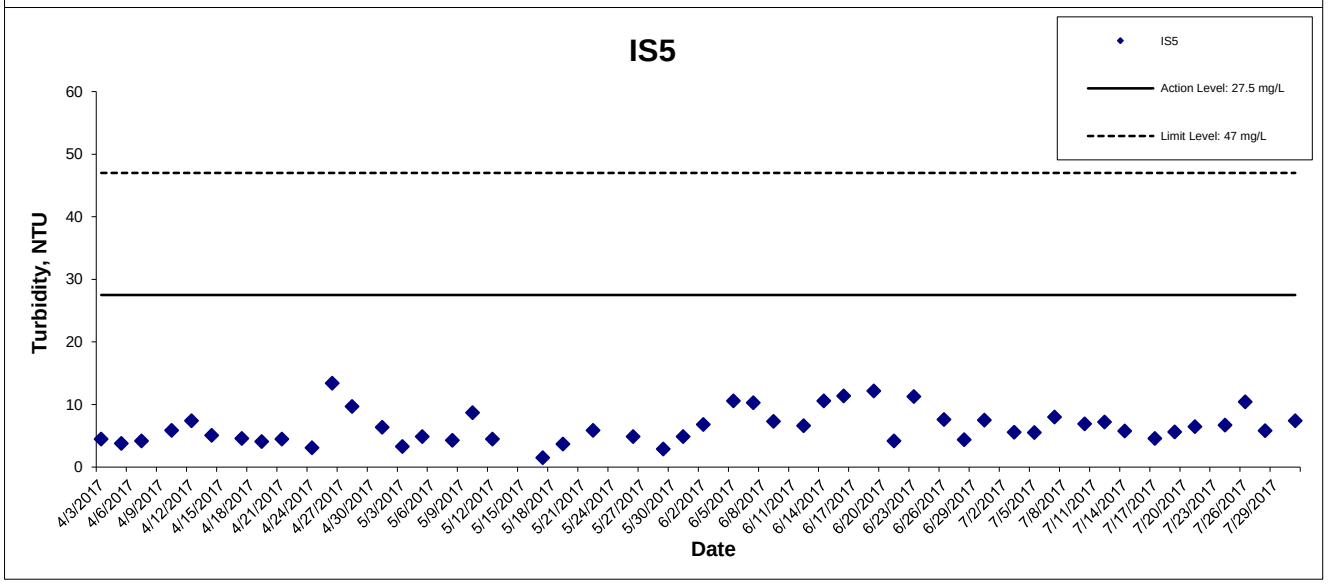




Turbidity at Mid-Flood Tide







HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

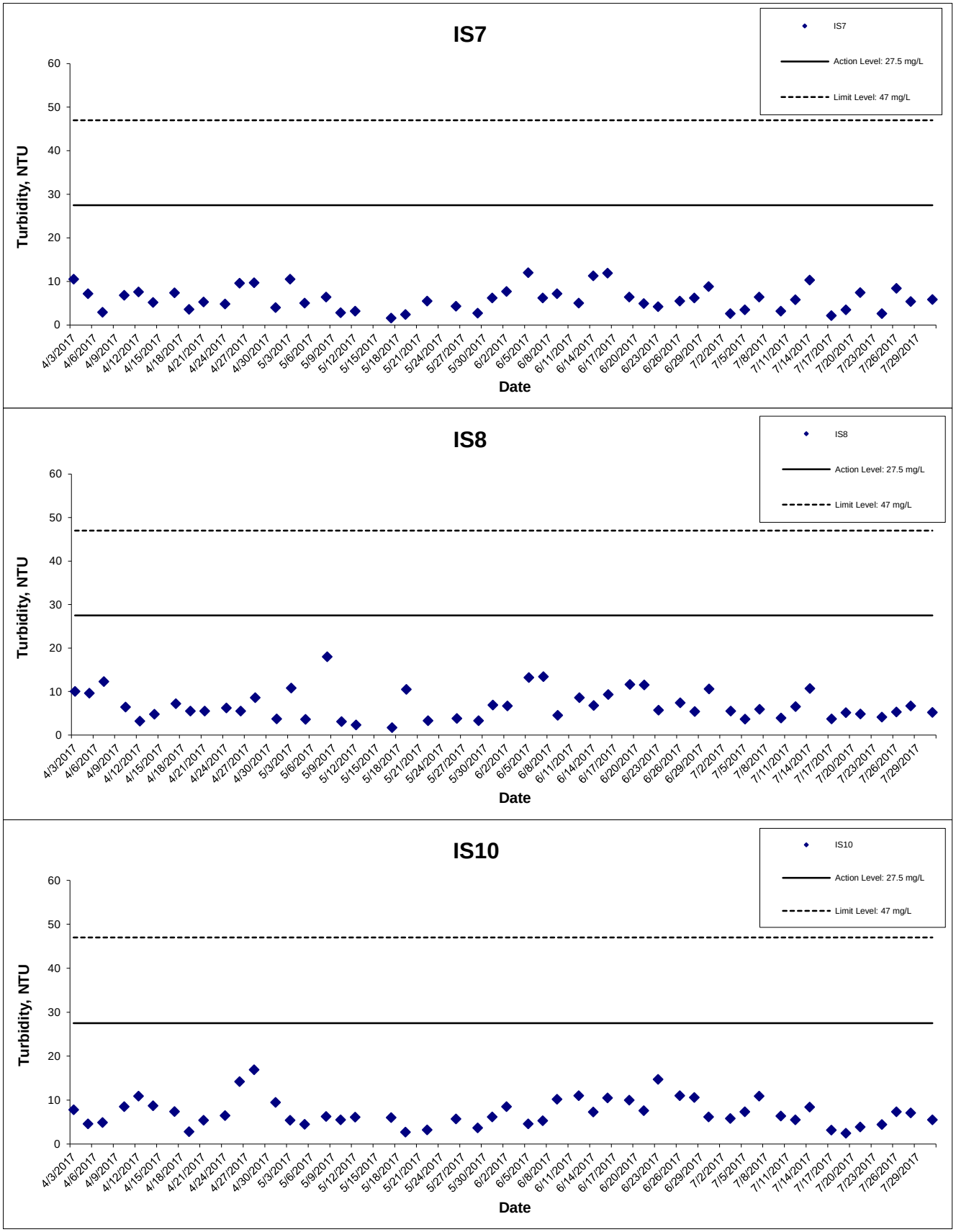
AECOM

Graphical Presentation of Impact Water Quality Monitoring Results

Project No.: 60249820 Date: Aug 2017

Appendix J

Turbidity at Mid-Flood Tide



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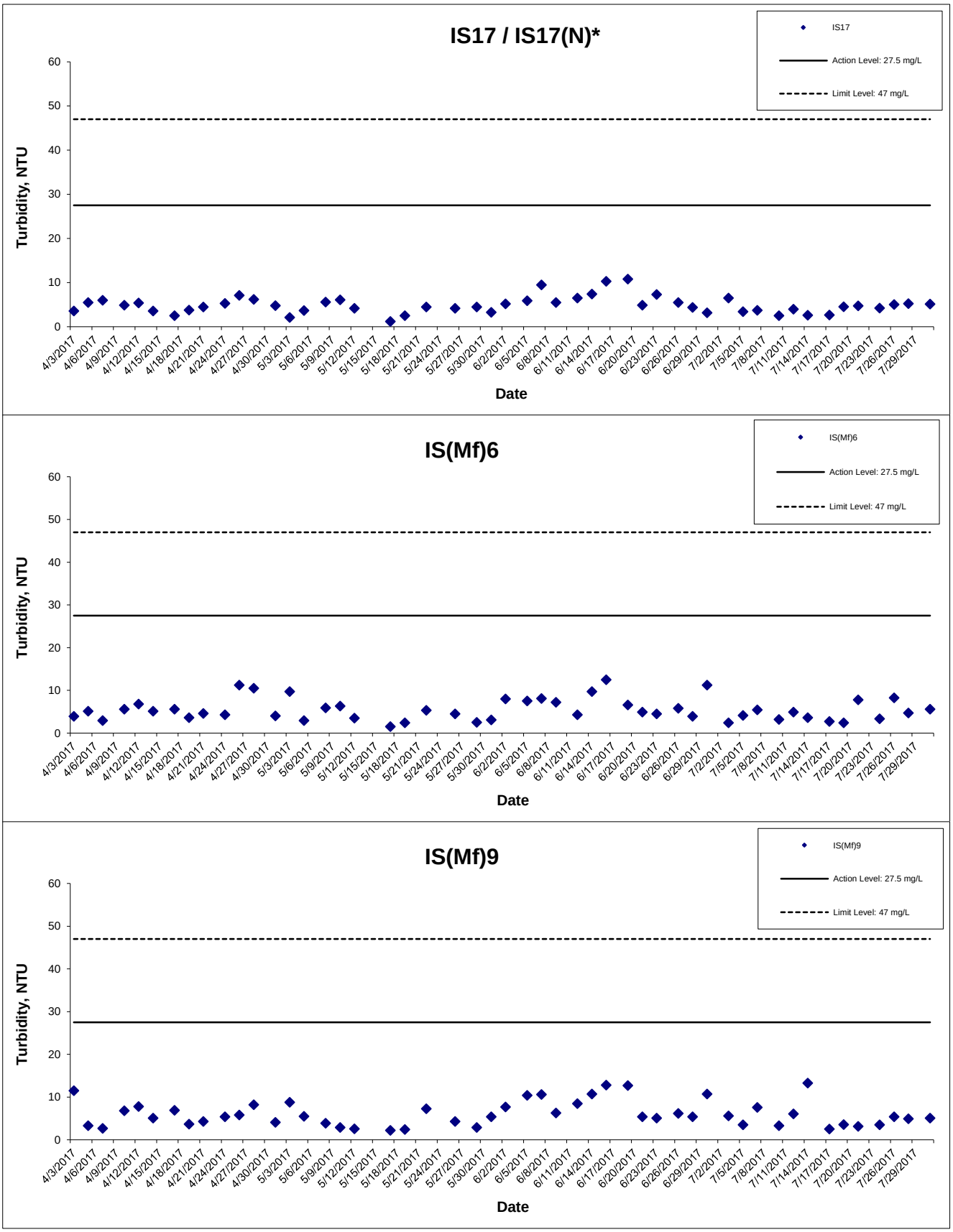

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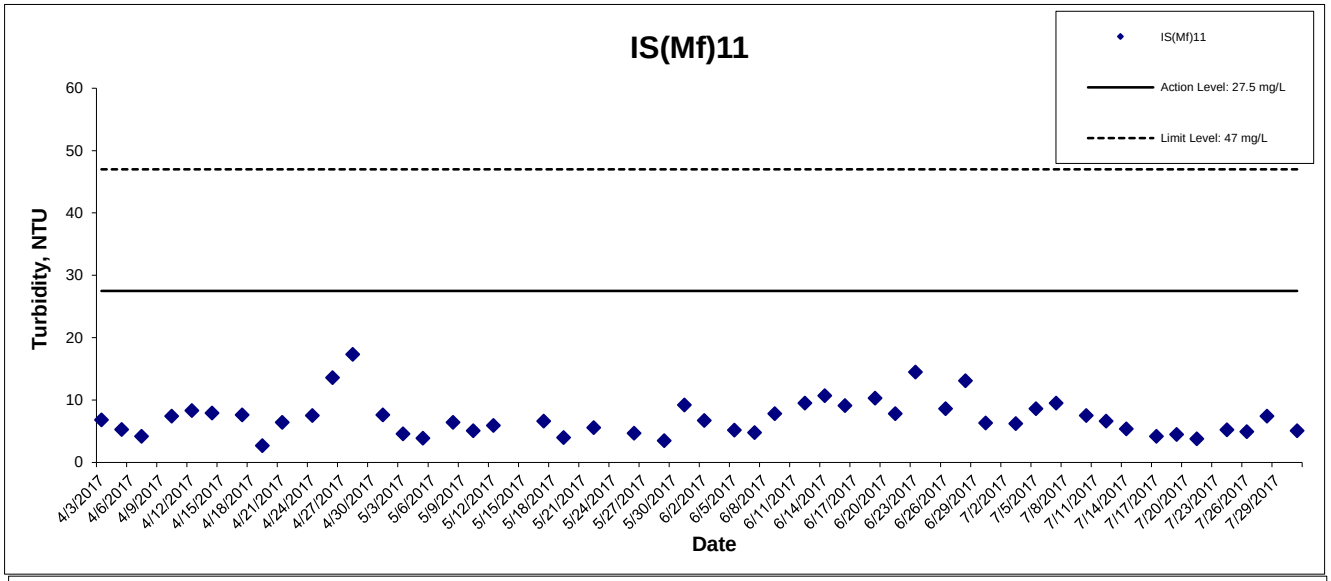

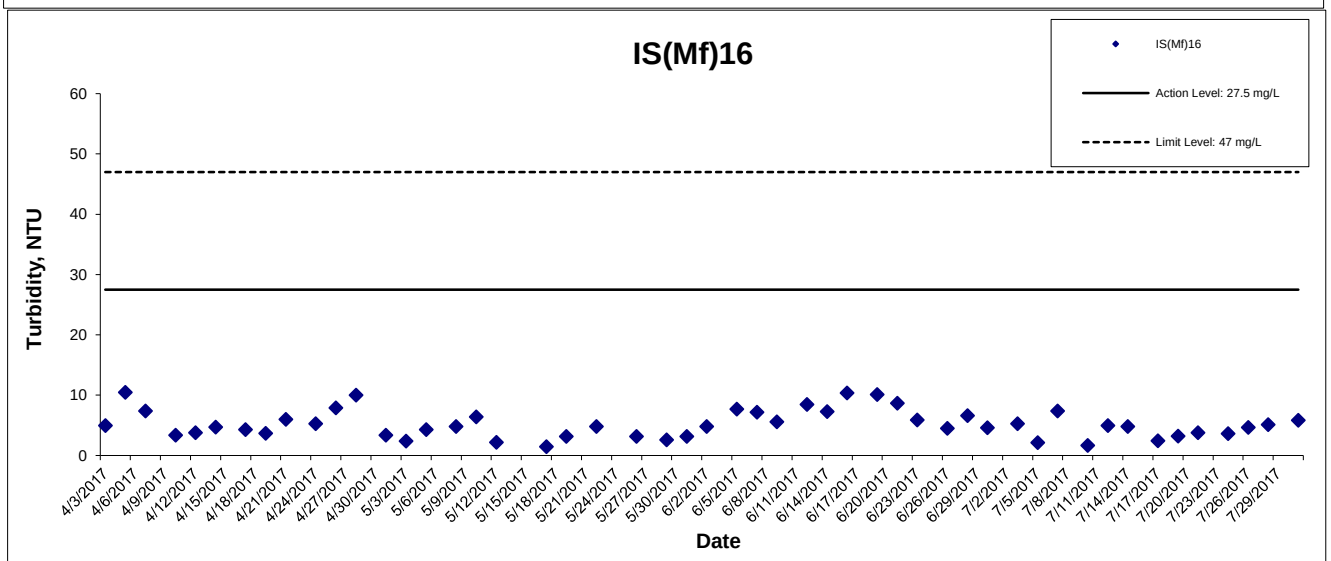

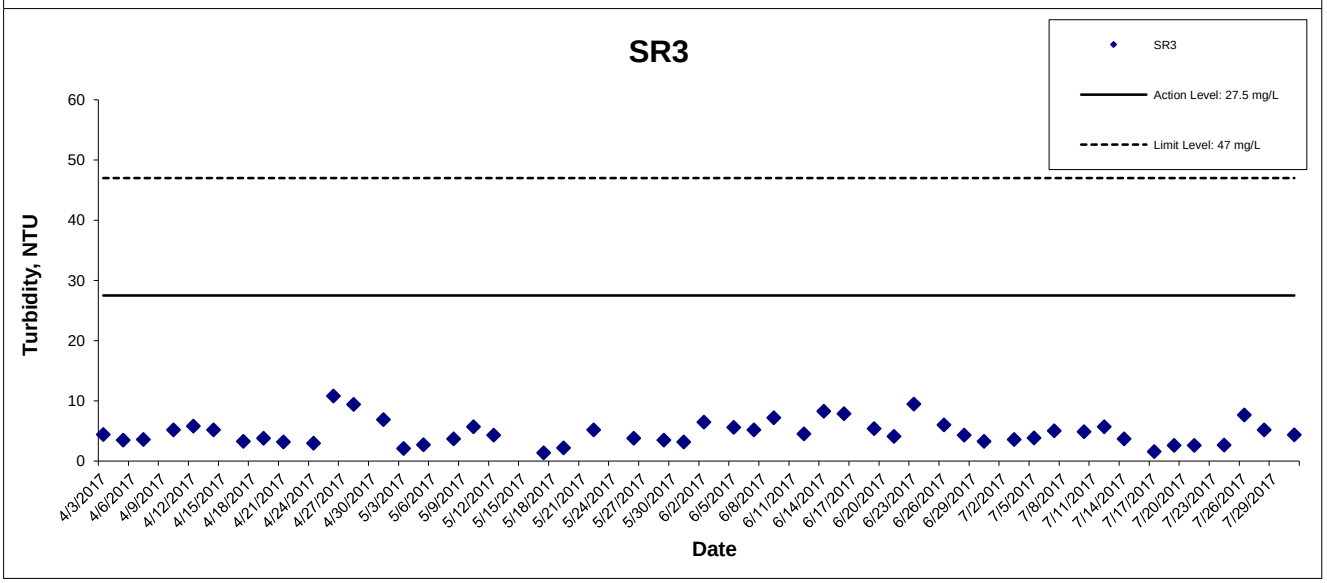

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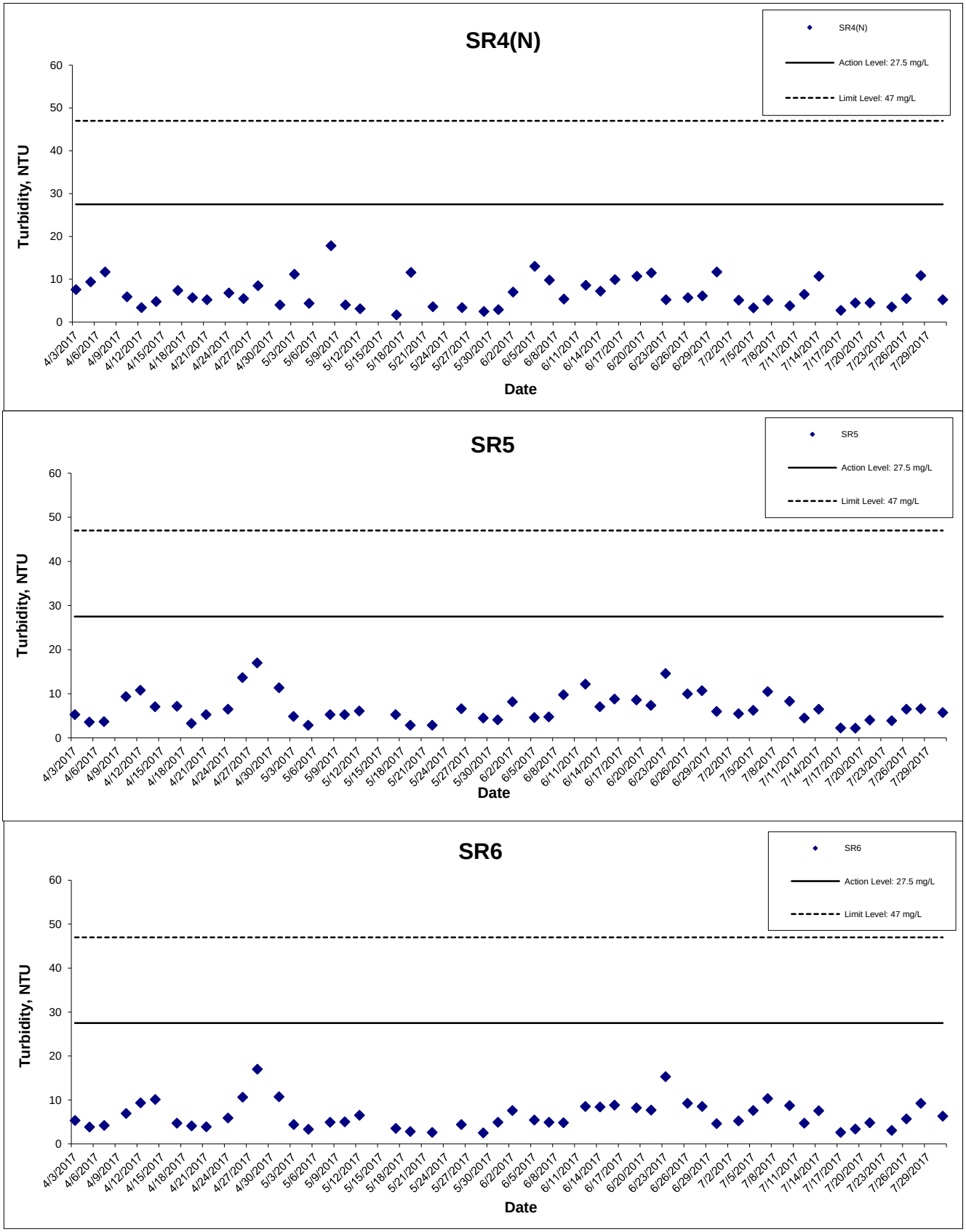
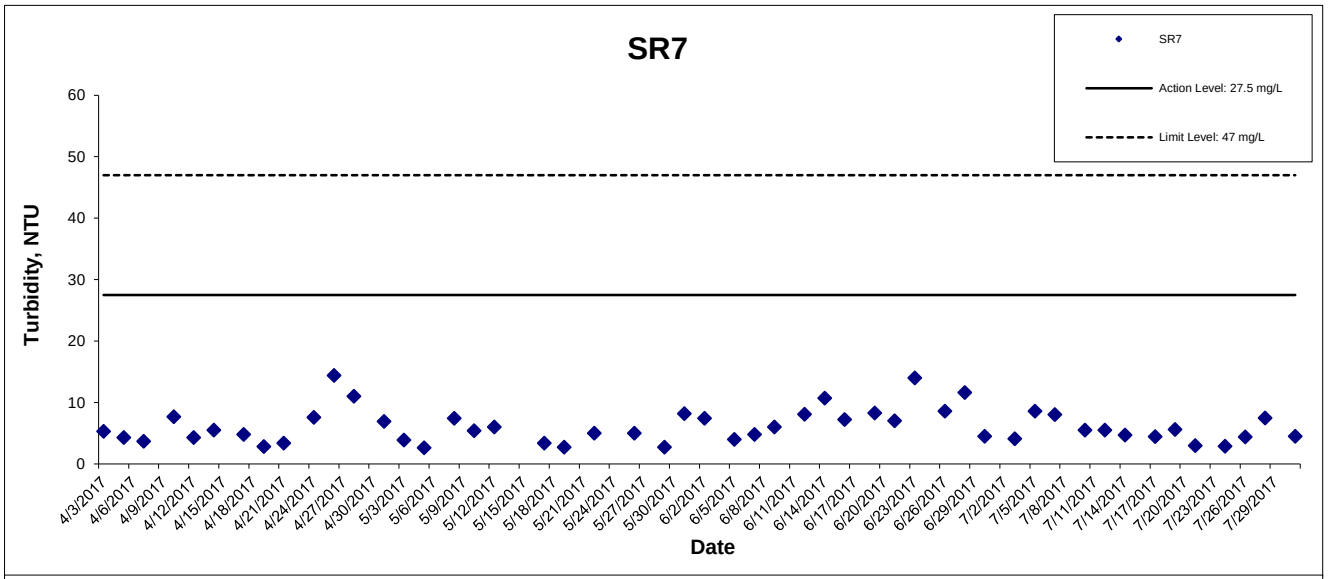


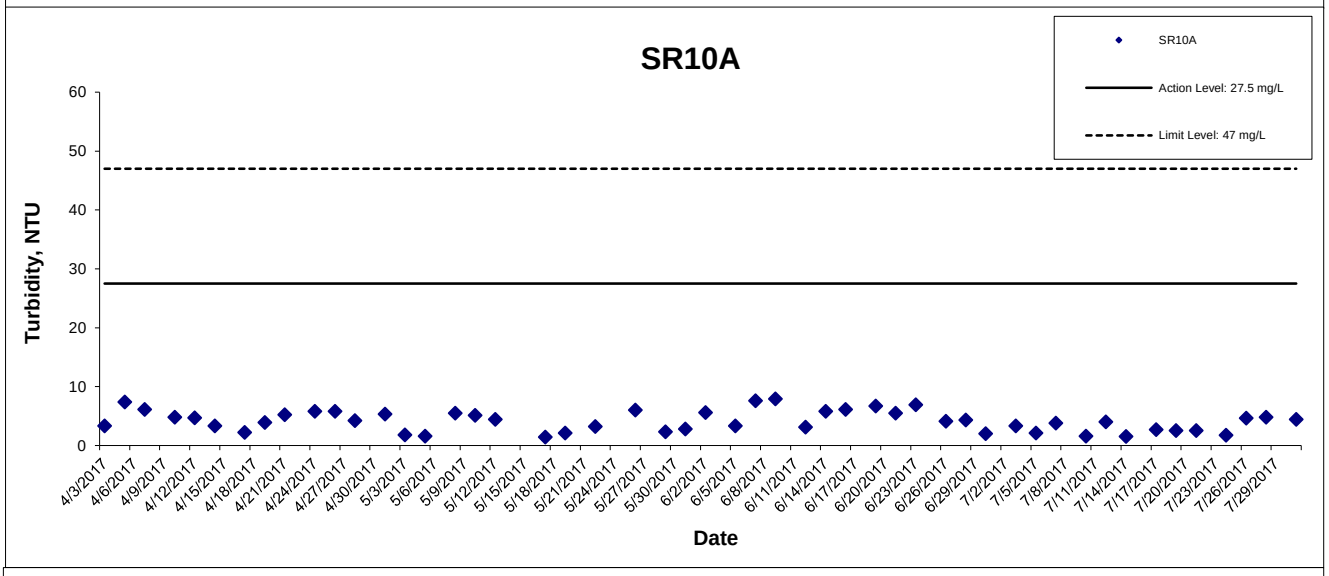
HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

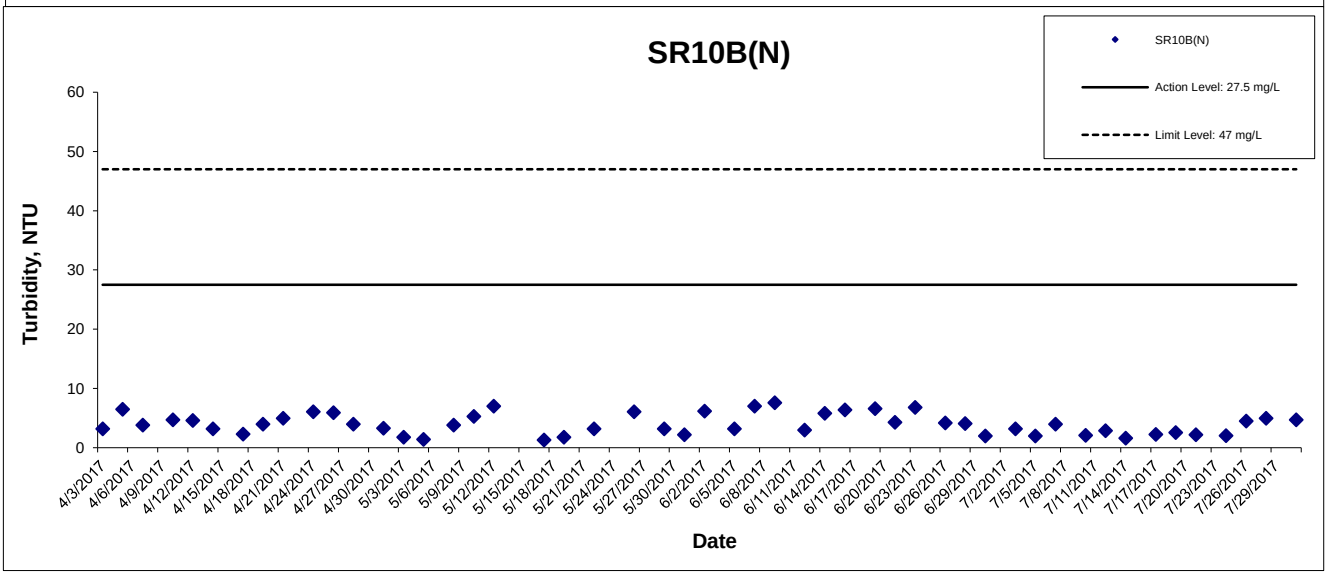
Graphical Presentation of Impact Water Quality Monitoring Results

Project No.: 60249820 **Date: Aug 2017** **Appendix J**

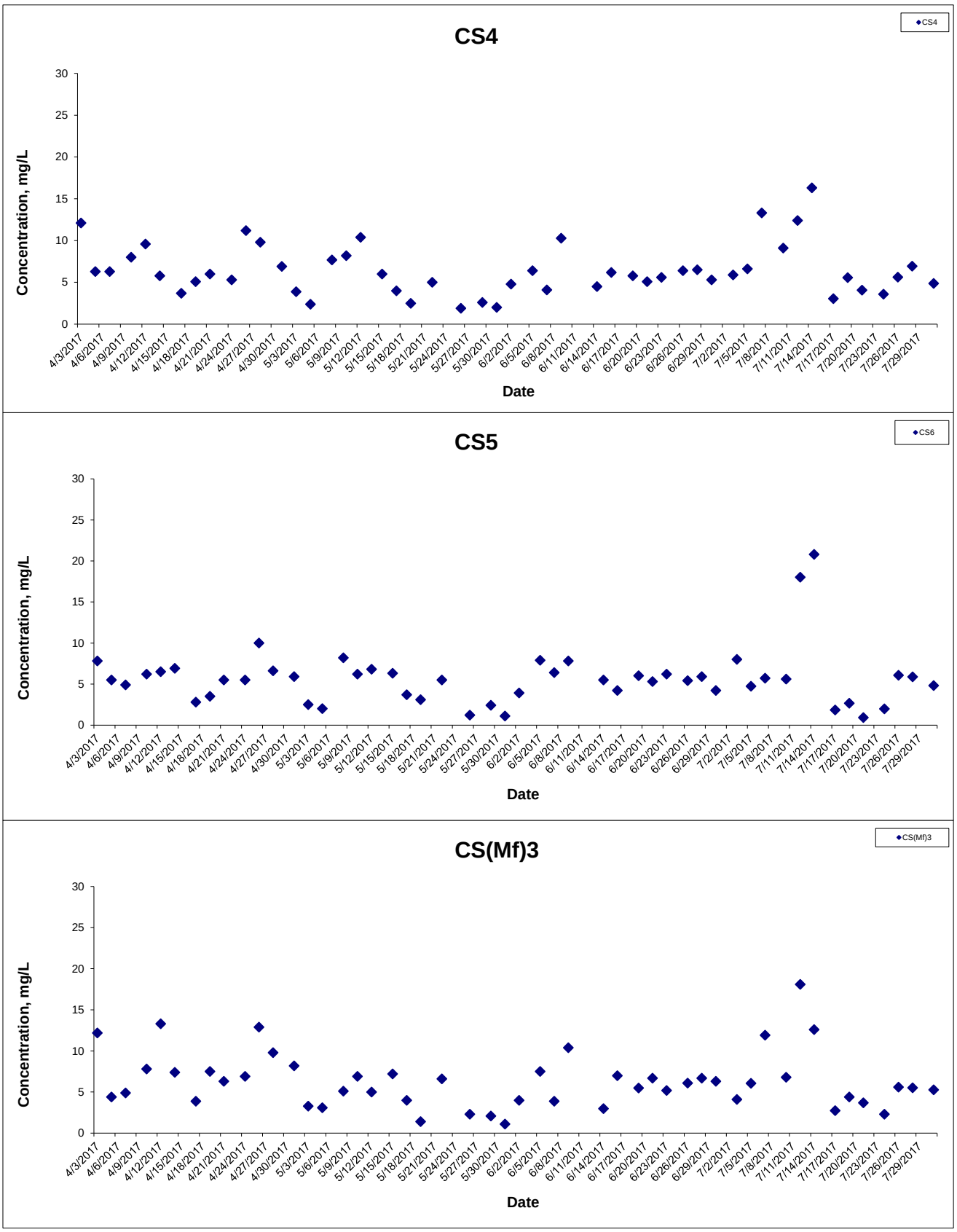
Turbidity at Mid-Flood Tide







Suspended Solids at Mid-Ebb Tide



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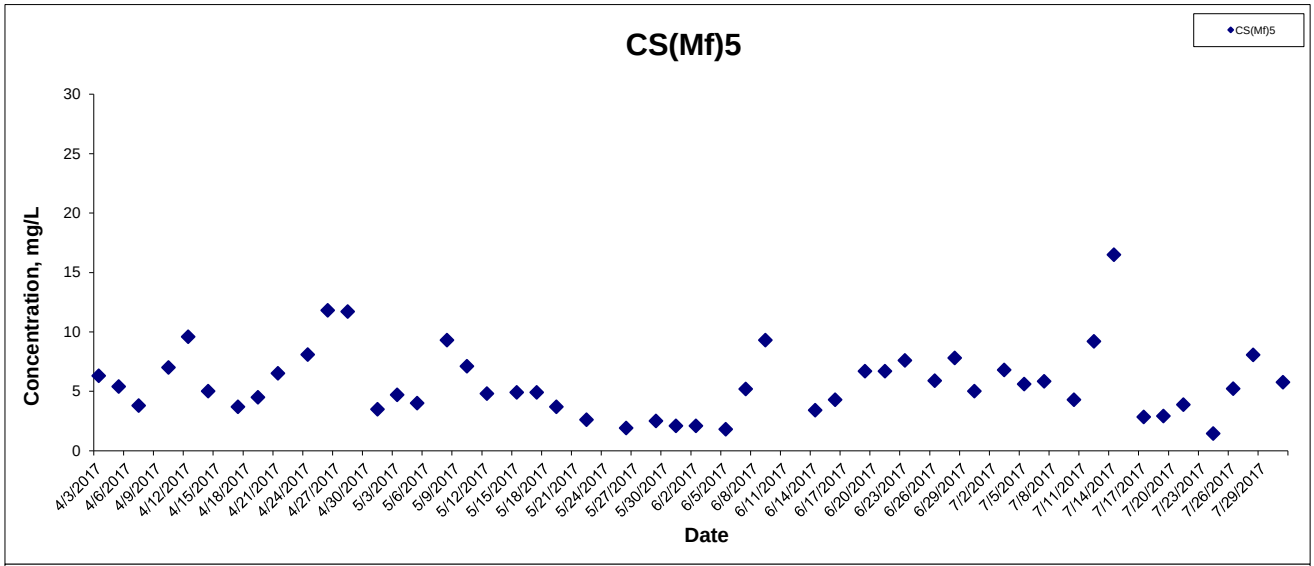
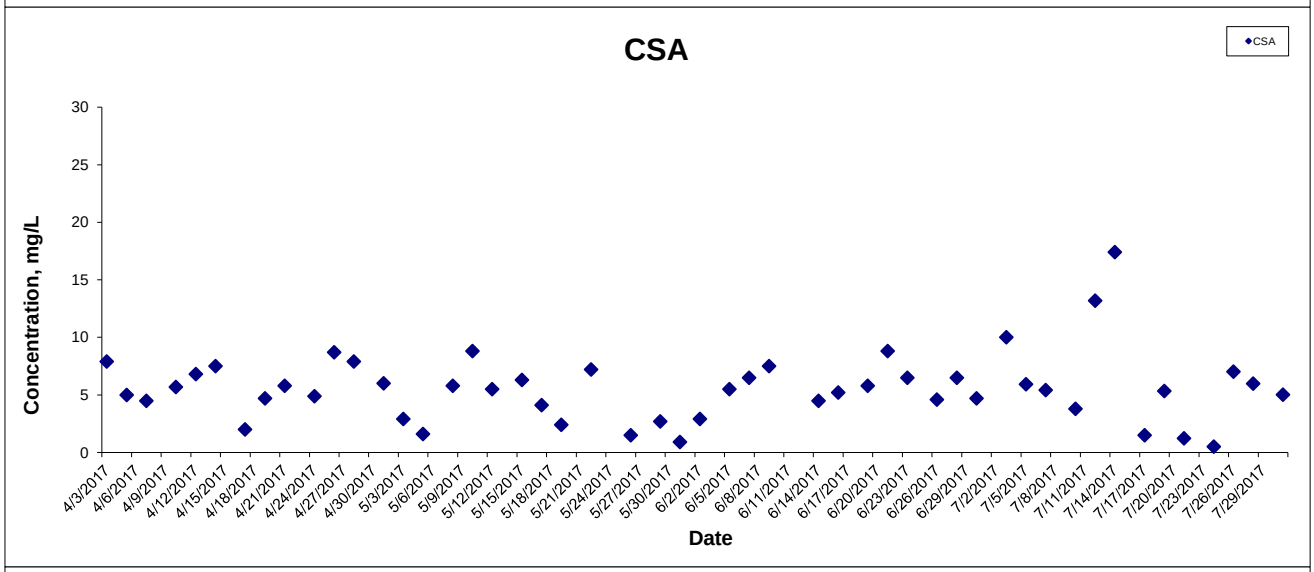
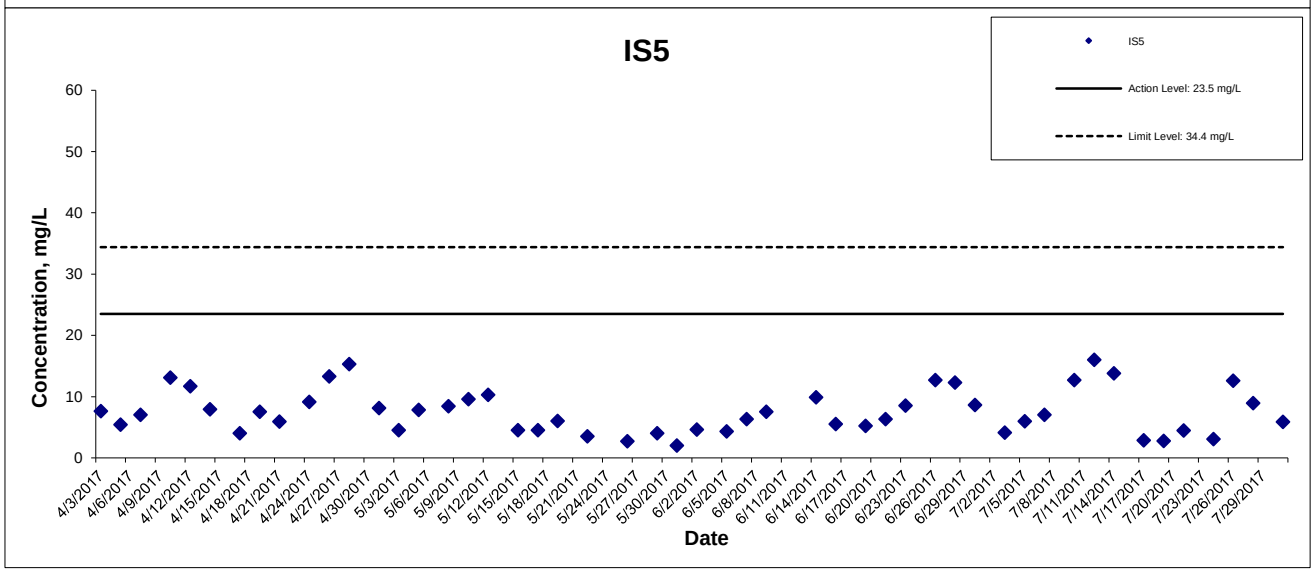






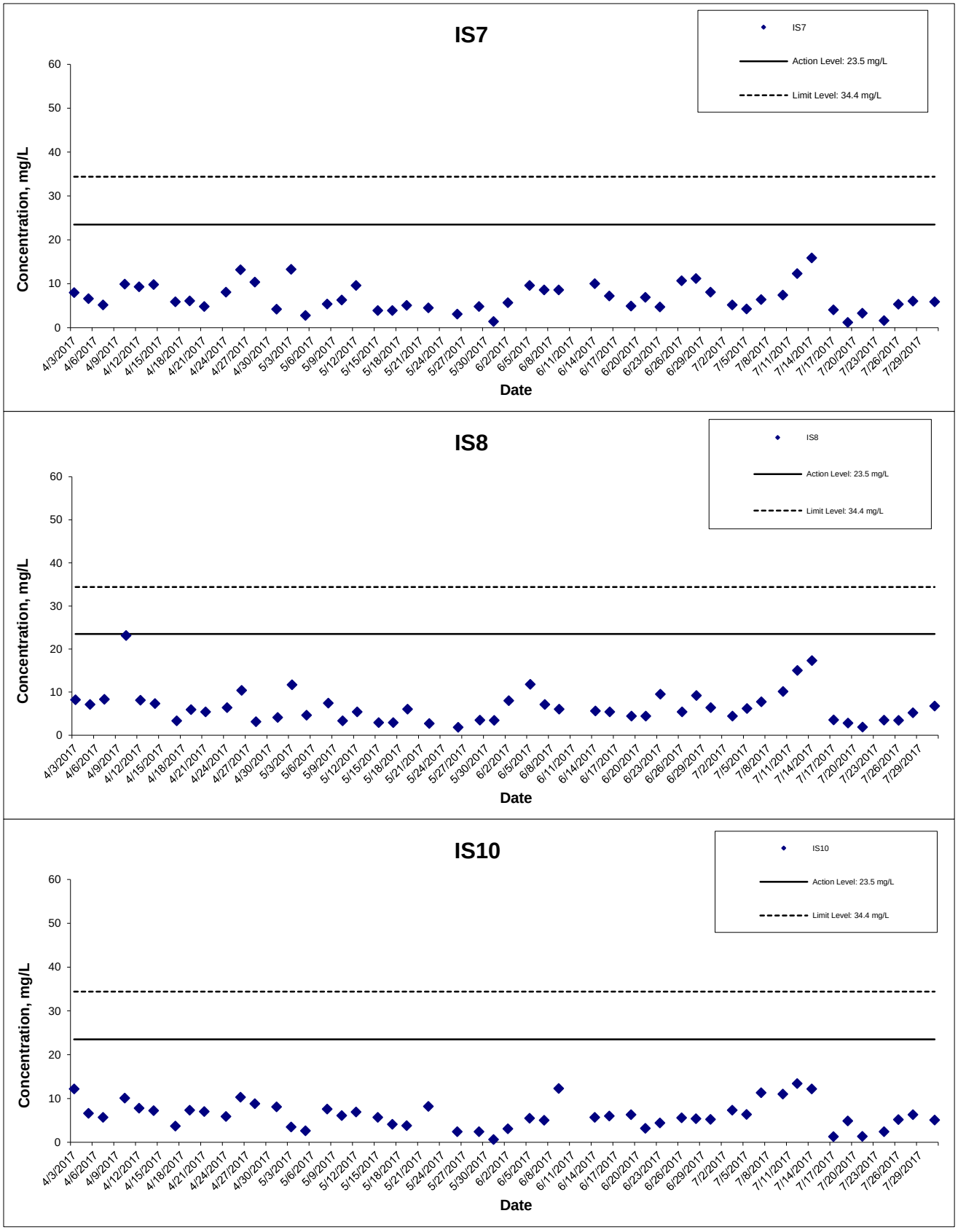
HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

Graphical Presentation of Impact Water Quality Monitoring Results

Project No.: 60249820 **Date: Aug 2017**

Appendix J

Suspended Solids at Mid-Ebb Tide



HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

AECOM

Graphical Presentation of Impact Water Quality Monitoring Results

Project No.: 60249820 **Date: Aug 2017**

Appendix J

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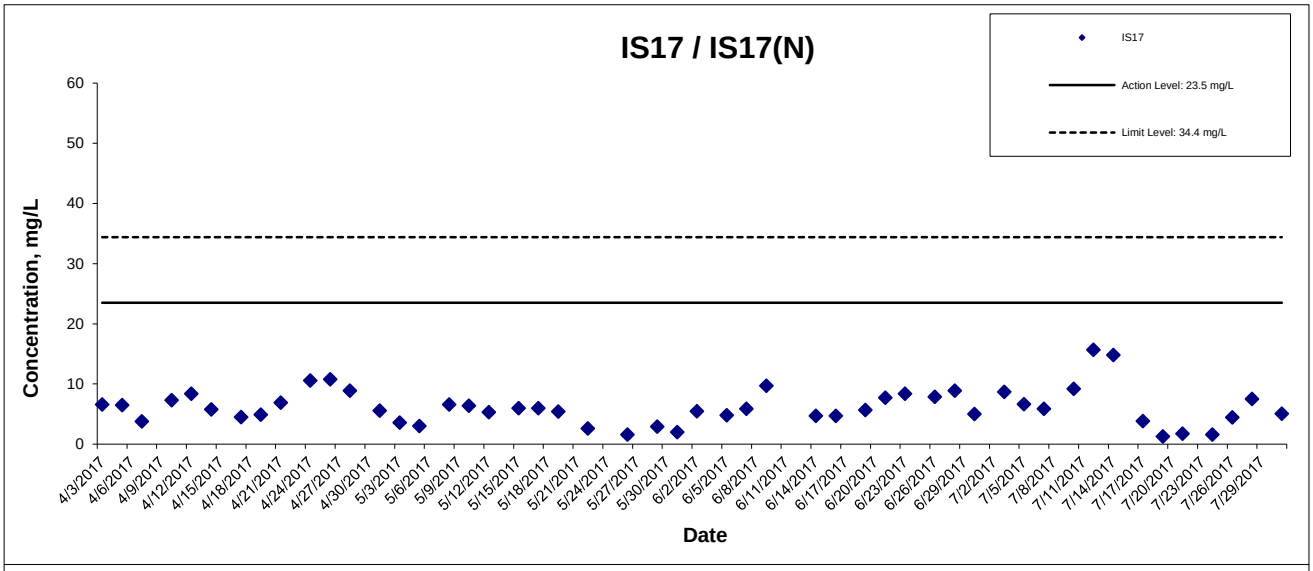

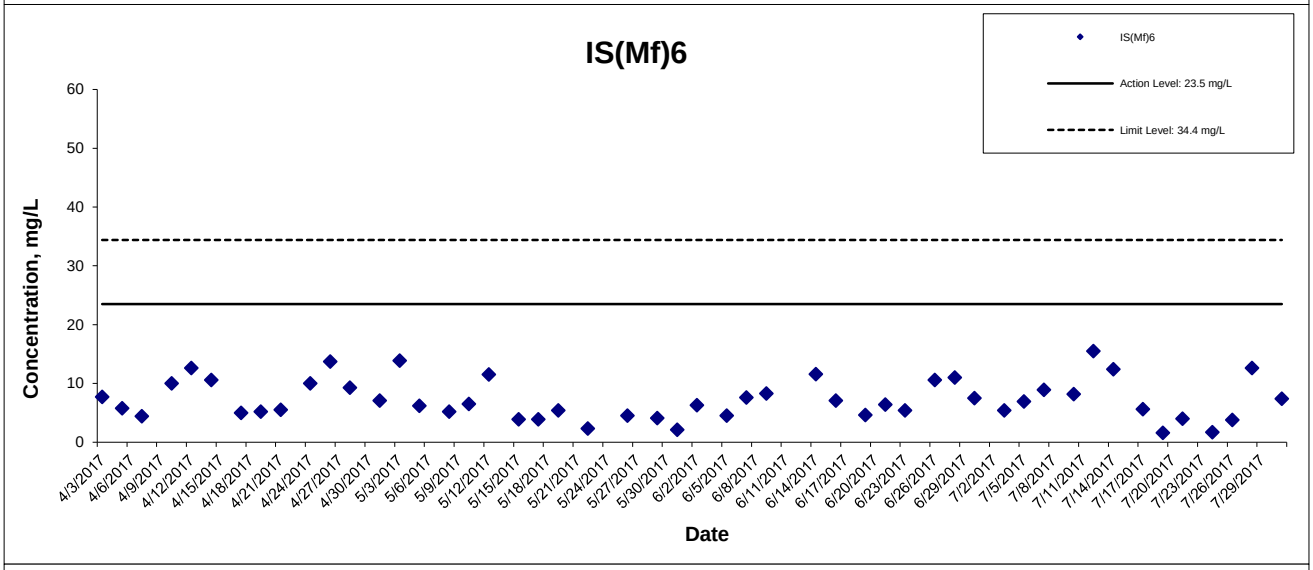

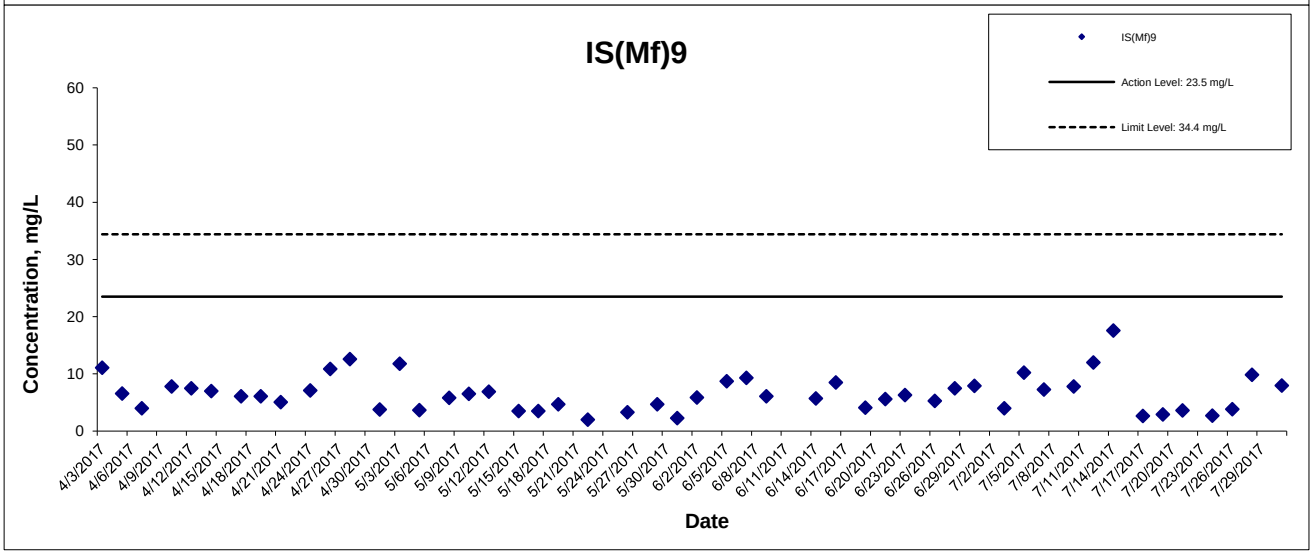

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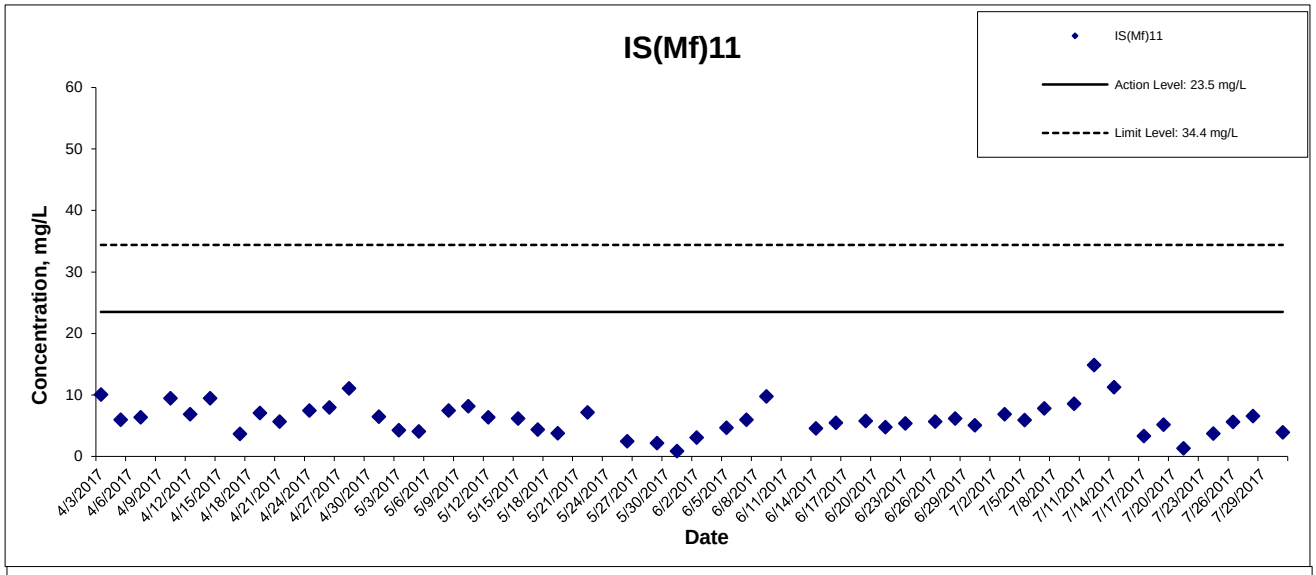

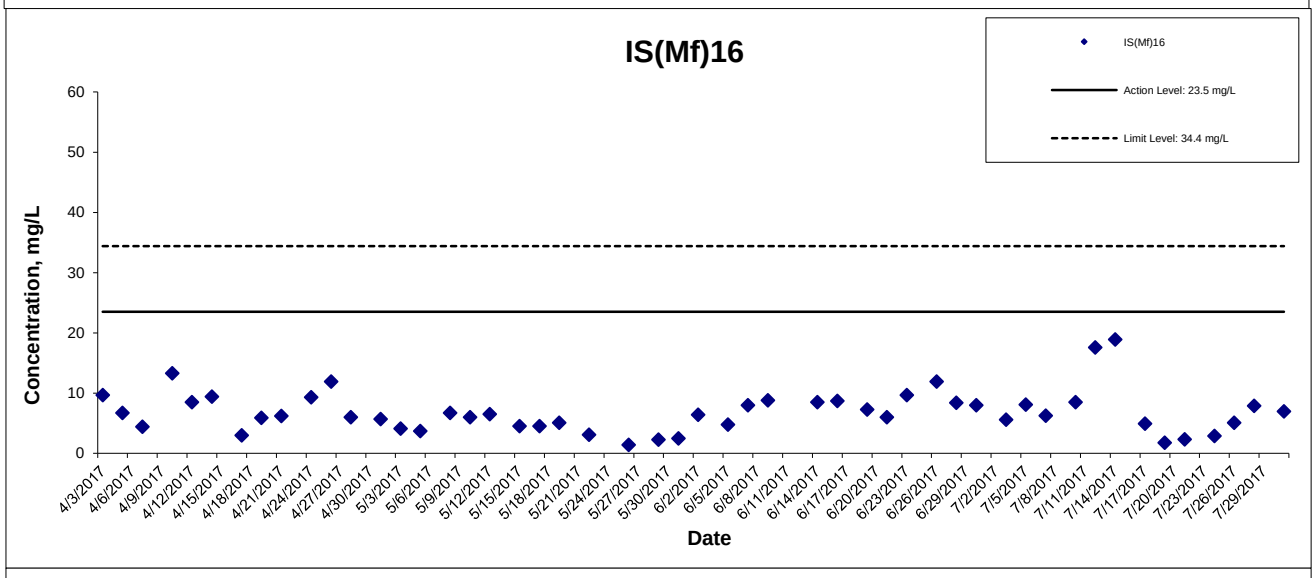

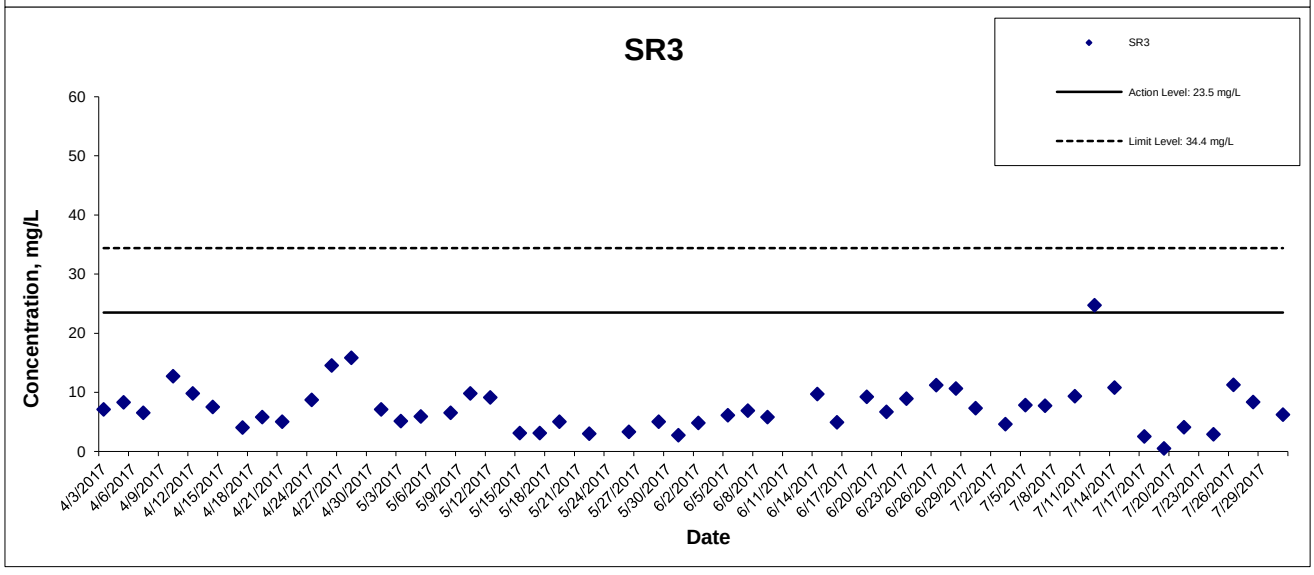

HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

AECOM

Graphical Presentation of Impact Water Quality Monitoring Results

Project No.: 60249820 **Date: Aug 2017**

Appendix J

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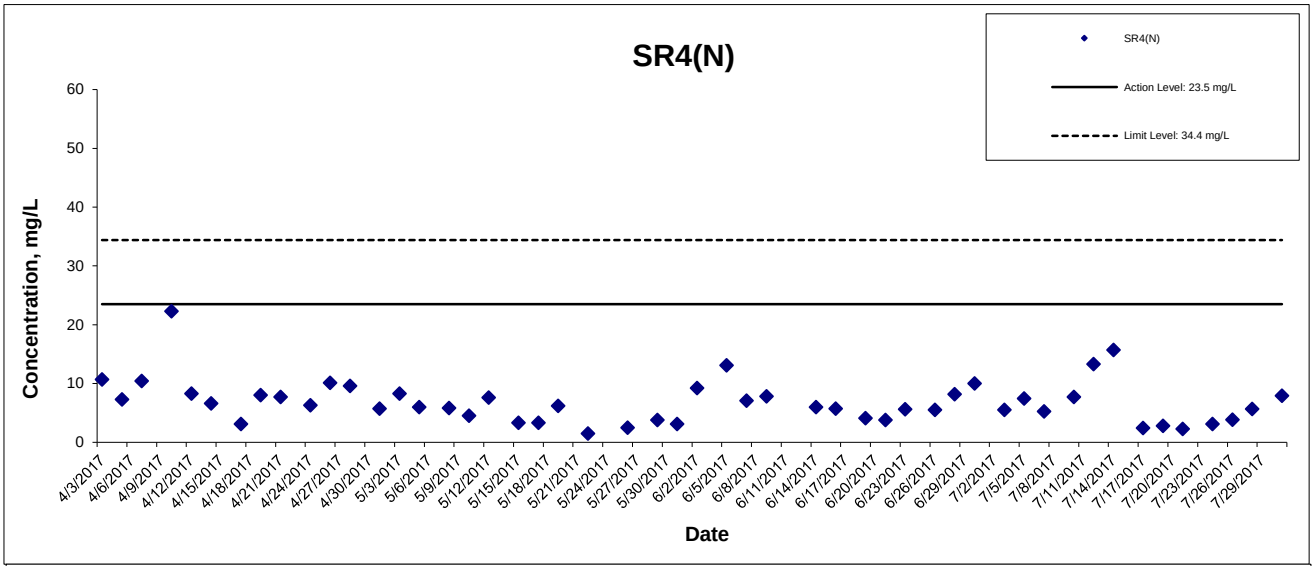
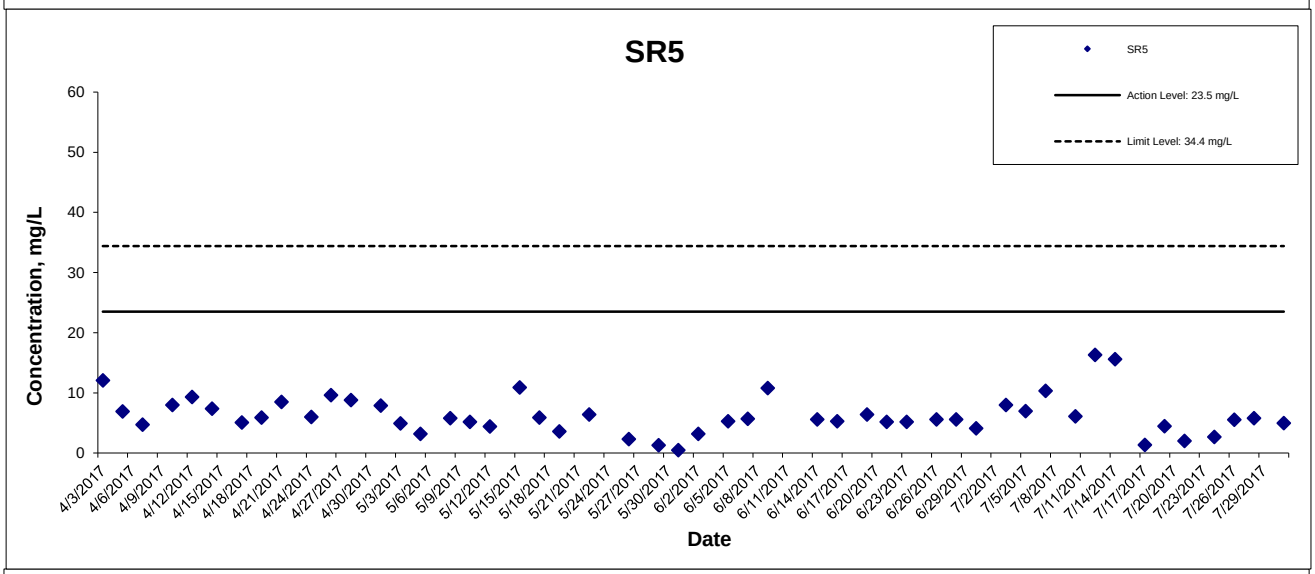
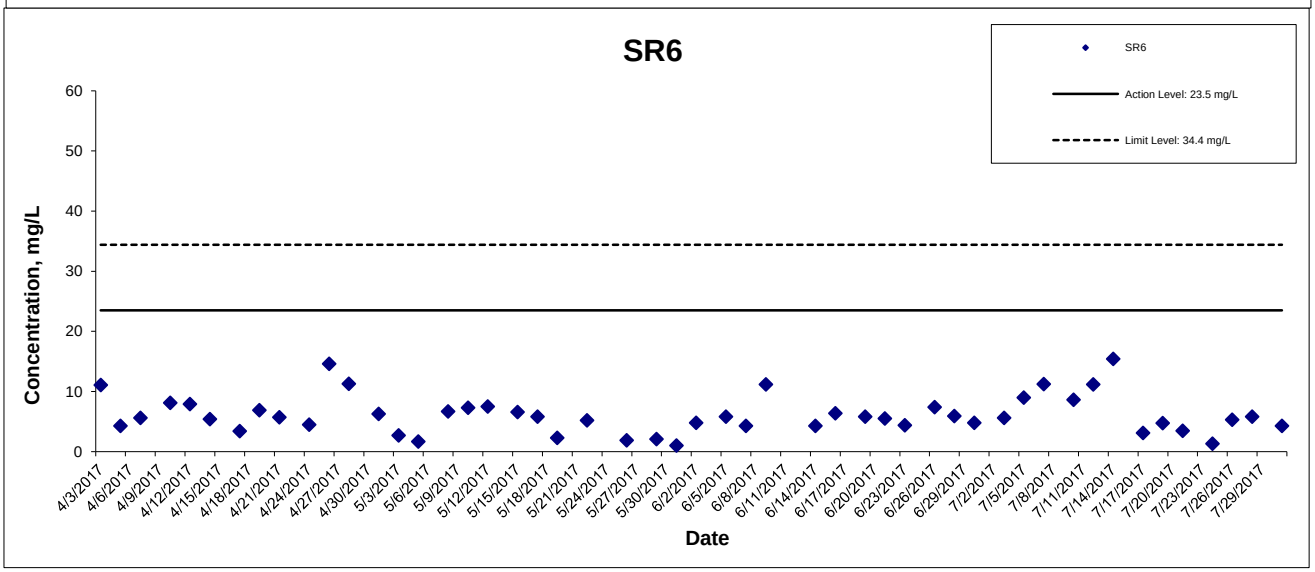






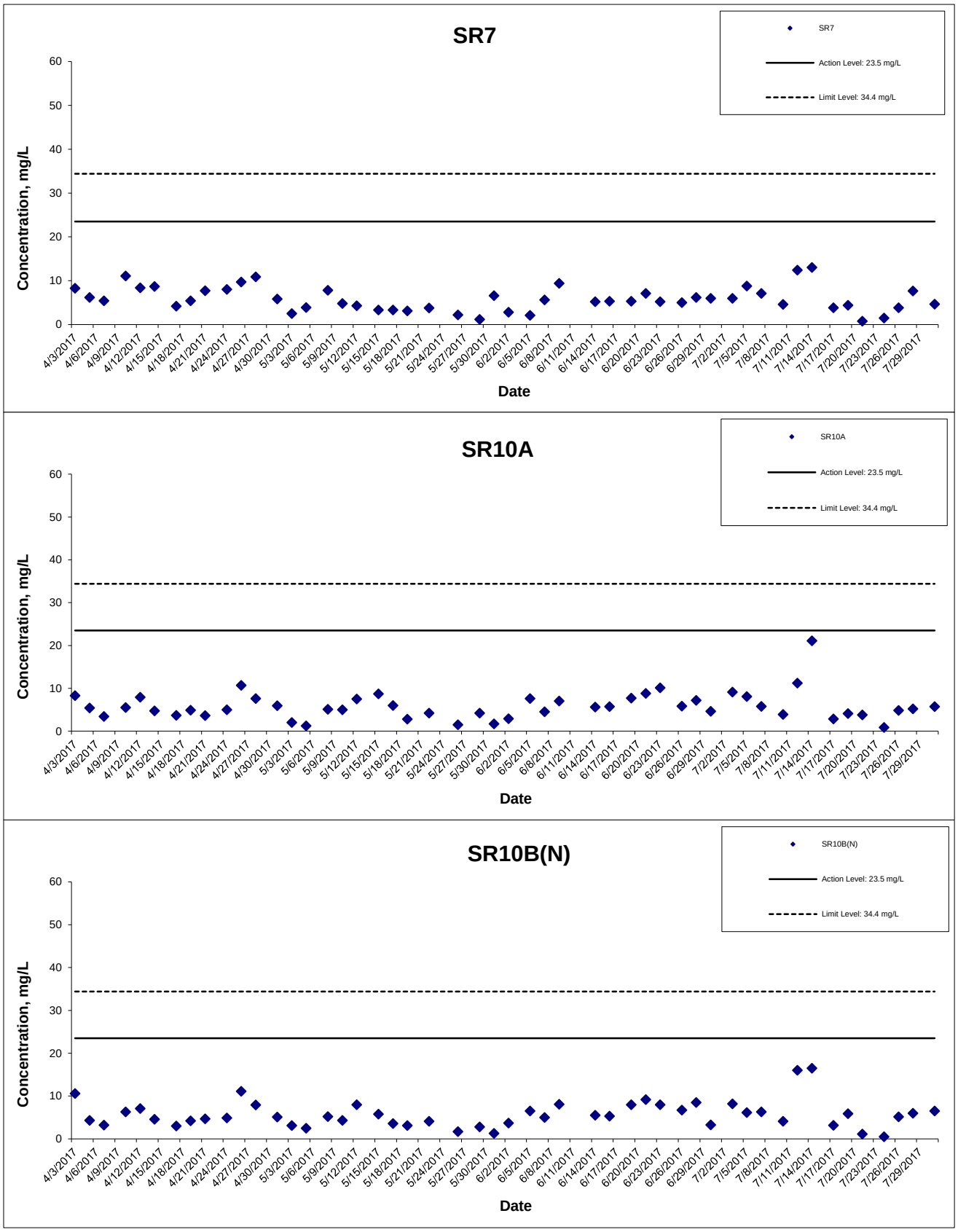
HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

Graphical Presentation of Impact Water Quality Monitoring Results

Project No.: 60249820 **Date: Aug 2017**

Appendix J

Suspended Solids at Mid-Ebb Tide



HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

Graphical Presentation of Impact Water Quality Monitoring Results

Project No.: 60249820 **Date: Aug 2017**

Appendix J

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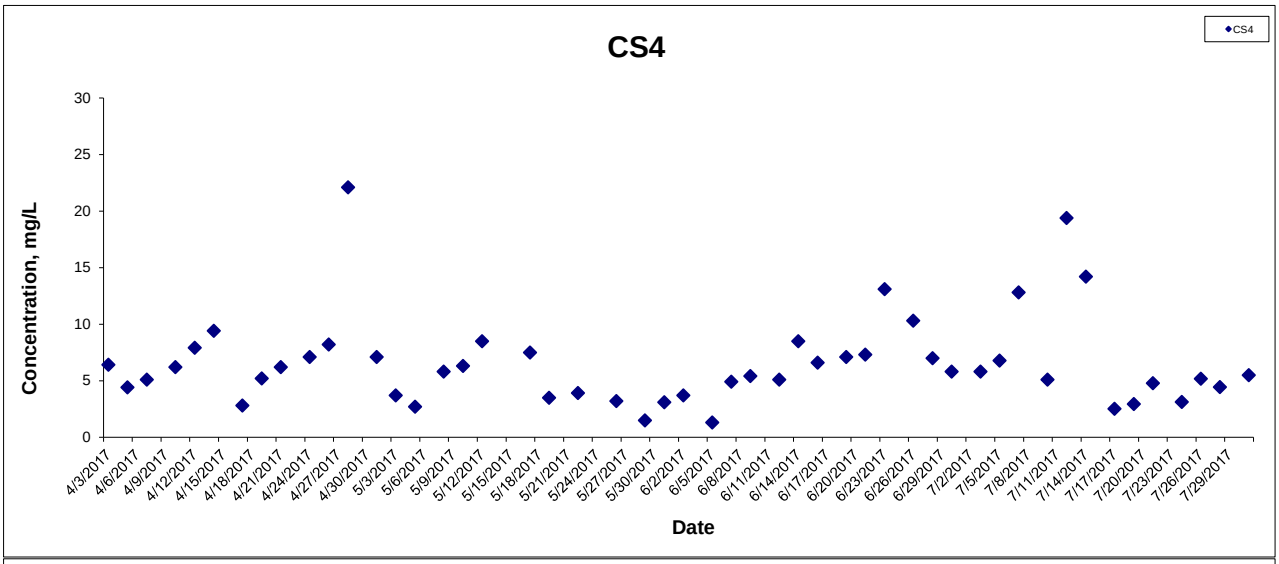

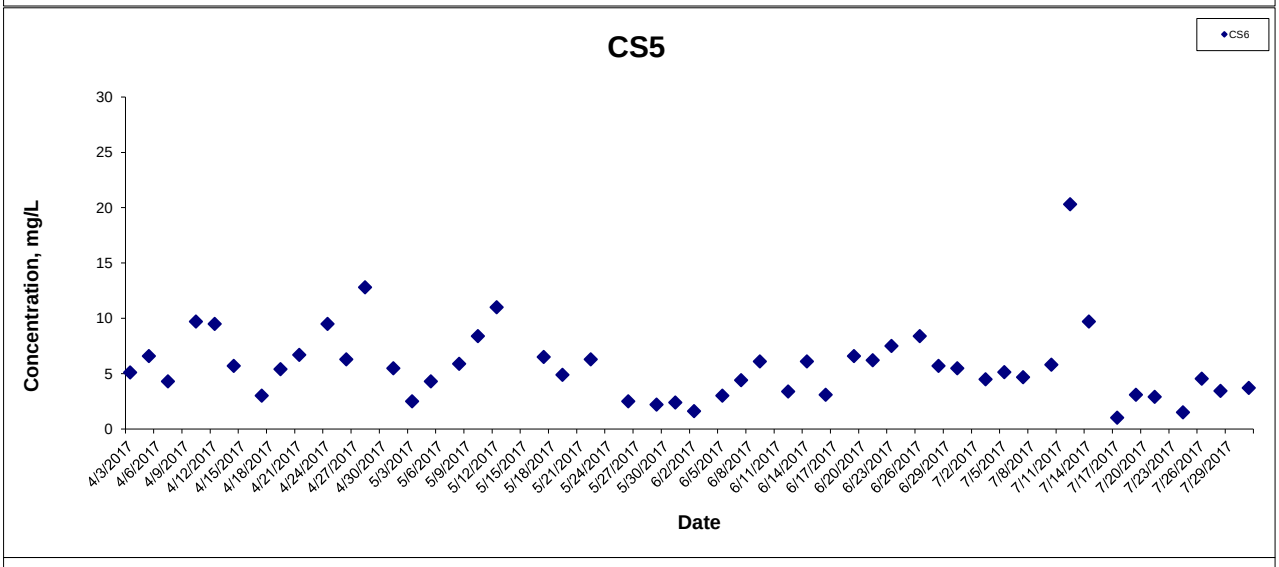

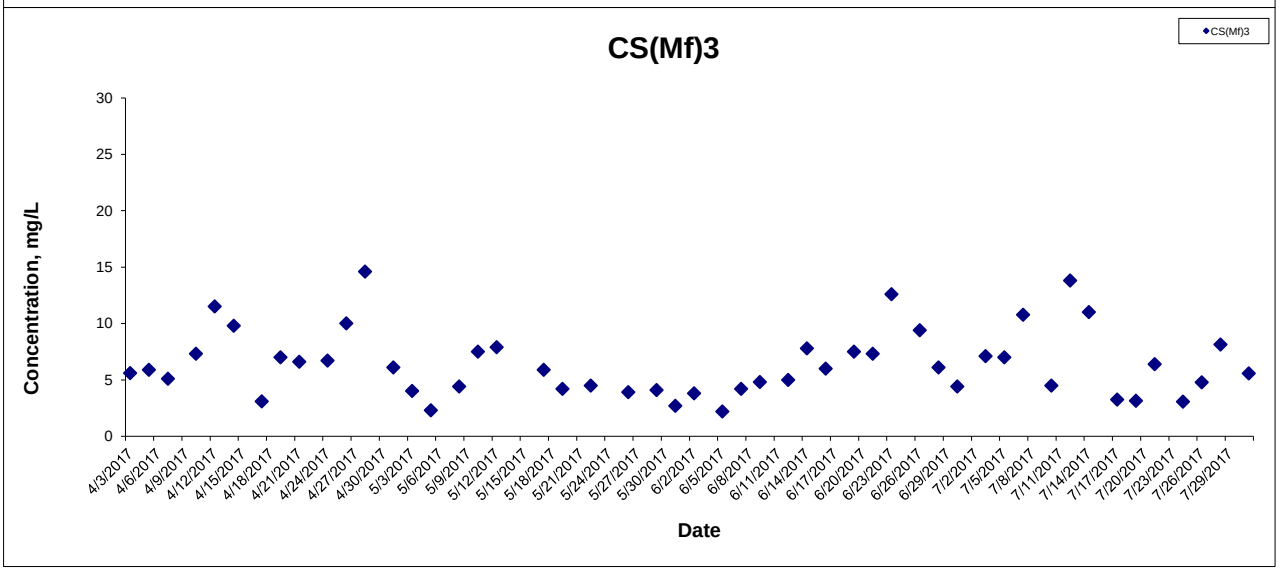

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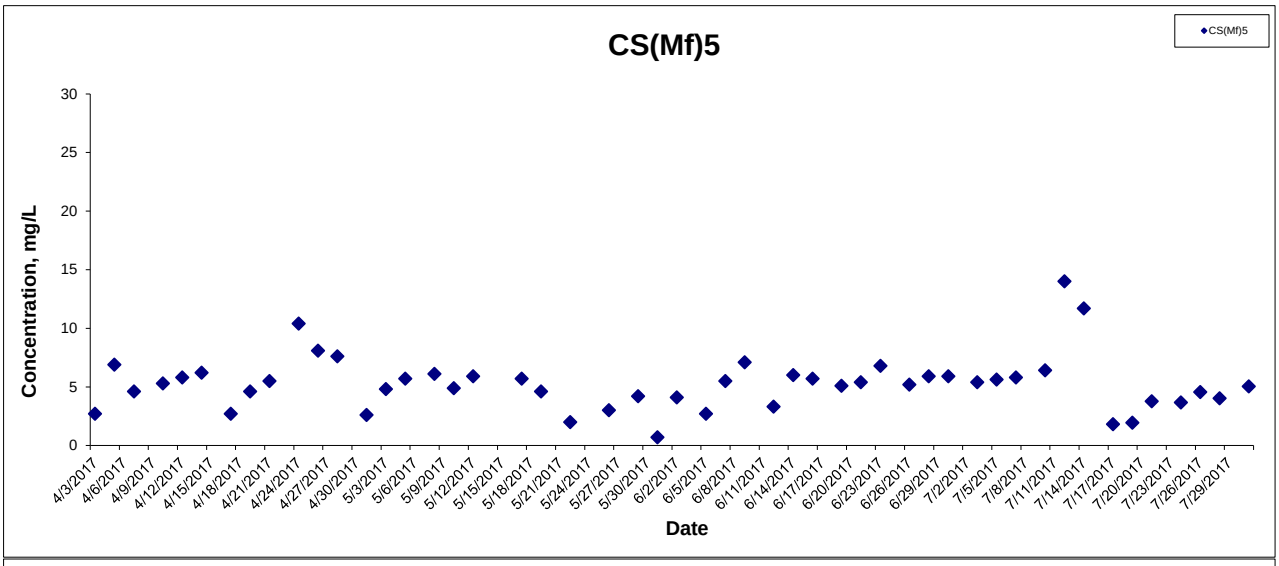

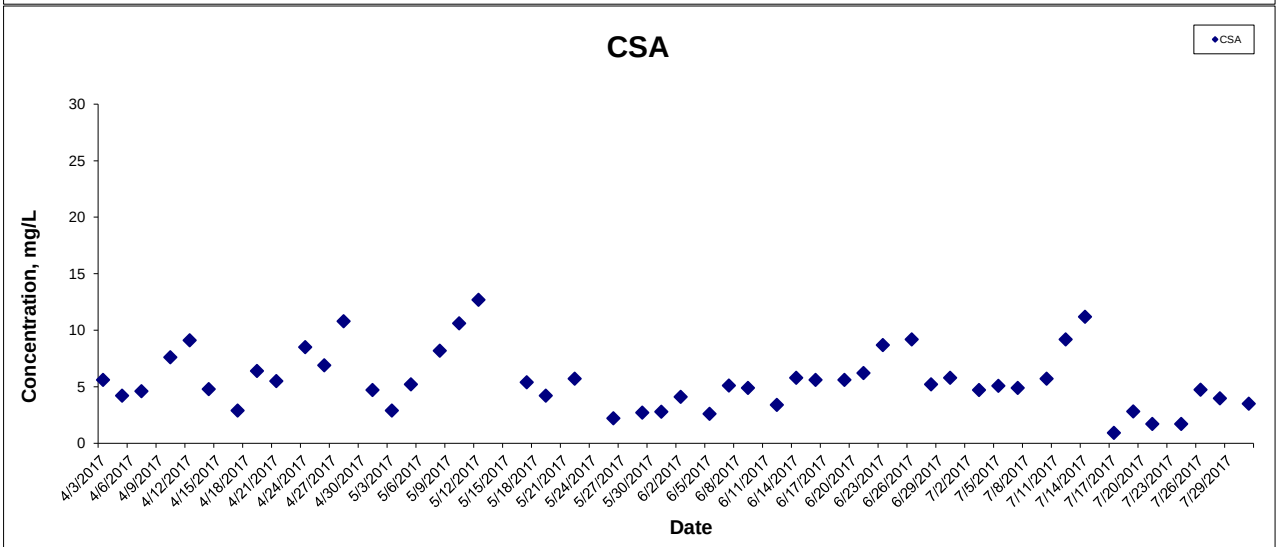

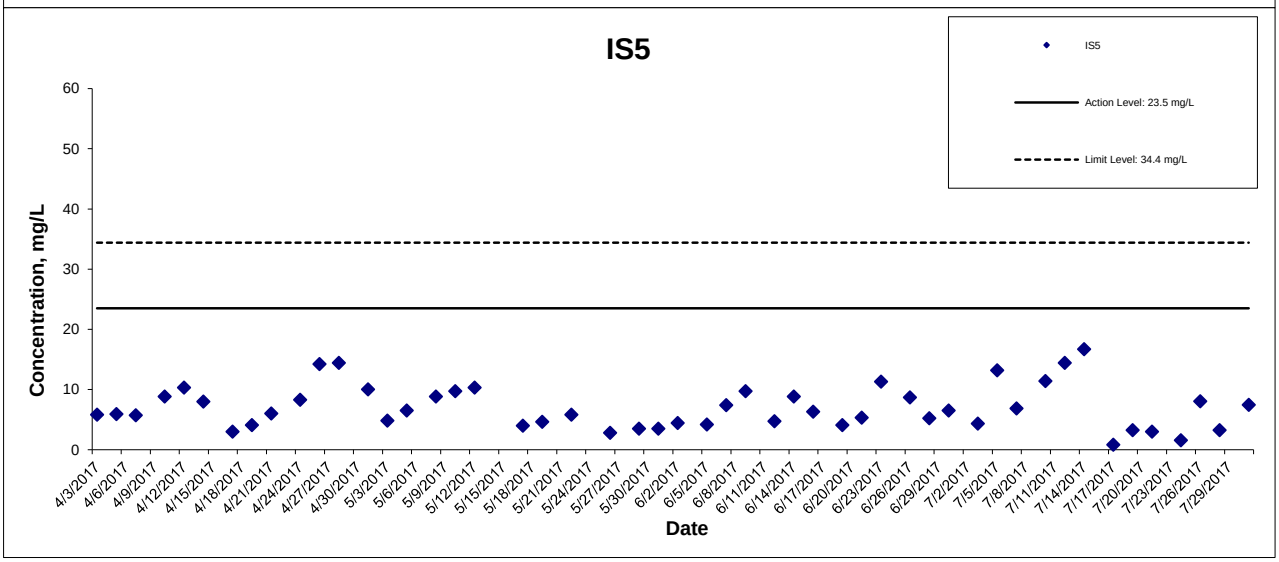

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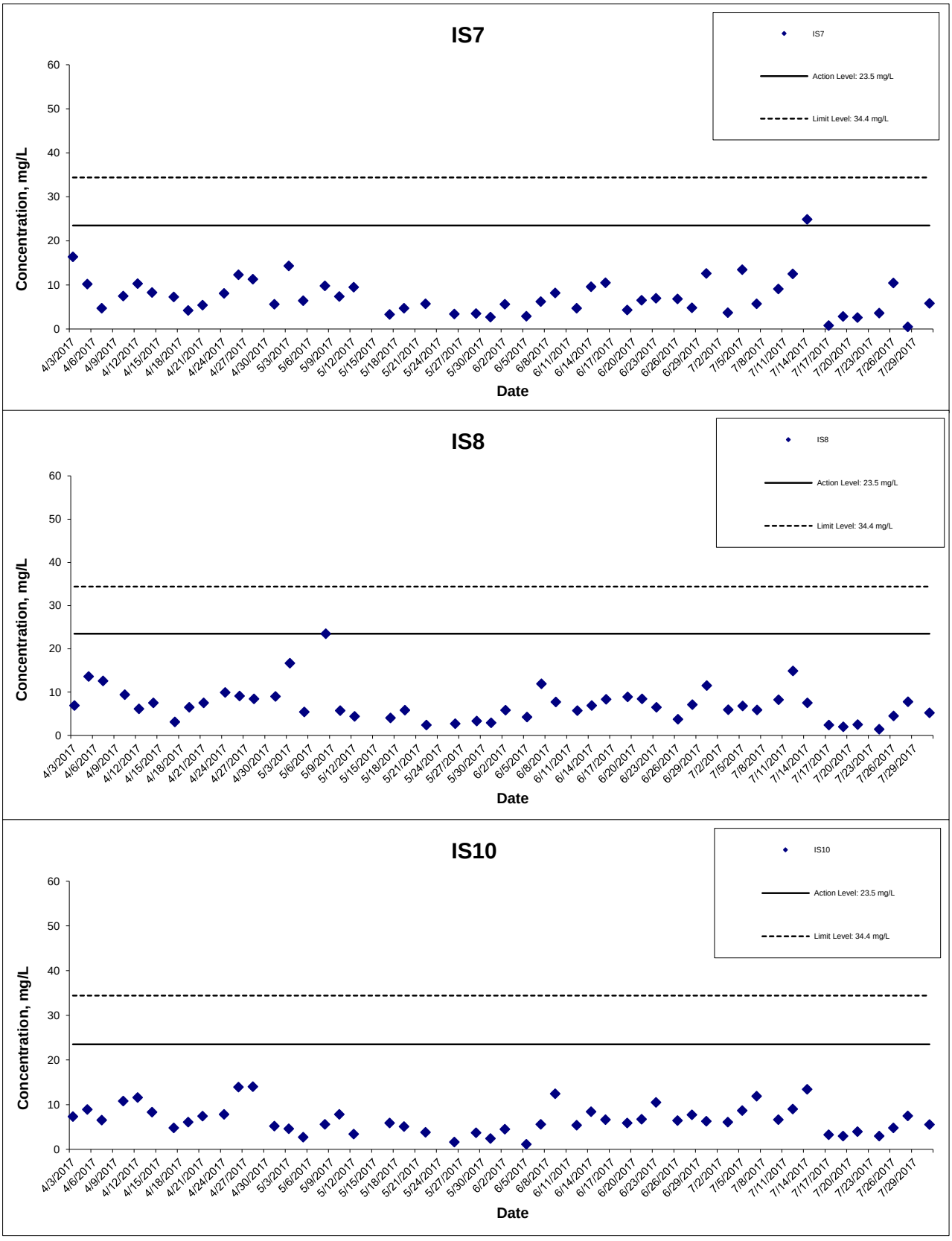


HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

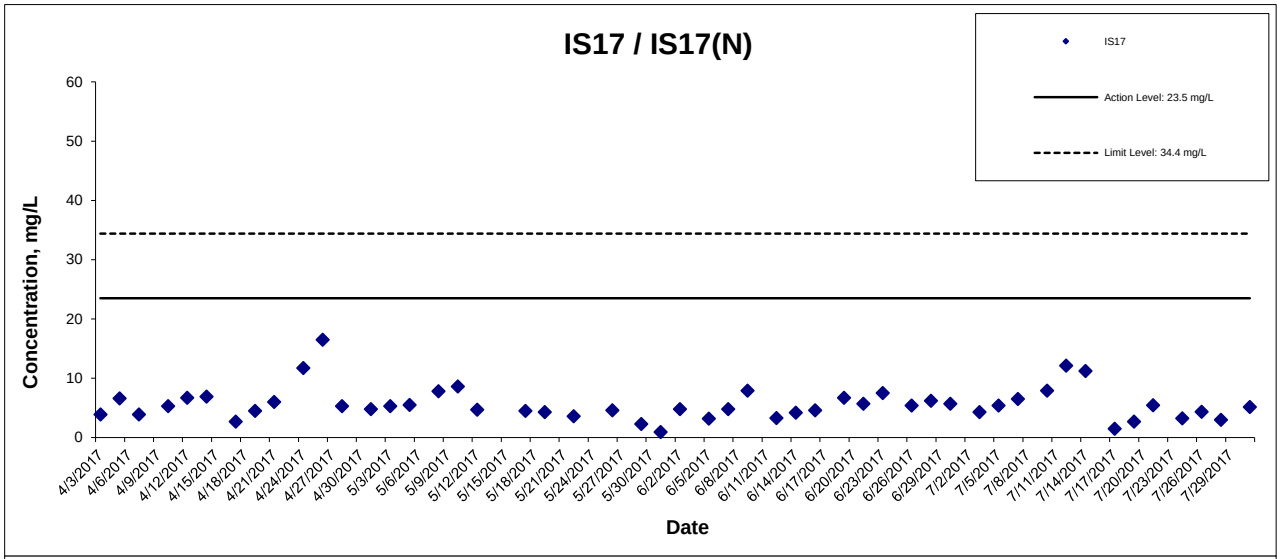
AECOM

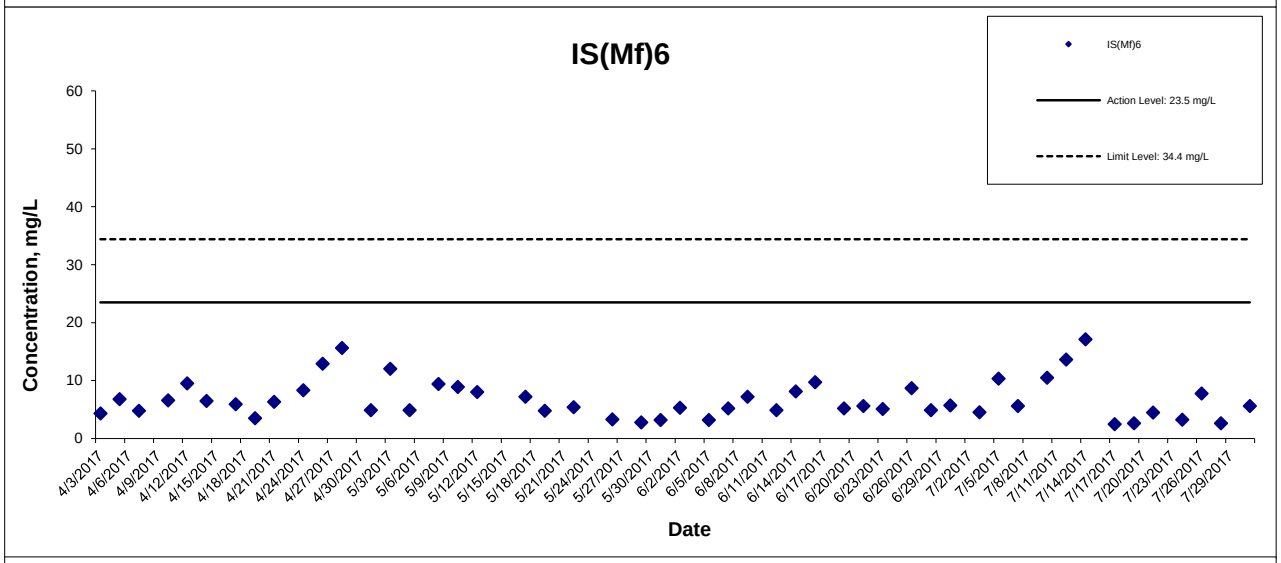
Graphical Presentation of Impact Water Quality Monitoring Results

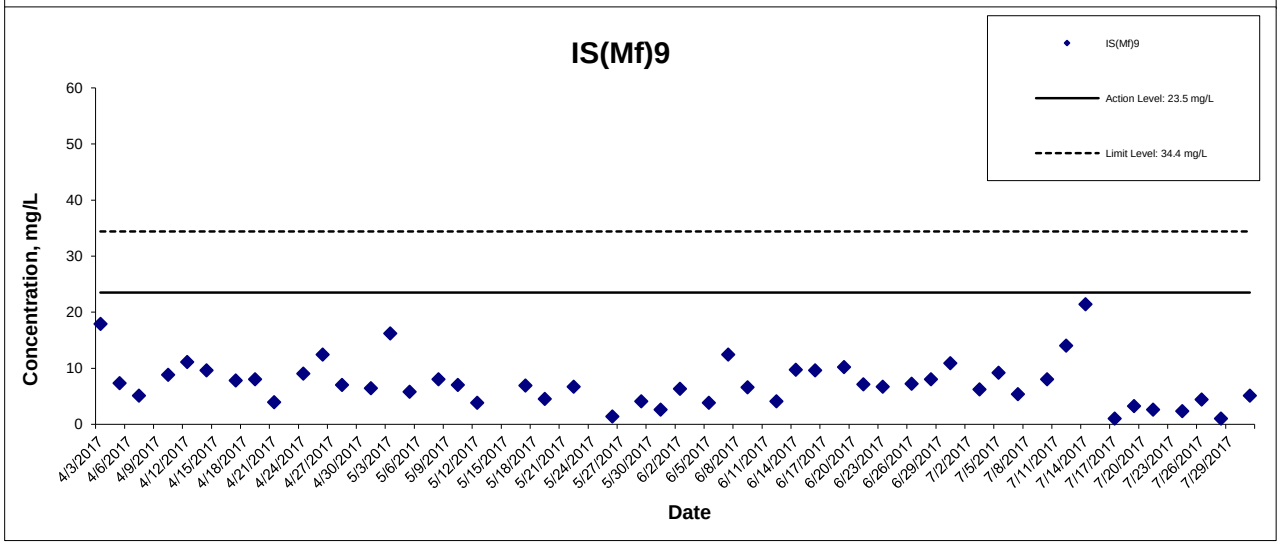
Project No.: 60249820 Date: Aug 2017

Appendix J

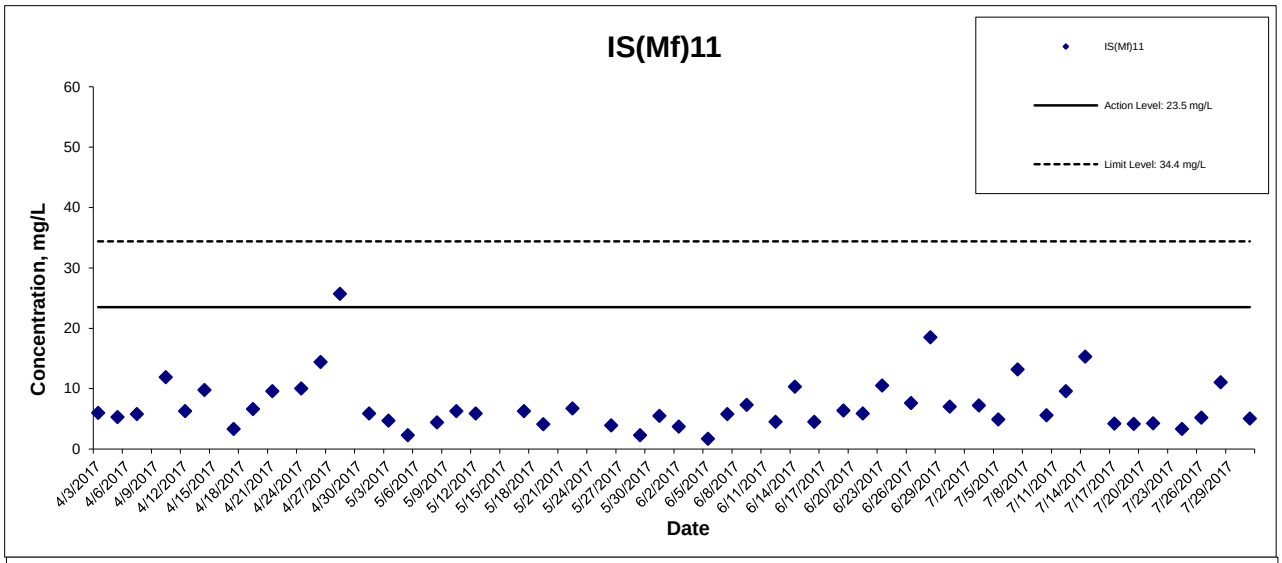
Suspended Solids at Mid-Flood Tide

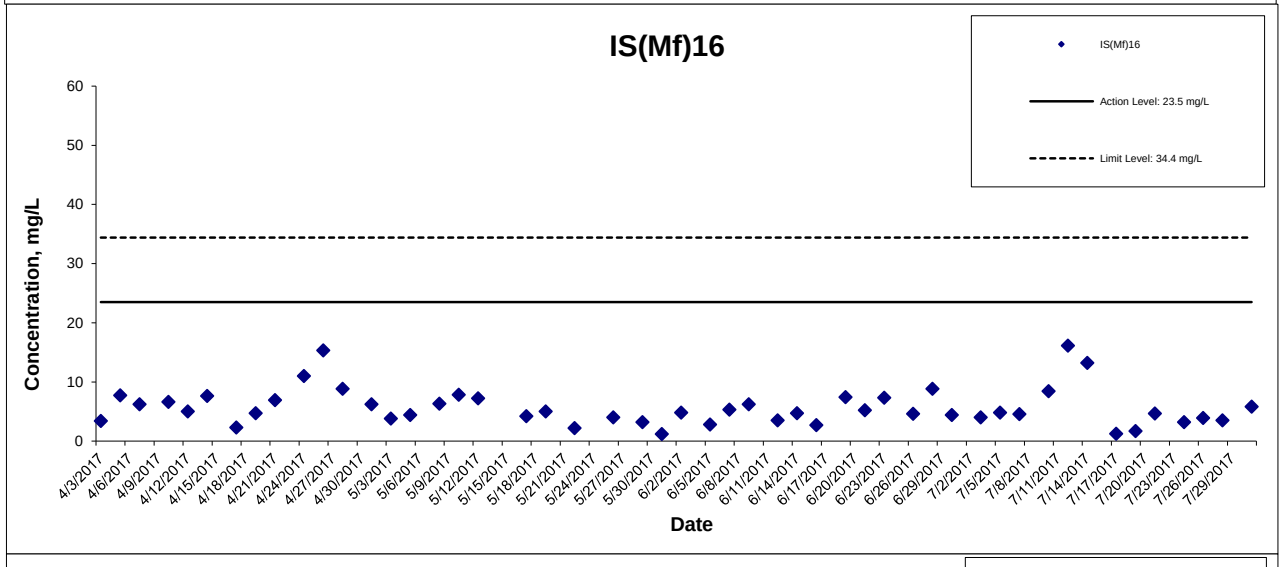


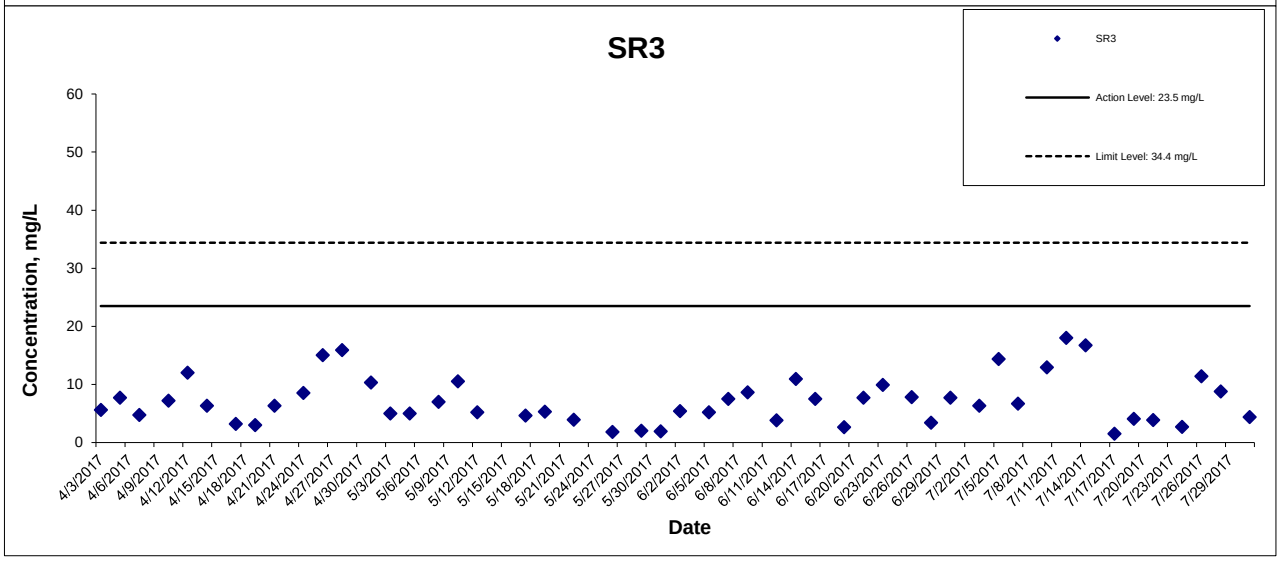




Suspended Solids at Mid-Flood Tide







HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

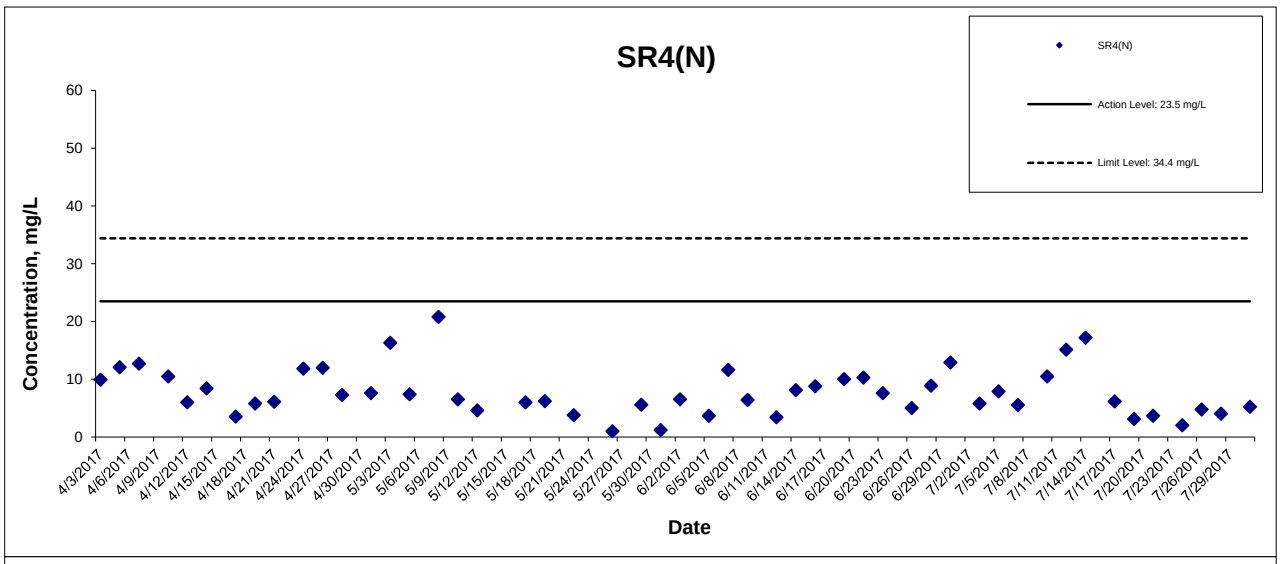
AECOM

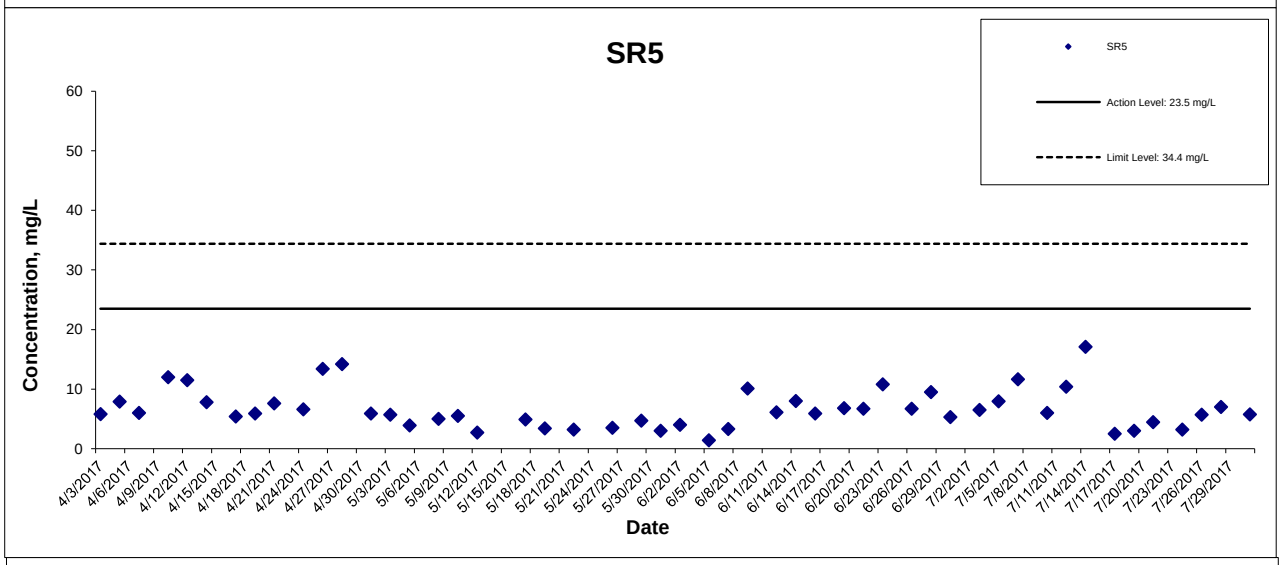
Graphical Presentation of Impact Water Quality Monitoring Results

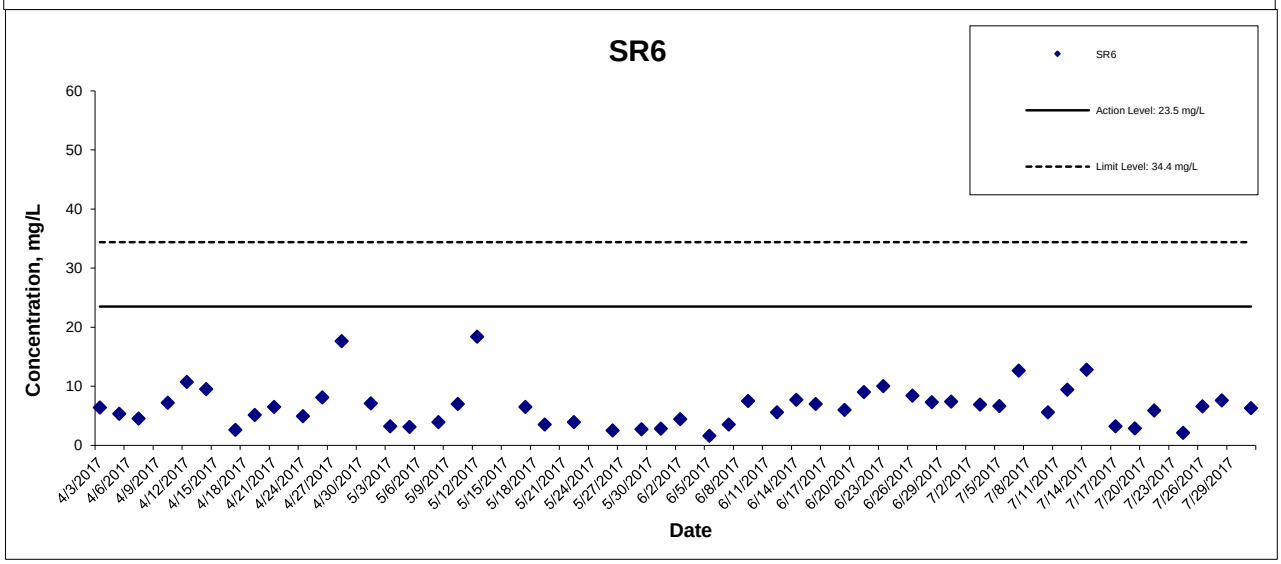
Project No.: 60249820 Date: Aug 2017

Appendix J

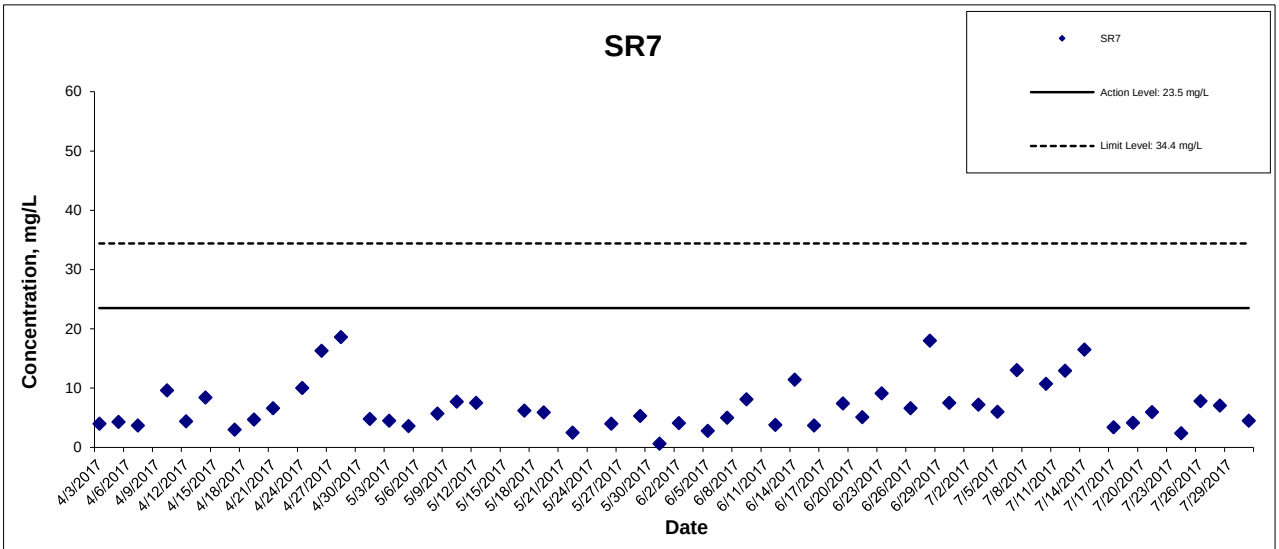
Suspended Solids at Mid-Flood Tide

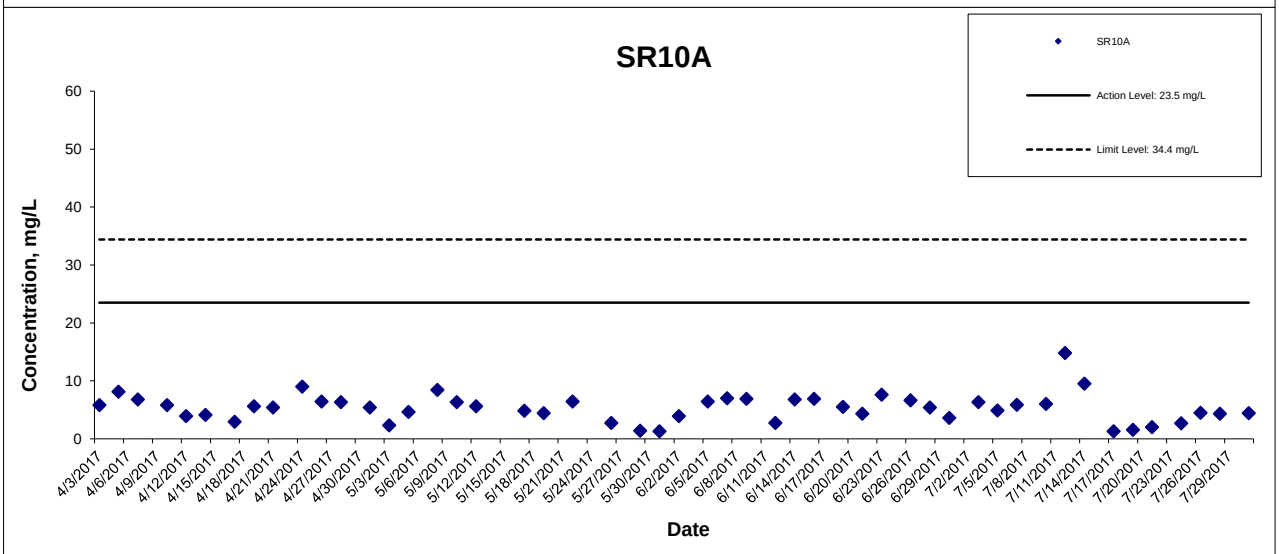


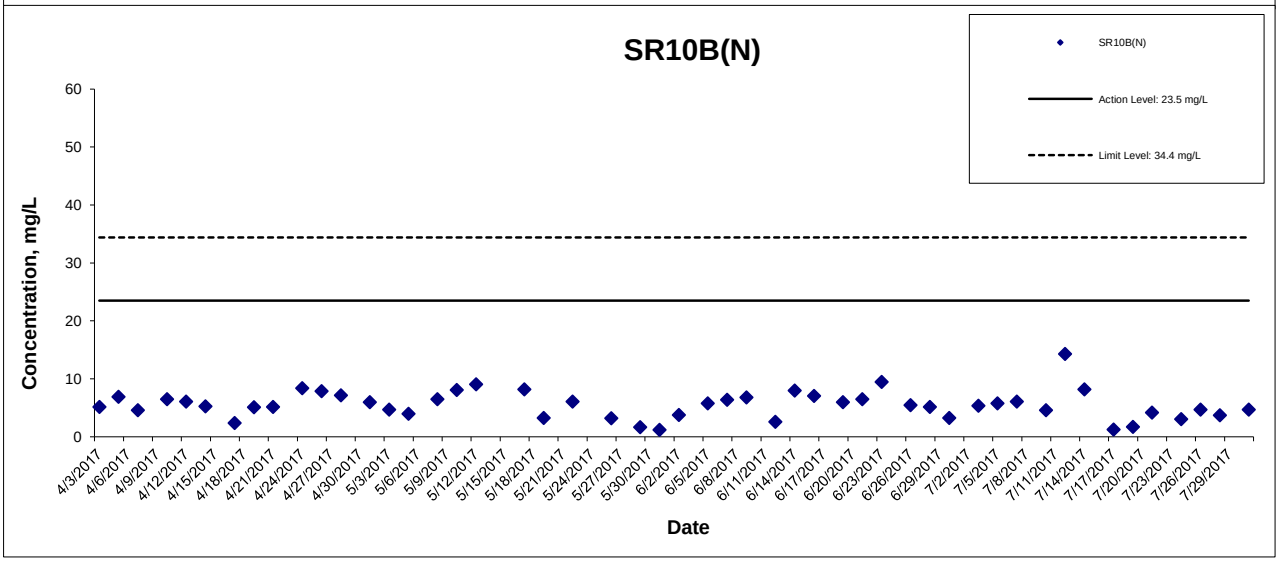




Suspended Solids at Mid-Flood Tide







HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

AECOM

Graphical Presentation of Impact Water Quality Monitoring Results

Project No.: 60249820 **Date: Aug 2017**

Appendix J

Appendix K Impact Dolphin Monitoring Survey Sighting Summary

Table 1 Impact Dolphin Monitoring Survey Sighting Table

Project	Contract	Date	Sighting No.	Time	Group Size	Area	Beaufort	PSD	Effort	Type	Northing	Easting	Season	Boat Association
HKBCF	HY/2010/02	14-Jul-17	1408	10:02:15	2	NWL	1	2266	On	Impact	825492	807339	Summer	No
HKBCF	HY/2010/02	14-Jul-17	1410	13:49:52	4	WL*	1	N/A	Opp	Impact	810900	801549	Summer	No
HKBCF	HY/2010/02	14-Jul-17	1411	14:32:21	1	WL*	4	N/A	Opp	Impact	808273	801038	Summer	No
HKBCF	HY/2010/02	25-Jul-17	1413	9:33:35	6	WL*	1	N/A	Opp	Impact	810615	801466	Summer	No
HKBCF	HY/2010/02	25-Jul-17	1414	13:56:17	5	NWL	1	138	On	Impact	827464	806447	Summer	No
HKBCF	HY/2010/02	25-Jul-17	1415	14:31:10	2	NWL	1	N/A	Opp	Impact	826835	806435	Summer	No
HKBCF	HY/2010/02	25-Jul-17	1416	14:48:10	2	NWL	1	N/A	Opp	Impact	826754	806538	Summer	No
HKBCF	HY/2010/02	25-Jul-17	1417	14:58:32	4	NWL	1	580	On	Impact	828494	806470	Summer	No
.HKBCF	HY/2010/02	25-Jul-17	1419	14:29:5	1	NEL	2	N/A	Opp	Impact	822418	814730	Summer	No

*Group of dolphin was sighted at WL area while vessel based dolphin monitoring was conducted in NWL.

KEY:

Sighting Opp Opportunistic
On On effort
PSD Perpendicular Sighting Distance
Group Size Represents best estimate for group encountered
PS = Purse Seine trawler (active)
HT = Hang Trawler (not active but sorting fish and cleaning nets)
GN = Gill Net

NEL North East Lantau
NWL North West Lantau

Annex I
June 2017
Photo Identification Information

Identification Number	Baseline Identification Number	Date (YYYY-MM-DD)	Sighting Number	Area Sighted
HZMB 134		2016/05/23	1251	NWL
HZMB 132		2016/05/23	1244	NWL
HZMB 131		2016/03/22	1215	NWL
HZMB 130		2016/09/05	1301	NWL
		2016/02/04	1199	NWL
HZMB 129		2017/01/05	1354	NWL
		2017/01/05	1353	NWL
		2016/01/07	1189	NWL
		2015/10/22	1156	NWL
		2015/09/07	1143	NWL
		2015/08/25	1138	NWL
HZMB 128		2015/01/03	1056	NWL
HZMB 127		2015/01/03	1056	NWL
HZMB 126		2016/05/23	1244	NWL
		2015/02/23	1068	NWL
		2015/01/03	1054	NWL
HZMB 125		2016/05/23	1249	NWL
		2016/03/07	1208	NWL
		2014/10/13	1019	NWL
HZMB 124		2014/09/22	1005	NWL
HZMB 123		2014/08/25	998	NWL
HZMB 122		2015/10/22	1156	NWL
		2014/08/04	989	NWL
HZMB 121		2016/07/18	1276	NWL
		2014/07/14	968	NWL
HZMB 120		2014/05/31	951	NWL
HZMB 119		2014/04/19	940	NWL
HZMB 118		2014/01/06	890	NWL
HZMB 117		2014/06/17	964	NWL
		2014/01/06	888	NWL
HZMB 116		2014/08/25	999	NWL
HZMB 115		2014/07/14	972	NWL
		2014/07/14	971	NWL
		2013/12/26	879	NWL
		2013/12/26	879	NWL
HZMB 114		2017/01/05	1351	NWL
		2016/11/03	1328	NWL

Identification Number	Baseline Identification Number	Date (YYYY-MM-DD)	Sighting Number	Area Sighted
		2016/06/06	1261	NWL
		2015/11/05	1162	NWL
		2013/10/24	827	NWL
HZMB 113		2013/10/24	827	NWL
HZMB 112		2013/10/15	815	NWL
HZMB 111		2013/10/15	815	NWL
HZMB 110		2016/01/18	1193	NWL
		2013/10/15	812	NWL
HZMB 108		2015/06/11	1118	NWL
		2013/08/30	780	NEL
HZMB 107		2015/07/28	1126	NWL
		2014/10/13	1019	NWL
		2014/05/31	951	NWL
		2013/08/21	770	NWL
HZMB 106		2013/08/21	769	NWL
HZMB 105		2014/05/31	951	NWL
		2013/07/08	711	NWL
HZMB 104		2013/07/08	711	NWL
HZMB 103		2013/07/08	711	NWL
HZMB 102		2013/07/08	706	NWL
HZMB 101		2013/07/08	706	NWL
HZMB 100		2013/07/08	706	NWL
HZMB 099		2013/06/13	681	NWL
		2013/06/13	680	NWL
HZMB 098	NL104	2017/05/11	1393	NWL
		2017/01/05	1353	NWL
		2015/02/23	1077	NWL
		2014/12/18	1044	NWL
		2014/08/04	992	NWL
		2014/01/06	888	NWL
		2013/11/02	849	NWL
		2013/11/02	845	NWL
		2013/10/24	831	NWL
		2013/07/08	711	NWL
		2013/05/24	659	NWL
		2011/11/07	Baseline	NWL
		2011/11/05	Baseline	NWL

Identification Number	Baseline Identification Number	Date (YYYY-MM-DD)	Sighting Number	Area Sighted
		2011/11/05	Baseline	NWL
		2011/11/02	Baseline	NWL
		2011/10/28	Baseline	NWL
		2011/09/23	Baseline	NWL
		2011/09/16	Baseline	NWL
HZMB 097		2013/05/09	647	NWL
HZMB 096		2013/04/01	621	NWL
HZMB 095		2013/08/30	780	NEL
		2013/06/25	697	NWL
		2013/06/13	682	NWL
		2013/04/01	621	NWL
HZMB 094		2016/08/30	1299	NWL
		2014/10/13	1019	NWL
		2014/05/31	954	NWL
		2014/02/17	910	NWL
		2013/06/26	703	NWL
		2013/06/25	698	NWL
		2013/03/18	601	NWL
HZMB 093		2013/05/24	657	NWL
		2013/02/21	587	NWL
HZMB 092		2015/04/20	1097	NWL
		2013/02/21	589	NWL
		2013/02/15	581	NWL
HZMB 091		2013/02/15	579	NWL
HZMB 090		2013/06/25	697	NWL
		2013/06/13	682	NWL
		2013/02/15	579	NWL
HZMB 089		2013/02/15	579	NWL
HZMB 088		2013/02/15	579	NWL
HZMB 087		2013/02/15	579	NWL
HZMB 086	NL242	2015/03/19	1086	NWL
		2013/05/09	642	NWL
		2013/02/15	579	NWL
		2011/10/10	Baseline	NWL
HZMB 085		2014/10/13	1019	NWL
		2014/05/31	954	NWL
HZMB 084		2013/06/26	703	NWL

Identification Number	Baseline Identification Number	Date (YYYY-MM-DD)	Sighting Number	Area Sighted
		2013/02/15	579	NWL
		2013/02/14	575	NWL
HZMB 083	NL136	2016/11/03	1332	NWL
		2016/08/30	1298	NWL
		2015/12/01	1180	NWL
		2015/05/11	1104	NWL
		2013/12/19	863	NWL
		2013/03/28	607	NWL
		2013/02/15	579	NWL
		2013/01/28	568	NWL
		2013/01/28	564	NWL
		2012/04/19	267	NWL
		2011/10/28	Baseline	NWL
		2011/10/28	Baseline	NWL
		2011/10/10	Baseline	NEL
		2011/09/06	Baseline	NWL
HZMB 082		2014/10/20	1024	NWL
		2013/02/21	587	NWL
		2013/02/15	579	NWL
		2013/01/28	563	NWL
HZMB 081		2013/01/28	559	NWL
		2013/01/28	557	NWL
HZMB 080		2013/01/28	556	NWL
HZMB 079		2013/01/28	556	NWL
HZMB 078		2013/02/15	579	NWL
		2013/01/08	552	NWL
HZMB 077		2013/12/26	878	NWL
		2013/07/08	706	NWL
		2012/12/11	541	NWL
HZMB 076		2013/07/08	706	NWL
		2012/12/11	541	NWL
HZMB 075		2012/12/06	525	NEL
HZMB 074		2013/05/09	647	NWL
		2013/04/01	623	NWL
		2013/04/01	621	NWL
		2013/02/21	594	NEL
		2012/12/10	529	NEL

Identification Number	Baseline Identification Number	Date (YYYY-MM-DD)	Sighting Number	Area Sighted
		2012/12/06	525	NEL
HZMB 073		2013/05/09	647	NWL
		2013/04/01	623	NWL
		2013/04/01	621	NWL
		2013/02/21	594	NEL
		2012/12/10	529	NEL
		2012/12/06	525	NEL
HZMB 072		2012/10/24	476	NWL
HZMB 071		2012/10/24	475	NWL
		2012/10/12	466	NWL
HZMB 070		2012/10/24	476	NWL
HZMB 069		2015/06/04	1116	NWL
		2013/08/21	774	NWL
		2013/07/08	711	NWL
		2012/10/24	476	NWL
HZMB 068		2014/10/20	1025	NWL
		2013/11/01	839	NWL
		2012/10/24	476	NWL
HZMB 067		2012/10/24	475	NWL
HZMB 066	NL93	2013/01/28	559	NWL
		2012/12/11	537	NWL
		2012/10/24	475	NWL
		2012/10/12	466	NWL
		2011/11/07	Baseline	NWL
		2011/11/05	Baseline	NWL
HZMB 064		2015/03/19	1086	NWL
		2014/06/17	964	NWL
		2013/05/09	647	NWL
		2013/01/28	561	NWL
		2012/10/24	475	NWL
		2012/10/12	466	NWL
HZMB 063		2013/05/09	647	NWL
		2012/10/12	466	NWL
HZMB 062		2012/12/06	525	NEL
		2012/10/11	457	NWL
HZMB 060		2012/09/18	447	NWL
HZMB 059		2013/02/21	591	NWL

Identification Number	Baseline Identification Number	Date (YYYY-MM-DD)	Sighting Number	Area Sighted
		2012/09/18	445	NWL
HZMB 057		2012/09/18	440	NWL
HZMB 056		2012/09/18	442	NWL
		2012/09/05	433	NEL
HZMB 055		2012/09/04	425	NWL
HZMB 054	CH34	2017/05/11	1393	NWL
		2016/11/03	1331	NWL
		2016/05/12	1238	NWL
		2015/12/01	1180	NWL
		2015/04/20	1097	NWL
		2015/01/15	1062	NWL
		2014/05/31	953	NWL
		2014/01/06	888	NWL
		2013/11/07	854	NWL
		2013/11/02	845	NWL
		2013/10/24	831	NWL
		2013/08/30	780	NEL
		2013/07/08	711	NWL
		2013/09/18	448	NWL
		2012/09/05	432	NEL
		2011/11/07	Baseline	NWL
		2011/11/05	Baseline	NWL
		2011/11/02	Baseline	NWL
		2011/11/01	Baseline	NEL
		2011/11/01	Baseline	NEL
		2011/10/28	Baseline	NWL
		2011/10/06	Baseline	NWL
HZMB 053		2012/09/04	425	NWL
HZMB 052		2012/09/04	423	NWL
HZMB 051	NL213	2015/05/11	1104	NWL
		2014/08/04	989	NWL
		2013/05/09	644	NWL
		2013/04/01	622	NWL
		2013/02/15	582	NWL
		2013/02/15	581	NWL
		2013/01/28	559	NWL
		2013/01/28	556	NWL

Identification Number	Baseline Identification Number	Date (YYYY-MM-DD)	Sighting Number	Area Sighted
		2012/09/04	422	NWL
HZMB 050		2014/07/14	971	NWL
		2014/01/10	900	NWL
		2014/01/06	888	NWL
		2013/02/15	579	NWL
		2012/09/04	421	NWL
HZMB 049		2015/10/09	1151	NWL
		2014/07/29	982	NWL
		2012/09/03	419	NWL
HZMB 048		2012/09/03	419	NWL
HZMB 047		2015/04/28	1100	NWL
		2012/09/03	412	NWL
HZMB 046		2012/09/03	412	NWL
HZMB 045		2016/05/23	1249	NWL
		2014/02/17	910	NWL
		2013/06/13	682	NWL
		2013/02/15	579	NWL
		2012/11/01	495	NWL
HZMB 044	NL98	2017/01/05	1350	NWL
		2016/05/23	1247	NWL
		2016/01/18	1194	NWL
		2014/10/13	1019	NWL
		2014/02/17	910	NWL
		2013/12/19	864	NWL
		2013/11/02	845	NWL
		2013/11/01	842	NWL
		2013/10/15	819	NWL
		2013/05/09	648	NWL
		2013/05/09	647	NWL
		2013/04/01	623	NWL
		2013/04/01	621	NWL
		2013/02/15	579	NWL
		2012/11/01	495	NWL
		2011/11/07	Baseline	NWL
		2011/11/06	Baseline	NEL
		2011/11/01	Baseline	NEL
		2011/10/06	Baseline	NEL

Identification Number	Baseline Identification Number	Date (YYYY-MM-DD)	Sighting Number	Area Sighted
HZMB 043		2012/09/03	407	NWL
HZMB 042	NL260	2015/10/22	1156	NWL
		2013/12/19	863	NWL
		2012/11/01	495	NWL
		2011/11/07	Baseline	NWL
HZMB 041	NL24	2014/06/05	960	NEL
		2014/02/17	910	NWL
		2013/11/02	845	NWL
		2013/05/09	648	NWL
		2013/05/09	647	NWL
		2013/04/01	623	NWL
		2013/04/01	621	NWL
		2013/02/15	579	NWL
		2012/11/01	495	NWL
		2011/11/06	Baseline	NEL
		2011/11/05	Baseline	NWL
		2011/11/05	Baseline	NWL
		2011/10/10	Baseline	NWL
HZMB 040		2014/02/17	910	NWL
		2014/01/06	893	NWL
		2013/10/15	821	NWL
		2013/07/08	714	NWL
		2013/07/08	711	NWL
		2013/02/21	589	NWL
		2012/11/01	493	NWL
HZMB 038		2016/05/23	1246	NWL
		2012/11/01	490	NWL
HZMB 037		2012/11/01	490	NWL
HZMB 036		2017/01/05	1351	NWL
		2017/01/05	1350	NWL
		2012/09/03	407	NWL
		2012/11/01	490	NWL
HZMB 035		2013/02/15	579	NWL
		2012/11/01	490	NWL
HZMB 034		2012/11/01	493	NWL
HZMB 028		2014/11/17	1035	NWL
		2013/04/01	625	NWL

Identification Number	Baseline Identification Number	Date (YYYY-MM-DD)	Sighting Number	Area Sighted
		2012/08/06	373	NWL
HZMB 027		2013/12/19	863	NWL
		2013/02/15	579	NWL
		2013/01/28	568	NWL
		2013/01/28	564	NWL
		2012/06/14	299	NWL
HZMB 026		2014/10/13	1018	NWL
		2013/06/25	697	NWL
		2013/05/09	642	NWL
		2013/01/28	561	NWL
		2012/06/13	295	NEL
HZMB 025		2013/02/22	596	NEL
		2013/02/21	591	NWL
		2012/12/06	525	NEL
		2012/10/11	457	NWL
		2012/06/13	295	NEL
HZMB 024		2013/03/18	601	NWL
		2012/06/13	295	NEL
HZMB 023		2017/01/05	1353	NWL
		2016/11/03	1330	NWL
		2015/10/09	1153	NWL
		2015/10/09	1152	NWL
		2015/04/20	1097	NWL
		2014/12/18	1044	NWL
		2014/11/17	1035	NWL
		2014/01/06	888	NWL
		2013/07/08	715	NWL
		2013/07/08	711	NWL
		2013/04/01	619	NWL
		2013/02/21	589	NWL
		2013/02/15	579	NWL
		2012/07/10	330	NWL
HZMB 022		2017/01/05	1353	NWL
		2016/11/03	1330	NWL
		2016/04/21	1219	NWL
		2015/09/07	1143	NWL
		2015/04/20	1097	NWL

Identification Number	Baseline Identification Number	Date (YYYY-MM-DD)	Sighting Number	Area Sighted
		2014/12/18	1044	NWL
		2014/11/17	1035	NWL
		2014/08/04	991	NWL
		2014/01/06	888	NWL
		2013/10/24	827	NWL
		2013/07/08	715	NWL
		2013/07/08	711	NWL
		2013/04/01	619	NWL
		2013/02/21	589	NWL
		2013/02/15	579	NWL
		2012/07/10	330	NWL
HZMB 021	NL37	2016/03/22	1215	NWL
		2012/07/10	330	NWL
		2011/09/16	Baseline	NWL
HZMB 020		2012/07/10	330	NWL
HZMB 019		2012/07/10	330	NWL
HZMB 018		2014/02/17	910	NWL
		2013/05/09	647	NWL
		2013/02/21	594	NEL
		2012/12/10	529	NEL
		2012/07/10	330	NWL
HZMB 017		2012/07/10	330	NWL
HZMB 016		2013/07/08	706	NWL
		2012/12/11	539	NWL
		2012/09/18	446	NWL
		2012/09/04	421	NWL
		2012/07/10	330	NWL
HZMB 015		2012/07/10	330	NEL
HZMB 014	NL176	2015/08/25	1139	NWL
		2013/12/26	880	NWL
		2012/08/06	373	NWL
		2012/06/13	295	NEL
		2011/11/06	Baseline	NEL
		2011/11/01	Baseline	NEL
		2011/11/01	Baseline	NEL
HZMB 013		2012/05/28	281	NWL
HZMB 012		2012/05/28	281	NWL

Identification Number	Baseline Identification Number	Date (YYYY-MM-DD)	Sighting Number	Area Sighted
HZMB 011	EL01	2013/02/22	597	NEL
		2013/02/21	592	NEL
		2013/02/14	572	NEL
		2012/11/06	517	NEL
		2012/09/19	452	NWL
		2012/03/31	261	NEL
		2011/11/02	Baseline	NWL
		2011/11/01	Baseline	NEL
HZMB 009		2015/03/19	1084	NWL
		2012/05/28	281	NWL
HZMB 008		2015/07/06	1122	NWL
		2012/05/28	281	NWL
HZMB 007	NL246	2012/12/10	529	NEL
		2011/11/06	Baseline	NEL
		2011/09/16	Baseline	NWL
HZMB 006		2015/10/22	1158	NWL
		2013/02/21	594	NEL
		2012/12/11	539	NWL
		2012/11/01	495	NWL
		2012/03/29	250	NWL
HZMB 005		2015/02/09	1070	NWL
		2015/02/09	1069	NWL
		2013/11/09	860	NWL
		2013/11/07	858	NWL
		2013/10/15	813	NWL
		2012/12/10	532	NWL
		2012/08/06	374	NWL
		2012/05/28	287	NWL
HZMB 004		2015/07/28	1126	NWL
		2012/09/04	421	NWL
		2012/03/31	262	NWL
HZMB 003	NL179	2013/10/15	812	NWL
		2013/06/25	697	NWL
		2012/12/10	529	NEL
		2012/03/31	261	NWL
		2011/11/06	Baseline	NEL
		2011/09/16	Baseline	NWL

Identification Number	Baseline Identification Number	Date (YYYY-MM-DD)	Sighting Number	Area Sighted
HZMB 002	WL111	2014/05/31	951	NWL
		2013/12/26	878	NWL
		2013/12/19	863	NWL
		2013/11/01	839	NWL
		2013/10/15	819	NWL
		2013/09/24	798	NWL
		2013/02/14	573	NWL
		2012/12/11	536	NWL
		2012/12/11	535	NWL
		2012/10/12	466	NWL
		2012/10/24	475	NWL
		2012/05/28	281	NWL
		2012/03/29	250	NWL
		2011/11/02	Baseline	NWL
HZMB 001	WL46	2016/07/18	1276	NWL
		2016/05/23	1251	NWL
		2014/08/25	997	NWL
		2013/08/21	771	NWL
		2013/06/13	681	NWL
		2013/04/01	617	NWL
		2013/02/14	573	NWL
		2012/03/29	250	NWL
	CH98	2011/11/02	Baseline	NWL
	NL11	2011/11/02	Baseline	NWL
		2011/11/07	Baseline	NWL
	NL12	2011/11/02	Baseline	NWL
	NL33	2011/09/23	Baseline	NWL
		2011/11/01	Baseline	NEL
		2011/11/05	Baseline	NWL
		2011/11/07	Baseline	NWL
	NL46	2011/10/28	Baseline	NWL
	CH153	2011/10/11	Baseline	NWL
	NL48	2001/11/07	Baseline	NWL
		2011/11/02	Baseline	NWL
		2011/09/16	Baseline	NWL
	NL75	2011/09/16	Baseline	NWL
		2011/09/16	Baseline	NWL

Identification Number	Baseline Identification Number	Date (YYYY-MM-DD)	Sighting Number	Area Sighted
		2011/11/01	Baseline	NEL
	NL80	2011/11/02	Baseline	NWL
	NL118	2011/09/06	Baseline	NWL
	NL120	2011/11/06	Baseline	NEL
		2011/10/10	Baseline	NWL
	NL123	2011/11/06	Baseline	NEL
		2011/10/10	Baseline	NWL
		2011/10/06	Baseline	NWL
	NL139	2011/11/01	Baseline	NEL
		2011/10/10	Baseline	NEL
		2011/09/16	Baseline	NWL
	NL165	2011/11/05	Baseline	NWL
		2011/11/02	Baseline	NWL
	NL170	2011/10/06	Baseline	NEL
	NL188	2011/11/07	Baseline	NWL
		2011/11/01	Baseline	NWL
		2011/10/28	Baseline	NWL
	NL191	2011/09/07	Baseline	NWL
	NL202	2011/11/07	Baseline	NWL
		2011/10/28	Baseline	NWL
	NL210	2011/11/07	Baseline	NWL
		2011/11/05	Baseline	NWL
		2011/11/02	Baseline	NWL
		2011/09/07	Baseline	NWL
	NL214	2011/11/05	Baseline	NWL
		2011/11/02	Baseline	NWL
		2011/10/28	Baseline	NWL
	NL220	2011/10/10	Baseline	NEL
	NL224	2011/10/28	Baseline	NWL
	NL226	2011/11/05	Baseline	NWL
		2011/10/17	Baseline	WL
	NL230	2011/11/02	Baseline	NWL
		2011/10/17	Baseline	WL
	NL233	2011/10/28	Baseline	NWL
		2011/10/06	Baseline	NWL
		2011/09/16	Baseline	NWL
	NL241	2011/11/07	Baseline	NWL

Identification Number	Baseline Identification Number	Date (YYYY-MM-DD)	Sighting Number	Area Sighted
		2011/11/02	Baseline	NWL
		2011/09/16	Baseline	NWL
	NL244	2011/11/01	Baseline	NEL
		2011/11/01	Baseline	NWL
		2011/09/05	Baseline	WL
	NL256	2011/11/02	Baseline	NWL
	NL258	2011/09/16	Baseline	NWL
		2011/09/05	Baseline	WL
	NL259	2011/11/07	Baseline	NWL
	NL261	2011/11/01	Baseline	NEL
	NL264	2011/11/06	Baseline	NEL
		2011/10/06	Baseline	NEL
		2011/09/23	Baseline	NWL
	NL269	2011/11/02	Baseline	NWL
	NL272	2011/11/05	Baseline	NWL
		2011/11/02	Baseline	NWL
		2011/10/28	Baseline	NWL
		2011/09/16	Baseline	NWL
	NL278	2011/11/02	Baseline	NWL
	NL279	2011/11/02	Baseline	NWL
	SL42	2011/11/02	Baseline	NWL
	SL43	2011/10/28	Baseline	NWL
	WL04	2011/11/05	Baseline	NWL
		2011/11/02	Baseline	NWL
		2011/10/17	Baseline	WL
		2011/10/10	Baseline	NWL
		2011/09/16	Baseline	NWL
	WL05	2011/11/01	Baseline	NEL
		2011/11/01	Baseline	NEL
	WL11	2011/11/07	Baseline	NWL
	WL25	2011/10/17	Baseline	WL
		2011/09/23	Baseline	WL
		2011/09/16	Baseline	NWL
	WL88	2011/11/02	Baseline	WL
		2011/09/16	Baseline	NWL
	WL116	2011/09/16	Baseline	NWL
	WL124	2011/11/02	Baseline	NWL

Identification Number	Baseline Identification Number	Date (YYYY-MM-DD)	Sighting Number	Area Sighted
	WL156	2011/10/28	Baseline	NWL
		2011/09/23	Baseline	WL
	WL162	2011/09/16	Baseline	NWL
	NL275	*2011/09/23*	*Baseline*	*WL*
	SL48	*2011/11/02*	*Baseline*	*WL*
		2011/10/17	*Baseline*	*WL*
		2011/09/23	*Baseline*	*WL*
	CH108	*2011/11/02*	*Baseline*	*WL*
		2011/11/02	*Baseline*	*WL*
	CH157	*2011/11/02*	*Baseline*	*WL*
	NL206	*2011/10/07*	*Baseline*	*WL*
	WL28	*2011/09/23*	*Baseline*	*WL*
	WL42	*2011/11/02*	*Baseline*	*WL*
		2011/09/05	*Baseline*	*WL*
	WL47	*2011/10/17*	*Baseline*	*WL*
	WL61	*2011/10/17*	*Baseline*	*WL*
		2011/09/23	*Baseline*	*WL*
	WL66	*2011/11/07*	*Baseline*	*WL*
	WL68	*2011/09/05*	*Baseline*	*WL*
		2011/09/05	*Baseline*	*WL*
	WL72	*2011/11/02*	*Baseline*	*WL*
		2011/11/02	*Baseline*	*WL*
		2011/09/23	*Baseline*	*WL*
	WL87	*2011/09/23*	*Baseline*	*WL*
	WL88	*2011/11/02*	*Baseline*	*WL*
		2011/09/16	*Baseline*	*WL*
	WL116	*2011/09/16*	*Baseline*	*WL*
	WL118	*2011/11/02*	*Baseline*	*WL*
		2011/11/02	*Baseline*	*WL*
	WL123	*2011/11/02*	*Baseline*	*WL*
	WL124	*2011/11/02*	*Baseline*	*WL*
	WL128	*2011/11/07*	*Baseline*	*WL*
		2011/11/02	*Baseline*	*WL*
	WL131	*2011/11/02*	*Baseline*	*WL*
		2011/11/02	*Baseline*	*WL*
		2011/09/23	*Baseline*	*WL*
	WL132	*2011/09/23*	*Baseline*	*WL*

Identification Number	Baseline Identification Number	Date (YYYY-MM-DD)	Sighting Number	Area Sighted
	WL137	*2011/11/02*	*Baseline*	*WL*
	WL138	*2011/11/02*	*Baseline*	*WL*
	WL144	*2011/11/02*	*Baseline*	*WL*
	WL145	*2011/09/05*	*Baseline*	*WL*
	WL146	*2011/10/17*	*Baseline*	*WL*
	WL153	*2011/11/07*	*Baseline*	*WL*
	WL157	*2011/09/23*	*Baseline*	*WL*
	WL158	*2011/09/23*	*Baseline*	*WL*
	WL163	*2011/11/07*	*Baseline*	*WL*
		2011/11/02	*Baseline*	*WL*
	WL165	*2011/10/17*	*Baseline*	*WL*
	WL167	*2011/10/17*	*Baseline*	*WL*
	WL170	*2011/11/07*	*Baseline*	*WL*
	WL171	*2011/10/28*	*Baseline*	*WL*

Appendix L – Event Action Plan

Event / Action Plan for Air Quality

Event	Action			
	ET Leader	IEC	ER	Contractor
Action Level				
Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC and ER; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method.	1. Notify Contractor.	1. Rectify any unacceptable practice; 2. Amend working methods if appropriate.
Exceedance for two or more consecutive samples	1. Identify source; 2. Inform IEC and ER; 3. Advise the ER on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC and Contractor on remedial actions required; 7. If exceedance continues, arrange meeting with IEC and ER; 8. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ER on the effectiveness of the proposed remedial measures; 5. Supervise Implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	1. Submit proposals for remedial to ER within 3 working days of notification; 2. Implement the agreed proposals; 3. Amend proposal if appropriate.

Event	Action			
	ET Leader	**IEC**	**ER**	**Contractor**
Limit Level				
Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform ER, Contractor and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ER on the effectiveness of the proposed remedial measures; 5. Supervise implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Amend proposal if appropriate.

Event	Action			
	ET Leader	**IEC**	**ER**	**Contractor**
Exceedance for two or more consecutive samples	1. Notify IEC, ER, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consultation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Event / Action Plan for Construction Noise

Event	Action			
	ET Leader	**IEC**	**ER**	**Contractor**
Action Level	1. Notify IEC and Contractor; 2. Identify source, investigate the causes of exceedance and propose remedial measures; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the Contractor and formulate remedial measures; 5. Increase monitoring frequency to check mitigation effectiveness.	1. Review the analysed results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures are properly implemented.	1. Submit noise mitigation proposals to IEC; 2. Implement noise mitigation proposals.
Limit Level	1. Inform IEC, ER, EPD and Contractor; 2. Identify source; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Inform IEC, ER and EPD the causes and actions taken for the exceedances; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Event / Action Plan for Water Quality

Event	Action			
	ET Leader	**IEC**	**ER**	**Contractor**
Action level being exceeded by one sampling day	1. Repeat *in situ* measurement to confirm findings; 2. Identify source(s) of impact; 3. Inform IEC, contractor and ER; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, ER and Contractor; 6. Ensure mitigation measures are implemented; 7. Repeat measurement on next day of exceedance to confirm findings.	1. Check monitoring data submitted by ET and Contractor's working methods; 2. Discuss with ET and Contractor on possible remedial actions; 3. Review the proposed mitigation measures submitted by Contractor and advise the ER accordingly; 4. Assess the effectiveness of the implemented mitigation measures.	1. Confirm receipt of notification of non-compliance in writing; 2. Discuss with IEC on the proposed mitigation measures; 3. Make agreement on mitigation measures to be implemented; 4. Ensure mitigation measures are properly implemented.	1. Inform the ER and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment and consider changes of working methods; 4. Discuss with ET and IEC on possible remedial actions and propose mitigation measures to IEC and ER; 5. Implement the agreed mitigation measures. 6. Amend working methods if appropriate.

Event	Action			
	ET Leader	**IEC**	**ER**	**Contractor**
Action level being exceeded by two or more consecutive sampling days	1. Repeat *in situ* measurement to confirm findings; 2. Identify source(s) of impact; 3. Inform IEC, Contractor and ER; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, ER and Contractor; 6. Ensure mitigation measures are implemented; 7. Increase the monitoring frequency to daily until no exceedance of Action level; 8. Repeat measurement on next day of exceedance to confirm findings.	1. Check monitoring data submitted by ET and Contractor's working method; 2. Discuss with ET and Contractor on possible remedial actions; 3. Review the proposed mitigation measures submitted by Contractor and advise the ER accordingly; 4. Assess the effectiveness of the implemented mitigation measures.	1. Confirm receipt of notification of non-compliance in writing; 2. Discuss with IEC on the proposed mitigation measures; 3. Make agreement on mitigation measures to be implemented; 4. Ensure mitigation measures are properly implemented; 5. Assess the effectiveness of the implemented mitigation measures.	1. Inform the Engineer and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment and consider changes of working methods; 4. Discuss with ET and IEC on possible remedial actions and propose mitigation measures to IEC and ER within 3 working days of notification; 5. Implement the agreed mitigation measures; 6. Amend working methods if appropriate.

Event	Action			
	ET Leader	**IEC**	**ER**	**Contractor**
Limit level being exceeded by one sampling day	1. Repeat *in-situ* measurement to confirm findings; 2. Identify source(s) of impact; 3. Inform IEC, Contractor, ER and EPD; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, ER and Contractor; 6. Ensure mitigation measures are implemented; 7. Increase the monitoring frequency to daily until no exceedance of Limit level.	1. Check monitoring data submitted by ET and Contractor's working method; 2. Discuss with ET and Contractor on possible remedial actions; 3. Review the proposed mitigation measures submitted by Contractor and advise the ER accordingly; 4. Assess the effectiveness of the implemented mitigation measures.	1. Confirm receipt of notification of failure in writing; 2. Discuss with IEC, ET and Contractor on the proposed mitigation measures; 3. Request Contractor to critically review the working methods; 4. Ensure mitigation measures are properly implemented; 5. Assess the effectiveness of the implemented mitigation measures.	1. Inform the ER and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment and consider changes of working methods; 4. Submit proposal of mitigation measures to ER within 3 working days of notification and discuss with ET, IEC and ER; 5. Implement the agreed mitigation measures; 6. Amend working methods if appropriate.

Event	Action			
	ET Leader	**IEC**	**ER**	**Contractor**
Limit level being exceeded by two or more consecutive sampling days	1. Repeat *in-situ* measurement to confirm findings; 2. Identify source(s) of impact; 3. Inform IEC, contractor, ER and EPD; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, ER and Contractor; 6. Ensure mitigation measures are implemented; 7. Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days.	1. Check monitoring data submitted by ET and Contractor's working method; 2. Discuss with ET and Contractor on possible remedial actions; 3. Review the Contractor's mitigation measures whenever necessary to assure their effectiveness and advise the ER accordingly.	1. Confirm receipt of notification of failure in writing; 2. Discuss with IEC, ET and Contractor on the proposed mitigation measures; 3. Request Contractor to critically review the working methods; 4. Make agreement on the mitigation measures to be implemented; 5. Ensure mitigation measures are properly implemented; 6. Assess the effectiveness of the implemented mitigation measures; 7. Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the construction activities until no exceedance of Limit level.	1. Inform the ER and confirm notification of the non-compliance in writing; 2. Take immediate action to avoid further exceedance; 3. Rectify unacceptable practice; 4. Check all plant and equipment and consider changes of working methods; 5. Submit proposal of mitigation measures to ER within 3 working days of notification and discuss with ET, IEC and ER; 6. Implement the agreed mitigation measures; 7. Resubmit proposals of mitigation measures if problem still not under control; 8. As directed by the Engineer, to slow down or to stop all or part of the construction activities until no exceedance of Limit level.

Event / Action Plan for Dolphin Monitoring

Event	ET Leader	IEC	ER / SOR	Contractor
Action Level	1. Repeat statistical data analysis to confirm findings; 2. Review all available and relevant data, including raw data and statistical analysis results of other parameters covered in the EM&A, to ascertain if differences are as a result of natural variation or previously observed seasonal differences; 3. Identify source(s) of impact; 4. Inform the IEC, ER/SOR and Contractor; 5. Check monitoring data. 6. Review to ensure all the dolphin protective measures are fully and properly implemented and advise on additional measures if necessary.	1. Check monitoring data submitted by ET and Contractor; 2. Discuss monitoring results and finding with the ET and the Contractor.	1. Discuss monitoring with the IEC and any other measures proposed by the ET; 2. If ER/SOR is satisfied with the proposal of any other measures, ER/SOR to signify the agreement in writing on the measures to be implemented.	1. Inform the ER/SOR and confirm notification of the non-compliance in writing; 2. Discuss with the ET and the IEC and propose measures to the IEC and the ER/SOR; 3. Implement the agreed measures.
Limit Level	1. Repeat statistical data analysis to confirm findings; 2. Review all available and relevant data, including raw data and statistical analysis results of other parameters covered in the EM&A, to ascertain if differences are as a result of natural variation or previously observed seasonal differences; 3. Identify source(s) of impact; 4. Inform the IEC, ER/SOR and Contractor of findings; 5. Check monitoring data;	1. Check monitoring data submitted by ET and Contractor; 2. Discuss monitoring results and findings with the ET and the Contractor; 3. Attend the meeting to discuss with ET, ER/SOR and Contractor the necessity of additional dolphin monitoring and any other potential mitigation measures. 4. Review proposals for additional monitoring and any other mitigation measures submitted by ET and	1. Attend the meeting to discuss with ET, IEC and Contractor the necessity of additional dolphin monitoring and any other potential mitigation measures. 2. If ER/SOR is satisfied with the proposals for additional dolphin monitoring and/or any other mitigation measures submitted by ET and Contractor and verified by IEC, ER/SOR to signify the agreement in writing on such proposals and any other mitigation measures.	1. Inform the ER/SOR and confirm notification of the non-compliance in writing; 2. Attend the meeting to discuss with ET, IEC and ER/SOR the necessity of additional dolphin monitoring and any other potential mitigation measures. 3. Jointly submit with ET to IEC a proposal of additional dolphin monitoring and/or any other mitigation measures when necessary. 4. Implement the agreed additional dolphin monitoring

	6. Repeat review to ensure all the dolphin protective measures are fully and properly implemented and advise on additional measures if necessary. 7. If ET proves that the source of impact is caused by any of the construction activity by the works contract, ET to arrange a meeting to discuss with IEC, ER/SOR and Contractor the necessity of additional dolphin monitoring and/or any other potential mitigation measures (e.g., consider to modify the perimeter silt curtain or consider to control/temporarily stop relevant construction activity etc.) and submit to IEC a proposal of additional dolphin monitoring and/or mitigation measures where necessary.	Contractor and advise ER/SOR of the results and findings accordingly. 5. Supervise / Audit the implementation of additional monitoring and/or any other mitigation measures and advise ER/SOR the results and findings accordingly.	3. Supervise the implementation of additional monitoring and/or any other mitigation measures.	and/or any other mitigation measures.

China Harbour Engineering Company Limited

Monthly Summary Waste Flow Table for July / 2017 (year)

Project : Hong Kong – Zhuhai – Macao Bridge, Hong Kong Boundary Crossing Facilities – Reclamation Works Contract No.: HY/2010/02

Month	Actual Quantities of Inert C&D Materials Generated Monthly							Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete (see Note 1)	Reused in the Contract	Reused in other Projects	Surplus Surcharge exported to Macau	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 2)	Chemical Waste (see Note 4)	Others, e.g. general refuse (see Note 3)
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000 m^3)
Jan-17	0.0000	0.0000	0.0000	15.6100	73.2375	0.0000	18.8927	0.0000	0.3640	0.0000	0.0000	0.0455
Feb-17	0.0000	0.0000	0.0000	39.0950	182.3675	0.0000	17.5747	0.0000	0.3920	0.0000	0.0000	0.0260
Mar-17	0.0000	0.0000	0.0000	60.6496	171.6925	0.0000	20.6013	0.0000	0.0000	0.0000	0.0000	0.0585
Apr-17	0.0000	0.0000	0.0000	2.4750	55.3140	0.0000	39.9607	0.0000	0.4480	0.0000	0.0000	0.0325
May-17	0.0000	0.0000	0.0000	0.0000	4.5540	0.0000	22.4307	0.0000	0.0000	0.0000	0.0000	0.0455
Jun-17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.3920	0.0000	0.0000	0.0390
Sub-total	0.0000	0.0000	0.0000	117.8296	487.1655	0.0000	119.4601	0.0000	1.5960	0.0000	0.0000	0.2470
Jul-17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.3360	0.0000	0.0000	0.0195
Aug-17												
Sep-17												
Oct-17												
Nov-17												
Dec-17												
Total	0.0000	0.0000	0.0000	117.8296	487.1655	0.0000	119.4601	0.0000	1.9320	0.0000	0.0000	0.2665

Notes: (1) Broken concrete for recycling into aggregates.

(2) Plastics refer to plastic bottles / containers / sheets / foam / barrier from packaging materials.

(3) Use the conversion factor : 1 full load of dumping truck being equivalent to 6.5m^3 by volume.

(4) Chemical waste refer to spent “battery” and “oil with water”.

Appendix N
Cumulative Statistics on Exceedances, Complaints, Notifications of Summons and Successful Prosecutions

Cumulative statistics on Exceedances

		Total no. recorded in this month	Total no. recorded since project commencement
1-Hour TSP	Action	-	-
	Limit	-	-
24-Hour TSP	Action	-	-
	Limit	-	-
Noise	Action	-	-
	Limit	-	-
Water Quality	Action	-	2
	Limit	-	3
Dolphin Monitoring	Action	-	-
	Limit	-	-

Remarks: Exceedances which are not project-related are not presented in this table.

Cumulative statistics on Complaints, Notifications of Summons and Successful Prosecutions

	Date Received	Subject	Status	Total no. received in this month	Total no. received since project commencement
Environmental complaints	-	-	-	-	46
Notification of summons	-	-	-	-	2
Successful Prosecutions	-	-	-	-	2