# **Drainage Services Department**

Contract No. CM 12/2019

# Expansion of Sha Tau Kok Sewage Treatment Works

**Environmental Team Services for Construction Phase (2020-2021)** 

# Monthly EM&A Report for April 2021

[ May 2021 ]

	Name	Signature
Prepared & Checked:	Lemon Lam	1 Dune
Reviewed, Approved & Certified:	Y W Fung	n

Version:0 Date: 11 May 2021

# Disclaimer

This Environmental Monitoring and Audit Report is prepared for Drainage Services Department and is given for its sole benefit in relation to and pursuant to Contract No. CM 12/2019 and may not be disclosed to, quoted to or relied upon by any person other than Drainage Services Department without our prior written consent. No person (other than Drainage Services Department into whose possession a copy of this report comes may rely on this plan without our express written consent and Drainage Services Department may not rely on it for any purpose other than as described above.

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Your reference:

Our reference:

HKDSD206/50/107304

Date:

13 May 2021

Attention: Mr Alvin Ho

BY EMAIL & POST (email: acmho@dsd.gov.hk)

Dear Sirs

Agreement No.: CM 14/2018

Independent Environmental Checker Services for

Expansion of Sha Tau Kok Sewage Treatment Works

Environmental Monitoring and Audit Monthly Report (April 2021)

We refer to email of 11 May 2021 from AECOM Asia Co. Ltd attaching the Monthly Environmental Monitoring and Audit Report (April 2021).

We have no further comment and hereby verify the captioned Report in accordance with Clause 3.4 of the Environmental Permit no. EP-517/2017/A.

Should you have any queries, please do not hesitate to contact the undersigned or our Ms Karen Po at 2618 2831.

Yours faithfully

ANEWR CONSULTING LIMITED

James Choi

Independent Environmental Checker

CPSJ/LCCR/PKWK/lsmt

cc DSD – Mr Alex Leung (email: alexleung\_dsd@dc1803.com.hk)
Black & Veatch Hong Kong Limited – Mr Alaster Chan (email: are\_em2@dc1803.com.hk)
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#### **EXECUTIVE SUMMARY**

### (i) Introduction

This is the 23<sup>th</sup> EM&A Report prepared by AECOM for the Expansion of Sha Tau Kok Sewage Treatment Works. This report summarized the monitoring results and audits findings of the EM&A programme under the issued EP (EP No.: EP-517/2017/A) and in accordance with the EM&A Manual during the reporting period from 01/04/2021 to 30/04/2021.

# (ii) Summary of Main Works Undertaken and Key Measures Implemented

The main works undertaken during the reporting period are as follows:

- · Expanded STKSTW piling
- Submarine Outfall pilot hole drilling (Land)
- Submarine Outfall pilot hole drilling (Sea)

Implementation of the key mitigation measures during the reporting period are as follow:

- All construction plants / machineries will be checked / serviced on a regular basis during the courses of construction to minimize the emission of noise generation and eliminate dark smoke emission.
- All C&D materials generated will be transported and stored at temporary storage area. Cover
  will be provided during transportation of dusty materials. Suitable materials will be sorted for
  reuse on-site. Only non-inert C&D material will be disposed off-site to NENT Landfill.
- All dump trucks will be equipped with mechanical covers to prevent the dust emission during transportation when necessary.
- Dust control measures, such as water spraying, will be provided during demolition works when necessary.
- · Maintaining of wet surface on access road and keep slow speed in the site.
- Wastewater to be treated by wastewater treatment facilities before discharge.
- Conditions in the Environmental Permit and Discharge License should be followed.
- Fueling of equipment will be conducted carefully on-site by mobile tanker to avoid storage of fuel and oil spillage.
- Provision of drip trays for equipment likely cause spillage of chemical / fuel, and provide routine maintenance.
- Predict required quantity of concrete accurately and collect the unused fresh concrete at designated locations in the site for subsequent disposal.
- Application of silent plant.
- Provide sufficient mitigation measures as recommended in approved EM&A Manual requirement.
- Floating single silt curtain shall be deployed to fully enclose the works area at sea side prior to the installation of pipe piles for temporary scaffold and remove the silt curtain after the completion of steel casing installation.

# (iii) Summary of Exceedances, Investigation and Follow-up

No non-compliance of odour monitoring was noted in the reporting month.

No Action or Limit Level exceedance of construction noise was recorded in the reporting period. No noise complaint related to 0700 to 1900 hours on normal weekdays was received in the reporting period.

No exceedance of marine water quality was recorded in the reporting period.

No non-compliance of effluent quality was recorded in the reporting period.

# (iv) Complaint Handling, Prosecution and Public Engagement

No complaint related to 0700 to 1900 hours on normal weekdays, notification of summons and successful prosecution was received in the reporting period.

No public engagement activity was conducted in the reporting period.

# (v) Reporting Change

There was no reporting change in the reporting period.

#### (vi) Future Key Issues

The main works will be anticipated in the next reporting period are as follows:

- Excavation
- Submarine Outfall pilot hole drilling (Land)
- Submarine Outfall pilot hole drilling (Sea)
- Sewer laying works in Shun Hing Street and Tong To Village

The corresponding mitigation measures to be implemented in the next reporting period are as follow:

- All construction plants / machineries will be checked / serviced on a regular basis during the courses of construction to minimize the emission of noise generation and eliminate dark smoke emission.
- All C&D materials generated will be transported and stored at temporary storage area. Cover
  will be provided during transportation of dusty materials. Suitable materials will be sorted for
  reuse on-site. Only non-inert C&D material will be disposed off-site to NENT Landfill.
- All dump trucks will be equipped with mechanical covers to prevent the dust emission during transportation when necessary.
- Dust control measures, such as water spraying, will be provided during demolition works when necessary.
- · Maintaining of wet surface on access road and keep slow speed in the site.
- Wastewater to be treated by wastewater treatment facilities before discharge.
- · Conditions in the Environmental Permit and Discharge License should be followed.
- Fueling of equipment will be conducted carefully on-site by mobile tanker to avoid storage of fuel and oil spillage.
- Provision of drip trays for equipment likely cause spillage of chemical / fuel, and provide routine maintenance.
- Predict required quantity of concrete accurately and collect the unused fresh concrete at designated locations in the site for subsequent disposal.
- Application of silent plant.
- Provide sufficient mitigation measures as recommended in approved EM&A Manual requirement.
- Floating single silt curtain shall be deployed to fully enclose the works area at sea side prior to the installation of pipe piles for temporary scaffold and remove the silt curtain after the completion of steel casing installation.

The following EP submission (EP No.: EP-517/2017/A) was submitted during the reporting period:

### The Condition 3.4:

The 22th Monthly EM&A Report (March 2021) was submitted to EPD on 14 April 2021.

AECOM Asia Co. Ltd. 3 May 2021

#### 1 INTRODUCTION

# 1.1 Background

- 1.1.1. The Project in Sha Tau Kok mainly comprises of the following items:
  - i) Increase the treatment capacity of Sha Tau Kok Sewage Treatment Works (STKSTW) to 5,000 m³/day at Average Dry Weather Flow (ADWF) in Phase 1, with suitable allowance to cater for a further increase of treatment capacity to 10,000 m³/day at ADWF in Phase 2;
  - ii) Construct a Temporary Sewage Treatment Plant (TSTP);
  - iii) Demolish the existing Sha Tau Kok Sewage Pumping Station (STKSPS) and decommission the rising main between STKSPS and STKSTW;
  - iv) Construct a new gravity sewer; and
  - v) Decommission the existing submarine outfall and construct a new one.
- 1.1.2. The Project site will be within the existing STKSTW while the construction of the gravity sewers and demolition of STKSPS will be carried out in Sha Tau Kok Town. The proposed submarine outfall will be constructed by Horizontal Directional Drilling (HDD) method under the seabed of Starling Inlet.
- 1.1.3. The Environmental Impact Assessment (EIA) Report for Expansion of Sha Tau Kok Sewage Treatment Works (Register No: AEIAR-207/2017) was approved on 14 February 2017. A Variation of an Environmental Permit (EP) EP-517/2017/A was issued on 18 October 2019 and it is the current permit for the Project.
- 1.1.4. Fugro Technical Services Limited (FTS) has been appointed to work as the additional services for Environmental Team (ET) services at early stage of construction phase (27 May 2019 to 26 February 2020) to implement the EM&A programme for the Project.
- 1.1.5. Since 27 February 2020, AECOM Asia Co. Ltd (AECOM) has been appointed as the ET to undertake the EM&A programme during construction phase (2020 2021) of the Project.
- 1.1.6. The EM&A programme of this Project shall be implemented in accordance with the requirements and procedures set out in the EM&A Manual and the EP No. EP-517/2017/A.
- 1.1.7. A baseline noise monitoring work was conducted between 25 February 2019 and 11 March 2019 and an Environmental Monitoring Report (Noise) Report (Report No.: 0118/18/ED/0259D) had submitted to EPD on 2 April 2019 and was approved by EPD on 21 June 2019.
- 1.1.8. A baseline water quality monitoring was conducted between 26 February 2019 and 23 Mar 2019 and an Environmental Monitoring Report (Water) Report (Report No.: 0118/18/ED/0307E) had submitted to EPD on 14 Jun 2019 and comments of report were received from EPD on 21 November 2019. An updated Environmental Monitoring Report (Water) Report (Report No.: 0118/18/ED/0307F) had submitted to EPD on 6 January 2020 and the report was approved by EPD on 2 March 2020.
- 1.1.9. A pre-construction survey on night roosting site for great egret was conducted in October 2019 and a Pre-construction Survey Report (Report No.: 0118/18/ED/0382 03) had submitted to EPD on 12 December 2019 and the report was found in order by Agriculture, Fisheries and Conservation Department on 30 December 2019.
- 1.1.10. A proposal for changes of the environmental monitoring methodology and requirement (Operation Phase of Odour Monitoring) had submitted to EPD on 29 April 2020 and comments from EPD were received on 26 May 2020. A revised proposal was submitted on 28 May 2020 and approved by EPD on 4 June 2020.
- 1.1.11. The construction phase and EM&A programme of the Project commenced on 27 May 2019. The operation of TSTP was commenced on 22 July 2020.

AECOM Asia Co. Ltd. 4 May 2021

# 1.2 Scope of Report

1.2.1 This is the 23<sup>th</sup> EM&A Report prepared by AECOM for the Expansion of Sha Tau Kok Sewage Treatment Works. This report summarized the monitoring results and audits findings of the EM&A programme under the issued EP (Condition 3.4 of EP No.: EP-517/2017/A) and in accordance with the EM&A Manual during the reporting period from 01/04/2021 to 30/04/2021.

# 1.3 Project Organization

1.3.1 The project 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
DSD Drainage Services Department	Engineer	Alvin Ho	2594 7269
<b>ER</b> Black & Veatch Hong Kong Limited	Resident Engineer	Kendrick Wong	2946 8708
IEC ANewR Consulting Limited	Independent Environmental Checker	James Choi	2618 2836
Contractor Build King – Kum Shing J.V.	Environmental Officer	Ping Ngan	9516 9431
ET AECOM Asia Company Limited	ET Leader	Y W Fung	3922 9393

# 1.4 Construction Programme and Activities

- 1.4.1 The construction phase of the Project under the EP commenced on 27 May 2019. The operation of TSTP was commenced on 22 July 2020.
- 1.4.2 Details of the construction works undertaken during the reporting period are listed below:
  - Expanded STKSTW piling
  - Submarine Outfall pilot hole drilling (Land)
  - Submarine Outfall pilot hole drilling (Sea)
- 1.4.3 The Construction Programme is shown in **Appendix B**.
- 1.4.4 The general layout plan of the Project site is shown in **Figure 1.**

# 1.5 Status of Environmental Licenses, Notification and Permits

1.5.1 The environmental licenses and permits for the Project and valid in the reporting period are summarized in **Table 1.2**.

Table 1.2 Summary Status of Environmental License, Notification and Permit

License/ Notification/ Permit	Reference No.	Valid	Period
License/ Notification/ Permit	Reference No.	From	То
Environmental Permit	EP-517/2017/A	18/10/2019	N/A
Westewater Discharge License	WT00033567-2019	02/05/2019	31/05/2024
Wastewater Discharge License	WT00035755-2020	12/06/2020	30/06/2022
Chemical Waste Producer Registration	5213-652-B2548-01	14/12/2018	N/A
Billing Account	WFG19965	02/01/2019	N/A
Construction Noise Permit	GW-RN0273-21	09/05/2021	02/11/2021
Construction Noise Permit	GW-RN0266-21	16/04/2020	30/06/2021
	GW-RN0169-21	14/03/2021	13/06/2021
	PP-RN0016-21	13/04/2021	12/05/2021

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#### 2 ENVIRONMENTAL MONITORING REQUIREMENTS

# 2.1 Odour Monitoring (Operation Phase for TSTP)

2.1.1 In accordance with the EM&A Manual, a commissioning test for the deodorization facilities of the TSTP was performed on 12 June 2020, exhaust air flow rate, temperature of exhaust and H<sub>2</sub>S concentration were recorded during the measurement. The measurement details were presented in the odour commissioning test report. The odour commissioning test report was submitted to EPD on 16 June 2020 and received EPD's comments on 2 July 2020. The revised odour commissioning test report was submitted to EPD on 30 September 2020.

# Impact Monitoring Requirement

- 2.1.2 In accordance with the EM&A Manual, as there is no non-compliance was recorded during the weekly odour monitoring in the first two months (i.e. August and September 2020), monitoring frequency is recommended to reduce from weekly to monthly in the subsequent four months (i.e. October 2020 to January 2021) and further reduce to quarterly in the remaining six months (i.e. February to July 2021) of the first year of the TSTP operation if no non-compliance is found.
- 2.1.3 Quarterly monitoring of odour emission at the exhausts of deodorization facilities (TSTP No.1 and TSTP No.2) will be conducted in the period of February to July 2021. Odour monitoring will be performed at the exhaust of operating deodorization facility at TSTP. The approved alternative method for odour monitoring is presented in **Table 2.1**

Table 2.1 Approved Alternative Odour Monitoring Methodology

Measurement Locations	Parameter	Equipment
At the Exhaust of TSTP No.1 and TSTP No.2	<ul> <li>Exhaust air flow rate</li> <li>Temperature of exhaust</li> <li>H<sub>2</sub>S Concentration (ppm)</li> </ul>	H <sub>2</sub> S Analyzer Anemometer

# Monitoring Equipment

2.1.4 The details of monitoring equipment are presented in **Table 2.2**.

Table 2.2 Details of Odour Monitoring Equipment

Equipment	Equipment Model
H2S Analyzer	Jerome 631X
Air Velocity Meter	TSI 9555-P

# **Monitoring Locations**

2.1.5 As the operation mode of the deodorization system at TSTP shall be one in operation and one in standby. Odour monitoring will be undertaken at the exhaust of operating facility. The odour monitoring locations is presented in **Table 2.3** and shown in **Figure 2.** 

Table 2.3 Location of Odour Monitoring

ID	Monitoring Location	Operation mode
TSTP No.1	At the exhaust of TSTP No.1	Operation / Standby
TSTP No.2	At the exhaust of TSTP No.2	Operation / Standby

# Monitoring Parameters and Frequency

2.1.6 **Table 2.4** summarizes the monitoring parameters, frequency and duration of odour monitoring.

Table 2.4 Monitoring Parameters, Frequency (1st year of TSTP operation)

Table 2.4 Monitoring Farameters, Frequency (1" year of 1	or operation)
Measurement Parameters	Frequency
15-minute H <sub>2</sub> S Measurement (every 5 minutes measure one reading)	At least once per week in the first two months.
- Average value of the three 5-minute readings will be used.	<ul> <li>Monthly in the subsequent four months.</li> </ul>
Exhaust air flow rate, ambient temperature, temperature of exhaust, weather condition and wind speed will be recorded.	Quarterly in the remaining six months.

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#### Results and Observation

- 2.1.7 TSTP No.1 was in operation during the monitoring. Odour monitoring was undertaken at the exhaust of operating facility of TSTP No.1 in the reporting period.
- 2.1.8 The schedule for environmental monitoring in the reporting period is provided in **Appendix D.**
- 2.1.9 The odour monitoring results are summarized in **Table 2.5**. No non-compliance of odour monitoring was recorded in the reporting month.

Table 2.5 Summary of Odour Monitoring Results in the Reporting Period

			Ambient		Exhaust				
Location	Date & Weather	Time	Temp., ∘C	Wind speed, m/s	Temp., °C	Air velocity, m/s	Average Air flow rate, m³/s	H₂S concentration, ppm	H <sub>2</sub> S Conc. Expressed in Odour Unit (*), OU/m <sup>3</sup>
Cybound of	07 Amr 01	13:20			26.4	8.42		< 0.003	6.4
Exhaust of TSTP No.1	27-Apr-21 Cloudy	13:25	23.4	1.98	26.6	8.38	2.37	< 0.003	6.4
		13:30			26.7	8.31		< 0.003	6.4

Note: \* equivalent detection threshold criterion: 10U= 0.00047ppm of H<sub>2</sub>S

# 2.2 Noise Monitoring

# Monitoring Requirements

2.2.1 In accordance with the EM&A Manual, impact noise monitoring was conducted for at least once per week during the construction phase of the Project. The Action and Limit levels for construction noise is provided in **Table 2.6**.

Table 2.6 Action and Limit Levels for Construction Noise

Station ID	Noise Sensitive Receivers	Description	Action Level^	Limit Level
NM1	NSR 6	Block 45, Sha Tau Kok Chuen	When one documented complaint is received from	75
NM2	NSR 8	Building along Shun Lung Street	any one of the noise sensitive receivers	dB(A)*

Note: ^ Between 07:00-19:00 hours in normal weekdays.

# Monitoring Equipment

2.2.2 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 2.7.** 

Table 2.7 Noise Monitoring Equipment

Equipment	Brand and Model
Integrated Sound Level Meter	B&K 2238
Acoustic Calibrator	B&K 4231

# **Monitoring Locations**

2.2.3 Monitoring stations NM1 and NM2 were set up at the proposed locations in accordance with EM&A Manual. **Figure 3** shows the location of the monitoring stations. **Table 2.8** describes the details of the monitoring stations.

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<sup>\*75</sup> dB(A) for residential premises.

Table 2.8 Location of Impact Noise Monitoring Stations

Station ID	Noise Sensitive Receivers	Description	Type of measurement
NM1	NSR 6	Block 45, Sha Tau Kok Chuen	Free-field
NM2	NSR 8	Building along Shun Lung Street	Free-field

Note: For Free-field measurement, a correction of +3dB(A) should be made to the measured results.

# Monitoring Parameters and Frequency

2.2.4 **Table 2.9** summarizes the monitoring parameters, frequency and duration of impact noise monitoring.

Table 2.9 Noise Monitoring Parameters, Frequency and Duration

Parameter and Duration	Frequency
30-mins measurement at each monitoring station between	
0700 and 1900 on normal weekdays.	At least once per week
L <sub>eq</sub> , L <sub>10</sub> and L <sub>90</sub> would be recorded.	-

# Monitoring Methodology

# 2.2.5 Monitoring Procedure

- (a) Free-field measurement was made at monitoring stations NM1 and NM2. For free-field measurement, a correction factor of +3 dB (A) would be applied.
- (b) The sound level meter was set on a tripod at a point 1m from the exterior of the façade of the sensitive receivers building and at a height of 1.2 m above the ground for free-field measurements at monitoring stations.
- (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<sub>eq(30-minutes)</sub> during 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<sub>eq</sub>, L<sub>10</sub> and L<sub>90</sub> were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.
- (g) Noise measurement would be paused during periods of high intrusive noise (e.g. dog barking, helicopter noise) if possible. Observations would be recorded when intrusive noise was unavoidable.
- (h) The wind speed at the monitoring station was checked with the portable wind speed meter. Noise monitoring would be cancelled in the presence of fog, rain, wind with a steady speed exceeding 5m/s, or wind with gusts exceeding 10m/s.

# 2.2.6 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 C.**

# Monitoring Results and Observations

2.2.7 The schedule for environmental monitoring in the reporting period is provided in **Appendix D.** 

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2.2.8 The monitoring results for construction noise are summarized in **Table 2.10** and the monitoring data is provided in **Appendix F**.

Table 2.10 Summary of Construction Noise Monitoring Results in the Reporting Period

Station ID	Construction Noise Level, dB(A)*, L <sub>eq (30 min)</sub>	Baseline Level, dB(A)	Limit Level, dB(A)
NM1	56.7 – 62.4	65	75
NM2	58.9 – 63.1	65	75

Note: \*A correction of +3 dB(A) was made to the free field measurements.

Leg (30min) was measured at 0700-1900 hours on normal weekdays.

- 2.2.9 No Action or Limit Level exceedance of construction noise was recorded in the reporting period. No noise complaint related to 0700 to 1900 hours on normal weekdays was received in the reporting period.
- 2.2.10 The event and action plan is annexed in Appendix H.

# Other factor influencing the monitoring results

2.2.11 Major noise sources during noise monitoring in the reporting period were mainly road traffic noise, human activities and construction equipment noise.

# 2.3 Water Quality Monitoring

# Monitoring Requirements (Construction Phase)

- 2.3.1 In accordance with the recommendations of the EIA, water quality monitoring is required during the installation, maintenance and removal of sheetpiles and sediment removal works for construction of diffuser.
- 2.3.2 Water quality monitoring programme for marine construction works was commenced on 9 November 2020. As informed by DSD, no marine construction work was conducted and the marine water quality monitoring for marine construction works was suspended since 21 December 2020. The marine water quality monitoring was resumed on 20 January 2021.

# Monitoring Requirements (1-year Operation phase for TSTP)

- 2.3.3 In accordance with the EM&A Manual, marine water quality and continuous effluent quality monitoring for first year operation of TSTP were conducted in the reporting period. The Action and Limit levels for marine water quality and effluent quality is presented in **Appendix E**.
- 2.3.4 Water quality monitoring programme for operation phase of TSTP was commenced on 22 July 2020.

# Monitoring Equipment

2.3.5 Equipment used in the marine water quality and effluent quality monitoring programme are summarized in **Table 2.11**.

Table 2.11 Marine Water Quality & Effluent Quality Monitoring Equipment

Monitoring Equipment	Equipment Model
Multifunctional Meter (measurement of Dissolved Oxygen, pH, temperature, salinity and turbidity)	YSI 6820V2
Water Depth	Lowrance x-4
Positioning Equipment	Garmin GPS72H
Multifunctional Meter (measurement of Dissolved	YSI Professional Plus
Oxygen, temperature and salinity)	
pH meter	WTW pH 3210
Turbidimeter	OAKTON T-100

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# **Monitoring Locations**

2.3.6 In accordance with the EM&A Manual, marine water quality and effluent quality monitoring stations are summarized in **Table 2.12** and shown in **Figure 4**.

Table 2.12 Location of Water Quality Monitoring Stations for 1-Year TSTP Operation and Construction Phase

Station	Description	Easting	Northing	1-Year TSTP Operation	Construction Phase
FCZ1A	Sha Tau Kok Fish Culture Zone – West	841565	844299	-	✓
FCZ1B	Sha Tau Kok Fish Culture Zone – West	841565	844299	✓	
FCZ7*	Temporary Relocation Site for Fish Rafts of the Sha Tau Kok Fish Culture Zone	842282	844451	<b>✓</b>	<b>√</b>
FCZ8*	Temporary Relocation Site for Fish Rafts of the Sha Tau Kok Fish Culture Zone	841511	843959	<b>√</b>	<b>√</b>
SGA	Seagrass Colony	841064	844580	✓	✓
M1A	Mangrove Stand	840744	844853	✓	✓
H1A	Horseshoe Crab	840645	844398	✓	✓
H4A	Horseshoe Crab	840304	843546	✓	✓
N1	Impact Station of the Expanded STKSTW (Ebb Tide)	842863	845378	<b>~</b>	<b>√</b>
N2	Impact Station of the Expanded STKSTW (Flood Tide)	842109	844631	<b>V</b>	<b>✓</b>
С	Control Station	844690	845886	✓	✓
Effluent	At the effluent discharge point of TSTP	-	-	✓	-

Note:

Due to accessibility and safety concern during the baseline period, alternative water quality monitoring stations of SGA, M1A, H1A and H4A were proposed and adopted.

# Monitoring Parameters and Frequency

2.3.7 **Table 2.13** summarizes the monitoring parameters, frequency of water quality monitoring.

Table 2.13 Marine Water and Effluent Quality Monitoring Parameters, Frequency

Monitoring Parameters, unit	Frequency
In-situ Measurement:	
<ul> <li>Temperature, °C</li> </ul>	For Marine Water Quality:
• pH	1-year Operation phase for TSTP
Salinity, ppt	Once per day for 3 days per week for 1-
<ul> <li>Dissolved Oxygen (DO), mg/L</li> </ul>	year
Turbidity, NTU	(the interval between two sets of
Laboratory Analysis:	monitoring should not be less than 36
<ul> <li>Suspended Solids (SS), mg/L</li> </ul>	hours)
<ul> <li>Biochemical Oxygen Demand (BOD<sub>5</sub>), mg/L</li> </ul>	
Total Phosphorus (TP) mg/L	For Continuous Effluent Quality
Total Nitrogen (TN), mg/L	Monitoring:
<ul> <li>Ammonia Nitrogen (NH<sub>3</sub>-N), mg/L</li> </ul>	Daily for 1-year
<ul> <li>Total Inorganic Nitrogen, (TIN), mg/L</li> </ul>	
• E.coli, cfu/100mL	
In-situ Measurement:	
<ul> <li>Temperature, °C</li> </ul>	For Marine Water Quality:
• pH	Construction Phase
Salinity, ppt	Both Mid-Ebb and Mid-Flood tides on the
Dissolved Oxygen (DO), mg/L	same day
Turbidity, NTU	(the interval between two sets of
Laboratory Analysis:	monitoring should not be less than 36
<ul> <li>Suspended Solids (SS), mg/L</li> </ul>	hours)

AECOM Asia Co. Ltd. 10 May 2021

<sup>\*</sup> No sediment dredging was conducted at Sha Tau Kok Fish Culture Zone, Approach Channel, Boat Shelter, etc in the reporting period. Therefore, no relocation for FCZ1 and monitoring at FCZ7 and FCZ8 is not required.

# Monitoring Methodology

# 2.3.8 In-situ measurement

### For marine water quality monitoring

- (a) The in-situ marine water quality parameters, viz. dissolved oxygen, pH, temperature, salinity and turbidity were measured by YSI multifunctional meter.
- (b) Digital Differential Global Positioning System (DGPS) was used to ensure that the correct location was selected prior to sample collection. Portable battery-operated echo sounder was 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, middepth 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. Duplicate water samples were collected using the water sampler at the monitoring stations. Other relevant data were recorded, including monitoring location, time, water depth, tidal stages, weather conditions, sea conditions and any special phenomena or work undertaken in the field log sheet for information.

# For effluent quality monitoring

- (a) Effluent sub-samples at bi-hourly interval over a 24-hour period were collected by refrigerated autosampler. Flow record of the project for the 24-hour sampling period was obtained to calculate the volume of each sub-sample. All of measured volume subsamples were mixed in a clean container act as a flow-weighted composite effluent sample.
- (b) The in-situ effluent quality parameters, viz. dissolved oxygen, pH, temperature, salinity and turbidity were measured by YSI multifunctional meter, pH meter and Turbidimeter.

# 2.3.9 Laboratory Analysis

- (a) The collected samples were stored in high-density polythene bottles and/or preservatives added bottles and packed in cool-boxes (cooled at 4°C without being frozen) and delivered to a HOKLAS laboratory for laboratory analysis. The analysis will be commenced in a HOKLAS accredited laboratory, ALS Technichem (HK) Pty Ltd. (HOKLAS Registration No. 066) within 24 hours after collection of the samples.
- (b) The QAQC laboratory reports are attached in **Appendix G.**

# 2.3.10 Maintenance and Calibration

- (a) Before monitoring, the dissolved oxygen probe of multifunction meter was calibrated by the wet bulb method. A zero check in distilled water was performed with the turbidity probe once per monitoring day. The probe was then calibrated with a solution of known NTU.
- (b) The monitoring instruments were checked, calibrated and certified by a laboratory accredited under HOKLAS before use and subsequently re-calibrated at 3-monthly intervals throughout all stages of the water quality monitoring. Calibration details are provided in **Appendix C.**

# Monitoring Results and Observations

- 2.3.11 The schedule for environmental monitoring in the reporting period is provided in **Appendix D.**
- 2.3.12 Construction and operation phases water quality monitoring was conducted at all designated monitoring stations and continuous effluent quality monitoring was conducted in the reporting period. No emergency discharge was happened in the reporting period.
- 2.3.13 All monitoring data and graphical presentation of the monitoring results are provided in **Appendix G**.
- 2.3.14 No exceedances of marine water quality and effluent quality was recorded in the reporting period. Number of exceedances recorded in the reporting period at each monitoring station are

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summarised in Table 2.14.

Table 2.14 Summary of Water Quality Exceedances

Station	Exceedance Level	DO (S&M)	DO (Bottom)	Salinity	Turbidity	SS	NH <sub>3</sub> -N	TN	TIN	TP	BOD <sub>5</sub>	E.Coli	Total
N1	Action	0	0	0	0	0	0	0	0	0	0	0	0
IN I	Limit	0	0	0	0	0	0	0	0	0	0	0	0
N2	Action	0	0	0	0	0	0	0	0	0	0	0	0
INZ	Limit	0	0	0	0	0	0	0	0	0	0	0	0
FCZ1A	Action	0	0	0	0	0	0	0	0	0	0	0	0
FULIA	Limit	0	0	0	0	0	0	0	0	0	0	0	0
FCZ1B	Action	0	0	0	0	0	0	0	0	0	0	0	0
FUZIB	Limit	0	0	0	0	0	0	0	0	0	0	0	0
H4A	Action	0	0	0	0	0	0	0	0	0	0	0	0
П4А	Limit	0	0	0	0	0	0	0	0	0	0	0	0
H1A	Action	0	0	0	0	0	0	0	0	0	0	0	0
піА	Limit	0	0	0	0	0	0	0	0	0	0	0	0
M1A	Action	0	0	0	0	0	0	0	0	0	0	0	0
WITA	Limit	0	0	0	0	0	0	0	0	0	0	0	0
SGA	Action	0	0	0	0	0	0	0	0	0	0	0	0
JUA	Limit	0	0	0	0	0	0	0	0	0	0	0	0
Effluent	Action	0	0	0	0	0	0	0	0	0	0	0	0
Emuent	Limit	0	0	0	0	0	0	0	0	0	0	0	0
Total	Action	0	0	0	0	0	0	0	0	0	0	0	0
iotai	Limit	0	0	0	0	0	0	0	0	0	0	0	0

- 2.3.15 No exceedance of marine water quality was recorded in the reporting period.
- 2.3.16 No non-compliance of effluent quality was recorded in the reporting period.
- 2.3.17 The event and action plan is annexed in **Appendix H**.

# 2.4 Waste Management Status

- 2.4.1 Auditing of waste management practices during regular site inspections will confirm that the waste generated during construction are properly, stored, handled and disposed of. The construction Contractor(s) will be responsible for the implementation of any mitigation measures to reduce waste or redress issues arising from the waste materials.
- 2.4.2 The C&D waste under this contract should be disposal of at North East New Territories (NENT) Landfill and Tseung Kwan O Area 137 Fill Bank (TKO137FB).
- 2.4.3 Monthly summary of waste flow table is detailed in **Appendix I.**

# 2.5 Landscape and Visual

2.5.1 Inspections of the implementation of landscape and visual mitigation measures were conducted on 7 and 21 April 2021. The observations and recommendations made during the audit sessions are summarized in **Table 4.1**. A summary of the mitigation measures implementation schedule is provided in **Appendix J**. The event and action plan is annexed in **Appendix H**.

# 3 IMPLEMENTATION STATUS ON ENVIRONMENTAL PROTECTION REQUIREMENTS

3.1.1 The Contractor has implemented environmental mitigation measures and requirements as stated in the EIA Report, the EP and EM&A Manual. The implementation status of the environmental mitigation measures of the reporting period is summarized in **Appendix J.** The implementation of the key mitigation measures during the reporting period is presented in **Appendix K**.

AECOM Asia Co. Ltd. 12 May 2021

# 4 ENVIRONMENTAL SITE INSPECTION AND AUDIT

# 4.1 Site Inspection

- 4.1.1 Site Inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures for the Project. A summary of the mitigation measures implementation schedule is provided in **Appendix J.**
- 4.1.2 In the reporting period, 4 site inspections were carried out on 7, 14, 21 and 28 April 2021. A joint site inspection with IEC was carried out on 28 April 2021. No non-compliance was recorded during the site inspections. Details of observations recorded during the site inspections are presented in **Table 4.1**.

Table 4.1 Observations and Recommendations of Site Inspection

Parameters	Date	Observations and Recommendations	Follow up
Water Quality	7 Apr 21	Silty water seepage from the work area were observed. The Contractor should clean up the silty water immediately and to enhance the control measures on site properly.	The item was rectified by Contractor on 7 Apr 21.
Air Quality N/A		N/A	N/A
Noise N/A		N/A	N/A
Waste/ Chemical Management	7 Apr 21	Oil drums placed on ground without drip tray was observed. The Contractor should provide the drip tray to store the oil drums to prevent any leakage, if any.	The item was rectified by Contractor on 15 Apr 2021.
Landscape & Visual	N/A	N/A	N/A
Permits/ Licenses	N/A	N/A	N/A

# 4.2 Summary of Complaints, Notification of Summons, Successful Prosecutions and Public Engagement Activities

- 4.2.1 No noise complaint related to 0700 to 1900 hours on normal weekdays, notification of summons and successful prosecution was received in the reporting period.
- 4.2.2 No public engagement activities were conducted in the reporting period.
- 4.2.3 Statistics on complaints, notifications of summons, successful prosecutions and public engagement activities are summarized in **Appendix L**.

## 5 ON-SITE TIME FOR ET AND IEC TEAM

5.1.1 According to the EP Condition 2.1 and 2.4, the minimum on-site time of at least 8 hours per week during office hours were proposed by the ET and IEC and their teams respectively in order to discharge the duties of the team of ET and IEC as stipulated in the EP and EM&A requirements of the project. The on-site time & duties of ET and IEC are summarized in **Appendix M.** 

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#### 6 FUTURE KEY ISSUES

# 6.1 Construction Programme for the Coming Month

- 6.1.1 The major construction works for the Project in the coming month will be:
  - Excavation
  - Submarine Outfall pilot hole drilling (Land)
  - Submarine Outfall pilot hole drilling (Sea)
  - Sewer laying works in Shun Hing Street and Tong To Village

# 6.2 Key Issues for the Coming Month

- 6.2.1 Potential environmental impacts due to the construction activities, including air quality, noise, water quality, waste, landscape and visual, will be monitored or reviewed. The ET will continue to implement the environmental monitoring & audit programme in accordance with the EM&A Manual and Environmental Permit requirement. The recommended environmental mitigation measures shall be implemented on site and regular inspections as required will be carried out to ensure that the environmental conditions are acceptable.
- 6.2.2 The anticipated impact of major work activities within the site and the recommended mitigation measures are shown in **Appendix K**.

# 6.3 Monitoring Schedule for the Coming Month

6.3.1 The tentative schedule for environmental monitoring in May 2021 is provided in **Appendix D**.

## 7 CONCLUSIONS

- 7.1.1 No non-compliance of odour monitoring was noted in the reporting month.
- 7.1.2 No Action or Limit Level exceedance of construction noise was recorded in the reporting period. No noise complaint related to 0700 to 1900 hours on normal weekdays was received in the reporting period.
- 7.1.3 No exceedance of marine water quality was recorded in the reporting period.
- 7.1.4 No non-compliance of effluent quality was recorded in the reporting period.
- 7.1.5 4 environmental site inspections were carried out in the reporting period. Recommendations on remedial actions were given to the Contractors for the deficiencies identified during the site audits.
- 7.1.6 No complaints related to 0700 to 1900 hours on normal weekdays, notification of summons and successful prosecution was received in the reporting period.

AECOM Asia Co. Ltd. 14 May 2021





Figure 1 General Layout Plan

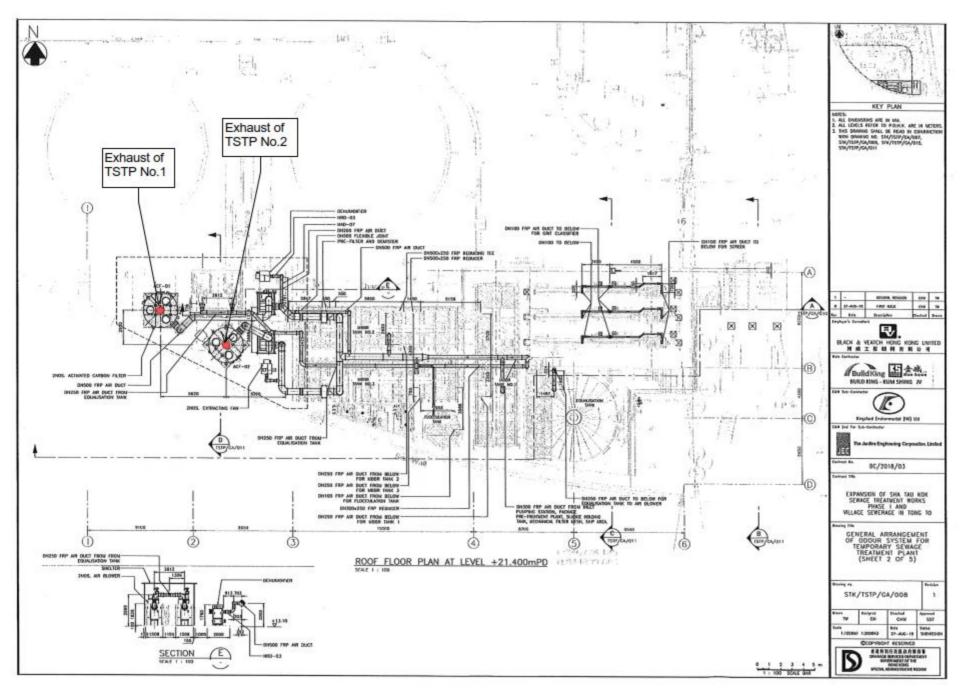


Figure 2 Locations of Odour monitoring for 1-Year Operation of TSTP

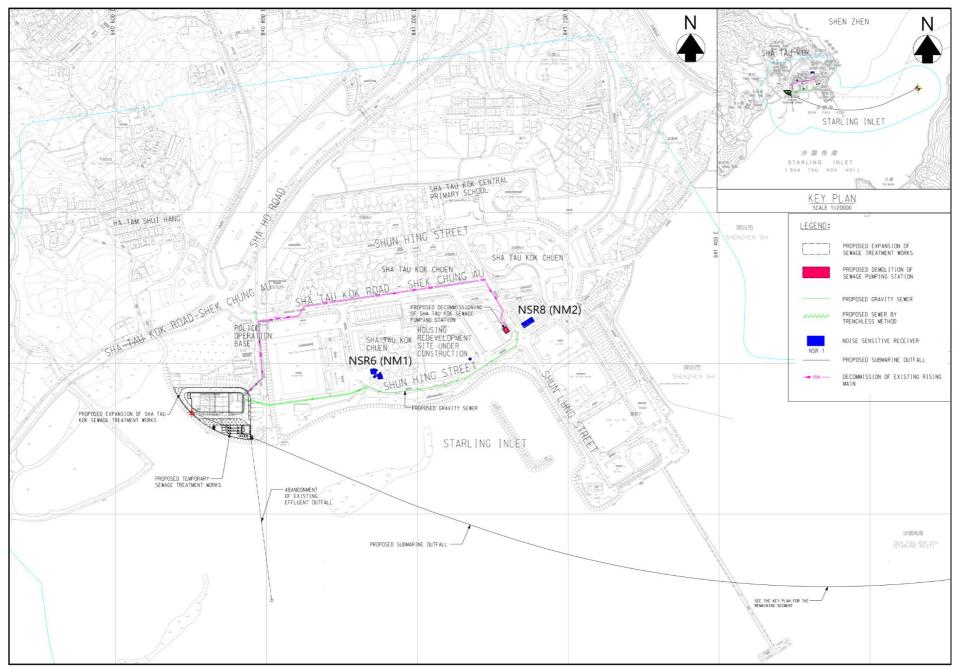


Figure 3 Location of Noise Monitoring Stations

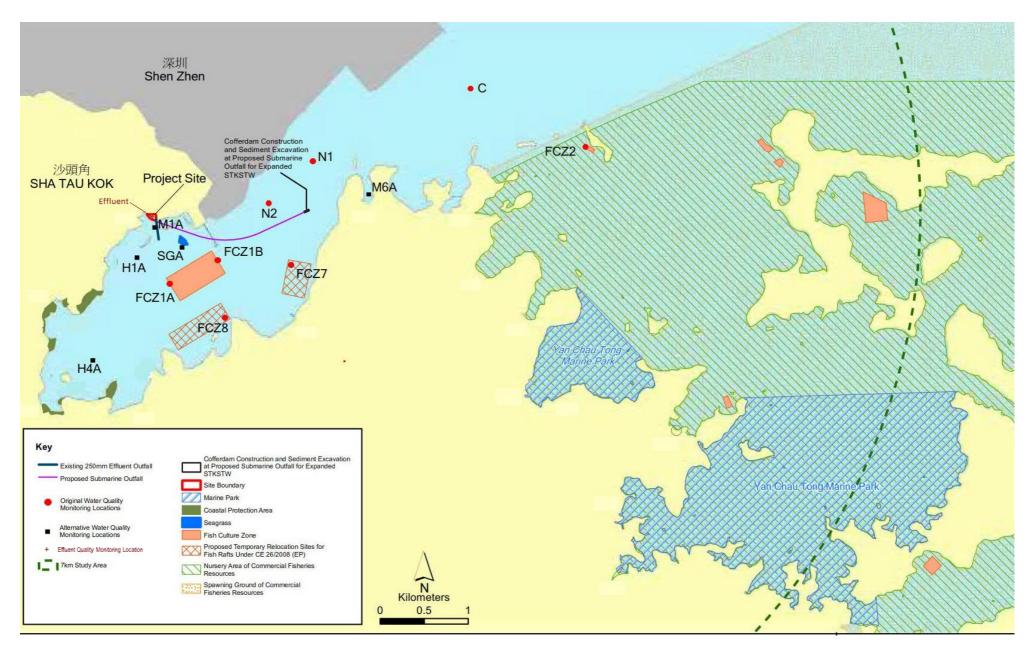
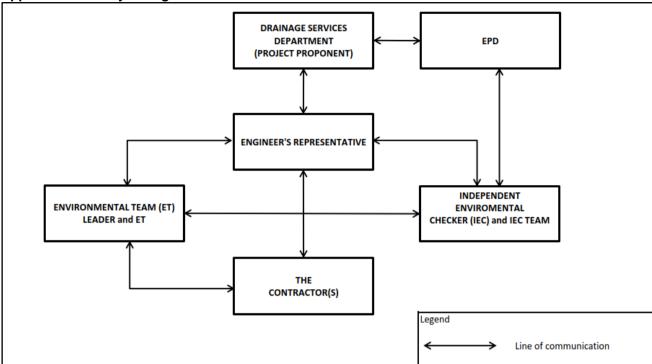


Figure 4 Location of Marine Water Quality Monitoring Stations

# **APPENDIX A**

**Project Organization Structure** 

Appendix A Project Organization Structure



Note: Detailed key personnel contact names and telephone numbers refer to Table 1.1.

# **APPENDIX B**

# **Construction Programme**

# Appendix B Construction Programme

Expansion of Sha Tau Kok Sewage Treatment Works - Construction Programme

	sion of Sna Tau Kok Sewage Treatment	11022																										1																
		L.				2019								2	020								2	021				╽		, ,		2022				,				2	2023			
STAGE	Activities	Jan F	eb Ma	ır Apr N	MayJu	un Jul	Aug S	Sep Oc	t Nov	Dec .	Jan Fel	b Mar	Apr M	lay Jun	Jul	Aug Se	p Oct	Nov	Dec	Jan F	eb Mar	Apr M	ay Jun	Jul A	ug Sep	Oct N	ov Dec	Jan	Feb M	aı Apr	MayJu	n Jul	Aug	ep Oct	t Nov	Dec .	Jan F	eb Ma	Apr 1	May Jun	Jul A	ug Sep	Oct	Nov Dec
Constru	action of Temporary Sewage Treatment Plant			Ш																																					Ш			
1 (	Ground Investigation			ш			Ш								Ш																						$\perp$				Ш			
2 1	Piling			ш											Ш																						$\perp$				Ш			
3 (	Construction of RC Structures			$\perp \perp$						Ш					Ш											Ш							Ш								Ш			
4 1	E&M Installations			Ш											Ш																										Ш			
5 1	Testing &Commissioning																																								Ш			
Demolit	ion of the exisitng STKSTW																																								Ш			
Constru	action of Submarine Outfall			Ш											Ш																										Ш			
1 (	Casing Installation (Land)			Ш																																					Ш		Ш	
2 1	Pilot Hole Drilling (Land)																																								Ш			
3 1	Reaming (Land)																																								Ш			
4 (	Casing Installation (Sea)																																								Ш			
5 1	Pilot Hole Drilling (Sea)																																								Ш			
6 1	Reaming (Sea)																																											
7 1	Pipe Installation																																											
8 (	Construction of Cofferdam at the location of diffuser																																											
9 1	Installation of Diffuser																																								Ш			
10 1	Backfilling and Removal of Sheetpiles																																											
Constru	ntion of the expanded STKSTW																																											
1 1	Piling																																											
2 (	Construction of RC Structures																																											
3 1	E&M Installations																																											
4	Testing &Commissioning																																											
Sewer L	aying*																																											
Operati	on of TSTP																																											
	on of STKSTW																																											
Demcon	nmisioning of Existing STKSPS																																											

# APPENDIX C

**Calibration Certificates of Monitoring Equipment** 





# **Calibration Certificate**

Certificate No.: CC0082010

# 1. Description

Calibration item :	a) Hydrogen Sulfide (H <sub>2</sub> S)	
Equipment description :	Gold Film Hydrogen Sulfide Analyzer	
Manufacturer :	ARIZONA INSTRUMENT LLC	
Type / Model No. :	Jerome® 631X	
Serial No. :	1914	
Assigned equipment no. :	N/A	
Adjustment :	N/A	
Remark:	Received with good condition	

## 2. Customer information

Customer:	AECOM Asia Company Limited
Address :	8/F, Tower 2, Grand Central Plaza, 138 Shatin Rural
	Committee Road, Shatin, N.T. HK
Date of receipt :	7 October 2020

# 3. Date of performance of the calibration

) j		
I	Date of calibration :	14 October 2020

Approved Signatory
WM Ling

Company Chop:

Certificate issue date: 16 October 2020

CT-BEG-02

- 1. The certificate shall not be reproduced except in full, without written approval of CAL LAB LTD
- 2. The certificate is issued subject to the latest Terms and Conditions, available at our web site

Page 1 of 3 cc0082010

Cal Lab Limited

Address: Room 2103, Technology Plaza, 29-35 Sha Tsul Road, Tsuen Wan, NT, Hong Kong Tel : (852)25680106 Fax(852)30116194 Email: <a href="mailto:info@callab.com.hk">info@callab.com.hk</a> Website:callab.com.hk



# 4. Result of Calibration

# Hydrogen Sulfide (H<sub>2</sub>S)

Reference Setting; ppm	Measured reading; ppm	Error of indication; % FS
0.0	0.000	0.0
0.5	0.57	0.7
1.0	1.20	2.0
5.0	6.0	3.0
10.0	14	8.0

Estimated expanded uncertainty: 12 %

Technical Requirement: ± 5 ppm

# Hydrogen Sulfide (H<sub>2</sub>S) - Repeatability

Reference reading; ppm	RSD;%
10.0	1.0

Technical Requirement: ± 2 %

# Hydrogen Sulfide (H<sub>2</sub>S) - Response Time

Reference reading; ppm	Response time ; second
10.0	13

Technical Requirement:

≤ 30 seconds (Pump)

Note: The technical requirement is refer to JJG 695-2003

CT-006-04

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# 5. Reference method for calibration

Hydrogen Sulfide	JJG 695-2003

# 6. Environment condition of calibration

Temperature ; °C	24.5 °C
Relative humidity; %RH	57 %RH

# 7. Reference equipment used in the calibration

ltem	Model	Serial No.	Expiry date	Traceable to
Hydrogen sulfide	PGM-6208	M01C022401	12 Oct 2021	BJIM

Note1: The estimated expanded uncertainties have been calculated in "Evaluation and expression of uncertainty in

measurement" and give an internal estimated to have a level of confidence of 95%. A coverage factor of 2 is

assumed unless explicitly stated.

Note2: The standard (s) and instrument used in the calibration are traceable to national or international recognized

standard and are calibrated on a schedule to maintain the accuracy and good condition.

Note3: The result 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.

Note4: The result shows in this calibration certificate relate only to the item calibrated, and the result only applies to

the calibration Item as received.

Calibrated by: 1

Date: 14 October 2020

Checked by:

Date: 14 October 2020

\*\*\* End of Certificate \*\*\*

CT-END-02

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Cal Lab Limited

Address: Room 2103, Technology Plaza, 29-35 Sha Tsui Road, Tsuen Wan, NT, Hong Kong
Tel : (852)25680106 Fax(852)30116194 Email: <a href="mailto:lnfo@callab.com.hk">lnfo@callab.com.hk</a> Website: callab.com.hk



# 輝創工程有限公司

# Sun Creation Engineering Limited

Calibration & Testing Laboratory

# Certificate of Calibration

校正證書

Certificate No.: C202803

證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號: 1C20-0967)

Date of Receipt / 收件日期: 7 May 2020

Description / 儀器名稱 :

Air Velocity Meter

Manufacturer / 製造商 Model No. / 型號

TSI 9555-P

Serial No. / 編號

9555P0836010

Supplied By / 委託者

Aecom Asia Co., Ltd.

13/F., Tower 2, Grand Central Plaza,

138 Shatin Rural Committee Road, Shatin, N.T.

# TEST CONDITIONS / 測試條件

Temperature / 温度 :  $(23 \pm 2)$ °C

Relative Humidity / 相對濕度 : (50 ± 25)%

Line Voltage / 電壓 :

# TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST/測試日期

20 to 21 May 2020

# TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.

The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- South China National Centre of Metrology, China
- Agilent Technologies / Keysight Technologies
- Testo Industrial Services GmbH, Germany
- Fluke Everett Service Center, USA

Tested By

測試

T F Lee

Certified By

核證

Assistant Engineer

Min H C Chan

Date of Issue 簽發日期

22 May 2020

Engineer

本語書所積較正用之辨試器材料可測類至國際標準。局部測定本證書書先獲本實驗所書而批准。



# 輝創工程有限公司

Sun Creation Engineering Limited

Calibration & Testing Laboratory

# Certificate of Calibration 校正證書

Certificate No.: C202803

證書編號

The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement

# Test equipment:

Equipment ID	Description	Certificate No.
CL018	Portable Calibrator	C191834
CL041 & CL041B	Digital Thermometer	C201018
CL042 & CL042B	Digital Thermometer	C201019
CL272 & CL272A	Humidity Control Chamber	C183502 & C183457
CL292	Recorder	C192930
CL316 & CL316A	Precision Multi-function Measuring Instrument	C180363
CL330	Environmental Chamber	C190296
CL360	Portable Air Pressure	RYB201909837
CL410 & CL410D	Multi Functionally Measuring Instrument & Psychrometer	C195787

Test procedure: MA006, MA103N, MA109N & MA130N. 3.

#### 4. Results:

# 4.1 Air Velocity

Applied UUT		Measured Correction				
Value	alue Reading		Measurement Uncertainty			
(m/s)	(m/s)	(m/s)	Expanded Uncertainty (m/s)	Coverage Factor		
2.00	2.10	-0.10	0.31	2.0		
4.00	4.11	-0.11	0.36	2.0		
6.03	6.21	-0.18	0.41	2.0		
8.02	8.46	-0.44	0.50	2.0		
10.01	10.95	-0.94	0.57	2.0		

The results presented are the mean of 10 measurements at each calibration point.

# 4.2 Temperature

Applied	UUT	Measured Correction			
Value	Reading	Value Measurement Uncertainty			
(°C)	(°C)	(°C)	Expanded Uncertainty (°C)	Coverage Factor	
25.0	24.8	+0.2	0.5	2.0	

The results presented are the mean of 3 measurements at each calibration point.

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior

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San Creation Engineering Limited - Calibration & Testing Laboratory co 4 F. I Hing On Lane, Tuen Mun. New Territories, Horig Kong 瞬间上程有限公司 - 校正及傳統問題報 co 香港前界走門師安里 - 堀四樓 Tel電話, 1823-2927-2006 - Fax機宜: (852) 2744-8986 - E-mail/電影 callabusanceration.com - Webvito/開始: www.suncreation.com



# 輝創工程有限公司

Sun Creation Engineering Limited

Calibration & Testing Laboratory

# Certificate of Calibration

校正證書

Certificate No.: C202803

證書編號

4.3 Relative Humidity (23°C)

Applied	UUT	Measured Correction		
Value	Reading	Value Measurement Uncertain		Uncertainty
(%)	(%)	(%)	Expanded Uncertainty (%)	Coverage Factor
60.0	63.8	-3.8	1.5	2.0

The results presented are the mean of 3 measurements at each calibration point.

#### 4.4 Barometric Pressure

Applied	UUT	Measured Correction					
Value	Reading	Value Measurement Uncertainty				ading Value	ertainty
(hPa)	(hPa)	(hPa)	Expanded Uncertainty (hPa)	Coverage Factor			
1 001.3	995.3	+6.0	2.0	2.0			

The results presented are the mean of 3 measurements at each calibration point.

Test Medium : Air

Remarks: - UUT Probe Model: 964

S/N: P08350010

- UUT Setting : ACTUAL/STANDARD : ACTUAL

Temperature Source: Probe

The Measured Corrections are defined as:

Value = Applied Value - UUT Reading

- The expanded uncertainties are for a level of confidence of 95 %.

#### Note:

Only the original copy or the laboratory's certified true copy is valid.

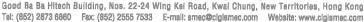
The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration is nuceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the p 本證書所載校正用之識試器材均可測更至國際標準。局部報印本語書畫先通本實驗所書面批准。

Sun Creation Engineering Limited - Culibration & Testing Laboratory cro 4天 1 Hing On Lano, Tuen Mun, New Territories, Hong Keing 網郎上程有限公司 - 校正及倫爾實驗符 で 香港新潟山門原東一衛四種 Tel/建議: (852) 2927 2606 - Fux 傳真: (852) 2744 8986 - E-mail



香港新界葵涌水基路22-24號好爸爸創科大廈





# CERTIFICATE OF CALIBRATION

Certificate No.:

20CA0914 02

Page

of

2

1

item tested

Description:

Manufacturer: Type/Model No.:

**B&K** 2238 2800927 Microphone B & K

4188 2250455

Serial/Equipment No.: Item submitted by

Adaptors used:

Customer Name:

AECOM ASIA CO., LTD.

Sound Level Meter (Type 1)

Address of Customer: Request No.:

Date of receipt:

Date of test:

14-Sep-2020

19-Sep-2020

Reference equipment used in the calibration

Description: Multi function sound calibrator

Model: **B&K 4226**  Serial No. 2288444

**Expiry Date:** 23-Aug-2021

Traceable to: CIGISMEC

Signal generator

DS 360

61227

24-Dec-2020

CEPREI

**Ambient conditions** 

Temperature: Relative humidity: Air pressure:

22 ± 1 °C 55 ± 10 %

1000 ± 5 hPa

## **Test specifications**

- 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.

Feng Jingi

Actual Measurement data are documented on worksheets.

**Approved Signatory:** 

Date:

20-Sep-2020

Company Chop:

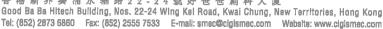
The results reported in this certificate refer to the condition of the instrument on the date of calibration and carry no implication regarding the long-term stability of the instrument. The results apply to the item as received.

Solls & Materials Engineering Co., Ltd.

Form No.CARP152-1/Issue 1/Rev.C/01/02/2007



香港新界葵涌水基路22-24號好爸爸創科大廈





# CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.: 20CA0914 02

Page

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of

2

#### **Electrical Tests**

The electrical tests were performed 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 Uncertanity (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	Α	Pass	0.3	
	С	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 1/103 at 4kHz	Pass	0.3	
	1 ms burst duty factor 1/104 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	SPĽ	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 Uncertanity (dB)	Coverage Factor
Acoustic response	Weighting A at 125 Hz Weighting A at 8000 Hz	Pass Pass	0.3 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.

Calibrated by:

Date:

Fung Chi Yip 19-Sep-2020 End

Checked by:

Date:

20-Sep-2020

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

O Soils & Meterials Engineering Co., Ltd.

Form No.CARP152-2/issue 1/Rev.C/01/02/2007



香港新界葵涌永基路22-24號好爸爸創科大廈 Good Ba Ba Hitech Building, Nos. 22-24 Wing Kei Road, Kwai Chung, New Territories, Hong Kong Tel: (852) 2873 6860 Fax: (852) 2555 7533 E-mail: smec@cigismec.com Website: www.cigismec.com



# CERTIFICATE OF CALIBRATION

Certificate No.:

21CA0401 02

Page:

f

Item tested

Description: Manufacturer: Acoustical Calibrator (Class 1)

Type/Model No.: Serial/Equipment No.:

4231 3006428

Adaptors used:

-

Item submitted by

Curstomer:

AECOM

Address of Customer: Request No.:

-

Date of receipt:

01-Apr-2021

Date of test:

05-Apr-2021

# Reference equipment used in the calibration

Description: Lab standard microphone Preamplifier Measuring amplifier Signal generator Digital multi-meter Audio analyzer Universal counter	Model: B&K 4180 B&K 2673 B&K 2610 DS 360 34401A 8903B 53132A	Serial No. 2412857 2743150 2346941 33873 US36087050 GB41300350 MY40003662	Expiry Date: 11-May-2021 03-Jun-2021 03-Jun-2021 19-May-2021 19-May-2021 18-May-2021 18-May-2021	Traceable to: SCL CEPREI CEPREI CEPREI CEPREI CEPREI CEPREI CEPREI
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#### **Ambient conditions**

Temperature: Relative humidity: Air pressure: 22 ± 1 °C 55 ± 10 % 1010 ± 5 hPa

## Test specifications

- 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.
- 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:

Date:

07-Apr-2021

Company Chop:

SENGINESONS SENGINESONS 综合試驗 有限公司 40008米101

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. The results apply to the item as received.

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Form No.CARP156-1/Issue 1/Rev.D/01/03/2007



香港新界葵涌永基路22-24號好爸爸創科大廈 Good Ba Ba Hitech Building, Nos. 22-24 Wing Kei Road, Kwai Chung, New Territories, Hong Kong Tel: (852) 2873 6860 Fax: (852) 2555 7533 E-mail: smec@cigismec.com Website: www.cigismec.com



# CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.:

21CA0401 02

Page:

#### Measured Sound Pressure Level

The output Sound Pressure Level in the calibrator head was measured at the setting and frequency shown using a calibrated laboratory standard microphone and insert voltage technique. The results are given in below with

Frequency Shown	Output Sound Pressure Level Setting	Measured Output Sound Pressure Level	(Output level in dB re 20 µPa) Estimated Expanded Uncertainty
Hz	dB	dB	dB
1000	94.00	94.23	0.10

#### 2. Sound Pressure Level Stability - Short Term Fluctuations

The Short Term Fluctuations was determined by measuring the maximum and minimum of the fast weighted DC output of the B&K 2610 measuring amplifier over a 20 second time interval as required in the standard. The Short Term Fluctuation was found to be:

At 1000 Hz

STF = 0.016 dB

Estimated expanded uncertainty

0.005 dB

#### 3, **Actual Output Frequency**

The determination of actual output frequency was made using a B&K 4180 microphone together with a B&K 2673 preamplifier connected to a B&K 2610 measuring amplifier. The AC output of the B&K 2610 was taken to an universal counter which was used to determine the frequency averaged over 20 second of operation as required by the standard. The actual output frequency at 1 KHz was:

At 1000 Hz

Actual Frequency = 999.95 Hz

Estimated expanded uncertainty

0.1 Hz

Coverage factor k = 2.2

### **Total Noise and Distortion**

For the Total Noise and Distortion measurement, the unfiltered AC output of the B&K 2610 measuring amplifier was connected to an Agilent Type 8903 B distortion analyser. The TND result at 1 KHz was:

At 1000 Hz

TND = 0.3 %

Estimated expanded uncertainty

0.7 %

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:

Checked by:

Date:

05-Apr-2021

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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Form No.CARP156-2/Issue 1/Rev.C/01/05/2005



#### ALS Technichem (HK) Pty Ltd

11/F, Chung Shun Knitting Centre 1-3 Wing Yip Street, Kwai Chung N.T., Hong Kong

## T: +852 2610 1044 | F: +852 2610 2021

## REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT: CLIENT: MR MIKE SHEK

AECOM ASIA COMPANY LIMITED

ADDRESS:

13/F, TOWER 2, GRAND CENTRAL PLAZA,

138 SHATIN RURAL COMMITTEE ROAD, SHATIN, HONG KONG

WORK ORDER:

HK2100772

SUB- BATCH:

0

LABORATORY: DATE RECEIVED: HONG KONG 07-Jan-2021

DATE OF ISSUE:

12-Jan-2021

#### SPECIFIC COMMENTS

Equipment information (Brand name, Model No., Serial No. and Equipment No.) is provided by client. The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.

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

The "Next Calibration Date" is recommended according to best practice principle as practised by the laboratory or quoted from relevant international standards.

The validity of equipment/ meter performance only applies to the result(s) stated in the report.

Equipment Type:

Multifunctional Meter

Service Nature:

Performance Check

Scope:

Conductivity, Dissolved Oxygen, pH Value, Turbidity, Salinity and Temperature

Brand Name/ Model No.:

YSI 6820 V2

Serial No./ Equipment No.:

12A101545 (W.026.35)

Date of Calibration:

07-January-2021

#### **GENERAL COMMENTS**

This is the Final Report and supersedes any preliminary report with this batch number.

Ms. Lin Wai Yu, Iris

Assistant Manager - Inorganic

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WORK ORDER:

HK2100772

SUB- BATCH:

DATE OF ISSUE:

12-Jan-2021

CLIENT:

AECOM ASIA COMPANY LIMITED

Equipment Type:

Multifunctional Meter

Brand Name/ Model No.:

YSI 6820 V2

Serial No./

Equipment No.:

Date of Calibration: 07-January-2021

12A101545 (W.026.35)

Date of Next Calibration:

07-April-2021

PARAMETERS:

Conductivity

Method Ref: APHA (21st edition), 2510B

Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)
146.9	151	+2.8
6667	6605	-0.9
12890	12770	-0.9
58670	58591	-0.1
	Tolerance Limit (%)	±10.0

Dissolved Oxygen Method Ref: APHA (21st edition), 45000: G

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
3.65	3.67	+0.02
5.60	5.64	+0.04
7.70	7.75	+0.05
	Tolerance Limit (mg/L)	±0.20

pH Value

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

Expected Reading (pH unit)	Displayed Reading (pH unit)	Tolerance (pH unit)
4.0	4.00	+0.00
7.0	7.01	+0.01
10.0	9.92	-0.08
	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.

Ms. Lin Wai Yu, Iris

Assistant Manager - Inorganic

Page 2 of 4

WORK ORDER:

HK2100772

SUB- BATCH:

0

DATE OF ISSUE:

12-Jan-2021

CLIENT:

AECOM ASIA COMPANY LIMITED

Equipment Type:

Multifunctional Meter

Brand Name/ Model No.:

YSI 6820 V2

Serial No./

Equipment No.: Date of Calibration:

07-January-2021

12A101545 (W.026.35)

Date of Next Calibration:

07-April-2021

PARAMETERS:

Turbidity

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

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.1	
4	4.1	+2.5
10	9.6	-4.0
20	18.8	-6.0
50	48.5	-3.0
100	100.5	+0.5
	Tolerance Limit (%)	±10.0

Salinity

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

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.01	-
10	10.08	+0.8
20	20.12	+0.6
30	30.15	+0.5
	Tolerance Limit (%)	±10.0

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless

of equipment precision or significant figures.

Ms. Lin Wai Yu, Iris

Assistant Manager - Inorganic

Page 3 of 4

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WORK ORDER:

HK2100772

SUB- BATCH:

0

DATE OF ISSUE:

12-Jan-2021

CLIENT:

AECOM ASIA COMPANY LIMITED

Equipment Type:

Multifunctional Meter

Brand Name/ Model No.:

YSI 6820 V2

Serial No./

12A101545 (W.026.35)

Equipment No.:

Date of Calibration: 07-January-2021

Date of Next Calibration:

07-April-2021

PARAMETERS:

**Temperature** 

Method Ref: Section 6 of International Accreditation New Zealand Technical

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

Expected Reading (°C)	Displayed Reading (°C)	Tolerance (°C)
10.0	9.97	-0.0
20.0	19.91	-0.1
40.5	40.55	+0.0
3000000	Tolerance Limit (°C)	±2.0

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

16:5

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Assistant Manager - Inorganic

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ALS Technichem (HK) Ptv Ltd

11/F, Chung Shun Knitting Centre 1-3 Wing Yip Street, Kwai Chung N.T., Hong Kong

T: +852 2610 1044 | F: +852 2610 2021

## REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:

MR MIKE SHEK

WORK ORDER:

HK2113295

CLIENT: ADDRESS: AECOM ASIA COMPANY LIMITED

13/F, TOWER 2, GRAND CENTRAL PLAZA,

138 SHATIN RURAL COMMITTEE ROAD,

SHATIN, HONG KONG

SUB- BATCH: LABORATORY:

0

HONG KONG

DATE RECEIVED:

08- Apr- 2021

DATE OF ISSUE:

10- Apr- 2021

#### **SPECIFIC COMMENTS**

Equipment information (Brand name, Model No., Serial No. and Equipment No.) is provided by client. The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.

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

The "Next Calibration Date" is recommended according to best practice principle as practised by the laboratory or quoted from relevant international standards.

The validity of equipment/ meter performance only applies to the result(s) stated in the report.

Equipment Type:

Multifunctional Meter

Service Nature:

Performance Check

Scope:

Conductivity, Dissolved Oxygen, pH Value, Turbidity, Salinity and Temperature

Brand Name/ Model No.:

[YSI]/ [6820 V2]

Serial No./ Equipment No.:

[12A101545]/ [W.026.35]

Date of Calibration:

08- April- 2021

#### **GENERAL COMMENTS**

This is the Final Report and supersedes any preliminary report with this batch number.

Mr Chan Siu Ming, Vico Manager - Inorganic

Na Ali

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WORK ORDER:

HK2113295

SUB- BATCH:

DATE OF ISSUE:

10- Apr- 2021

CLIENT:

AECOM ASIA COMPANY LIMITED

Equipment Type:

Multifunctional Meter

Brand Name/ Model No.:

[YSI]/ [6820 V2]

Serial No./

[12A101545]/ [W.026.35]

Equipment No.: Date of Calibration:

08- April- 2021

Date of Next Calibration:

08-July-2021

**PARAMETERS:** 

Conductivity

Method Ref: APHA (21st edition), 2510B

Expected Reading (µS/cm)	Displayed Reading (μS/cm)	Tolerance (%)
146.9	156.0	+6.2
6667	6672	+ 0.1
12890	13003	+0.9
58670	58886	+ 0.4
	Tolerance Limit (%)	± 10.0

Dissolved Oxygen Method Ref: APHA (21st edition), 45000: G

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
2.90	2.96	+0.06
5.05	5.19	+0.14
7.55	7.60	+ 0.05
	Tolerance Limit (mg/L)	±0.20

pH Value

Method Ref: APHA (21st edition), 4500H; B

Method Ker. Arria (213t edition),	Wethou Ref. Arria (21st edition), 430011. B		
Expected Reading (pH unit)	Displayed Reading (pH unit)	Tolerance (pH unit)	
4.0	4.07	+ 0.07	
7.0	7.04	+ 0.04	
10.0	9.98	- 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 - Inorganic

Ma Ship

Page 2 of 4

WORK ORDER:

HK2113295

SUB- BATCH:

0

DATE OF ISSUE:

10- Apr- 2021

CLIENT:

AECOM ASIA COMPANY LIMITED

Equipment Type: Brand Name/

Multifunctional Meter

Model No.:

[YSI]/ [6820 V2]

Serial No./

[12A101545]/ [W.026.35]

Equipment No.:

Date of Calibration:

08- April- 2021

Date of Next Calibration:

08- July- 2021

PARAMETERS:

**Turbidity** 

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

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.1	
4	4.0	+ 0.0
10	10.4	+ 4.0
20	20.6	+ 3.0
50	50.5	+1.0
100	97.5	- 2.5
	Tolerance Limit (%)	± 10.0

Salinity

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

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.00	
10	10.01	+ 0.1
20	19.38	- 3.1
30	29.86	- 0.5
	Tolerance Limit (%)	± 10.0

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 - Inorganic

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Page 3 of 4

WORK ORDER:

HK2113295

SUB- BATCH:

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DATE OF ISSUE:

10- Apr- 2021

CLIENT:

AECOM ASIA COMPANY LIMITED

Equipment Type: Brand Name/ Multifunctional Meter

Model No.:

[YSI]/ [6820 V2]

Serial No./

[12A101545]/ [W.026.35]

Equipment No.: Date of Calibration:

08- April- 2021

Date of Next Calibration:

08- July- 2021

PARAMETERS:

**Temperature** 

Method Ref: Section 6 of International Accreditation New Zealand Technical

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

Expected Reading (°C)	Displayed Reading (°C)	Tolerance (°C)
10.5	10.25	- 0.3
20.0	19.97	- 0.0
40.0	40.04	+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 - Inorganic

Ma Ship

Page 4 of 4



#### ALS Technichem (HK) Pty Ltd

11/F, Chung Shun Knitting Centre 1-3 Wing Yip Street, Kwai Chung N.T., Hong Kong T: +852 2610 1044 | F: +852 2610 2021

## REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:

MIKE SHEK

CLIENT:

AECOM ASIA COMPANY LIMITED

ADDRESS:

13/F, TOWER 2, GRAND CENTRAL PLAZA,

138 SHATIN RURAL COMMITTEE ROAD,

SHATIN, HONG KONG

WORK ORDER:

HK2106450

SUB- BATCH:

0

LABORATORY:

HONG KONG

DATE RECEIVED:

11-Feb-2021

DATE OF ISSUE:

18-Feb-2021

#### SPECIFIC COMMENTS

Equipment information (Brand name, Model No., Serial No. and Equipment No.) is provided by client. The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.

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

The "Next Calibration Date" is recommended according to best practice principle as practised by the laboratory or quoted from relevant international standards.

The validity of equipment/ meter performance only applies to the result(s) stated in the report.

**Equipment Type:** 

Multifunctional Meter

Service Nature:

Performance Check

Scope:

Conductivity, Dissolved Oxygen, Salinity and Temperature

Brand Name/ Model No.:

YSI Professional Plus

Serial No./ Equipment No.:

12M100515 (W.040.01)

Date of Calibration:

17-February-2021

#### **GENERAL COMMENTS**

This is the Final Report and supersedes any preliminary report with this batch number.

16:5

Ms. Lin Wai Yu, Iris

Assistant Manager - Inorganic

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WORK ORDER:

HK2106450

SUB- BATCH:

0

DATE OF ISSUE:

18-Feb-2021

CLIENT:

AECOM ASIA COMPANY LIMITED

Equipment Type: Brand Name/

Multifunctional Meter

Model No.:

YSI Professional Plus

Serial No./

12M100515 (W.040.01)

Equipment No.: Date of Calibration:

17-February-2021

Date of Next Calibration:

17-May-2021

PARAMETERS:

Conductivity

Method Ref: APHA (21st edition), 2510B

Expected Reading (μS/cm)	Displayed Reading (μS/cm)	Tolerance (%)
146.9	144.6	-1.6
6667	6420	-3.7
12890	11935	-7.4
58670	57730	-1.6
	Tolerance Limit (%)	±10.0

Dissolved Oxygen Method Ref: APHA (21st edition), 45000: G

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
3.97	3.80	-0.17
5.10	4.97	-0.13
8.75	8.63	-0.12
	Tolerance Limit (mg/L)	±0.20

Salinity

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

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.01	
10	9.98	-0.2
20	19.61	-2.0
30	29.52	-1.6
	Tolerance Limit (%)	±10.0

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

Ms. Lin Wai Yu, Iris

Assistant Manager - Inorganic

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ALS Technichem (HK) Pty Ltd

WORK ORDER:

HK2106450

SUB- BATCH:

0

DATE OF ISSUE:

18-Feb-2021

CLIENT:

AECOM ASIA COMPANY LIMITED

Equipment Type: Brand Name/

Multifunctional Meter

Model No.:

YSI Professional Plus

Serial No./

12M100515 (W.040.01)

Equipment No.:

Date of Calibration:

\_\_\_.

17-February-2021

Date of Next Calibration:

17-May-2021

**PARAMETERS:** 

**Temperature** 

Method Ref: Section 6 of International Accreditation New Zealand Technical

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

Expected Reading (°C)	Displayed Reading (°C)	Tolerance (°C)
10.5	10.3	-0.2
21.0	20.6	-0.4
41.0	39.6	-1.4
	Tolerance Limit (°C)	±2.0

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless

of equipment precision or significant figures.

/ b:5

Ms. Lin Wai Yu, Iris

Assistant Manager - Inorganic

Page 3 of 3

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#### ALS Technichem (HK) Pty Ltd

11/F, Chung Shun Knitting Centre 1-3 Wing Yip Street, Kwai Chung N.T., Hong Kong

T: +852 2610 1044 | F: +852 2610 2021

## REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:

MIKE SHEK

CLIENT:

AECOM ASIA COMPANY LIMITED

ADDRESS:

13/F, TOWER 2, GRAND CENTRAL PLAZA,

138 SHATIN RURAL COMMITTEE ROAD,

SHATIN, HONG KONG

WORK ORDER:

HK2106447

SUB- BATCH:

0

LABORATORY: DATE RECEIVED: HONG KONG 11-Feb-2021

DATE OF ISSUE:

18-Feb-2021

#### **SPECIFIC COMMENTS**

Equipment information (Brand name, Model No., Serial No. and Equipment No.) is provided by client. The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.

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

The "Next Calibration Date" is recommended according to best practice principle as practised by the laboratory or quoted from relevant international standards.

The validity of equipment/ meter performance only applies to the result(s) stated in the report.

Equipment Type:

pH meter

Service Nature:

Performance Check

Scope:

pH Value and Temperature

Brand Name/ Model No.:

WTW PH 3210

Serial No./ Equipment No.:

12340605 (W.007.08)

Date of Calibration:

16-February-2021

#### **GENERAL COMMENTS**

This is the Final Report and supersedes any preliminary report with this batch number.

Ms. Lin Wai Yu, Iris Assistant Manager - Inorganic

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Page 1 of 2

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WORK ORDER:

HK2106447

SUB- BATCH:

0

DATE OF ISSUE:

18-Feb-2021

CLIENT:

AECOM ASIA COMPANY LIMITED

Equipment Type:

pH meter

Brand Name/ Model No.:

WTW PH 3210

Serial No./

12340605 (W.007.08)

Equipment No.: Date of Calibration:

16-February-2021

Date of Next Calibration:

16-May-2021

PARAMETERS:

pH Value

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

Expected Reading (pH unit)	Displayed Reading (pH unit)	Tolerance (pH unit)
4.0	4.021	+0.02
7.0	7.098	+0.10
10.0	9.950	-0.05
	Tolerance Limit (pH unit)	±0.20

**Temperature** 

Method Ref: Section 6 of International Accreditation New Zealand Technical

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

Expected Reading (°C)	Displayed Reading (°C)	Tolerance (°C)
10.5	10.3	-0.2
21.0	20.8	-0.2
41.0	40.7	-0.3
	Tolerance Limit (°C)	±2.0

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

16:5

Ms. Lin Wai Yu, Iris

Assistant Manager - Inorganic



#### ALS Technichem (HK) Pty Ltd

11/F, Chung Shun Knitting Centre 1-3 Wing Yip Street, Kwai Chung N.T., Hong Kong T: +852 2610 1044 | F: +852 2610 2021

## REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:

MIKE SHEK

CLIENT:

AECOM ASIA COMPANY LIMITED

ADDRESS:

13/F, TOWER 2, GRAND CENTRAL PLAZA.

138 SHATIN RURAL COMMITTEE ROAD,

SHATIN, HONG KONG

WORK ORDER:

HK2106449

SUB- BATCH:

0

LABORATORY: DATE RECEIVED: HONG KONG 11-Feb-2021

DATE OF ISSUE:

18-Feb-2021

#### SPECIFIC COMMENTS

Equipment information (Brand name, Model No., Serial No. and Equipment No.) is provided by client. The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.

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

The "Next Calibration Date" is recommended according to best practice principle as practised by the laboratory or quoted from relevant international standards.

The validity of equipment/ meter performance only applies to the result(s) stated in the report.

**Equipment Type:** 

Turbidimeter

Service Nature:

Performance Check

Scope:

Turbidity

Brand Name/ Model No.:

OAKTON T-100

Serial No./ Equipment No.:

2869838 (W.001.12)

Date of Calibration:

16-February-2021

#### **GENERAL COMMENTS**

This is the Final Report and supersedes any preliminary report with this batch number.

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WORK ORDER:

HK2106449

SUB- BATCH:

0

DATE OF ISSUE:

18-Feb-2021

CLIENT:

AECOM ASIA COMPANY LIMITED

Equipment Type:

Brand Name/

Turbidimeter **OAKTON T-100** 

Model No.: Serial No./

2869838 (W.001.12)

Equipment No.: Date of Calibration:

16-February-2021

Date of Next Calibration:

16-May-2021

**PARAMETERS:** 

**Turbidity** 

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

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.09	
4	4.04	+1.0
40	38.6	-3.5
80	79.2	-1.0
400	416	+4.0
800	807	+0.9
	Tolerance Limit (%)	±10.0

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

Ms. Lin Wai Yu, Iris

Assistant Manager - Inorganic

## APPENDIX D

## **EM&A Monitoring Schedules**

## Appendix D EM&A Monitoring Schedules

## Expansion of Sha Tau Kok Sewage Treatment Works Environmental Monitoring Schedule for April 2021

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1-Apr	2-Apr	3-Apr
					Water Quality	
					Mid-flood 9:21	
					Mid-Ebb 15:53	
				Effluent Quality	Effluent Quality	Effluent Quality
4-Apr	5-Apı	6-Apr	7-Apr	8-Apr	9-Apr	10-Apr
			Water Quality		Water Quality	
	Mid-flood 8:12		Mid-Ebb 9:32		Mid-Ebb 10:59	
	Mid-Ebb 20:29		Mid-flood 14:39		Mid-flood 16:46	
					Noise	
Effluent Quality	Effluent Quality	Effluent Quality	Effluent Quality	Effluent Quality	Effluent Quality	Effluent Quality
11-Apr	12-Арі	13-Apr	14-Apr	15-Apr	16-Apr	17-Apr
	Water Quality		Water Quality		Water Quality	
	Mid-flood 6:44		Mid-flood 7:38		Mid-flood 6:37	
	Mid-Ebb 12:49		Mid-Ebb 13:56		Mid-Ebb 13:18	
	Noise			Noise		
Effluent Quality	Effluent Quality	Effluent Quality	Effluent Quality	Effluent Quality	Effluent Quality	Effluent Quality
18-Apr	19-Арі	20-Apr	21-Apr	22-Apr	23-Apr	24-Apr
	Water Quality		Water Quality		Water Quality	
	Mid-flood 3:02		Mid-flood 7:04		Mid-Ebb 9:36	
	Mid-Ebb 15:37		Mid-Ebb 19:39 Noise		Mid-flood 14:41	
	Noise		inuise			
Effluent Quality	Effluent Quality	Effluent Quality	Effluent Quality	Effluent Quality	Effluent Quality	Effluent Quality
25-Apr	26-Api	· ·	28-Apr	,		Lindon Quanty
25-Apr	Water Quality	21-Api	Water Quality	29-Apr	Water Quality	
	Mid-Ebb 11:48		Mid-flood 6:57		Mid-flood 8:11	
	Mid-flood 18:01		Mid-Ebb 13:17		Mid-Ebb 14:48	
		Noise				
		Odour				
Effluent Quality	Effluent Quality	Effluent Quality	Effluent Quality	Effluent Quality	Effluent Quality	

# Expansion of Sha Tau Kok Sewage Treatment Works Tentative Environmental Monitoring Schedule for May 2021

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Gunday	Wieriady	ruccuay	vvounosady	maroday	Tilday	1-Mav
						Effluent Quality
2-May	3-May	4-May	5-May	6-May	7-May	8-May
Z-iviay	Water Quality	4-IVIAY	Water Quality	U-IVIAY	Water Quality	U-iviay
	Mid-flood 5:31 Mid-Ebb 17:45 Noise		Mid-flood 7:32 Mid-Ebb 20:00		Mid-Ebb 9:49 Mid-flood 15:29	
Effluent Quality	Effluent Quality	Effluent Quality	Effluent Quality	Effluent Quality	Effluent Quality	Effluent Quality
9-May	10-May	11-May	12-May	13-May	14-May	15-May
	Water Quality Mid-Ebb 11:49 Mid-flood 17:58		Water Quality Mid-flood 6:29 Mid-Ebb 12:58		Water Quality Mid-flood 5:29 Mid-Ebb 12:22 Noise	
Effluent Quality	Effluent Quality	Effluent Quality	Effluent Quality	Effluent Quality	Effluent Quality	Effluent Quality
16-May	17-May	18-May	19-May	20-May	21-May	22-May
	Water Quality Mid-flood 6:31 Mid-Ebb 14:21		Water Quality Mid-flood 3:41 Mid-Ebb 16:13	Noise	Water Quality Mid-Ebb 7:37 Mid-flood 13:04	
Effluent Quality	Effluent Quality	Effluent Quality	Effluent Quality	Effluent Quality	Effluent Quality	Effluent Quality
23-May	24-May	25-May	26-May	27-May	28-May	29-May
	Water Quality Mid-Ebb 10:37 Mid-flood 16:53		Water Quality Mid-flood 5:43 Mid-Ebb 12:12 Noise		Water Quality Mid-flood 7:03 Mid-Ebb 13:47	
Effluent Quality	Effluent Quality	Effluent Quality	Effluent Quality	Effluent Quality	Effluent Quality	Effluent Quality
30-May	31-May					
	Water Quality Mid-flood 8:52 Mid-Ebb 16:18					
Effluent Quality	Effluent Quality					

The schedule is subject to change due to unforeseeable circumstances (e.g. adverse weather, etc)

#### **APPENDIX E**

### **Action and Limit Levels**

#### Appendix E Action and Limit Levels

Action and Limit Levels for Marine Water Monitoring for First-year Operation of TSTP and Construction Phase

Monitoring Location	Depth Level	. ' .		Tur	bidity ITU)	Sali	nity pt)	To Susp	otal ended (mg/L)	BO (mg	<b>D</b> 5	To Phosp	tal bhorus g/L)	Total N	itrogen 'L-N)	Nitro	nonia ogen /L-N)	Total Ind Nitro (mg/l	gen		coli 100mL)										
		AL	LL	AL	LL	ALc	LLc	AL	LL	AL	LL	AL	LL	AL	LL	AL	LL	AL	LL	AL	LL										
N1	S & M	5.36	5.34	7.5*	13.1^	31.49	31.44	5*	8^	3*	4^	0.02*	0.02^	0.50*	0.60^	0.20*	0.21^	0.33	0.36	536	707										
INT	В	5.06	5.05	7.5	13.1	31.49	31.44	3	O	J	4	0.02	0.02	0.50	0.00	0.20	0.21	0.55	0.50	550	707										
N2	S & M	5.95	5.71	4.7*	5.9^	31.29	31.28	5*	6^	3*	4^	0.04*	0.04^	0.60*	0.72^	0.21*	0.26^	0.35	0.48	495	529										
INZ	В	5.56	5.53	4.7"	4.7	4.7"	4.7"	5.5	31.23	31.20	5	0.1	3	4	0.04	0.04	0.00	0.72	0.21	0.20	0.35	0.40	495	323							
FCZ1B	S & M	5.10#	5.00#	4.5*	4.5*	4.5*	4.5*	4.5*	4.5*	4.5*	4.5*	4.5*	5.5^	30.93	30.92	8*	12^	6*	8^	0.07*	0.08^	0.60*	0.73^	0.22*	0.25^	0.36	0.39	600	610		
FUZIB	В	5.10#	5.00#										7.0	7.0	7.0	5.5**	30.93		0	12	O	0	0.07	0.06*	0.00	0.73	0.22	0.25	0.30	0.39	000
H4A	М	5.94	5.86	4.7*	4.8^	30.42	30.42	8*	9^	3*	3^	0.06*	0.06^	0.60*	0.60^	0.23*	0.26^	0.44	0.57	78	91										
H1A	М	6.01	5.97	6.5*	6.6^	30.39	30.39	14*	15^	3*	3^	0.03*	0.04^	2.32*	2.60^	0.97*	1.10^	2.31	2.50	127	153										
M1A	М	5.63	5.54	5.8*	6.1^	30.43	30.42	9*	10^	3*	3^	0.04*	0.04^	0.69*	0.70^	1.49*	1.70^	1.58	1.80	864	1385										
SGA	М	6.00	5.90	6.0*	6.2^	30.82	30.81	10*	11^	3*	3^	0.03*	0.04^	0.60*	0.68^	1.06*	1.20^	1.08	1.26	129	138										
FCZ7@	S&M	5.10#	5.00#	6.0* 6.4^	6.0*	6.0*	6.0*	6.0*	6.0*	6.0*	6.0*	6.0*	6.0*	c 0*	6.40	31.13	24.4	5*	5^	3*	3^	0.02*	0.034	0.50*	0.564	0.21*	0.224	0.24	0.26	600	610
FUZ/®	В	5.10#	5.00#										0.4*	31.13	31.1	5"	5/	3"	3"	0.02	0.03^	0.50*	0.56^	0.21*	0.22^	0.34	0.36	600	610		
FCZ8	S	5.10#	5.00#	E 0*	9.1^	31.14	31.13	6*	7/	5*	6^	0.04*	0.04^	0.60*	0.80^	0.32*	0.624	0.41	0.70	600	610										
FUZ0	В	5.10#	5.00#	5.2*	9.1^	31.14	31.13	U	1	Ü	U.	0.04	0.04*	0.00	0.60*	0.32	0.62^	0.41	0.70	600	610										

#### Remarks:

AL: Action Level; LL: Limit Level

#### Action and Limit Levels for Continuous Effluent Quality Monitoring for First-year Operation of TSTP

Parameter	Action Level	Limit Level
SS in mg/L	TSTP 20 mg/L	TSTP 40 mg/L
Biochemical Oxygen Demand in mg/L	TSTP 13.3 mg/L	TSTP 26.6 mg/L
Total Nitrogen in mg/L	TSTP 28.6 mg/L	TSTP 57.1 mg/L
Total Phosphorus in mg/L	TSTP 3.3 mg/L	TSTP 6.6 mg/L
E.coli in cfu/100 mL	TSTP 664 cfu/100ml	TSTP 996 cfu/100ml

<sup>#</sup> According to the EM&A Manual, for FCZ: AL of DO is 5.1 mg/L or level at control station at same tide of the same day (whichever lower) and LL of DO is 5.0 mg/L or level at control station at same tide of the same day (whichever lower);

<sup>\*</sup> Or 120% of control station's level at the same tide of the same day;

<sup>^</sup> Or 130% of control station's level at the same tide of the same day.

c According to the EM&A Manual, AL of Salinity is Below 91% of baseline level or 9% less than value at any impact station compared with corresponding data from control station and LL of Salinity is Below 90% of baseline level or 10% less than value at any impact station compared with corresponding data from control station

### **APPENDIX F**

**Noise Monitoring Results and their Graphical Presentations** 

#### Appendix F **Noise Monitoring Results and their Graphical Presentations**

### **Construction Noise Monitoring Results**

Daytime Noise Monitoring Results at NM 1 (Block 45, Sha Tau Kok Chuen)

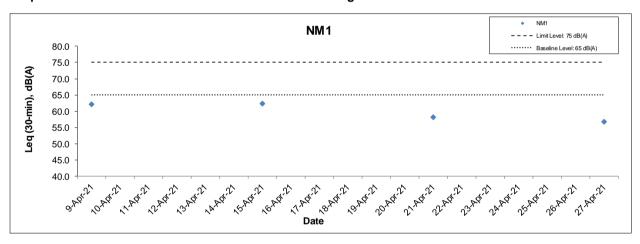
Weather		Measur	ed Noise	Level for		Baseline	Construction	Limit	Exceedance
Date	Condition	Time	L90	L90 L10		Noise Level (BNL).	Noise Level [CNL] <sup>#</sup> , dB(A)	Level, dB(A)	(Y/N)
9-Apr-21	Sunny	14:05	58.5	63.5	62.1	65	62.1 Measured <baseline< td=""><td>75</td><td>N</td></baseline<>	75	N
15-Apr-21	Fine	10:50	64.5	68.5	66.9	65	62.4	75	N
21-Apr-21	Fine	11:40	62.5	67.0	65.8	65	58.1	75	N
27-Apr-21	Cloudy	10:30	63.0	66.5	65.6	65	56.7	75	N

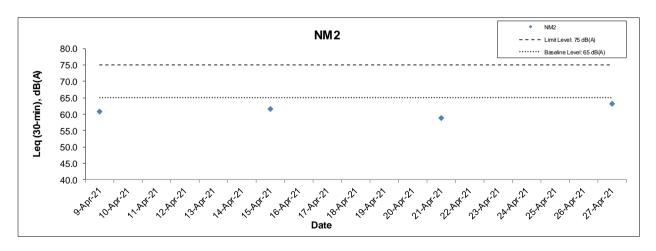
#### Daytime Noise Monitoring Results at NM 2 (Building along Shun Lung Street)

	Weather	Measur	ed Noise	Level for:		Baseline		Construction	Limit	Exceedance
Date	Condition	Time	L90	L10	Leq	Noise Level [BNL].	Noise	Level [CNL] <sup>#</sup> , dB(A)	Level, dB(A)	(Y/N)
9-Apr-21	Sunny	13:30	57.0	61.5	60.7	65	60.7	Measured <baseline< td=""><td>75</td><td>N</td></baseline<>	75	N
15-Apr-21	Fine	11:30	57.5	63.0	61.6	65	61.6	Measured <baseline< td=""><td>75</td><td>N</td></baseline<>	75	N
21-Apr-21	Fine	13:10	54.5	60.0	58.9	65	58.9	Measured <baseline< td=""><td>75</td><td>N</td></baseline<>	75	N
27-Apr-21	Cloudy	11:10	59.5	64.0	63.1	65	63.1	Measured <baseline< td=""><td>75</td><td>N</td></baseline<>	75	N

<sup>\*</sup>A correction of +3 dB(A) was made to the free field measurements. # CNL = 10 log ( $10^{MNL/10} - 10^{BNL/10}$ )

#### **Graphical Presentations of Construction Noise Monitoring Results**





## APPENDIX G

Water Quality Monitoring Results and their Graphical Presentations and QAQC Report

#### Appendix G Water Quality Monitoring Results & their Graphical Presentations and QAQC Reports

Marine Water Quality Monitoring Results on 4-Feb-21 at Mid-Ebb tide

Date	Tidal	Weather Condition	Sea Condition	Monitoring Station	Time	Water Depth,	Water Level	Replicate	Sampling Depth	Temperature, °C	pH	DO Saturation.	DC mg		Sali		Turb	oidity, TU	Suspend	ded Soild,		nonia ogen,	Total N	itrogen, g/L	Total In		To Phosp		Bioch Oxygen	emical	E. Coli, Cfu/100m	
		Condition	Condition	Station		m Deptil,			Бериі	-0		%	,,,,,	<i>p</i> <b>L</b>	P P		14	10		y/L	m	-		g/L	mo		mo			a/L	Ciu/Toom	1
												/*	Value	DA	Value	DA	Value	DΔ	Value	DA	Value	DA	Value	DA	Value	DΔ	Value	DΔ	Value	DA	Value	DA
4/2/2021	Mid-Ebb	Sunny	Moderate	C	16:25	9.6	Surface	- 1	1.0	24.8	8.1	87.5	6.11	6.04	35.66	36.16	2.0	2.0	1.0	1.1	<0.02		0.25	0.26	<0.05	<0.05	<0.01	<0.01	<1.0	1.0	NOT DETECTED	ND
4/2/2021	Mid-Ebb	Sunny	Moderate	Č	10.25	5.0	Surface	,	1.0	24.7	8.1	88.9	6.20		35.60	50.10	2.0		1.4		<0.02	-0.02	0.25		<0.05		<0.01		1.0		NOT DETECTED	140
4/2/2021	Mid-Ebb	Sunny	Moderate	č			Middle	1	4.8	22.5	8.1	83.8	5.88		36.38		2.0	١.	<1.0		<0.02		0.26		<0.05		<0.01	١.	<1.0		NOT DETECTED	
4/2/2021	Mid-Ebb	Sunny	Moderate	Č			Middle	2	4.8	22.4	8.1	85.0	5.97	_	36.37		2.0		<1.0		<0.02	_	0.30	_	<0.05	_	<0.01		<1.0		NOT DETECTED	
4/2/2021	Mid-Ebb	Sunny	Moderate	Č			Bottom	1	8.6	22.3	8.1	85.0	5.99	6.08	36.48		2.2		<1.0		< 0.02		0.26		<0.05	_	<0.01		<1.0	_	NOT DETECTED	_
4/2/2021	Mid-Ebb	Sunny	Moderate	Č			Bottom	2	8.6	22.3	8.1	87.5	6.16	-	36.47	_	2.0		<1.0	_	< 0.02	_	0.24	_	<0.05	_	< 0.01	_	<1.0	_	NOT DETECTED	_
4/2/2021	Mid-Ebb	Sunny	Moderate	N1	16:10	6.5	Surface	1	1.0	24.8	8.2	96.6	6.58	6.34	35.70	36.13	1.6	1.7	<1.0	1.6	0.03	0.03	0.27	0.25	<0.05	0.05	<0.01	<0.01	<1.0	1.0	NOT DETECTED	ND
4/2/2021	Mid-Ebb	Sunny	Moderate	N1			Surface	2	1.0	24.6	8.1	92.2	6.27	-	35.59	_	1.7	-	<1.0	-	0.04	-	0.26	-	<0.05	-	<0.01	-	1.0	-	NOT DETECTED	-
4/2/2021	Mid-Ebb	Sunny	Moderate	N1			Middle	1	3.3	22.8	8.1	93.8	6.36	-	36.24	_	1.7	-	1.7	-	0.05	-	0.24		0.06	-	<0.01	-	1.0	-	NOT DETECTED	-
4/2/2021	Mid-Ebb	Sunny	Moderate	N1			Middle	2	3.3	22.7	8.1	90.7	6.15	-	36.28	-	1.7	-	2.0	-	<0.02	-	0.23	-	<0.05	-	<0.01	-	<1.0	-	NOT DETECTED	-
4/2/2021	Mid-Ebb	Sunny	Moderate	N1			Bottom	1	5.5	22.3	8.1	90.0	6.33	6.38	36.47	-	1.8	-	2.3	-	<0.02	-	0.26	-	<0.05	-	<0.01	-	<1.0	-	NOT DETECTED	-
4/2/2021	Mid-Ebb	Sunny	Moderate	N1			Bottom	2	5.5	22.3	8.1	91.5	6.43	-	36.52	-	1.7	-	1.4	-	<0.02	-	0.25	-	<0.05	-	<0.01	-	<1.0	-	NOT DETECTED	-
4/2/2021	Mid-Ebb	Sunny	Moderate	FCZ1A	15:15	3.4	Surface	1	1.0	24.6	8.1	100.1	6.80	6.89	35.79	35.87	1.8	1.8	1.3	1.3	-	-	-	-	-	-	-	-	-	-	-	-
4/2/2021	Mid-Ebb	Sunny	Moderate	FCZ1A			Surface	2	1.0	24.7	8.2	102.7	6.97	-	35.74	-	1.8	-	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-
4/2/2021	Mid-Ebb	Sunny	Moderate	FCZ1A			Bottom	1	2.4	23.6	8.1	98.9	6.82	6.80	36.00	-	1.8	-	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-
4/2/2021	Mid-Ebb	Sunny	Moderate	FCZ1A			Bottom	2	2.4	23.6	8.1	98.4	6.78	-	35.95	-	1.7	-	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-
4/2/2021	Mid-Ebb	Sunny	Moderate	FCZ1B	15:43	4.8	Surface	1	1.0	24.6	8.1	98.4	6.69	6.66	35.66	35.99	1.6	1.7	2.6	2.2	0.03	0.02	0.25	0.25	<0.05	<0.05	<0.01	<0.01	1.1	1.1	NOT DETECTED	ND
4/2/2021	Mid-Ebb	Sunny	Moderate	FCZ1B			Surface	2	1.0	24.7	8.1	97.8	6.63	-	35.66	-	1.7	-	2.4	-	<0.02	-	0.25	-	<0.05	-	<0.01	-	1.1	-	NOT DETECTED	-
4/2/2021	Mid-Ebb	Sunny	Moderate	FCZ1B			Bottom	1	3.8	22.9	8.1	98.5	6.87	6.78	36.32	-	1.6	-	2.0	-	<0.02	-	0.24	-	<0.05	-	<0.01	-	<1.0	-	NOT DETECTED	-
4/2/2021	Mid-Ebb	Sunny	Moderate	FCZ1B			Bottom	2	3.8	22.9	8.1	95.9	6.69		36.30		1.7	-	1.6	-	<0.02	-	0.24	-	<0.05	-	<0.01	-	<1.0	-	NOT DETECTED	-
4/2/2021	Mid-Ebb	Sunny	Moderate	H4A	15:28	1.6	Middle	1 1	0.8	24.8	8.2	102.6	6.95	6.96	35.72	35.72	1.7	1.7	<1.0	<1.0	<0.02	<0.02	0.28	0.27	<0.05	<0.05	<0.01	<0.01	1.1	1.1	NOT DETECTED	ND
4/2/2021	Mid-Ebb	Sunny	Moderate	H4A			Middle	2	0.8	24.7	8.2	102.8	6.96	-	35.72		1.6	-	<1.0	-	<0.02	-	0.25	-	<0.05	-	<0.01	-	1.0	-	NOT DETECTED	
4/2/2021	Mid-Ebb	Sunny	Moderate	H1A	15:00	1.4	Middle	1	0.7	24.8	8.2	102.3	6.93	6.94	35.75	35.75	1.8	1.8	<1.0	<1.0	<0.02		0.29	0.29	<0.05	<0.05	<0.01	<0.01	1.1	1.2	NOT DETECTED	ND
4/2/2021	Mid-Ebb	Sunny	Moderate	H1A			Middle	2	0.7	24.7	8.2	102.5	6.94		35.75		1.7	- 4.0	<1.0	-	<0.02		0.28	-	<0.05	-	<0.01	-	1.2	-	NOT DETECTED	- ND
4/2/2021	Mid-Ebb	Sunny	Moderate	M1A	14:48	1.0	Middle	1	0.5	24.8	8.1	101.4 101.6	6.86	6.87	35.77 35.76	35.77	1.7	1.8	<1.0	<1.0	<0.02	<0.02	0.32	0.29	<0.05	<0.05	<0.01	<0.01	1.1	1.2	NOT DETECTED	ND
4/2/2021	Mid-Ebb	Sunny	Moderate	M1A	44.00	4.0	Middle	2		24.9	8.1		6.87	-			1.8	4.7	<1.0	-	<0.02		0.26		<0.05	- 0.05	<0.01		1.4		NOT DETECTED	-
4/2/2021	Mid-Ebb	Sunny	Moderate	SGA	14:36	1.0	Middle Middle	1 1	0.5	24.9 24.8	8.1	100.8	6.81	6.83	35.76 35.76	35.76	1.7	1.7	1.8	1.6	<0.02		0.26 0.25	0.26		<0.05	<0.01	<0.01	<1.0	1.0	NOT DETECTED	ND
4/2/2021	Mid-Ebb	Sunny	Moderate	SGA			Middle	2	0.5	24.8	8.1	101.1	6.84	•	35./6	-	1.6	-	1.3	-	<0.02	-	U.25	-	<0.05	-	<0.01	-	1.0		NOT DETECTED	

Marine Water Quality Monitoring Results on

4-Feb-21 at Mid-Flood tide

Date	Tidal	Weather Condition	Sea Condition	Monitoring Station	Time	Water Depth, m	Water Level	Replicate	Sampling Depth	Temperature, °C	pН	DO Saturation, %	D m	O, g/L	Sali p	nity, pt		idity, TU	Suspend mg		Amn Nitro	ogen,		litrogen, g/L		norganic ogen, g/L	Phosp m		Oxygen	emical Demand, ig/L	E. Coli, Cfu/100n	
													Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA
4/2/2021	Mid-Flood	Sunny	Moderate	С	8:06	9.5	Surface	1	1.0	24.3	8.0	87.2	6.11	6.01	35.78	36.22	1.8	1.9	2.5	1.5	-	-	-	-	-	-	-	-	-	-		-
4/2/2021	Mid-Flood	Sunny	Moderate	С			Surface	2	1.0	24.5	8.1	90.8	6.36	-	35.72	-	1.6	-	2.2	-	-	-	-	-	-	-	-	-	-	-		-
4/2/2021	Mid-Flood	Sunny	Moderate	С			Middle	1	4.8	22.4	8.0	81.8	5.75	-	36.39	-	2.0	-	<1.0	-	-	-	-	-	-	-	-	-	-	-		-
4/2/2021	Mid-Flood	Sunny	Moderate	С			Middle	2	4.8	22.4	8.0	82.9	5.82	-	36.38	-	2.0	-	<1.0	-	-	-	-	-	-	-	-	-	-	-		-
4/2/2021	Mid-Flood	Sunny	Moderate	С			Bottom	1	8.5	22.3	8.0	86.9	6.12	6.02	36.52		2.0	-	1.2	-	-	-	-	-	-		-	-	-	-		-
4/2/2021	Mid-Flood	Sunny	Moderate	С			Bottom	2	8.5	22.3	8.0	84.0	5.91	-	36.50		2.0	-	1.1	-	-	-	-	-	-	-	-	-	-	-		-
4/2/2021	Mid-Flood	Sunny	Moderate	N2	8:33	5.5	Surface	1	1.0	24.4	8.1	95.6	6.51	6.46	35.70	36.04	1.6	1.5	1.0	1.1	-	-	-	-	-	-	-	-	-	-		-
4/2/2021	Mid-Flood	Sunny	Moderate	N2			Surface	2	1.0	24.4	8.1	93.9	6.40	-	35.76	-	1.5	-	1.1	-	-	-	-	-	-	-	-	-	-	-		-
4/2/2021	Mid-Flood	Sunny	Moderate	N2			Bottom	1	4.5	22.6	8.1	92.9	6.33	6.36	36.34	-	1.4	-	<1.0	-	-	-	-	-	-	-	-	-	-	-		-
4/2/2021	Mid-Flood	Sunny	Moderate	N2			Bottom	2	4.5	22.6	8.1	93.7	6.39	-	36.35	-	1.4	-	<1.0	-	-	-	-	-	-	-	-	-	-	-		-
4/2/2021	Mid-Flood	Sunny	Moderate	FCZ1A	9:00	3.3	Surface	1	1.0	24.5	8.1	100.9	6.87	6.88	35.73	35.80	1.4	1.5	1.3	1.3	-	-	-	-	-	-	-	-	-	-	•	-
4/2/2021	Mid-Flood	Sunny	Moderate	FCZ1A			Surface	2	1.0	24.0	8.1	100.4	6.88	-	35.89	-	1.4	-	1.0	-	-	-	-	-	-	-	-	-	-	-		-
4/2/2021	Mid-Flood	Sunny	Moderate	FCZ1A			Bottom	1	2.3	23.9	8.1	99.4	6.83	6.86	35.84		1.6	-	1.4	-	-	-	-	-	-	-	-	-	-	-		-
4/2/2021	Mid-Flood	Sunny	Moderate	FCZ1A			Bottom	2	2.3	24.1	8.1	100.5	6.88	-	35.75	-	1.5	-	1.6	-	-	-	-	-	-	-	-	-	-	-		-
4/2/2021	Mid-Flood	Sunny	Moderate	H4A	8:47	1.6	Middle	1	0.8	24.6	8.1	100.5	6.83	6.85	35.70	35.70	1.4	1.4	1.1	1.2	-	-	-	-	-	-	-	-	-	-		-
4/2/2021	Mid-Flood	Sunny	Moderate	H4A			Middle	2	0.8	24.5	8.1	101.0	6.87	-	35.70	-	1.4	-	1.2	-	-	-	-	-	-	-	-	-	-	-		-
4/2/2021	Mid-Flood	Sunny	Moderate	H1A	9:12	1.4	Middle	1	0.7	24.6	8.1	102.3	6.95	6.95	35.72	35.73	1.5	1.6	1.1	1.2	-	-	-	-	-	-	-	-	-	-		-
4/2/2021	Mid-Flood	Sunny	Moderate	H1A			Middle	2	0.7	24.5	8.1	102.3	6.95	-	35.73		1.6	-	1.2	-	-	-	-	-	-	-	-	-	-	-		-
4/2/2021	Mid-Flood	Sunny	Moderate	M1A	9:24	1.4	Middle	1	0.7	24.6	8.1	102.5	6.96	6.96	35.72	35.73	1.5	1.4	<1.0	<1.0	-	-	-	-	-	-	-	-	-	-		-
4/2/2021	Mid-Flood	Sunny	Moderate	M1A			Middle	2	0.7	24.6	8.1	102.5	6.96	-	35.73	-	1.3	-	<1.0	-	-	-	-	-	-	-	-	-	-	-		-
4/2/2021	Mid-Flood	Sunny	Moderate	SGA	9:36	1.0	Middle	1	0.5	24.6	8.1	102.6	6.97	6.97	35.72	35.72	1.4	1.4	1.1	1.2	-	-	-	-	-	-	-	-	-	-		-
4/2/2021	Mid-Flood	Sunny	Moderate	SGA			Middle	2	0.5	24.6	8.1	102.5	6.96	-	35.72		1.4	-	1.2	-	-	-	-	-	-	-	-	-	-	-		-

Marine Water Quality Monitoring Results on 5-Apr-21 at Mid-Ebb tide

Date	Tidal	Weather Condition	Sea Condition	Monitoring Station	Time	Water Depth, m	Water Level	Replicate	Sampling Depth	Temperature, °C	pН	DO Saturation,		O, g/L		inity, opt	Turb N	idity, TU		ded Soild, g/L	Amm	- '	Total N mg		Total In Nitro	ogen,	To Phosp mo	horus,	Oxygen	emical Demand, Ig/L	E. Coli, Cfu/100m	ıl
													Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA
4/5/2021	Mid-Ebb	Fine	Moderate	С	20:39	9.3	Surface	1	1.0	23.9	8.2	96.3	6.60	6.60	36.39	36.43	1.5	1.6	1.2	1.2	<0.02	<0.02	0.19	0.20	< 0.05	<0.05	<0.01	<0.01	<1.0	<1.0	NOT DETECTED	<1
4/5/2021	Mid-Ebb	Fine	Moderate	С			Surface	2	1.0	23.9	8.1	96.4	6.60	-	36.39	_	1.6	-	1.5	-	<0.02	-	0.18	-	< 0.05	-	<0.01	-	<1.0	-	1*	
4/5/2021	Mid-Ebb	Fine	Moderate	C			Middle	1	4.7	23.9	8.2	96.2	6.59	-	36.45	_	1.6	-	1.2	-	<0.02	-	0.18	-	< 0.05	-	<0.01	-	<1.0	-	NOT DETECTED	- 1
4/5/2021	Mid-Ebb	Fine	Moderate	C			Middle	2	4.7	23.9	8.2	96.3	6.60	-	36.48	_	1.5	-	1.3	-	<0.02	-	0.22	-	< 0.05	-	< 0.01	-	<1.0	-	1*	- 1
4/5/2021	Mid-Ebb	Fine	Moderate	C			Bottom	1	8.3	23.9	8.1	96.2	6.59	6.58	36.44	_	1.5	-	<1.0	-	<0.02	-	0.19	-	< 0.05	-	< 0.01	-	<1.0	-	1*	- 1
4/5/2021	Mid-Ebb	Fine	Moderate	C			Bottom	2	8.3	23.9	8.1	96.0	6.57	-	36.42	-	1.6	-	<1.0	-	<0.02	-	0.22	-	< 0.05	-	<0.01	-	<1.0	-	NOT DETECTED	- 1
4/5/2021	Mid-Ebb	Fine	Moderate	N1	20:27	6.2	Surface	1	1.0	23.9	8.1	95.0	6.50	6.49	36.36	36.39	1.4	1.3	1.5	1.8	<0.02	<0.02	0.27	0.21	<0.05	<0.05	<0.01	<0.01	<1.0	1.0	2*	1
4/5/2021	Mid-Ebb	Fine	Moderate	N1			Surface	2	1.0	23.9	8.1	94.9	6.50	-	36.36	-	1.4	-	2.4	-	<0.02	-	0.23	-	< 0.05	-	<0.01	-	1.1	-	3*	- 1
4/5/2021	Mid-Ebb	Fine	Moderate	N1			Middle	1	3.1	23.9	8.1	94.6	6.48	-	36.38	-	1.3	-	2.2	-	<0.02	-	0.20	-	< 0.05		<0.01	-	<1.0	-	1*	- 1
4/5/2021	Mid-Ebb	Fine	Moderate	N1			Middle	2	3.1	23.9	8.1	94.9	6.49	-	36.37	-	1.3	-	1.5		<0.02	-	0.17	-	< 0.05		<0.01	-	<1.0	-	NOT DETECTED	- 1
4/5/2021	Mid-Ebb	Fine	Moderate	N1			Bottom	1	5.2	23.9	8.1	94.5	6.47	6.47	36.42	-	1.3	-	1.8	-	<0.02	-	0.19	-	< 0.05	-	<0.01	-	<1.0	-	1*	- 1
4/5/2021	Mid-Ebb	Fine	Moderate	N1			Bottom	2	5.2	23.9	8.1	94.4	6.46	-	36.45	-	1.3	-	1.2	-	<0.02	-	0.18	-	<0.05	-	<0.01	-	<1.0	-	NOT DETECTED	-
4/5/2021	Mid-Ebb	Fine	Moderate	FCZ1A	19:42	3.2	Surface	1	1.0	23.9	8.1	94.0	6.44	6.43	36.37	36.38	1.4	1.4	2.3	1.9	-	-	-	-		-	-	-	-	-	-	-
4/5/2021	Mid-Ebb	Fine	Moderate	FCZ1A			Surface	2	1.0	23.9	8.1	93.8	6.42	-	36.37	-	1.3	-	2.1	-	-	-	-	-	-	-	-	-	-	-	-	- 1
4/5/2021	Mid-Ebb	Fine	Moderate	FCZ1A			Bottom	1	2.2	23.9	8.1	93.8	6.42	6.41	36.38	-	1.4	-	1.5		-	-	-	-	-	-	-	-	-	-	-	- 1
4/5/2021	Mid-Ebb	Fine	Moderate	FCZ1A			Bottom	2	2.2	23.9	8.1	93.5	6.40	-	36.38	-	1.4	-	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-
4/5/2021	Mid-Ebb	Fine	Moderate	FCZ1B	20:04	4.5	Surface	1	1.0	23.9	8.1	95.1	6.51	6.50	36.38	36.39	1.3	1.3	<1.0	1.1	0.03	0.02	0.19	0.20	<0.05	<0.05	<0.01	<0.01	1.1	1.1	1*	<1
4/5/2021	Mid-Ebb	Fine	Moderate	FCZ1B			Surface	2	1.0	23.9	8.1	94.7	6.48	-	36.37	-	1.3	-	<1.0	-	0.02	-	0.20	-	<0.05	-	<0.01	-	1.1	-	2*	-
4/5/2021	Mid-Ebb	Fine	Moderate	FCZ1B			Bottom	1	3.5	23.9	8.1	95.2	6.52	6.51	36.42	-	1.3	-	1.4	-	0.02	-	0.21	-	<0.05	-	<0.01	-	<1.0	-	NOT DETECTED	- 1
4/5/2021	Mid-Ebb	Fine	Moderate	FCZ1B			Bottom	2	3.5	23.9	8.1	94.8	6.49	-	36.39	-	1.4	-	1.0	-	<0.02	-	0.19	-	<0.05	-	<0.01	-	<1.0	-	NOT DETECTED	-
4/5/2021	Mid-Ebb	Fine	Moderate	H4A	19:53	1.4	Middle	1	0.7	23.9	8.1	93.1	6.37	6.38	36.36	36.36	1.5	1.5	1.5	1.7	<0.02	<0.02	0.22	0.23	< 0.05	<0.05	<0.01	<0.01	1.0	1.0	NOT DETECTED	<1
4/5/2021	Mid-Ebb	Fine	Moderate	H4A			Middle	2	0.7	23.9	8.1	93.1	6.38	-	36.36	-	1.5	-	1.9	-	<0.02	-	0.24	-	<0.05	-	<0.01	-	<1.0	-	1*	-
4/5/2021	Mid-Ebb	Fine	Moderate	H1A	19:32	1.4	Middle	1	0.7	23.7	8.1	94.6	6.49	6.46	36.50	36.44	1.2	1.2	<1.0	<1.0	<0.02	<0.02	0.20	0.19	<0.05	<0.05	<0.01	<0.01	1.0	1.0	1*	<1
4/5/2021	Mid-Ebb	Fine	Moderate	H1A			Middle	2	0.7	23.9	8.1	93.8	6.42	-	36.37	-	1.2	-	<1.0	-	<0.02	-	0.18	-	<0.05	-	<0.01	-	<1.0	-	NOT DETECTED	
4/5/2021	Mid-Ebb	Fine	Moderate	M1A	19:22	1.2	Middle	1	0.6	23.9	8.1	94.4	6.47	6.49	36.38	36.42	1.5	1.5	<1.0	<1.0	<0.02	<0.02	0.25	0.25	<0.05	<0.05	<0.01	<0.01	<1.0	<1.0	1*	<1
4/5/2021	Mid-Ebb	Fine	Moderate	M1A			Middle	2	0.6	23.8	8.1	94.8	6.50	-	36.45	-	1.5	-	<1.0	-	<0.02	-	0.24	-	<0.05	-	<0.01	-	<1.0	-	NOT DETECTED	-
4/5/2021	Mid-Ebb	Fine	Moderate	SGA	19:12	1.2	Middle	1	0.6	23.9	8.1	94.4	6.47	6.49	36.37	36.40	1.4	1.4	<1.0	<1.0	<0.02	<0.02	0.27	0.27	<0.05	<0.05	<0.01	<0.01	<1.0	<1.0	2*	2
4/5/2021	Mid-Ebb	Fine	Moderate	SGA	1		Middle	2	0.6	23.8	8.1	95.0	6.51	-	36.42	-	1.4	-	<1.0	-	< 0.02	-	0.26	-	< 0.05	-	< 0.01	- 1	<1.0	-	1*	1 - 1

DA - Depth-averaged

Marine Water Quality Monitoring Results on 5-Apr-21 at Mid-Flood tide

Date	Tidal	Weather Condition	Sea Condition	Monitoring Station	Time	Water Depth, m	Water Level	Replicate	Sampling Depth	Temperature, °C	pН	DO Saturation, %	D m	O, g/L		linity, opt		oidity, TU	Suspend			monia ogen, g/L	Total N m	litrogen, g/L	Total In Nitro	gen,	Phospi	horus,	Oxygen	emical Demand, Ig/L	E. Coli, Cfu/100m	al
													Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA
4/5/2021	Mid-Flood	Fine	Moderate	С	7:02	9.3	Surface	1	1.0	23.9	8.1	97.1	6.65	6.68	36.45	36.46	1.3	1.4	1.5	2.1	-	-	-	-	-	-	-	-	-	-		-
4/5/2021	Mid-Flood	Fine	Moderate	С			Surface	2	1.0	23.9	8.1	98.2	6.72	-	36.44	-	1.5	-	1.7	-	-	-	-	-	-	-	-	-	-	-		-
4/5/2021	Mid-Flood	Fine	Moderate	С			Middle	1	4.7	23.9	8.1	97.1	6.65	-	36.47	-	1.4	-	1.9	-	-	-	-	-	-	-	-	-	-	-		-
4/5/2021	Mid-Flood	Fine	Moderate	С			Middle	2	4.7	23.9	8.1	97.5	6.68		36.46		1.4	-	2.2	-	-	-		-	-	-	-	-	-	-		-
4/5/2021	Mid-Flood	Fine	Moderate	С			Bottom	1	8.3	23.9	8.1	97.0	6.64	6.66	36.46		1.4	-	2.5	-		-		-	-	-	-	-				-
4/5/2021	Mid-Flood	Fine	Moderate	С			Bottom	2	8.3	23.9	8.1	97.4	6.67		36.47		1.4		2.5	-	-	-		-	-	-	-		-			-
4/5/2021	Mid-Flood	Fine	Moderate	N2	7:26	5.2	Surface	1	1.0	23.9	8.1	97.5	6.68	6.68	36.44	36.45	1.3	1.3	2.0	2.1	-	-	-	-	-	-	-	-	-	-		-
4/5/2021	Mid-Flood	Fine	Moderate	N2			Surface	2	1.0	23.9	8.1	97.5	6.67		36.44		1.3	_	2.1			_		-		-	_					-
4/5/2021	Mid-Flood	Fine	Moderate	N2			Bottom	1	4.2	23.9	8.1	97.4	6.66	6.67	36.44	-	1.2	-	2.0	-	-	-		-	-	-	-	-	-			-
4/5/2021	Mid-Flood	Fine	Moderate	N2			Bottom	2	4.2	23.9	8.1	97.5	6.68		36.47		1.3		2.1		_	_		-		-	_		_			_
4/5/2021	Mid-Flood	Fine	Moderate	FCZ1A	7:48	3.3	Surface	1	1.0	23.9	8.1	97.8	6.73	6.72	36.41	36.41	1.3	1.3	1.4	2.1	-	-	-	-	-	-	-	-	-	-		-
4/5/2021	Mid-Flood	Fine	Moderate	FCZ1A			Surface	2	1.0	23.9	8.1	97.4	6.71	-	36.40	-	1.3	_	1.5	-	-	-	-	-	_	_	-	-	-	-		_
4/5/2021	Mid-Flood	Fine	Moderate	FCZ1A			Bottom	1	2.3	23.9	8.1	97.3	6.69	6.69	36.42		1.3		2.5	_	_	_	l -		_	_	_		_		_	-
4/5/2021	Mid-Flood	Fine	Moderate	FCZ1A			Bottom	2	2.3	23.9	8.1	97.1	6.68		36.41	_	1.3	_	2.9		l <u>.</u>	_	l -		_	_	_			١.		-
4/5/2021	Mid-Flood	Fine	Moderate	H4A	7:38	1.4	Middle	1	0.7	23.9	8.1	97.6	6.68	6.68	36.44	36.44	1.1	1.1	2.3	2.2	-	-	-	-	-	-	-	-	-	-		-
4/5/2021	Mid-Flood	Fine	Moderate	H4A			Middle	2	0.7	23.9	8.1	97.6	6.68	-	36.43	_	1.1	_	2.0	-	_	-	-	-	-	_	_	_	-	-		_
4/5/2021	Mid-Flood	Fine	Moderate	H1A	8:00	1.4	Middle	1	0.7	23.9	8.1	95.8	6.56	6.56	36.40	36.40	1.4	1.4	2.6	2.5	-	-	-	-	-	-	-	-	-	-		-
4/5/2021	Mid-Flood	Fine	Moderate	H1A			Middle	2	0.7	23.9	8.1	95.8	6.56	-	36.40	-	1.3	-	2.4	-	_	_	_	_	_	_	_	-	_	-		
4/5/2021	Mid-Flood	Fine	Moderate	M1A	8:11	1.2	Middle	1	0.6	23.9	8.1	95.7	6.55	6.55	36.39	36.39	1.1	1.1	2.3	2.4	-	-	-	-	-	-	-	-	-	-		-
4/5/2021	Mid-Flood	Fine	Moderate	M1A			Middle	2	0.6	23.9	8.1	95.5	6.54	-	36.39		1.1	-	2.5	-	-	-	-	-	-	-	-	-	-	-		-
4/5/2021	Mid-Flood	Fine	Moderate	SGA	8:23	1.2	Middle	1	0.6	23.9	8.1	95.9	6.57	6.55	36.39	36.39	1.2	1.2	2.3	2.4	-	-	-	-	-	-	-	-	-	-		-
4/5/2021	Mid-Flood	Fine	Moderate	SGA			Middle	2	0.6	23.9	8.1	95.3	6.52	-	36.38	-	1.2	-	2.5	-	-	-	-	-	-	-	-	-	-	-		-

Marine Water Quality Monitoring Results on 7-Apr-21 at Mid-Ebb tide

Date	Tidal	Weather Condition	Sea Condition	Monitoring Station	Time	Water Depth,	Water Level	Replicate Sam De		pH	DO Saturation,	D m		Sali	nity, pt		oidity, TU	Suspend		Amm Nitro		Total N		Total In Nitro	gen,	Phosp	horus,		emical Demand,	E. Coli, Cfu/100r	
						m					%									mg	J/L			mg		m		n	ıg/L		
												Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA
4/7/2021	Mid-Ebb	Fine	Moderate	C	8:17	9.5	Surface	1 1 1	23.8	8.1	91.7	6.28	6.28	36.33	36.34	1.8	1.9	<1.0	<1.0	- 1	-	-	-	-	-	-	-	-	-		-
4/7/2021	Mid-Ebb	Fine	Moderate	C			Surface	2 1	23.8	8.1	91.8	6.28	-	36.34	-	1.8	-	<1.0	-	-	-	-	-	-	-	-	-	-	-	-	-
4/7/2021	Mid-Ebb	Fine	Moderate	C			Middle	1 4	3 23.8	8.1	91.4	6.27	-	36.34	-	1.9	-	<1.0	-	-	-	-	-	-	-	-	-	-	-	-	-
4/7/2021	Mid-Ebb	Fine	Moderate	С			Middle	2 4	3 23.8	8.1	91.5	6.29	-	36.33	-	1.9	-	<1.0	-	- 1	-	-	-	-	-	-	-	-	-	-	-
4/7/2021	Mid-Ebb	Fine	Moderate	С			Bottom	1 8	23.7	8.1	91.2	6.24	6.25	36.34	-	2.0	-	<1.0	-	- 1	-	-	-	-	-	-	-	-	-		-
4/7/2021	Mid-Ebb	Fine	Moderate	С			Bottom	2 8	23.7	8.1	90.8	6.25	-	36.34	-	1.9	-	<1.0	-	- 1	-	-	-	-	-	-	-	-	-		-
4/7/2021	Mid-Ebb	Fine	Moderate	N1	8:29	6.5	Surface	1 1	23.8	8.1	94.9	6.51	6.50	36.33	36.33	1.4	1.4	<1.0	<1.0	-	-	-	-	-	-	-	-	-	-	-	-
4/7/2021	Mid-Ebb	Fine	Moderate	N1			Surface	2 1	23.8	8.1	94.9	6.51	-	36.33	-	1.4	-	<1.0	-	- 1	-	-	-	-	-	-	-	-	-		-
4/7/2021	Mid-Ebb	Fine	Moderate	N1			Middle	1 3	3 23.8	8.1	94.8	6.50	-	36.32		1.4	-	<1.0	-	- 1	-	-	-	-	-	-	-	-	-		-
4/7/2021	Mid-Ebb	Fine	Moderate	N1			Middle	2 3	3 23.8	8.1	94.6	6.49	-	36.33		1.4	-	<1.0	-	- 1	-	-	-	-	-	-	-	-	-		-
4/7/2021	Mid-Ebb	Fine	Moderate	N1			Bottom	1 5	23.8	8.1	94.5	6.49	6.49	36.33	-	1.5	-	<1.0	-	-	-	-	-	-	-	-	-	-	-		-
4/7/2021	Mid-Ebb	Fine	Moderate	N1			Bottom	2 5	23.8	8.1	94.6	6.49	-	36.33	-	1.5	-	<1.0	-	-	-	-	-	-	-	-	-	-	-		-
4/7/2021	Mid-Ebb	Fine	Moderate	FCZ1A	9:09	3.3	Surface	1 1	23.8	8.1	94.9	6.51	6.51	36.32	36.32	1.4	1.4	<1.0	1.1	-	-	-	-	-	-	-		-	-	-	-
4/7/2021	Mid-Ebb	Fine	Moderate	FCZ1A			Surface	2 1	23.8	8.1	94.9	6.51	-	36.32	-	1.3	-	<1.0	-	-	-	-	-	-	-	-	-	-	-	-	-
4/7/2021	Mid-Ebb	Fine	Moderate	FCZ1A			Bottom	1 2		8.1	94.8	6.51	6.51	36.32	-	1.5	-	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-
4/7/2021	Mid-Ebb	Fine	Moderate	FCZ1A			Bottom	2 2	3 23.8	8.1	94.8	6.50	-	36.32	-	1.4	-	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-
4/7/2021	Mid-Ebb	Fine	Moderate	H4A	8:56	1.8	Middle	1 0	23.8	8.1	94.9	6.51	6.51	36.32	36.32	1.5	1.5	<1.0	<1.0	-	-	-	-	-	-	-	-	-	-		-
4/7/2021	Mid-Ebb	Fine	Moderate	H4A			Middle	2 0	23.8	8.1	95.0	6.51	-	36.32	-	1.4	-	<1.0	-	- 1	-	-	-	-	-	-	-	-	-	-	-
4/7/2021	Mid-Ebb	Fine	Moderate	H1A	9:22	1.4	Middle	1 0	7 23.8	8.1	94.6	6.48	6.49	36.32	36.32	1.4	1.4	<1.0	<1.0	-	-	-	-	-	-	-	-	-	-	-	-
4/7/2021	Mid-Ebb	Fine	Moderate	H1A			Middle	2 0	7 23.8	8.1	94.7	6.49	-	36.32	-	1.4	-	<1.0	-	- 1	-	-	-	-	-	-	-	-	-	-	-
4/7/2021	Mid-Ebb	Fine	Moderate	M1A	9:35	1.2	Middle	1 0	23.8	8.1	94.5	6.48	6.48	36.32	36.32	1.4	1.5	1.0	1.0	-	-	-	-	-	-	-	-	-	-	-	-
4/7/2021	Mid-Ebb	Fine	Moderate	M1A			Middle	2 0	23.8	8.1	94.5	6.48	-	36.31	-	1.6	-	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-
4/7/2021	Mid-Ebb	Fine	Moderate	SGA	9:50	1.4	Middle	1 0	23.9	8.1	94.6	6.49	6.49	36.32	36.32	1.6	1.7	<1.0	<1.0	-	-	-	-	-	-	-	-	-	-		_
4/7/2021	Mid-Ebb	Fine	Moderate	SGA			Middle	2 0	23.9	8.1	94.7	6.49	-	36.31		1.7	-	<1.0	-	-	-	-	-	-	-	-	-	-	-		-

Marine Water Quality Monitoring Results on 7-Apr-21 at Mid-Flood tide

Date	Tidal	Weather Condition	Sea Condition	Monitoring Station	Time	Water Depth,	Water Level	Replicate	Sampling Depth	Temperature, °C	pН	DO Saturation,		O, g/L	Sali		Turb N		Suspend		Amm Nitro		Total Ni mg		Total In Nitro		To Phosp		Bioch Oxygen		E. Coli, Cfu/100ml	ı
						m						%									mg				mg	/L	mg	g/L		g/L		
													Value	DA	Value	DA	Value	DA	Value	DA	Value		Value	DA	Value	DA	Value	DA	Value	DA	Value	DA
4/7/2021	Mid-Flood	Fine	Moderate	C	15:10	7.4	Surface	1	1.0	24.0	8.1	88.9	6.09	6.01	36.14	36.17	1.7	1.7	1.5	1.2	<0.02	<0.02	0.19	0.20	<0.05	<0.05	<0.01	<0.01	<1.0	<1.0	NOT DETECTED	ND
4/7/2021	Mid-Flood	Fine	Moderate	С			Surface	2	1.0	24.0	8.1	89.2	6.11	-	36.13	-	1.8	-	1.3	-	<0.02	-	0.17	-	<0.05	-	<0.01	-	<1.0	-	NOT DETECTED	- 1
4/7/2021	Mid-Flood	Fine	Moderate	С			Middle	1	3.7	23.6	8.1	86.0	5.93	-	36.18	-	1.7	-	1.2	-	<0.02	-	0.18	-	< 0.05	-	<0.01	-	<1.0	-	NOT DETECTED	- 1
4/7/2021	Mid-Flood	Fine	Moderate	С			Middle	2	3.7	23.6	8.1	85.5	5.89	-	36.17	-	1.6	-	1.0	-	<0.02	-	0.17	-	< 0.05	-	<0.01	-	<1.0	-	NOT DETECTED	- 1
4/7/2021	Mid-Flood	Fine	Moderate	С			Bottom	1	6.4	23.6	8.1	86.5	5.96	6.03	36.20	-	1.8	-	<1.0	-	<0.02	-	0.24	-	< 0.05	-	<0.01	-	<1.0	-	NOT DETECTED	- 1
4/7/2021	Mid-Flood	Fine	Moderate	С			Bottom	2	6.4	23.5	8.1	88.2	6.09	-	36.21	-	1.7	-	<1.0	-	<0.02	-	0.24	-	<0.05	-	<0.01	-	<1.0	-	NOT DETECTED	-
4/7/2021	Mid-Flood	Fine	Moderate	N2	14:40	5.3	Surface	1	1.0	24.0	8.1	95.1	6.53	6.52	36.14	36.14	1.6	1.5	1.1	1.4	<0.02	<0.02	0.22	0.19	< 0.05	<0.05	<0.01	<0.01	<1.0	1.0	NOT DETECTED	ND
4/7/2021	Mid-Flood	Fine	Moderate	N2			Surface	2	1.0	24.0	8.1	94.8	6.50	-	36.15	-	1.4	-	1.8	-	<0.02	-	0.16	-	< 0.05	-	<0.01	-	1.1	-	NOT DETECTED	-
4/7/2021	Mid-Flood	Fine	Moderate	N2			Bottom	1	4.3	23.7	8.1	93.5	6.42	6.43	36.13	-	1.5	-	1.1	-	<0.02	-	0.20	-	< 0.05	-	<0.01	-	<1.0	-	NOT DETECTED	- 1
4/7/2021	Mid-Flood	Fine	Moderate	N2			Bottom	2	4.3	23.7	8.1	93.7	6.44	-	36.15	-	1.4	-	1.5	-	<0.02	-	0.17	-	<0.05	-	<0.01	-	<1.0	-	NOT DETECTED	-
4/7/2021	Mid-Flood	Fine	Moderate	FCZ1A	13:57	3.4	Surface	1	1.0	24.0	8.1	92.8	6.35	6.36	36.16	36.16	1.6	1.7	<1.0	<1.0	-	-	-	-	-	-	-	-	-	-		-
4/7/2021	Mid-Flood	Fine	Moderate	FCZ1A			Surface	2	1.0	24.0	8.1	92.9	6.36	-	36.15	-	1.6	-	<1.0	-	-	-	-	-	-	-	-	-	-	-		-
4/7/2021	Mid-Flood	Fine	Moderate	FCZ1A			Bottom	1	2.4	23.8	8.1	92.4	6.34	6.34	36.16	-	1.7	-	<1.0	-	-	-	-	-	-	-	-	-	-	-		- 1
4/7/2021	Mid-Flood	Fine	Moderate	FCZ1A			Bottom	2	2.4	23.8	8.1	92.5	6.34	-	36.16	-	1.8	-	<1.0	-	-	-	-	-	-	-	-	-	-	-		-
4/7/2021	Mid-Flood	Fine	Moderate	FCZ1B	14:25	4.3	Surface	1	1.0	24.0	8.1	94.5	6.49	6.49	36.17	36.16	1.5	1.5	<1.0	<1.0	<0.02	<0.02	0.18	0.19	<0.05	<0.05	<0.01	<0.01	<1.0	<1.0	NOT DETECTED	ND
4/7/2021	Mid-Flood	Fine	Moderate	FCZ1B			Surface	2	1.0	24.0	8.1	94.6	6.49	-	36.14	-	1.6	-	<1.0	-	<0.02	-	0.21	-	< 0.05	-	<0.01	-	<1.0	-	NOT DETECTED	- 1
4/7/2021	Mid-Flood	Fine	Moderate	FCZ1B			Bottom	1	3.3	23.9	8.1	91.7	6.28	6.30	36.15	-	1.6	-	<1.0	-	<0.02	-	0.18	-	< 0.05	-	<0.01	-	<1.0	-	NOT DETECTED	-
4/7/2021	Mid-Flood	Fine	Moderate	FCZ1B			Bottom	2	3.3	23.8	8.1	91.9	6.31	-	36.16	-	1.4	-	<1.0	-	<0.02	-	0.18	-	< 0.05	-	<0.01	-	<1.0	-	NOT DETECTED	-
4/7/2021	Mid-Flood	Fine	Moderate	H4A	14:10	1.6	Middle	1	0.8	24.0	8.1	92.8	6.35	6.35	36.13	36.14	1.6	1.6	<1.0	<1.0	<0.02	0.02	0.21	0.22	<0.05	<0.05	<0.01	<0.01	<1.0	<1.0	NOT DETECTED	ND
4/7/2021	Mid-Flood	Fine	Moderate	H4A			Middle	2	0.8	24.1	8.1	92.8	6.35	-	36.14	-	1.5	-	<1.0	-	0.02	-	0.22	-	< 0.05	-	<0.01	-	<1.0	-	NOT DETECTED	- 1
4/7/2021	Mid-Flood	Fine	Moderate	H1A	13:43	1.8	Middle	1	0.9	24.1	8.1	93.0	6.36	6.36	36.14	36.14	1.6	1.6	<1.0	<1.0	0.02	0.02	0.23	0.23	< 0.05	<0.05	<0.01	<0.01	<1.0	<1.0	NOT DETECTED	ND
4/7/2021	Mid-Flood	Fine	Moderate	H1A			Middle	2	0.9	24.1	8.1	93.0	6.36	-	36.14	-	1.6	-	<1.0	-	<0.02	-	0.23	-	< 0.05	-	<0.01	-	<1.0	-	NOT DETECTED	- 1
4/7/2021	Mid-Flood	Fine	Moderate	M1A	13:31	1.2	Middle	1	0.6	24.1	8.1	93.5	6.39	6.39	36.15	36.15	1.6	1.7	<1.0	<1.0	<0.02	<0.02	0.18	0.19	<0.05	<0.05	<0.01	<0.01	<1.0	1.0	NOT DETECTED	ND
4/7/2021	Mid-Flood	Fine	Moderate	M1A			Middle	2	0.6	24.1	8.1	93.4	6.38	-	36.15	-	1.7	-	<1.0	-	< 0.02	-	0.20	-	< 0.05	-	< 0.01	-	1.0	-	NOT DETECTED	-
4/7/2021	Mid-Flood	Fine	Moderate	SGA	13:17	1.2	Middle	1	0.6	24.1	8.1	96.4	6.59	6.57	36.15	36.15	1.8	1.9	<1.0	<1.0	<0.02	<0.02	0.18	0.18	<0.05	<0.05	<0.01	<0.01	<1.0	<1.0	NOT DETECTED	ND
4/7/2021	Mid-Flood	Fine	Moderate	SGA			Middle	2	0.6	24.1	8.1	95.7	6.54	-	36.14	-	2.0	-	<1.0	-	<0.02	-	0.18	-	<0.05	-	<0.01	-	<1.0	-	NOT DETECTED	-

Marine Water Quality Monitoring Results on 9-Apr-21 at Mid-Ebb tide

Date	Tidal	Weather Condition	Sea Condition	Monitoring Station	Time	Water Depth,	Water Level	Replicate	Sampling Depth	Temperature, °C	pH	DO Saturation,	D m	0, g/L	Sali		Turb N	idity, TU	Suspend		Amm Nitro	gen,	Total N		Total In Nitro	gen,	To Phosp	horus,	Oxygen	emical Demand,	E. Coli, Cfu/100r	
						m						%									mg	-			mg		m			ig/L		
													Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA
4/9/2021	Mid-Ebb	Fine	Moderate	C	9:41	9.2	Surface	1 1	1.0	23.4	8.0	88.1	6.09	6.04	36.25	36.33	1.5	1.6	1.4	1.7	-	-	-	-	-	-	-	-	-	-	-	-
4/9/2021	Mid-Ebb	Fine	Moderate	C			Surface	2	1.0	23.4	8.0	87.1	6.02	-	36.26	-	1.4	-	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-
4/9/2021	Mid-Ebb	Fine	Moderate	C			Middle	1	4.6	23.4	8.0	87.0	6.01	-	36.34	-	1.6	-	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-
4/9/2021	Mid-Ebb	Fine	Moderate	С			Middle	2	4.6	23.4	8.0	87.0	6.02	-	36.32	-	1.5	-	1.8	-	-	-	-	-	-	-	-	-	-	-	-	-
4/9/2021	Mid-Ebb	Fine	Moderate	С			Bottom	1	8.2	23.3	8.0	85.0	5.87	5.88	36.39	-	1.7	-	1.9	-	-	-	-	-	-	-	-	-	-	- 1	-	-
4/9/2021	Mid-Ebb	Fine	Moderate	С			Bottom	2	8.2	23.2	8.0	85.5	5.89	-	36.43	-	1.8	-	2.2	-	-	-	-	-	-	-	-	-	-	-	-	-
4/9/2021	Mid-Ebb	Fine	Moderate	N1	9:55	6.3	Surface	1	1.0	23.4	8.0	88.4	6.11	6.11	36.25	36.28	1.3	1.3	1.6	2.5	-	-	-	-	-	-	-	-	-	-		-
4/9/2021	Mid-Ebb	Fine	Moderate	N1			Surface	2	1.0	23.4	8.0	88.5	6.12	-	36.25	-	1.2	-	1.8	-	-	-	-	-	-	-	-	-	-	- 1		-
4/9/2021	Mid-Ebb	Fine	Moderate	N1			Middle	1	3.2	23.4	8.0	88.2	6.10	-	36.27		1.3	-	2.4	-	-	-	-	-	-	-	-	-	-	- 1		-
4/9/2021	Mid-Ebb	Fine	Moderate	N1			Middle	2	3.2	23.4	8.0	88.3	6.11	-	36.27		1.3	-	2.7	-	-	-	-	-	-	-	-	-	-	- 1		-
4/9/2021	Mid-Ebb	Fine	Moderate	N1			Bottom	1 1	5.3	23.4	8.0	88.0	6.08	6.10	36.32		1.4		3.2	-	-	-	-	-	-	-	-	-	-	- 1		-
4/9/2021	Mid-Ebb	Fine	Moderate	N1			Bottom	2	5.3	23.4	8.0	88.4	6.11	-	36.31		1.4	-	3.5	-	-	-	-	-	-	-	-	-	-	- 1		-
4/9/2021	Mid-Ebb	Fine	Moderate	FCZ1A	10:37	3.4	Surface	1	1.0	23.4	8.0	88.5	6.12	6.12	36.24	36.24	1.3	1.4	<1.0	1.3		-		-	-	-	-	-	-	-		-
4/9/2021	Mid-Ebb	Fine	Moderate	FCZ1A			Surface	2	1.0	23.4	8.0	88.5	6.12	-	36.24		1.4	-	<1.0	-	-	-	-	-	-	-	-	-	-	-		-
4/9/2021	Mid-Ebb	Fine	Moderate	FCZ1A			Bottom	1 1	2.4	23.4	8.0	88.5	6.12	6.12	36.24	_	1.4	-	1.6	-	-	-	-	-	-	-	-	-	-	-		-
4/9/2021	Mid-Ebb	Fine	Moderate	FCZ1A			Bottom	2	2.4	23.4	8.0	88.5	6.12	-	36.24	-	1.4	-	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-
4/9/2021	Mid-Ebb	Fine	Moderate	H4A	10:23	1.6	Middle	1	0.8	23.4	8.0	88.6	6.12	6.13	36.24	36.24	1.3	1.3	1.4	1.2	-	-	-	-	-	-	-	-	-	- 1	-	-
4/9/2021	Mid-Ebb	Fine	Moderate	H4A			Middle	2	0.8	23.4	8.0	88.6	6.13	-	36.24	-	1.3	-	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-
4/9/2021	Mid-Ebb	Fine	Moderate	H1A	10:50	1.2	Middle	1	0.6	23.4	8.1	88.7	6.13	6.13	36.24	36.24	1.4	1.4	1.2	1.3	-	-	-	-	-	-	-	-	-	-	-	-
4/9/2021	Mid-Ebb	Fine	Moderate	H1A			Middle	2	0.6	23.4	8.0	88.6	6.13	-	36.24	-	1.4	-	1.3	-	-	-	-	-	-	-	-	-	-	-	-	
4/9/2021	Mid-Ebb	Fine	Moderate	M1A	11:03	1.0	Middle	1	0.5	23.4	8.1	88.8	6.14	6.14	36.23	36.23	1.3	1.3	1.4	1.4	-	-	-	-	-	-	-	-	-	-	-	-
4/9/2021	Mid-Ebb	Fine	Moderate	M1A			Middle	2	0.5	23.4	8.1	88.7	6.13	-	36.23	-	1.3	-	1.3	-	-	-	-	-	-	-	-	-	-	- 1	-	-
4/9/2021	Mid-Ebb	Fine	Moderate	SGA	11:15	1.4	Middle	1	0.7	23.4	8.1	88.6	6.13	6.13	36.23	36.23	1.6	1.7	<1.0	<1.0	-	-	-	-	-	-	-	-	-	-	-	-
4/9/2021	Mid-Ebb	Fine	Moderate	SGA			Middle	2	0.7	23.4	8.1	88.6	6.13	-	36.23	-	1.7	-	<1.0	-	-	-	-	-	-	-	-	-	-	-		-

Marine Water Quality Monitoring Results on 9-Apr-21 at Mid-Flood tide

Date	Tidal	Weather Condition	Sea Condition	Monitoring Station	Time	Water Depth,	Water Level	Replicate	Sampling Depth	Temperature, °C	pН	DO Saturation,		O, g/L	Sali		Turb N		Suspende		Amm Nitro		Total Ni mg		Total In Nitro		To Phosp		Bioch Oxygen		E. Coli, Cfu/100m	ni
						m						%									mg				mg	/L	mg	g/L		g/L		
													Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA
4/9/2021	Mid-Flood	Fine	Moderate	С	17:11	9.5	Surface	1	1.0	23.4	8.1	88.3	6.10	6.10	36.12	36.12	2.2	2.2	1.3	1.7	<0.02	0.02	0.23	0.24	<0.05	<0.05	<0.01	<0.01	<1.0	1.0	NOT DETECTED	ND
4/9/2021	Mid-Flood	Fine	Moderate	C			Surface	2	1.0	23.4	8.1	88.5	6.12	-	36.11	-	2.1	-	1.8	-	0.02	-	0.25	-	< 0.05	-	<0.01	-	<1.0	-	NOT DETECTED	- 1
4/9/2021	Mid-Flood	Fine	Moderate	С			Middle	1	4.8	23.4	8.1	88.0	6.08	-	36.11	-	2.3	-	1.2	-	<0.02	-	0.24	-	< 0.05	-	<0.01	-	1	-	NOT DETECTED	- 1
4/9/2021	Mid-Flood	Fine	Moderate	С			Middle	2	4.8	23.4	8.1	88.0	6.08	-	36.12	-	2.2	-	1.4	-	<0.02	-	0.23	-	< 0.05	-	<0.01	-	<1.0	-	NOT DETECTED	-
4/9/2021	Mid-Flood	Fine	Moderate	С			Bottom	1	8.5	23.4	8.1	88.1	6.09	6.09	36.13	-	2.3	-	2.2	-	<0.02	-	0.24	-	< 0.05	-	<0.01	-	<1.0	-	NOT DETECTED	-
4/9/2021	Mid-Flood	Fine	Moderate	С			Bottom	2	8.5	23.4	8.1	88.0	6.08	-	36.13	-	2.3	-	2.0	-	0.02	-	0.24	-	<0.05	-	<0.01	-	<1.0	-	NOT DETECTED	-
4/9/2021	Mid-Flood	Fine	Moderate	N2	16:43	5.4	Surface	1	1.0	23.4	8.1	89.2	6.17	6.17	36.12	36.12	2.0	2.1	1.1	1.6	<0.02	<0.02	0.24	0.24	< 0.05	<0.05	<0.01	<0.01	<1.0	<1.0	NOT DETECTED	ND
4/9/2021	Mid-Flood	Fine	Moderate	N2			Surface	2	1.0	23.4	8.1	89.2	6.17	-	36.12	-	2.0	-	1.7	-	<0.02	-	0.25	-	< 0.05	-	<0.01	-	<1.0	-	NOT DETECTED	-
4/9/2021	Mid-Flood	Fine	Moderate	N2			Bottom	1	4.4	23.4	8.1	88.9	6.15	6.16	36.13	-	2.1	-	1.6	-	<0.02	-	0.23	-	< 0.05	-	<0.01	-	<1.0	-	NOT DETECTED	-
4/9/2021	Mid-Flood	Fine	Moderate	N2			Bottom	2	4.4	23.4	8.1	89.1	6.16	-	36.12	-	2.2	-	2.0	-	<0.02	-	0.24	-	<0.05	-	<0.01	-	<1.0	-	NOT DETECTED	-
4/9/2021	Mid-Flood	Fine	Moderate	FCZ1A	16:02	3.4	Surface	1	1.0	23.4	8.1	89.7	6.20	6.21	36.13	36.13	1.9	2.0	1.2	1.6	-	-	-	-	-	-	-	-	-	-		-
4/9/2021	Mid-Flood	Fine	Moderate	FCZ1A			Surface	2	1.0	23.4	8.1	89.8	6.21	-	36.13	-	2.0	-	1.0	-	-	-	-	-	-	-	-	-	-	-		-
4/9/2021	Mid-Flood	Fine	Moderate	FCZ1A			Bottom	1	2.4	23.4	8.1	89.8	6.21	6.21	36.13	-	2.0	-	2.2	-	-	-	-	-	-	-	-	-	-	-		- 1
4/9/2021	Mid-Flood	Fine	Moderate	FCZ1A			Bottom	2	2.4	23.4	8.1	89.7	6.21	-	36.13	-	1.9	-	1.8	-	-	-	-	-	-	-	-	-	-	-		-
4/9/2021	Mid-Flood	Fine	Moderate	FCZ1B	16:30	4.7	Surface	1	1.0	23.4	8.1	89.3	6.18	6.18	36.13	36.13	2.0	2.0	1.8	1.6	<0.02	0.02	0.27	0.26	<0.05	<0.05	<0.01	<0.01	<1.0	1.0	NOT DETECTED	ND
4/9/2021	Mid-Flood	Fine	Moderate	FCZ1B			Surface	2	1.0	23.4	8.1	89.4	6.18	-	36.12	-	2.0	-	2.1	-	<0.02	-	0.26	-	< 0.05	-	<0.01	-	<1.0	-	NOT DETECTED	- 1
4/9/2021	Mid-Flood	Fine	Moderate	FCZ1B			Bottom	1	3.7	23.4	8.1	89.3	6.18	6.18	36.13	-	2.0	-	1.3	-	0.03	-	0.26	-	< 0.05	-	< 0.01	-	1.0	-	NOT DETECTED	- 1
4/9/2021	Mid-Flood	Fine	Moderate	FCZ1B			Bottom	2	3.7	23.4	8.1	89.2	6.17	-	36.12	-	2.1	-	1.0	-	<0.02	-	0.23	-	< 0.05	-	<0.01	-	1.0	-	NOT DETECTED	- 1
4/9/2021	Mid-Flood	Fine	Moderate	H4A	16:15	1.8	Middle	1	0.9	23.4	8.1	89.6	6.19	6.19	36.13	36.13	2.0	2.0	1.3	1.7	<0.02	<0.02	0.28	0.26	<0.05	<0.05	<0.01	<0.01	1.0	1.1	NOT DETECTED	ND
4/9/2021	Mid-Flood	Fine	Moderate	H4A			Middle	2	0.9	23.4	8.1	89.5	6.19	-	36.13	-	2.0	-	2.0	-	<0.02	-	0.24	-	< 0.05	-	<0.01	-	1.1	-	NOT DETECTED	- 1
4/9/2021	Mid-Flood	Fine	Moderate	H1A	15:47	1.4	Middle	1	0.7	23.4	8.1	90.3	6.25	6.24	36.14	36.14	2.0	2.0	1.9	1.5	<0.02	<0.02	0.28	0.25	< 0.05	<0.05	<0.01	<0.01	1.0	1.0	NOT DETECTED	ND
4/9/2021	Mid-Flood	Fine	Moderate	H1A			Middle	2	0.7	23.4	8.1	90.0	6.23	-	36.14	-	1.9	-	1.1	-	<0.02	-	0.22	-	< 0.05	-	<0.01	-	<1.0	-	NOT DETECTED	- 1
4/9/2021	Mid-Flood	Fine	Moderate	M1A	15:33	1.0	Middle	1	0.5	23.4	8.1	91.7	6.34	6.32	36.14	36.14	2.0	2.0	2.4	2.0	<0.02	<0.02	0.23	0.23	<0.05	<0.05	<0.01	<0.01	<1.0	1.0	NOT DETECTED	ND
4/9/2021	Mid-Flood	Fine	Moderate	M1A			Middle	2	0.5	23.4	8.1	91.1	6.30	-	36.14	-	2.0	-	1.5	-	< 0.02	-	0.23	-	< 0.05	-	< 0.01	-	1.0	-	NOT DETECTED	- 1
4/9/2021	Mid-Flood	Fine	Moderate	SGA	15:20	1.2	Middle	1	0.6	23.4	8.1	96.4	6.67	6.82	36.14	36.14	2.0	2.1	2.2	2.0	0.02	0.02	0.25	0.26	<0.05	<0.05	<0.01	<0.01	1.0	1.0	NOT DETECTED	ND
4/9/2021	Mid-Flood	Fine	Moderate	SGA			Middle	2	0.6	23.4	8.1	100.8	6.97	-	36.14	-	2.1	-	1.8	-	<0.02	-	0.27	-	<0.05	-	<0.01	-	<1.0	-	NOT DETECTED	-

Marine Water Quality Monitoring Results on 12-Apr-21 at Mid-Ebb tide

Date	Tidal	Weather	Sea	Monitoring	Time	Water	Water Level	Replicate	Sampling	Temperature,	pH	DO	D	0,	Sal	inity,	Turt	idity,	Suspend	ded Soild,	Amm	onia	Total N	itrogen,	Total In	organic	To	tal	Bioch	emical	E. Coli,	
		Condition	Condition	Station		Depth,			Depth	°c		Saturation,	m	g/L	F	pt	N	TU	m	g/L	Nitro	gen,	mg	g/L	Nitro	gen,	Phosp	horus,	Oxygen	Demand,	Cfu/100m	1
						m						%									mg	J/L			mg	J/L	mg	g/L	m	g/L		
													Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA
4/12/2021	Mid-Ebb	Fine	Moderate	C	13:14	9.4	Surface	1	1.0	23.8	8.1	95.6	6.59	6.46	36.05	36.10	1.9	2.0	4.5	4.3	<0.02	<0.02	0.33	0.35	< 0.05	<0.05	<0.01	0.01	2.2	2.4	NOT DETECTED	ND
4/12/2021	Mid-Ebb	Fine	Moderate	C			Surface	2	1.0	23.9	8.1	95.4	6.57	-	35.98	-	1.9	-	5.0	-	<0.02	-	0.39	-	< 0.05	-	0.01	-	2.5	-	NOT DETECTED	-
4/12/2021	Mid-Ebb	Fine	Moderate	C			Middle	1	4.7	23.6	8.1	92.9	6.38	-	36.20	-	2.0	-	4.8	-	<0.02	-	0.33	-	< 0.05	-	<0.01	-	2.1	-	NOT DETECTED	-
4/12/2021	Mid-Ebb	Fine	Moderate	C			Middle	2	4.7	23.6	8.1	91.5	6.28	-	36.19	-	1.9	-	4.0	-	<0.02	-	0.36	-	< 0.05	-	<0.01	-	2.7	-	NOT DETECTED	-
4/12/2021	Mid-Ebb	Fine	Moderate	C			Bottom	1	8.4	23.7	8.1	91.8	6.35	6.33	36.10	-	2.0	-	3.9	-	<0.02	-	0.37	-	< 0.05	-	<0.01	-	2.5	-	NOT DETECTED	-
4/12/2021	Mid-Ebb	Fine	Moderate	C			Bottom	2	8.4	23.7	8.1	91.3	6.30	-	36.09	-	2.0	-	3.6	-	<0.02	-	0.32	-	<0.05	-	<0.01	-	2.5	-	NOT DETECTED	-
4/12/2021	Mid-Ebb	Fine	Moderate	N1	13:00	6.8	Surface	1	1.0	24.3	8.1	102.5	7.05	6.82	35.79	36.04	1.6	1.6	4.0	3.5	<0.02	<0.02	0.36	0.34	<0.05	<0.05	<0.01	<0.01	2.3	2.2	NOT DETECTED	ND
4/12/2021	Mid-Ebb	Fine	Moderate	N1			Surface	2	1.0	24.3	8.1	100.0	6.83	-	35.79	-	1.5	-	4.5	-	<0.02	-	0.35	-	<0.05	-	<0.01	-	2.0	-	NOT DETECTED	-
4/12/2021	Mid-Ebb	Fine	Moderate	N1			Middle	1	3.4	23.6	8.1	97.6	6.73	-	36.15	-	1.5	-	3.8	-	<0.02	-	0.33	-	<0.05	-	<0.01	-	2.2	-	NOT DETECTED	-
4/12/2021	Mid-Ebb	Fine	Moderate	N1			Middle	2	3.4	23.6	8.1	97.6	6.66	-	36.15	-	1.6	-	3.7	-	<0.02	-	0.36	-	<0.05	-	<0.01	-	2.2	-	NOT DETECTED	-
4/12/2021	Mid-Ebb	Fine	Moderate	N1			Bottom	1	5.8	23.5	8.1	90.0	6.20	6.27	36.20	-	1.8	-	2.5		<0.02	-	0.32	-	<0.05	-	<0.01	-	2.2	-	NOT DETECTED	-
4/12/2021	Mid-Ebb	Fine	Moderate	N1			Bottom	2	5.8	23.6	8.1	91.8	6.33	-	36.16	-	1.5	-	2.7		<0.02	-	0.34	-	<0.05		<0.01	-	2.1	-	NOT DETECTED	-
4/12/2021	Mid-Ebb	Fine	Moderate	FCZ1A	12:04	3.4	Surface	1	1.0	24.0	8.1	114.6	7.86	8.03	35.97	35.99	1.7	1.6	4.2	3.7	-	-	-	-	-	-	-	-	-	-	-	-
4/12/2021	Mid-Ebb	Fine	Moderate	FCZ1A			Surface	2	1.0	23.8	8.1	119.5	8.19	-	36.07	-	1.6	-	4.4	-	-	-	-	-	-	-	-	-	-	-	-	-
4/12/2021	Mid-Ebb	Fine	Moderate	FCZ1A			Bottom	1	2.4	24.0	8.2	107.7	7.40	7.53	35.89	-	1.6	-	3.4	-	-	-	-	-	-	-	-	-	-	-	-	-
4/12/2021	Mid-Ebb	Fine	Moderate	FCZ1A			Bottom	2	2.4	23.8	8.1	111.3	7.65	-	36.03	-	1.5	-	2.9	-	-	-	-	-	-	-	-	-	-	-	-	-
4/12/2021	Mid-Ebb	Fine	Moderate	FCZ1B	12:32	4.7	Surface	1	1.0	23.9	8.1	102.9	7.09	7.06	36.01	36.00	1.5	1.5	3.0	2.7	<0.02	<0.02	0.36	0.35	<0.05	<0.05	<0.01	<0.01	2.6	2.5	NOT DETECTED	ND
4/12/2021	Mid-Ebb	Fine	Moderate	FCZ1B			Surface	2	1.0	24.2	8.1	102.8	7.03	-	35.84	-	1.5	-	2.1	-	<0.02	-	0.34	-	<0.05	-	<0.01	-	2.4	-	NOT DETECTED	-
4/12/2021	Mid-Ebb	Fine	Moderate	FCZ1B			Bottom	1	3.7	23.8	8.1	101.9	7.00	6.92	36.01	-	1.5	-	2.9	-	<0.02	-	0.36	-	<0.05	-	<0.01	-	2.5	-	NOT DETECTED	-
4/12/2021	Mid-Ebb	Fine	Moderate	FCZ1B			Bottom	2	3.7	23.7	8.1	99.6	6.84	-	36.13	-	1.4	-	2.6	-	<0.02	-	0.34	-	<0.05	-	<0.01	-	2.4	-	NOT DETECTED	
4/12/2021	Mid-Ebb	Fine	Moderate	H4A	12:17	1.6	Middle	1	0.8	24.0	8.1	105.6	7.22	7.36	35.96	35.86	1.5	1.5	3.6	3.3	<0.02	<0.02	0.31	0.32	<0.05	<0.05	<0.01	<0.01	2.4	2.3	NOT DETECTED	ND
4/12/2021	Mid-Ebb	Fine	Moderate	H4A			Middle	2	0.8	24.3	8.2	109.9	7.50	-	35.76	-	1.5	-	3.0	-	<0.02	-	0.33	-	<0.05	-	<0.01	-	2.2	-	NOT DETECTED	-
4/12/2021	Mid-Ebb	Fine	Moderate	H1A	11:51	1.4	Middle	1	0.7	24.4	8.2	121.9	8.31	8.32	35.70	35.71	1.5	1.6	3.4	3.2	<0.02	<0.02	0.44	0.44	<0.05	<0.05	<0.01	0.01	2.2	2.3	NOT DETECTED	ND
4/12/2021	Mid-Ebb	Fine	Moderate	H1A			Middle	2	0.7	24.4	8.2	122.1	8.32	-	35.71	-	1.6	-	3.0	-	<0.02	-	0.43	-	<0.05	-	0.01	-	2.4	-	NOT DETECTED	-
4/12/2021	Mid-Ebb	Fine	Moderate	M1A	11:37	1.4	Middle	1	0.7	24.4	8.2	119.9	8.17	8.14	35.71	35.71	1.7	1.7	3.1	3.6	<0.02	<0.02		0.34	<0.05	<0.05	<0.01	<0.01	2.4	2.4	NOT DETECTED	ND
4/12/2021	Mid-Ebb	Fine	Moderate	M1A			Middle	2	0.7	24.4	8.2	118.8	8.10	-	35.71	-	1.6	-	4.0	-	<0.02	-	0.33	-	<0.05	-	<0.01	-	2.4	-	NOT DETECTED	-
4/12/2021	Mid-Ebb	Fine	Moderate	SGA	11:23	1.2	Middle	1	0.6	24.3	8.2	109.3	7.55	7.57	35.78	35.75	1.5	1.5	3.3	3.9	<0.02	<0.02		0.32	<0.05	<0.05	<0.01	<0.01	2.6	2.5	NOT DETECTED	ND
4/12/2021	Mid-Ebb	Fine	Moderate	SGA	1		Middle	2	0.6	24.4	8.2	111.2	7.58		35.71	-	1.5	-	4.5	-	<0.02	-	0.31	-	< 0.05	-	<0.01	-	2.4	-	NOT DETECTED	-

DA - Depth-averaged

Marine Water Quality Monitoring Results on

12-Apr-21 at Mid-Flood tide

Date	Tidal	Weather Condition	Sea Condition	Monitoring Station	Time	Water Depth, m	Water Level	Replicate	Sampling Depth	Temperature, °C	pН	DO Saturation, %	Di mg		Sali p	inity, pt		oidity, TU	Suspend mg		Amm Nitro	ogen,		litrogen, g/L	Total In Nitro	gen,	To Phosp mo		Oxygen	emical Demand,	E. Coli, Cfu/100n	
													Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA
4/12/2021	Mid-Flood	Fine	Moderate	С	5:17	9.1	Surface	1	1.0	24.4	8.1	110.8	7.53	6.87	35.65	36.01	1.7	1.8	3.9	4.5	-	-	-	-	-	-	-	-	-	-		-
4/12/2021	Mid-Flood	Fine	Moderate	С			Surface	2	1.0	24.3	8.1	107.4	7.33	-	35.70	-	1.7	-	3.8	-	-	-	-	-	-	-	-	-	-	-		- '
4/12/2021	Mid-Flood	Fine	Moderate	С			Middle	1	4.6	23.6	8.0	90.5	6.24	-	36.12	-	1.8	-	4.5	-	-	-	-	-	-	-	-	-	-	-		- '
4/12/2021	Mid-Flood	Fine	Moderate	С			Middle	2	4.6	23.6	8.0	92.2	6.38	-	36.11	-	1.8	-	4.1	-	-	-	-	-	-	-	-	-	-			- '
4/12/2021	Mid-Flood	Fine	Moderate	С			Bottom	1	8.1	23.4	8.0	83.4	5.76	5.85	36.28	-	1.8	-	5.0	-	-	-	-	-	-	-	-	-	-			- '
4/12/2021	Mid-Flood	Fine	Moderate	С			Bottom	2	8.1	23.5	8.0	86.0	5.93	-	36.20	-	1.9	-	5.5	-	-	-	-	-	-	-	-	-				- '
4/12/2021	Mid-Flood	Fine	Moderate	N2	5:44	5.8	Surface	1	1.0	24.3	8.1	112.9	7.71	7.83	35.73	35.95	1.4	1.4	3.0	3.8	-	-	-	-	-	-	-	-	-	-		-
4/12/2021	Mid-Flood	Fine	Moderate	N2			Surface	2	1.0	24.0	8.1	115.3	7.94	-	35.91	-	1.4	-	3.2	-	-	-	-	-	-	-	-	-				- '
4/12/2021	Mid-Flood	Fine	Moderate	N2			Bottom	1	4.8	23.7	8.1	108.9	7.50	7.53	36.09	-	1.3	-	4.4	-		-	-	-	-		-	-	-	-		- '
4/12/2021	Mid-Flood	Fine	Moderate	N2			Bottom	2	4.8	23.7	8.1	110.2	7.56	_	36.07	_	1.3	-	4.7	-	_	-	-	-	-	_	_	-				- '
4/12/2021	Mid-Flood	Fine	Moderate	FCZ1A	6:09	3.4	Surface	1	1.0	24.4	8.2	124.5	8.49	8.51	35.69	35.79	1.4	1.4	3.0	3.1	-	-	-	-	-	-	-	-	-	-		-
4/12/2021	Mid-Flood	Fine	Moderate	FCZ1A			Surface	2	1.0	24.4	8.2	124.8	8.52	-	35.67	-	1.4	-	2.5	-	-	-	-	-	-	-	-	-	-	-		- '
4/12/2021	Mid-Flood	Fine	Moderate	FCZ1A			Bottom	1	2.4	23.9	8.2	124.6	8.55	8.53	35.98	-	1.4	_	3.3	-	-	-	-	-	_	-	_	-	-	-	_	- '
4/12/2021	Mid-Flood	Fine	Moderate	FCZ1A			Bottom	2	2.4	24.2	8.2	124.5	8.51	_	35.80	-	1.5	_	3.5	-	_	_	-	-	-	-	_	-	-	- 1		-
4/12/2021	Mid-Flood	Fine	Moderate	H4A	5:56	1.6	Middle	1	0.8	24.3	8.2	125.3	8.55	8.58	35.71	35.68	1.4	1.4	3.0	3.2	-	-	-	-	-	-	-	-	-	-		-
4/12/2021	Mid-Flood	Fine	Moderate	H4A			Middle	2	0.8	24.4	8.2	126.2	8.60	_	35.65	_	1.4	_	3.4	_	_	_	-	-	_	-	_	-	-	-	_	- '
4/12/2021	Mid-Flood	Fine	Moderate	H1A	6:21	1.4	Middle	1	0.7	24.4	8.2	127.9	8.72	8.71	35.64	35.65	1.5	1.6	5.0	5.2	-	-	-	-	-	-	-	-	-	-		-
4/12/2021	Mid-Flood	Fine	Moderate	H1A			Middle	2	0.7	24.4	8.2	127.5	8.69	_	35.65	_	1.6	_	5.3	-	-	_	-	-	-	_	_	-	-	-		-
4/12/2021	Mid-Flood	Fine	Moderate	M1A	6:35	1.4	Middle	1	0.7	24.5	8.2	128.6	8.76	8.76	35.63	35.64	1.5	1.5	4.8	5.0	-	-	-	-	-	-	-	-	-	-		-
4/12/2021	Mid-Flood	Fine	Moderate	M1A			Middle	2	0.7	24.5	8.2	128.5	8.75	-	35.64	-	1.4	-	5.2	-	-	-	-	-	-	-	-	-	-			- '
4/12/2021	Mid-Flood	Fine	Moderate	SGA	6:48	1.0	Middle	1	0.5	24.5	8.2	128.5	8.75	8.75	35.63	35.63	1.4	1.4	3.3	3.0	-	-	-	-	-	-	-	-	-	-		-
4/12/2021	Mid-Flood	Fine	Moderate	SGA			Middle	2	0.5	24.5	8.2	128.5	8.75	-	35.63	-	1.4	-	2.6	-	-	-	-	-	-	-	-	-	-			- '

Marine Water Quality Monitoring Results on 14-Apr-21 at Mid-Ebb tide

Date	Tidal	Weather Condition	Sea Condition	Monitoring Station	Time	Water Depth,	Water Level	Replicate	Sampling Depth	Temperature, °C	pН	DO Saturation,		O, g/L	Sali	nity, pt	Turb N	idity, TU		ded Soild, g/L	Amn	nonia ogen,	Total N		Total In Nitro		To Phosp		Bioch Oxygen	emical Demand,	E. Coli, Cfu/100ml	,
						m						%									m				mg	/L	mg	/L		g/L		
													Value	DA	Value	DA	Value	DA	Value	DA	Value		Value	DA	Value	DA	Value	DA	Value	DA	Value	DA
4/14/2021	Mid-Ebb	Cloudy	Moderate	C	15:00	9.4	Surface	1	1.0	24.7	8.3	104.5	7.25	6.84	35.89	36.28	2.8	2.9	2.5	2.6	<0.02	<0.02	0.30	0.31	<0.05	<0.05	<0.01	<0.01	3.0	3.4	NOT DETECTED	ND
4/14/2021	Mid-Ebb	Cloudy	Moderate	С			Surface	2	1.0	24.8	8.3	104.2	7.23	-	35.88	-	2.8	-	3.2	-	<0.02	-	0.29	-	<0.05	-	<0.01	-	3.0	-	NOT DETECTED	1 - 1
4/14/2021	Mid-Ebb	Cloudy	Moderate	С			Middle	1	4.7	23.4	8.1	92.9	6.40	-	36.38	-	2.9	-	2.1	-	<0.02	-	0.31	-	< 0.05	-	<0.01	-	3.3	-	NOT DETECTED	1 - 1
4/14/2021	Mid-Ebb	Cloudy	Moderate	C			Middle	2	4.7	23.4	8.1	93.5	6.46	-	36.40	-	2.9	-	2.6	-	<0.02	-	0.33	-	< 0.05	-	<0.01	-	3.6	-	NOT DETECTED	- 1
4/14/2021	Mid-Ebb	Cloudy	Moderate	С			Bottom	1	8.4	23.1	8.1	91.4	6.30	6.29	36.54	-	2.9	-	2.5	-	<0.02	-	0.32	-	< 0.05	-	<0.01	-	3.4	-	NOT DETECTED	1 - 1
4/14/2021	Mid-Ebb	Cloudy	Moderate	С			Bottom	2	8.4	23.1	8.2	91.0	6.27	-	36.58	-	2.9	-	2.7	-	<0.02	-	0.30	-	<0.05	-	<0.01	-	4.0	-	NOT DETECTED	-
4/14/2021	Mid-Ebb	Cloudy	Moderate	N1	14:40	6.2	Surface	1	1.0	24.7	8.3	113.1	7.81	7.47	35.89	36.16	2.6	2.7	2.7	2.6	<0.02	<0.02	0.29	0.30	<0.05	<0.05	<0.01	<0.01	3.5	3.0	NOT DETECTED	ND
4/14/2021	Mid-Ebb	Cloudy	Moderate	N1			Surface	2	1.0	24.6	8.2	112.8	7.79	-	35.92	-	2.7	-	3.2	-	<0.02	-	0.30	-	<0.05	-	<0.01	-	3.3	-	NOT DETECTED	- 1
4/14/2021	Mid-Ebb	Cloudy	Moderate	N1			Middle	1	3.1	23.8	8.1	103.5	7.15	-	36.25	-	2.6	-	2.2	-	<0.02	-	0.31	-	<0.05	-	<0.01	-	2.6	-	NOT DETECTED	- !
4/14/2021	Mid-Ebb	Cloudy	Moderate	N1			Middle	2	3.1	24.0	8.2	103.2	7.12	-	36.19	-	2.7	-	3.2	-	<0.02	-	0.31	-	< 0.05	-	<0.01	-	3.4	-	NOT DETECTED	- '
4/14/2021	Mid-Ebb	Cloudy	Moderate	N1			Bottom	1	5.2	23.4	8.1	96.5	6.62	6.85	36.37		2.8	-	2.0	-	<0.02	-	0.30	-	< 0.05	-	<0.01	-	2.6	-	NOT DETECTED	- '
4/14/2021	Mid-Ebb	Cloudy	Moderate	N1			Bottom	2	5.2	23.4	8.1	96.1	7.08	-	36.35	-	2.7	-	2.1	-	<0.02	-	0.30	-	<0.05	-	<0.01	-	2.4	-	NOT DETECTED	-
4/14/2021	Mid-Ebb	Cloudy	Moderate	FCZ1A	13:40	3.2	Surface	1	1.0	24.6	8.3	130.2	8.84	8.82	35.82	35.94	2.8	2.8	4.2	3.3	-	-	-	-	-	-	-	-	-	-		- '
4/14/2021	Mid-Ebb	Cloudy	Moderate	FCZ1A			Surface	2	1.0	24.6	8.3	129.7	8.79	-	35.83	-	2.8	-	3.7	-	-	-	-	-	-	-	-	-	-	-		
4/14/2021	Mid-Ebb	Cloudy	Moderate	FCZ1A			Bottom	1	2.2	24.4	8.3	121.9	8.33	8.35	35.95	-	2.8	-	2.7	-	-	-	-	-	-	-	-	-	-	-		- '
4/14/2021	Mid-Ebb	Cloudy	Moderate	FCZ1A			Bottom	2	2.2	24.0	8.2	122.2	8.36	-	36.17	-	2.9	-	2.5	-	-	-	-	-	-	-	-	-	-	-		- '
4/14/2021	Mid-Ebb	Cloudy	Moderate	FCZ1B	14:06	4.2	Surface	1	1.0	24.5	8.2	111.8	7.60	7.31	35.90	36.16	2.8	2.8	2.6	2.5	<0.02	<0.02	0.31	0.31	< 0.05	<0.05	<0.01	<0.01	2.4	2.6	NOT DETECTED	ND
4/14/2021	Mid-Ebb	Cloudy	Moderate	FCZ1B			Surface	2	1.0	24.3	8.2	102.9	7.01	-	36.01	-	2.7	-	2.9	-	<0.02	-	0.32	-	< 0.05	-	<0.01	-	2.7	-	NOT DETECTED	- !
4/14/2021	Mid-Ebb	Cloudy	Moderate	FCZ1B			Bottom	1	3.2	23.4	8.1	101.6	7.02	7.00	36.38	-	2.8	-	2.2	-	<0.02	-	0.30	-	< 0.05	-	<0.01	-	2.8	-	NOT DETECTED	1 - 1
4/14/2021	Mid-Ebb	Cloudy	Moderate	FCZ1B			Bottom	2	3.2	23.4	8.1	100.8	6.97	-	36.36	-	2.8	-	2.4	-	<0.02	-	0.32	-	<0.05	-	<0.01	-	2.5	-	NOT DETECTED	-
4/14/2021	Mid-Ebb	Cloudy	Moderate	H4A	13:52	1.8	Middle	1	0.9	24.6	8.3	136.8	9.29	9.30	35.84	35.84	2.9	2.9	4.4	4.0	<0.02	<0.02	0.32	0.34	< 0.05	<0.05	<0.01	<0.01	2.5	2.7	NOT DETECTED	ND
4/14/2021	Mid-Ebb	Cloudy	Moderate	H4A			Middle	2	0.9	24.6	8.3	137.0	9.30	-	35.84	-	2.9	-	3.5	-	<0.02	-	0.35	-	<0.05	-	<0.01	-	2.9	-	NOT DETECTED	-
4/14/2021	Mid-Ebb	Cloudy	Moderate	H1A	13:24	1.2	Middle	1	0.6	24.6	8.3	137.3	9.33	9.32	35.82	35.82	2.7	2.8	1.7	2.1	<0.02	<0.02	0.31	0.33	<0.05	<0.05	<0.01	<0.01	2.5	2.9	NOT DETECTED	ND
4/14/2021	Mid-Ebb	Cloudy	Moderate	H1A			Middle	2	0.6	24.6	8.3	137.0	9.31	-	35.82	-	2.8	-	2.5	-	<0.02	-	0.35	-	<0.05	-	<0.01	-	3.2	-	NOT DETECTED	
4/14/2021	Mid-Ebb	Cloudy	Moderate	M1A	13:13	1.2	Middle	1	0.6	24.5	8.3	128.3	8.72	8.74	35.83	35.83	3.2	3.2	3.0	2.8	<0.02	<0.02	0.33	0.33	<0.05	<0.05	<0.01	<0.01	2.3	2.7	NOT DETECTED	ND
4/14/2021	Mid-Ebb	Cloudy	Moderate	M1A			Middle	2	0.6	24.5	8.3	128.8	8.75	-	35.83	-	3.2	-	2.6	-	<0.02	-	0.32	-	<0.05	-	<0.01	-	3.0	-	NOT DETECTED	-
4/14/2021	Mid-Ebb	Cloudy	Moderate	SGA	13:01	1.0	Middle	1	0.5	24.4	8.3	121.2	8.25	8.29	35.95	35.98	2.9	2.9	2.6	2.3	<0.02	<0.02	0.31	0.31	<0.05	<0.05	<0.01	<0.01	2.5	2.7	NOT DETECTED	ND
4/14/2021	Mid-Ebb	Cloudy	Moderate	SGA			Middle	2	0.5	24.3	8.3	122.3	8.33	-	36.00	-	2.8	-	2.0	-	<0.02	-	0.31	-	<0.05	-	<0.01	-	2.9	-	NOT DETECTED	

DA - Depth-averaged

Marine Water Quality Monitoring Results on 14-Apr-21 at Mid-Flood tide

Date	Tidal	Weather Condition	Sea Condition	Monitoring Station	Time	Water Depth, m	Water Level	Replicate	Sampling Depth	Temperature, °C	pН	DO Saturation, %	Di mg	), //L	Sali p	inity, pt		oidity, TU		led Soild, g/L	Nitr	monia ogen, ng/L		litrogen, g/L		norganic ogen, q/L	Phosp me		Oxygen	nemical Demand, ng/L	E. Coli, Cfu/100r	
													Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA
4/14/2021	Mid-Flood	Cloudy	Moderate	С	6:33	9.4	Surface	1	1.0	24.5	8.3	105.5	7.25	6.99	35.87	36.15	2.5	2.7	3.4	3.7	-	-	-	-	-	-	-	-	-	-		-
4/14/2021	Mid-Flood	Cloudy	Moderate	C			Surface	2	1.0	24.5	8.2	105.1	7.21	-	35.84	-	2.6	-	3.6	-	-	-	-	-	-	-	-	-	-	-		-
4/14/2021	Mid-Flood	Cloudy	Moderate	С			Middle	1	4.7	23.7	8.1	97.8	6.73	-	36.31	-	2.7	-	4.0	-	-	-	-	-	-	-	-	-	-	-		-
4/14/2021	Mid-Flood	Cloudy	Moderate	С			Middle	2	4.7	24.2	8.2	98.1	6.76	-	36.17	-	2.7	-	3.2	-	-	-	-	-	-	-	-	-	-			-
4/14/2021	Mid-Flood	Cloudy	Moderate	С			Bottom	1	8.4	23.6	8.1	94.1	6.51	6.48	36.33	-	2.8		3.5	-	-	-	-	-	-	-	-	-	-			-
4/14/2021	Mid-Flood	Cloudy	Moderate	С			Bottom	2	8.4	23.5	8.1	93.5	6.44	-	36.36	-	2.8		4.2	-	-	-	-	-	-	-	-	-	-			-
4/14/2021	Mid-Flood	Cloudy	Moderate	N2	7:11	5.4	Surface	1	1.0	24.7	8.3	121.4	8.36	8.35	35.80	36.06	2.5	2.6	3.1	3.5	-	-	-	-	-	-	-	-	-	-		-
4/14/2021	Mid-Flood	Cloudy	Moderate	N2			Surface	2	1.0	24.7	8.3	121.2	8.34	-	35.82	-	2.6		4.1	-	-	-	-	-		-	-	-	-			-
4/14/2021	Mid-Flood	Cloudy	Moderate	N2			Bottom	1	4.4	23.6	8.2	113.2	7.78	7.77	36.32	-	2.7		3.8	-	-	-	-	-	-	-	-	-	-	-		-
4/14/2021	Mid-Flood	Cloudy	Moderate	N2			Bottom	2	4.4	23.7	8.2	113.0	7.76	-	36.29	-	2.6		2.9	-	-	_	-	-	-	_	-	-	-	-		-
4/14/2021	Mid-Flood	Cloudy	Moderate	FCZ1A	7:45	3.2	Surface	1	1.0	24.7	8.3	139.1	9.60	9.59	35.78	35.79	2.6	2.7	2.6	3.0	-	-	-	-	-	-	-	-	-	-		-
4/14/2021	Mid-Flood	Cloudy	Moderate	FCZ1A			Surface	2	1.0	24.7	8.3	138.8	9.57	-	35.78	_	2.6	-	2.8	-	-	-	-	-	-	_	-	-	-	-		-
4/14/2021	Mid-Flood	Cloudy	Moderate	FCZ1A			Bottom	1	2.2	24.7	8.3	142.9	9.68	9.70	35.79	-	2.8		3.4	-	-	-	-	_	-	-	-	-	-	-	-	_
4/14/2021	Mid-Flood	Cloudy	Moderate	FCZ1A			Bottom	2	2.2	24.7	8.3	143.2	9.71	_	35.80	_	2.7	_	3.0	_						_	_	-	١.	_		-
4/14/2021	Mid-Flood	Cloudy	Moderate	H4A	7:31	1.8	Middle	1	0.9	24.7	8.3	140.2	9.50	9.53	35.79	35.79	2.5	2.6	3.1	3.0	-	-	-	-	-	-	-	-	-	-		-
4/14/2021	Mid-Flood	Cloudy	Moderate	H4A			Middle	2	0.9	24.7	8.3	141.1	9.56	_	35.79	_	2.6	-	2.9	-	_	-	-	_	-	_	_	-	-	-		_
4/14/2021	Mid-Flood	Cloudy	Moderate	H1A	7:57	1.2	Middle	1	0.6	24.7	8.3	144.0	9.76	9.77	35.77	35.77	2.8	2.8	3.9	3.7	-	-	-	-	-	-	-	-	-	-		-
4/14/2021	Mid-Flood	Cloudy	Moderate	H1A			Middle	2	0.6	24.7	8.3	144.3	9.78	_	35.76	-	2.8	_	3.4	-	-	_	-	-	-	_	_	_	-	_		_
4/14/2021	Mid-Flood	Cloudy	Moderate	M1A	8:11	1.0	Middle	1	0.5	24.7	8.3	124.6	9.61	9.62	35.76	35.76	2.8	2.9	3.9	3.8	-	-	-	-	-	-	-	-	-	-		-
4/14/2021	Mid-Flood	Cloudy	Moderate	M1A			Middle	2	0.5	24.7	8.3	124.8	9.62	-	35.75	-	2.9	-	3.6	-	-	-	-	-	-	_	-	-	-			_
4/14/2021	Mid-Flood	Cloudy	Moderate	SGA	8:21	1.0	Middle	1	0.5	24.6	8.3	135.0	9.74	9.73	35.75	35.76	3.1	3.1	4.1	4.1	-	-	-	-	-	-	-	-	-	-		-
4/14/2021	Mid-Flood	Cloudy	Moderate	SGA			Middle	2	0.5	24.7	8.3	134.6	9.71	-	35.76	-	3.0	-	4.1	-	-	-	-	-	-	_	-	-				-

Marine Water Quality Monitoring Results on 16-Apr-21 at Mid-Ebb tide

Date	Tidal	Weather	Sea	Monitoring	Time	Water	Water Level	Replicate		Temperature,	pH	DO		Ο,		inity,	Turb		Suspend	ded Soild,	Amm		Total N	itrogen,	Total In		То			emical	E. Coli,	
		Condition	Condition	Station		Depth,			Depth	°C		Saturation,	mg	g/L	F	ppt	N <sup>-</sup>	TU	mg	g/L	Nitro	gen,	mg	g/L	Nitro		Phosp		Oxygen		Cfu/100m	1
						m						%									mg	J/L			mg	Į/L	mg	/L	m	g/L		
													Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA
4/16/2021	Mid-Ebb	Cloudy	Moderate	C	13:22	9.3	Surface	1	1.0	24.1	8.1	111.0	7.61	7.54	35.90	36.08	1.8	1.9	2.7	2.1	<0.02	0.03	0.31	0.31	<0.05	<0.05	<0.01	<0.01	2.0	2.3	NOT DETECTED	ND
4/16/2021	Mid-Ebb	Cloudy	Moderate	C			Surface	2	1.0	24.1	8.1	110.0	7.54	-	35.90	-	1.8	-	2.2	-	0.03	-	0.31	-	<0.05	-	<0.01	-	3.1	-	NOT DETECTED	- 1
4/16/2021	Mid-Ebb	Cloudy	Moderate	C			Middle	1	4.7	24.0	8.0	109.8	7.51	-	36.11	-	1.9	-	2.1	-	0.03	-	0.30	-	<0.05	-	<0.01	-	2.1	-	NOT DETECTED	- 1
4/16/2021	Mid-Ebb	Cloudy	Moderate	C			Middle	2	4.7	24.0	8.0	109.3	7.48	-	36.10	-	1.8	-	2.5	-	<0.02	-	0.30	-	<0.05	-	<0.01	-	2.0	-	NOT DETECTED	- 1
4/16/2021	Mid-Ebb	Cloudy	Moderate	C			Bottom	1	8.3	23.9	8.0	101.8	6.97	7.07	36.29	-	1.9	-	1.3	-	<0.02	-	0.31	-	<0.05	-	<0.01	-	2.7	-	NOT DETECTED	- 1
4/16/2021	Mid-Ebb	Cloudy	Moderate	С			Bottom	2	8.3	23.9	8.0	104.5	7.16	-	36.16	-	1.9	-	1.7	-	0.04	-	0.30	-	<0.05	-	<0.01	-	2.0	-	NOT DETECTED	-
4/16/2021	Mid-Ebb	Cloudy	Moderate	N1	13:11	6.3	Surface	1	1.0	24.1	8.0	114.3	7.83	7.59	35.91	36.03	1.5	1.6	2.4	2.4	<0.02	<0.02	0.28	0.31	<0.05	<0.05	<0.01	<0.01	1.9	2.3	NOT DETECTED	ND
4/16/2021	Mid-Ebb	Cloudy	Moderate	N1			Surface	2	1.0	24.1	8.0	111.0	7.60	-	35.93	-	1.6	-	2.9	-	<0.02	-	0.30	-	<0.05	-	<0.01	-	1.8	-	NOT DETECTED	- 1
4/16/2021	Mid-Ebb	Cloudy	Moderate	N1			Middle	1	3.2	24.0	8.0	108.8	7.45	-	36.06	-	1.6	-	2.1	-	<0.02	-	0.29	-	< 0.05	-	<0.01	-	2.6	-	NOT DETECTED	- !
4/16/2021	Mid-Ebb	Cloudy	Moderate	N1			Middle	2	3.2	24.0	8.0	109.1	7.47	-	36.01	-	1.6	-	2.4	-	<0.02	-	0.32	-	< 0.05	-	<0.01	-	2.8	-	NOT DETECTED	- 1
4/16/2021	Mid-Ebb	Cloudy	Moderate	N1			Bottom	1	5.3	23.9	8.0	106.3	7.28	7.32	36.17	-	1.6	-	2.0	-	<0.02	-	0.34	-	< 0.05	-	<0.01	-	2.6	-	NOT DETECTED	- 1
4/16/2021	Mid-Ebb	Cloudy	Moderate	N1			Bottom	2	5.3	24.0	8.0	107.5	7.36	-	36.11	-	1.6	-	2.4	-	<0.02	-	0.31	-	<0.05	-	<0.01	-	2.2	-	NOT DETECTED	-
4/16/2021	Mid-Ebb	Cloudy	Moderate	FCZ1A	12:29	3.2	Surface	1	1.0	24.1	8.1	118.3	8.09	8.08	35.89	35.89	1.4	1.4	2.5	2.3	-	-	-	-	-	-	-	-	-	-	-	- 1
4/16/2021	Mid-Ebb	Cloudy	Moderate	FCZ1A			Surface	2	1.0	24.1	8.1	117.9	8.07	-	35.89	-	1.4	-	2.0	-	-	-	-	-	-	-	-	-	-	-	-	- 1
4/16/2021	Mid-Ebb	Cloudy	Moderate	FCZ1A			Bottom	1	2.2	24.1	8.1	117.8	8.06	8.07	35.88	-	1.4	-	2.3	-	-	-	-	-	-	-	-	-	-	-		- 1
4/16/2021	Mid-Ebb	Cloudy	Moderate	FCZ1A			Bottom	2	2.2	24.1	8.1	118.1	8.08	-	35.89	-	1.5	-	2.2	-	-	-	-	-	-	-	-	-	-	-		- 1
4/16/2021	Mid-Ebb	Cloudy	Moderate	FCZ1B	12:51	4.4	Surface	1	1.0	24.1	8.1	116.9	8.00	7.98	35.90	35.93	1.4	1.4	2.1	2.4	<0.02	<0.02	0.35	0.31	<0.05	<0.05	0.01	0.01	2.4	2.2	NOT DETECTED	<1
4/16/2021	Mid-Ebb	Cloudy	Moderate	FCZ1B			Surface	2	1.0	24.1	8.1	116.3	7.96	-	35.89	-	1.4	-	2.0	-	<0.02	-	0.30	-	<0.05	-	<0.01	-	2.5	-	1*	- 1
4/16/2021	Mid-Ebb	Cloudy	Moderate	FCZ1B			Bottom	1	3.4	24.1	8.1	118.2	8.09	8.03	35.95	-	1.4	-	3.4	-	<0.02	-	0.30	-	<0.05	-	<0.01	-	2.4	-	1*	- 1
4/16/2021	Mid-Ebb	Cloudy	Moderate	FCZ1B			Bottom	2	3.4	24.1	8.1	116.4	7.97	-	35.96		1.5	-	2.2	-	<0.02	-	0.29	-	<0.05	-	<0.01	-	1.6	-	NOT DETECTED	-
4/16/2021	Mid-Ebb	Cloudy	Moderate	H4A	12:40	1.6	Middle	1	0.8	24.1	8.1	118.9	8.14	8.14	35.88	35.88	1.3	1.3	2.4	2.7	<0.02	<0.02	0.29	0.29	<0.05	<0.05	<0.01	<0.01	2.8	2.4	NOT DETECTED	ND
4/16/2021	Mid-Ebb	Cloudy	Moderate	H4A			Middle	2	0.8	24.1	8.1	119.0	8.14	-	35.88	-	1.3	-	3.0	-	<0.02	-	0.29	-	<0.05	-	<0.01	-	1.9	-	NOT DETECTED	-
4/16/2021	Mid-Ebb	Cloudy	Moderate	H1A	12:19	1.4	Middle	1	0.7	24.1	8.1	112.0	7.67	7.77	35.91	35.90	1.2	1.2	2.4	2.2	<0.02	<0.02	0.28	0.29	<0.05	<0.05	<0.01	<0.01	1.7	1.9	2*	2
4/16/2021	Mid-Ebb	Cloudy	Moderate	H1A			Middle	2	0.7	24.1	8.1	114.9	7.86	-	35.88	-	1.2	-	1.9	-	<0.02	-	0.30	-	<0.05	-	<0.01	-	2.0	-	2*	
4/16/2021	Mid-Ebb	Cloudy	Moderate	M1A	12:06	1.2	Middle	1	0.6	24.1	8.1	119.2	8.15	8.16	35.88	35.88	1.4	1.4	3.5	3.1	<0.02	<0.02	0.29	0.30	<0.05	<0.05	<0.01	<0.01	1.9	1.9	NOT DETECTED	ND
4/16/2021	Mid-Ebb	Cloudy	Moderate	M1A			Middle	2	0.6	24.1	8.1	119.3	8.16	-	35.88	-	1.4	-	2.6	-	<0.02	-	0.30	-	<0.05	-	<0.01	-	1.9	-	NOT DETECTED	
4/16/2021	Mid-Ebb	Cloudy	Moderate	SGA	11:55	1.2	Middle	1	0.6	24.1	8.1	118.3	8.10	8.12	35.88	35.88	1.5	1.5	3.5	3.0	<0.02	<0.02	0.32	0.31	< 0.05	<0.05	<0.01	<0.01	1.5	1.4	NOT DETECTED	ND
4/16/2021	Mid-Ebb	Cloudy	Moderate	SGA			Middle	2	0.6	24.1	8.1	118.8	8.13	-	35.88	-	1.5	-	2.4	-	<0.02	-	0.30	-	< 0.05	-	<0.01	-	1.3	-	NOT DETECTED	-

DA - Depth-averaged

Marine Water Quality Monitoring Results on 16-Apr-21 at Mid-Flood tide

Date	Tidal	Weather Condition	Sea Condition	Monitoring Station	Time	Water Depth,	Water Level	Replicate	Sampling Depth	Temperature, °C	pН	DO Saturation,	m	O, g/L	Sali p	nity, pt	Turb N	oidity, TU		ded Soild, g/L	Amn	-	Total N		Total In	gen,	To Phosp mo	horus,	Oxygen	nemical Demand, ng/L	E. Coli, Cfu/100r	
						""						/0	Value	DΔ	Value	DΔ	Value	DΔ	Value	DΔ	Value	DΔ	Value	DΔ	Value	DA	Value	DA.	Value	DA	Value	DA
4/16/2021	Mid-Flood	Cloudy	Moderate	С	5:42	9.2	Surface	1	1.0	23.7	7.9	98.4	6.76	6.61	35.92	36.16	2.1	2.1	3.4	2.2	value	- DA	value	UA .	value	- DA	value	UA	Value	UA	value	
4/16/2021	Mid-Flood	Cloudy	Moderate	Č	0.12	0.2	Surface	,	1.0	23.7	7.9	98.7	6.77		35.91	-	2.0		2.8		_	_	_	_	_	_	_					_
4/16/2021	Mid-Flood	Cloudy	Moderate	c			Middle	1	4.6	23.3	7.8	92.7	6.35	_	36.31	_	2.1	_	1.4	_	_	_	_	_	_	_	_	_			_	_
4/16/2021	Mid-Flood	Cloudy	Moderate	c			Middle	2	4.6	23.4	7.8	95.6	6.54		36.29	_	2.1	_	2.0						_	_	_	١.				
4/16/2021	Mid-Flood	Cloudy	Moderate	Č			Bottom	1	8.2	23.4	7.9	87.8	6.03	6.02	36.20	_	2.1		1.8		_	_	_	_	_	_	_					_
4/16/2021	Mid-Flood	Cloudy	Moderate	C			Bottom	2	8.2	23.3	7.8	87.5	6.01		36.33	_	2.1	_	1.9	_		_	_		_	_	_	_				
4/16/2021	Mid-Flood	Cloudy	Moderate	N2	6:07	5.3	Surface	1	1.0	23.7	8.0	108.8	7.45	7.55	35.91	36.02	1.5	1.5	2.3	2.2				-				-		<del></del>		+
4/16/2021	Mid-Flood	Cloudy	Moderate	N2	0.07	0.0	Surface	,	1.0	23.6	8.0	111.5	7.64	7.00	36.00	00.02	1.5	1.0	2.2													
4/16/2021	Mid-Flood	Cloudy	Moderate	N2			Bottom	1	4.3	23.5	8.0	105.6	7.24	7.33	36.17		1.5		2.3													
4/16/2021	Mid-Flood	Cloudy	Moderate	N2			Bottom	,	4.3	23.6	8.0	108.4	7.42	7.55	36.00		1.6		2.1												1	
4/16/2021	Mid-Flood	Cloudy	Moderate	FCZ1A	6:28	3.2	Surface	1	1.0	23.7	8.0	117.8	8.06	8.07	35.89	35.89	1.6	1.6	1.9	2.0		-	-	-				-		<u> </u>	- :	+
4/16/2021	Mid-Flood	Cloudy	Moderate	FCZ1A	0.20	0.2	Surface	,	1.0	23.7	8.0	117.9	8.07	0.07	35.89	33.03	1.6	1.0	1.9	2.0										1 .		
4/16/2021	Mid-Flood	Cloudy	Moderate	FCZ1A			Bottom	1	2.2	23.7	8.0	117.7	8.06	8.06	35.89		1.7		2.0											1 .		
4/16/2021	Mid-Flood	Cloudy	Moderate	FCZ1A			Bottom	,	2.2	23.7	8.0	117.7	8.05	0.00	35.89	_	1.6	_	2.0		1 -											-
4/16/2021	Mid-Flood	Cloudy	Moderate	H4A	6:18	1.4	Middle	1	0.7	23.7	8.0	114.7	7.85	7.90	35.88	35.88	1.4	1.4	1.7	1.9	-			-		-	-	-		+		+
4/16/2021	Mid-Flood	Cloudy	Moderate	H4A	0.10	1.4	Middle	,	0.7	23.7	8.0	116.0	7.94	7.50	35.88	33.00	1.4	1.4	2.1	1.5	-							]				-
4/16/2021	Mid-Flood	Cloudy	Moderate	H1A	6:38	1.4	Middle	1	0.7	23.7	8.0	118.0	8.07	8.06	35.88	35.89	1.2	1.3	2.2	2.1	-			_					-	1	-	+
	Mid-Flood			H1A	0.30	1.4	Middle							0.00	35.89	35.09		1.3	4.0		-	-	-	-	-	-	-	-	-		-	- 1
4/16/2021		Cloudy	Moderate		0.50	4.2		2	0.7	23.7	8.0	117.5	8.04	0.44		35.88	1.4	4.2	1.9	- 2.0	-	-	-	-		-	-	-	-	-	-	
4/16/2021	Mid-Flood	Cloudy	Moderate	M1A	6:50	1.2	Middle	'	0.6	23.7	8.1	118.5	8.11	8.11	35.88	35.00	1.3	1.3	2.7	2.6	-	-	-	-	-	-	-	-	-	-		- 1
4/16/2021	Mid-Flood	Cloudy	Moderate	M1A	7.04	4.0	Middle	2	0.6	23.7	8.0	118.4	8.10		35.88	-	1.3	-	2.4	-	-	-	-	-	-	-	-	-	-	-		+
4/16/2021	Mid-Flood	Cloudy	Moderate	SGA	7:01	1.2	Middle	1 1	0.6	23.7	8.1	118.6	8.12	8.12	35.88	35.88	1.2	1.2	1.8	1.9	-	-	-	-	-	-	-	-	-			-
4/16/2021	Mid-Flood	Cloudy	Moderate	SGA			Middle	2	0.6	23.7	8.1	118.7	8.12	-	35.88		1.2	-	2.0	-	-	-	-	-	-	-	-	-	-	-		-

Marine Water Quality Monitoring Results on 19-Apr-21 at Mid-Ebb tide

Date	Tidal	Weather	Sea	Monitoring	Time	Water	Water Level	Replicate	Sampling	Temperature,	pH	DO	D	0,	Sal	nity,	Turb		Suspend	ded Soild,	Amm		Total N	litrogen,	Total In	organic	To			nemical	E. Coli,	
		Condition	Condition	Station		Depth,			Depth	°c		Saturation,	m	g/L	P	pt	N.	TU	m	g/L	Nitro	gen,	m	g/L	Nitro	gen,	Phosp	horus,	Oxygen	Demand,	Cfu/100m	I
						m						%									mg	g/L			mg	g/L	mg	g/L	m	ng/L		
													Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA
4/19/2021	Mid-Ebb	Fine	Moderate	C	16:00	9.6	Surface	1	1.0	24.1	8.0	91.8	6.31	6.30	36.51	36.53	1.9	2.0	1.9	1.9	0.04	0.04	0.32	0.31	< 0.05	<0.05	<0.01	0.01	1.6	1.7	NOT DETECTED	<1
4/19/2021	Mid-Ebb	Fine	Moderate	C			Surface	2	1.0	24.1	8.0	91.8	6.31	-	36.51	-	1.9	-	1.7	-	0.04	-	0.33	-	< 0.05	-	<0.01	-	1.9	-	NOT DETECTED	-
4/19/2021	Mid-Ebb	Fine	Moderate	C			Middle	1	4.8	23.9	8.0	91.6	6.30	-	36.53	-	2.0	-	2.0	-	0.03	-	0.32	-	< 0.05	-	<0.01	-	1.5	-	NOT DETECTED	-
4/19/2021	Mid-Ebb	Fine	Moderate	C			Middle	2	4.8	23.9	8.0	91.3	6.28	-	36.53	-	2.0	-	1.7	-	0.03	-	0.31	-	< 0.05	-	<0.01	-	1.6	-	NOT DETECTED	-
4/19/2021	Mid-Ebb	Fine	Moderate	C			Bottom	1	8.6	23.9	8.0	91.6	6.30	6.29	36.55	-	2.2	-	2.3	-	0.04	-	0.30	-	< 0.05	-	<0.01	-	1.8	-	1*	-
4/19/2021	Mid-Ebb	Fine	Moderate	C			Bottom	2	8.6	23.9	8.0	91.4	6.28	-	36.54	-	2.1	-	2.0	-	0.03	-	0.30	-	<0.05	-	0.02	-	1.6	-	NOT DETECTED	-
4/19/2021	Mid-Ebb	Fine	Moderate	N1	15:47	6.6	Surface	1	1.0	24.1	8.0	92.2	6.34	6.34	36.53	36.52	1.5	1.7	1.7	1.8	0.03	0.04	0.32	0.31	<0.05	<0.05	<0.01	<0.01	1.3	1.6	NOT DETECTED	<1
4/19/2021	Mid-Ebb	Fine	Moderate	N1			Surface	2	1.0	24.0	8.0	92.3	6.34	-	36.51	-	1.5	-	1.6	-	0.04	-	0.31	-	< 0.05	-	<0.01	-	1.4	-	1*	-
4/19/2021	Mid-Ebb	Fine	Moderate	N1			Middle	1	3.3	24.0	8.0	92.3	6.34	-	36.50	-	1.8	-	2.0	-	0.03	-	0.28	-	< 0.05	-	<0.01	-	1.4	-	NOT DETECTED	-
4/19/2021	Mid-Ebb	Fine	Moderate	N1			Middle	2	3.3	24.1	8.0	92.0	6.32	-	36.52	-	1.7	-	1.5	-	0.03	-	0.32	-	< 0.05	-	<0.01	-	1.5		NOT DETECTED	-
4/19/2021	Mid-Ebb	Fine	Moderate	N1			Bottom	1	5.6	24.1	8.0	92.0	6.32	6.33	36.51	-	2.0	-	1.7	-	0.04	-	0.31	-	< 0.05	-	<0.01	-	2.0	-	NOT DETECTED	-
4/19/2021	Mid-Ebb	Fine	Moderate	N1			Bottom	2	5.6	24.0	8.0	92.2	6.33	-	36.52	-	1.9	-	2.1	-	0.05	-	0.29	-	<0.05	-	<0.01	-	1.8	-	NOT DETECTED	-
4/19/2021	Mid-Ebb	Fine	Moderate	FCZ1A	14:50	3.3	Surface	1	1.0	24.2	8.0	94.7	6.51	6.52	36.50	36.51	1.5	1.7	2.5	2.6	-	-	-	-	-	-	-	-	-	-	-	-
4/19/2021	Mid-Ebb	Fine	Moderate	FCZ1A			Surface	2	1.0	24.1	8.0	94.8	6.52	-	36.51	-	1.6	-	2.3	-	-	-	-	-	-	-	-	-	-	-	-	-
4/19/2021	Mid-Ebb	Fine	Moderate	FCZ1A			Bottom	1	2.3	24.0	8.0	94.6	6.50	6.51	36.51	-	1.8	-	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-
4/19/2021	Mid-Ebb	Fine	Moderate	FCZ1A			Bottom	2	2.3	24.2	8.0	94.8	6.51	-	36.50	-	1.7	-	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-
4/19/2021	Mid-Ebb	Fine	Moderate	FCZ1B	15:19	4.6	Surface	1	1.0	24.1	8.0	92.6	6.36	6.36	36.52	36.52	1.4	1.5	1.5	1.9	0.03	0.04	0.34	0.31	<0.05	<0.05	0.02	0.01	1.4	1.7	NOT DETECTED	<1
4/19/2021	Mid-Ebb	Fine	Moderate	FCZ1B			Surface	2	1.0	24.2	8.0	92.5	6.36	-	36.51	-	1.3	-	1.9	-	0.03	-	0.30	-	< 0.05	-	<0.01	-	1.8	-	NOT DETECTED	-
4/19/2021	Mid-Ebb	Fine	Moderate	FCZ1B			Bottom	1	3.6	24.1	8.0	92.8	6.38	6.37	36.51	-	1.5	-	1.8	-	0.04	-	0.30	-	< 0.05	-	<0.01	-	1.8	-	1*	-
4/19/2021	Mid-Ebb	Fine	Moderate	FCZ1B			Bottom	2	3.6	24.0	8.0	92.5	6.36	-	36.52	-	1.6	-	2.4	-	0.04	-	0.28	-	<0.05	-	<0.01	-	1.8	-	1*	-
4/19/2021	Mid-Ebb	Fine	Moderate	H4A	15:04	1.6	Middle	1	0.8	24.1	8.0	94.3	6.48	6.48	36.51	36.51	1.3	1.4	1.7	1.8	0.05	0.05	0.33	0.32	< 0.05	<0.05	<0.01	<0.01	1.7	1.8	NOT DETECTED	ND
4/19/2021	Mid-Ebb	Fine	Moderate	H4A			Middle	2	0.8	24.0	8.0	94.3	6.48	-	36.51	-	1.4	-	1.8	-	0.04	-	0.30	-	<0.05	-	<0.01	-	1.8	-	NOT DETECTED	-
4/19/2021	Mid-Ebb	Fine	Moderate	H1A	14:36	1.4	Middle	1	0.7	24.2	8.0	95.3	6.55	6.56	36.50	36.50	1.6	1.6	2.0	1.9	0.03	0.03	0.28	0.31	<0.05	<0.05	<0.01	<0.01	1.6	1.6	NOT DETECTED	ND
4/19/2021	Mid-Ebb	Fine	Moderate	H1A			Middle	2	0.7	24.2	8.0	95.4	6.56	-	36.50	-	1.6	-	1.8	-	0.02	-	0.33	-	<0.05	-	<0.01	-	1.6	-	NOT DETECTED	-
4/19/2021	Mid-Ebb	Fine	Moderate	M1A	14:23	1.0	Middle	1	0.5	24.2	8.0	95.6	6.57	6.57	36.49	36.49	1.4	1.4	1.7	1.7	0.05	0.04	0.29	0.31	0.05	0.05	<0.01	<0.01	1.6	1.8	NOT DETECTED	ND
4/19/2021	Mid-Ebb	Fine	Moderate	M1A			Middle	2	0.5	24.2	8.0	95.6	6.57	-	36.49	-	1.3	-	1.6	-	0.03	-	0.32	-	<0.05	-	<0.01	-	2.0	-	NOT DETECTED	-
4/19/2021	Mid-Ebb	Fine	Moderate	SGA	14:10	1.2	Middle	1	0.6	24.2	8.0	95.8	6.59	6.58	36.46	36.46	1.1	1.2	2.1	2.1	0.04	0.04	0.27	0.29	<0.05	<0.05	<0.01	<0.01	1.6	1.5	NOT DETECTED	<1
4/19/2021	Mid-Ebb	Fine	Moderate	SGA			Middle	2	0.6	24.1	8.0	95.7	6.57	-	36.45	-	1.2	-	2.1	-	0.04	-	0.30	-	< 0.05	-	<0.01	-	1.4		1*	-

DA - Depth-averaged

Marine Water Quality Monitoring Results on

19-Apr-21 at Mid-Flood tide

Date	Tidal	Weather Condition	Sea Condition	Monitoring Station	Time	Water Depth, m	Water Level	Replicate	Sampling Depth	Temperature, °C	pН	DO Saturation, %	Di mg	O, <sub>I</sub> /L	Sali p			oidity, TU		ed Soild, g/L		nonia ogen, q/L		litrogen, g/L	Total In Nitro	ogen,	Phosp me		Oxygen	emical Demand, g/L	E. Coli, Cfu/100r	
													Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA
4/19/2021	Mid-Flood	Fine	Moderate	С	1:41	9.7	Surface	1	1.0	23.8	7.9	91.0	6.25	6.15	36.22	36.24	1.7	1.8	2.3	2.7	-	-	-	-	-	-	-	-	-	-		-
4/19/2021	Mid-Flood	Fine	Moderate	С			Surface	2	1.0	23.8	7.9	90.1	6.19	-	36.23	-	1.6	-	2.9	-	-	-	-	-	-	-	-	-	-	-		-
4/19/2021	Mid-Flood	Fine	Moderate	С			Middle	1	4.9	23.7	7.9	89.0	6.12	-	36.24	-	1.9	-	3.0	-	-	-	-	-	-	-	-	-	-	-		-
4/19/2021	Mid-Flood	Fine	Moderate	С			Middle	2	4.9	23.7	7.9	87.7	6.03	-	36.25		1.8	-	2.6	-	-	-	-	-	-	-	-	-	-	-		-
4/19/2021	Mid-Flood	Fine	Moderate	С			Bottom	1	8.7	23.7	7.9	88.2	6.07	6.15	36.25	-	1.8		2.7	-		-	-	-	-	-	-			- 1		-
4/19/2021	Mid-Flood	Fine	Moderate	С			Bottom	2	8.7	23.7	7.9	90.7	6.23	-	36.24		2.0	-	2.5	-		-	-	-	-	-	-	-		-		-
4/19/2021	Mid-Flood	Fine	Moderate	N2	2:08	5.5	Surface	1	1.0	23.8	8.0	94.0	6.46	6.39	36.22	36.23	1.6	1.5	3.9	3.1	-	-	-	-	-	-	-	-	-	-		-
4/19/2021	Mid-Flood	Fine	Moderate	N2			Surface	2	1.0	23.8	7.9	91.8	6.31	-	36.22	-	1.5	-	3.6	-	-	-	-	-	-	_	-	-		-		-
4/19/2021	Mid-Flood	Fine	Moderate	N2			Bottom	1	4.5	23.8	7.9	90.5	6.22	6.27	36.23	-	1.5	-	2.9	-		-	-	-	-	-	-	-	-	-		-
4/19/2021	Mid-Flood	Fine	Moderate	N2			Bottom	2	4.5	23.8	7.9	91.7	6.31	-	36.23	-	1.4	-	2.0	-	-	-	-	-	-	_	-	-	-	-		-
4/19/2021	Mid-Flood	Fine	Moderate	FCZ1A	2:35	3.4	Surface	1	1.0	23.8	8.0	94.1	6.46	6.48	36.22	36.22	1.4	1.5	3.4	3.1	-	-	-	-	-	-	-	-	-	-		T -
4/19/2021	Mid-Flood	Fine	Moderate	FCZ1A			Surface	2	1.0	23.8	8.0	94.5	6.49	-	36.22	-	1.3	-	3.3	-	-	-	-	-	-	-	-	-	-	-		-
4/19/2021	Mid-Flood	Fine	Moderate	FCZ1A			Bottom	1	2.4	23.8	8.0	94.4	6.49	6.48	36.22	-	1.5	-	2.8	-		-	-	-	-	_	-	-		-		-
4/19/2021	Mid-Flood	Fine	Moderate	FCZ1A			Bottom	2	2.4	23.8	8.0	94.2	6.47	_	36.22	-	1.6	-	2.8	-	-	-	-	-	-	_	-	-	-	-		-
4/19/2021	Mid-Flood	Fine	Moderate	H4A	2:21	1.6	Middle	1	0.8	23.8	8.0	94.3	6.48	6.48	36.22	36.22	1.4	1.5	3.0	3.2	-	-	-	-	-	-	-	-	-	-	-	_
4/19/2021	Mid-Flood	Fine	Moderate	H4A			Middle	2	0.8	23.8	8.0	94.3	6.48	_	36.22	-	1.5	-	3.3	-	-	-	-	-	-	_	-	-	-	-		-
4/19/2021	Mid-Flood	Fine	Moderate	H1A	2:48	1.4	Middle	1	0.7	23.8	8.0	94.9	6.52	6.52	36.22	36.22	1.1	1.2	2.9	2.7	-	-	-	-	-	-	-	-	-	-		-
4/19/2021	Mid-Flood	Fine	Moderate	H1A			Middle	2	0.7	23.8	8.0	94.8	6.51	-	36.22	-	1.2	-	2.5	-	-	-	-	-	-	_	-	-	-	- 1		-
4/19/2021	Mid-Flood	Fine	Moderate	M1A	3:01	1.0	Middle	1	0.5	23.8	8.0	95.2	6.54	6.54	36.22	36.22	1.3	1.4	2.8	2.7	-	-	-	-	-	-	-	-	-	-		-
4/19/2021	Mid-Flood	Fine	Moderate	M1A			Middle	2	0.5	23.8	8.0	95.2	6.54	-	36.22	-	1.4	-	2.6	-	-	-	-	-	-	-	-	-	-	-		-
4/19/2021	Mid-Flood	Fine	Moderate	SGA	3:13	1.2	Middle	1	0.6	23.8	8.0	95.3	6.55	6.55	36.22	36.22	1.3	1.3	2.3	1.9	-	-	-	-	-	-	-	-	-	-		-
4/19/2021	Mid-Flood	Fine	Moderate	SGA			Middle	2	0.6	23.8	8.0	95.3	6.55	-	36.21		1.3		1.5	-		-	-	-	-	-	-	-	-	-		-

Marine Water Quality Monitoring Results on 21-Apr-21 at Mid-Ebb tide

Date	Tidal	Weather	Sea	Monitoring	Time	Water	Water Level	Replicate		Temperature,	pН	DO		Ο,		inity,	Turb			ded Soild,		nonia	Total N		Total In		То			emical	E. Coli,	
		Condition	Condition	Station		Depth,			Depth	°C		Saturation,	m	g/L	F	ppt	N.	TU	mg	g/L	Nitro		mg	3/L	Nitro		Phosp			Demand,	Cfu/100m	( )
						m						%									mg	g/L			mg	J/L	mg	/L		ıg/L		
													Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA
4/21/2021	Mid-Ebb	Fine	Moderate	C	19:51	9.2	Surface	1	1.0	24.7	8.0	98.6	6.64	6.48	36.81	36.80	2.2	2.4	4.4	3.9	<0.02	<0.02	0.31	0.28	<0.05	<0.05	0.02	0.02	<1.0	1.1	NOT DETECTED	<1
4/21/2021	Mid-Ebb	Fine	Moderate	C			Surface	2	1.0	24.7	7.9	96.6	6.51	-	36.81	-	2.1	-	4.4	-	<0.02	-	0.27	-	< 0.05	-	0.02	-	<1.0	-	1*	- '
4/21/2021	Mid-Ebb	Fine	Moderate	C			Middle	1	4.6	24.6	7.9	93.7	6.33	-	36.81	-	2.4	-	3.2	-	<0.02	-	0.28	-	<0.05	-	0.01	-	1.1	-	NOT DETECTED	- '
4/21/2021	Mid-Ebb	Fine	Moderate	C			Middle	2	4.6	24.5	7.9	95.1	6.43	-	36.80	-	2.5	-	3.8	-	<0.02	-	0.29	-	<0.05	-	0.02	-	1.1	-	NOT DETECTED	- '
4/21/2021	Mid-Ebb	Fine	Moderate	C			Bottom	1	8.2	24.4	7.9	95.3	6.45	6.42	36.79	-	2.5	-	3.6	-	< 0.02	-	0.27	-	<0.05	-	0.01	-	1.1	-	NOT DETECTED	- '
4/21/2021	Mid-Ebb	Fine	Moderate	C			Bottom	2	8.2	24.1	7.9	93.9	6.39	-	36.79	-	2.5	-	3.9	-	<0.02	-	0.27	-	<0.05		0.01	-	<1.0	-	NOT DETECTED	-
4/21/2021	Mid-Ebb	Fine	Moderate	N1	19:38	6.3	Surface	1	1.0	24.7	7.9	98.6	6.65	6.64	36.79	36.79	1.8	1.9	4.5	3.6	<0.02	0.03	0.27	0.30	<0.05	0.05	0.01	0.01	1.2	1.1	NOT DETECTED	2
4/21/2021	Mid-Ebb	Fine	Moderate	N1			Surface	2	1.0	24.7	7.9	98.7	6.65	-	36.80	-	1.8	-	4.2	-	< 0.02	-	0.28	-	<0.05	-	0.01	-	<1.0	-	NOT DETECTED	- '
4/21/2021	Mid-Ebb	Fine	Moderate	N1			Middle	1	3.2	24.6	7.9	98.2	6.63	-	36.82	-	1.9	-	4.1	-	<0.02	-	0.31	-	<0.05	-	0.02	-	1.1	-	2*	- '
4/21/2021	Mid-Ebb	Fine	Moderate	N1			Middle	2	3.2	24.6	7.9	97.9	6.61	-	36.83	-	1.9	-	3.4	-	0.02	-	0.32	-	<0.05	-	0.01	-	1.1	-	3*	- '
4/21/2021	Mid-Ebb	Fine	Moderate	N1			Bottom	1	5.3	24.6	7.9	98.5	6.65	6.64	36.76	-	1.9	-	2.8	-	0.04	-	0.28	-	0.06	-	0.02	-	<1.0	-	2*	- '
4/21/2021	Mid-Ebb	Fine	Moderate	N1			Bottom	2	5.3	24.6	7.9	98.2	6.63	-	36.76	-	1.9	-	2.6	-	0.04	-	0.32	-	0.06	-	0.01	-	1.1	-	3*	- '
4/21/2021	Mid-Ebb	Fine	Moderate	FCZ1A	18:53	3.3	Surface	1	1.0	24.7	7.9	98.2	6.62	6.62	36.79	36.79	1.9	2.0	2.8	2.9	-	-	-	-	-	-	-	-	-	-	-	- '
4/21/2021	Mid-Ebb	Fine	Moderate	FCZ1A			Surface	2	1.0	24.7	7.9	98.0	6.61	-	36.79	-	2.0	-	2.2	-	-	-	-	-	-	-	-	-	-	-	-	- '
4/21/2021	Mid-Ebb	Fine	Moderate	FCZ1A			Bottom	1	2.3	24.7	7.9	98.1	6.61	6.61	36.79	-	2.1	-	3.9	-	-	-	-	-	-	-	-	-	-	-	-	- '
4/21/2021	Mid-Ebb	Fine	Moderate	FCZ1A			Bottom	2	2.3	24.7	7.9	98.0	6.61	-	36.79	-	2.1	-	2.7	-	-	-	-	-	-	-	-	-	-	-		- '
4/21/2021	Mid-Ebb	Fine	Moderate	FCZ1B	19:15	4.6	Surface	1	1.0	24.7	7.9	98.8	6.66	6.66	36.79	36.79	1.8	1.8	4.9	4.2	<0.02	<0.02	0.28	0.28	<0.05	<0.05	0.02	0.02	1.2	1.1	NOT DETECTED	<1
4/21/2021	Mid-Ebb	Fine	Moderate	FCZ1B			Surface	2	1.0	24.7	7.9	98.8	6.66	-	36.79	-	1.7	-	5.2	-	<0.02	-	0.28	-	<0.05	-	0.02	-	<1.0	-	NOT DETECTED	- '
4/21/2021	Mid-Ebb	Fine	Moderate	FCZ1B			Bottom	1	3.6	24.6	7.9	98.2	6.63	6.65	36.80	-	1.8	-	3.6	-	< 0.02	-	0.26	-	<0.05	-	0.01	-	<1.0	-	NOT DETECTED	- '
4/21/2021	Mid-Ebb	Fine	Moderate	FCZ1B			Bottom	2	3.6	24.6	7.9	98.7	6.66	-	36.79		1.7	-	3.2	-	<0.02	-	0.29	-	<0.05	-	0.01	-	<1.0	-	1*	-
4/21/2021	Mid-Ebb	Fine	Moderate	H4A	19:03	1.8	Middle	1	0.9	24.7	7.9	98.1	6.62	6.62	36.79	36.79	1.9	1.9	2.8	2.6	< 0.02	<0.02	0.28	0.28	< 0.05	<0.05	0.02	0.02	1.0	1.1	NOT DETECTED	ND
4/21/2021	Mid-Ebb	Fine	Moderate	H4A			Middle	2	0.9	24.7	7.9	98.1	6.62	-	36.78	-	1.9	-	2.4	-	<0.02	-	0.28	-	<0.05	-	0.01	-	1.2	-	NOT DETECTED	- '
4/21/2021	Mid-Ebb	Fine	Moderate	H1A	18:41	1.4	Middle	1	0.7	24.7	7.9	98.1	6.62	6.63	36.79	36.83	2.3	2.4	3.6	3.8	<0.02	<0.02	0.27	0.28	<0.05	<0.05	0.01	0.01	<1.0	1.0	NOT DETECTED	ND
4/21/2021	Mid-Ebb	Fine	Moderate	H1A			Middle	2	0.7	24.6	7.9	98.3	6.63	-	36.86	_	2.4	-	3.9	-	<0.02	-	0.28	-	<0.05	-	0.01	-	1.0	-	NOT DETECTED	- '
4/21/2021	Mid-Ebb	Fine	Moderate	M1A	18:31	1.0	Middle	1	0.5	24.7	7.9	97.7	6.59	6.59	36.79	36.79	2.0	2.0	3.7	3.5	<0.02	<0.02	0.30	0.29	<0.05	<0.05	0.01	0.01	1.0	1.0	NOT DETECTED	ND
4/21/2021	Mid-Ebb	Fine	Moderate	M1A			Middle	2	0.5	24.7	7.9	97.7	6.59		36.79		2.0	-	3.2	-	<0.02	-	0.28	-	<0.05	-	0.01	-	1.0	-	NOT DETECTED	- '
4/21/2021	Mid-Ebb	Fine	Moderate	SGA	18:20	1.0	Middle	1	0.5	24.6	7.9	97.5	6.57	6.57	36.79	36.80	2.0	2.0	5.2	5.1	0.02	0.02	0.30	0.31	<0.05	<0.05	0.02	0.02	1.2	1.1	NOT DETECTED	ND
4/21/2021	Mid-Ebb	Fine	Moderate	SGA			Middle	2	0.5	24.6	7.9	97.3	6.57	-	36.81	_	2.0	-	4.9	-	< 0.02	-	0.32	-	< 0.05	-	0.01	-	1.0	-	NOT DETECTED	- '

DA - Depth-averaged
Marine Water Quality Monitoring Results on 21-Apr-21 at Mid-Flood tide

Date	Tidal	Weather Condition	Sea Condition	Monitoring Station	Time	Water Depth, m	Water Level	Replicate	Sampling Depth	Temperature, °C	pH	DO Saturation, %	D(			nity, pt		oidity, TU		led Soild, g/L		monia ogen, ng/L		litrogen, g/L		norganic ogen, g/L	Phosp mo	horus,		emical Demand, g/L	E. Coli, Cfu/100n	
													Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA
4/21/2021	Mid-Flood	Fine	Moderate	С	6:06	9.3	Surface	1	1.0	24.6	7.8	94.0	6.35	6.24	36.76	36.76	2.2	2.4	2.6	3.5	-	-	-	-	-	-	-	-	-	-		-
4/21/2021	Mid-Flood	Fine	Moderate	С			Surface	2	1.0	24.5	7.8	91.6	6.20	-	36.76	-	2.2	-	3.2	-	-	-	-	-	-	-	-	-	-	-		-
4/21/2021	Mid-Flood	Fine	Moderate	С			Middle	1	4.7	24.2	7.8	91.0	6.19	-	36.72	-	2.5	-	3.4		-	-	-	-		-	-	-	-	-		_
4/21/2021	Mid-Flood	Fine	Moderate	C			Middle	2	4.7	24.3	7.8	91.0	6.21	_	36.77	-	2.4	_	3.4	-	-	-	-	-	-	-	_	-	-	-		_
4/21/2021	Mid-Flood	Fine	Moderate	С			Bottom	1	8.3	24.0	7.8	89.0	6.04	6.06	36.80	_	2.5	_	4.0	-	_	_	_	-		_	_	-	-	-		_
4/21/2021	Mid-Flood	Fine	Moderate	С			Bottom	2	8.3	24.0	7.8	89.5	6.08	-	36.76	-	2.4	_	4.2	-	_	-	-	-	-	-	_	-	-	-		_
4/21/2021	Mid-Flood	Fine	Moderate	N2	6:29	5.2	Surface	1	1.0	24.6	7.9	95.1	6.42	6.42	36.76	36.76	2.3	2.3	2.3	3.2	-	-	-	-	-	-	-	-	-	-		-
4/21/2021	Mid-Flood	Fine	Moderate	N2			Surface	2	1.0	24.6	7.9	94.9	6.41	-	36.76	-	2.2	-	3.1		_	-	-	-		_	-	-	-	-		_
4/21/2021	Mid-Flood	Fine	Moderate	N2			Bottom	1	4.2	24.5	7.9	94.9	6.42	6.41	36.75	-	2.3	-	3.4		-	-	-	-		-	-	-	-	-		-
4/21/2021	Mid-Flood	Fine	Moderate	N2			Bottom	2	4.2	24.5	7.9	94.7	6.40	-	36.75	-	2.2	-	4.0		-	-	-	-			-	-	-	-		-
4/21/2021	Mid-Flood	Fine	Moderate	FCZ1A	6:51	3.2	Surface	1	1.0	24.6	7.9	96.3	6.50	6.49	36.76	36.76	2.2	2.2	1.8	2.4	-	-	-	-	-	-	-	-	-	-		-
4/21/2021	Mid-Flood	Fine	Moderate	FCZ1A			Surface	2	1.0	24.6	7.9	96.0	6.48	-	36.76	-	2.2	-	2.0		-	-	-	-		-	-	-	-	-		-
4/21/2021	Mid-Flood	Fine	Moderate	FCZ1A			Bottom	1	2.2	24.6	7.9	96.6	6.52	6.50	36.77	_	2.2	-	2.5		_	_	-	-		_	-	-	-	-		_
4/21/2021	Mid-Flood	Fine	Moderate	FCZ1A			Bottom	2	2.2	24.6	7.9	96.0	6.48	_	36.76	_	2.2		3.2	_		_		_			_	_	-	- 1		-
4/21/2021	Mid-Flood	Fine	Moderate	H4A	6:40	1.6	Middle	1	0.8	24.6	7.9	95.6	6.45	6.46	36.76	36.76	2.3	2.4	4.0	4.2	-	-	-	-	· -	-	-	-	-	-	-	-
4/21/2021	Mid-Flood	Fine	Moderate	H4A			Middle	2	0.8	24.6	7.9	95.9	6.47	-	36.76	-	2.4	_	4.3	-	_	-	-	-		-	-	-	-	-	_	_
4/21/2021	Mid-Flood	Fine	Moderate	H1A	7:02	1.4	Middle	1	0.7	24.6	7.9	95.7	6.46	6.47	36.76	36.77	2.1	2.1	4.3	4.0	-	-	-	-	-	-	-	-	-	-	-	-
4/21/2021	Mid-Flood	Fine	Moderate	H1A			Middle	2	0.7	24.6	7.9	95.8	6.47	_	36.77	_	2.0	_	3.6	-	_	_	_	-		_	_	_	_	-		_
4/21/2021	Mid-Flood	Fine	Moderate	M1A	7:12	1.2	Middle	1	0.6	24.6	7.9	96.5	6.51	6.51	36.77	36.77	2.1	2.1	2.8	3.3	-	-	-	-	-	-	-	-	-	-		-
4/21/2021	Mid-Flood	Fine	Moderate	M1A			Middle	2	0.6	24.6	7.9	96.4	6.50	-	36.77	-	2.1	-	3.8		_	_	-	-		_	_	-	-	-		_
4/21/2021	Mid-Flood	Fine	Moderate	SGA	7:22	1.4	Middle	1	0.7	24.6	7.9	96.8	6.53	6.53	36.78	36.78	2.1	2.1	2.7	2.5	-	-	-	-	-	-	-	-	-	-		-
4/21/2021	Mid-Flood	Fine	Moderate	SGA			Middle	2	0.7	24.6	7.9	96.7	6.52	-	36.78	-	2.1	-	2.2	-	-	-	-	-	-		-	-	-	-		-

Marine Water Quality Monitoring Results on 23-Apr-21 at Mid-Ebb tide

Date	Tidal	Weather Condition	Sea Condition	Monitoring Station	Time	Water Depth,	Water Level	Replicate	Sampling Depth	Temperature, °C	pН	DO Saturation,	D m		Sali p	nity, pt	Turbi N7		Suspend		Amm	ogen,	Total N		Total Inc	gen,	To: Phospi	horus,	Bioche Oxygen I	Demand,	E. Coli, Cfu/100r	
						m						%									mg				mg	_	mg	-		g/L		
													Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA
4/23/2021	Mid-Ebb	Fine	Moderate	С	8:26	9.4	Surface	1	1.0	26.3	8.0	96.7	6.58	6.31	36.69	36.79	1.7	2.1	1.7	1.9	-	-	-	-	-	-	-	-	-	-	-	-
4/23/2021	Mid-Ebb	Fine	Moderate	С			Surface	2	1.0	26.2	8.0	97.9	6.44	-	36.73	-	1.8	-	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-
4/23/2021	Mid-Ebb	Fine	Moderate	С			Middle	1	4.7	24.4	8.0	90.2	6.11	-	36.83	-	2.2	-	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-
4/23/2021	Mid-Ebb	Fine	Moderate	С			Middle	2	4.7	24.3	7.9	90.3	6.12	-	36.86	-	2.0	-	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-
4/23/2021	Mid-Ebb	Fine	Moderate	С			Bottom	1	8.4	24.2	7.9	90.1	6.11	6.09	36.80	-	2.4	-	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-
4/23/2021	Mid-Ebb	Fine	Moderate	С			Bottom	2	8.4	24.1	8.0	88.9	6.06	-	36.85	-	2.3	-	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-
4/23/2021	Mid-Ebb	Fine	Moderate	N1	8:39	6.2	Surface	1	1.0	26.0	8.0	109.5	7.22	7.06	36.85	36.89	1.4	1.5	2.5	1.9	-	-	-	-	-	-	-	-	-	-	-	-
4/23/2021	Mid-Ebb	Fine	Moderate	N1			Surface	2	1.0	25.9	8.0	106.8	7.04	-	36.84	-	1.5	-	2.3	-	-	-	-	-	-	-	-	-	-	-	-	-
4/23/2021	Mid-Ebb	Fine	Moderate	N1			Middle	1	3.1	25.1	8.0	106.4	7.12	-	36.86	- 1	1.5	-	2.4	-	-	-	-	-	-	-	-	-	-	-	-	- 1
4/23/2021	Mid-Ebb	Fine	Moderate	N1			Middle	2	3.1	24.9	8.0	102.4	6.87	-	36.89	- 1	1.5	-	1.7	-	-	-	-	-	-	-	-	-	-	-	-	-
4/23/2021	Mid-Ebb	Fine	Moderate	N1			Bottom	1	5.2	24.5	8.0	100.7	6.81	7.03	36.76	-	1.6	-	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-
4/23/2021	Mid-Ebb	Fine	Moderate	N1			Bottom	2	5.2	24.5	8.0	107.2	7.24	-	37.11	-	1.5	-	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-
4/23/2021	Mid-Ebb	Fine	Moderate	FCZ1A	9:23	3.3	Surface	1	1.0	26.3	8.0	112.8	7.40	7.40	36.81	36.75	1.3	1.4	2.0	2.5	-	-	-	-	-	-	-	-	-	-	-	-
4/23/2021	Mid-Ebb	Fine	Moderate	FCZ1A			Surface	2	1.0	26.4	8.0	113.1	7.40	-	36.76	-	1.5	-	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-
4/23/2021	Mid-Ebb	Fine	Moderate	FCZ1A			Bottom	1	2.3	25.9	8.0	111.6	7.38	7.40	36.66	-	1.4	-	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-
4/23/2021	Mid-Ebb	Fine	Moderate	FCZ1A			Bottom	2	2.3	25.6	8.0	111.8	7.42	-	36.75	-	1.5	-	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-
4/23/2021	Mid-Ebb	Fine	Moderate	H4A	9:10	1.6	Middle	1	0.8	26.5	8.0	113.1	7.39	7.40	36.75	36.79	1.3	1.3	3.0	2.5	-	-	-	-	-	-	-	-	-	-	-	-
4/23/2021	Mid-Ebb	Fine	Moderate	H4A			Middle	2	0.8	26.3	8.0	112.8	7.40	-	36.82	-	1.3	-	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-
4/23/2021	Mid-Ebb	Fine	Moderate	H1A	9:37	1.4	Middle	1	0.7	26.6	8.0	113.0	7.38	7.39	36.73	36.75	1.4	1.4	1.9	2.4	-	-	-	-	-	-	-	-	-	-	-	- 1
4/23/2021	Mid-Ebb	Fine	Moderate	H1A			Middle	2	0.7	26.6	8.0	113.3	7.39	-	36.76	-	1.3	-	2.8	-	-	-	-	-	-	-	-	-	-	-	-	
4/23/2021	Mid-Ebb	Fine	Moderate	M1A	9:50	1.2	Middle	1	0.6	26.6	8.0	113.2	7.40	7.40	36.75	36.76	1.4	1.3	2.8	2.7	-	-	-	-	-	-	-	-	-	-	-	-
4/23/2021	Mid-Ebb	Fine	Moderate	M1A			Middle	2	0.6	26.6	8.0	113.3	7.40	-	36.76	-	1.2	-	2.6	-	-	-	-	-	-	-	-	-	-	-	-	-
4/23/2021	Mid-Ebb	Fine	Moderate	SGA	10:03	1.0	Middle	1	0.5	26.6	8.0	113.0	7.38	7.39	36.76	36.76	1.0	1.0	3.2	2.9	-	-	-	-	-	-	-	-	-	-	-	-
4/23/2021	Mid-Ebb	Fine	Moderate	SGA			Middle	2	0.5	26.6	8.0	113.2	7.39	-	36.75	-	1.0	-	2.6	-	-	-	-	-	-	-	-	-	-	-		-

Marine Water Quality Monitoring Results on 23-Apr-21 at Mid-Flood tide

Date	Tidal	Weather Condition	Sea Condition	Monitoring Station	Time	Water Depth, m	Water Level	Replicate	Sampling Depth	Temperature, °C	pН	DO Saturation,	D m		Sali		Turbi NT		Suspende		Amm	gen,	Total Ni mg		Total In Nitro	gen,	To: Phospi mo	horus,	Bioche Oxygen [	Demand,	E. Coli, Cfu/100ml	ı
						m						76	Value	DΔ	Value	DΔ	Value	DA	Value	DΔ	Value		Value	DA	Value	DΔ	Value	DΔ	Value	DA	Value	DA
4/23/2021	Mid-Flood	Fine	Moderate	С	15:05	9.4	Surface	1	1.0	26.3	8.0	107.2	7.10	6.98	36.78	36.83	2.0	2.1	2.2	2.2	<0.02	0.02	0.24	0.25	<0.05	<0.05	0.01	0.01	1 1	1.4	NOT DETECTED	ND
4/23/2021	Mid-Flood	Fine	Moderate	č	10.00	•	Surface	,	1.0	26.3	8.0	106.5	7.09	-	36.79	-	2.0		3.0		0.02		0.26	-	< 0.05	-0.00	0.01		1.4		NOT DETECTED	
4/23/2021	Mid-Flood	Fine	Moderate	c			Middle	1	4.7	24.2	8.0	104.6	6.87	_	36.85	_	2.0	_	2.5	_	<0.02	_	0.26	_	< 0.05	_	0.01	_	1.4	_	NOT DETECTED	
4/23/2021	Mid-Flood	Fine	Moderate	С			Middle	2	4.7	24.2	8.0	104.6	6.86	_	36.84	_	2.2	_	2.3	_	<0.02	_	0.25	_	< 0.05	_	0.01	_	2	_	NOT DETECTED	-
4/23/2021	Mid-Flood	Fine	Moderate	C			Bottom	1	8.4	24.2	8.0	101.1	6.86	6.86	36.85	-	2.1	-	1.5	-	<0.02	-	0.24	-	< 0.05	-	0.01	-	1.2	-	NOT DETECTED	- 1
4/23/2021	Mid-Flood	Fine	Moderate	С			Bottom	2	8.4	24.2	8.0	100.8	6.85	-	36.85	-	2.2	-	1.9	-	<0.02	-	0.27	-	< 0.05	- 1	0.01	-	1.2	-	NOT DETECTED	- 1
4/23/2021	Mid-Flood	Fine	Moderate	N2	14:36	5.7	Surface	1	1.0	26.3	8.0	109.6	7.19	7.21	36.84	36.80	1.0	1.2	2.8	2.5	<0.02	<0.02	0.24	0.24	<0.05	<0.05	<0.01	0.01	1.1	1.1	NOT DETECTED	ND
4/23/2021	Mid-Flood	Fine	Moderate	N2			Surface	2	1.0	26.2	8.0	110.1	7.23	-	36.86	-	1.1	-	2.3	-	<0.02	-	0.25	-	< 0.05	-	0.01	-	1.1	-	NOT DETECTED	-
4/23/2021	Mid-Flood	Fine	Moderate	N2			Bottom	1	4.7	24.4	8.0	109.5	7.41	7.40	36.74	-	1.4	-	2.9	-	<0.02	-	0.24	-	< 0.05	-	0.01	-	1.1	-	NOT DETECTED	-
4/23/2021	Mid-Flood	Fine	Moderate	N2			Bottom	2	4.7	24.5	8.0	109.3	7.39	-	36.76	-	1.3	-	2.0	-	<0.02	-	0.24	-	<0.05	-	0.01	-	1	-	NOT DETECTED	-
4/23/2021	Mid-Flood	Fine	Moderate	FCZ1A	13:53	3.3	Surface	1	1.0	26.0	8.0	112.7	7.43	7.44	36.88	36.82	1.3	1.3	2.0	2.3	-	-	-	-	-	-	-	-	-	-		-
4/23/2021	Mid-Flood	Fine	Moderate	FCZ1A			Surface	2	1.0	25.5	8.0	112.0	7.44	-	36.98	-	1.2	-	2.4	-	-	-	-	-	-	-	-	-	-	-		-
4/23/2021	Mid-Flood	Fine	Moderate	FCZ1A			Bottom	1	2.3	25.5	8.0	111.2	7.40	7.41	36.69	-	1.4	-	2.8	-	-	-	-	-	-	-	-	-	-	-		-
4/23/2021	Mid-Flood	Fine	Moderate	FCZ1A			Bottom	2	2.3	25.3	8.0	111.2	7.41	-	36.74	-	1.3	-	2.1	-	-	-	-	-	-	-	-	-	-	-		-
4/23/2021	Mid-Flood	Fine	Moderate	FCZ1B	14:23	4.6	Surface	1	1.0	26.2	8.0	112.9	7.41	7.41	36.81	36.78	1.0	1.2	1.6	1.6	<0.02	<0.02	0.25	0.26	<0.05	<0.05	0.01	0.01	1.3	1.4	NOT DETECTED	ND
4/23/2021	Mid-Flood	Fine	Moderate	FCZ1B			Surface	2	1.0	26.3	8.0	113.0	7.41	-	36.83	-	1.0	-	1.9	-	<0.02	-	0.25	-	<0.05	-	0.01	-	1.7	-	NOT DETECTED	-
4/23/2021	Mid-Flood	Fine	Moderate	FCZ1B			Bottom	1	3.6	24.8	8.0	112.5	7.57	7.51	36.73	-	1.4	-	1.2	-	<0.02	-	0.26	-	<0.05	-	0.01	-	1.1	-	NOT DETECTED	-
4/23/2021	Mid-Flood	Fine	Moderate	FCZ1B			Bottom	2	3.6	24.8	8.0	110.6	7.45		36.76	-	1.3		1.8		<0.02		0.26		<0.05	-	0.01		1.4	-	NOT DETECTED	
4/23/2021	Mid-Flood	Fine	Moderate	H4A	14:07	1.8	Middle	1	0.9	26.3	8.0	113.0	7.41	7.42	36.81	36.81	1.1	1.1	2.3	2.4	<0.02	<0.02	0.26	0.25	<0.05	<0.05	0.01	0.01	1.6	1.6	NOT DETECTED	ND
4/23/2021	Mid-Flood	Fine	Moderate	H4A			Middle	2	0.9	26.3	8.0	113.0	7.42		36.81		1.0		2.4		<0.02	-	0.24		<0.05	-	0.01		1.5		NOT DETECTED	
4/23/2021	Mid-Flood	Fine	Moderate	H1A	13:40	1.4	Middle	1	0.7	26.2	8.0	112.3	7.37	7.38	36.81	36.81	1.5	1.5	2.4	2.3	<0.02	<0.02	0.25	0.25	< 0.05	<0.05	0.01	0.01	1.8	1.7	NOT DETECTED	ND
4/23/2021	Mid-Flood Mid-Flood	Fine	Moderate	H1A	42.27	4.4	Middle	2	0.7	26.2	8.0	112.4 111.3	7.38	7.00	36.81 36.80	36.80	1.4	1.6	2.2	4.0	<0.02	<0.02	0.24	- 0.05	<0.05	<0.05	0.01	0.04	1.5		NOT DETECTED	<del></del>
4/23/2021	Mid-Flood Mid-Flood	Fine	Moderate	M1A	13:27	1.4	Middle	1	0.7 0.7	26.2	8.0		7.31	7.33	36.80	36.80	1.6	1.6	1.2	1.6	<0.02	<0.02	0.25	0.25		<0.05	0.01	0.01	1.6	1.4	NOT DETECTED	ND
4/23/2021 4/23/2021	Mid-Flood Mid-Flood	Fine Fine	Moderate Moderate	M1A SGA	13:15	1.0	Middle Middle	- 2	0.7	26.2 26.2	8.0	112.0 106.2	7.35 6.98	7 OF	36.80	36.81	1.6	1.8	1.9	2.2	<0.02	<0.02	0.25	0.27	<0.05	<0.05	0.01	0.01	1.1	- 1.0	NOT DETECTED	ND
4/23/2021	Mid-Flood	Fine	Moderate	SGA	10.15	1.0	Middle	2	0.5	26.2	8.0	108.2	7.11	7.05	36.81	30.01	1.7	1.0	2.4	2.2	<0.02	-0.02	0.26		<0.05	~0.05	0.01	0.01	1.1	1.2	NOT DETECTED NOT DETECTED	ND
4/23/2021	WIIG-F1000	rifle	mouerate	33A			wiidale		0.5	20.2	0.0	100.2	7.11	-	30.01	-	1.9		2.0		~0.02	-	0.20	-	~0.05	-	0.01		1.3		NOT DETECTED	

Marine Water Quality Monitoring Results on 26-Apr-21 at Mid-Ebb tide

Date	Tidal	Weather Condition	Sea Condition	Monitoring Station	Time	Water Depth, m	Water Level	Replicate	Sampling Depth	Temperature, °C	pН	DO Saturation,	Di mg		Sali p		Turb N		Suspend		Amn		Total N		Total Inc	gen,	To: Phospi mo	horus,	Bioch Oxygen		E. Coli, Cfu/100m	n/
						m						76	Value	DA	Value	DΔ	Value	DΔ	Value	DA	Value	DA	Value	DA	Value	/L	Value	DA	Value	DA	Value	DA
4/26/2021	Mid-Ebb	Sunny	Moderate	_	10:46	9.4	Surface	-	1.0	24.9	8.0	117.1	7.90	7.81	36.06	36.10	2.7	2.8	2.6	2.6	value	DA -	value	UA	value	DA	value	DA	value	UA -		
4/26/2021	Mid-Ebb	Sunny	Moderate	č	10.40	5.4	Surface		1.0	24.9	8.1	117.7	7.94	7.01	36.05	30.10	2.6	2.0	2.4	2.0	_	_		•	-	_	_				-	-
4/26/2021	Mid-Ebb	Sunny	Moderate	č			Middle	1	4.7	24.7	8.0	114.1	7.71		36.10	-	2.8		2.5	1	1 -	[		•	-				[		-	- 1
4/26/2021	Mid-Ebb	Sunny	Moderate	č			Middle		4.7	24.8	8.0	114.0	7.70	-	36.08	-	2.8	-	2.8	-	_	_	- 1	•	-	_				-	-	- 1
4/26/2021	Mid-Ebb	Sunny	Moderate	Č			Bottom	1	8.4	24.7	8.0	109.5	7.41	7.45	36.15	-	2.0	-	2.8	-	_	_			-	_	-	-			-	-
4/26/2021	Mid-Ebb	Sunny	Moderate	č			Bottom	2	8.4	24.6	8.0	110.6	7.49	7.43	36.13	- 1	3.1	- 1	2.0			[		[		[		[			•	
4/26/2021	Mid-Ebb	Sunny	Moderate	N1	11:07	6.3	Surface	1	1.0	24.9	8.1	119.6	8.07	8.00	36.04	36.07	2.3	2.5	3.9	2.9			-					_	-	-		<del></del>
4/26/2021	Mid-Ebb	Sunny	Moderate	N1	11.07	0.5	Surface	2	1.0	24.9	8.1	119.8	8.08	0.00	36.04	30.07	2.3	2.0	2.6	2.0		1 :		[								1 1
4/26/2021	Mid-Ebb	Sunny	Moderate	N1			Middle	1	3.2	24.8	8.1	117.2	7.91		36.06	- 1	2.4		3.1													1 1 1
4/26/2021	Mid-Ebb	Sunny	Moderate	N1			Middle	2	3.2	24.8	8.1	117.6	7.94		36.06	- 1	2.5		3.1													1 1 1
4/26/2021	Mid-Ebb	Sunny	Moderate	N1			Bottom	1	5.3	24.7	8.0	115.5	7.82	7.83	36.11		2.6		2.5					[								1 1 1
4/26/2021	Mid-Ebb	Sunny	Moderate	N1			Bottom	,	5.3	24.7	8.1	115.7	7.83		36.12		2.7		2.0									١.	١.			1 1
4/26/2021	Mid-Ebb	Sunny	Moderate	FCZ1A	12:11	3.2	Surface	1	1.0	24.9	8.1	122.0	8.23	8.21	36.03	36.06	2.2	2.3	4.0	3,6	-	-	-		-		-		-			<del></del>
4/26/2021	Mid-Ebb	Sunny	Moderate	FCZ1A		0.2	Surface	,	1.0	24.9	8.1	121.4	8.19	-	36.03		2.3		4.0	-	_	_					_					
4/26/2021	Mid-Ebb	Sunny	Moderate	FCZ1A			Bottom	1	2.2	24.8	8.1	118.8	8.03	8.05	36.08	_	2.4	_	2.9	_	_	_			_		_					
4/26/2021	Mid-Ebb	Sunny	Moderate	FCZ1A			Bottom	2	2.2	24.8	8.1	119.4	8.07	-	36.08	_	2.3	_	3.6	_	_	_	_	-	_	_	_	_	_	_	_	- '
4/26/2021	Mid-Ebb	Sunny	Moderate	H4A	11:48	1.8	Middle	1	0.9	24.9	8.1	122.7	8.27	8.29	36.03	36.03	2.4	2.4	2.5	2.9	-	-	-	-	-	-	-	-	-	-	-	-
4/26/2021	Mid-Ebb	Sunny	Moderate	H4A			Middle	,	0.9	24.9	8.1	123.1	8.30		36.03		2.3	_	3.2		_	_	_	-	_	_	_	_	_	_	_	
4/26/2021	Mid-Ebb	Sunny	Moderate	H1A	12:25	1.4	Middle	1	0.7	24.9	8.1	123.3	8.32	8.33	36.03	36.03	2.4	2.4	1.4	1.5	-	-	-	-	-		-	-	-	-	-	-
4/26/2021	Mid-Ebb	Sunny	Moderate	H1A			Middle	2	0.7	24.9	8.1	123.6	8.34		36.03	-	2.3	_	1.6		_	_	-	-	-	-	_	-	-	-	-	1 - 1
4/26/2021	Mid-Ebb	Sunny	Moderate	M1A	12:37	1.2	Middle	1	0.6	24.9	8.1	121.8	8.22	8.23	36.04	36.04	2.2	2.3	2.2	2.0	-	-	-	-	-	-	-	-	-	-	-	-
4/26/2021	Mid-Ebb	Sunny	Moderate	M1A			Middle	2	0.6	24.9	8.1	122.1	8.24	-	36.04	-	2.3	-	1.7	-	-	-	-	-	-	-	-	-	-	-	-	-
4/26/2021	Mid-Ebb	Sunny	Moderate	SGA	12:50	1.0	Middle	1	0.5	24.9	8.1	121.5	8.20	8.21	36.03	36.03	2.4	2.4	1.9	1.9	-	-	-	-	-	-	-	-	-	-		-
4/26/2021	Mid-Ebb	Sunny	Moderate	SGA			Middle	2	0.5	24.9	8.1	121.9	8.22	-	36.03		2.4	-	1.8	-	-	-	-	-	-	-	-	-	-	-		1 - 1

Marine Water Quality Monitoring Results on 26-Apr-21 at Mid-Flood tide

Date	Tidal	Weather	Sea	Monitoring	Time	Water	Water Level	Replicate		Temperature,	pН	DO	D		Salir		Turbi		Suspend		Amm		Total Ni	_ ' '	Total Inc		Tot		Bioche		E. Coli,	
		Condition	Condition	Station		Depth, m			Depth	°C		Saturation,	mg	//L	pp	ot	NT	U	mg	g/L	Nitro	igen,	mg	/L	Nitro		Phosph	norus,	Oxygen I	Demand, g/L	Cfu/100mi	1
												/*	Value	DΔ	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DΔ	Value	DΔ	Value	DA	Value	DA
4/26/2021	Mid-Flood	Sunny	Moderate	С	18:41	9.5	Surface	1	1.0	24.7	8.0	111.9	7.57	7.25	36.14	36.32	2.3	2.4	2.9	2.5	<0.02	<0.02	0.22	0.24	<0.05	<0.05	0.01	0.01	2.2	2.1	NOT DETECTED	<1
4/26/2021	Mid-Flood	Sunny	Moderate	С			Surface	2	1.0	24.6	8.0	112.2	7.60	-	36.17	-	2.3	-	2.4	_	<0.02	-	0.22	-	< 0.05	-	0.01	-	2.2	-	NOT DETECTED	-
4/26/2021	Mid-Flood	Sunny	Moderate	С			Middle	1	4.8	24.5	8.0	101.2	6.87	-	36.27	-	2.4	-	2.4	-	<0.02	-	0.28	-	<0.05	- 1	0.01	-	2.4	-	NOT DETECTED	- 1
4/26/2021	Mid-Flood	Sunny	Moderate	С			Middle	2	4.8	24.6	8.0	102.7	6.96	-	36.22	-	2.4	-	2.8	_	<0.02	-	0.28	-	< 0.05	-	0.01	_	1.7	-	NOT DETECTED	- 1
4/26/2021	Mid-Flood	Sunny	Moderate	С			Bottom	1	8.5	24.0	7.9	95.6	6.53	6.68	36.58	-	2.4	-	2.5	-	<0.02	-	0.22	-	<0.05	-	0.01	-	2.2	-	NOT DETECTED	- 1
4/26/2021	Mid-Flood	Sunny	Moderate	С			Bottom	2	8.5	24.1	7.9	100.1	6.83	-	36.55	-	2.5	-	2.1	-	<0.02	-	0.24	-	<0.05	-	0.01	-	1.7	-	1*	-
4/26/2021	Mid-Flood	Sunny	Moderate	N2	18:00	5.6	Surface	1	1.0	24.6	8.0	110.4	7.48	7.49	36.18	36.32	2.2	2.3	1.8	1.4	<0.02	<0.02	0.27	0.27	<0.05	<0.05	0.01	0.01	2.3	2.3	NOT DETECTED	ND
4/26/2021	Mid-Flood	Sunny	Moderate	N2			Surface	2	1.0	24.6	8.0	110.6	7.50	-	36.17	-	2.2	-	1.0	-	<0.02	-	0.26	-	<0.05	-	0.01	-	2.3	-	NOT DETECTED	- 1
4/26/2021	Mid-Flood	Sunny	Moderate	N2			Bottom	1	4.6	24.2	7.9	100.4	6.83	6.86	36.49	-	2.3	-	1.2	-	<0.02	-	0.27	-	<0.05	-	<0.01	-	2.5	-	NOT DETECTED	- 1
4/26/2021	Mid-Flood	Sunny	Moderate	N2			Bottom	2	4.6	24.2	7.9	101.1	6.88	-	36.45	-	2.3	-	1.5	-	<0.02	-	0.26	-	<0.05	-	0.01	-	2.2	-	NOT DETECTED	-
4/26/2021	Mid-Flood	Sunny	Moderate	FCZ1A	17:10	3.4	Surface	1	1.0	24.6	8.0	115.6	7.83	7.83	36.19	36.28	2.3	2.4	2.9	3.0	-	-	-	-	-	-	-	-	-	-	-	- 1
4/26/2021	Mid-Flood	Sunny	Moderate	FCZ1A			Surface	2	1.0	24.6	8.0	115.3	7.82	-	36.20	-	2.4	-	2.7	-	-	-	-	-	-	-	-	-	-	-		-
4/26/2021	Mid-Flood	Sunny	Moderate	FCZ1A			Bottom	1	2.4	24.3	8.0	109.3	7.43	7.44	36.39	-	2.3	-	3.2	-	-	-	-	-	-	-	-	-	-	-		- 1
4/26/2021	Mid-Flood	Sunny	Moderate	FCZ1A			Bottom	2	2.4	24.4	8.0	109.6	7.44	-	36.33	-	2.4	-	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-
4/26/2021	Mid-Flood	Sunny	Moderate	FCZ1B	17:41	4.6	Surface	1	1.0	24.6	8.0	115.9	7.86	7.85	36.19	36.30	2.2	2.2	1.2	1.7	<0.02	<0.02	0.27	0.28	<0.05	<0.05	0.01	0.01	2.4	2.4	1*	<1
4/26/2021	Mid-Flood	Sunny	Moderate	FCZ1B			Surface	2	1.0	24.6	8.0	115.7	7.84	-	36.18	-	2.1	-	1.5	-	<0.02	-	0.28	-	<0.05	-	0.01	-	2.3	-	NOT DETECTED	- 1
4/26/2021	Mid-Flood	Sunny	Moderate	FCZ1B			Bottom	1	3.6	24.3	8.0	106.6	7.25	7.24	36.40	-	2.2	-	2.4	-	<0.02	-	0.30	-	<0.05	-	<0.01	-	2.4	-	1*	- 1
4/26/2021	Mid-Flood	Sunny	Moderate	FCZ1B			Bottom	2	3.6	24.3	8.0	106.2	7.22		36.41		2.3		1.6		<0.02	-	0.28		<0.05		0.01		2.5	-	NOT DETECTED	
4/26/2021	Mid-Flood	Sunny	Moderate	H4A	17:20	1.8	Middle	1 1	0.9	24.6	8.1	121.0	8.20	8.19	36.19	36.20	2.2	2.2	1.5	1.7		<0.02	0.27	0.28	<0.05	<0.05	0.01	0.01	1.9	2.2	NOT DETECTED	ND
4/26/2021	Mid-Flood	Sunny	Moderate	H4A			Middle	2	0.9	24.6	8.0	120.7	8.18		36.20	-	2.2		1.8		<0.02	-	0.29		<0.05	-	0.01		2.4		NOT DETECTED	
4/26/2021	Mid-Flood	Sunny	Moderate	H1A	16:58	1.4	Middle	1	0.7	24.5	8.0	117.0	7.94	7.91	36.30	36.31	2.4	2.4	1.2	1.2	<0.02	<0.02	0.29	0.29	<0.05	<0.05	0.01	0.01	2.5	2.5	NOT DETECTED	ND
4/26/2021	Mid-Flood	Sunny	Moderate	H1A	40.47	4.0	Middle	2	0.7	24.5	8.0	116.2	7.88	-	36.31	-	2.4	-	1.2	-	<0.02	-	0.29	-	<0.05	-	0.01	-	2.5		NOT DETECTED	<del></del>
4/26/2021	Mid-Flood	Sunny	Moderate	M1A	16:47	1.2	Middle	1	0.6	24.6	8.1	122.7	8.32	8.34	36.24	36.23	2.1	2.1	<1.0	<1.0		<0.02	0.27	0.27	<0.05	<0.05	0.01	0.01	2.4	2.2	NOT DETECTED	<1
4/26/2021	Mid-Flood	Sunny	Moderate	M1A	40.05	4.4	Middle	2	0.6	24.6	8.1	123.2	8.35	- 0.00	36.22	- 20.40	2.1	-	<1.0	- 4.0	<0.02	- 0.00	0.27	- 0.00	<0.05	-0.05	<0.01	- 0.04	2.0	-	1*	-
4/26/2021	Mid-Flood	Sunny	Moderate	SGA	16:35	1.4	Middle	1	0.7	24.6 24.6	8.1	123.3	8.34	8.36	36.18	36.18	2.2	2.2	<1.0	<1.0	<0.02	<0.02	0.29	0.29	<0.05	<0.05	0.01	0.01	2.2	2.2	NOT DETECTED	ND
4/26/2021	Mid-Flood	Sunny	Moderate	SGA			Middle	2	0.7	24.6	8.1	123.7	8.37	-	36.18	-	2.1	-	<1.0	-	<0.02	-	0.28	-	<0.05	-	0.01	-	2.2	-	NOT DETECTED	_

Marine Water Quality Monitoring Results on 28-Apr-21 at Mid-Ebb tide

Date	Tidal	Weather Condition	Sea Condition	Monitoring Station	Time	Water Depth,	Water Level	Replicate	Sampling Depth	Temperature, °C	pН	DO Saturation,	Di mg		Sali p		Turb N	oidity, TU	Suspend mg		Amm Nitro	ogen,	Total N		Total In Nitro	gen,	To Phosp mo	horus,	Oxygen	nemical Demand, ng/L	E. Coli, Cfu/100ml	ı
												/6	Value	DΔ	Value	DΔ	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DΔ	Value	DΔ	Value	DA
4/28/2021	Mid-Ebb	Cloudy	Moderate	С	13:28	9.4	Surface	1	1.0	24.7	8.0	100.4	6.80	6.69	35.78	36.12	1.7	1.8	1.9	1.7	<0.02	0.02	0.38	0.39	<0.05	<0.05	0.02	0.02	2.4	2.6	NOT DETECTED	2
4/28/2021	Mid-Ebb	Cloudy	Moderate	С			Surface	2	1.0	24.6	8.0	99.3	6.73	-	35.89	_	1.6	_	1.7	-	<0.02	- 1	0.36	-	< 0.05	-	0.02	-	2.9	-	1*	
4/28/2021	Mid-Ebb	Cloudy	Moderate	С			Middle	1	4.7	24.4	8.0	97.9	6.66	_	36.07	_	1.8	_	1.9	_	<0.02	- 1	0.39	-	< 0.05	-	0.02	-	2.7	-	3*	
4/28/2021	Mid-Ebb	Cloudy	Moderate	С			Middle	2	4.7	24.5	8.0	96.8	6.58	_	36.04	_	1.8	-	1.7	_	<0.02	-	0.38	-	< 0.05	_	0.02	-	2.0	-	3*	-
4/28/2021	Mid-Ebb	Cloudy	Moderate	С			Bottom	1	8.4	24.3	8.0	93.5	6.35	6.26	36.37	-	1.8	-	1.5	-	0.03	-	0.41	-	< 0.05	-	0.02	-	2.5	-	1*	-
4/28/2021	Mid-Ebb	Cloudy	Moderate	С			Bottom	2	8.4	24.2	8.0	90.7	6.17	-	36.54	-	1.8	-	1.4	-	0.02	-	0.40	-	< 0.05	-	0.02	-	3.0	-	1*	-
4/28/2021	Mid-Ebb	Cloudy	Moderate	N1	13:18	6.3	Surface	1	1.0	24.7	8.0	103.5	7.03	7.06	35.86	36.00	1.2	1.2	2.0	1.7	0.02	0.02	0.38	0.40	<0.05	0.05	0.02	0.02	3.0	2.8	1*	1
4/28/2021	Mid-Ebb	Cloudy	Moderate	N1			Surface	2	1.0	24.6	8.0	106.3	7.22	-	35.91	-	1.2	-	1.5	-	0.02	-	0.38	-	< 0.05	-	0.02	-	2.4	-	1*	-
4/28/2021	Mid-Ebb	Cloudy	Moderate	N1			Middle	1	3.2	24.5	8.0	103.3	7.01	-	36.02	-	1.2	-	1.6	-	0.03	-	0.44	-	< 0.05	-	0.02	-	3.0	-	2*	-
4/28/2021	Mid-Ebb	Cloudy	Moderate	N1			Middle	2	3.2	24.5	8.0	102.7	6.96	-	36.07	-	1.3	-	1.8	-	0.03	-	0.40	-	0.05	-	0.02	-	2.5	-	NOT DETECTED	-
4/28/2021	Mid-Ebb	Cloudy	Moderate	N1			Bottom	1	5.3	24.5	8.0	101.3	6.88	6.92	36.10		1.3	-	1.8	-	<0.02	-	0.38	-	<0.05	-	0.02	-	2.6	-	1*	-
4/28/2021	Mid-Ebb	Cloudy	Moderate	N1			Bottom	2	5.3	24.5	8.0	102.3	6.95	-	36.06		1.2	-	1.2	-	<0.02	-	0.39	-	<0.05	-	0.02	-	3.1	-	2*	-
4/28/2021	Mid-Ebb	Cloudy	Moderate	FCZ1A	12:33	3.4	Surface	1	1.0	24.7	8.0	106.8	7.24	7.27	35.84	35.88	1.3	1.3	3.8	3.5	-	-	-	-	-	-	-	-	-	-		-
4/28/2021	Mid-Ebb	Cloudy	Moderate	FCZ1A			Surface	2	1.0	24.7	8.0	107.7	7.30	-	35.79	-	1.2	-	4.0	-	-	-	-	-	-	-	-	-	-	-		-
4/28/2021	Mid-Ebb	Cloudy	Moderate	FCZ1A			Bottom	1	2.4	24.6	8.0	107.4	7.28	7.24	35.95	-	1.3	-	2.9	-	-	-	-	-	-	-	-	-	-	-	-	-
4/28/2021	Mid-Ebb	Cloudy	Moderate	FCZ1A			Bottom	2	2.4	24.6	8.0	106.0	7.19	-	35.95	-	1.3	-	3.1	-	-	-	-	-	-	-	-	-	-	-	-	-
4/28/2021	Mid-Ebb	Cloudy	Moderate	FCZ1B	12:55	4.6	Surface	1	1.0	24.7	8.0	107.0	7.25	7.20	35.74	35.88	1.5	1.5	1.6	1.7	0.02	0.02	0.40	0.43	<0.05	<0.05	0.02	0.02	2.6	2.8	2*	1
4/28/2021	Mid-Ebb	Cloudy	Moderate	FCZ1B			Surface	2	1.0	24.6	8.0	105.4	7.15	-	35.92	-	1.5	-	1.6	-	<0.02	-	0.44	-	<0.05	-	0.01	-	3.1	-	1*	-
4/28/2021	Mid-Ebb	Cloudy	Moderate	FCZ1B			Bottom	1	3.6	24.6	8.0	106.0	7.19	7.17	35.94	-	1.4	-	2.2	-	0.02	-	0.45	-	<0.05	-	0.02	-	2.7	-	NOT DETECTED	-
4/28/2021	Mid-Ebb	Cloudy	Moderate	FCZ1B			Bottom	2	3.6	24.6	8.0	105.5	7.15	-	35.92	-	1.5	-	1.4	-	<0.02	-	0.41	-	<0.05	-	0.02	-	2.9	-	1*	
4/28/2021	Mid-Ebb	Cloudy	Moderate	H4A	12:45	1.6	Middle	1	0.8	24.9	8.0	106.5	7.20	7.21	35.63	35.64	1.3	1.3	1.4	1.6	0.02	0.02	0.39	0.41	<0.05	<0.05	0.02	0.02	2.7	3.0	3*	2
4/28/2021	Mid-Ebb	Cloudy	Moderate	H4A			Middle	2	0.8	24.9	8.0	106.7	7.22	-	35.64	-	1.3	-	1.8	-	0.02	-	0.42	-	<0.05	-	0.02	-	3.3	-	NOT DETECTED	-
4/28/2021	Mid-Ebb	Cloudy	Moderate	H1A	12:22	1.2	Middle	1	0.6	24.7	8.0	105.7	7.17	7.18	35.82	35.74	1.4	1.4	1.0	1.3	0.02	0.02	0.38	0.39	<0.05	<0.05	0.02	0.02	2.5	2.5	1*	2
4/28/2021	Mid-Ebb	Cloudy	Moderate	H1A			Middle	2	0.6	24.8	8.0	106.1	7.18	-	35.66		1.3	-	1.6	-	<0.02	-	0.39	-	<0.05	-	0.02	-	2.4	-	3*	-
4/28/2021	Mid-Ebb	Cloudy	Moderate	M1A	12:12	1.2	Middle	1	0.6	24.8	8.0	105.3	7.13	7.13	35.65	35.65	1.6	1.6	<1.0	<1.0	<0.02	0.02	0.38	0.40	<0.05	<0.05	<0.01	0.02	3.1	2.8	1*	<1
4/28/2021	Mid-Ebb	Cloudy	Moderate	M1A			Middle	2	0.6	24.8	8.0	105.4	7.13	-	35.65		1.5	-	<1.0	-	0.02	-	0.42	-	<0.05	-	0.02	-	2.4	-	NOT DETECTED	-
4/28/2021	Mid-Ebb	Cloudy	Moderate	SGA	12:01	1.4	Middle	1	0.7	24.8	8.0	104.8	7.09	7.06	35.68	35.72	1.5	1.5	1.1	1.2	0.02	0.03	0.38	0.39	<0.05	<0.05	0.02	0.02	2.7	2.7	2*	2
4/28/2021	Mid-Ebb	Cloudy	Moderate	SGA			Middle	2	0.7	24.7	8.0	103.5	7.02	-	35.76		1.4	-	1.2	-	0.03	-	0.40	-	<0.05	-	0.02	-	2.6	-	1*	-

DA - Depth-averaged

Marine Water Quality Monitoring Results on 28-Apr-21 at Mid-Flood tide

Date	Tidal	Weather Condition	Sea Condition	Monitoring Station	Time	Water Depth, m	Water Level				Turbidity, Suspended Soild, NTU mg/L			Niti	monia rogen, ng/L	Total Nitroger mg/L		n, Total Inorgani Nitrogen, mg/L		Phosp	Total Phosphorus, mg/L		emical Demand, ig/L	E. Coli, Cfu/100ml								
													Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA
4/28/2021	Mid-Flood	Cloudy	Moderate	С	6:01	9.3	Surface	1	1.0	24.7	7.9	94.8	6.42	6.25	35.82	36.19	2.4	2.3	2.4	2.8	-	-	-	-	-	-	-	-	-	-		-
4/28/2021	Mid-Flood	Cloudy	Moderate	С			Surface	2	1.0	24.6	7.8	94.7	6.42	-	35.89	-	2.2	-	2.3	-	-	-	-	-	-	-	-	-	-	-		-
4/28/2021	Mid-Flood	Cloudy	Moderate	С			Middle	1	4.7	24.4	7.8	88.7	6.02	-	36.21	-	2.3	-	2.9	-	_	-	-	-	-	-	-	-	-	-		-
4/28/2021	Mid-Flood	Cloudy	Moderate	С			Middle	2	4.7	24.4	7.9	90.0	6.13	-	36.20	-	2.4	-	2.2	-	-	-	-	-	-		-	-	-	-		-
4/28/2021	Mid-Flood	Cloudy	Moderate	С			Bottom	1	8.3	24.2	7.8	88.7	6.02	5.97	36.49	-	2.3		3.7	-	_	-	-	-	-	_	-	-	-	- 1		-
4/28/2021	Mid-Flood	Cloudy	Moderate	С			Bottom	2	8.3	24.2	7.8	86.9	5.92	-	36.54	-	2.4		3.3	-	-	-	-	-	-	-	-	-	-	-		-
4/28/2021	Mid-Flood	Cloudy	Moderate	N2	6:24	5.2	Surface	1	1.0	24.5	8.0	100.8	6.84	6.84	36.03	36.06	1.3	1.3	3.7	3.0	-	-	-	-	-	-	-	-	-	-		-
4/28/2021	Mid-Flood	Cloudy	Moderate	N2			Surface	2	1.0	24.6	8.0	100.8	6.84	-	35,96	-	1.3	-	2.6		-	-	-				-	-		- 1		-
4/28/2021	Mid-Flood	Cloudy	Moderate	N2			Bottom	1	4.2	24.5	8.0	101.8	6.91	6.93	36.09	-	1.2		2.8	-	-	-	-	-	-	-	-	-	-	-		-
4/28/2021	Mid-Flood	Cloudy	Moderate	N2			Bottom	2	4.2	24.5	7.9	102.3	6.95	-	36.15	_	1.3	_	2.8	_	_	_	-				_	_				-
4/28/2021	Mid-Flood	Cloudy	Moderate	FCZ1A	6:45	3.3	Surface	1	1.0	24.7	8.0	104.9	7.11	7.15	35.88	35.93	1.3	1.4	2.7	2.8	1 -	-	-	-	-	-	-	-	-	-		-
4/28/2021	Mid-Flood	Cloudy	Moderate	FCZ1A			Surface	2	1.0	24.7	8.0	106.0	7.18	-	35.91	_	1.4		2.8	-	_	_	_	-	-	_	-	-	-	-		_
4/28/2021	Mid-Flood	Cloudy	Moderate	FCZ1A			Bottom	1 1	2.3	24.6	8.0	107.4	7.28	7.21	35.94	_	1.3		3.0	_	l _	_	l -	_			_	_		- 1		_
4/28/2021	Mid-Flood	Cloudy	Moderate	FCZ1A			Bottom	2	2.3	24.6	8.0	105.3	7.14	_	35.99	_	1.4		2.7	_	l _	_					_	_		- 1	-	_
4/28/2021	Mid-Flood	Cloudy	Moderate	H4A	6:35	1.4	Middle	1	0.7	24.7	8.0	105.2	7.12	7.16	35.81	35.77	1.5	1.5	2.6	2.3	-	-	-	-	-	-	-	-	-	-	-	-
4/28/2021	Mid-Flood	Cloudy	Moderate	H4A			Middle	2	0.7	24.8	8.0	106.3	7.19	_	35.73	_	1.5	_	2.0	_	_	_	-	_	_		_	_				_
4/28/2021	Mid-Flood	Cloudy	Moderate	H1A	6:56	1.4	Middle	1	0.7	24.9	8.0	107.9	7.29	7.27	35.72	35.77	1.3	1.3	2.5	2.8	-	-	-	-	-		-	-	-	-		-
4/28/2021	Mid-Flood	Cloudy	Moderate	H1A			Middle	2	0.7	24.8	8.0	107.0	7.24	-	35.81	-	1.3	-	3.1	_	_	_					_	_		- 1		_
4/28/2021	Mid-Flood	Cloudy	Moderate	M1A	7:08	1.2	Middle	1	0.6	24.9	8.0	109.7	7.41	7.41	35.71	35.72	1.4	1.5	2.9	2.8	-	-	-	-	-	-	-	-	-	-		-
4/28/2021	Mid-Flood	Cloudy	Moderate	M1A			Middle	2	0.6	24.9	8.0	109.5	7.40	-	35.72	-	1.5	-	2.7	-	_	-	-	-	-	_	-	-	-	-		_
4/28/2021	Mid-Flood	Cloudy	Moderate	SGA	7:20	1.2	Middle	1	0.6	24.7	8.0	105.5	7.15	7.20	35.87	35.80	1.4	1.5	2.3	2.0	-	-	-	-	-	-	-	-	-	-		-
4/28/2021	Mid-Flood	Cloudy	Moderate	SGA			Middle	2	0.6	24.9	8.0	107.1	7.24	-	35.73	-	1.5	-	1.6	-	-	-	-	-		-	-	-	-	-		-

Marine Water Quality Monitoring Results on 30-Apr-21 at Mid-Ebb tide

Date	Tidal	Weather	Sea	Monitoring	Time	Water	Water Level	Replicate		Temperature,	pН	DO		0,		linity,	Turb		Suspend		Amm		Total Nitrogen,		Total Inorganic		То			emical	E. Coli, Cfu/100m	
		Condition	Condition	Station		Depth, m			Depth	°C		Saturation,	m	J/L		ppt N		TU	mg	g/L	Nitro		mg/L		Nitrogen, mg/L		Phosphorus, mg/L		Oxygen Dema mg/L			
						m						76	Value	DΔ	Value	DA	Value	DΔ	Value	DΔ	Value	J/L DA	Value	D.A	Value	DΔ	Value	DΔ	Value	DA	Value	DA
4/30/2021	Mid-Ebb	Fine	Moderate		15:11	9.6	Surface	- 1	1.0	25.6	8.0	92.7	6 19	6.13	35.73		1.5	1.9	2.1	2.7	<0.02	0.02	0.21	0.21	<0.05	<0.05	<0.01	0.01	1.4	1.5	NOT DETECTED	ND
4/30/2021	Mid-Ebb	Fine	Moderate	č	15.11	3.0	Surface	2	1.0	25.3	8.0	91.3	6.13	0.10	35.89	30.33	1.6		2.1		0.02	0.02	0.20		< 0.05	-0.00	0.01	0.01	1.8		NOT DETECTED	140
4/30/2021	Mid-Ebb	Fine	Moderate	Č			Middle	1	1.0	24.3	7.9	91.0	6.20		36.61	_	1.9		2.1		<0.02		0.21	_	< 0.05		0.02	_	1.6		NOT DETECTED	'
4/30/2021	Mid-Ebb	Fine	Moderate	Č			Middle	,	4.8	24.3	7.9	88.0	5.99	_	36.60		2.0		2.7	_	<0.02	_	0.21	_	< 0.05	_	< 0.01		1.3		NOT DETECTED	'
4/30/2021	Mid-Ebb	Fine	Moderate	Č			Bottom	1	8.6	24.1	8.0	81.2	5.51	5.48	36.74		2.2		3.2	_	<0.02	_	0.20	_	< 0.05	_	<0.01	_	1.3		NOT DETECTED	- '
4/30/2021	Mid-Ebb	Fine	Moderate	Č			Bottom	2	8.6	24.1	8.0	80.2	5.45	-	36.77	_	2.3	-	3.2	-	0.04	-	0.20	-	< 0.05	-	< 0.01	- 1	1.3	-	NOT DETECTED	- '
4/30/2021	Mid-Ebb	Fine	Moderate	N1	14:56	6.4	Surface	1	1.0	25.6	8.0	105.9	7.07	6.86	35.72	36.19	1.4	1.6	1.8	2.1	0.02	0.03	0.25	0.24	<0.05	0.05	<0.01	<0.01	1.4	1.4	NOT DETECTED	ND
4/30/2021	Mid-Ebb	Fine	Moderate	N1			Surface	2	1.0	25.5	8.0	104.3	6.97	-	35.75		1.6	-	1.7	-	0.02	-	0.27	-	< 0.05	-	< 0.01	-	1.4	-	NOT DETECTED	- '
4/30/2021	Mid-Ebb	Fine	Moderate	N1			Middle	1	3.2	24.7	8.0	96.1	6.53	-	36.22		1.6	-	2.1	-	0.06	-	0.21	-	0.07	-	< 0.01	-	1.4	-	NOT DETECTED	- '
4/30/2021	Mid-Ebb	Fine	Moderate	N1			Middle	2	3.2	24.6	8.0	101.2	6.86	-	36.31		1.7	-	2.2	-	0.04	-	0.24	-	< 0.05	-	< 0.01	-	1.2	-	NOT DETECTED	- '
4/30/2021	Mid-Ebb	Fine	Moderate	N1			Bottom	1	5.4	24.5	8.0	91.9	6.22	6.33	36.46		1.8	-	2.5	-	0.02	-	0.24	-	< 0.05	-	<0.01	-	1.3	-	NOT DETECTED	- '
4/30/2021	Mid-Ebb	Fine	Moderate	N1			Bottom	2	5.4	24.3	8.0	95.1	6.43	-	36.67	-	1.7	-	2.4	-	<0.02	-	0.21	-	<0.05	-	<0.01	-	1.5	-	NOT DETECTED	-
4/30/2021	Mid-Ebb	Fine	Moderate	FCZ1A	14:02	3.4	Surface	1	1.0	25.6	8.0	111.7	7.46	7.44	35.81	35.93	1.3	1.3	3.2	2.3		-	-	-	-	-	-	-	-	-		- '
4/30/2021	Mid-Ebb	Fine	Moderate	FCZ1A			Surface	2	1.0	25.5	8.0	110.8	7.41	-	35.84	-	1.2	-	3.0	-	-	-	-	-	-	-	-	-	-	-		- '
4/30/2021	Mid-Ebb	Fine	Moderate	FCZ1A			Bottom	1	2.4	24.9	8.0	110.5	7.45	7.42	35.98	-	1.3	-	1.5	-	-	-	-	-	-	-	-	-	-	-	-	- '
4/30/2021	Mid-Ebb	Fine	Moderate	FCZ1A			Bottom	2	2.4	24.8	8.0	109.5	7.39	-	36.07	-	1.4	-	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-
4/30/2021	Mid-Ebb	Fine	Moderate	FCZ1B	14:30	4.6	Surface	1	1.0	25.4	8.0	109.0	7.30	7.30	35.85	36.06	1.2	1.2	2.2	2.7	<0.02	0.02	0.22	0.27	<0.05	<0.05	<0.01	0.01	1.5	1.4	NOT DETECTED	ND
4/30/2021	Mid-Ebb	Fine	Moderate	FCZ1B			Surface	2	1.0	25.2	8.0	108.7	7.29	-	35.91	-	1.1		2.6	-	<0.02	-	0.23	-	<0.05	-	<0.01	-	1.4	-	NOT DETECTED	- '
4/30/2021	Mid-Ebb	Fine	Moderate	FCZ1B			Bottom	1	3.6	24.9	8.0	108.4	7.31	7.31	36.23	-	1.3	-	2.8	-	<0.02	-	0.32	-	< 0.05	-	0.01	-	1.3	-	NOT DETECTED	- '
4/30/2021	Mid-Ebb	Fine	Moderate	FCZ1B	44.40		Bottom	2	5.0	24.7	8.0	108.0	7.31	7.50	36.23	05.75	1.3		3.3		0.02	-	0.29	- 000	<0.05		0.01	- 0.04	1.2		NOT DETECTED	
4/30/2021	Mid-Ebb	Fine	Moderate	H4A	14:16	1.6	Middle	1	0.8	25.6	8.1	112.6	7.51 7.49	7.50	35.77 35.73	35.75	1.2	1.3	1.8	1.8	<0.02 0.04	0.03	0.21	0.22	<0.05	0.06	<0.01 <0.01	<0.01	1.3 1.8	1.6	NOT DETECTED NOT DETECTED	ND
4/30/2021	Mid-Ebb	Fine	Moderate	H4A	42.40	4.0	Middle	2	0.8	25.7	8.1	112.3		7.40		25.75	1.4	12	1.8	2.0	<0.04	-0.00	0.22	0.07	<0.05	-0.05		0.04		4.5		ND
4/30/2021	Mid-Ebb Mid-Ebb	Fine Fine	Moderate Moderate	H1A H1A	13:48	1.6	Middle Middle	1	0.8	25.7 25.7	8.0	111.9	7.45 7.41	7.43	35.74	35.75	1.2	1.3	2.9	2.8	<0.02	<0.02	0.26	0.27	<0.05	<0.05	0.01	0.01	1.6	1.5	NOT DETECTED NOT DETECTED	ND
4/30/2021 4/30/2021	Mid-Ebb			M1A	13:35	1.0	Middle	4		25.8		111.3	7.41	7.37	35.73	35.73	1.4	1.4	3.5	2.2	<0.02	<0.02	0.28	0.23	<0.05	<0.05	<0.01	<0.01	1.3	1.2	NOT DETECTED	ND
4/30/2021	Mid-Ebb	Fine Fine	Moderate Moderate	M1A M1A	13:35	1.0	Middle	1	0.5 0.5	25.8	8.0 8.0	110.5	7.35	1.31	35.73	33.73	1.3	1.4	3.5	3.3	<0.02	<0.02	0.23	0.23	<0.05	<0.05	<0.01	<0.01	1.3	1.3	NOT DETECTED	NO
4/30/2021	Mid-Ebb	Fine	Moderate	SGA	13:23	1.4	Middle	1	0.5	25.7	8.0	106.3	7.08	7.16	35.76	35.75	1.2	1.3	2.9	3.1	<0.02	<0.02	0.22	0.22	<0.05	<0.05	<0.01	<0.01	1.3	1.3	NOT DETECTED	ND
4/30/2021	Mid-Ebb	Fine	Moderate	SGA	13.23	1.4	Middle	2	0.7	25.8	8.0	108.7	7.24	7.10	35.74	33.73	1.2	1	3.3	3.1	<0.02	-0.02	0.21	0.22	<0.05	40.03	<0.01	VO.01	1.3	1.5	NOT DETECTED	NO

DA - Depth-averaged

Marine Water Quality Monitoring Results on

30-Apr-21 at Mid-Flood tide

Date	Tidal	Weather Condition	Sea Condition	Monitoring Station	Time	Water Depth, m	Water Level	Replicate	Sampling Depth	Temperature, °C	pH	DO Saturation, %	D mg			Suspended Soild, Armg/L N			Total Nitrogen mg/L		Total Inorganic Nitrogen, mg/L		Phosp me	horus,	Biochemical Oxygen Demand, mg/L		E. Coli, Cfu/100ml					
													Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA
4/30/2021	Mid-Flood	Fine	Moderate	С	6:56	9.6	Surface	1	1.0	25.3	8.0	101.8	6.82	6.82	35.92	36.38	2.2	3.1	2.5	2.1	-	-	-	-	-	-	-	-	-	-		-
4/30/2021	Mid-Flood	Fine	Moderate	С			Surface	2	1.0	25.4	8.0	105.6	7.08	-	35.88	-	2.4	-	2.2	-	-	-	-	-	-	-	-	-	-	-		-
4/30/2021	Mid-Flood	Fine	Moderate	С			Middle	1	4.8	24.4	7.9	99.9	6.79	-	36.57		3.5	-	2.3	-	-	-	-	-	-	_	-	-	-	-		-
4/30/2021	Mid-Flood	Fine	Moderate	С			Middle	2	4.8	24.3	7.9	97.0	6.58		36.59		3.5	-	1.6	-	-	-	-	-	-	-	-	-	-	- 1		-
4/30/2021	Mid-Flood	Fine	Moderate	С			Bottom	1	8.6	24.2	7.9	96.6	6.57	6.48	36.69		3.5		2.0	_	_	-	-	-	-	-	-	-	-	- 1		-
4/30/2021	Mid-Flood	Fine	Moderate	С			Bottom	2	8.6	24.3	7.9	94.1	6.39		36.65		3.7	-	2.1	-	-	-	-	-		-	-	-		- 1		-
4/30/2021	Mid-Flood	Fine	Moderate	N2	7:22	5.3	Surface	1	1.0	25.4	8.0	109.4	7.32	7.28	35.87	36.17	1.2	1.4	1.9	2.3	-	-	-	-	-	-	-	-	-	-		-
4/30/2021	Mid-Flood	Fine	Moderate	N2			Surface	2	1.0	25.4	8.0	107.9	7.23		35.90		1.3		1.5	_	_	_					_	_				-
4/30/2021	Mid-Flood	Fine	Moderate	N2			Bottom	1 1	4.3	24.6	8.0	106.2	7.18	7.19	36.47		1.6	_	3.0	_	_	_	-							_		-
4/30/2021	Mid-Flood	Fine	Moderate	N2			Bottom	2	4.3	24.6	8.0	106.3	7.20		36,45		1.6	_	2.7	_	_	_	_				_	_		_		_
4/30/2021	Mid-Flood	Fine	Moderate	FCZ1A	7:51	3.4	Surface	1	1.0	25.3	8.0	106.4	7.13	7.18	36.00	36.12	1.2	1.3	1.7	1.8	-	-	-	-	-	-	-	-	-	-		-
4/30/2021	Mid-Flood	Fine	Moderate	FCZ1A			Surface	2	1.0	25.3	8.0	107.9	7.23	-	35.97	-	1.2		1.4	_	_	_	-	-	-	_	-	-	-	-		-
4/30/2021	Mid-Flood	Fine	Moderate	FCZ1A			Bottom	1	2.4	24.9	8.0	104.4	7.09	7.10	36.25		1.4		2.0	_	_	l -	_	١.		l <u>-</u>	_	_		- 1		_
4/30/2021	Mid-Flood	Fine	Moderate	FCZ1A			Bottom	2	2.4	24.9	8.0	105.4	7.11		36.25		1.5		2.0	_	_	l -	_	١.		l <u>-</u>	_	_		-	-	_
4/30/2021	Mid-Flood	Fine	Moderate	H4A	7:36	1.8	Middle	1	0.9	25.5	8.0	110.8	7.41	7.42	35.87	35.87	1.1	1.2	1.4	1.3	-	-	-	-	-	-	-	-	-	-	-	-
4/30/2021	Mid-Flood	Fine	Moderate	H4A			Middle	2	0.9	25.5	8.0	111.0	7.42	-	35.86	_	1.2	_	1.1	_	_	_	-		_		_	_		_		-
4/30/2021	Mid-Flood	Fine	Moderate	H1A	8:03	1.6	Middle	1	0.8	25.5	8.0	110.9	7.41	7.40	35.87	35.87	1.2	1.3	1.5	1.7	-	-	-	-	-	-	-	-	-	-		-
4/30/2021	Mid-Flood	Fine	Moderate	H1A			Middle	2	0.8	25.5	8.0	110.4	7.38	-	35.86	-	1.3	-	1.8	-	_	_	_	-	-	_	_	_	-	_		_
4/30/2021	Mid-Flood	Fine	Moderate	M1A	8:15	1.0	Middle	1	0.5	25.5	8.0	112.6	7.48	7.47	35.83	35.83	1.2	1.2	2.3	2.5	-	-	-	-	-	-	-	-	-	-		-
4/30/2021	Mid-Flood	Fine	Moderate	M1A			Middle	2	0.5	25.5	8.0	111.4	7.45	-	35.82		1.2		2.6	-	_	-	-	-	-	-	-	-	-	- 1		-
4/30/2021	Mid-Flood	Fine	Moderate	SGA	8:28	1.0	Middle	1	0.5	25.5	8.0	111.5	7.45	7.46	35.86	35.86	1.6	1.5	1.2	1.1	-	-	-	-	-	-	-	-	-	-		-
4/30/2021	Mid-Flood	Fine	Moderate	SGA			Middle	2	0.5	25.5	8.0	111.6	7.46	-	35.86		1.4	-	1.0	-	_	-	-				-	-				-

#### Composite Effluent Quality Monitoring Results (1-year Operation of TSTP)

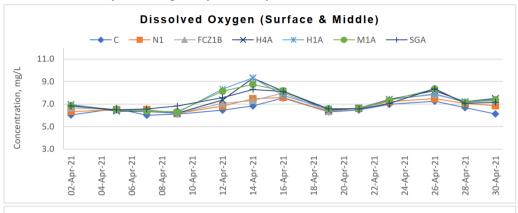
Date	Monitoring Station	Replicate	Temperature*	pН	DO Saturation	DO	Salinity	Turbidity	Suspended Solids	Ammonia Nitrogen	Total Nitrogen	Total Inorganic Nitrogen	Total Phosphorus	E.Coli	Biochemical Oxygen Demand^
			°C		%	mg/L	ppt	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	cfu/100ml	mg/L
4/1/2021	Effluent	1 2	6.5 6.5	8.1 8.1	75.0 74.6	8.10 8.05	0.2 0.2	2.6 2.5	4 -	0.24	18.4	17.9 -	1.98	160	<2
4/2/2021	Effluent	1 2	6.5	8.0	78.6	8.67	0.2	2.4	3	3.09	20.7	20.4	2.36	480	<2
4/3/2021	Effluent	1	6.5 6.5	8.0 7.9	78.0 75.7	8.60 7.99	0.2	2.4	3	3.26	20.6	20.5	2.35	63	<2
		2	6.5	7.9	75.0	7.91	0.2	2.5	-	-	-	-	-		-
4/4/2021	Effluent	1 2	5.9 5.9	8.1 8.1	71.7 72.6	8.74 8.81	0.24 0.24	1.4 1.5	3 -	0.04	19.3	19.1 -	1.76	440	<2
4/5/2021	Effluent	1 2	6.0 6.0	8.0 8.0	72.8 73.3	9.13 9.22	0.16 0.16	1.7 1.9	6	0.06	19.2	18.6	1.78	360	<2
4/6/2021	Effluent	1	6.5	7.9	78.8	8.08	0.2	2.5	6	0.52	25.6	21.4	2.2	500	<2
4/7/2021	Effluent	2	6.5 6.3	7.9 8.1	78.6 76.2	8.00 9.33	0.2	2.6 1.8	3	0.13	19.8	19.2	1.88	240	- <2
		2	6.3	8.1	74.1	9.25	0.22	2.0	-	-	-	-	-	-	-
4/8/2021	Effluent	1 2	6.5 6.5	7.9 7.9	83.6 82.9	8.60 8.52	0.2 0.2	2.3 2.4	4	0.48	17.9	17.9	1.88	150	3
4/9/2021	Effluent	1	6.5	7.9	81.2	8.41	0.2	2.4	3	0.48	18.6	18	1.87	52	<2
4/10/2021	Effluent	2	6.5 6.5	7.9 7.8	80.1 78.7	8.30	0.2	2.4	- 2	1.19	- 18	- 17	1.99	420	-
4/10/2021	Elliuent	2	6.5	7.8	78.0	8.11 8.04	0.2	2.4	-	-	-	-	1.99	420	<2
4/11/2021	Effluent	1 2	6.4 6.4	8.1 8.1	81.1 81.2	8.01 8.01	0.2 0.2	2.2 2.2	4	0.28	19.7	19.7	2.21	250	<2
4/12/2021	Effluent	1	6.5	7.8	82.6	8.54	0.2	2.6	6	0.11	12.9	12.7	1.66	270	4
4/13/2021	Effluent	1	6.5 6.3	7.8 8.2	81.9 73.3	8.47 9.05	0.2 0.15	2.6 1.8	3	2.69	17.3	17	2.38	300	3
		2	6.3	8.2	75.6	9.18	0.17	2.1	-	-	-	-	-	-	-
4/14/2021	Effluent	1 2	6.6 6.6	8.1 8.1	72.7 73.8	9.14 9.21	0.21 0.2	2.3 1.9	3 -	2.09	20	19.5 -	2.29	380	<2
4/15/2021	Effluent	1 2	6.3 6.3	8.1 8.1	68.2 70.8	8.75 8.89	0.13 0.13	1.6 1.7	2	2.13	21	20.1	2.46	470	<2
4/16/2021	Effluent	1	6.6	8.2	75.8	9.43	0.15	1.8	8	0.06	15.3	13.3	2.01	340	4
4/17/2021	Effluent	1	6.6 6.3	8.2 8.1	77.0 76.2	9.66 9.33	0.15 0.19	1.9 2.2	- 11	0.05	- 15	13.2	1.95	480	3
4/11/2021	Lilident	2	6.3	8.1	73.7	9.10	0.19	2.4		-	-	-	-	-	-
4/18/2021	Effluent	1 2	6.5 6.5	7.8 7.8	77.7 77.0	7.96 7.88	0.2 0.2	2.4 2.4	2	0.49	21.6	20.9	2.46	72	2
4/19/2021	Effluent	1	6.5	8.2	76.2	9.63	0.23	1.6	3	0.34	20.3	19.7	2.07	620	<2
4/20/2021	Effluent	1	6.6 6.2	8.2 8.2	74.5 69.7	9.42 8.69	0.23 0.16	1.8 1.8	3	0.35	23	18.2	2.28	320	- <2
		2	6.2	8.2	70.6	8.88	0.16	2.0	-	-	-	-	-	-	-
4/21/2021	Effluent	1 2	6.2 6.2	8.1 8.1	71.4 70.9	8.43 8.47	0.17 0.17	1.9 1.9	4	0.23	13.9	11.6	1.52	420	6
4/22/2021	Effluent	1	6.2	8.1	72.4	8.40	0.16	2.0	6	1.04	10.8	8.9	1.54	560	9
4/23/2021	Effluent	1	6.2 6.5	8.1 7.8	72.6 78.7	8.37 8.17	0.17	2.0	4	0.27	21.1	19.1	2.31	170	3
	5.00	2	6.5	7.8	78.0	8.09	0.2	2.5	-	-	-	-	-	-	-
4/24/2021	Effluent	1 2	6.5 6.5	7.9 7.9	81.6 80.9	8.44 8.35	0.2 0.2	2.6 2.6	2 -	0.29	20.1	19.5 -	2.31	120	<2
4/25/2021	Effluent	1	6.5	8.1	81.7	8.02	0.2	2.2	4	0.24	20.8	19.9	2.32	83	<2
4/26/2021	Effluent	1	6.5 6.5	8.1 7.9	81.6 82.6	7.99 8.52	0.2	2.2	4	2.1	21.2	18.9	2.19	140	<2
		2	6.5	7.9	82.0	8.45	0.2	2.4	-	-	-	-	-		-
4/27/2021	Effluent	1 2	6.5 6.5	7.9 7.9	81.7 81.2	7.86 7.80	0.2 0.2	2.3 2.3	3 -	2.27	19.8	18.8 -	2.21	180	<2
4/28/2021	Effluent	1	6.5	7.8	79.4	8.07	0.2	2.4	3	1.05	20.3	17.3	2.38	480	2
4/29/2021	Effluent	1	6.5 6.5	7.8 7.9	79.0 77.4	8.02 8.26	0.2	2.4	3	1.16	20.7	19.4	2.29	510	<2
4/30/2021	E#I	2	6.5	7.9	77.0	8.21	0.2	2.4	-	-	- 10.0	-	- 200	-	-
4/30/2021	Effluent	1 2	6.5 6.5	8.1 8.1	72.5 74.4	9.35 9.47	0.22 0.22	1.6 1.7	2 -	0.63	18.2	15.7	2.38	190	2 -

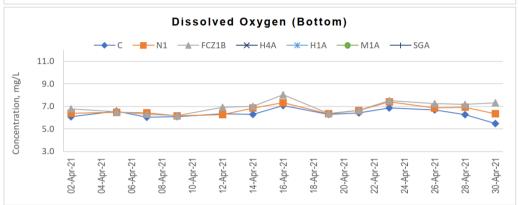
Action Level	20	28.6	3.3	664	13.3
Limit Level	40	57.1	6.6	996	26.6

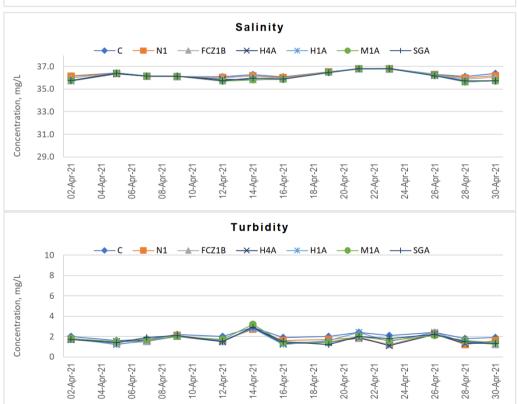
A 24-hour flow-weighted composite effluent sample was collected and mixed.

\* Effluent sample was collected by refrigerated autosampler. The collected samples were kept in low temperature during 24-hr sampling period. ^BOD5 tested with nitrification inhibitor

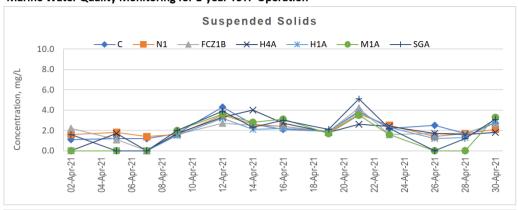
#### Marine Water Quality Monitoring for 1-year TSTP Operation

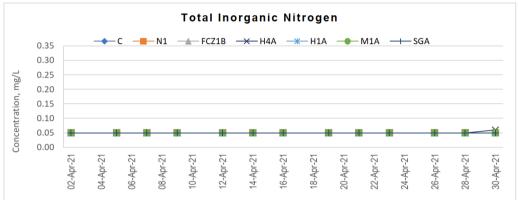


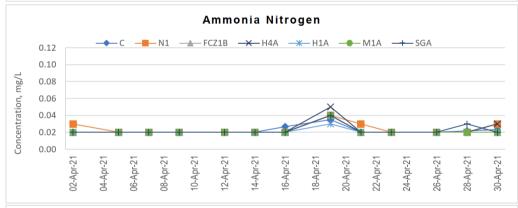


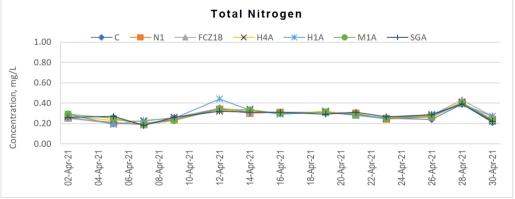


#### Marine Water Quality Monitoring for 1-year TSTP Operation





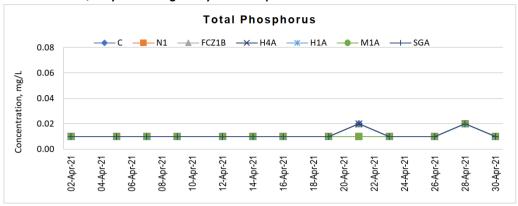


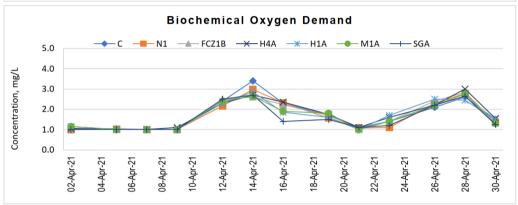


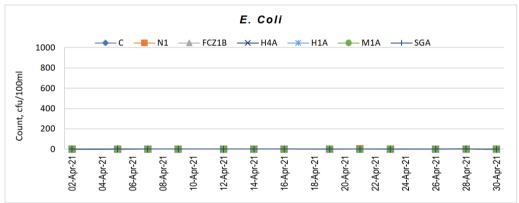
<sup>\*</sup>For Total Inorganic Nitrogen, the <0.05 will be presented as value of 0.05 in the plot.

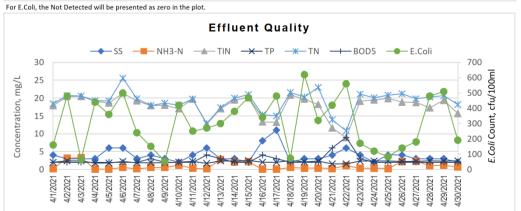
<sup>\*</sup>For Ammonia Nitrogen, the <0.02 will be presented as value of 0.02 in the plot.

#### Marine Water Quality Monitoring for 1-year TSTP Operation

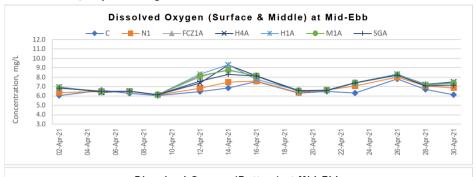


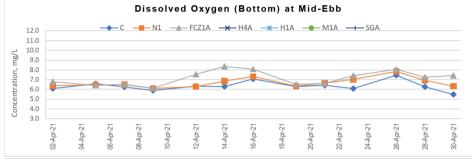


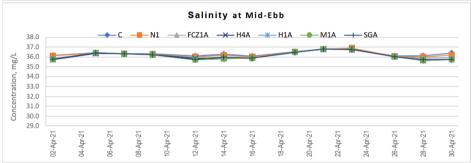


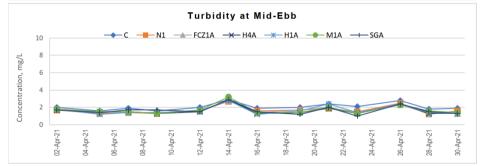


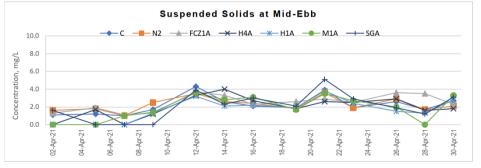
#### **Marine Water Quality Monitoring for Marine Construction Works**



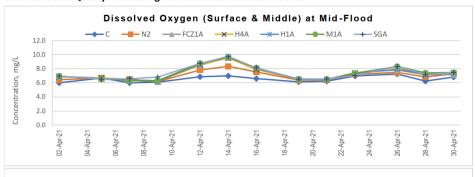


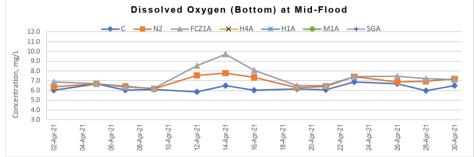


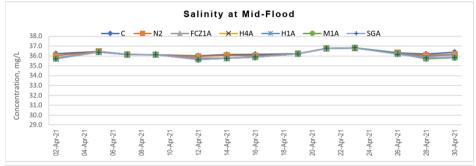


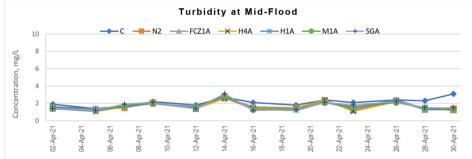


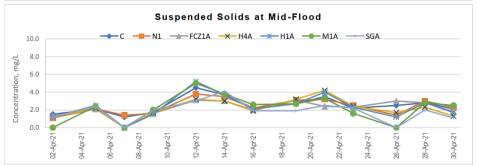
#### **Marine Water Quality Monitoring for Marine Construction Works**











## **QAQC** Reports

# 2 April 2021

Laboratory Duplicate	(DUP	) Report
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Matrix: WATER					Labora	atory Duplicate (DUP)	Report	
Laboratory	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate	RPD (%)
sample ID							Result	
EA/ED: Physical and A	ggregate Properties (QC Lot:	: 3601797)						
HK2111696-001	FCZ1B _S Ebb	EA025: Suspended Solids (SS)		0.5	mg/L	2.6	2.3	10.2
HK2111696-039	H4A _M Ebb	EA025: Suspended Solids (SS)		0.5	mg/L	<1.0	<1.0	0.00
EA/ED: Physical and A	ggregate Properties (QC Lot:	: 3601798)						
HK2111696-057	C _M Ebb	EA025: Suspended Solids (SS)		0.5	mg/L	<1.0	<1.0	0.00
ED/EK: Inorganic Nonr	netallic Parameters (QC Lot:	3605750)						
HK2111696-056	C _S _Dup Ebb	EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.02	<0.02	0.00
ED/EK: Inorganic Nonr	netallic Parameters (QC Lot:	3605751)						
HK2111696-060	C _B _Dup Ebb	EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.02	<0.02	0.00
ED/EK: Inorganic Nonr	netallic Parameters (QC Lot:	3608784)						
HK2111696-001	FCZ1B _S Ebb	EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	<0.01	0.00
ED/EK: Inorganic Nonr	netallic Parameters (QC Lot:	3608785)						
HK2111696-060	C _B _Dup Ebb	EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	<0.01	0.00

#### Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report

Matrix: WATER			Method Blank (ME	) Report		Laboratory Conti	rol Spike (LCS) and Labo	ratory Control S	pike Duplicate (	DCS) Report	
					Spike	Spike Re	covery (%)	Recove	ry Limits(%)	RP	D (%)
Method: Compound C	AS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 36	01797)										
EA025: Suspended Solids (SS)		0.5	mg/L	<0.5	20 mg/L	96.0		85.9	117		
EA/ED: Physical and Aggregate Properties (QC Lot: 36	01798)										
EA025: Suspended Solids (SS)		0.5	mg/L	<0.5	20 mg/L	102		85.9	117		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 360	05750)										
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	98.9		93.1	107		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 360	05751)										
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	97.9		93.1	107		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 360	08784)										
EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	0.5 mg/L	93.8		93.6	102		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 360	08785)										
EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	0.5 mg/L	95.4		93.6	102		

## 5 April 2021

#### Laboratory Duplicate (DUP) Report

Matrix: WATER					Labor	atory Duplicate (DUP)	Report	
Laboratory	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate	RPD (%)
sample ID							Result	
EA/ED: Physical and A	ggregate Properties (QC Lot:	3603723)						
HK2112415-001	FCZ1B _S Ebb	EA025: Suspended Solids (SS)		0.5	mg/L	<1.0	<1.0	0.00
HK2112415-039	H4A _M Ebb	EA025: Suspended Solids (SS)		0.5	mg/L	1.5	1.1	32.4
EA/ED: Physical and A	ggregate Properties (QC Lot:	3603724)						
HK2112415-057	C _M Ebb	EA025: Suspended Solids (SS)		0.5	mg/L	1.2	1.4	16.8
ED/EK: Inorganic Nonr	metallic Parameters (QC Lot:	3605752)						
HK2112415-056	C _S _Dup Ebb	EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.02	<0.02	0.00
ED/EK: Inorganic Nonr	metallic Parameters (QC Lot:	3605753)						
HK2112415-060	C _B _Dup Ebb	EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.02	<0.02	0.00
ED/EK: Inorganic Nonr	metallic Parameters (QC Lot:	3614873)						
HK2112415-001	FCZ1B _S Ebb	EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	<0.01	0.00
ED/EK: Inorganic Nonr	metallic Parameters (QC Lot:	3614874)						
HK2112415-060	C _B _Dup Ebb	EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	<0.01	0.00

Matrix: WATER			Method Blank (MB)	Report .		Laboratory Conti	rol Spike (LCS) and Lab	oratory Control S	pike Duplicate (E	CS) Report	
					Spike	Spike Re	acovery (%)	Recove	ary Limits(%)	RPI	D (%)
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control
											Limit
EA/ED: Physical and Aggregate Properties	(QC Lot: 3603723)										
EA025: Suspended Solids (SS)		0.5	mg/L	<0.5	20 mg/L	108		85.9	117		
EA/ED: Physical and Aggregate Properties	(QC Lot: 3603724)										
EA025: Suspended Solids (SS)		0.5	mg/L	<0.5	20 mg/L	98.0		85.9	117		
ED/EK: Inorganic Nonmetallic Parameters	(QC Lot: 3605752)										
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	98.9		93.1	107		
ED/EK: Inorganic Nonmetallic Parameters	(QC Lot: 3605753)										
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	97.4		93.1	107		
ED/EK: Inorganic Nonmetallic Parameters	(QC Lot: 3614873)										
EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	0.5 mg/L	98.6		93.6	102		
ED/EK: Inorganic Nonmetallic Parameters	(QC Lot: 3614874)										
EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	0.5 mg/L	97.4		93.6	102		

#### Laboratory Duplicate (DUP) Report

			_					
Matrix: WATER					Labora	atory Duplicate (DUP)	Report	
Laboratory	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate	RPD (%)
sample ID							Result	
EA/ED: Physical and A	ggregate Properties (QC Lot:	3606927)						
HK2112418-001	FCZ1B _S Flood	EA025: Suspended Solids (SS)		0.5	mg/L	<1.0	<1.0	0.00
HK2112418-039	H4A _M Flood	EA025: Suspended Solids (SS)		0.5	mg/L	<1.0	<1.0	0.00
EA/ED: Physical and A	ggregate Properties (QC Lot:	3606928)						
HK2112418-059	C _B Flood	EA025: Suspended Solids (SS)		0.5	mg/L	<1.0	<1.0	0.00
ED/EK: Inorganic Nonr	metallic Parameters (QC Lot: 3	3611800)						
HK2112418-058	C _M _Dup Flood	EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.02	<0.02	0.00
ED/EK: Inorganic Nonr	metallic Parameters (QC Lot: 3	3611801)						
HK2112418-060	C _B _Dup Flood	EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.02	0.02	0.00
ED/EK: Inorganic Nonr	metallic Parameters (QC Lot: 3	3614874)						
HK2112415-060	Anonymous	EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	<0.01	0.00
ED/EK: Inorganic Nonr	metallic Parameters (QC Lot: 3	3614875)						
HK2112422-001	Anonymous	EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	<0.01	0.00

## Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report

Matrix: WATER			Method Blank (MB	) Report		Laboratory Conti	ol Spike (LCS) and Lab	oratory Control S	pike Duplicate (L	OCS) Report	
					Spike	Spike Re	covery (%)	Recove	ry Limits(%)	RP.	''D (%)
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 3	3606927)										
EA025: Suspended Solids (SS)		0.5	mg/L	<0.5	20 mg/L	92.5		85.9	117		
EA/ED: Physical and Aggregate Properties (QC Lot: 3	3606928)										
EA025: Suspended Solids (SS)		0.5	mg/L	<0.5	20 mg/L	109		85.9	117		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3	611800)										
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	97.2		93.1	107		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3	611801)										
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	99.9		93.1	107		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3	614874)										
EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	0.5 mg/L	97.4		93.6	102		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3	614875)										
EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	0.5 mg/L	98.8		93.6	102		

## 9 April 2021

## Laboratory Duplicate (DUP) Report

Matrix: WATER					Labora	atory Duplicate (DUP)	Report	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
	ggregate Properties (QC Lot:	3615400)			'			
HK2112422-001	FCZ1B _S Flood	EA025: Suspended Solids (SS)		0.5	mg/L	1.8	1.9	5.48
HK2112422-039	H4A _M Flood	EA025: Suspended Solids (SS)		0.5	mg/L	1.3	1.5	16.2
EA/ED: Physical and A	ggregate Properties (QC Lot:	3615401)						
HK2112422-059	C _B Flood	EA025: Suspended Solids (SS)		0.5	mg/L	<1.0	<1.0	0.00
ED/EK: Inorganic Nonr	metallic Parameters (QC Lot: 3	3614403)						
HK2112422-058	C _M _Dup Flood	EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.02	<0.02	0.00
ED/EK: Inorganic Nonr	metallic Parameters (QC Lot: 3	3614404)						
HK2112422-060	C _B _Dup Flood	EK055K: Ammonia as N	7664-41-7	0.01	mg/L	0.02	<0.02	0.00
ED/EK: Inorganic Nonr	metallic Parameters (QC Lot: 3	3614875)						
HK2112422-001	FCZ1B _S Flood	EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	<0.01	0.00
ED/EK: Inorganic Nonr	metallic Parameters (QC Lot: 3	3614876)						
HK2112422-060	C _B _Dup Flood	EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	<0.01	0.00

Matrix: WATER			Method Blank (ME	3) Report		Laboratory Contr	rol Spike (LCS) and Labo	ratory Control S	pike Duplicate (i	DCS) Report	
					Spike	Spike Re	covery (%)	Recove	ry Limits(%)	RP	D (%)
Method: Compound CA	AS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control
											Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 361	15400)										
EA025: Suspended Solids (SS)		0.5	mg/L	<0.5	20 mg/L	110		85.9	117		
EA/ED: Physical and Aggregate Properties (QC Lot: 361	15401)										
EA025: Suspended Solids (SS)		0.5	mg/L	<0.5	20 mg/L	108		85.9	117		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 361-	4403)										
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	99.4		93.1	107		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 361-	4404)										
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	99.3		93.1	107		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 361-	4875)										
EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	0.5 mg/L	98.8		93.6	102		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 361-	4876)										
EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	0.5 mg/L	98.7		93.6	102		

## Laboratory Duplicate (DUP) Report

Matrix: WATER					Labora	atory Duplicate (DUP)	Report	
Laboratory	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate	RPD (%)
sample ID							Result	
EA/ED: Physical and A	ggregate Properties (QC Lot:	3618075)						
HK2112815-001	FCZ1B _S Ebb	EA025: Suspended Solids (SS)		0.5	mg/L	3.0	2.6	15.4
HK2112815-039	H4A _M Ebb	EA025: Suspended Solids (SS)		0.5	mg/L	3.6	3.7	2.72
EA/ED: Physical and A	ggregate Properties (QC Lot:	3618076)						
HK2112815-057	C _M Ebb	EA025: Suspended Solids (SS)		0.5	mg/L	4.8	4.5	4.85
ED/EK: Inorganic Nonr	metallic Parameters (QC Lot:	3619828)						
HK2112815-056	C _S _Dup Ebb	EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.02	<0.02	0.00
ED/EK: Inorganic Nonr	metallic Parameters (QC Lot:	3619829)						
HK2112815-060	C _B _Dup Ebb	EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.02	<0.02	0.00
ED/EK: Inorganic Nonr	metallic Parameters (QC Lot:	3620382)						
HK2112815-001	FCZ1B _S Ebb	EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	<0.01	0.00
ED/EK: Inorganic Nonr	metallic Parameters (QC Lot:	3620383)						
HK2112815-057	C M Ebb	EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	<0.01	0.00

#### Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report

Matrix: WATER			Method Blank (ME	3) Report		Laboratory Contr	rol Spike (LCS) and Labo	ratory Control S	pike Duplicate (	DCS) Report	
					Spike	Spike Re	covery (%)	Recove	ry Limits(%)	RP	D (%)
Method: Compound Co	AS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control
											Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 36	18075)										
EA025: Suspended Solids (SS)		0.5	mg/L	<0.5	20 mg/L	104		85.9	117		
EA/ED: Physical and Aggregate Properties (QC Lot: 36	18076)										
EA025: Suspended Solids (SS)		0.5	mg/L	<0.5	20 mg/L	110		85.9	117		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 361	9828)										
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	98.4		93.1	107		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 361	9829)										
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	99.1		93.1	107		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 362	(0382)										
EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	0.5 mg/L	97.4		93.6	102		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 362	(0383)										
EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	0.5 mg/L	97.6		93.6	102		

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#### Laboratory Duplicate (DUP) Report

Matrix: WATER					Labora	atory Duplicate (DUP)	Report	
Laboratory	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate	RPD (%)
sample ID							Result	
EA/ED: Physical and A	ggregate Properties (QC Lot:	3620583)						
HK2112819-001	FCZ1B _S Ebb	EA025: Suspended Solids (SS)		0.5	mg/L	2.6	3.2	19.1
HK2112819-039	H4A _M Ebb	EA025: Suspended Solids (SS)		0.5	mg/L	4.4	4.7	6.06
EA/ED: Physical and A	ggregate Properties (QC Lot:	: 3620584)						
HK2112819-057	C _M Ebb	EA025: Suspended Solids (SS)		0.5	mg/L	2.1	2.4	13.2
ED/EK: Inorganic Nonr	netallic Parameters (QC Lot:	3620667)						
HK2112819-056	C _S _Dup Ebb	EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.02	<0.02	0.00
ED/EK: Inorganic Nonr	netallic Parameters (QC Lot:	3620668)						
HK2112819-060	C _B _Dup Ebb	EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.02	<0.02	0.00
ED/EK: Inorganic Nonr	netallic Parameters (QC Lot:	3625979)						
HK2112819-001	FCZ1B _S Ebb	EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	<0.01	0.00
ED/EK: Inorganic Nonr	netallic Parameters (QC Lot:	3625980)						
HK2112819-060	C_B_Dup Ebb	EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	<0.01	0.00

Matrix: WATER			Method Blank (ME	i) Report		Laboratory Contri	ol Spike (LCS) and Labo	oratory Control S	ipike Duplicate (I	DCS) Report	
					Spike	Spike Red	covery (%)	Recove	ary Limits(%)	RP	D (%)
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control
											Limit
EA/ED: Physical and Aggregate Properties (QC L	_ot: 3620583)										
EA025: Suspended Solids (SS)		0.5	mg/L	<0.5	20 mg/L	109		85.9	117		
EA/ED: Physical and Aggregate Properties (QC L	_ot: 3620584)										
EA025: Suspended Solids (SS)		0.5	mg/L	<0.5	20 mg/L	110		85.9	117		
ED/EK: Inorganic Nonmetallic Parameters (QC Lo	ot: 3620667)										
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	98.6		93.1	107		
ED/EK: Inorganic Nonmetallic Parameters (QC Lo	ot: 3620668)										
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	99.5		93.1	107		
ED/EK: Inorganic Nonmetallic Parameters (QC Lo	ot: 3625979)										
EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	0.5 mg/L	96.0		93.6	102		
ED/EK: Inorganic Nonmetallic Parameters (QC Lo	ot: 3625980)										
EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	0.5 mg/L	97.4		93.6	102		

Matrix: WATER					Labora	atory Duplicate (DUP)	Report	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and A	ggregate Properties (QC Lot	: 3629088)						
HK2112821-001	FCZ1B _S Ebb	EA025: Suspended Solids (SS)		0.5	mg/L	2.1	2.6	24.3
HK2112821-039	H4A _M Ebb	EA025: Suspended Solids (SS)		0.5	mg/L	2.4	2.1	13.5
EA/ED: Physical and A	ggregate Properties (QC Lot	: 3629089)						
HK2112821-057	C _M Ebb	EA025: Suspended Solids (SS)		0.5	mg/L	2.1	2.4	13.3
ED/EK: Inorganic Nonr	netallic Parameters (QC Lot:	3629297)						
HK2112821-056	C _S _Dup Ebb	EK055K: Ammonia as N	7664-41-7	0.01	mg/L	0.03	0.03	0.00
ED/EK: Inorganic Nonr	netallic Parameters (QC Lot:	3629298)						
HK2112821-060	C _B _Dup Ebb	EK055K: Ammonia as N	7664-41-7	0.01	mg/L	0.04	0.04	0.00
ED/EK: Inorganic Nonr	netallic Parameters (QC Lot:	3634467)						
HK2112821-001	FCZ1B _S Ebb	EK067P: Total Phosphorus as P		0.01	mg/L	0.01	0.01	0.00
ED/EK: Inorganic Nonr	netallic Parameters (QC Lot:	3634468)						
HK2112821-060	C _B _Dup Ebb	EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	<0.01	0.00

## Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report

Matrix: WATER			Method Blank (ME	i) Report		Laboratory Contr	rol Spike (LCS) and Labo	ratory Control S	pike Duplicate (i	DCS) Report	
					Spike	Spike Re	covery (%)	Recove	ry Limits(%)	RP	D (%)
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control
											Limit
EA/ED: Physical and Aggregate Properties (QC L	ot: 3629088)										
EA025: Suspended Solids (SS)		0.5	mg/L	<0.5	20 mg/L	102		85.9	117		
EA/ED: Physical and Aggregate Properties (QC L	ot: 3629089)										
EA025: Suspended Solids (SS)		0.5	mg/L	<0.5	20 mg/L	96.5		85.9	117		
ED/EK: Inorganic Nonmetallic Parameters (QC Lo	ot: 3629297)										
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	98.5		93.1	107		
ED/EK: Inorganic Nonmetallic Parameters (QC Lo	ot: 3629298)										
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	99.0		93.1	107		
ED/EK: Inorganic Nonmetallic Parameters (QC Lo	ot: 3634467)										
EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	0.5 mg/L	94.0		93.6	102		
ED/EK: Inorganic Nonmetallic Parameters (QC Lo	ot: 3634468)										
EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	0.5 mg/L	93.8		93.6	102		

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### Laboratory Duplicate (DUP) Report

Matrix: WATER					Labora	atory Duplicate (DUP)	Report	
Laboratory	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate	RPD (%)
sample ID							Result	
EA/ED: Physical and A	ggregate Properties (QC Lot	3631265)						
HK2114019-001	FCZ1B _S Ebb	EA025: Suspended Solids (SS)		0.5	mg/L	1.5	1.8	13.7
HK2114019-039	H4A _M Ebb	EA025: Suspended Solids (SS)		0.5	mg/L	1.7	2.0	14.8
EA/ED: Physical and A	ggregate Properties (QC Lot	3631266)						
HK2114019-057	C _M Ebb	EA025: Suspended Solids (SS)		0.5	mg/L	2.0	2.1	6.21
ED/EK: Inorganic Nonr	metallic Parameters (QC Lot:	3633725)						
HK2114019-056	C _S _Dup Ebb	EK055K: Ammonia as N	7664-41-7	0.01	mg/L	0.04	0.04	0.00
ED/EK: Inorganic Nonr	metallic Parameters (QC Lot:	3633726)						
HK2114019-060	C _B _Dup Ebb	EK055K: Ammonia as N	7664-41-7	0.01	mg/L	0.03	0.03	0.00
ED/EK: Inorganic Nonr	metallic Parameters (QC Lot:	3634471)						
HK2114019-001	FCZ1B _S Ebb	EK067P: Total Phosphorus as P		0.01	mg/L	0.02	0.01	0.00
ED/EK: Inorganic Nonr	metallic Parameters (QC Lot:	3634472)						
HK2114019-060	C _B _Dup Ebb	EK067P: Total Phosphorus as P		0.01	mg/L	0.02	0.02	0.00

Matrix: WATER			Method Blank (ME	3) Report		Laboratory Contr	ol Spike (LCS) and Labo	ratory Control S	pike Duplicate (	DCS) Report	
					Spike	Spike Re	covery (%)	Recove	ary Limits(%)	RP	D (%)
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control
											Limit
EA/ED: Physical and Aggregate Properties (QC I	Lot: 3631265)										
EA025: Suspended Solids (SS)		0.5	mg/L	<0.5	20 mg/L	102		85.9	117		
EA/ED: Physical and Aggregate Properties (QC I	Lot: 3631266)										
EA025: Suspended Solids (SS)		0.5	mg/L	<0.5	20 mg/L	106		85.9	117		
ED/EK: Inorganic Nonmetallic Parameters (QC L	ot: 3633725)										
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	98.6		93.1	107		
ED/EK: Inorganic Nonmetallic Parameters (QC L	.ot: 3633726)										
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	99.3		93.1	107		
ED/EK: Inorganic Nonmetallic Parameters (QC L	ot: 3634471)										
EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	0.5 mg/L	94.0		93.6	102		
ED/EK: Inorganic Nonmetallic Parameters (QC L	ot: 3634472)										
EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	0.5 ma/L	94.2		93.6	102		

## Laboratory Duplicate (DUP) Report

Matrix: WATER					Labora	atory Duplicate (DUP)	Report	
Laboratory	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate	RPD (%)
sample ID							Result	
EA/ED: Physical and A	ggregate Properties (QC Lot:	3639253)						
HK2114020-001	FCZ1B _S Ebb	EA025: Suspended Solids (SS)		0.5	mg/L	4.9	5.0	0.00
HK2114020-039	H4A _M Ebb	EA025: Suspended Solids (SS)		0.5	mg/L	2.8	2.5	11.3
EA/ED: Physical and A	ggregate Properties (QC Lot:	3639254)						
HK2114020-057	C _M Ebb	EA025: Suspended Solids (SS)		0.5	mg/L	3.2	3.5	8.12
ED/EK: Inorganic Nonr	metallic Parameters (QC Lot:	3637204)						
HK2114020-001	FCZ1B _S Ebb	EK067P: Total Phosphorus as P		0.01	mg/L	0.02	0.01	0.00
ED/EK: Inorganic Nonr	metallic Parameters (QC Lot:	3637205)						
HK2114020-060	C _B _Dup Ebb	EK067P: Total Phosphorus as P		0.01	mg/L	0.01	0.01	0.00
ED/EK: Inorganic Nonr	metallic Parameters (QC Lot:	3638920)						
HK2114020-001	FCZ1B _S Ebb	EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.02	0.02	0.00
ED/EK: Inorganic Nonr	metallic Parameters (QC Lot:	3638921)						
HK2114020-060	C B Dup Ebb	EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.02	<0.02	0.00

#### Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report

Matrix: WATER			Method Blank (ME	3) Report		Laboratory Contr	rol Spike (LCS) and Labo	ratory Control S	pike Duplicate (	DCS) Report	
					Spike	Spike Re	covery (%)	Recove	ary Limits(%)	RP	D (%)
Method: Compound CA	AS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control
											Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 363	9253)										
EA025: Suspended Solids (SS)		0.5	mg/L	<0.5	20 mg/L	97.5		85.9	117		
EA/ED: Physical and Aggregate Properties (QC Lot: 363	9254)										
EA025: Suspended Solids (SS)		0.5	mg/L	<0.5	20 mg/L	108		85.9	117		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 363)	7204)										
EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	0.5 mg/L	95.4		93.6	102		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 363)	7205)										
EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	0.5 mg/L	95.2		93.6	102		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3638	8920)										
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	100		93.1	107		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3638	8921)										
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	98.5		93.1	107		

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## Laboratory Duplicate (DUP) Report

			r r					
Matrix: WATER					Labora	atory Duplicate (DUP)	Report	
Laboratory	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate	RPD (%)
sample ID							Result	
EA/ED: Physical and A	ggregate Properties (QC Lot: 36	40832)						
HK2114021-001	FCZ1B _S Flood	EA025: Suspended Solids (SS)		0.5	mg/L	1.6	1.5	0.00
HK2114021-039	H4A _M Flood	EA025: Suspended Solids (SS)		0.5	mg/L	2.3	2.5	8.42
EA/ED: Physical and A	ggregate Properties (QC Lot: 36	40833)						
HK2114021-059	C _B Flood	EA025: Suspended Solids (SS)		0.5	mg/L	1.5	1.8	22.6
ED/EK: Inorganic Nonn	netallic Parameters (QC Lot: 364	32226)						
HK2114021-058	C _M _Dup Flood	EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.02	<0.02	0.00
ED/EK: Inorganic Nonn	netallic Parameters (QC Lot: 364	32227)						
HK2114021-060	C _B _Dup Flood	EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.02	<0.02	0.00
ED/EK: Inorganic Nonn	netallic Parameters (QC Lot: 364	12332)						
HK2114021-001	FCZ1B _S Flood	EK067P: Total Phosphorus as P		0.01	mg/L	0.01	0.01	0.00
ED/EK: Inorganic Nonn	netallic Parameters (QC Lot: 364	12333)						
HK2114021-060	C _B _Dup Flood	EK067P: Total Phosphorus as P		0.01	mg/L	0.01	0.01	0.00

Matrix: WATER			Method Blank (ME	i) Report		Laboratory Contr	rol Spike (LCS) and Labo	oratory Control S	pike Duplicate (I	DCS) Report	
					Spike	Spike Re	covery (%)	Recove	ary Limits(%)	RPI	D (%)
Method: Compound CA	AS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control
											Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 364	10832)										
EA025: Suspended Solids (SS)		0.5	mg/L	<0.5	20 mg/L	95.0		85.9	117		
EA/ED: Physical and Aggregate Properties (QC Lot: 364	10833)										
EA025: Suspended Solids (SS)		0.5	mg/L	<0.5	20 mg/L	102		85.9	117		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 364)	2226)										
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	93.7		93.1	107		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3642	2227)										
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	99.0		93.1	107		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 364)	2332)										
EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	0.5 mg/L	95.5		93.6	102		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 364)	2333)										
EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	0.5 mg/L	96.0		93.6	102		

#### Laboratory Duplicate (DUP) Report

Matrix: WATER					Labora	atory Duplicate (DUP)	Report	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and A	ggregate Properties (QC Lot:	3645261)						
HK2115297-001	FCZ1B _S Flood	EA025: Suspended Solids (SS)		0.5	mg/L	1.2	1.4	21.0
HK2115297-039	H4A _M Flood	EA025: Suspended Solids (SS)		0.5	mg/L	1.5	1.6	8.00
EA/ED: Physical and A	ggregate Properties (QC Lot:	3645262)						
HK2115297-059	C _B Flood	EA025: Suspended Solids (SS)		0.5	mg/L	1.5	1.8	16.5
ED/EK: Inorganic Nonr	netallic Parameters (QC Lot: 3	3647252)						
HK2115297-001	FCZ1B _S Flood	EK067P: Total Phosphorus as P		0.01	mg/L	0.01	0.02	0.00
ED/EK: Inorganic Nonr	netallic Parameters (QC Lot: 3	3647253)						
HK2115297-060	C _B _Dup Flood	EK067P: Total Phosphorus as P		0.01	mg/L	0.01	0.01	0.00
ED/EK: Inorganic Nonr	netallic Parameters (QC Lot: 3	3647526)						
HK2115297-058	C _M _Dup Flood	EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.02	<0.02	0.00
ED/EK: Inorganic Nonr	netallic Parameters (QC Lot: 3	3647527)						
HK2115297-060	C _B _Dup Flood	EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.02	<0.02	0.00

#### Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report

Matrix: WATER			Method Blank (MB)	Report		Laboratory Contr	rol Spike (LCS) and Lab	oratory Control S	pike Duplicate (L	CS) Report	
				Sį	Spike	Spike Re	Spike Recovery (%)		Recovery Limits(%)		D (%)
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control
											Limit
EA/ED: Physical and Aggregate Properties (C	QC Lot: 3645261)										
EA025: Suspended Solids (SS)		0.5	mg/L	<0.5	20 mg/L	92.5		85.9	117		
EA/ED: Physical and Aggregate Properties (C	QC Lot: 3645262)										
EA025: Suspended Solids (SS)		0.5	mg/L	<0.5	20 mg/L	104		85.9	117		
ED/EK: Inorganic Nonmetallic Parameters (Q	C Lot: 3647252)										
EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	0.5 mg/L	97.6		93.6	102		
ED/EK: Inorganic Nonmetallic Parameters (Q	C Lot: 3647253)										
EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	0.5 mg/L	97.4		93.6	102		
ED/EK: Inorganic Nonmetallic Parameters (Q	C Lot: 3647526)										
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	100		93.1	107		
ED/EK: Inorganic Nonmetallic Parameters (Q	C Lot: 3647527)										
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	100		93.1	107		

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#### Laboratory Duplicate (DUP) Report

Matrix: WATER					Labora	atory Duplicate (DUP)	Report	
Laboratory	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate	RPD (%)
sample ID							Result	
EA/ED: Physical and A	ggregate Properties (QC Lot:	3649291)						
HK2115298-001	FCZ1B _S Ebb	EA025: Suspended Solids (SS)		0.5	mg/L	1.6	1.4	8.26
HK2115298-039	H4A _M Ebb	EA025: Suspended Solids (SS)		0.5	mg/L	1.4	1.8	21.9
EA/ED: Physical and A	ggregate Properties (QC Lot:	3649292)						
HK2115298-057	C _M Ebb	EA025: Suspended Solids (SS)		0.5	mg/L	1.9	1.6	17.4
ED/EK: Inorganic Nonr	netallic Parameters (QC Lot:	3647705)						
HK2115298-056	C _S _Dup Ebb	EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.02	0.03	0.00
ED/EK: Inorganic Nonr	netallic Parameters (QC Lot:	3647706)						
HK2115298-060	C _B _Dup Ebb	EK055K: Ammonia as N	7664-41-7	0.01	mg/L	0.02	0.03	0.00
ED/EK: Inorganic Nonr	netallic Parameters (QC Lot:	3649765)						
HK2115298-001	FCZ1B _S Ebb	EK067P: Total Phosphorus as P		0.01	mg/L	0.02	0.02	0.00
ED/EK: Inorganic Nonr	netallic Parameters (QC Lot:	3649766)						
HK2115298-060	C _B _Dup Ebb	EK067P: Total Phosphorus as P		0.01	mg/L	0.02	<0.01	0.00

Matrix: WATER			Method Blank (MB	l) Report	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control
											Limit
EA/ED: Physical and Aggregate Properties (QC	Lot: 3649291)										
EA025: Suspended Solids (SS)		0.5	mg/L	<0.5	20 mg/L	97.0		85.9	117		
EA/ED: Physical and Aggregate Properties (QC	Lot: 3649292)										
EA025: Suspended Solids (SS)		0.5	mg/L	<0.5	20 mg/L	108		85.9	117		
ED/EK: Inorganic Nonmetallic Parameters (QC	Lot: 3647705)										
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	103		93.1	107		
ED/EK: Inorganic Nonmetallic Parameters (QC	Lot: 3647706)										
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	100		93.1	107		
ED/EK: Inorganic Nonmetallic Parameters (QC	Lot: 3649765)										
EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	0.5 mg/L	94.3		93.6	102		
ED/EK: Inorganic Nonmetallic Parameters (QC	Lot: 3649766)										
EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	0.5 mg/L	93.8		93.6	102		

#### Laboratory Duplicate (DUP) Report

Matrix: WATER					Labora	atory Duplicate (DUP)	Report	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and A	ggregate Properties (QC Lot	: 3655565)						
HK2115299-001	FCZ1B _S Ebb	EA025: Suspended Solids (SS)		0.5	mg/L	2.2	2.4	7.5
HK2115299-039	H4A _M Ebb	EA025: Suspended Solids (SS)		0.5	mg/L	1.8	2.2	18.9
EA/ED: Physical and A	ggregate Properties (QC Lot	: 3655566)						
HK2115299-057	C _M Ebb	EA025: Suspended Solids (SS)		0.5	mg/L	2.8	3.1	7.6
ED/EK: Inorganic Nonr	metallic Parameters (QC Lot:	3654838)						
HK2115299-056	C _S _Dup Ebb	EK055K: Ammonia as N	7664-41-7	0.01	mg/L	0.02	<0.02	0.00
ED/EK: Inorganic Nonr	metallic Parameters (QC Lot:	3654839)						
HK2115299-060	C _B _Dup Ebb	EK055K: Ammonia as N	7664-41-7	0.01	mg/L	0.04	0.03	0.00
ED/EK: Inorganic Nonr	metallic Parameters (QC Lot:	3655150)						
HK2115299-001	FCZ1B _S Ebb	EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	<0.01	0.00
ED/EK: Inorganic Nonr	metallic Parameters (QC Lot:	3655151)						
HK2115299-060	C _B _Dup Ebb	EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	<0.01	0.00

Matrix: WATER			Method Blank (MB	3) Report		Laboratory Contr	ol Spike (LCS) and Labo	ratory Control S	pike Duplicate (	(DCS) Report	
					Spike	Spike Recovery (%)		Recovery Limits(%)		RP	D (%)
Method: Compound CA	AS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control
											Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 365	55565)										
EA025: Suspended Solids (SS)		0.5	mg/L	<0.5	20 mg/L	100		85.9	117		
EA/ED: Physical and Aggregate Properties (QC Lot: 365	55566)										
EA025: Suspended Solids (SS)		0.5	mg/L	<0.5	20 mg/L	96.0		85.9	117		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3654	4838)										
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	97.9		93.1	107		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3654	4839)										
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	100		93.1	107		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3655	5150)										
EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	0.5 mg/L	97.1		93.6	102		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3655	5151)										
EK067P: Total Phosphorus as P		0.01	mg/L	<0.01	0.5 mg/L	97.0		93.6	102		

## **APPENDIX H**

## **Event and Action Plan**

# Appendix H Event and Action Plan

EVENT		ACTI	ION	
	ET	IEC	ER	Contractor
Action Level	1. Carry out investigation to identify the source and cause of the complaint/ exceedance(s) 2. Notify IEC, ER, and Contractor and report the results of investigation to the Contractor, ER and the IEC 3. Discuss with the Contractor and IEC for remedial measures required 4. If the complaint is related to the Project, conduct additional monitoring for checking mitigation effectiveness and report the findings and results to the IEC, ER and the Contractor	Review the analyzed results submitted by the ET.     Review the proposed remedial measures by the Contractor and advise the ER accordingly.     Supervise the implementation of remedial measures.	1. Confirm receipt of notification of Exceedance in writing. 2. Require Contractor to propose remedial measures for the analyzed noise problem. 3. Ensure remedial measures are properly implemented.	Submit noise mitigation proposals, if required, to the IEC and ER     Implement noise mitigation proposals
Limit Level	1. Carry out investigation to identify the source and cause of the exceedance 2. Notify IEC, ER, Project Proponent, EPD and Contractor 3. Repeat measurements to confirm findings 4. Provide investigation report to IEC, ER, EPD and Contractor of the exceedances 5. If the exceedance is related to the Project, assess effectiveness by additional monitoring. 6. Report the remedial action implemented and the additional monitoring results to IEC, EPD, ER and Contractor 7. If exceedance stops, cease additional monitoring	1. Review the analyzed results submitted by the ET 2. Discuss the potential remedial measures with ER, ET Leader and Contractor 3. Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly 4. Supervise the implementation of remedial measures	1. Confirm receipt of notification of Exceedance in writing. 2. Require the Contractor to propose remedial measures for the analyzed noise problem. 3. Ensure remedial measures are properly implemented. 4. If exceedance continues, consider what activity of the work is responsible and instruct the Contractor, in agreement with the Project Proponent, to stop that activity of work until the exceedance is abated.	exceedance is abated.
Non- conformity on one occasion	1. Inform the Contractor, IEC and ER;     2. Discuss remedial actions with IEC, ER and Contractor     3. Monitor remedial actions until rectification has been completed	Check inspection report     Check Contractor's     working method     Discuss with ET, ER and     Contractor on possible     remedial measures     Advise ER on     effectiveness of     proposed remedial     measures	the remedial measures proposed by the Contractor 3. Supervise implementation of remedial measures	1. Identify source and investigate the non-conformity 2. Implement remedial measures 3. Amend working methods agreed with ER as appropriate 4. Rectify damage and undertake any necessary replacement
Repeated Non- conformity	Identify source(s)     Inform the Contractor, IEC and ER;     Discuss inspection frequency     Discuss remedial actions with IEC, ER and Contractor     Monitor remedial actions until rectification has been completed     If non-conformity stops, cease additional monitoring	Check inspection report     Check Contractor's     working method     Discuss with ET, ER and     Contractor on possible     remedial measures     Advise ER on     effectiveness of     proposed remedial     measures	Notify the Contractor     In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented     Supervise implementation of remedial measures	I. Identify source and investigate the non-conformity     Implement remedial measures     Amend working methods agreed with ER as appropriate     Rectify damage and undertake any necessary replacement. Stop relevant portion of works as determined by ER until the non-conformity is abated.

EVENT		ACT		
	ET	IEC	ER	Contractor
Action Level being exceeded by one sampling day	1. Repeat in situ measurement on the next day of exceedance to confirm findings; 2. Check monitoring data, plant, equipment and Contractor(s)'s working methods; 3. Identify source(s) of impact and record in notification of exceedance; 4. Inform IEC, Contractor(s) and ER.	Check monitoring data submitted by ET and Contractor(s)'s working methods;     Inform EPD and AFCD.	1. Confirm receipt of notification of exceedance in writing; 2. Check plant and equipment and rectify unacceptable practice	Confirm receipt of notification of exceedance in writing.
Action Level being exceeded by two or more consecutive sampling days	1. Repeat in situ measurement on the next day of exceedance to confirm findings; 2. Check monitoring data, plant, equipment and Contractor(s)'s working methods; 3. Identify source(s) of impact and record in notification of exceedance; 4. Inform IEC, Contractor(s) and ER; 5. Discuss with IEC and Contractor(s) on additional mitigation measures and ensure that they are implemented	1. Check monitoring data submitted by ET and Contractor(s)'s working methods; 2. Inform EPD and AFCD; 3. Discuss with ET and Contractor(s) on additional mitigation measures and advise ER accordingly; 4. Assess the effectiveness of the implemented mitigation measures.	1. Confirm receipt of notification of exceedance in writing; 2. Check plant and equipment and rectify unacceptable practice; 3. Consider changes of working methods; 4. Discuss with ET and IEC on additional mitigation measures and propose them to ER within 3 working days; 5. Implement the agreed mitigation measures.	1. Confirm receipt of notification of exceedance in writing; 2. Discuss with the IEC on the proposed additional mitigation measures and agree on the mitigation measures to be implemented. 3. Ensure additional mitigation measures are properly implemented.
Limit Level being exceeded by one sampling day	1. Repeat in situ measurement on the next day of exceedance to confirm findings; 2. Check monitoring data, plant, equipment and Contractor(s)'s working methods; 3. Identify source(s) of impact and record in notification of exceedance; 4. Inform IEC, Contractor(s) and ER; 5. Discuss with IEC and Contractor(s) on additional mitigation measures and ensure that they are implemented	1.Check monitoring data submitted by ET and Contractor(s)'s working methods; 2.Inform EPD and AFCD; 3. Discuss with ET and Contractor(s) on additional mitigation measures and advise ER accordingly; 4. Assess the effectiveness of the implemented mitigation measures.	1.Confirm receipt of notification of exceedance in writing; 2.Check plant and equipment and rectify unacceptable practice; 3.Critically review the need to change working methods; 4.Discuss with ET and IEC on additional mitigation measures and propose them to ER within 3 working days; 5.Implement the agreed mitigation measures.	1.Confirm receipt of notification of exceedance in writing; 2.Discuss with the IEC on the proposed additional mitigation measures and agree on the mitigation measures to be implemented. 3.Ensure additional mitigation measures are properly implemented. 4.Request Contractor(s) to critically review the working methods.
Limit Level being exceeded by two or more consecutive sampling days	1.Repeat in situ measurement on the next day of exceedance to confirm findings; 2.Check monitoring data, plant, equipment and Contractor(s)'s working methods; 3.Identify source(s) of impact and record in notification of exceedance; 4.Inform IEC, Contractor(s) and ER; 5.Discuss with IEC and Contractor(s) on additional mitigation measures and ensure that they are implemented	1. Check monitoring data submitted by ET and Contractor(s)'s working methods; 2. Inform EPD and AFCD; 3. Discuss with ET and Contractor(s) on additional mitigation measures and advise ER accordingly; 4. Assess the effectiveness of the implemented mitigation measures.	1. Confirm receipt of notification of exceedance in writing; 2. Check plant and equipment and rectify unacceptable practice; 3. Critically review the need to change working methods; 4. Discuss with ET and IEC on additional mitigation measures and propose them to ER within 3 working days; 5. Implement the agreed mitigation measures.	1. Confirm receipt of notification of exceedance in writing; 2. Discuss with the IEC on the proposed additional mitigation measures and agree on the mitigation measures to be implemented. 3. Ensure additional mitigation measures are properly implemented. 4. Request Contractor(s) to critically review the working methods.

## **APPENDIX I**

**Waste Flow Table** 

#### Appendix I **Waste Flow Table**

# Monthly Summary Waste Flow Table for <u>2021</u> (year) Name of Person completing the record: <u>Tim Tan (Assistant S & E Officer)</u>

Project: Expansion of Sha Tau Kok Sewage Treatment Works Phase 1 and Village Sewerage in Tong To Contract No.: DC/2018/03

Project : Exp	ansion of 5	na Tau Ko	k bewage	reament	WOIKS I II	isc i and v	mage sev	verage in Te	ng 10	Contract Ive	DC/2018/03
	Actual Qua	antities of	Inert C&D	Materials	Generated	Monthly	Actu	al Quantitie Gen	s of Non-I erated Mo		Wastes
Month	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m <sup>3</sup> )	(in '000m³)	(in '000m³)	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000 m <sup>3</sup> )
Jan	0.992	0.000	0.000	0.000	0.992	0.000	0.000	0.000	0.000	0.000	0.767
Feb	0.495	0.000	0.000	0.000	0.495	0.000	0.000	0.000	0.000	0.000	0.486
Mar	0.556	0.000	0.000	0.000	0.556	0.000	0.000	0.000	0.000	0.000	0.603
Apr	1.126	0.000	0.000	0.000	1.126	0.000	0.000	0.000	0.000	0.000	0.360
May	1	-	-	-	-	-	-	-	-	-	-
Jun	1	-	-	1	-	-	1	-	1	1	-
Sub-total	3.169	0.000	0.000	0.000	3.169	0.000	0.000	0.000	0.000	0.000	2.216
Jul	-	-	-	1	-	-	1	-	-	-	-
Aug	-	-	-	1	-	-	1	-	-	-	-
Sep	-	-	-	-	-	-	-	-	-	-	-
Oct	-	-	-	-	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-	-	-
Total	3.169	0.000	0.000	0.000	3.169	0.000	0.000	0.000	0.000	0.000	2.216
2019	1.787	0.005	0.000	0.000	1.787	0.000	0.000	0.000	0.000	0.000	0.137
2020	3.316	0.000	0.000	0.000	3.321	0.000	0.000	0.000	0.000	0.000	0.703
Cumulative	8.272	0.005	0.000	0.000	8.277	0.000	0.000	0.000	0.000	0.000	3.056

Notes:

- (1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
- $(2)\ Plastics\ refer\ to\ plastic\ bottles/containers,\ plastic\ sheets/\ foam\ from\ packaging\ materials.$
- (3) Broken concrete for recycling into aggregates.

# APPENDIX J

Implementation Schedule of Environmental Mitigation Measures

## Appendix J Environmental Mitigation Implementation Schedule

EIA Ref	Objective & Address	Stage^ (D/C/O)	Recommended Environmental Protection Measures/ Mitigation Measures	Implementation Status in Construction Phase
			Air Quality	
			<ul> <li>Dust control measures stipulated in the Air Pollution Control (Construction Dust) Regulation shall be implemented during the construction of the Project to control potential fugitive dust emissions.</li> </ul>	٨
			- Regular water spraying on exposed area.	٨
			- Vehicle wheel-washing and body washing facilities shall be provided at the site entrance.	۸
S3.7.1			<ul> <li>Shielding or covering with impervious sheet of stockpiled materials or exposed area when it is not used to reduce dust nuisance</li> </ul>	۸
	Land site/ During	С	<ul> <li>Site practices such as regular maintenance and checking of the diesel-driven PMEs should be adopted to avoid any black smoke emissions and to reduce gaseous emissions</li> </ul>	٨
	Construction		<ul> <li>Open trench construction of the gravity sewers, each work front should be around 20m to 30m in length to control potential dust emission.</li> </ul>	N.O.
S3.6.1			<ul> <li>The existing sewage pumping station and rising mains should be cleaned and flushed out properly to clear away any remaining potential sources of odour emission, such as sewage sludge from the facilities. The decommissioning including removal of the pumping station and rising mains should take place after the cleaning and flushing out.</li> </ul>	N.O.
S3.9.1			- Regular site inspections on a weekly basis shall be carried out in order to confirm that the mitigation and control measures are properly implemented and are working effectively to ensure proper control of construction dust and gaseous emissions.	
	Di unim m	0	- To minimize odour problem, the sludge tankers for disposal of sludge shall be fully enclosed	٨
	During operation	0	- Sludge produced will be thickened and dewatered to 30% dry solids prior to disposal at the landfill.	N.O.
S3.7.2	(Odour: for	D/O	<ul> <li>Deodourizing facility using activated carbon filters and/or bio-trickling filters were equipped for both TSTP.</li> </ul>	۸
00.7.2	operation of TSTP)	D/O	<ul> <li>The deodorization system would undergo maintenance annually or when the average odour removal efficiency of deodorization facility is smaller than the required odour removal efficiency.</li> </ul>	N.A.
	1011 )	D/O	<ul> <li>Ventilation system was provided inside the TSTP to ensure adequate air change within the plant.</li> </ul>	۸
		0	<ul> <li>A commissioning test is recommended to be performed for the operation phase to ascertain the effectiveness of the deodorization systems at the TSTP. Exhaust air flow rate, temperature of exhaust, odour concentrations at the outlet of the deodorization systems should be monitored during the commissioning test.</li> </ul>	۸
	During	0	<ul> <li>Weekly monitoring of odour emission at the exhausts at TSTP by taking odour samples is recommended to be conducted in the first two months of the first year of the operation. (i.e. August to September 2020)</li> </ul>	٨
S3.9.2	operation (Odour: for operation of TSTP)	0	- Provided that the monitoring results show no non-compliance on a weekly basis during the first two months, it is recommended to reduce the frequency to monthly in the subsequent four months (i.e. October 2020 to January 2021) and further reduce to quarterly in the remaining six months (i.e. February 2021 to July 2021) of the first year if no non-compliance is found. If there is any non-compliance, the operator should inspect the deodorization unit. Frequency of odour monitoring should not be reduced unless no non-compliance is found. Quarterly odour monitoring is also recommended to continue in the second year of the operation. If compliance can be achieved consistently throughout the first two years of operation, the Project Proponent may propose and seek approval with EPD to reduce monitoring frequency to every six month or yearly basis for subsequent years of operation.	^
S3.9.2	During operation (Odour: for operation of TSTP)	0	Odour patrol is proposed during the period of maintenance or cleaning of the deodorization system for TSTP. It is generally defined as Level 0 to Level 4 in which Level 0 means no odour and Level 4 means unacceptable odour. If Level 3 – 4 is reported and the source of odour is confirmed to be originated from the exhaust of TSTP, the operator should be notified immediately and should investigate and rectify the problem of the cleaning or maintenance works within 24 hours in order to restore the level to below Level 2.	N.A.

EIA Ref	Objective & Address	Stage^ (D/C/O)	Recommended Environmental Protection Measures/ Mitigation Measures	Implementation Status in Construction Phase
			Noise	
			- Use of quiet PME / quiet construction method.	٨
			<ul> <li>Movable noise barriers of 3m in height with skid footing should be used and located within a few metres of stationary plant and mobile plant such that the line of sight to the NSR is blocked by the barriers. The length of the barrier should be at least five times greater than its height. The noise barrier material should have a superficial surface density of at least 7 kg m² and have no openings or gaps.</li> </ul>	N.O.
			- Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction phase.	٨
			- Silencers or mufflers on construction equipment should be utilised and properly maintained during the construction phase.	٨
	Noise Control		- Mobile plant, if any, should be sited as far away from NSRs as possible.	٨
	/ During construction	С	<ul> <li>Machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.</li> </ul>	۸
S4.8			<ul> <li>Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs.</li> </ul>	۸
			<ul> <li>Material stockpiles and other structures should be effectively utilised, wherever practicable, in screening noise from on-site construction activities.</li> </ul>	N.O.
			- The construction activities should be planned and carried out in sequence rather than simultaneously at each location. Therefore, only one unit of each type of equipment should be operated at any one time.	۸
			- Open trench construction of the gravity sewers, each work front should be around 20m to 30m in length.	N.O.
	During operation	0	- Include noise levels specification when ordering new equipment items	۸
	During operation	0	<ul> <li>Develop and implement a regularly scheduled equipment maintenance programme so that equipment items are properly operated and serviced. The programme should be implemented by properly trained personnel.</li> </ul>	N.A.
S4.11	During construction	С	- Designated monitoring stations as defined in EM&A Manual/During construction phase.	۸
			Water Quality	
S5.9.3	Marine Dredging/ During construction	С	<ul> <li>A number of standard measures and good site practices should be implemented to avoid / minimize the potential impacts from marine construction.</li> <li>These measures include:         <ul> <li>All vessels should be well maintained and inspected before use to limit any potential discharges to the marine environment;</li> <li>All vessels must have a clean ballast system;</li> <li>No soil waste is allowed to be disposed overboard.</li> </ul> </li> </ul>	^
S5.9.3	Marine Dredging/ During construction	С	<ul> <li>No discharge of sewage/grey wastewater should be allowed. Wastewater from potentially contaminated area on working vessels should be minimized and collected. These kinds of wastewater should be brought back to port and discharged at appropriate collection and treatment system.</li> </ul>	^
EP Clause	Marine Dredging/	С	- The submarine outfall in Starling Inlet shall be constructed by trenchless method such as Horizontal Directional Drilling or equivalent such that the seabed (except at the diffuser location) will not be disturbed.	۸
2.11	During construction		<ul> <li>Cofferdam shall be installed at the receiving pit of the diffuser of submarine outfall. Excavation of sediment and construction of the diffuser shall be conducted in dry condition within the fully-drained cofferdam.</li> </ul>	N.A.
S5.9.4	Land site & drainage/	С	<ul> <li>General Construction Activities</li> <li>Standard site practices outlined in ProPECC PN 1/94 "Construction Site Drainage" should be followed as far as practicable in order to reduce surface runoff, minimize erosion, and also to retain and reduce any SS prior to discharge.</li> </ul>	^

EIA Ref	Objective & Address	Stage^ (D/C/O)	Recommended Environmental Protection Measures/ Mitigation Measures	Implementation Status in Construction Phase
	During construction		- Silt removal facilities such as silt traps or sedimentation facilities should be provided to remove silt particles from runoff to meet the requirements of the TM standard under the WPCO. The design of silt removal facilities should be based on the guidelines provided in ProPECC PN 1/94.	۸
			<ul> <li>All drainage facilities and erosion and sediment control structures should be inspected on a regular basis and maintained to confirm proper and efficient operation at all times and particularly during rainstorms. Deposited silt and grit should be removed regularly.</li> </ul>	۸
			<ul> <li>Earthworks to form the final surfaces should be followed up with surface protection and drainage works to prevent erosion caused by rainstorms.</li> </ul>	۸
			<ul> <li>Appropriate surface drainage should be designed and provided where necessary.</li> </ul>	۸
			- The precautions to be taken at any time of year when rainstorms are likely together with the actions to be taken when a rainstorm is imminent or forecasted and actions to be taken during or after rainstorms are summarised in Appendix A2 of ProPECC PN 1/94.	۸
			<ul> <li>Oil interceptors should be provided in the drainage system where necessary and regularly emptied to prevent the release of oil and grease into the storm water drainage system after accidental spillages.</li> </ul>	۸
S5.9.4	Land site & drainage/ During construction	С	<ul> <li>Temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge, if any, should be adequately designed for the controlled release of storm flows. The temporary diverted drainage, if any, should be reinstated to the original condition when the construction work has finished or when the temporary diversion is no longer required.</li> </ul>	۸
S5.9.5	Land site & drainage/ During construction	С	<ul> <li>Appropriate infiltration control, such as cofferdam wall, should be adopted to limit groundwater inflow to the excavation works areas in the Project site. Groundwater pumped out from excavation area should be discharged into the storm system via silt removal facilities.</li> </ul>	N.O.
S5.9.6	Land site & drainage/	С	<ul> <li>If needed, appropriate numbers of portable toilets shall be provided by a licensed contractor to serve the construction workers over the construction site to prevent direct disposal of sewage into the water environment.</li> </ul>	٨
S5.9.7	During construction		<ul> <li>Spillage of Chemicals</li> <li>Site drainage should be well maintained and good construction practices should be observed to ensure that oil, fuels, solvents and other chemicals are managed, stored and handled properly and do not enter the nearby streams or marine water.</li> </ul>	^
\$5.9.9	During operation	0	<ul> <li>The following design measures are also provided in the TSTP and the expanded STKSTW to avoid the risk of emergency discharge:</li> <li>Provision of dual power supply and backup generator to eliminate the risk of power failure;</li> <li>Provision of standby equipment (online and on-shelf) for all treatment units;</li> <li>Operation of STKSTW is under 24-hour monitoring by Shift Team of Sha Tau Kok (for new STKSTW) and/or Shek Wu Hui STW in order to allow inspection and any necessary repair works by DSD at the earliest possible time;</li> <li>A remote control and monitoring system (SCADA) will also be installed to allow off-site DSD staff (Shift Team) to monitor the operation of STKSTW; and</li> <li>Provision of on-site storage of raw sewage up to 6 hours for the TSTP and STKSTW</li> </ul>	۸
S5.9.10	During operation	0	<ul> <li>Additional measures provided to avoid plant failure associated fine screen include:</li> <li>2 duties + 1 standby fine screens would be provided;</li> <li>Uninstalled spare parts would be provided;</li> <li>Monitoring equipment of fine screens would be installed;</li> <li>Routine inspection and scheduled maintenance works would be strengthened and carried out regularly; and</li> <li>Equipment and necessary measures such as lifting opening would be provided to shorten the time required for replacement of screen.</li> </ul>	N.A.

EIA Ref	Objective & Address	Stage^ (D/C/O)	Recommended Environmental Protection Measures/ Mitigation Measures	Implementation Status in Construction Phase
S5.9.12	During operation	0	<ul> <li>To avoid cross-connection of the reclaimed water supply to the potable water supply, the pipes for the reclaimed water will be specially arranged to differentiate them from that of the potable water pipe, e.g. clearly labelled with warning signs and notices, colour-coded, and/or using different pipe size.</li> </ul>	N.A.
	ороганоп		- Caution would also be taken to avoid the use of high pressure jet in cleansing and landscape irrigation to minimize aerosol formation from the reclaimed effluent	N.A.
S5.12.1	Marine Dredging/ During construction	С	- Marine water quality monitoring at selected WSRs is recommended for installation, maintenance and removal of sheetpile and sediment removal works under this Project. Site audit would also be conducted throughout the marine and land-based construction under this Project. Details environmental monitoring procedures and audit requirements are provided in the standalone EM&A manual.	۸
S5.12.2	During operation	0	- Marine water quality monitoring at selected WSRs is recommended for the first year of (1) interim operation of the TSTP, (2) operation of phase 1 and (3) phase 2 expansion of the STKSTW. Follow-up water quality monitoring should be commenced within 24 hours after an emergency discharge event and continue until the recovery of water quality. Monitoring of effluent quality would also be required for WPCO permit requirement. Detailed environmental monitoring procedures are provided in the standalone EM&A manual.	۸
			Waste Management & Land Contamination	
S6.6.1	During construction	С	- An Environmental Management Plan (EMP) in accordance with ETWB TCW No. 19/2005 – "Environmental Management on Construction Sites" should be prepared by the main Contractor of each construction contract upon appointment. The EMP should describe the arrangements for avoidance, reduction, reuse, recovery, recycling, storage, collection, treatment and disposal of different categories of waste to be generated from the construction activities.	۸
\$6.6.3	During construction	С	- An appropriate person, such as site agent or environmental officer should be nominated, to be responsible for good site practices, arrangement for collection and effective disposal of all wastes generated at the site to an approved facility. Training of construction staff should be undertaken by the Contractor about the concept of site cleanliness and appropriate waste management procedures. Requirements for staff training should be included in the EMP.	٨
S6.6.4	During construction	С	<ul> <li>Good planning and site management practices should be employed to eliminate over ordering or mixing of construction materials to reduce wastage. Regular cleaning and maintenance of the waste storage area should be provided.</li> </ul>	٨
S6.6.5	During construction	С	<ul> <li>A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be implemented in accordance with DEVB TCW No. 6/2010. In order to monitor the disposal of C&amp;D materials and solid wastes at public fill reception facilities and landfills and to control fly-tipping, a trip-ticket system should be included.</li> </ul>	۸
S6.6.6	During construction	С	<ul> <li>Imported soft fill and rocks, if required, should be sourced from CEDD's fill bank, other projects or other approved sources instead of using new materials. Approval from the Engineer and all other relevant parties should be obtained by the Contractor before importation of the fill materials.</li> </ul>	N.O.
S6.6.7	During construction	С	<ul> <li>All waste materials should be segregated into categories covering:         <ul> <li>inert C&amp;D materials suitable for public filling facilities;</li> <li>recyclable materials / waste;</li> <li>remaining non-inert C&amp;D materials for landfill;</li> <li>spent bentonite for public filling facilities;</li> <li>chemical waste; and</li> <li>general refuse for landfill</li> </ul> </li> </ul>	۸
S6.6.9	During construction	С	<ul> <li>Proper segregation and disposal of construction waste should be implemented. Separate containers should be provided for inert and non-inert wastes.</li> </ul>	۸
S6.6.11	During construction	С	- The reuse of inert C&D materials such as soil, rock and broken concrete should be maximised. Waste should be separated into fine, soft and hard materials.	N.A.

EIA Ref	Objective & Address	Stage^ (D/C/O)	Recommended Environmental Protection Measures/ Mitigation Measures		
S6.6.12	During construction	С	Prior to export of material from the site, the potential for it to be reused should be assessed. Most C&D materials can easily be reused with minimum processing. Waste separation methods should be followed to ensure that C&D waste is separated at source. Suitable soft materials should be used for landscaping and grading of embankments. Fine material should be separated out and used as topsoil.	N.A.	
S6.6.13	During construction	D&C	- Use of recycled aggregates whenever possible.	N.A.	
S6.6.14, S6.6.30	During construction	С	- All C&D materials should be sorted on-site into inert and non-inert components by the Contractor. Non-inert C&D materials (C&D waste) such as wood, glass and plastic should be reused and recycled before disposal to a designated landfill as a last resort. Inert C&D materials (public fill) should be reused onsite or in other projects approved by relevant parties before disposed of at public fill reception facilities. Steel and other metals if any should be recovered from C&D materials and recycled.	۸	
S6.6.15	During construction	С	<ul> <li>Good quality reusable topsoil should be stockpiled for later landscaping works. Stockpiles should be less than 2m in height, formed to a safe angle of repose and hydroseeded or covered with tarpaulin to prevent erosion during the rainy season and to minimise dust generation.</li> </ul>	^	
S6.6.16	During construction	С	<ul> <li>Control measures for temporary stockpiles on-site should be taken in order to minimize the noise, generation of dust, pollution of water and visual impact.</li> </ul>	۸	
S6.6.17	During construction	С	The public fill to be disposed to public fill reception facilities must consist entirely of inert construction materials. Disposal of C&D waste to landfill must not have more than 50% by weight of inert material. The C&D waste delivered for landfill disposal should contain no free water and the liquid content should not exceed 70% by weight.	^	
S6.6.18	During construction	С	In order to avoid dust or odour impacts, any vehicles leaving a works area carrying C&D waste or public fill should have their load covered up before leaving the construction site.	۸	
S6.6.20	During construction	С	With reference to the Sediment Quality Report in the EIA, only Category L sediment was identified. In accordance with ETWB TCW No. 34/2002, Type 1 – Open Sea Disposal should be adopted for the disposal of 3,040 m³ excavated sediment during construction of the proposed outfall diffuser. The location of marine disposal site should be sought with MFC/CEDD. The Contractor shall obtain a Marine Dumping Permit in accordance with the Dumping at Sea Ordinance. The Contractor should provide separate submissions (e.g. Sediment Sampling and Testing Plan / Sediment Quality Report) to EPD / DASO authority when applying for the marine dumping permit under the Dumping at Sea Ordinance.	N.A.	
S6.6.21	During construction	С	- Bentonite slurry used in the drilling works should be treated and recycled at the works area in STKSTW. Any bentonite that is not suitable for recycling should be suitably dewatered before disposed of at public fill reception facilities.	۸	
\$6.6.22 & \$6.6.37	During construction and operation	C & O	Where the construction/ operation processes produce chemical waste, the Contractor must register with EPD as a chemical waste producer. Wastes classified as chemical wastes are listed in the Waste Disposal (Chemical Waste) (General) Regulation. These wastes are subject to stringent disposal routes. EPD requires information on the particulars of the waste generation processes including the types of waste produced, their location, quantities and generation rates. A nominated contact person must be registered with EPD.	۸	
\$6.6.23 & \$6.6.37	During construction	C & O	<ul> <li>Storage, handling, transport and disposal of chemical waste should be arranged in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published by EPD, and should be collected by a licensed chemical waste collector.</li> </ul>	^	
S6.6.24 & S6.6.37	During construction	C&O	Suitable containers should be used for specific types of chemical wastes, containers should be properly labelled (English and Chinese in accordance with instructions prescribed in Schedule 2 of the Regulations), resistance to corrosion, safely stored and securely closed. Stored volume should not be kept more than 450 liters unless the specification has been approved by the EPD. Storage area should be enclosed by three sides by a wall, partition of fence that is at least 2 m height or height of tallest container with adequate ventilation and space.	۸	
S6.6.25 & S6.6.37	During construction	C & O	<ul> <li>Hard standing, impermeable surfaces draining via oil interceptors should be provided in works area compounds. Interceptors should be regularly emptied to prevent release of oils and grease into the surface water drainage system after accidental</li> </ul>	۸	

EIA Ref Objective & Stage^ (D/C/O)		Address (D/C/O) Recommended Environmental Protection Measures/ Mittigation Measures		
			spillages. The interceptor should have a bypass to prevent flushing during periods of heavy rain. Oil and fuel bunkers should be bunded and/or enclosed on three sides to prevent discharge due to accidental spillages or breaches of tanks. Bunding should be of sufficient capacity to accommodate 110% of the volume of the largest container or 20% of the total volume of waste, whichever is largest. Waste collected from any grease traps should be collected and disposed of by a licensed contractor.	
\$6.6.26 & \$6.6.37	During construction	C & O	<ul> <li>Lubricants, waste oils and other chemical wastes are likely to be generated during the maintenance of vehicles and mechanical equipment. Used lubricants should be collected and stored in individual containers which are fully labelled in English and Chinese and stored in a designated secure place. If possible, such waste should be sent to oil recycling companies, and the empty oil drums collected by appropriate companies for reuse or refill.</li> </ul>	۸
S6.6.27	During construction	С	- The registered chemical waste producer (i.e. the Contractor) has to arrange for the chemical waste to be collected by licensed collectors. The licensed collector should regularly take chemical waste to a licensed chemical waste treatment facility (such as the Chemical Waste Treatment Centre in Tsing Yi). A trip ticket system operates to control the movement of chemical wastes.	٨
S6.6.28	During construction	С	<ul> <li>No lubricants, oils, solvents or paint products should be allowed to discharge into water courses, either by direct discharge, or as contaminants carried in surface water runoff from the construction site.</li> </ul>	۸
S6.6.29	During construction	С	<ul> <li>All wooden materials used on-site should be kept separate from other wastes to avoid damage and to facilitate reuse. Timber which cannot be reused should be sorted out from other waste and stored separately from all inert waste before being disposed of to landfill.</li> </ul>	٨
S6.6.32	During construction	С	General refuse generated on-site should be stored in enclosed bins or skips and collected separately from other construction and chemical wastes and disposed of at designated landfill. A temporary refuse collection point should be set up by the Contractor at the works area to facilitate the collection of refuse by licensed waste collector. The removal of waste from the site should be arranged on a daily or at least on every second day by the Contractor to minimise any potential odour impacts, minimise the presence of pests, vermin and other scavengers and prevent unsightly accumulation of waste.	٨
S6.6.33	During construction	С	The recyclable component of the municipal waste generated by the workforce, such as aluminum cans, paper and cleansed plastic containers should be separated from other waste. Provision and collection of recycling bins for different types of recyclable waste should be set up by the Contractor. The Contractor should also be responsible for arranging recycling companies to collect these materials.	
S6.6.35	During operation	0	- Dewatered sludge should be delivered by sealed sludge tanker for treatment at the Sludge Treatment Facility in Tuen Mun.	N.A.
S6.6.36	During operation	0	<ul> <li>Screenings should be collected and stored in covered containers before disposed of at landfill. Likewise, worn membrane filters and general refuse should be properly stored and disposed of at landfill.</li> </ul>	N.A.
	Π	I	Ecology	
			- Erect fences along the boundary of the works area before the commencement of works to prevent vehicle movements and encroachment of personnel onto adjacent areas.	٨
	All area /		<ul> <li>Regularly check the work site boundaries to ensure that they are not breached and that damage does not occur to surrounding areas.</li> </ul>	۸
S7.7.3	During construction	С	<ul> <li>Avoid any damage and disturbance, particularly those caused by filling and illegal dumping, to the surrounding habitats through proper management of waste disposal.</li> </ul>	٨
	CONSTRUCTION		<ul> <li>To avoid/ minimise the potential disturbance on the Night Roosting Site for Great Egret if confirmed to be continuing their usage before the construction activities, major noisy works such as concrete breaking should not be undertaken within an area of 100m from the Night Roosting Site after 16:00 under normal working hours. (i.e. 16:00 to 07:00 of the following day).</li> </ul>	N.A.
			- Strong artificial lighting should not be used in the area at night to avoid disturbance to the roosting ardeids.  Landscape & Visual	N.O.

EIA Ref	Objective & Address	Stage^ (D/C/O)	Recommended Environmental Protection Measures/ Mitigation Measures		
Table 9.6of EM&A	To protect existing landscape resources during construction stage	С	<ul> <li>Preservation of Existing Vegetation:</li> <li>Existing trees designated to be retained in-situ should be properly protected. Tree protection measures to be undertaken shall be in accordance with DEVB TC(W) 7/2015 on "Tree Preservation" and Guidelines on Tree Preservation during Development" by DEVB. This may include the clear demarcation and fencing-off of tree protection zones, tight site supervision and monitoring to prevent tree damage by construction activities, and periodic arboricultural inspection and maintenance to uphold tree health. A total of around 108 nos. of trees should be retained in-situ within the tree survey area.</li> <li>Under current proposal, no tree is recommended to be transplanted since the trees in conflict with the proposed works are not suitable to be transplanted. However, should transplantation be proposed in the detailed design stage after an update tree survey, the recommended final recipient sites should be adjacent to their current locations. Enough time should be reserved for tree transplantation works to increase the survival rate of the transplanting trees. To ensure the survival of transplanted trees, protection work should be considered. The tree transplantation proposal shall be submitted to relevant authorities for approval together with the formal tree removal application. Tree transplanting works shall be undertaken in accordance with Guidelines on Tree Transplanting by DEVB.</li> </ul>	^	
Manual	To reduce construction disturbance during construction stage	С	<ul> <li>Control of Site Construction Activities:</li> <li>Construction site controls shall be enforced, where possible, to ensure that the landscape and visual impacts arising from the construction phase activities are minimised. These construction site controls should include but not limited to the following: <ul> <li>Storage of materials should be carefully arranged to minimise potential landscape and visual impact.</li> <li>The location and appearance of site accommodation should be carefully designed to minimize potential landscape and visual impact.</li> <li>Site lighting should be carefully designed to prevent light spillage.</li> <li>Extent of the works area and construction period should be minimised as far as practicable.</li> <li>Screen hoarding with compatible design to blend into the surrounding natural environmental should be considered (Screen hoarding may not be practicable for works of upgrading existing rising mains due to the spatial constraints of the works area along the Shun Hing Street).</li> <li>Temporary works areas should be reinstated at the earliest possible opportunity.</li> </ul> </li> </ul>	^	
Table 9.7of EM&A Manual	To reduce landscape and visual impact during construction	D&C	<ul> <li>Suitable design of the proposed TSTP:</li> <li>Colour of natural tones and non-reflective building materials shall be used for any outward facing building facades to avoid visual and glare disturbance.</li> <li>Responsive lighting design <ul> <li>Directional and full cut off lighting is recommended within the boundaries of STKSTW to minimise light spillage to the surroundings;</li> <li>Minimise geographical spread of lighting, only applying for safety at the key access points of the STKSTW; and</li> <li>Limited lighting intensity to meet the minimum safety and operation requirement.</li> </ul> </li> </ul>	^	
			Cultural Heritage		
S10.3.50			<ul> <li>Undertake trenchless excavation in the vicinity of the Tin Hau Temple and provide a buffer zone of 10m between the works area for the open cut section and the Tin Hau Temple.</li> </ul>	N.O.	
S10.3.51	During construction	С	<ul> <li>A condition survey and vibration impact assessment should be undertaken and if construction vibration monitoring and structural strengthening measures are required.</li> </ul>	N.A.	
S10.3.52			<ul> <li>Vibration and settlement monitoring should also be undertaken during the construction works to ensure that safe levels of vibration are not exceeded, if it is recommended in the condition survey report.</li> </ul>	N.A.	

EIA Ref	Objective & Address	Stage^ (D/C/O)	Pecommended Environmental Protection Measures/ Mitigation Measures	Implementation Status in Construction Phase
S10.3.53			<ul> <li>If the maximum level is exceeded all works must stop and the structure must be examined to determine if it has been damaged.</li> <li>The contractor must also take measures, such as using smaller pneumatic drills to ensure that the levels are reduced to acceptable limits.</li> </ul>	N.A.
S10.3.54			- If at any time during the construction period the foundation of the structure is affected by the works; the works shall be immediately suspended and the AMO notified. If the works cause any damage to the structures, the proponent should be responsible for the restoration and repair at their own cost. A method statement should be submitted to AMO for comment and the works should be under AMO's supervision.	N.O.
S10.3.55			- Protective covering should be provided as an additional mitigation measure to the Tin Hau Temple.	N.O.

Remarks: ^

Compliance of mitigation measure Non-compliance of mitigation measure Not Applicable at this stage as no such site activities were conducted in the reporting period . N.A

N.O Not Observed during site inspection in the reporting period.

## **APPENDIX K**

**Proactive Environmental Protection Proforma** 

# Appendix K Proactive Environmental Protection Proforma

Reporting Period	01/04/2021 – 30/04/2021
Construction Works	<ul> <li>Expanded STKSTW piling</li> <li>Submarine outfall pilot hole drilling (Land)</li> <li>Submarine outfall pilot hole drilling (Sea)</li> </ul>
Anticipated Impacts	Dust, Noise and water quality impact.
Corresponding Mitigation Measures	<ul> <li>All construction plants / machineries will be checked / serviced on a regular basis during the courses of construction to minimize the emission of noise generation and eliminate dark smoke emission.</li> <li>All C&amp;D materials generated will be transported and stored at temporary storage area. Cover will be provided during transportation of dusty materials. Suitable materials will be sorted for reuse on-site. Only non-inert C&amp;D material will be disposed off-site to NENT Landfill.</li> <li>All dump trucks will be equipped with mechanical covers to prevent the dust emission during transportation when necessary.</li> <li>Dust control measures, such as water spraying, will be provided during demolition works when necessary.</li> <li>Maintaining of wet surface on access road and keep slow speed in the site.</li> <li>Wastewater to be treated by wastewater treatment facilities before discharge.</li> <li>Conditions in the Environmental Permit and Discharge License should be followed.</li> <li>Fueling of equipment will be conducted carefully on-site by mobile tanker to avoid storage of fuel and oil spillage.</li> <li>Provision of drip trays for equipment likely cause spillage of chemical / fuel, and provide routine maintenance.</li> <li>Predict required quantity of concrete accurately and collect the unused fresh concrete at designated locations in the site for subsequent disposal.</li> <li>Application of silent plant.</li> <li>Provide sufficient mitigation measures as recommended in approved EIA Manual requirement.</li> <li>Floating single silt curtain shall be deployed to fully enclose the works area at sea side prior to the installation of pipe piles for temporary scaffold and remove the silt curtain after the completion of steel casing installation.</li> </ul>

Coming Month	01/05/2021 – 31/05/2021
Construction Works	<ul> <li>Excavation</li> <li>Submarine outfall pilot hole drilling (Land)</li> <li>Submarine outfall pilot hole drilling (Sea)</li> <li>Sewer laying works in Shun Hing Street and Tong To Village</li> </ul>
Anticipated Impacts	Dust, Noise and water quality impact.
Corresponding Mitigation Measures	<ul> <li>All construction plants / machineries will be checked / serviced on a regular basis during the courses of construction to minimize the emission of noise generation and eliminate dark smoke emission.</li> <li>All C&amp;D materials generated will be transported and stored at temporary storage area. Cover will be provided during transportation of dusty materials. Suitable materials will be sorted for reuse on-site. Only non-inert C&amp;D material will be disposed off-site to NENT Landfill.</li> <li>All dump trucks will be equipped with mechanical covers to prevent the dust emission during transportation when necessary.</li> <li>Dust control measures, such as water spraying, will be provided during demolition works when necessary.</li> <li>Maintaining of wet surface on access road and keep slow speed in the site.</li> <li>Wastewater to be treated by wastewater treatment facilities before discharge.</li> <li>Conditions in the Environmental Permit and Discharge License should be followed.</li> <li>Fueling of equipment will be conducted carefully on-site by mobile tanker to avoid storage of fuel and oil spillage.</li> <li>Provision of drip trays for equipment likely cause spillage of chemical / fuel, and provide routine maintenance.</li> <li>Predict required quantity of concrete accurately and collect the unused fresh concrete at designated locations in the site for subsequent disposal.</li> <li>Application of silent plant.</li> <li>Provide sufficient mitigation measures as recommended in approved EIA Manual requirement.</li> <li>Floating single silt curtain shall be deployed to fully enclose the works area at sea side prior to the installation of pipe piles for temporary scaffold and remove the silt curtain after the completion of steel casing installation.</li> </ul>

## APPENDIX L

Cumulative Statistics on Complaints, Notification of Summons, Successful Prosecutions and Public Engagement Activities

# Appendix L Cumulative Statistics on Complaints, Notifications of Summons, Successful Prosecutions and Public Engagement Activities

**Environmental Complaints Log** 

Complaint Log No.	Date of Complaint	Received From	Received By	Nature of Complaint	Investigation/ Mitigation Action	Status
-	-	-	-	-	-	-

Remark:

Cumulative Statistics on Complaints, Notifications of Summons and Successful Prosecutions and Public

**Engagement Activities** 

Reporting Period	Complaints	Notifications of Summons and Prosecutions	Public Engagement Activities
This Month	0	0	0
Cumulative Project-to-Date	0	0	0

<sup>\*</sup> No Complaints related to 0700 to 1900 on normal weekdays, Notifications of Summons or Successful Prosecutions was received in the reporting period.

## **APPENDIX M**

On-site Time Duties for the Team of ET and IEC

## Appendix M On-site Time & duties for the Team of ET and IEC

	of ET during the reporting month	
Works to be carried on-site	Purposes	Actual Man-hour per week
Environmental site inspection	<ul> <li>To audit and assess the effectiveness of the Contractor's site practice and work methodologies regarding on environmental and landscape &amp; visual mitigation measures as stipulated in the EM&amp;A Manual.</li> <li>To take pro-active actions to pre-empt environmental problems.</li> <li>To audit compliance with the intended aims of the measures implemented by the Contractor.</li> <li>The findings will notify to the Contractor at the time of inspection to enable the rapid resolution of identified non-</li> </ul>	3 hours per week
	<ul><li>conformities.</li><li>To carry out the follow-up actions if non-conformities identified during the site inspection.</li></ul>	
Keeping and logging records in the log-book	To keep a contemporaneous log-book of any such instance or circumstance or change of circumstances.	1 hour per week
Impact noise monitoring	<ul> <li>To carry out impact noise monitoring at each station at 0700-1900 hours on normal weekdays; per week when construction activities are underway.</li> <li>To check the performance of monitoring and to track the varying environmental impact.</li> <li>To carry out remedial actions described in the Event/Action Plans of the EM&amp;A Manual in accordance with the time frame set out in the Event/ Action Plans in case where specified criteria in the EM&amp;A Manual are exceeded.</li> </ul>	2 hours per week
Meeting with the ER, IEC, and contractor.	<ul> <li>To discuss with ER, IEC and Contractor any observations that improvement works is required to enhance the overall environmental performance; liaise with Contractor on any environmental non-compliance identified and follow up actions taken.</li> <li>To liaise with the Project Proponent, IEC, RSS and other individuals or parties concerning other environmental issues deemed to be relevant to the construction/ operation process.</li> </ul>	2 hours per week
Additional Monitoring for Critical	Purposes	Additional minimum on-site
work activities		time
Construction Phase		T
Monitoring of decommission of existing rising main and demolition of sewage pumping station inside the close area	To audit the Contractor's site practice and work methodologies regarding environmental mitigation measures contained in the EM&A Manual.	Such work has not yet commenced.
of Sha Tau Kok Chuen	To check any non-compliance with the construction methodology, mitigation measures and environmental monitoring and audit requirements recommended in the approved Method Statement submitted by the Contractor.	
Manitaria a fan Mania a anasturatia a	To take pro-active actions to pre-empt environmental problems.	O become a constant
Monitoring for Marine construction works including construction of cofferdam at the location of diffuser	<ul> <li>To audit the Contractor's site practice and work methodologies regarding environmental mitigation measures contained in the EM&amp;A Manual.</li> </ul>	2 hours per week
and construction of Submarine Outfall, etc.	To check any non-compliance with the construction methodology, mitigation measures and environmental monitoring and audit requirements recommended in the approved Method Statement submitted by the Contractor.	
	To take pro-active actions to pre-empt environmental problems.	
Marine Water quality monitoring during marine construction activities	To obtain water samples from the Water Quality Monitoring Stations as stipulated in the Table 5.3 of EM&A Manual.	3 days per week x 8 hours = 24 hours per week
3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	To check the monitoring parameter against the Action and Limit Levels stipulated in the Table 4.2 of Baseline Environmental Monitoring Report (Water).	
Operation Phase		
Marine Water quality monitoring during the first year of the TSTP	To obtain water samples from the Water Quality Monitoring Stations as stipulated in the Table 5.3 of EM&A Manual.	3 days per week x 8 hours = 24 hours per week
and mot your or the Total	To check the monitoring parameter against the Action and Limit Levels stipulated in the Table 4.3 of Baseline Environmental Monitoring Report (Water).	24 Hours per wook

Additional Monitoring for Critical work activities	Purposes	Additional minimum on-site time
Continuous monitoring of treated sewage effluent from the TSTP	<ul> <li>To obtain 24-hour flow-weighted composite effluent sample for subsequent chemical analysis and testing</li> <li>To check the monitoring parameter against the Action and Limit Levels stipulated in the Table 5.4 of EM&amp;A Manual.</li> </ul>	For auto-sampling, 4 hours x 7 days = 28 hours per week
	<ul> <li>To notify the plant operator for the non-compliance and to identify the cause for the non-compliance if any non-compliance.</li> </ul>	
Testing & Commissioning for the TSTP	<ul> <li>To ascertain the effectiveness of the deodorization systems as required in the EM&amp;A at the TSTP and STKSTW during the operation phase.</li> </ul>	Completed
Monitoring of odour emission at the exhausts at TSTP	To check any non-compliance with the monitoring parameter as stipulated in the EM&A Manual.	4 hours per times
Odour patrol during the period of maintenance of the deodorization	To patrol and sniff along an odour patrol route at the existing STKSTW site boundary.	No maintenance of
system for TSTP	<ul> <li>To carry out the follow-up actions if any exceedance of the Action or Limit Level occurs actions in accordance with the Event/Action Plan presented in Table 3.5 of EM&amp;A Manual should be carried out.</li> </ul>	deodorization system for TSTP in the reporting month.

Works to be carried on-site	Purposes	Actual Man-hour per week
General site inspection or Monthly site	To ensure the EIA recommendations and EP requirements are complied with	2 x 2 hours general site
inspection	To review the effectiveness of environmental mitigation measures and environmental mitigation measures and environmental performance of the Project	inspection or 1 x 4 hours monthly site inspection
	To identify any environmental deficiency needs to be improved.	
	To identify in any environmental non-compliance	
Inspection of on-site ET Logbook	To inspect and audit the on-site logbook kept by the ET	1 hour per week
Audit of Monitoring Works by the ET	To check, audit and verify the environmental monitoring equipment, procedures, data and results of the environmental monitoring works carried out by the ET	1.5 hours per week
Meeting with the ER, ET and contractor.	To discuss with ER, ET and Contractor any observations that improvement works is required to enhance the overall environmental performance	1.5 hours per week
	To discuss with ET, ET and Contractor any environmental non-compliance identified and follow up actions required	