



Agreement No. CE 63/2016 (EP)
Environmental Monitoring and Audit for Disposal Facility to the East of Sha Chau (2017-2020) – Investigation

Monthly EM&A Report for Contaminated Mud Pits to the East of Sha Chau – July 2019

Revision 0

August 2019

Environmental Resources Management 2507, 25/F, One Harbourfront 18 Tak Fung Street Hunghom, Kowloon Hong Kong Telephone (852) 2271 3000

Facsimile (852) 2723 5660

ERM

www.erm.com

# Agreement No. CE 63/2016 (EP) Environmental Monitoring and Audit for Disposal Facility to the East of Sha Chau (2017-2020) – Investigation

Monthly EM&A Report for Contaminated Mud Pits to the East of Sha Chau – July 2019

### **Revision 0**

Document Code: 0400720\_Monthly July 2019\_v0.doc

# **Environmental Resources Management**

2507, 25/F, One Harbourfront 18 Tak Fung Street Hunghom, Kowloon Hong Kong Telephone: (852) 2271 3000

Facsimile: (852) 2773 5660 E-mail: post.hk@erm.com http://www.erm.com

Client:		Proje	ect No	o:		
Civil Eng	gineering and Development Department (CEDD)	040	0720	0		
Summary	:	Date	:			
		13 A	۸ugu	ıst 2019		
		Appr				
	ument presents the Monthly EM&A Report for nental Monitoring and Audit for Disposal Facility to the East hau.	10	g A.	Reid		
		rait	riei			
v0	Monthly EM&A Report for ESC CMPs	C,	Y	RC	CAR	13/8/19
Revision	Description	Ву	y	Checked	Approved	Date
'ERM Hong- Contract with	has been prepared by Environmental Resources Management the trading name of Kong, Limited', with all reasonable skill, care and diligence within the terms of the hather than the client, incorporating our General Terms and Conditions of Business and int of the resources devoted to it by agreement with the client.	Distr	ibutio	ernal		BSI
We disclaim scope of the	any responsibility to the client and others in respect of any matters outside the above.	$\boxtimes$	Pub	olic		BSI
third parties	s confidential to the client and we accept no responsibility of whatsoever nature to to whom this report, or any part thereof, is made known. Any such party relies on their own risk.		Cor	nfidential	ISO 9 Certificat	001 : 2008 a No. FS 32515







# Dredging, Management and Capping of Contaminated Sediment Disposal Facility at Sha Chau

# Environmental Certification Sheet EP-312/2008/A

### Reference Document/Plan

Document/Plan to be Certified/ Verified:

Monthly EM&A Report for Contaminated Mud Pits to the

East of Sha Chau - July 2019

Date of Report:

13 August 2019

Date prepared by ET:

13 August 2019

Date received by IA:

13 August 2019

### Reference EP Condition

Environmental Permit Condition:

Condition 3.4 of EP-312/2008/A:

4 hard copies and 1 electronic copy of monthly EM&A Report shall be submitted to the Director within 2 weeks after the end of the reporting month. The EM&A Reports shall include a summary of all non-compliance (exceedances) of the environmental quality performance limits (Action and Limit Levels). The submissions shall be certified by the ET Leader and verified by the Independent Auditor. Additional copies of the submission shall be provided to the Director upon request by the Director.

### **ET Certification**

I hereby certify that the above referenced document/<del>plan</del> complies with the above referenced condition of EP-312/2008/A

Craig Reid,

Environmental Team Leader:

Date:

13/8/2019

### **IA Verification**

I hereby verify that the above referenced document/<del>plan</del> complies with the above referenced condition of

EP-312/2008/A

Dr Wang Wen Xiong, Independent Auditor: Date:

13/8/2019

### **CONTENTS**

1.1	BACKGROU	ND	1
1.2	REPORTING		2
			_
1.3	DETAILS OF	SAMPLING AND LABORATORY TESTING ACTIVITIES	2
1.4	<b>DETAILS OF</b>	OUTSTANDING SAMPLING AND/OR ANALYSIS	2
1.5	BRIEF DISC	ISSION OF THE MONITORING RESULTS FOR ESC CMP V	2
1.6	<b>ACTIVITIES</b>	SCHEDULED FOR THE NEXT MONTH	6
1.7	STUDY PRO	GRAMME	6
	ANNEXES		
	ANNEX A	SAMPLING SCHEDULE	
	ANNEX B	WATER QUALITY MONITORING RESULTS	
	ANNEX C	~ GRAPHICAL PRESENTATIONS	
	111112110		
	ANNEX D	STUDY PROGRAMME	

# Agreement No. CE 63/2016 (EP) Environmental Monitoring and Audit for Disposal Facility to the East of Sha Chau (2017-2020) - Investigation

### **MONTHLY EM&A REPORT FOR JULY 2019**

### 1.1 BACKGROUND

- 1.1.1 The Civil Engineering and Development Department (CEDD) is managing a number of marine disposal facilities in Hong Kong waters, including the Contaminated Mud Pits (CMPs) to the South of The Brothers (SB) and to the East of Sha Chau (ESC) for the disposal of contaminated sediment, and opensea disposal grounds located to the South of Cheung Chau (SCC), East of Tung Lung Chau (ETLC) and East of Ninepins (ENP) for the disposal of uncontaminated sediment. Two Environmental Permits (EPs), EP-312/2008/A and EP-427/2011/A, were issued by the Environmental Protection Department (EPD) to the CEDD, the Permit Holder, on 28 November 2008 and 23 December 2011 for the Dredging, Management and Capping of Contaminated Sediment Disposal Facilities at ESC CMP V and SB CMPs, respectively.
- 1.1.2 Under the requirements of the two EPs for ESC CMP V and SB CMPs, EM&A programmes which encompass water and sediment chemistry, fisheries assessment, tissue and whole body analysis, sediment toxicity and benthic recolonisation studies as set out in the EM&A Manuals are required to be implemented. EM&A programmes have been continuously carried out during the operation of the CMPs at ESC and SB. A review of the collection and analysis of such environmental data from the monitoring programme demonstrated that there had not been any adverse environmental impacts resulting from disposal activities (1) (2). The current programme will assess the impacts resulting from dredging, disposal and capping operations of CMP V as well as capping operations of SB CMPs.
- 1.1.3 The present EM&A programme under *Agreement No. CE 63/2016 (EP)* covers the dredging, disposal and capping operations of the ESC CMP V as well as the capping operations of the SB CMPs (see *Annex A* for the EM&A programme). The scheduled EM&A programme for SB CMPs was completed in December 2018. Detailed works schedule for ESC CMP V is shown in *Figure 1.1*. In July 2019, disposal of contaminated mud at ESC CMP Vd was undertaken.

ERM (2013) Final Report. Submitted under Agreement No. CE 4/2009 (EP) Environmental Monitoring and Audit for Contaminated Mud Pit at East Sha Chau. For CEDD.

<sup>(2)</sup> ERM (2017) Final Report. Submitted under Agreement No. CE 23/2012 (EP) Environmental Monitoring and Audit for Contaminated Mud Pits to the South of The Brothers and at East Sha Chau (2012 - 2017). For CEDD.

Figure 1.1 Works Schedule for ESC CMP V

Pit	Operation	2017					2018					2019								2020						2021																						
FIL	Operation	Α	M	J	J	Α	S	C	N	D	J	F	M	Α	M	J	J	Α	S	0	N	D	J	F	M	Α	М	J	J	Α	S	0 1	I V	) ,	J F	N	I A	M	IJ	J	Α	s	0	N	D	7	F	M
	Dredging																																															$\square$
ESC CMP V	Disposal																																	T														
	Capping																																															

### 1.2 REPORTING PERIOD

1.2.1 This *Monthly EM&A Report for July 2019* covers the EM&A activities for the reporting month of July 2019.

### 1.3 DETAILS OF SAMPLING AND LABORATORY TESTING ACTIVITIES

- 1.3.1 The following monitoring activities were undertaken for ESC CMP V in July 2019:
  - Water Column Profiling of ESC CMP Vd;
  - Routine Water Quality Monitoring of ESC CMPs;
  - Pit Specific Sediment Chemistry of ESC CMP Vd; and
  - Demersal Trawling for ESC CMPs

### 1.4 DETAILS OF OUTSTANDING SAMPLING AND/OR ANALYSIS

- 1.4.1 No outstanding sampling remained for July 2019.
- 1.4.2 The following analyses are in progress and will be presented in the corresponding quarterly report:
  - Species identification of the biota samples collected from *Demersal Trawling for ESC CMPs* in July 2019.

### 1.5 Brief Discussion of the Monitoring Results for ESC CMP V

- 1.5.1 Brief discussion of the monitoring results of the following activities for ESC CMP V is presented in this *Monthly EM&A Report for July* 2019:
  - Water Column Profiling of ESC CMP Vd;
  - Routine Water Quality Monitoring of ESC CMPs; and
  - Pit Specific Sediment Chemistry of ESC CMP Vd.

### 1.5.2 Water Column Profiling of ESC CMP Vd - July 2019

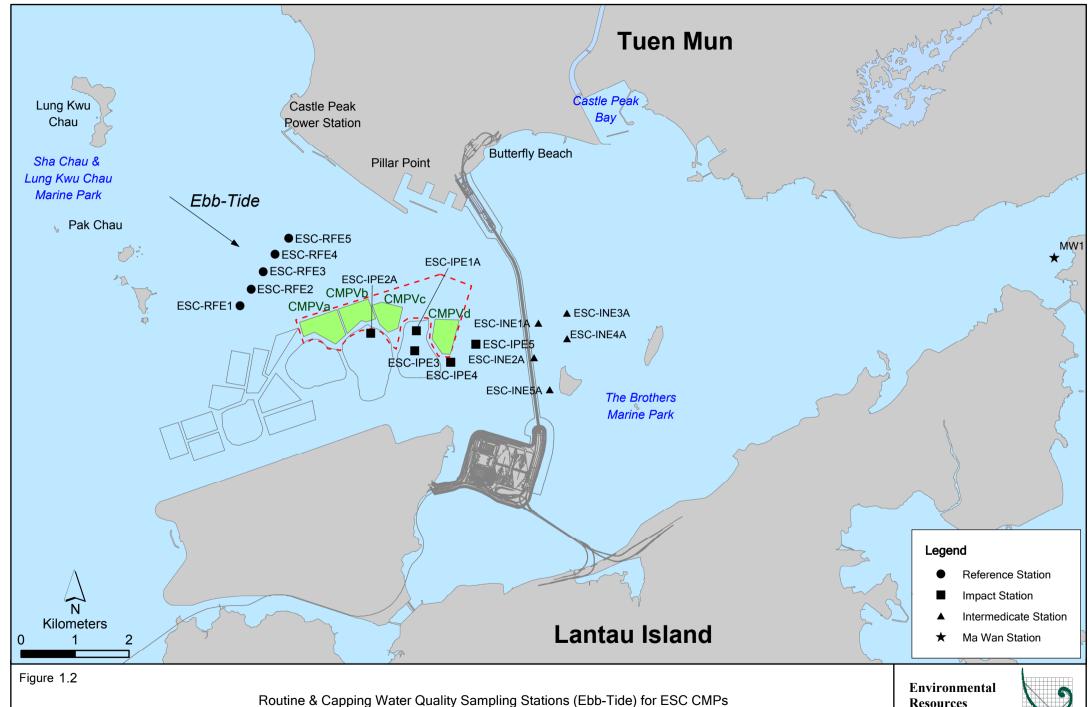
1.5.3 Water Column Profiling was undertaken at a total of two sampling stations (Upstream and Downstream stations) on 11 July 2019. The monitoring results have been assessed for compliance with the Water Quality Objectives (WQOs) set by Environmental Protection Department (EPD). This consists of a review of the EPD routine water quality monitoring data for the wet season period (April to October) of 2008 - 2017 from stations in the Northwestern Water Control Zone (WCZ), where the ESC CMPs are located (1). For Salinity, the averaged value obtained from the Reference (Upstream) station was used for the basis as the WQO. Levels of Dissolved Oxygen (DO) and Turbidity were also assessed for compliance with the Action and Limit Levels (see Table B1 of Annex B for details).

In-situ Measurements

1.5.4 Analyses of results for July 2019 indicated that levels of Salinity, pH and DO complied with the WQOs at both Downstream and Upstream stations (*Table B2* of *Annex B*). Levels of DO and Turbidity at all stations complied with the Action and Limit Levels (*Tables B1* and *B2* of *Annex B*).

Laboratory Measurements for Suspended Solids (SS)

- 1.5.5 Analyses of results for July 2019 indicated that the SS levels at both Downstream and Upstream stations were complied with the WQO and the Action and Limit Levels (*Tables B1* and *B2* of *Annex B*).
- 1.5.6 Overall, the monitoring results indicated that the mud disposal operation at ESC CMP Vd did not appear to cause any deterioration in water quality during this reporting period.
- 1.5.7 Routine Water Quality Monitoring of ESC CMP V July 2019
- 1.5.8 Routine Water Quality Monitoring of ESC CMP V was undertaken on 12 July 2019. The monitoring results have been assessed for compliance with the WQOs (see Section 1.5.3 for details). The monitoring results are shown in Tables B3 and B4 of Annex B and Figures 1 10 of Annex C. A total of sixteen (16) monitoring stations were sampled in July 2019 as shown in Figure 1.2.



File: T:\GIS\CONTRACT\0175086\Mxd\updated\_20170419\0175086\_R\_C\_WQMS\_ebb.mxd

Resources Management



### In-situ Measurements

- 1.5.9 Graphical presentation of the monitoring results (Temperature, DO, pH, Salinity and Turbidity) is shown in *Figures 1 6* of *Annex C*. Analyses of results for July 2019 indicated that the levels of pH, Salinity and DO generally complied with the WQOs at most stations (Impact, Intermediate, Reference and Ma Wan stations) in July 2019, except higher levels of Salinity were recorded at Ma Wan station and lower levels of Salinity were recorded at Impact stations as well as the levels of DO were lower than the WQO at Intermediate, Reference and Ma Wan stations.
- 1.5.10 However, the levels of DO and Turbidity complied with the Action and Limit Levels at all stations (*Table B3* of *Annex B*; *Figures 3* and 6 of *Annex C*).
- 1.5.11 Overall, *in-situ* measurement results of the *Routine Water Quality Monitoring* indicated that the disposal operation at ESC CMP Vd did not appear to cause any unacceptable impacts in water quality in July 2019.

Laboratory Measurements

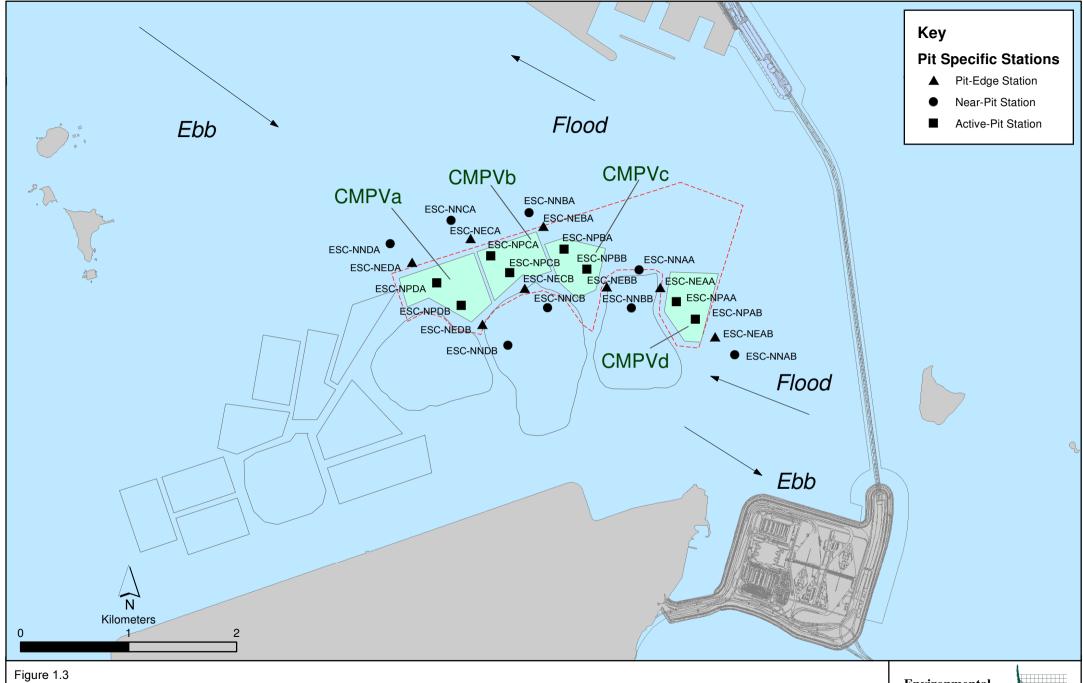
- 1.5.12 Laboratory analysis of July 2019 results indicated that concentrations of Cadmium and Silver were below their limit of reporting at all stations. Arsenic, Chromium, Copper, Lead, Mercury, Nickel and Zinc were detected in July 2019 samples at most stations and the concentrations of these metals and metalloids were similar amongst the stations (*Table B4* of *Annex B*; *Figure 7* of *Annex C*).
- 1.5.13 For nutrients, concentrations of Total Inorganic Nitrogen (TIN) at all stations in July 2019 were higher than the WQO (0.5 mg/L) (*Table B4* of *Annex B*; *Figure 8* of *Annex C*). It should be noted that due to the effect of the Pearl River, the North Western WCZ has historically experienced higher levels of TIN <sup>(1)</sup>. Therefore, the exceedances of TIN WQO at these stations are unlikely to be caused by the disposal operation at ESC CMP Vd. Concentrations of Ammonia Nitrogen (NH<sub>3</sub>-N) and 5-day Biochemical Oxygen Demand (BOD<sub>5</sub>) were generally similar amongst the stations in July 2019 (*Table B4* of *Annex B*; *Figure 8 and 9* of *Annex C*).
- 1.5.14 Analyses of results for July 20109 indicated that the SS levels at all stations were lower than the WQO (10.8 mg/L for wet season) and compiled with the Action and Limit Levels (*Tables B1 and B4* of *Annex B*; *Figure 10* of *Annex C*).
- 1.5.15 Overall, results of the *Routine Water Quality Monitoring* indicated that the disposal operation at ESC CMP Vd did not appear to cause any unacceptable deterioration in water quality in July 2019. Detailed statistical analysis will be presented in the Quarterly Report to investigate any spatial and temporal trends of potential concern.

 $<sup>\</sup>label{eq:continuous} \mbox{(1)} \hspace{1.5cm} \mbox{http://www.epd.gov.hk/epd/misc/marine\_quality/1986-2005/textonly/eng/index.htm}$ 

- 1.5.16 Pit Specific Sediment Chemistry of ESC CMP Vd July 2019
- 1.5.17 Monitoring locations for *Pit Specific Sediment Chemistry for ESC CMP Vd* are shown in *Figure 1.3.* A total of six (6) monitoring stations were sampled on 3 July 2019.
- 1.5.18 The concentrations of most inorganic contaminants were lower than the Lower Chemical Exceedance Levels (LCELs) at most stations, except concentrations of Arsenic were slightly higher than the LCEL at Active Pit stations ESC-NPAA and ESC-NPAB (*Figures 11 and 12 of Annex C*). Whilst the average concentration of Arsenic in the Earth's crust is generally ~2mg/kg, significantly higher Arsenic concentrations (median = 14 mg/kg) have been recorded in Hong Kong's onshore sediments (1). It is presumed that the natural concentrations of Arsenic are similar in onshore and offshore sediments (2), and relatively high Arsenic levels may thus occur throughout Hong Kong. Therefore, the LECL exceedances of Arsenic are unlikely to be caused by the disposal operations at ESC CMP Vd but rather as a result of naturally occurring deposits.
- 1.5.19 For organic contaminants, the concentrations of Total Organic Carbon (TOC) varied between stations in July 2019 and were higher at Active-Pit stations ESC-NPAA and ESC-NPAB (*Figure 13* of *Annex C*). The concentrations of Tributyltin (TBT) were higher at Near-Pit station ESC-NNAB in July 2019 (*Figure 14* of *Annex C*). Low and High Molecular Weight Polycyclic Aromatic Hydrocarbons (PAHs), Total Polychlorinated Biphenyls (PCBs), Total dichloro-diphenyl-trichloroethane (DDT) and 4,4′-dichlorodiphenyldichloroethylene (DDE) concentrations were below the limit of reporting at all stations.
- 1.5.20 Overall, there is no evidence indicating any unacceptable environmental impacts to sediment quality as a result of the contaminated mud disposal operations at ESC CMP Vd in July 2019. Statistical analysis will be undertaken and presented in the corresponding quarterly report to investigate whether there are any unacceptable impacts in the area caused by the contaminated mud disposal.

Sewell RJ (1999) Geochemical Atlas of Hong Kong. Geotechnical Engineering Office, Government of the Hong Kong Special Administrative Region

<sup>(2)</sup> Whiteside PGD (2000) Natural geochemistry and contamination of marine sediments in Hong Kong. In: The Urban Geology of Hong Kong (ed Page A & Reels SJ). Geological Society of Hong Kong Bulletin No. 6, p109-121



File: T:\GIS\CONTRACT\0400720\Mxd\0400720\_SQMS\_pit specific.mxd Date: 9/5/2017

Pit Specific Sediment Quality Monitoring Stations for CMPV



### 1.6 ACTIVITIES SCHEDULED FOR THE NEXT MONTH

- 1.6.1 The following monitoring activities will be conducted in the next monthly period of August 2019 for ESC CMP V (see *Annex A* for the sampling schedule <sup>(1)</sup>):
  - Water Column Profiling of ESC CMP Vd;
  - Routine Water Quality Monitoring of ESC CMPs;
  - Pit Specific Sediment Chemistry of ESC CMP Vd;
  - *Cumulative Impact Sediment Chemistry of ESC CMP V;*
  - Sediment Toxicity Tests of ESC CMP V; and
  - Demersal Trawling for ESC CMPs.

### 1.7 STUDY PROGRAMME

1.7.1 A summary of the Study Programme is presented in *Annex D*.

<sup>(1)</sup> The scheduled EM&A Programme for SB CMPs was completed in December 2018.

### Annex A

# Sampling Schedule

Annex A1 - East of Sha Chau Envi	ironmental Mon																												
Pit Specific Sediment Chemistry	Code	Frequency	A M	JJ	2017 A	s o	NI	J J	М	A M	2018	A S O	N D	J	F M	A M	2019	J A	S O	N D	T.	F M	f A	M	2020	Α	s o	NE	2021 D J F E
Active-Pit	ESC-NPAA	Monthly	12 12		2 12	12 12		2 12 1			12 12 1	2 12 12	12 12	12	12 12	12 12	12	12 12	12 12		12	12 1	2 12	12 1	12 12		12 12		
Pit-Edge	ESC-NPAB ESC-NEAA	Monthly Monthly	12 12	12 12	12	12 12	12 1	2 12 1	T		12 12 1	2 12 12	12 12	12	2 12	12 12	12	12 12	12 12	12 12		12 1		12 1	12 12	T	12 12	12 1	
Near-Pit	ESC-NEAB		12 12	12 12	12	12 12	12 1				12 12 1		12 12	12	2 12	12 12	12	12 12	12 12	12 12		12 1			12 12		12 12		
	ESC-NNAA ESC-NNAB	Monthly Monthly	12 12 12 12	12 12 12 12	2 12	12 12 12 12	12 1 12 1	2 12 1 2 12 1	2 12	12 12 12 12	12 12 1 12 12 1	2 12 12 2 12 12	12 12 12 12	12 12	12 12	12 12 12 12	12 : 12 :	12 12 12 12	12 12 12 12	12 12 12 12 12	12	12 13 12 13	2 12 2 12	12 : 12 :	12 12 12 12	12	12 12 12 12	12 13 12 13	2 12 12 1 2 12 12 1
Cumulative Impact Sediment Ch	emistry		A M	JJ	A	S O	NI	JI	M	A M	JJJ	A S O	N D	Ш	F M	A M	IJ	JA	S O	N D	П	F	I A	М	П	Α	S O	NE	J F P
Near-field Stations	ESC-RNA ESC-RNB1	4 times per year 4 times per year		12 12	12 12		1	2 1	2	$\pm$	12 1	2	12				12	12		12	$\blacksquare$	12	$\Box$		12	12		1:	2 12 2 12
Mid-field Stations	ESC-RMA	4 times per year		12	12	+	1	2 1		$\blacksquare$	12 1	2	12	H			12	12		12	H	12	Ħ	H	12	12		1	2 12
Capped Pit Stations	ESC-RMB	4 times per year	H	12	12	-	1	2 1	2	$\blacksquare$	12 1	2	12		12		12	12		12	Ħ	12	$\blacksquare$		12	12		1:	2 12
	ESC-RCA1 ESC-RCB1	4 times per year 4 times per year		12 12	12 12		1 1	2 1 2 1			12 1 12 1	2	12 12	Н	12		12 12	12 12		12	Е	12 12			12 12	12 12		11	2 12 2 12
Far-Field Stations	ESC-RFA	4 times per year		12	12		1	2 1			12 1	2	12				12	12		12	$\vdash$	12	$\pm$		12	12	+	11	2 12
Ma Wan Station	ESC-RFB MW1	4 times per year 4 times per year		12	12		1	2 1	2		12 1	2	12	Н	12		12	12		12	H	12	H		12	12		11	2 12
Sediment Toxicity Tests		4 unice per year	AIM	1111	IAI	SIO	NII		IMI	AIMI	1 1 1	AISIO	INID		FIMI	AIM	111	IIAI	SIO	INID		FIN	II A	M	111	IAI	SIO	INIE	)
Near-Pit Stations	ESC-TDA	2 times per year	H		5	Ŧ	П	5		$\blacksquare$		5		Ħ	5	Ŧ	Ĺ	5		$\blacksquare$	Ħ	5	П	Ħ		5		П	5
Reference Stations	ESC-TDB1	2 times per year			5	$\pm$						5			5			5			Н	5			$\pm$	5			5
Ma Wan Station	ESC-TRA ESC-TRB	2 times per year 2 times per year			5							5		Ħ	5			5			Н	5	$\pm$		+	5			5
Ma Wan Station	MW1	2 times per year	Ħ		5				Ш			5		Ш	5			5			Ш	5	Ш	Ш		5			5
Tissue/Whole Body Sampling Near-Pit Stations			A M	JJ	A	S O	NI	JI	M	A M	J J ,	A S O	N D	J	F M	A M	J	JA	S O	N D	IJ	FN	1 A	М	JJ	Α	S O	N E	J F !
	ESC-INA ESC-INB	2 times per year 2 times per year			*					$\blacksquare$				Н			Н				Н		$\blacksquare$			*			
Reference North	TNA	2 times per year	H	H	H	Ŧ	H	Ħ	H	H	$\pm \mathbb{I}$	:   [	H	Ħ	<b>.</b> H	Ŧ	Ħ	1:	Ŧ	H	Ħ	÷	Ħ	Ħ	Ŧ	t:	+	H	
Reference South	TNB	2 times per year 2 times per year	#	Ħ		+	H	Ħ.	+	+	+		H	Ħ		$\pm$	H	Ė	#		Ħ		Ħ	Ħ	#		+	H	HÌ
	TSB	2 times per year 2 times per year	ш	ш		_	ш	ш	11				ш	ш	•	_	ш	٠	_		Ħ	٠	ш	Ħ	_	٠		ш	
Demersal Trawling Near Pit Stations			A M	JJ	A	S O	NI	JI	M	A M	JJ	A S O	N D	J	F M	A M	J	J A	SO	N D	J	FN	1 A	M	JJ	Α	S O	N E	J F ?
	ESC-INA ESC-INB	4 times per year 4 times per year	$\blacksquare$	5	5	Ŧ	Ħ	5 5		$\blacksquare$	5	5	$\blacksquare$	5	5	Ŧ	$\blacksquare$	5 5	$\mp$	Ħ	5	5	$\blacksquare$	Ħ	5	5	$\mp$	Ħ	5 5
Reference North	TNA TNB	4 times per year	+	5	5	+	H	5 5		$\bot$	5	5	H	5	5	+		5 5	#	#	5	5	Ħ	Ħ	5	5	$\pm$	Ħ	5 5
Reference South	TNB	4 times per year 4 times per year	Ħ	5	5	$\pm$	Ħ	5 5		+	5	5	Ħ	5	5	+	Ħ	5 5	+	#	5	5	Ħ	Ħ	5	5	+	Ħ	5 5
	TSB	4 times per year 4 times per year	ш	5	5	_	ш	5 5	ш		5	5	ш	5	5	_	ш	5 5			5	5	ш	Ħ	5	5		ш	5 5
Capping Ebb Tide			A M	J J	A	S O	N I	JI	M	A M	J J	A S O	N D	J	F M	A M	J	J A	S O	N D	J	F N	1 A	M	J J	Α	s o	N E	J F !
Impact Station Downcurrent	ESC-IPE1A	4 times per year	$\blacksquare$		H	₽		H				$\pm$		H	₽	$\pm$	H	$oldsymbol{oldsymbol{H}}$	₽	3	Ħ	3	H	H	3	3		3	3
	ESC-IPE2A ESC-IPE3	4 times per year 4 times per year	H	Ħ	Ħ	Ŧ	Ħ	Ħ	Ħ	Ħ	$\blacksquare$	H	Ħ	Ħ	Ħ	Ŧ	Ħ	Ħ	Ŧ	3		3	Ħ		3	3	Ŧ	3	3
Intermediate Station Downcurren	ESC-IPE4 ESC-IPE5	4 times per year 4 times per year	+	Ħ	Ħ	Ŧ	H	Ħ	H	$\pm I$	+	#	H	Ħ	Ħ	Ŧ	Н	Ħ	Ŧ	3	Ħ	3	$\pm 1$	Ħ	3	3	$\pm$	3	3
muermediate Station Downcurren	ESC-INE1A ESC-INE2A	4 times per year 4 times per year	$\vdash$	H	+	$\pm$	Ħ	Ħ	Ħ	+	$\mp$	#	Ħ	Ħ	+	+	Ħ	+	+	3	Ħ	3	Ħ	Ħ	3	3	+	3	3
	ESC-INE3A ESC-INE4A	4 times per year 4 times per year	Ħ	Ħ	Ħ	≢	Ħ	Ħ	Ħ		_	#	Ħ	Ħ	∄	⇟	Ħ	H	₽	3	Ħ	3	Ħ	Ħ	3	3	₽	3	3 3
Reference Station Upcurrent	ESC-INE5A	4 times per year		Ш		₽	H	H				ш	Н	H		E	Н		1	3	Ħ	3	$\blacksquare$		3	3	Ŧ	3	3
	ESC-RFE1 ESC-RFE2	4 times per year 4 times per year	H	H	Ħ	£	H	Ħ	H	H	$+ \mathbb{T}$	H	H	Ħ	Ħ	£	H	日	Ŧ	3	Ħ	3	H		3	3	Ŧ	3	3
	ESC-RFE3 ESC-RFE4 ESC-RFE5	4 times per year 4 times per year 4 times per year	Ħ	Ħ	Ħ	+	Ħ	Ħ	+	+	+	#	H	Ħ	+	+	Ħ	+	+	3 3	Ħ	3	Ħ		3 3	3 3	+	3	3
Ma Wan Station	MW1	4 times per year 4 times per year	H	Ħ	Ħ	#	Ħ	Ħ	Ħ	+	+	+	Ħ	Ħ	$\forall$	+	Ħ	Ħ	#	3	Ħ	3	Ħ	Ħ	3	3	+	3	3
Flood Tide Impact Station Downcurrent								Ľ						Ľ							Γ			_					
	ESC-IPF1 ESC-IPF2	4 times per year 4 times per year			П	Ŧ	I	Ħ	П	П	$\blacksquare$	Ŧ	F	Ħ	I	Ŧ	F	П	Ŧ	3	♬	3	Ħ	I	3	3	Ŧ	3	3
1	ESC-IPF3	4 times per year	$\perp$	$\vdash$		- 1	ı I		1 1	-			$\vdash$	+			1 1	- 1		3		3 1			3	3	- 1	3	3
Intermediate Station Downcurren	t ESC,INIEI	4 times per year	$\vdash$	$\vdash$	$\Box$	1	$\Box$	$\vdash$	H	$\dashv$	-	-	$\vdash$	+	+	+	$\vdash$	$\blacksquare$	$\dashv$		Ħ	3	Ħ	Ħ	3	3	$\dashv$	-	3
Intermediate Station Downcurren	ESC-INF1 ESC-INF2 ESC-INF3	4 times per year 4 times per year 4 times per year	Ħ						Ħ				Ħ	Ħ		ŧ				3 3 3	Ħ	3 3 3	Ħ		3 3 3	3 3 3		3 3	3 3 3
Intermediate Station Downcurren Reference Station Upcurrent	ESC-INF1 ESC-INF2 ESC-INF3 ESC-RFF1A	4 times per year 4 times per year 4 times per year																		3		3 3 3			3 3 3 3	3 3		3 3 3	3 3
Reference Station Upcurrent	ESC-INF1 ESC-INF2 ESC-INF3 ESC-RFF1A	4 times per year 4 times per year																				3 3 3 3 3 3			3 3 3 3 3 3	3		3 3 3 3 3 3	3 3 3 3 3
	ESC-INF1 ESC-INF2 ESC-INF3 ESC-RFF1A ESC-RFF2A	4 times per year 4 times per year 4 times per year 4 times per year																		3		3 3 3 3 3 3 3				3 3 3			3 3 3 3 3
Reference Station Upcurrent  Ma Wan Station  Routine Water Quality Monitoria	ESC-INF1 ESC-INF2 ESC-INF3 ESC-RFF1A ESC-RFF2A ESC-RFF3 MW1	4 times per year 4 times per year 4 times per year 4 times per year 4 times per year	A M	1 1	A	s o	N I	) ] ]	: M	A M	1 1	A S O	N D	J	F M	A M	J	JA	s o	3 3 3		3 3 3 3 3 3 3 5 F M	1 A			3 3 3	s o		3 3 3 3 3 3 3 3 3
Reference Station Upcurrent  Ma Wan Station	ESC-INF1 ESC-INF2 ESC-INF3 ESC-RFF1A ESC-RFF2A ESC-RFF3 MW1	4 times per year 4 times per year	$\blacksquare$	J J	A	+	N I	) J I	7 M	A M	J J	A S O	N D	J	F M	$\pm$		J A	$\mp$	3 3 3 3 3 3 N D		3 3 3 3 3 3 3 3 5 F N	1 A			3 3 3 3 3	S 0	3	3 3 3 3 3 3 3 3 5 3 3 5 5 3 5 5 5 5 5 5
Reference Station Upcurrent  Ma Wan Station  Routine Water Quality Monitoria  Ebb Tide	ESC.INF1 ESC.INF2 ESC.INF3 ESC.RFF1A ESC.RFF2A ESC.RFF3 MW1  ESC.IPE1A ESC.IPE1A ESC.IPE2A ESC.IPE3	4 times per year 8 times per year 8 times per year	A M  8 8 8 8 8 8 8 8	8	A 8 8 8 8 8	8	N I	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		A M 8 8 8 8 8 8 8 8 8	J J 3	A S O  8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	N D	J 8 8 8 8 8	8	A M 8 8 8 8 8 8 8 8		J A 8 8 8 8 8 8 8 8 8	8 8	3 3 3 3 3 3 N D	J 8 8	3 3 3 3 3 3 3 3 3 3 8 8 8 8 8 8	4 A 8 8 8 8	M 8 8 8		3 3 3 3 3 3 3 8 8	8	3 3 N E	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
Reference Station Upcurrent  Ma Wan Station  Routine Water Quality Monitoria Ebb Tide Impact Station Downcurrent	ESC.INF1 ESC.INF2 ESC.INF3 ESC.RFF1A ESC.RFF2A ESC.RFF3 MW1  ESC.IPE1A ESC.IPE2A ESC.IPE3 ESC.IPE4 ESC.IPE4 ESC.IPE5	4 times per year 4 times per year 8 times per year 8 times per year	8 8 8 8	8 8 8	8	8 8 8	N I	8 8		8 8	J J 3 8 1 8 1 8 1 8 1 8 1 8 1 8 1		N D	8	8 8	8 8 8 8		8 8	8 8 8	3 3 3 3 3 3 4 1 N D	8 8 8	3 F N 8 8 8	1 A 8 8 8 8 8 8 8	M 8 8 8 8 8 8	3 J J 8 8	3 3 3 3 3 3 3 4 8 8 8 8	8 8	3 3 N E 8 8	3 3 3 3 3 4 3 3 4 3 3 4 3 3 4 3 3 4 3 3 4 3 3 4 3 3 4 3 3 4 3 3 4 3 3 4 3 3 4 3 3 4 4 3 4 3 4 3 4 4 3 4 3 4 4 3 4 4 3 4
Reference Station Upcurrent  Ma Wan Station  Routine Water Quality Monitoria  Ebb Tide	ESC.INF1 ESC.INF2 ESC.INF2 ESC.RFF1A ESC.RFF2A ESC.RFF3 MW1  BSC.IPE1A ESC.IPE2A ESC.IPE3 ESC.IPE4 ESC.IPE5 ESC.IPE5 ESC.INE1A	4 times per year 8 times per year	8 8 8 8 8 8 8 8 8 8	8 8 8 8	8 8 8 8	8 8 8 8 8	8 8 8	8 8 8 8 8 8 8 8	3   1   1   1   1   1   1   1   1   1	8 8 8 8 8 8 8 8	8 8	8 8 8 8	8 8	8 8 8 8	8 8 8 8	8 8 8 8 8 8 8 8 8 8		8 8 8 8 8 8 8 8 8 8	8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	8 8 8 8 8	3   F   N   8   8   8   8   8   8   8   8   8	8 8 8	M 8 8 8 8 8 8 8 8	3 3 J J 8 8 8 8 8 8	3 3 3 3 3 3 3 3 4 8 8 8 8 8	8 8 8 8	3 3 N D 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
Reference Station Upcurrent  Ma Wan Station  Routine Water Quality Monitoria Ebb Tide Impact Station Downcurrent	ESC_INF1 ESC_INF2 ESC_INF3 ESC_RFF1A ESC_RFF2A ESC_RFF3 MW1  ESC_IPF2A ESC_IPF2A ESC_IPF2A ESC_IPF2 ESC_IPF2 ESC_IPF3 ESC_IPF4 ESC_IPF4 ESC_INF3A	4 times per year 8 times per year	8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8	8 8 8 8 8	8 8 8 8 8	8 8 8 8 8	8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	8 8 8 8 8 8 8 8	8 8	8 8 8 8 8 8 8 8 8 8		8 8 8 8	8 8 8 8 8 8	8 8 8 8 8 8 8 8		8 8 8 8 8 8	8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 4 5 5 5 5 5 5 5 5	8 8 8 8 8 8	3   F   N   8   8   8   8   8   8   8   8   8	8 8	M 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 J J 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 8 8 8 8 8 8 8	8 8 8 8 8	3 3 N E	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
Reference Station Upcurrent  Ma Wan Station  Routine Water Quality Monitoria Ebb Tide Impact Station Downcurrent	ESC.INFI ESC.INFI ESC.RIPI ESC.RFI ESC.RFI MWI  ESC.RFI MWI  ESC.IPI E	4 times per year 8 times per year	8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8	8 8 8 8	8 8 8 8 8 8 8 8	8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3	8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8	8 8 8 8 8	8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8		8 8	8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8	3   F   N   8   8   8   8   8   8   8   8   8	8 8 8 8 8	M 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 J J 8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8	3 3 N E 8 8 8 8 8 8 8 8 8	i 3 i 3 i 3 i 3 i 3 i 3 i 3 i 3 i 3 i 3
Reference Station Upcurrent  Ma Wan Station  Resettee Water Quality Monitori 15th Tide Impact Station Downcurrent  Intermediate Station Downcurren	ESC.INFI ESC.INFI ESC.INFI ESC.RFI ESC.RFI MW1  ESC.RFI MW1  ESC.RFI ESC.IPEI ESC.IPEI ESC.IPEI ESC.IPEI ESC.IPEI ESC.INEI ESC.RFI ESC.RFI ESC.RFI ESC.RFI ESC.RFI ESC.RFI ESC.RFI ESC.RFI ESC.RFI	4 times per year 8 times per year	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3	8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 8 8 8 8 8	8 8 8 8 8 8 8 8 8	3 N E 8 8 8 8 8 8 8 8	i 3 i 3 i 3 i 3 i 3 i 3 i 3 i 3 i 3 i 3
Reference Station Upcurrent  Ma Wan Station  Resettee Water Quality Monitori 15th Tide Impact Station Downcurrent  Intermediate Station Downcurren	ISC.INFI ISC	4 times per year 8 times per year	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3   F   N   S   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8	M 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3 3 3 3 3 3 3 3 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 N E 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	i 3 i 3 i 3 i 3 i 3 i 3 j F 2 i 3 i 3 i 3 i 3 i 3 i 3 i 3 i 3 i 3 i 3
Reference Station Upcurrent  Mis Wan Station  Beautine Water Quality Monitori US Tide Impact Station Downcurrent  Intermediate Station Downcurrent  Reference Station Upcurrent  Mis Wan Station  Mis Wan Station	ISC.INFI ISC	4 times per year 8 times per year	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	88 88 88 88 88 88 88 88 88	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	8 8 8 8 8 8 8 8 8 8 8 8	3   F   N   S   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3 3 3 3 3 3 3 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 N E 8 8 8 8 8 8 8 8 8 8 8	
Reference Station Upcurrent  Ma Wan Station  Routine Water Quality Monitoria  East Tate Impact Station Downcurrent Intermediate Station Downcurrent  Reference Station Upcurrent  Ma Wan Station  Flood Tide	ISC.INFI ISC	4 times per year 8 times per year	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	88 88 88 88 88 88 88 88 88	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	8 8 8 8 8 8 8 8 8 8 8 8	3   F   N   N   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 N E 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	i 3 i 3 i 3 i 1 3
Reference Station Upcurrent  Mis Wan Station  Beautine Water Quality Monitori US Tide Impact Station Downcurrent  Intermediate Station Downcurrent  Reference Station Upcurrent  Mis Wan Station  Mis Wan Station	ISC.INFI ISC	4 times per year 8 times per year	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	S S S S S S S S S S S S S S S S S S S	8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	8 8 8 8 8 8 8 8 8 8 8 8 8 8	3   F   M   M   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 1 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	1
Reference Station Upcurrent  Ma Wan Station  Routine Water Quality Monitoria  East Tate Impact Station Downcurrent Intermediate Station Downcurrent  Reference Station Upcurrent  Ma Wan Station  Flood Tide	ISC.INFI ISC	4 times per year 8 times per year	S 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	S S S S S S S S S S S S S S S S S S S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3   F   N   S   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 1 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 N E S S S S S S S S S S S S S S S S S S	1
Reference Station Upcurrent  Mis Wan Station  Doubtine Witer Quality Monitori (Tab Tale Impact Station Downcurrent  Intermediate Station Downcurrent  Reference Station Upcurrent  Mis Wan Station  Flood Tale Impact Station  Flood Tale Impact Station Downcurrent	ISC.INFI ISC.INFI ISC.INFI ISC.INFI ISC.INFI ISC.INFI ISC.INFI ISC.IPEA ISC.IPEA ISC.IPEA ISC.IPEA ISC.INEA ISC	4 times per year 8 times per year	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3   F   N   N   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	33 33 33 33 33 33 33 33 33 33 33 33 33	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3   3   3   3   3   3   3   3   3   3
Reference Station Upcurrent  Mis Wan Station  Doubtine Witer Quality Monitori (Tab Tale Impact Station Downcurrent  Intermediate Station Downcurrent  Reference Station Upcurrent  Mis Wan Station  Flood Tale Impact Station  Flood Tale Impact Station Downcurrent	ISC.INFI ISC.INFI ISC.INFI ISC.INFI ISC.INFI ISC.INFI ISC.INFI ISC.IPFI ISC.IPFI ISC.IPFI ISC.INFI ISC	4 times per year 8 times per year	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	S S S S S S S S S S S S S S S S S S S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	\$ 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3   F   N   N   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 8 8 8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 N E S S S S S S S S S S S S S S S S S S	3   3   3   3   3   3   3   3   3   3
Reference Station Upcurrent  Mas Wan Station  Doubtine Witer Quality Monitoria (Tab Tale Impact Station Downcurrent  Intermediate Station Downcurrent  Reference Station Upcurrent  Mas Wan Station  Flood Tale Impact Station Downcurrent  Intermediate Station Downcurrent  Reference Station Downcurrent  Reference Station Downcurrent  Reference Station Downcurrent	ISC.INFI ISC	4 times per year 8 times per year	S	\$ 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3   F   N   N   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	M 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	33 33 33 33 33 33 33 33 33 33 33 33 33	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 N E S S S S S S S S S S S S S S S S S S	1
Reference Station Upcurrent Mas Wan Station  Soutine Water Quality Monitori Tab Tide Impact Station Downcurrent Intermediate Station Downcurrent  Mas Wan Station  Flood Tide Impact Station Downcurrent  Intermediate Station Downcurrent  Intermediate Station Downcurrent  Intermediate Station Downcurrent  Intermediate Station Downcurrent	ISC.INFI ISC	4 times per year 8 times per year	S	\$ 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	S		\$ 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3   S   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 1 3 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 8 8 8 8	\$ 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	1
Reference Station Upcurrent Ma Wan Station  Soutine Water Quality Monitori Fib Tide Impact Station Downcurrent Intermediate Station Downcurrent Reference Station Upcurrent Ma Wan Station  Flood Tide Impact Station Downcurrent Intermediate Station Downcurrent Intermediate Station Downcurrent Intermediate Station Downcurrent Intermediate Station Downcurrent Ma Wan Station  Water Station Upcurrent Ma Wan Station  Water Column Pretiting	BSC.NRFI BSC.RRFI BSC.RRFI MWI  MWI  BSC.RRFI BS	4 times per year 8 times per year	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	\$ 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		S S S S S S S S S S S S S S S S S S S	S S S S S S S S S S S S S S S S S S S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	S		S S S S S S S S S S S S S S S S S S S	\$ 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3   S   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	M 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 1 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 8 8 8 8	\$ 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
Reference Station Upcurrent Ma Wan Station  Beautine Water Quality Monitori US Title Impact Station Downcurrent  Intermediate Station Downcurrent  Reference Station Upcurrent  Ma Wan Station  Flood Title Impact Station Downcurrent Intermediate Station Downcurrent  Ma Wan Station  Reference Station Upcurrent  Ma Wan Station  Reference Station Upcurrent  Ma Wan Station  Reference Station Upcurrent  Ma Wan Station  Ma Wan Station	ESC.INFEL ESC.REFEL ESC.RE	4 times per year 8 times per year	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	\$ 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		S S S S S S S S S S S S S S S S S S S	S S S S S S S S S S S S S S S S S S S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	S		S S S S S S S S S S S S S S S S S S S	\$ 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3   S   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	M 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 1 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 8 8 8 8	\$ 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	3   3   3   3   3   3   3   3   3   3
Reference Station Upcurrent Ma Wan Station  Soutine Water Quality Monitori Fib Tide Impact Station Downcurrent Intermediate Station Downcurrent Reference Station Upcurrent Ma Wan Station  Flood Tide Impact Station Downcurrent Intermediate Station Downcurrent Intermediate Station Downcurrent Intermediate Station Downcurrent Intermediate Station Downcurrent Ma Wan Station  Water Station Upcurrent Ma Wan Station  Water Column Pretiting	ESC. NIPE AS CAPPED AS CAP	4 times per year 8 times per year	S   S   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	M	S S S S S S S S S S S S S S S S S S S	S   S   S   S   S   S   S   S   S   S	8   8   8   8   8   8   8   8   8   8	S   S   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	S S S S S S S S S S S S S S S S S S S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	4 4 4	S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3   F   N   N   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	M 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 8	S   S   S   S   S   S   S   S   S   S	N   E	3   3   3   3   3   3   3   3   3   3
Reference Station Upcurrent  Ma Wan Station  Beatine Water Quality Monitori US Title Impact Station Downcurrent  Intermediate Station Downcurrent  Reference Station Upcurrent  Ma Wan Station  Flood Title Impact Station Downcurrent  Intermediate Station Downcurrent  Ma Wan Station  Flood Title Impact Station Downcurrent  Intermediate Station Downcurrent  Station Downcurrent  Ma Wan Station  Reference Station Upcurrent  Ma Wan Station  Water Column Profiling  Finne Stations  Branks Excellents Station  Branks Recommission Studies	ESC.NPF1 ESC.NPF1 ESC.NPF1 ESC.RPF1 ESC.RPF1 ESC.RPF2 ESC.RPF3 ESC.RPF3 ESC.RPF3 ESC.RPF3 ESC.RPF4 ESC.RPF4 ESC.NPF4 ESC	4 times per year 5 times per year 8 times per year	S   S   S   S   S   S   S   S   S   S	S   S   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	M	S S S S S S S S S S S S S S S S S S S	S   S   S   S   S   S   S   S   S   S	8	S   S   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	S S S S S S S S S S S S S S S S S S S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3   S   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	M 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 8	S   S   S   S   S   S   S   S   S   S	N   E	3   3   3   3   3   3   3   3   3   3
Reference Station Upcurrent  Mas Wan Station  Doubtine Witer Quality Monitoria (Tab Tale Impact Station Downcurrent  Intermediate Station Downcurrent  Reference Station Upcurrent  Mas Wan Station  Flood Tale Impact Station Downcurrent  Reference Station Downcurrent  Reference Station Upcurrent  Mas Wan Station  Water Column Profitting  Flumn Station  Water Column Profitting  Flumn Station  Station Station  Station Station  Capped Stations at CMPV	ESCLINFI ESCLINFI ESCLINFI ESCLINFI ESCLIPFI ESC	4 times per year 8 times per year	S   S   S   S   S   S   S   S   S   S	S   S   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	M	S S S S S S S S S S S S S S S S S S S	S   S   S   S   S   S   S   S   S   S	8	S   S   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	S S S S S S S S S S S S S S S S S S S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3   S   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	M 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 8	S   S   S   S   S   S   S   S   S   S	N   E	3   3   3   3   3   3   3   3   3   3
Reference Station Upcurrent  Ma Wan Station  Beatine Water Quality Monitori US Title Impact Station Downcurrent  Intermediate Station Downcurrent  Reference Station Upcurrent  Ma Wan Station  Flood Title Impact Station Downcurrent  Intermediate Station Downcurrent  Ma Wan Station  Flood Title Impact Station Downcurrent  Intermediate Station Downcurrent  Station Downcurrent  Ma Wan Station  Reference Station Upcurrent  Ma Wan Station  Water Column Profiling  Finne Stations  Branks Excellents Station  Branks Recommission Studies	ISC. NIPPA	4 times per year 8 times per year 9 times per year	S   S   S   S   S   S   S   S   S   S	S   S   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	M	S S S S S S S S S S S S S S S S S S S	S   S   S   S   S   S   S   S   S   S	8	S   S   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	S S S S S S S S S S S S S S S S S S S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3   S   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	M 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 8	S   S   S   S   S   S   S   S   S   S	N   E	3   3   3   3   3   3   3   3   3   3
Reference Station Upcurrent  Mas Wan Station  Doubtine Witer Quality Monitoria (Tab Tale Impact Station Downcurrent  Intermediate Station Downcurrent  Reference Station Upcurrent  Mas Wan Station  Flood Tale Impact Station Downcurrent  Reference Station Downcurrent  Reference Station Upcurrent  Mas Wan Station  Water Column Profitting  Flumn Station  Water Column Profitting  Flumn Station  Station Station  Station Station  Capped Stations at CMPV	ESC.NPFI ESC	4 times per year 8 times per year 2 times per year 2 times per year 2 times per year 2 times per year	S   S   S   S   S   S   S   S   S   S	S   S   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	M	S S S S S S S S S S S S S S S S S S S	S   S   S   S   S   S   S   S   S   S	8	S   S   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	S S S S S S S S S S S S S S S S S S S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3   S   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	M 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 8	S   S   S   S   S   S   S   S   S   S	N   E	3   3   3   3   3   3   3   3   3   3
Reference Station Upcurrent  Mas Wan Station  Doubtine Witer Quality Monitoria (Tab Tale Impact Station Downcurrent  Intermediate Station Downcurrent  Reference Station Upcurrent  Mas Wan Station  Flood Tale Impact Station Downcurrent  Reference Station Downcurrent  Reference Station Upcurrent  Mas Wan Station  Water Column Profitting  Flumn Station  Water Column Profitting  Flumn Station  Station Station  Station Station  Capped Stations at CMPV	SEC.NIPE SECRETA SECRETA MWI  SECRETA	4 times per year 8 times per year 9 times per year 9 times per year 9 times per year 1 times per year 2 times per year	S S S S S S S S S S S S S S S S S S S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 5 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	M 4 4 4 4 4 M	S	S   S   S   S   S   S   S   S   S   S	8	S   S   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	S S S S S S S S S S S S S S S S S S S	S S S S S S S S S S S S S S S S S S S	4 4	S S S S S S S S S S S S S S S S S S S	S	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3   F   M   S   S   S   S   S   S   S   S   S	S   S   S   S   S   S   S   S   S   S	M	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	S   S   S   S   S   S   S   S   S   S	S	3   3   3   3   3   3   3   3   3   3
Reference Station Upcurrent Ma Wan Station  Bautine Woler Quality Monitoria Fife Tide Impact Station Downcurrent Intermediate Station Downcurrent Intermediate Station Downcurrent Ma Wan Station Flood Tide Impact Station Downcurrent Impact Station Downcurrent Intermediate Station Downcurrent Intermediate Station Downcurrent Ma Wan Station  Walter Culumn Profiling Tume Stations  Brathic Recolonisation Studies Capped Stations of CMPV  Reference Stations  Brathic Recolonisation Studies  Capped Stations of CMPV  Reference Stations  Brathic Recolonisation Studies  Capped Stations of CMPV  Reference Stations  Graphic Recolonisation Studies  Capped Stations of CMPV  Reference Stations  Impact Monitoring for Divelging Upstream Stations	ESC.INFI ESC.INFI ESC.RIPIA ESC.RIPI	4 times per year 8 times per year 9 times per year	S S S S S S S S S S S S S S S S S S S	S   S   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 5 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	M 4 4 4 4 4 M	S	S   S   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	S   S   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	S S S S S S S S S S S S S S S S S S S	S S S S S S S S S S S S S S S S S S S	4 4	S S S S S S S S S S S S S S S S S S S	S	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3   F   M   S   S   S   S   S   S   S   S   S	S   S   S   S   S   S   S   S   S   S	M	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	S   S   S   S   S   S   S   S   S   S	S	3   3   3   3   3   3   3   3   3   3
Reference Station Upcurrent  Ma Wan Station  Resettine Water Quality Monitorit Glo Tide Impact Station Downcurrent  Intermediate Station Downcurrent  Reference Station Upcurrent  Ma Wan Station  Flood Tide Impact Station Downcurrent  Ma Wan Station  Reference Station Upcurrent  Ma Wan Station Downcurrent  Notermediate Station Downcurrent  Ma Wan Station  Reference Station Upcurrent  Ma Wan Station  But Time Station  Barthic Recolombation Studies  Capped Stations at CMIV  Reference Stations of CMIV  Reference Stations of CMIV  Reference Stations of CMIV	ESC.INFI ESC.INFI ESC.INFI ESC.RIFI ESC	4 times per year 8 times per year 9 times per year	S S S S S S S S S S S S S S S S S S S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	S   S   O   S   O   S   O   C   C   C   C   C   C   C   C   C	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 5 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	M 4 4 4 4 4 M	S	S   S   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	S   S   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	S S S S S S S S S S S S S S S S S S S	S S S S S S S S S S S S S S S S S S S	4 4	S S S S S S S S S S S S S S S S S S S	S	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3   F   M   S   S   S   S   S   S   S   S   S	S   S   S   S   S   S   S   S   S   S	M	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	S   S   S   S   S   S   S   S   S   S	S	3   3   3   3   3   3   3   3   3   3
Reference Station Upcurrent Ma Wan Station  Bautine Woler Quality Monitoria Fife Tide Impact Station Downcurrent Intermediate Station Downcurrent Intermediate Station Downcurrent Ma Wan Station Flood Tide Impact Station Downcurrent Impact Station Downcurrent Intermediate Station Downcurrent Intermediate Station Downcurrent Ma Wan Station  Walter Culumn Profiling Tume Stations  Brathic Recolonisation Studies Capped Stations of CMPV  Reference Stations  Brathic Recolonisation Studies  Capped Stations of CMPV  Reference Stations  Brathic Recolonisation Studies  Capped Stations of CMPV  Reference Stations  Graphic Recolonisation Studies  Capped Stations of CMPV  Reference Stations  Impact Monitoring for Divelging Upstream Stations	ESC.NPFI ESC	4 times per year 8 times per year 9 times per year	S S S S S S S S S S S S S S S S S S S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 5 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	M 4 4 4 4 4 M	S	S   S   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	S   S   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	S S S S S S S S S S S S S S S S S S S	S S S S S S S S S S S S S S S S S S S	4 4	S S S S S S S S S S S S S S S S S S S	S	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3   F   M   S   S   S   S   S   S   S   S   S	S   S   S   S   S   S   S   S   S   S	M	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	S   S   S   S   S   S   S   S   S   S	S	3   3   3   3   3   3   3   3   3   3
Reference Station Upcurrent Mas Wan Station  Enastine Water Quality Monitoria Fib Tide Impact Station Downcurrent Intermediate Station Downcurrent Reference Station Upcurrent Mas Wan Station Fiscal Tide Impact Station Downcurrent Intermediate Station Downcurrent Intermediate Station Downcurrent Intermediate Station Downcurrent Reference Station Upcurrent Mas Wan Station  Water Column Footiling Tumer Stations  Intermediate Station Downcurrent Reference Station Upcurrent Mas Wan Station  Water Column Footiling Tumer Stations  Reference Stations  Intermediate Station Downcurrent  Reference Stations  Intermediate Station Downcurrent  Mas Wan Station  Water Column Footiling Tumer Stations  Intermediate Station Downcurrent  Intermediate Station Downcurrent  Mas Wan Station  Water Column Footiling Tumer Stations  Intermediate Station Downcurrent  Inte	ESC.NPFI ESC	4 times per year 8 times per year 2 times per year 3 times per week 3 times per week	S S S S S S S S S S S S S S S S S S S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	S   S   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 5 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	M 4 4 4 4 4 M	S	S   S   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	S   S   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	S S S S S S S S S S S S S S S S S S S	S S S S S S S S S S S S S S S S S S S	4 4	S S S S S S S S S S S S S S S S S S S	S	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3   F   M   S   S   S   S   S   S   S   S   S	S   S   S   S   S   S   S   S   S   S	M	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	S   S   S   S   S   S   S   S   S   S	S	3   3   3   3   3   3   3   3   3   3
Reference Station Upcurrent Ma Wan Station  Boutine Water Quality Monitoric R89 Tale Impact Station Downcurrent Intermediate Station Downcurrent Reference Station Upcurrent  Ma Wan Station Fined Tale Impact Station Downcurrent Intermediate Station Downcurrent Ma Wan Station  Water Column Findling Pume Stations  Reference Stations Trediting Pume Stations  Reference Station Downcurrent  Reference Station Downcurrent  Ma Wan Station  Reference Stations  Reference Stations  Findling Pume Stations  Reference Stations  Reference Stations  Downstream Stations	BEC.NRFI BEC.RRFI BEC	4 times per year 8 times per year 1 times per year 1 times per year 2 times per year 3 times per week	S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	S   S   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 5 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	M 4 4 4 4 4 M	S	S   S   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	S   S   S   S   S   S   S   S   S   S	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	S S S S S S S S S S S S S S S S S S S	S S S S S S S S S S S S S S S S S S S	4 4	S S S S S S S S S S S S S S S S S S S	S	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3   F   M   S   S   S   S   S   S   S   S   S	S   S   S   S   S   S   S   S   S   S	M	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	S   S   S   S   S   S   S   S   S   S	S	3   3   3   3   3   3   3   3   3   3

Notes:
The number shown in each cell represents the numbers of replicates per monitoring station
Impact Monitoring for Dredging will be scheduled when dredging operations commence.
Benthic Recolonisation Studies for CMP V will be scheduled when capping operation for CMP V is completed.

### 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

Parameter	Action Level	Limit Level
Dissolved Oxygen (DO) (1)	Surface and Mid-depth (2)	Surface and Mid-depth (2)
	5%-ile of baseline data for surface and	1%-ile of baseline data for surface and
	middle layer = 3.76 mg L <sup>-1</sup>	middle layer = <b>3.11 mg</b> L- <b>1</b> (3)
	and	and
	Significantly less than the reference	Significantly less than the reference
	stations mean DO (at the same tide of	stations mean DO (at the same tide of
	the same day)	the same day)
	Bottom	Bottom
	5%-ile of baseline data for bottom	The average of the impact station
	layers = <b>2.96 mg L</b> -1	readings are <2 mg/L-1
	and	and
	Significantly less than the reference	Significantly less than the reference
	stations mean DO (at the same tide of the same day)	stations mean DO (at the same tide of the same day)
Depth-averaged Suspended	95%-ile of baseline data for depth	99%-ile of baseline data for depth
Solids (SS) (4) (5)	average = 37.88 mg L-1	average = <b>61.92 mg L</b> -1
	and	
		and
	120% of control station's SS at the same	130% of control station's SS at the same
	tide of the same day	tide of the same day
Depth-averaged Turbidity (Tby) (4) (5)	95%-ile of baseline data = <b>28.14 NTU</b>	99%-ile of baseline data = <b>38.32 NTU</b>
	and	and
	120% of control station's Tby at the same tide of the same day	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-1, it is proposed to set the Limit Level at 3.11 mg L-1 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 July 2019

Stations	Temp	Salinity	Turbidity	Dissolved	Oxygen	pН	Suspended Solids
	(°C)	(ppt)	(NTU)	(%)	(mg L-1)		(mg L-1)
WCP 1	28.53	15.74	6.11	64.26	4.58	7.78	6.28
(Downstream)							
WCP 2	28.71	14.35	5.67	74.93	5.36	7.83	4.38
(Upstream)							
WQO (Wet Season)	N/A	12.92- 15.79#	N/A	N/A	>4	6.5-8.5	10.8

### Note:

Cell shaded grey indicate value exceeding the WQO.

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

Sampling	Stations	Temp	Salinity	Turbidity	Dissolved	Oxygen	pН
Period	Stations	(°C)	(ppt)	(NTU)	(%)	(mg L-1)	(mg L-1)
July	RFF (Reference)	28.13	18.13	5.17	55.85	3.96	7.64
2019	IPF (Impact)	28.53	15.66	5.94	66.64	4.74	7.71
	INF (Intermediate)	27.97	19.13	4.77	55.67	3.93	7.74
	Ma Wan	27.00	23.46	3.05	54.44	3.81	7.72
	WQO	N/A	16.32 - 19.95#	N/A	N/A	>4	6.5-8.5

### Notes

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 July 2019

Sampling	Stations	$\mathbf{As}$	Cd	Cr	Cu	Pb	Hg	Ni	Ag	Zn	$NH_3$	TIN	$BOD_5$	SS
Period	Stations	(μg/L)	(μg/L)	(μg/L)	(μg/L)	(μg/L)	(μg/L)	(μg/L)	(μg/L)	(μg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
July 2019	RFF	2.04	< 0.5	<1.0	1.58	<1.0	0.26	0.79	<1.0	5.35	0.09	0.78	1.41	4.95
July 2019	IPF	2.07	< 0.5	0.56	1.93	0.56	0.26	1.01	<1.0	5.25	0.05	1.12	1.03	5.14
	INF	2.11	< 0.5	0.54	1.82	0.52	0.28	0.75	<1.0	6.48	0.08	0.85	1.48	4.67
	Ma													
	Wan	1.83	< 0.5	0.50	0.93	<1.0	< 0.5	0.64	<1.0	12.08	0.09	0.52	1.43	2.68
												MOO	CTINIO	

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  $\operatorname{Action}/\operatorname{Limit}$  levels.

Cell shaded grey indicate value exceeding the WQO.

<sup>\*</sup>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.

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

### Annex C

# **Graphical Presentations**

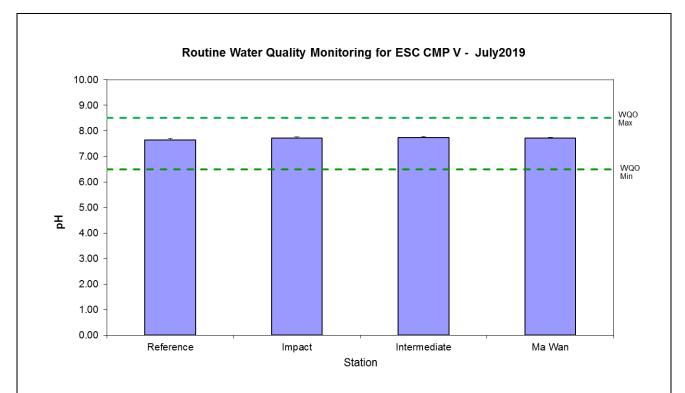


Figure 1: Level of pH recorded during Routine Water Quality Monitoring for disposal operations at ESC CMP V in July 2019.

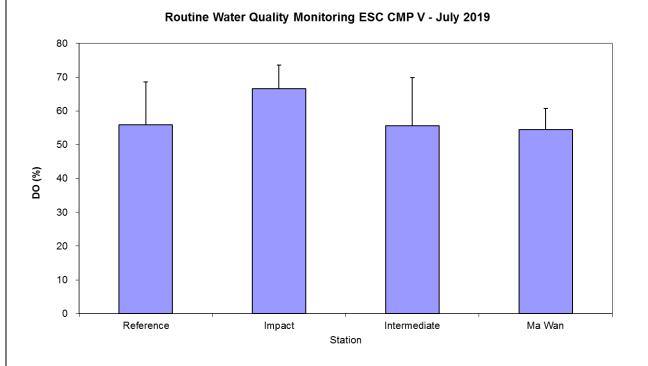


Figure 2: Level of Dissolved Oxygen (DO) (% saturation; mean + SD) recorded during Routine Water Quality Monitoring for disposal operations at ESC CMP V in July 2019.

Date: August 2019



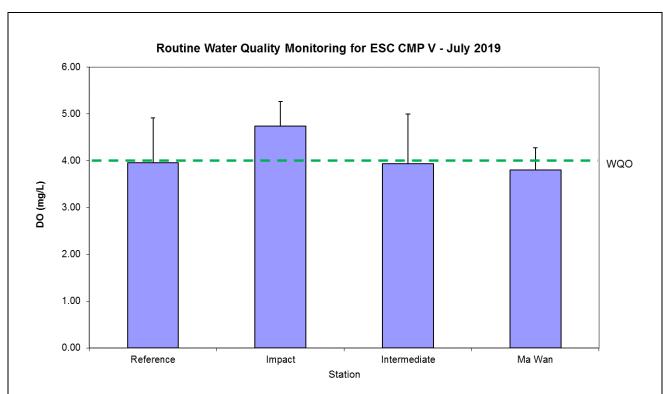


Figure 3: Concentration of Dissolved Oxygen (DO) (mg/L; mean + SD) recorded during Routine Water Quality Monitoring for disposal operations at ESC CMP V in July 2019.

# Routine Water Quality Monitoring for ESC CMP V - July 2019 35.00 25.00 20.00 15.00 Reference Impact Intermediate Ma Wan

Figure 4: Level of Temperature (°C; mean + SD) recorded during Routine Water Quality Monitoring for disposal operations at ESC CMP V in July 2019.

Source: H:\Team\EM\GMS Projects\0400720 CEDD CMP EM&A 2017-2020\02 Deliverable\05 CMP Monthly Report\July 2019)

Date: August 2019



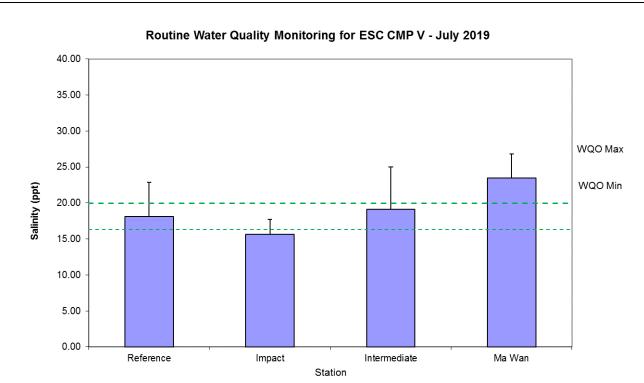


Figure 5: Level of Salinity (ppt; mean + SD) recorded during Routine Water Quality Monitoring for disposal operations at ESC CMP V in July 2019.

### Routine Water Quality Monitoring for ESC CMP V - July 2019 9.00 8.00 7.00 6.00 Turbidity (NTU) 5.00 4.00 3.00 2.00 1.00 0.00 Intermediate Reference Impact Ma Wan Station

Figure 6: Levels of Turbidity (NTU; mean + SD) recorded during Routine Water Quality Monitoring for disposal operations at ESC CMP V in July 2019.

Source: H:\Team\EM\GMS Projects\0400720 CEDD CMP EM&A 2017-2020\02 Deliverable\05 CMP Monthly Report\July 2019)

Date: August 2019



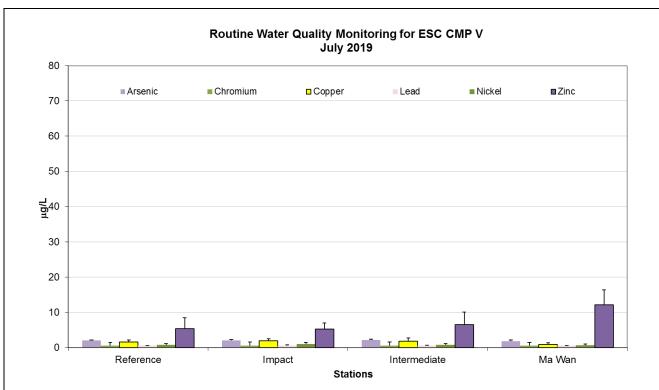


Figure 7: Concentration of Arsenic, Chromium, Nickel, Lead, Copper and Zinc (μg/L; mean + SD) in water samples collected from Routine Water Quality Monitoring for disposal operations at ESC CMP V in July 2019.

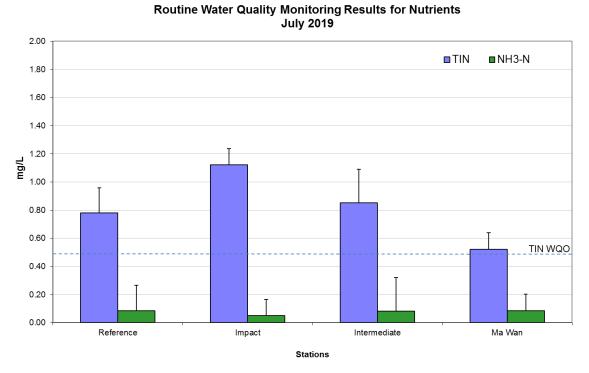


Figure 8: Concentration of Total Inorganic Nitrogen (TIN) and Ammonia Nitrogen (NH3-N)  $(\mu g/L; mean + SD)$  in water samples collected from Routine Water Quality Monitoring for disposal operations at ESC CMP V in July 2019.

Source: H:\Team\EM\GMS Projects\0400720 CEDD CMP EM&A 2017-2020\02
Deliverable\05 CMP Monthly Report\July 2019)

Date: August 2019

Environmental
Resources
Management

ERM

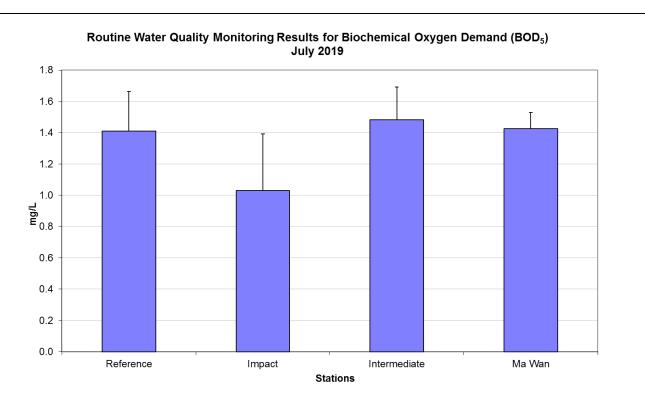


Figure 9: Level of Biochemical Oxygen Demand (BOD<sub>5</sub>) (mg/L; mean + SD) in water samples collected from Routine Water Quality Monitoring for disposal operations at ESC CMP V in July 2019.

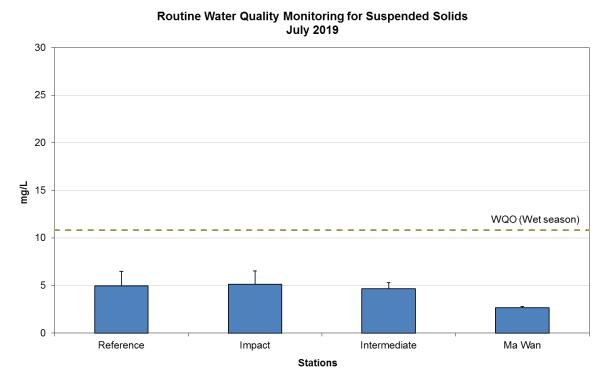


Figure 10: Concentration of Suspended Solids (SS) (mg/L; mean + SD) in water samples collected from Routine Water Quality Monitoring for disposal operations at ESC CMP V in July 2019

Date: August 2019



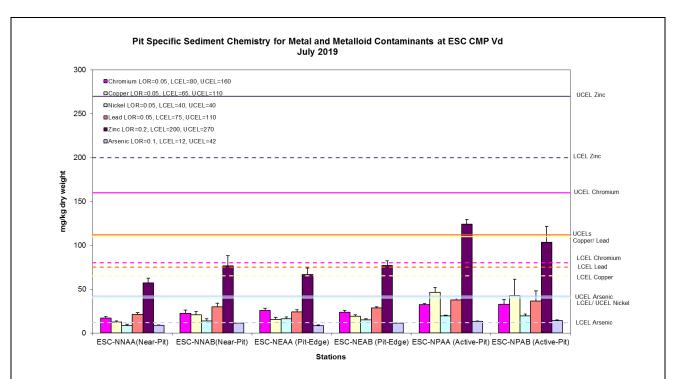


Figure 11: Concentration of Metals and Metalloid (Cr, Cu, Ni, Pb, Zn, As; mg/kg dry weight; mean +SD) in sediment samples collected from Pit Specific Sediment Chemistry Monitoring for ESC CMP Vd in July 2019.

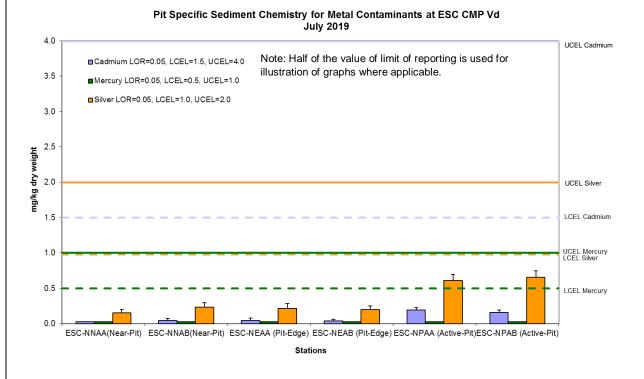


Figure 12: Concentration of Metals (Cd, Hg, Ag; mg/kg dry weight; mean +SD) in sediment samples collected from Pit Specific Sediment Chemistry Monitoring for ESC CMP Vd in July 2019.

Date: August 2019



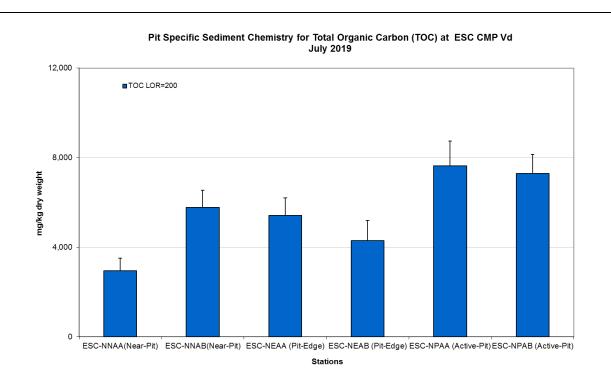


Figure 13: Concentration of Total Organic Carbon (TOC) (mg/kg dry weight; mean +SD) in sediment samples collected from Pit Specific Sediment Chemistry Monitoring for ESC CMP Vd in July 2019.

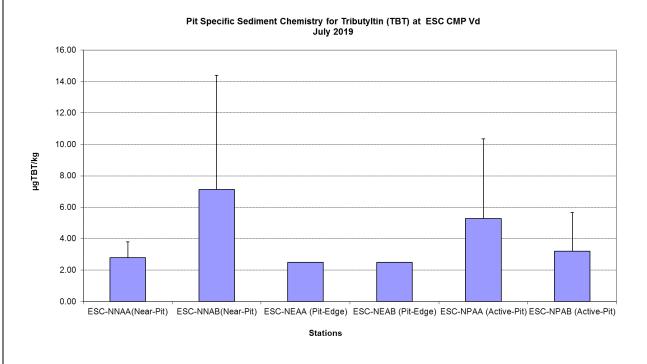


Figure 14: Concentration of Tributyltin (TBT) (µg TBT/kg; mean +SD) in sediment samples collected from Pit Specific Sediment Chemistry Monitoring for ESC CMP Vd in July 2019.

Date: August 2019



### Annex D

# Study Programme

