

Annex B

## Water Quality Monitoring Results

**Table B1** *Action and Limit Levels of Water Quality for Dredging, Disposal and Capping Activities at ESC CMP V*

<b>Parameter</b>	<b>Action Level</b>	<b>Limit Level</b>
Dissolved Oxygen (DO) <sup>(1)</sup>	<u>Surface and Mid-depth</u> <sup>(2)</sup> 5%-ile of baseline data for surface and middle layer = <b>3.76 mg L<sup>-1</sup></b>	<u>Surface and Mid-depth</u> <sup>(2)</sup> 1%-ile of baseline data for surface and middle layer = <b>3.11 mg L<sup>-1</sup></b> <sup>(3)</sup>
	and  Significantly less than the reference stations mean DO (at the same tide of the same day)	and  Significantly less than the reference stations mean DO (at the same tide of the same day)
	<u>Bottom</u> 5%-ile of baseline data for bottom layers = <b>2.96 mg L<sup>-1</sup></b>	<u>Bottom</u> The average of the impact station readings are <b>&lt;2 mg/L<sup>-1</sup></b>
	and  Significantly less than the reference stations mean DO (at the same tide of the same day)	and  Significantly less than the reference stations mean DO (at the same tide of the same day)
Depth-averaged Suspended Solids (SS) <sup>(4) (5)</sup>	95%-ile of baseline data for depth average = <b>37.88 mg L<sup>-1</sup></b>	99%-ile of baseline data for depth average = <b>61.92 mg L<sup>-1</sup></b>
	and  120% of control station's SS at the same tide of the same day	and  130% of control station's SS at the same tide of the same day
Depth-averaged Turbidity (Tby) <sup>(4) (5)</sup>	95%-ile of baseline data = <b>28.14 NTU</b>	99%-ile of baseline data = <b>38.32 NTU</b>
	and  120% of control station's Tby at the same tide of the same day	and  130% of control station's Tby at the same tide of the same day

**Notes:**

- (1) For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
- (2) The Action and Limit Levels for DO for Surface & Middle layers were calculated from the combined pool of baseline surface layer data and baseline middle layer data.
- (3) Given the Action Level for DO for Surface & Middle layers has already been lower than 4 mg L<sup>-1</sup>, it is proposed to set the Limit Level at 3.11 mg L<sup>-1</sup> which is the first percentile of the baseline data.
- (4) "Depth-averaged" is calculated by taking the arithmetic means of reading of all three depths.
- (5) For turbidity and SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.

**Table B2** Water Column Profiling Results for ESC CMP Vd in May 2019

Stations	Temp (°C)	Salinity (ppt)	Turbidity (NTU)	Dissolved Oxygen		pH	Suspended Solids (mg L <sup>-1</sup> )
				(%)	(mg L <sup>-1</sup> )		
WCP 1 (Downstream)	23.90	25.74	6.70	84.81	6.17	8.11	6.93
WCP 2 (Upstream)	23.93	25.86	10.67	84.11	6.11	8.11	8.20
WQO (Wet Season)	N/A	23.27- 28.45#	N/A	N/A	>4	6.5-8.5	10.8

**Note:**

#Not exceeding 10% of natural ambient level which is the result obtained from the Reference Station.

Cell shaded yellow / red indicate value exceeding the Action/Limit levels.

Cell shaded grey indicate value exceeding the WQO.

**Table B3** In-situ Monitoring Results for Routine Water Quality Monitoring of ESC CMPs in May 2019

Sampling Period	Stations	Temp (°C)	Salinity (ppt)	Turbidity (NTU)	Dissolved Oxygen		pH (mg L <sup>-1</sup> )
					(%)	(mg L <sup>-1</sup> )	
May 2019	RFF (Reference)	23.76	24.86	7.66	84.04	6.16	8.04
	IPF (Impact)	23.81	25.14	10.03	83.28	6.09	8.01
	INF (Intermediate)	23.81	25.25	15.13	82.82	6.05	8.00
	Ma Wan	23.93	28.18	3.91	83.45	5.99	8.14
	WQO	N/A	22.38 - 27.35#	N/A	N/A	>4	6.5-8.5

**Notes:**

#Not exceeding 10% of natural ambient level which is the result obtained from the Reference Station.

Cell shaded yellow / red indicate value exceeding the Action/Limit levels.

Cell shaded grey indicate value exceeding the WQO.

**Table B4** Laboratory Results for Routine Water Quality Monitoring of ESC CMPs in May 2019

Sampling Period	Stations	As (µg/L)	Cd (µg/L)	Cr (µg/L)	Cu (µg/L)	Pb (µg/L)	Hg (µg/L)	Ni (µg/L)	Ag (µg/L)	Zn (µg/L)	NH <sub>3</sub> (mg/L)	TIN (mg/L)	BOD <sub>5</sub> (mg/L)	SS (mg/L)
May 2019	RFF	1.81	<0.5	1.64	5.35	0.94	<0.5	1.63	<1	8.06	0.17	0.86	1.88	8.93
	IPF	1.75	<0.5	1.65	8.05	1.05	<0.5	1.51	<1	8.07	0.16	0.79	1.23	12.93
	INF	1.73	<0.5	1.70	5.26	1.21	<0.5	1.47	<1	7.17	0.17	0.79	0.95	19.31
	Ma Wan	1.71	<0.5	1.76	8.61	0.56	<0.5	1.09	<1	17.30	0.17	0.62	2.24	4.44

WQO of TIN: 0.5 mg/L

Wet Season WQO of SS : 10.8 mg/L

**Notes:**

Cell shaded yellow / red indicate value exceeding the Action/Limit levels.

Cell shaded grey indicate value exceeding the WQO.