

JOB No.: TCS00975/18

**CEDD CONTRACT AGREEMENT NO. EDO/04/2018 -
ENVIRONMENTAL TEAM FOR CROSS BAY LINK, TSEUNG
KWAN O**

**QUARTERLY ENVIRONMENTAL MONITORING AND
AUDIT (EM&A) SUMMARY REPORT
(DECEMBER 2020 TO FEBRUARY 2021)**

**PREPARED FOR
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
(CEDD)**

Date	Reference No.	Prepared By	Certified By
16 April 2021	TCS00975/18/600/R0534v1	 Martin Li (Environmental Consultant)	 Tam Tak Wing (Environmental Team Leader)

Version	Date	Remarks
1	16 April 2021	First Submission



Acuity Sustainability Consulting Limited –
Nature & Technologies (HK) Limited Joint Venture



Our ref: PL-202106001

AECOM Asia Company Limited
8/F., Grand Central Plaza, Tower 2
138 Shatin Rural Committee Road
Shatin, New Territories, Hong Kong

Attention: Mr. Conrad NG

1 June 2021

Dear Sir,

Contract No. NE/2017/07 & NE/2017/08
Cross Bay Link, Tseung Kwan O
Quarterly EM&A Report for December 2020 to February 2021

I refer to the email of ET concerning the Quarterly EM&A Report for December 2020 to February 2021 (Version 1) with Ref. No. TCS00975/18/600/R0534v1. I have no adverse comment on it and verify the captioned according to section 1.9 of Environmental Permit with No. EP-459-2013.

Yours faithfully,

A handwritten signature in black ink, appearing to be 'Li Wai Ming Kevin'.

Li Wai Ming Kevin
Independent Environmental Checker

cc. Mr. T.W. TAM (ETL)
Mr. Wilson CHUNG (CEDD)

EXECUTIVE SUMMARY

- ES01 Civil Engineering and Development Department (hereafter referred as “CEDD”) is the Project Proponent and the Permit Holder of the Project Cross Bay Link, Tseung Kwan O (hereinafter referred as “the Project”) which is a Designated Project to be implemented under Environmental Permit number EP-459/2013 (hereinafter referred as “the EP-459/2013” or “the EP”).
- ES02 AUES was awarded the CEDD Contract Agreement No. EDO/04/2018 - Environmental Team for Cross Bay Link, Tseung Kwan O (hereinafter called “the Service Contract”). The Services under the Service Contract is to provide environmental monitoring and audit (EM&A) services for the Works Contracts pursuant to the requirement of Environmental Team (ET) under the Approved EM&A Manual to ensure that the environmental performance of the Works Contracts comply with the requirement specified in the EM&A Manual and EIA Report of Agreement No. CE 43/2008 (HY) Cross Bay Link, Tseung Kwan O - Investigation and other relevant statutory requirements.
- ES03 This is the 9th Quarterly EM&A report presenting the monitoring results and inspection findings for the reporting period from 1st December 2020 to 28th February 2021 (hereinafter ‘the Reporting Period’).

ENVIRONMENTAL MONITORING AND AUDIT ACTIVITIES

- ES04 Environmental monitoring activities under the EM&A program in this Reporting Period are summarized in the following table.

Table ES-4 Summary Environmental Monitoring Activities Undertaken in the Reporting Period

Issues	Environmental Monitoring Parameters / Inspection		Sessions
Air Quality	1-Hour TSP		63
	24-Hr TSP		16
Construction Noise	Leq (30min) Daytime		30
	Leq (5min) Evening ^(Note 1)		0
Water Quality	Marine Water Sampling ^{(Note 2) (Note 3)}		0
Inspection / Audit	Contract 1	ET Regular Environmental Site Inspection	13
		Joint site audit with Project Consultant and IEC	3
	Contract 2	ET Regular Environmental Site Inspection	13
		Joint site audit with Project Consultant and IEC	3

Note 1 Total sessions are counted by every 3 consecutive Leq5min

Note 2 Total sessions are counted by monitoring days

Note 3 Since the marine construction works that requires marine water quality monitoring as stated in the EM&A Manual were completed, the impact water quality monitoring was ceased with effect from 1 May 2020.

BREACH OF ACTION AND LIMIT (A/L) LEVELS

- ES05 No air quality monitoring exceedance was recorded in this Reporting Period. Three (3) daytime construction noise action level exceedance were recorded in the reporting period due to three (3) noise complaints were received. The statistics of environmental exceedance and investigation of exceedance are summarized in the following table.

Table ES-5 Summary Environmental Monitoring Parameter Exceedance in the Reporting Period

Environmental Issues	Monitoring Parameters	Action Level	Limit Level	Event & Action	
				Investigation Results	Corrective Actions
Air Quality	1-Hour TSP	0	0	--	--
	24-Hr TSP	0	0	--	--
Construction Noise	Leq _{30min} Daytime	3	0	Two project related	Noise mitigation measures was implemented during the complaint period and considered the construction noise received at representative NSR were within acceptable level.
	Leq _{5min} Evening	0	0	--	--
Water Quality (Marine Water)	DO	0	0	--	--
	Turbidity	0	0	--	--
	SS	0	0	--	--

ENVIRONMENTAL COMPLAINT

ES06 Three (3) environmental complaint was recorded in this Reporting Period for the Project. The statistics of environmental complaint are summarized in the following table.

Table ES-6 Summary Environmental Complaint Records in the Reporting Period

Reporting Period	Contract	Environmental Complaint Statistics			Related with the Works Contract(s)
		Frequency	Cumulative	Complaint Nature	
1 Dec 2020 – 28 Feb 2021	1	0	12	NA	NA
	2	3	8	Construction Noise	Two Project Related

NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

ES07 No environmental summons or prosecutions was received in this Reporting Period for the Project. The statistics of environmental summons or prosecutions are summarized in the following tables.

Table ES-7 Summary Environmental Summons Records in the Reporting Period

Reporting Period	Contract	Environmental Summons Statistics			Related with the Works Contract(s)
		Frequency	Cumulative	Complaint Nature	
1 Dec 2020 – 28 Feb 2021	1	0	0	NA	NA
	2	0	0	NA	NA

Table ES-8 Summary Environmental Prosecutions Records in the Reporting Period

Reporting Period	Contract	Environmental Prosecution Statistics			Related with the Works Contract(s)
		Frequency	Cumulative	Complaint Nature	
1 Dec 2020 – 28 Feb 2021	1	0	0	NA	NA
	2	0	0	NA	NA

SITE INSPECTION BY EXTERNAL PARTIES

ES08 No site inspection was undertaken by AFCD within the Reporting Period. However, EPD inspection were undertaken on 26 January 2021 and 3 February 2021.

Table of Contents

1. INTRODUCTION	3
1.1 PROJECT BACKGROUND	3
1.2 REPORT STRUCTURE	3
2. PROJECT ORGANIZATION AND CONSTRUCTION PROGRESS AND SUBMISSION	4
2.1 PROJECT ORGANIZATION	4
2.2 CONSTRUCTION PROGRESS	4
2.3 SUMMARY OF ENVIRONMENTAL SUBMISSIONS	4
3. SUMMARY OF ENVIRONMENTAL MONITORING PROGRAMMES AND REQUIREMENTS	5
3.1 GENERAL	5
3.2 MONITORING PARAMETERS	5
3.3 MONITORING LOCATIONS	5
3.4 MONITORING FREQUENCY AND PERIOD	6
3.5 DETERMINATION OF ACTION/LIMIT (A/L) LEVELS	7
4. IMPACT MONITORING RESULT	9
4.1 RESULTS OF AIR QUALITY MONITORING IN THE REPORTING MONTH	9
4.2 RESULTS OF CONSTRUCTION NOISE MONITORING	9
4.3 RESULTS OF WATER QUALITY MONITORING	9
5. WASTE MANAGEMENT	11
5.1 GENERAL WASTE MANAGEMENT	11
5.2 RECORDS OF WASTE QUANTITIES	11
6. SITE INSPECTION	12
6.1 REQUIREMENTS	12
6.2 FINDINGS / DEFICIENCIES DURING THE REPORTING MONTH	12
7. LANDFILL GAS MONITORING	13
7.1 GENERAL REQUIREMENT	13
7.2 LIMIT LEVELS AND EVENT AND ACTION PLAN	13
7.3 LANDFILL GAS MONITORING	13
8. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE	15
8.1 ENVIRONMENTAL COMPLAINT, SUMMONS AND PROSECUTION	15
9. IMPLEMENTATION STATUS OF MITIGATION MEASURES	16
9.1 GENERAL REQUIREMENTS	16
10. CONCLUSIONS AND RECOMMENDATIONS	17
10.1 CONCLUSIONS	17
10.2 RECOMMENDATIONS	17

LIST OF TABLES

TABLE 3-1	SUMMARY OF EM&A REQUIREMENTS
TABLE 3-2	DESIGNATED AIR QUALITY MONITORING LOCATION RECOMMENDED IN EM&A MANUAL
TABLE 3-3	DESIGNATED CONSTRUCTION NOISE MONITORING LOCATION RECOMMENDED IN EM&A MANUAL
TABLE 3-4	DESIGNATED AND INTERIM ALTERNATIVE LOCATION FOR AIR QUALITY AND NOISE MONITORING IN THE REPORTING PERIOD
TABLE 3-5	LOCATION OF WATER QUALITY MONITORING STATION
TABLE 3-6	ACTION AND LIMIT LEVELS FOR AIR QUALITY
TABLE 3-7	ACTION AND LIMIT LEVELS FOR CONSTRUCTION NOISE
TABLE 3-8	ACTION AND LIMIT LEVELS FOR WATER QUALITY
TABLE 4-1	SUMMARY OF AIR QUALITY IMPACT MONITORING RESULTS
TABLE 4-2	SUMMARY OF CONSTRUCTION NOISE IMPACT MONITORING RESULTS
TABLE 5-1	SUMMARY OF QUANTITIES OF INERT C&D MATERIALS
TABLE 5-2	SUMMARY OF QUANTITIES OF C&D WASTES
TABLE 6-1	SUMMARY OF SITE OBSERVATIONS OF CONTRACT 1
TABLE 6-2	SUMMARY OF SITE OBSERVATIONS OF CONTRACT 2
TABLE 7-1	ACTIONS IN THE EVENT OF LANDFILL GAS BEING DETECTED IN EXCAVATIONS
TABLE 8-1	STATISTICAL SUMMARY OF ENVIRONMENTAL COMPLAINTS
TABLE 8-2	STATISTICAL SUMMARY OF ENVIRONMENTAL SUMMONS
TABLE 8-3	STATISTICAL SUMMARY OF ENVIRONMENTAL PROSECUTION
TABLE 9-1	ENVIRONMENTAL MITIGATION MEASURES IN THE REPORTING PERIOD

LIST OF APPENDICES

APPENDIX A	PROJECT LAYOUT PLAN
APPENDIX B	PROJECT ORGANIZATION CHART & CONTACT DETAILS OF KEY PERSONNEL
APPENDIX C	3-MONTH ROLLING CONSTRUCTION PROGRAM
APPENDIX D	MONITORING LOCATION (AIR QUALITY, NOISE AND WATER QUALITY)
APPENDIX E	GRAPHICAL PLOTS OF MONITORING RESULTS
APPENDIX F	METEOROLOGICAL INFORMATION
APPENDIX G	WASTE FLOW TABLE
APPENDIX H	COMPLAINT SUMMARY
APPENDIX I	IMPLEMENTATION SCHEDULE FOR ENVIRONMENTAL MITIGATION MEASURES (ISEMM)

1. INTRODUCTION

1.1 PROJECT BACKGROUND

- 1.1.1 Civil Engineering and Development Department (hereafter referred as “CEDD”) is the Project Proponent and the Permit Holder of the Project Cross Bay Link, Tseung Kwan O (hereinafter referred as “the Project”) which is a Designated Project to be implemented under Environmental Permit number EP-459/2013 (hereinafter referred as “the EP-459/2013” or “the EP”).
- 1.1.2 AUES was awarded the CEDD Contract Agreement No. EDO/04/2018 - Environmental Team for Cross Bay Link, Tseung Kwan O (hereinafter called “the Service Contract”). The Services under the Service Contract is to provide environmental monitoring and audit (EM&A) services for the Works Contracts pursuant to the requirement of Environmental Team (ET) under the Approved EM&A Manual to ensure that the environmental performance of the Works Contracts comply with the requirement specified in the EM&A Manual and EIA Report of Agreement No. CE 43/2008 (HY) Cross Bay Link, Tseung Kwan O - Investigation and other relevant statutory requirements.
- 1.1.3 As part of the EM&A programme, baseline monitoring shall be undertaken before the Project construction work commencement to determine the ambient environmental condition. The baseline air quality, background noise and water quality monitoring has been carried out between **21st September 2018** and **13th November 2018** at the designated and interim locations. The baseline monitoring report under the EP-459/2013 has been compiled by the ET and verified by Independent Environmental Checker (hereinafter the “IEC”) prior submitted to EPD on **19th November 2018** for endorsement.
- 1.1.4 This is the **9th** Quarterly EM&A report presenting the monitoring results and inspection findings for the reporting period from **1st December 2020** to **28th February 2021** (hereinafter ‘the Reporting Period’).

1.2 REPORT STRUCTURE

- 1.2.1 The Environmental Monitoring and Audit (EM&A) Monthly Report is structured into the following sections:-

Section 1	<i>Introduction</i>
Section 2	<i>Project Organization and Construction Progress</i>
Section 3	<i>Summary of Impact Monitoring Requirements</i>
Section 4	<i>Impact Monitoring Results</i>
Section 5	<i>Waste Management</i>
Section 6	<i>Site Inspections</i>
Section 7	<i>Landfill Gas Monitoring</i>
Section 8	<i>Environmental Complaints and Non-Compliance</i>
Section 9	<i>Implementation Status of Mitigation Measures</i>
Section 10	<i>Conclusions and Recommendations</i>

2. PROJECT ORGANIZATION AND CONSTRUCTION PROGRESS AND SUBMISSION

2.1 PROJECT ORGANIZATION

2.1.1 The project organization is shown in *Appendix B*. The responsibilities of respective parties can be referred to Monthly Report.

2.2 CONSTRUCTION PROGRESS

2.2.1 3-month rolling construction program of each Works Contract is enclosed in *Appendix C*; and the major construction activities undertaken in the Reporting Period is presented in below sub-sections.

Contract 1 (Contract No. NE/2017/07)

2.2.2 The major construction activities of Contract 1 undertaken in this Reporting Period are:-

- 1st and 2nd Stage of Pile caps concreting work at Portion II
- Fabrication of bottom deck panels, top deck panels and diaphragm panels at Portion II
- 1st, 2nd, 3rd and 4th round Deck segment assembly
- Precast Pier and box girder installation at Portion II
- Stage Concrete for pile caps at portion II
- ABWF works, E&M Work and External Work at Portion V Plant Room Building, North Wing and South Wing
- E&M installation at Portion V
- 1, 2, 3 and 4 round arch rib segment assembly
- Precast – Pier fabrication for Pier E2, W5, W2

Contract 2 (Contract No. NE/2017/08)

2.2.3 The major construction activities of Contract 2 undertaken in this Reporting Period are:-

- Excavation (Portion III, VI)
- Drainage Installation (Portion VI)
- Footing construction (Portion VI)
- Excavation & RC works (Superstructure) (Portion III)
- RC construction for U-trough (Portion III)
- Sheet-piling (Portion VI)
- Seawall modification
- ELS & manhole construction at SMH012 & SMH011
- Pre-bored Socket H-Pile (Portion VI)

2.3 SUMMARY OF ENVIRONMENTAL SUBMISSIONS

2.3.1 All the documents required under Environmental Permit No. EP-459/2013 were submitted within the required timeframe. The details can be referred to the Monthly Report.

2.3.2 Upon completed baseline monitoring, a Baseline Monitoring Report was verified by IEC on 19 November 2018 and submitted to EPD on that day for endorsement.

2.3.3 The notification of Project dedicated web site to EPD was made on 9 January 2019 (<http://www.envcbltko.hk/>).

3. SUMMARY OF ENVIRONMENTAL MONITORING PROGRAMMES AND REQUIREMENTS

3.1 GENERAL

3.1.1 The Environmental Monitoring and Audit Programmes and requirements are set out in the Approved EM&A manual. Environmental issues such as air quality, construction noise and water quality were identified as the key issues during the construction phase of the Project. A summary of EM&A programmes and requirements are presented in the sub-sections below.

3.2 MONITORING PARAMETERS

3.2.1 Monitoring parameters of air quality, noise and water quality are summarized in *Table 3-1*.

Table 3-1 Summary of EM&A Requirements

Environmental Issue	Parameters
Air Quality	<ul style="list-style-type: none"> 1-hour TSP by Real-Time Portable Dust Meter; and 24-hour TSP by High Volume Air Sampler
Noise	<ul style="list-style-type: none"> Leq (30min) in six consecutive Leq(5 min) between 07:00-19:00 on normal weekdays Supplementary information for data auditing, statistical results such as L₁₀ and L₉₀ shall also be obtained for reference.
Water Quality	<ul style="list-style-type: none"> In-situ measurement – Dissolved Oxygen (DO) concentration (mg/L) & saturation (%), pH, Salinity (mg/L), Temperature (°C) and Turbidity (NTU); and Laboratory analysis – SS (mg/L)

3.3 MONITORING LOCATIONS

Air Quality and Construction Noise

3.3.1 According to the Approved EM&A Manual Section 5.4 and Section 6.3, three (3) representative air sensitive receivers (ASR) and four (4) representative noise sensitive receivers were designated as monitoring stations. The designated air quality and noise monitoring locations are listed in *Table 3-2* and *Table 3-3*, and illustrated in *Appendix D*.

Table 3-2 Designated Air Quality Monitoring Location recommended in EM&A Manual

ID	Location in the EM&A Manual	Currently Situation
AM1	Tung Wah Group of Hospitals Aided Primary School & Secondary School	Not yet construct
AM2	Lohas Park Stage 2 (Planned Development in Area 86)	Available for resident occupation in February 2021
AM3	Lohas Park Stage 3 (Planned Development in Area 86)	Under Construction

Table 3-3 Designated Construction Noise Monitoring Location recommended by EM&A Manual

ID	Location	Currently Situation
CNMS-1	Lohas Park Stage 1(Planned Development in Area 86, Package 5) (Southeast facade)	Available for resident occupation in November 2019
CNMS-2	Lohas Park Stage 1 (Planned Development in Area 86, Package 6) (Southeast facade)	Available for resident occupation in February 2021
CNMS-3	Lohas Park Stage 3 (Planned Development in Area 86,Package 11) (West facade)	Under Construction
CNMS-4	Tung Wah Group of Hospitals Aided Primary School & Secondary School (Southwest facade)	Not yet construct

3.3.2 As observed and confirmed by ET and IEC during the joint site visit on 29th August 2018, the designated air quality and noise monitoring locations are under construction or yet to construct. It is considered that these designated locations are not appropriate to perform air quality and noise

monitoring. In this regard, alternative locations were proposed as interim arrangement to carry out air quality and noise monitoring before occupation of the designated monitoring location. A letter enclosed with the alternative location proposal and IEC verification (Our Ref: TCS00975/18/300/L0038) was sent to EPD on 19th October 2018 and the proposal was agreed by EPD. Therefore, air quality and construction noise impact monitoring would be performed at the agreed alternative locations until the designated sensitive receivers occupied and granted the premises.

- 3.3.3 The designated and interim alternative monitoring location for impact air quality and noise monitoring in the Reporting Period are summarized in Table 3-4 and illustrated in *Appendix D*.

Table 3-4 Designated and interim alternative location for air quality and noise monitoring in the Reporting Period

Location ID	Monitoring Parameter	Location
AM2	1-Hour TSP Air Quality	Lohas Park Phase 6
AM4	1-Hour TSP Air Quality	Podium of Lohas Park Phase 2A (Le Prestige)
AM5	24-Hour TSP Air Quality	Boundary of Site Office near Junction of Wan Po Road and Wan O Road
CNMS-1	Noise (L_{eq} , L_{10} & L_{90})	Podium of Lohas Park Package 4
CNMS-2	Noise (L_{eq} , L_{10} & L_{90})	Lohas Park Package 6
CNMS-5	Noise (L_{eq} , L_{10} & L_{90})	Podium of Lohas Park Phase 2A (Le Prestige)

Remark:

1. Since 24-Hour TSP Air Quality monitoring is not granted at AM4 Lohas Park Phase 2A, the 24-Hour TSP monitoring was therefore proposed at AM5 which is located at the boundary of the project site office.
2. 24-Hour TSP Air Quality Monitoring at AM2 will be commenced once approval of High Volume Sampler installation was obtained from Lohas Park 6.

Water Quality

- 3.3.4 According to Table 7.1 of the approved EM&A Manual Section 7.4, two Control Stations (C3 & C4), six (6) sensitive receivers (CC1, CC2, CC3, CC4, CC13 & SWI1) and one (1) Gradient station (II) are recommended to perform water quality monitoring. Details and coordinate of these water quality monitoring stations are described in *Table 3-5* and the locations is shown in *Appendix D*.

Table 3-5 Location of Water Quality Monitoring Station

Station	Coordinates		Description
	Easting	Northing	
CC1	843201	816416	Sensitive Receiver – Coral Sites at Chiu Keng Wan
CC2	844076	817091	Sensitive Receiver – Coral Sites at Junk Bay
CC3	844606	817941	Sensitive Receiver – Coral Sites at Junk Island
CC4	845444	815595	Sensitive Receiver – Coral Sites at Fat Tong Chau West
CC13	844200	817495	Sensitive Receiver – Coral Sites at Junk Bay near Chiu Keng Wan
SWI1	845512	817442	Sensitive Receiver – Tseung Kwan O Salt Water Intake
C3	843821	816211	Control Station (Ebb Tide) – within Junk Bay
C4	844621	815770	Control Station (Flood Tide) – within Junk Bay
II	844602	817675	Gradient Station – in between Lam Tin Tunnel (LTT) and CBL

3.4 MONITORING FREQUENCY AND PERIOD

- 3.4.1 To according with the approved *EM&A Manual*, impact monitoring requirements are presented as follows.

Air Quality Monitoring

- 3.4.2 Air quality impact monitoring frequency is as follows:

- Once every 6 days of 24-hour TSP and 3 times of 1-hour TSP monitoring; during course of works throughout the construction period

Construction Noise Monitoring

3.4.3 Construction noise monitoring frequency is as follows:

- One set of Leq_(30min) measurements in a weekly basis between 07:00 and 19:00 hours on normal weekdays during course of works as throughout the construction period
- If construction works are extended to include works during the hours of 1900-0700, additional weekly impact monitoring shall be carried out during evening and night-time works. Applicable permits under the NCO shall be obtained by the Contractor.

Water Quality (Marine Water) Monitoring

3.4.4 Marine water impact monitoring frequency is as follows:

- Three days a week, at mid ebb and mid flood tides during course of pile excavation works for the bridge pier foundations underway. Moreover, the intervals between 2 consecutive sets of monitoring day shall not be less than 36 hours.

3.5 DETERMINATION OF ACTION/LIMIT (A/L) LEVELS

3.5.1 The baseline results form the basis for determining the environmental acceptance criteria for the impact monitoring. A summary of the Action/Limit (A/L) Levels for air quality, construction noise and water quality are shown in **Tables 3-6, 3-7 and 3-8** respectively.

Table 3-6 Action & Limit Levels of Air Quality (1-Hour & 24-Hr TSP)

Monitoring Station	Action Level ($\mu\text{g}/\text{m}^3$)		Limit Level ($\mu\text{g}/\text{m}^3$)	
	1-Hour TSP	24-Hr TSP	1-Hour TSP	24-Hr TSP
AM4	278	NA	500	NA
AM5	NA	190	NA	260

Note: 1-Hour & 24-Hr TSP of Action Level = (Average Baseline Results \times 1.3 + Limit level)/2

Table 3-7 Action and Limit Levels for Construction Noise, dB(A)

Monitoring Location	Action Level	Limit Level (Leq _{30min})
	Time Period: 0700-1900 hours on normal weekdays	
CNMS-1	When one or more documented complaints are received	75 dB(A)
CNMS-5		

Remarks:

1. Construction noise monitoring will be resumed at the designated locations CNMS-2, CNMS-3 and CNMS4 once they are available and permission are granted;
2. The designated locations CNMS-2 and CNMS-3 are located at residential building which are still under construction, Limit Level of 75dB(A) will be adopted until they are occupied;
3. The designated location CNMS-4 is located at planned school and still not yet to construction. When the school occupied and operated, Limit Level of 70dB(A) should be adopted and should be reduced to 65dB(A) during examination period; and
4. If construction works are required during restricted hours, the conditions stipulated in the construction noise permit issued by the Noise Control Authority shall be followed.

Table 3-8 Action and Limit Levels for Water Quality

Monitoring Station	Depth Average of SS (mg/L)			
	Action Level		Limit Level	
CC1	7.8	OR 120% of upstream control station at the same tide of the same day (Control Station C3 at Ebb tide and Control Station C4 at Flood tide), whichever is higher	9.3	OR 130% of upstream control station at the same tide of the same day (Control Station C3 at Ebb tide and Control Station C4 at Flood tide), whichever is higher
CC2	9.0		9.2	
CC3	8.2		9.0	
CC4	13.8		15.4	
CC13	8.9		10.3	

Monitoring Station	Depth Average of SS (mg/L)			
	Action Level		Limit Level	
SWI1	8 mg/L		10 mg/L	
Monitoring Location	Dissolved Oxygen (mg/L)			
	Depth Average of Surface and Mid-depth		Bottom	
	Action Level	Limit Level	Action Level	Limit Level
CC1	5.8	5.7	5.3	5.2
CC2	5.8	5.7	5.3	5.1
CC3	5.5	5.4	4.9	4.7
CC4	5.7	5.7	5.5	5.4
CC13	5.6	5.5	5.3	5.2
SWI1	5.4	4.8	5.1	5.0
Monitoring Location	Depth Average of Turbidity (NTU)			
	Action Level		Limit Level	
CC1	5.8	OR 120% of upstream control station at the same tide of the same day (Control Station C3 at Ebb tide and Control Station C4 at Flood tide) , whichever is higher	6.0	OR 130% of upstream control station at the same tide of the same day (Control Station C3 at Ebb tide and Control Station C4 at Flood tide) , whichever is higher
CC2	4.6		5.5	
CC3	4.8		5.4	
CC4	6.1		7.1	
CC13	6.0		6.3	
SWI1	6.1		7.1	

3.5.2 Should non-compliance of the environmental quality criteria occurs, remedial actions will be triggered according to the Event and Action Plan as stated EM&A Manual.

4. IMPACT MONITORING RESULT

4.1 RESULTS OF AIR QUALITY MONITORING IN THE REPORTING MONTH

4.1.1 During the Reporting Period, **63** sessions of 1-hour TSP and **16** sessions of 24-hours TSP monitoring were carried out and the monitoring results are summarized in **Table 4-1**. The relevant graphical plots are shown in **Appendix E**.

Table 4-1 Summary of Air Quality Impact Monitoring Results

Monitoring Location	1-hour TSP ($\mu\text{g}/\text{m}^3$)			24-hour TSP ($\mu\text{g}/\text{m}^3$)		
	Min	Max	Average	Min	Max	Average
AMS-2	52	87	72	/		
Record Date	10-Feb-21	25-Feb-21	15 events			
AMS-4	50	93	74	/		
Record Date	10-Feb-21	22-Dec-21	48 events			
AMS-5	/			39	175	125
Record Date				11-Feb-21	3-Feb-21	16 events

4.1.2 As shown in **Table 4-1**, all the 1-hour TSP and 24-hour TSP monitoring results were below the Action / Limit Levels. No Notification of Exceedance (NOE) was issued in this Reporting Period.

4.1.3 No adverse impact due to weather condition on the monitoring result was observed in reporting quarter. The summary of meteorological information for the Reporting Period is shown in **Appendix F**.

4.2 RESULTS OF CONSTRUCTION NOISE MONITORING

4.2.1 **13** sessions and **4** sessions of daytime construction noise monitoring were performed at the designated location CNMS-1 and CNMS-2 respectively in the reporting period; and **13** sessions of daytime construction noise monitoring were performed at the interim alternative location CNMS-5 in the reporting period. No evening noise monitoring was conducted in the reporting period. The daytime noise monitoring results at designated location CNMS-1 and CNMS-2, and interim alternative monitoring location CNMS-5 are summarized in **Table 4-2**. The relevant graphical plots are shown in **Appendix E**.

Table 4-2 Summary of Daytime Construction Noise Impact Monitoring Results

Monitoring Location	Leq, 30min (dB((A)))		
	Min	Max	Average
CNMS-1	62.8	70.1	67.0
Record Date	10-Feb-21	12-Jan-21	13 sessions
CNMS-2	63.0	72.8	68.1
Record Date	10-Feb-21	25-Feb-21	4 sessions
CNMS-5	63.4	68.3	66.1
Record Date	10-Feb-21	25-Feb-21	13 sessions

4.2.2 All the measured daytime construction noise results were below 75dB(A) of the limit level acceptance criteria.

4.2.3 Three (3) environmental complaints regarding construction noise were received in the Report Period, therefore three (3) action level exceedances were registered in the reporting period.

4.3 RESULTS OF WATER QUALITY MONITORING

4.3.1 According to the approved EM&A Manual Section 7.6.1, the impact marine water quality monitoring work shall be carried out during the CBL piling and pile excavation works (marine construction activity) of the Project. Impact marine water quality monitoring was commenced in December 2018 when CBL piling and pile excavation works started.

- 4.3.2 As confirmed, all the marine piling and piling excavation work were completed in January 2020 and all pile cap installation work was completed in mid-March 2020. Due to the marine construction works that requires marine water quality monitoring as stated in the EM&A Manual were completed, the impact water quality monitoring was ceased with effect from 1 May 2020 and IEC has no particular comment on this arrangement.
- 4.3.3 No impact water quality monitoring was therefore carried out in the reporting period.

5. WASTE MANAGEMENT

5.1 GENERAL WASTE MANAGEMENT

5.1.1 Waste management would be carried out by an on-site Environmental Officer or an Environmental Consultant from time to time.

5.2 RECORDS OF WASTE QUANTITIES

5.2.1 All types of waste arising from the construction work are classified into the following:

- Construction & Demolition (C&D) Material;
- Chemical Waste; and
- General Refuse

5.2.2 According to the information provided by Contractor of Contract 1 and Contract 2, waste disposal was made in the Reporting period are summarized in *Tables 5-1* and *5-2*.

Table 5-1 Summary of Quantities of Inert C&D Materials

Type of Waste	Contract No	Quantity			Disposal Location
		Dec 2020	Jan 2021	Feb 2021	
Total Generated C&D Materials (Inert) (in '000m ³)	1	0.312	0.132	0.108	TKO 137
	2	1.103	1.685	0.244	
Reused in this Project (Inert) (in '000m ³)	1	0	0	0	-
	2	0	0	0	-
Reused in other Projects (Inert) (in '000m ³)	1	0	0	0	-
	2	0	0	0	-
Disposal as Public Fill (Inert) (in '000m ³)	1	0.312	0.132	0.108	TKO 137
	2	1.103	1.685	0.244	
Imported Fill ('000m ³)	1	0.306	0	0	-
	2	0.436	0.744	0.307	-

Table 5-2 Summary of Quantities of C&D Wastes

Type of Waste	Contract No	Quantity			Disposal Location
		Dec 2020	Jan 2021	Feb 2021	
Recycled Metal ('000kg)	1	0	0	0	Licensed collector
	2	0.005	0.005	0.005	
Recycled Paper / Cardboard Packing ('000kg)	1	0.110	0.113	0.186	Licensed collector
	2	0.080	0.050	0.050	
Recycled Plastic ('000kg)	1	0	0	0	Licensed collector
	2	0.010	0.020	0.020	
Chemical Wastes ('000kg)	1	0	0	0	Licensed collector
	2	0	0	0	
General Refuses ('000m ³)	1	0.173	0.399	0.351	NENT
	2	0.025	0.032	0.011	

5.2.3 The Monthly Summary Waste Flow Table of the Contracts 1 and Contract 2 are shown in [Appendix G](#).

6. SITE INSPECTION

6.1 REQUIREMENTS

6.1.1 According to the approved EM&A Manual, the environmental site inspection shall be formulation by ET Leader. Weekly environmental site inspections should carry out to confirm the environmental performance.

6.2 FINDINGS / DEFICIENCIES DURING THE REPORTING MONTH

Contract 1

6.2.1 In this Reporting Period, **13** events of weekly joint site inspection was carried out for Contract 1 to evaluate site environmental performance. The summaries of the findings during site inspection are presented in **Table 6-1** and the details of site inspection can be found in relevant EM&A monthly report.

Table 6-1 Summary of Site Observations of the Contract 1

Reporting Period	Date of site inspection	Nos. of Findings/ Deficiencies	Follow-Up Status
December 2020	2, 9, 16, 23 & 30 December 2020	7	Completed
January 2021	5, 15, 20 & 27 January 2021	5	Completed
February 2021	3, 10, 17 & 23 February 2021	3	Completed

6.2.2 In the Reporting Period, no non-compliance was recorded for Contract 1; however, **15** observations were recorded during the site inspections and the major findings were related to water quality and chemical management mitigation measures. Details of the findings of the inspection in the reporting period can be referred to the Monthly EM&A Report. The findings found in the weekly site inspection were in general rectified within the specified deadlines. The environmental performance of the Project was therefore considered satisfactory.

Contract 2

6.2.3 In this Reporting Period, **13** events of weekly joint site inspection was carried out for Contract 2 to evaluate site environmental performance. The summaries of the findings during site inspection are presented in **Table 6-2** and the details of site inspection can be found in relevant EM&A monthly report.

Table 6-2 Summary of Site Observations of the Contract 2

Reporting Period	Date of site inspection	Nos. of Findings/ Deficiencies	Follow-Up Status
December 2020	2, 9, 16, 23 & 30 December 2020	4	Completed
January 2021	5, 15, 20 & 27 January 2021	3	Completed
February 2021	3, 10, 17 & 23 February 2021	2	Completed

6.2.4 In the Reporting Period, no non-compliance was recorded for Contract 2; however, **9** observations were recorded during the site inspections and the major findings were related to general housekeeping and chemical management mitigation measures. Details of the findings of the inspection in the reporting period can be referred to the Monthly EM&A Report. The findings found in the weekly site inspection were in general rectified within the specified deadlines. The environmental performance of the Project was therefore considered satisfactory.

7. LANDFILL GAS MONITORING

7.1 GENERAL REQUIREMENT

- 7.1.1 Pursuant to Section 13 of the Project's EM&A Manual, Landfill gas monitoring shall perform during construction activities within the 250m Consultation Zone of Tseung Kwan O Stage II & III Landfill. For landfill gas monitoring requirements, pre entry and routine measurement shall be undertaken in accordance with the *Factories and Industrial Undertaking (Confined Spaces) Regulation*.
- 7.1.2 According to Environmental Mitigation Implementation Schedule (EMIS) S14.7.6, portable monitoring equipment can be used to conduct landfill gas monitoring. Moreover, the frequency and areas to be monitored should be set down prior to commencement of the works either by the Safety Officer or by an appropriately qualified person.

7.2 LIMIT LEVELS AND EVENT AND ACTION PLAN

- 7.2.1 In event of the trigger levels specified in Table 14.6 of the EIA report being exceeded, a person, such as the Safety Officer, shall be nominated, with deputies, to be responsible for dealing with any emergency which may occur due to LFG. In an emergency situation the nominated person, or his deputies, shall have the necessary authority and shall ensure that the confined space is evacuated and the necessary works implemented for reducing the concentrations of gas. The Limit levels and relevant Action Plans for landfill gas detected in utilities and any on-site areas following construction is listed in *Table 7-1*.

Table 7-1 Actions in the Event of Landfill Gas Being Detected in Excavations

Parameter	Limit Level	Actions
Methane	>10% LEL (i.e. >0.5% by volume)	<ul style="list-style-type: none"> • Post "No Smoking" signs • Prohibit hot works • Ventilate to restore methane to <10% LEL
	>20% LEL (i.e. >1% by volume)	<ul style="list-style-type: none"> • Stop excavation works • Evacuate personnel/prohibit entry • Increase ventilation to restore methane to <10% LEL
Carbon dioxide	>0.5%	<ul style="list-style-type: none"> • Ventilate to restore carbon dioxide to <0.5%
	>1.5%	<ul style="list-style-type: none"> • Stop excavation works • Evacuate personnel/prohibit entry • Increase ventilation to restore carbon dioxide to <0.5%
Oxygen	<19%	Ventilation to restore oxygen >19%
	<18%	<ul style="list-style-type: none"> • Stop excavation works • Evacuate personnel/prohibit entry • Increase ventilation to restore oxygen to >19%

- 7.2.2 In the event of the trigger levels specified in Table 9-1 being exceeded, the Safety Officer shall be responsible for dealing with any emergency which may occur due to landfill gas.

7.3 LANDFILL GAS MONITORING

- 7.3.1 In the Reporting Period, landfill gas monitoring was conducted at the zone Wan O Road which excavation work of Contract 2 was carried out.
- 7.3.2 There were a total of **71** days monitoring were carried by the Safety Officer or an approved and qualified persons. The results of landfill gas measurement are summarized in *Table 7-2*.

Table 7-2 Summary of Landfill Gas Measurement Results

Landfill Gas Parameter	Action Level	Limit Level	Detectable at LMR	
			Min	Max
Methane	>10% LEL (>0.5% v/v)	>20% LEL (>1% v/v)	0.0%	0.1%
Oxygen	<19%	<18%	20.6%	20.9%
Carbon Dioxide	>0.5%	>1.5%	0.0%	0.2%

7.3.3 The measurement results shown that slightly methane concentration was detected, oxygen concentration measured was over 19.0 % and Carbon Dioxide was between 0.1% and 0.2 %. No exceedance was triggered and therefore no corrective action was required accordingly.

8. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

8.1 ENVIRONMENTAL COMPLAINT, SUMMONS AND PROSECUTION

8.1.1 In the Reporting Period, three (3) environmental complaints were received with respect to the noise nuisance arising from the Project. Besides, no summons and prosecution under the EM&A Programme was lodged for the project. The statistical summary table of environmental complaint is presented in *Tables 8-1, 8-2 and 8-3*. A summarized record of all complaints received was provided in *Appendix H*.

Table 8-1 Statistical Summary of Environmental Complaints

Reporting Period	Contract	Environmental Complaint Statistics		
		Frequency	Cumulative	Complaint Nature
1 – 30 December 2020	1	0	12	NA
1 – 31 January 2021		0	12	NA
1 – 28 February 2021		0	12	NA
1 – 30 December 2020	2	1	6	Noise
1 – 31 January 2021		1	7	Noise
1 – 28 February 2021		1	8	Noise

Table 8-2 Statistical Summary of Environmental Summons

Reporting Period	Contract	Environmental Complaint Statistics		
		Frequency	Cumulative	Complaint Nature
1 – 30 December 2020	1	0	0	NA
1 – 31 January 2021		0	0	NA
1 – 28 February 2021		0	0	NA
1 – 30 December 2020	2	0	0	NA
1 – 31 January 2021		0	0	NA
1 – 28 February 2021		0	0	NA

Table 8-3 Statistical Summary of Environmental Prosecution

Reporting Period	Contract	Environmental Complaint Statistics		
		Frequency	Cumulative	Complaint Nature
1 – 30 December 2020	1	0	0	NA
1 – 31 January 2021		0	0	NA
1 – 28 February 2021		0	0	NA
1 – 30 December 2020	2	0	0	NA
1 – 31 January 2021		0	0	NA
1 – 28 February 2021		0	0	NA

9. IMPLEMENTATION STATUS OF MITIGATION MEASURES

9.1 GENERAL REQUIREMENTS

9.1.1 The environmental mitigation measures that recommended in the Implementation Schedule for Environmental Mitigation Measures (ISEMM) in the approved EM&A Manual covered the issues of dust, noise, water and waste and they are summarized presented in [Appendix I](#).

9.1.2 The Contractors had been implementing the required environmental mitigation measures according to the Environmental Monitoring and Audit Manual subject to the site condition. Environmental mitigation measures generally implemented by the Contractors in this Reporting Month are summarized in [Table 9-1](#).

Table 9-1 Environmental Mitigation Measures in the Reporting Period

Issues	Environmental Mitigation Measures
Construction Noise	<ul style="list-style-type: none"> Regularly to maintain all plants, so only the good condition plants were used on-site ; If possible, all mobile plants onsite operation has located far from NSRs; When machines and plants (such as trucks) were not in using, it was switched off; Wherever possible, plant was prevented oriented directly the nearby NSRs; Provided quiet powered mechanical equipment to use onsite; Weekly noise monitoring was conducted to ensure construction noise meet the criteria.
Air Quality	<ul style="list-style-type: none"> Stockpile of dusty material was covered entirely with impervious sheeting or sprayed with water so as to maintain the entire surface wet; The construction plants regularly maintained to avoid the emissions of black smoke; The construction plants switched off when it not in use; Water spraying on haul road and dry site area was provided regularly; Where a vehicle leaving the works site is carrying a load of dusty materials, the load has covered entirely with clean impervious sheeting; and Before any vehicle leaving the works site, wheel watering has been performed.
Water Quality	<ul style="list-style-type: none"> Debris and refuse generated on-site collected daily; Oils and fuels were stored in designated areas; The chemical waste storage as sealed area provided; Site hoarding with sealed foot were provided surrounding the boundary of working site to prevent wastewater or site surface water runoff get into public areas; and Portable chemical toilets were provided on-site. A licensed contractor was regularly disposal and maintenance of these facilities. Silt curtain was installed and maintained in accordance with EP condition
Waste and Chemical Management	<ul style="list-style-type: none"> Excavated material reused on site as far as possible to minimize off-site disposal. Scrap metals or abandoned equipment should be recycled if possible; Waste arising kept to a minimum and be handled, transported and disposed of in a suitable manner; Disposal of C&D wastes to any designated public filling facility and/or landfill followed a trip ticket system; and Chemical waste handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes.
General	<ul style="list-style-type: none"> The site is generally kept tidy and clean. Mosquito control is performed to prevent mosquito breeding on site.

10. CONCLUSIONS AND RECOMMENDATIONS

10.1 CONCLUSIONS

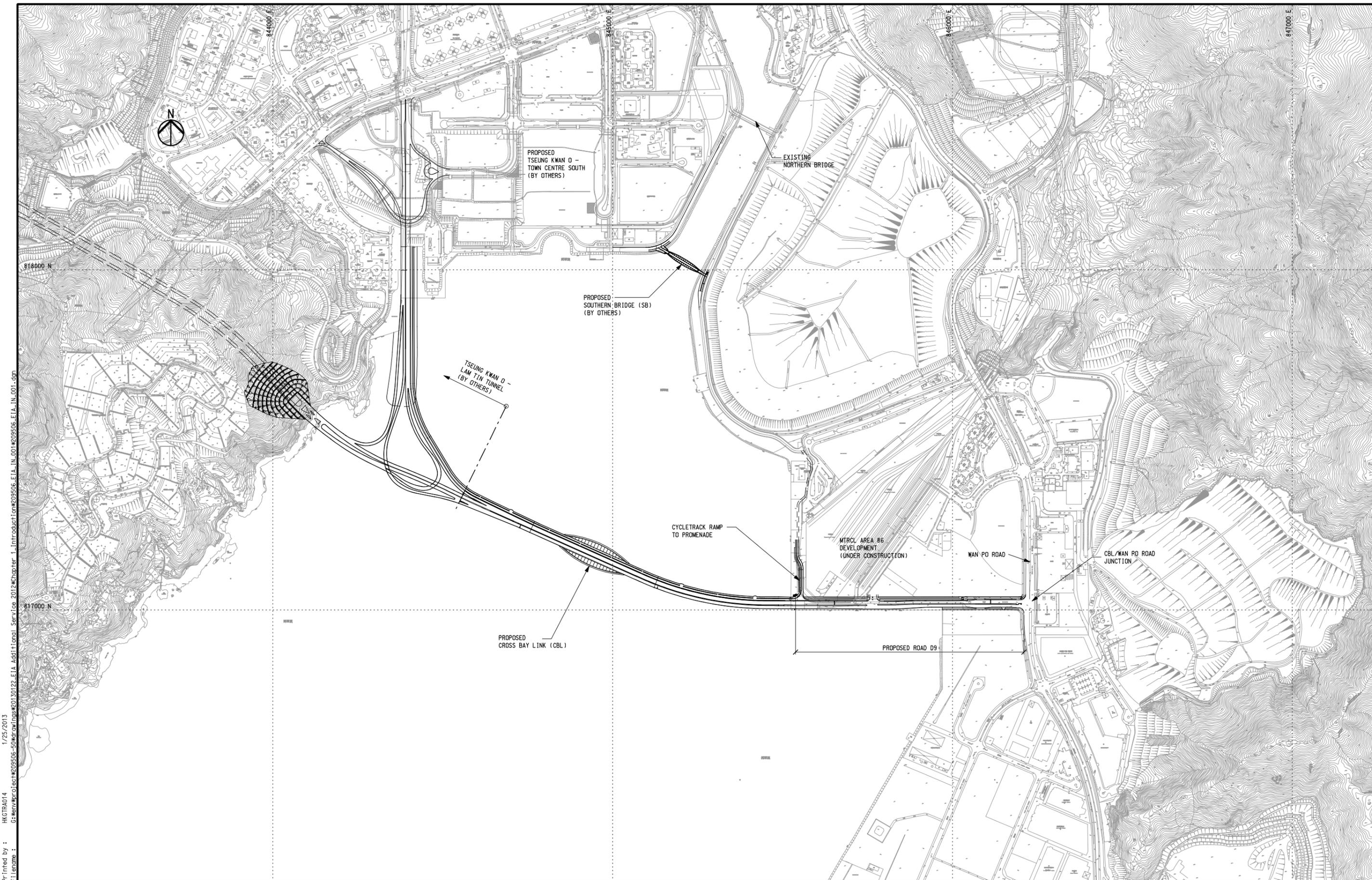
- 10.1.1 This is the **9th** Quarterly EM&A report as presented the monitoring results and inspection findings for the reporting period from **1st December 2020** to **28th February 2021**.
- 10.1.2 In the Reporting Period, three (3) daytime construction noise action level were recorded due to three (3) noise complaints were received.
- 10.1.3 In this Reporting Period, no 1-Hour TSP or 24-Hr TSP air quality monitoring exceedance was recorded. No NOE or the associated corrective actions were therefore issued.
- 10.1.4 No water quality monitoring was carried out in the reporting period.
- 10.1.5 In the Reporting Period, three (3) environmental complaints were received with respect to the noise nuisance arising from the Project. Investigation for the complaints were undertaken by ET and it is considered the two of the three received complaints are related to the Project. Although the two noise complaints were considered Project related, noise mitigation measures were found implemented properly by the Contractor and the Contractor was reminded to keep review on the noise mitigation measures implemented reduce to noise nuisance to nearby resident.
- 10.1.6 No notification of summons or prosecution was received and recorded for the Project.

10.2 RECOMMENDATIONS

- 10.2.1 Due to the dry and windy season has begun in Hong Kong, the Contractor was reminded that all the works to undertaking must be fulfill environmental statutory requirement, especially construction dust come from working sites of the Project.
- 10.2.2 Construction noise would be the key environmental issue as Lohas Park Phase 4 & 6 were already available for resident occupation. The noise mitigation measures such as use of quiet plants and installation of temporary noise barrier at the construction noise predominate area should be fully implemented in accordance with the EM&A requirement.

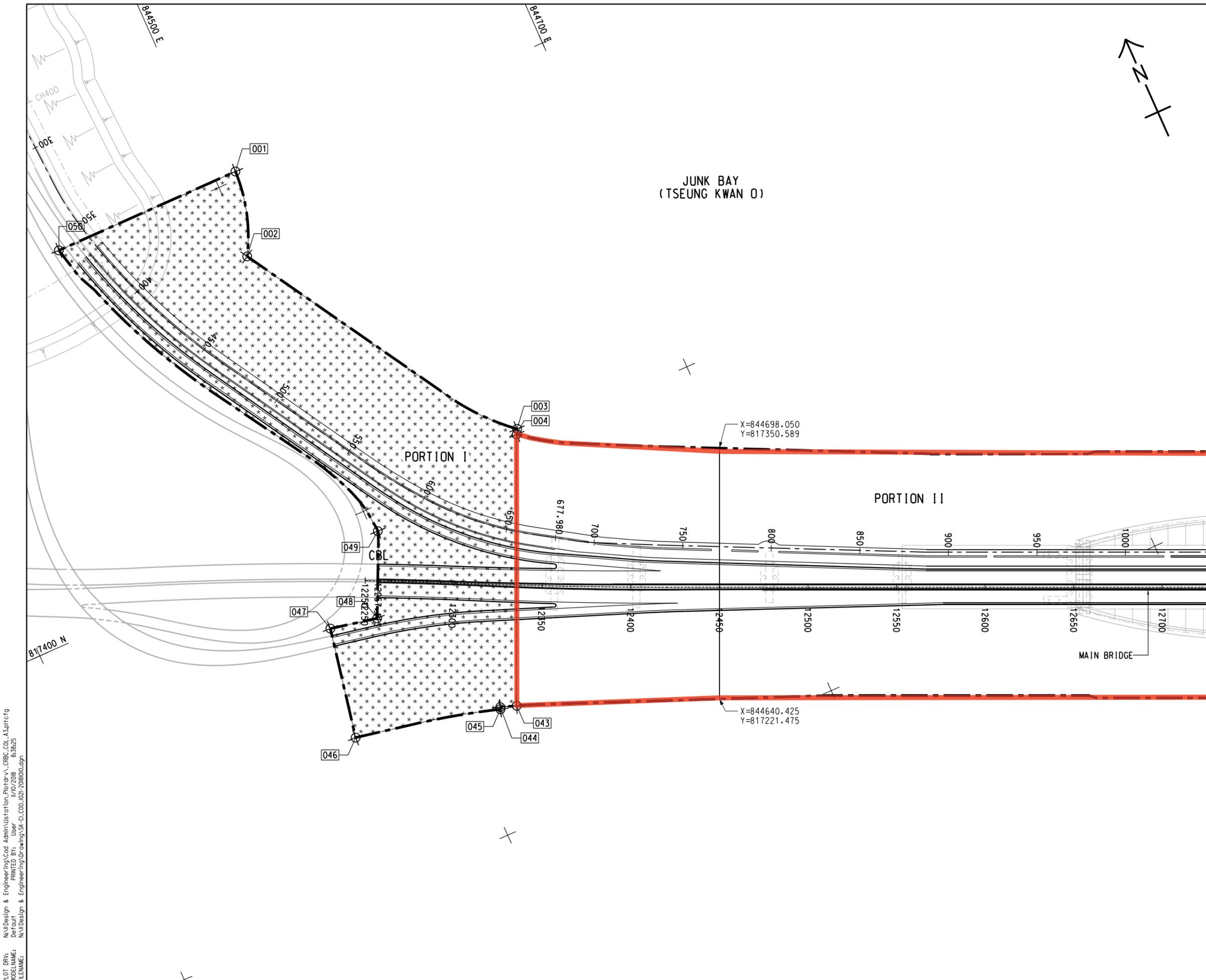
Appendix A

Project Layout Plan



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 土木工程拓展署 Civil Engineering and Development Department	 ARUP Ove Arup & Partners Hong Kong Limited	Job Title Agreement No. CE 43/2008(HY) Cross Bay Link, Tseung Kwan O – Investigation	Drawing Title GENERAL LAYOUT PLAN	Drawn	GL	Date	01/13	Drawing No. 209506/EIA/IN/001
				Checked	JP	Approved	ST	
				B	SECOND ISSUE	01/13		Status FINAL
				A	FIRST ISSUE	07/11		
				Rev.	Description	Date	Scale	1:5000 on A1 & 1:10000 on A3



NOTES:

1. ALL SETTING OUT POINTS SHOWN ON THIS SET OF DRAWINGS ARE FOR REFERENCE ONLY. THE EXACT LIMIT OF SITE BOUNDARY SHALL BE VERIFIED AND DETERMINED BY THE CONTRACTOR ON SITE.
2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWING NOS. 60329339/C1/COO/1022 AND 1023.

- LEGEND:**
- SITE BOUNDARY
 - PORTION I
 - PORTION II
 - PORTION III
 - PORTION IV
 - PORTION V
 - PORTION VI
 - PORTION VII
 - WORKS AREA A
 - WORKS AREA B

Works area under Contract 1

A	FIRST ISSUE	HK	KN	AC	19/09/18
Rev	Amendment	By	Chk.	App.	Date

PROJECT MANAGER: PROJECT MANAGER:



CONTRACT NO. AND TITLE:
 Contract No. NE/2017/07
 CROSS BAY LINK, TSEUNG KWAN O -
 MAIN BRIDGE AND ASSOCIATED WORKS

DRAWING TITLE:

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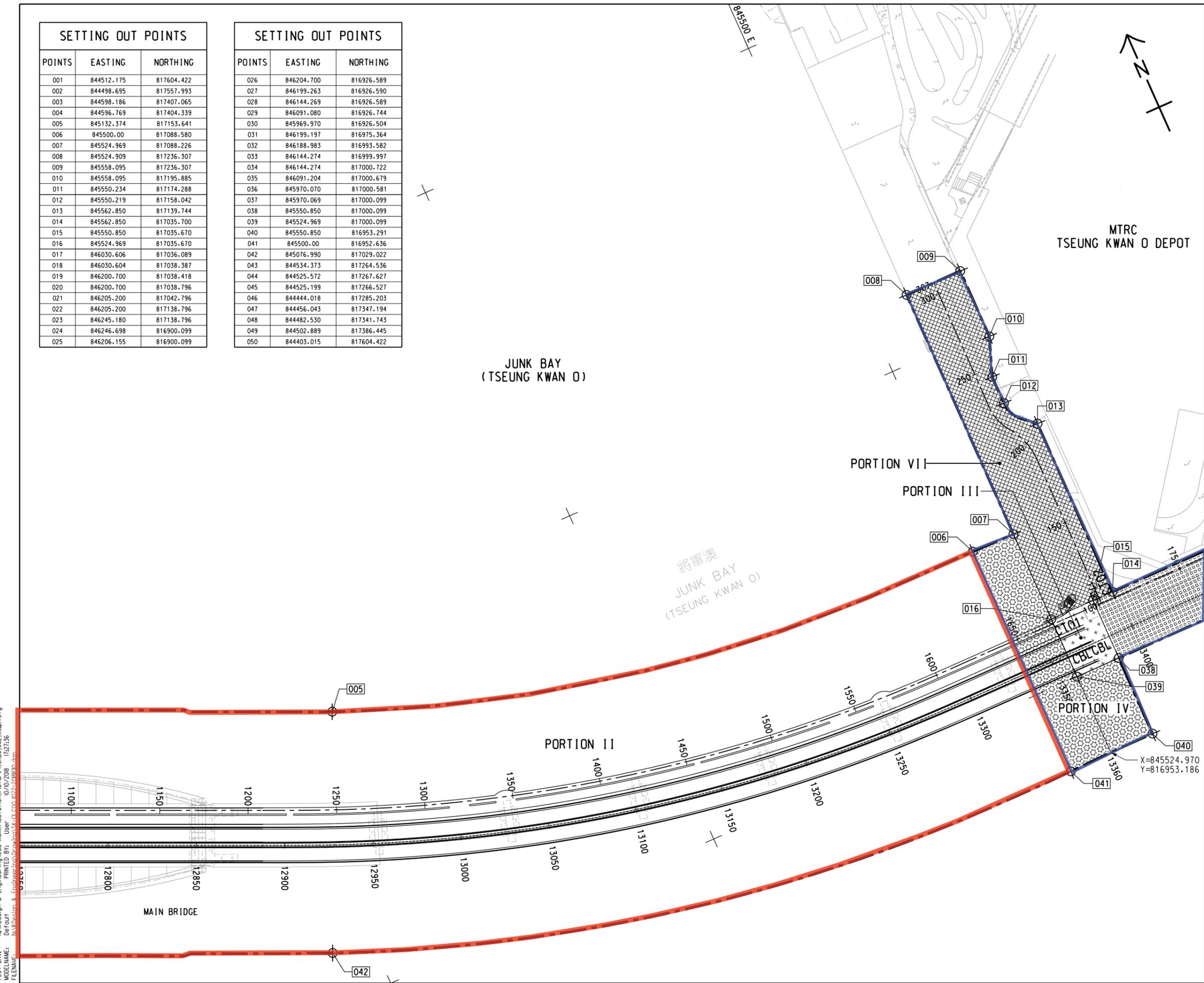
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SETTING OUT POINTS		
POINTS	EASTING	NORTHING
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002	844498.695	817557.993
003	844598.186	817407.065
004	844596.769	817404.339
005	845132.374	817153.641
006	845500.00	817088.580
007	845524.969	817088.226
008	845524.909	817236.307
009	845558.095	817236.307
010	845558.095	817195.885
011	845550.234	817174.288
012	845550.219	817158.042
013	845562.850	817139.744
014	845562.850	817035.700
015	845550.850	817035.670
016	845524.969	817035.670
017	846030.606	817036.089
018	846030.604	817038.387
019	846200.700	817038.418
020	846200.700	817038.796
021	846205.200	817042.796
022	846205.200	817138.796
023	846245.180	817138.796
024	846246.698	816900.099
025	846206.155	816900.099

SETTING OUT POINTS		
POINTS	EASTING	NORTHING
026	846204.700	816926.589
027	846199.263	816926.590
028	846144.269	816926.589
029	846091.080	816926.744
030	845969.970	816926.504
031	846199.197	816975.364
032	846188.983	816993.582
033	846144.274	816999.997
034	846144.274	817000.722
035	846091.204	817000.679
036	845970.070	817000.581
037	845970.069	817000.099
038	845550.850	817000.099
039	845524.969	817000.099
040	845550.850	816953.291
041	845500.00	816952.636
042	845076.990	817029.022
043	844534.373	817264.536
044	844525.572	817267.627
045	844525.199	817266.527
046	844444.018	817285.203
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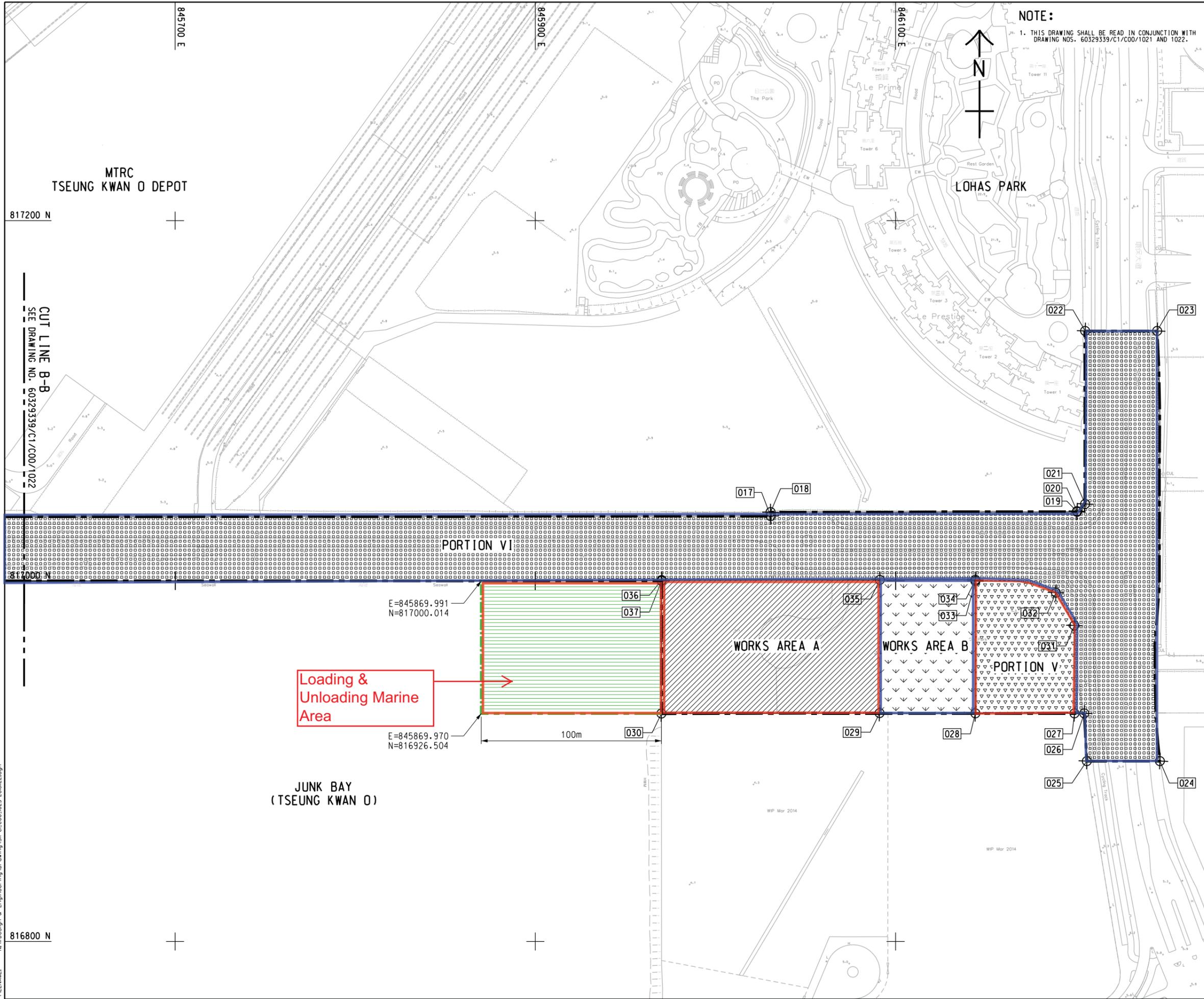


NOTE:
 1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWING NOS. 60329339/C1/COO/1021 AND 1023.

LEGEND:
 Works area under Contract 1
 Works area under Contract 2

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Rev	Amendment	By	Chk.	App.	Date
PROJECT MANAGER:		PROJECT MANAGER:			
 土木工程拓展署 Civil Engineering and Development Department					
SUPERVISOR:					
CONTRACTOR:		 中國路橋工程有限責任公司 China Road and Bridge Corp.			
CONTRACT NO. AND TITLE: Contract No. NE/2017/07 CROSS BAY LINK, TSEUNG KWAN O - MAIN BRIDGE AND ASSOCIATED WORKS					
DRAWING TITLE:					
SCALE @ A1			DRAWING NO:		
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NOTE:
1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH
DRAWING NOS. 60329339/C1/COO/1021 AND 1022.

- LEGEND:
- Works area under Contract 1
 - Works area under Contract 2

CUT LINE B-B
SEE DRAWING NO. 60329339/C1/COO/1022

Loading & Unloading Marine Area

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N=817000.014

E=845869.970
N=816926.504

JUNK BAY
(TSEUNG KWAN O)

100m

Rev	Amendment	By	Chk.	App.	Date

PROJECT MANAGER: PROJECT MANAGER:
CEDD 土木工程拓展署
Civil Engineering and Development Department

SUPERVISOR:
AECOM

CONTRACTOR:
RB 中國路橋工程有限責任公司
China Road and Bridge Corp.

CONTRACT NO. AND TITLE:
Contract No. NE/2017/07
CROSS BAY LINK, TSEUNG KWAN O -
MAIN BRIDGE AND ASSOCIATED WORKS

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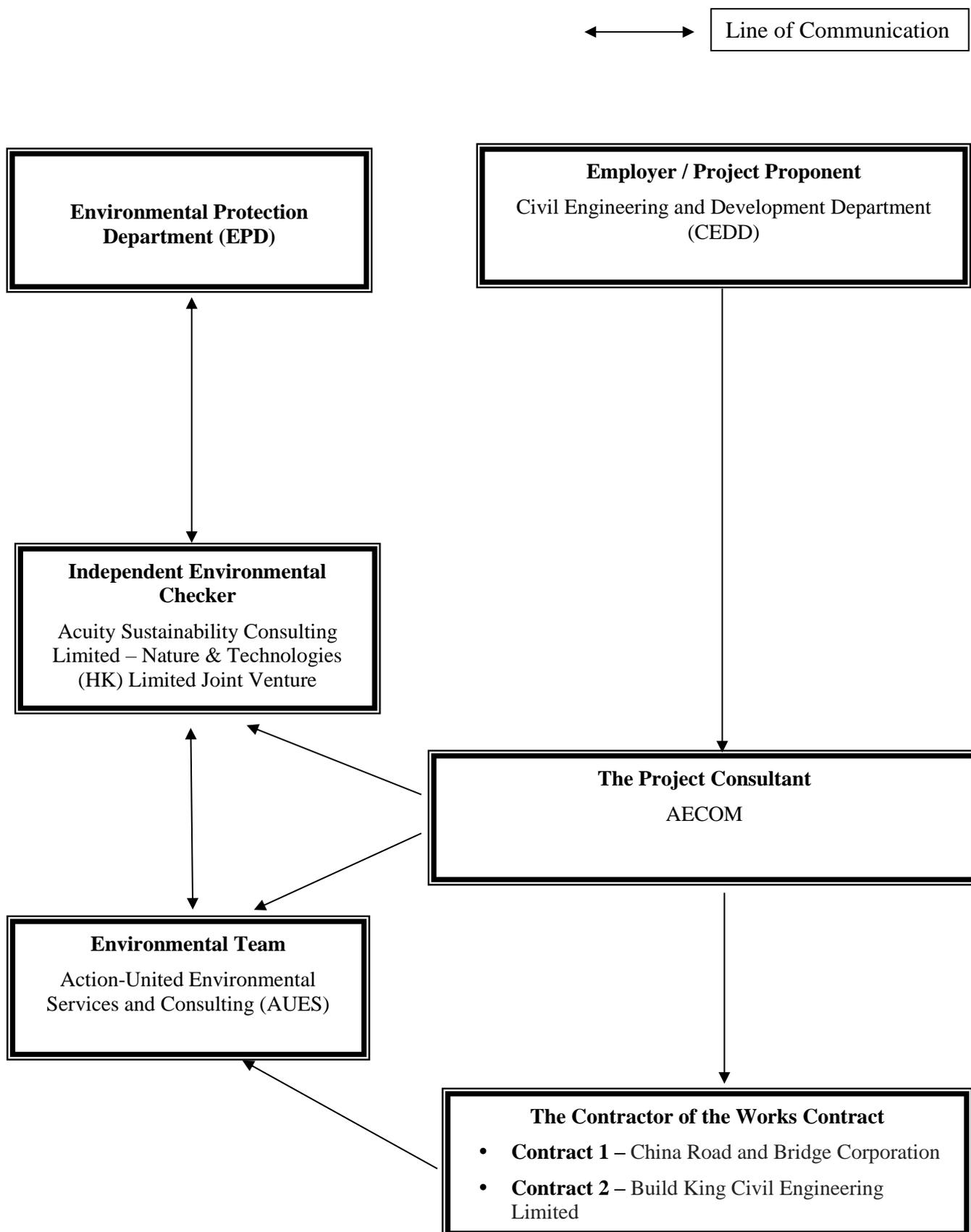
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Appendix B

Project Organization Chart & Contact Details of Key Personnel for the Project

Project Organization Structure



Contact Details of Key Personnel for the Project

Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
CEDD	Project Proponent	CK Lam	2301 1398	2714 5174
CEDD	Project Proponent	Sheri Leung	2301 1398	2714 5174
AECOM	Senior Resident Engineer	Jackie Chan	3595 8045	3596 6118
AECOM	Resident Engineer	Kingman Chan	3595 8045	3596 6118
ASC – N&T JV	Independent Environmental Checker	Kevin Li	2698 6833	2698 9383
ASC – N&T JV	Senior Environmental Consultant	Tandy Tse	2698 6833	2698 9383
AUES	Environmental Team Leader	T. W. Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Ben Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Martin Li	2959 6059	2959 6079
CRBC	Site Agent	Raymond Suen	9779 8871	2283 1689
CRBC	Environmental Officer	Calvin So	9724 6254	2283 1689
CRBC	Environmental Supervisor	Lila Lui	9790 5433	2283 1689
Build King	Site Agent	Stephen Leung	9071 7657	TBA
Build King	Environmental Officer	Michael Lam	6476 4299	TBA
Build King	Environmental Supervisor	Kenneth Hung	6170 9304	TBA

Legend:

CEDD (Employer) – Civil Engineering and Development Department

AECOM (Project Consultant) – AECOM Asia Co. Ltd.

ASC – N&T JV (IEC) – Acuity Sustainability Consulting Limited – Nature & Technologies (HK) Limited Joint Venture

AUES (ET) – Action-United Environmental Services & Consulting

CRBC (the Main Contractor of the Works Contract 1) – China Road and Bridge Corporation

Build King (the Main Contractor of the Works Contract 2) - Build King Civil Engineering Limited

Appendix C

3-Month Rolling Construction Programme

Contract 1

Contract No. NE/2017/07 Cross Bay Link, Tseng Kwan O - Main Bridge and Associated Works

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Planned Start	Finish	Planned Finish	Total Float	Activity % Complete	IRA	Balance to Finish (Lsd)	February 2021					March 2021					April 2021					May 2021				
												24	31	07	14	21	28	07	14	21	28	04	11	18	25	02	09	16	23	30	
Cross Bay Link, Tseng Kwan O Main Bridge and Associated Works - Submission																															
Contractual Key Dates and Section of the Works												Contractual Key Dates and Section of the Works																			
Contractual Key Dates												Contractual Key Dates																			
KDS1220	Key Date 1- Completion of all Works in Portion V of the Site necessary to comply with the requirements from FSD and CLP	0	0			20-Jan-21 A	12-Jan-21		100%	0	-8	Date 1- Completion of all Works in Portion V of the Site necessary to comply with the requirements from FSD and CLP																			
Executive Summary Programme																															
ESP Section 1 of the Works- All Works within Portion I of the Site (Entrusted Works of TKOI Viaduct)																															
ESP10720	Pre-drilling Works	41	41	09-Feb-21	13-Jan-21	15-Jul-21	18-Jun-21	-27	0%	0	3	Pre-drilling Works																			
ESP10740	Piling Works	140	140	26-Feb-21	30-Jan-21	15-Jul-21	18-Jun-21	-27	0%	0	-27																				
ESP Section 2 of Works-All Works within Portion II,III,IV and VI																															
ESP10920	CBL Main Bridge and Marine Viaduct	1240	462	17-Sep-18 A	28-Feb-19	16-May-22	21-Jul-22	-93	62.74%	0	66																				
ESP11000	Pier	221	47	16-Mar-20 A	09-Mar-20	27-Mar-21	15-Oct-20	11	78.73%	0	-163	Pier																			
ESP11020	Main Span (Steel) and Arch Ribs	102	102	12-Apr-21	12-Apr-21	22-Jul-21	22-Jul-21	-34	0%	0	0																				
ESP11080	Concrete Bridge Decks	395	177	05-Jun-20 A	09-Jul-20	04-Aug-21	07-Aug-21	2	55.19%	0	3																				
ESP11160	E&M Works for CBL Main Bridge and Marine Viaduct	462	462	09-Feb-21	09-Jan-21	16-May-22	16-May-22	-93	0%	0	0																				
ESP Section 5 of the Works-All Works within Portion V (CBL E&M Plantroom)												ESP Section 5 of the Works-All Works within Portion V (CBL E&M Plantroom)																			
ESP11280	Architectural & External Works	153	0	22-Jan-20 A	13-Feb-20	20-Jan-21 A	14-Jul-20		100%	0	-190	Architectural & External Works																			
ESP11300	E&M Works and FSD Inspection	159	49	30-Jul-20 A	15-Aug-20	29-Mar-21	20-Jan-21	229	69.18%	0	-68	E&M Works and FSD Inspection																			
ESP11310	Key Date 1- Completion of all Works in Portion V of the Site necessary to comply with the requirements from FSD and CLP	0	0			09-Feb-21*	22-Jan-21	-27	0%	0	-17	Key Date 1- Completion of all Works in Portion V of the Site necessary to comply with the requirements from FSD and CLP																			
Access Date												Access Date																			
ESP10060	Access Date of Portion I	0	0	09-Feb-21*	13-Jan-21			-27	0%	0	-27	Access Date of Portion I																			
Contractual Key Dates and Section of the Works												Contractual Key Dates and Section of the Works																			
Key Dates												Key Dates																			
ESP10220	Key Date 1- Completion of all Works in Portion V of the Site necessary to comply with the requirements from FSD and CLP	0	0	08-Feb-21	12-Jan-21	08-Feb-21	12-Jan-21	-27	0%	0	-27	Key Date 1- Completion of all Works in Portion V of the Site necessary to comply with the requirements from FSD and CLP																			
Anticipated Key Dates and Section of the Works												Anticipated Key Dates and Section of the Works																			
Key Dates												Key Dates																			
ESP11360	Key Date 1- Completion of all Works in Portion V of the Site necessary to comply with the requirements from FSD and CLP	0	0	09-Feb-21	22-Jan-21	09-Feb-21	22-Jan-21	-27	0%	0	-17	Key Date 1- Completion of all Works in Portion V of the Site necessary to comply with the requirements from FSD and CLP																			
Preliminaries, Contractor's Design & Method Statement Submission & Approval																															
ESP10400	Temporary Works Design	695	35	13-Aug-18 A	13-Aug-18	15-Mar-21	07-Jul-20	-53	94.96%	0	-251	Temporary Works Design																			
ESP10420	Method Statement Submission for Major Construction Works	736	52	27-Aug-18 A	27-Aug-18	01-Apr-21	31-Aug-20	-47	92.93%	0	-213	Method Statement Submission for Major Construction Works																			
ESP10440	Contractor's Design Submission and Approval	869	135	06-Aug-18 A	06-Aug-18	23-Jun-21	21-Dec-20	84	84.46%	0	-184																				
ESP10500	Project Manager's Acceptance of Subcontractors	556	0	14-Aug-18 A	21-Feb-19	09-Feb-21	29-Aug-20	172	100%	0	-163	Project Manager's Acceptance of Subcontractors																			
ESP10560	Procurement, Factory Acceptance Test, Delivery and Temporary Storage of Major E&M Equipment	0	0	13-May-20 A	09-Jun-20	09-Feb-21	09-Jun-20	167	0%	0	-245	Procurement, Factory Acceptance Test, Delivery and Temporary Storage of Major E&M Equipment																			
ESP10570	Precasting of Precast Shell (TKOI Entrustment Works)	200	200	09-Feb-21	09-Jan-21	27-Aug-21	27-Jul-21	0	0%	0	-31																				
ESP10580	Precasting of Precast Segments (TKOI Entrustment Works)	359	263	16-Sep-20 A	09-Oct-20	29-Oct-21	02-Oct-21	0	26.74%	0	-27																				
ESP10640	Fabrication of Steel Arch Bridge and Side Spans	623	37	30-Aug-19 A	08-Apr-19	17-Mar-21	20-Dec-20	-93	94.06%	0	-87	Fabrication of Steel Arch Bridge and Side Spans																			
ESP10660	Assembly of Steel Arch Bridge	418	62	12-Jul-20 A	11-Oct-20	11-Apr-21	02-Dec-21	-100	85.17%	0	235	Assembly of Steel Arch Bridge																			
ESP10680	Assembly of Side Spans	102	79	16-Jan-21 A	09-Jan-21	28-Apr-21	20-Apr-21	-93	22.55%	0	-8	Assembly of Side Spans																			
EW, NCE, CE and PMI												EW, NCE, CE and PMI																			
Early Warning EW												Early Warning EW																			
EW0861	EW041- Occupation of Area at the Location of Pier 2K by Other during 16 to 18 February 2021 at TKOI	0	0	04-Feb-21 A					100%	0		EW041- Occupation of Area at the Location of Pier 2K by Other during 16 to 18 February 2021 at TKOI																			
Notification of Compensation Event NCE												Notification of Compensation Event NCE																			
NCE2701	NCE135 - Weather Conditions (Apr '20) Affecting Section 1 to 4 only	0	0	19-Jan-21 A					100%	0		35 - Weather Conditions (Apr '20) Affecting Section 1 to 4 only																			
NCE2721	NCE136 - Weather Conditions (Apr '20) Affecting Key Date 1 Only	0	0	19-Jan-21 A					100%	0		36 - Weather Conditions (Apr '20) Affecting Key Date 1 Only																			
NCE2741	NCE137 - Weather Conditions (May '20) Affecting Key Date 1 Only	0	0	19-Jan-21 A					100%	0		37 - Weather Conditions (May '20) Affecting Key Date 1 Only																			
NCE2761	NCE138 - Weather Conditions (Red and Black Rainstorm Warning) affecting the Site on 6 & 7 June 2020	0	0	19-Jan-21 A					100%	0		38 - Weather Conditions (Red and Black Rainstorm Warning) affecting the Site on 6 & 7 June 2020																			
NCE2781	NCE139 - Weather Conditions (Red and Black Rainstorm Warning for Key Date 1) affecting the Site on 6 & 7 June 2020	0	0	19-Jan-21 A					100%	0		39 - Weather Conditions (Red and Black Rainstorm Warning for Key Date 1) affecting the Site on 6 & 7 June 2020																			
NCE2801	NCE140 - Weather Conditions (Amber rainstorm warning for Key Date 1) affecting the Site on June 2020	0	0	19-Jan-21 A					100%	0		40 - Weather Conditions (Amber rainstorm warning for Key Date 1) affecting the Site on June 2020																			
NCE2821	NCE141 - Weather Conditions (Inclement Weather for Key Date 1) affecting the Site on July 2020	0	0	19-Jan-21 A					100%	0		41 - Weather Conditions (Inclement Weather for Key Date 1) affecting the Site on July 2020																			
NCE2841	NCE142 - Weather Conditions (Amber rainstorm warning for Key Date 1) affecting the Site on August 2020	0	0	19-Jan-21 A					100%	0		42 - Weather Conditions (Amber rainstorm warning for Key Date 1) affecting the Site on August 2020																			
NCE2861	NCE143 - Weather Conditions (Amber rainstorm warning for Key Date 1) affecting the Site on September 2020	0	0	22-Jan-21 A					100%	0		43 - Weather Conditions (Amber rainstorm warning for Key Date 1) affecting the Site on September 2020																			
NCE2881	NCE144 - Weather Conditions (Red and Black Rain Storm Warning) affecting the Site on 5, 21 & 30 September 2020	0	0	22-Jan-21 A					100%	0		44 - Weather Conditions (Red and Black Rain Storm Warning) affecting the Site on 5, 21 & 30 September 2020																			
NCE2901	NCE145 - Availability of access to Part of Portion I of the Site on the access date	0	0	15-Jan-21 A					100%	0		availability of access to Part of Portion I of the Site on the access date																			
NCE2921	NCE146 - Weather Conditions (Red and Black Rain Storm Warning) affecting the Site In October 2020	0	0	22-Jan-21 A					100%	0		46 - Weather Conditions (Red and Black Rain Storm Warning) affecting the Site In October 2020																			
NCE2941	NCE147 - Weather Conditions (Red Rainstorm Warning for key Date 1) affecting the Site on 5 October 2020	0	0	22-Jan-21 A					100%	0		47 - Weather Conditions (Red Rainstorm Warning for key Date 1) affecting the Site on 5 October 2020																			
NCE2961	NCE148 - Weather Conditions (Inclement Weather for key Date 1) affecting the Site in November 2020	0	0	22-Jan-21 A					100%	0		48 - Weather Conditions (Inclement Weather for key Date 1) affecting the Site in November 2020																			
NCE2981	NCE149 - Independent Checking Marine Consultant for the Loadout , Transportation and Installation of Main Arch Bridge	0	0	25-Jan-21 A					100%	0		49 - Independent Checking Marine Consultant for the Loadout , Transportation and Installation of Main Arch Bridge																			

█ Remaining Level of Effort
 █ Remaining Work
 ◆ Milestone
 █ Primary Baseline
 █ Critical Remaining Work
 ◆ Summary
 ◆ Baseline Milestone

CRBC
Three Month Rolling Programme

Date	Revision	Checked	Approved
08-Feb-21	Monthly updated on 08 February 2021		

Contract No. NE/2017/07 Cross Bay Link, Tseng Kwan O - Main Bridge and Associated Works

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Planned Start	Finish	Planned Finish	Total Float	Activity % Complete	TRA	Balance - Finish - Lags	February 2021												March 2021					April 2021				May 2021														
												24	31	07	14	21	28	07	14	21	28	04	11	18	25	02	09	16	23	30																	
Compensation Event (CE)												0												0					11-Jan-21 A				25-Jan-21 A														
CE2281	CE116- Revised Pavement Thickness along Footpath of Concrete Bridge	0	0	11-Jan-21 A					100%	0		Pavement Thickness along Footpath of Concrete Bridge																																			
CE2301	CE117- Additional L5 Lightings with Footings for Plan Room EVA at Portion V	0	0	13-Jan-21 A					100%	0		Additional L5 Lightings with Footings for Plan Room EVA at Portion V																																			
CE2321	CE118- Engaging a HOKLAS Lab for Sub-base Material (December 2020 - February 2021)	0	0	15-Jan-21 A					100%	0		Engaging a HOKLAS Lab for Sub-base Material (December 2020 - February 2021)																																			
CE2341	CE119- Temporary Triaxial Ultrasonic Anemometer on Concrete Bridge (PMN No. 060)	0	0	16-Jan-21 A					100%	0		Temporary Triaxial Ultrasonic Anemometer on Concrete Bridge (PMN No. 060)																																			
CE2361	CE120- Additional Cable Ducts for Road Lighting in Entrustment Works	0	0	25-Jan-21 A					100%	0		CE120- Additional Cable Ducts for Road Lighting in Entrustment Works																																			
Project Manager's Instruction PMI												0												0					12-Jan-21 A				25-Jan-21 A														
PMI2721	PMI153 - Temporary Triaxial Ultrasonic Anemometer on Concrete Bridge	0	0	12-Jan-21 A					100%	0		Temporary Triaxial Ultrasonic Anemometer on Concrete Bridge																																			
PMI2741	PMI154 - Additional Light Poles at Access Road of E&M Plantroom in Portion V	0	0	13-Jan-21 A					100%	0		Additional Light Poles at Access Road of E&M Plantroom in Portion V																																			
PMI2761	PMI155 - Engaging a HOKLAS Lab for Sub-Base Material (December 2020 - February 2021)	0	0	15-Jan-21 A					100%	0		Engaging a HOKLAS Lab for Sub-Base Material (December 2020 - February 2021)																																			
PMI2781	PMI156 -Request fo Quotation - Service of Public Relations (PR) Event for Positioning of Steel Arch Bridge	0	0	14-Jan-21 A					100%	0		Request fo Quotation - Service of Public Relations (PR) Event for Positioning of Steel Arch Bridge																																			
PMI2801	PMI157 -Request fo Quotation - Revised Layout for Maintenance Lightings at Deck Voids of Steel Bridge and Arch Ribs	0	0	20-Jan-21 A					100%	0		Request fo Quotation - Revised Layout for Maintenance Lightings at Deck Voids of Steel Bridge and Arch Ribs																																			
PMI2821	PMI158 -Request fo Quotation - Modulation Schemes for Functional Lighting under Cross Bay Link	0	0	18-Jan-21 A					100%	0		Request fo Quotation - Modulation Schemes for Functional Lighting under Cross Bay Link																																			
PMI2841	PMI157 -Additional Cable Ducts for Road Lighting in Entrustment Works	0	0	25-Jan-21 A					100%	0		PMI157 -Additional Cable Ducts for Road Lighting in Entrustment Works																																			
Access Date												0												0					13-Jan-21 A				13-Jan-21			09-Feb-21			13-Jan-21			-27			-27		
PAD1010	Access To Portion I (For Pile Holes : 5D,9D,5E,9E, 5F,9F,5G,9G,5H,9H, 1L,1K, 2L)	0	0	13-Jan-21 A	13-Jan-21				100%		0	Access To Portion I (For Pile Holes : 5D,9D,5E,9E, 5F,9F,5G,9G,5H,9H, 1L,1K, 2L)																																			
PAD1020	Access To Portion I (For Pile Holes : 5B,9B, 5C,9C) ** Assume on 2021/02/09	0	0	09-Feb-21*					0%			Access To Portion I (For Pile Holes : 5B,9B, 5C,9C) ** Assume on 2021/02/09																																			
Planned Key Dates and Section of the Works												0												0					20-Jan-21 A				22-Jan-21			20-Jan-21 A			22-Jan-21			2			2		
Planned Key Dates												0												0					20-Jan-21 A				22-Jan-21			20-Jan-21 A			22-Jan-21			2			2		
KDS1040	Key Date 1- Completion of all Works in Portion V of the Site necessary to comply with the requirements from FSD and CLP	0	0			20-Jan-21 A	22-Jan-21		100%	0	2	Key Date 1- Completion of all Works in Portion V of the Site necessary to comply with the requirements from FSD and CLP																																			
Preliminaries, Contractor's Design & Method Statement Submission & Approval												500												135					15-Jul-19 A				10-Feb-20			23-Jun-21			30-Sep-21			84			99		
Temporary Works Design												141												30					13-Jan-20 A				10-Feb-20			15-Mar-21			22-Jul-20			-45			-202		
TDS1240	Design of temporary works for superstructure of steel bridge (incl. 35 days TRA)	141	30	13-Jan-20 A	10-Feb-20	15-Mar-21	22-Jul-20		45	78.72%	35	Design of temporary works for superstructure of steel bridge (incl. 35 days TRA)																																			
Method Statement Submission for Major Construction Works												124												45					15-Jul-19 A				24-Sep-20			01-Apr-21			15-Feb-21			-40			-39		
MDS1220	Method statement submission for delivery of steel bridge deck of side span (incl. 35 days TRA)	81	35	15-Jul-19 A	13-Nov-20	20-Mar-21	15-Feb-21		30	56.79%	35	Method statement submission for delivery of steel bridge deck of side span (incl. 35 days TRA)																																			
MDS1225	Method statement submission for delivery of steel arch bridge (incl. 21 days TRA)	82	30	15-Aug-19 A	24-Sep-20	15-Mar-21	28-Dec-20		62	63.41%	21	Method statement submission for delivery of steel arch bridge (incl. 21 days TRA)																																			
MDS1230	Method statement submission for installation of the steel bridge deck of side span (incl. 21 days TRA)	67	30	15-Jul-19 A	13-Nov-20	15-Mar-21	29-Jan-21		25	55.22%	21	Method statement submission for installation of the steel bridge deck of side span (incl. 21 days TRA)																																			
MDS1270	Method statement submission for installation of steel arch bridge (incl. 21 days TRA)	82	45	15-Jul-19 A	29-Sep-20	01-Apr-21	01-Jan-21		67	45.12%	21	Method statement submission for installation of steel arch bridge (incl. 21 days TRA)																																			
Contractor's Design Submission and Approval												389												116					19-Nov-19 A				27-Mar-20			23-Jun-21			30-Sep-21			72			85		
CDS1120	Design of Isolation panel and its structural frame (incl. 7 days TRA)	97	19	19-Nov-19 A	27-Mar-20	02-Mar-21	17-Jul-20		18	80.41%	7	Design of Isolation panel and its structural frame (incl. 7 days TRA)																																			
CDS1140	Design of Functional lighting system,road lighting system,etc (incl. 7 days TRA)	97	97	03-Mar-21	01-Feb-21	23-Jun-21	24-May-21		72	0%	7	Design of Functional lighting system,road lighting system,etc (incl. 7 days TRA)																																			
CDS1230	Design of cycle rack (incl. 14 days TRA)	111	111	09-Feb-21	25-May-21	17-Jun-21	30-Sep-21		37	0%	14	Design of cycle rack (incl. 14 days TRA)																																			
Preliminaries,Submission, Subcontracting and Procurement												0												0					08-Feb-21				08-Jan-21			08-Feb-21			08-Jan-21			172			-31		
Project Manager's Acceptance of Subcontractors												0												0					08-Feb-21				08-Jan-21			08-Feb-21			08-Jan-21			172			-31		
P-SP1540	Waterproofing Works	0	0			08-Feb-21	08-Jan-21		172	0%	0	Waterproofing Works																																			
Precasting & Fabrication Works												539												263					24-Apr-20 A				09-May-20			29-Oct-21			11-Oct-21			0			-18		
Fabrication of Precast Shell and Precast Segments												294												263					09-Dec-20 A				09-Jan-21			29-Oct-21			11-Oct-21			0			-18		
Precast Shell												240												200					09-Dec-20 A				09-Jan-21			27-Aug-21			05-Sep-21			0			9		
TKOI												240												200					09-Dec-20 A				09-Jan-21			27-Aug-21			05-Sep-21			0			9		
P-PS3145	Fabrication of Precast shell for pile cap of TKOI entrustment work (total 17nos)	240	200	09-Dec-20 A	09-Jan-21	27-Aug-21	05-Sep-21		0	16.67%	21	Fabrication of Precast shell for pile cap of TKOI entrustment work (total 17nos)																																			
Precast Segments (TKOI Entrustment Works)												294												263					05-Jan-21 A				09-Jan-21			29-Oct-21			11-Oct-21			0			-18		
P-PF1160	Fabrication of Precast segments for TKOI Viaduct (total 255nos) (incl. 21 days TRA)	276	243	05-Jan-21 A	09-Jan-21	09-Oct-21	11-Oct-21		0	11.96%	21	Fabrication of Precast segments for TKOI Viaduct (total 255nos) (incl. 21 days TRA)																																			
P-PF1180	Pre-Stressing of Precast segments for TKOI Viaduct	259	259	13-Feb-21	25-Jan-21	29-Oct-21	10-Oct-21		0	0%	0	Pre-Stressing of Precast segments for TKOI Viaduct																																			
Fabrication of Precast Pier												90												0					24-Apr-20 A				09-May-20			27-Jan-21 A			06-Aug-20			-174					
P-PF1470	Fabrication of Precast pier W5	90	0	24-Apr-20 A	09-May-20	27-Jan-21 A	06-Aug-20		100%	0	-174	Fabrication of Precast pier W5																																			
Fabrication of Steel Arch Bridge and Side Spans												301												79					01-Jul-20 A				27-Jul-20			28-Apr-21			23-May-21			-93			25		
Main Bridge Spans and Arch Rib Fabrication												301												62					01-Jul-20 A				27-Jul-20			11-Apr-21			23-May-21			-100			42		
Full Assembly Work for Main Steel Span and Arch Rib												301												62					27-Jul-20 A				27-Jul-20			11-Apr-21			23-May-21			-100			42		
Steel Bridge Sub-Element Installation Work												301												58					27-Jul-20 A				27-Jul-20			07-Apr-21			23-May-21			-100			46		
P-SAB2221	Installation UnderDeck Maintenance Walkway	284	58	27-Jul-20 A	09-Aug-20	07-Apr-21	19-May-21		100	79.58%	42	Installation UnderDeck Maintenance Walkway																																			
P-SAB2241	Walkway Installation	288	58	27-Jul-20 A	27-Jul-20	07-Apr-21	10-May-21		100	79.86%	33	Walkway Installation																																			
P-SAB2281	Dehumidification Installation for Steel Bridge	301	58	27-Jul-20 A	27-Jul-20	07-Apr-21	23-May-21		100	80.73%	46	Dehumidification Installation for Steel Bridge																																			
Segmental Deck Assembly Work												144												0					27-Aug-20 A				12-Sep-20			27-Feb-21 A			02-Feb-21			-25					
P-SAB2181	Deck Segment Joint Assembly for C18+C19	114	0	27-Aug-20 A	12-Sep-20	26-Jan-21 A	03-Jan-21		100%		-23	Deck Segment Joint Assembly for C18+C19																																			
P-SAB2201	Deck Segment Joint Assembly for C18/19 +C20	16	0	18-Jan-21 A	18-Jan-21	27-Feb-21 A	02-Feb-21		100%		-25	Deck Segment Joint Assembly for C18/19 +C20																																			
Primary Deck Segmental Assembly Jointing												108												0					27-Aug-20 A				01-Dec-20			09-Feb-21 A			18-Mar-21			37					
P-SAB2321	Segment Section C10 -C13 Jointing wih Section C14/C15	108	0	27-Aug-20 A	01-Dec-20	12-Jan-21 A	18-Mar-21		100%		65	Segment Section C10 -C13 Jointing wih Section C14/C15																																			
P-SAB2361	Segment Section C10 - C17 Jointing wih Section C08/C09	12	0	05-Jan-21 A	13-Jan-21	14-Jan-21 A	24-Jan-21		100%		10	Segment Section C10 - C17 Jointing wih Section C08/C09																																			

█ Remaining Level of Effort █ Remaining Work ◆ Milestone
█ Primary Baseline █ Critical Remaining Work ▬ Summary
█ Actual Work ◆ Baseline Milestone

CRBC
Three Month Rolling Programme

Date	Revision	Checked	Approved
08-Feb-21	Monthly updated on 08 February 2021		

Contract No. NE/2017/07 Cross Bay Link, Tseng Kwan O - Main Bridge and Associated Works

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Planned Start	Finish	Planned Finish	Total Float	Activity % Complete	IRA	Balance to Finish (Lsd)	Gantt Chart											
												24	31	07	14	21	28	07	14	21	28	04	11
P-SAB2381	Segment Section C08 ~ C17 Jointing with Section C18 ~C20	12	0	28-Dec-20 A	13-Jan-21	09-Feb-21 A	24-Jan-21		100%		-16	Segment Section C08 ~ C17 Jointing with Section C18 ~C20											
P-SAB2401	Segment Section C08 ~ C20 Jointing with Section C07	8	0	09-Jan-21 A	14-Jan-21	17-Jan-21 A	21-Jan-21		100%		4	Segment Section C08 ~ C20 Jointing with Section C07											
P-SAB2421	Segment Section Arch Rib NG 19 & SG19 with Section C 21	20	0	20-Jan-21 A	13-Jan-21	03-Feb-21 A	01-Feb-21		100%		-2	Segment Section Arch Rib NG 19 & SG19 with Section C 21											
P-SAB2441	Segment Section C07 ~ C20 Jointing with Section C21	10	0	20-Jan-21 A	22-Jan-21	03-Feb-21 A	31-Jan-21		100%		-3	Segment Section C07 ~ C20 Jointing with Section C21											
Arch Rib Full Assembly Work		74	43	28-Dec-20 A	09-Jan-21	23-Mar-21	18-Mar-21		-100		-5	Arch Rib Full Assembly Work											
P-SAB1481	Erection and set up of Sub Assembly Frame for Steel Arch Rib	40	0	28-Dec-20 A	09-Jan-21	08-Feb-21 A	17-Feb-21		100%		9	Erection and set up of Sub Assembly Frame for Steel Arch Rib											
North Arch Rib Full Assembly and Jointing Work To Steel Deck		39	39	20-Jan-21 A	02-Feb-21	19-Mar-21	18-Mar-21		-96		-1	North Arch Rib Full Assembly and Jointing Work To Steel Deck											
P-SAB2501	Jointing of North Arch Rib NG01 to Steel Deck	24	0	20-Jan-21 A	02-Feb-21	03-Feb-21 A	25-Feb-21		100%		22	Jointing of North Arch Rib NG01 to Steel Deck											
P-SAB2521	Jointing of North Arch Rib NG14 ~ NG18 to Steel Deck	30	0	23-Jan-21 A	10-Feb-21	06-Feb-21 A	11-Mar-21		100%		33	Jointing of North Arch Rib NG14 ~ NG18 to Steel Deck											
P-SAB2541	Jointing of North Arch Rib NG02 ~ NG06 to Steel Deck and North Arch Rib	20	19	05-Feb-21 A	17-Feb-21	27-Feb-21	08-Mar-21		-96	5%	9	Jointing of North Arch Rib NG02 ~ NG06 to Steel Deck and North Arch Rib											
P-SAB2561	Jointing of North Arch Rib NG07 ~ NG13 to Steel Deck and North Arch Rib	20	20	28-Feb-21	27-Feb-21	19-Mar-21	18-Mar-21		-96	0%	-1	Jointing of North Arch Rib NG07 ~ NG13 to Steel Deck and North Arch Rib											
P-SAB3081	Touch Up Work for Arch Rib and Removal of Temporary Support	5	5	15-Mar-21	06-Mar-21	19-Mar-21	10-Mar-21		-96	0%	-9	Touch Up Work for Arch Rib and Removal of Temporary Support											
South Arch Rib Full Assembly and Jointing Work To Steel Deck		63	43	20-Jan-21 A	01-Feb-21	23-Mar-21	18-Mar-21		-100		-5	South Arch Rib Full Assembly and Jointing Work To Steel Deck											
P-SAB2601	Jointing of South Arch Rib SG01 to Steel Deck	15	0	20-Jan-21 A	01-Feb-21	03-Feb-21 A	24-Feb-21		100%		21	Jointing of South Arch Rib SG01 to Steel Deck											
P-SAB2621	Jointing of South Arch Rib SG14 ~ SG18 to Steel Deck	30	4	29-Jan-21 A	08-Feb-21	12-Feb-21	09-Mar-21		-100	86.67%	25	Jointing of South Arch Rib SG14 ~ SG18 to Steel Deck											
P-SAB2641	Jointing of South Arch Rib SG02 ~ SG06 to Steel Deck and South Arch Rib	20	19	05-Feb-21 A	15-Feb-21	03-Mar-21	06-Mar-21		-100	5%	3	Jointing of South Arch Rib SG02 ~ SG06 to Steel Deck and South Arch Rib											
P-SAB2661	Jointing of South Arch Rib SG07 ~ SG13 to Steel Deck and South Arch Rib	20	20	04-Mar-21	27-Feb-21	23-Mar-21	18-Mar-21		-100	0%	-5	Jointing of South Arch Rib SG07 ~ SG13 to Steel Deck and South Arch Rib											
P-SAB2681	Touch Up Work for Arch Rib and Removal of Temporary Support	5	5	19-Mar-21	06-Mar-21	23-Mar-21	10-Mar-21		-100	0%	-13	Touch Up Work for Arch Rib and Removal of Temporary Support											
Sub-Element Installation Work for Main Span		58	58	13-Feb-21	17-Feb-21	11-Apr-21	11-Apr-21		-100		0	Sub-Element Installation Work for Main Span											
P-SAB2701	Anemometer Installation	7	7	31-Mar-21	18-Mar-21	06-Apr-21	24-Mar-21		-99	0%	-13	Anemometer Installation											
P-SAB2721	Frame Support Installation for Roll Out and Delivery	10	10	29-Mar-21	11-Mar-21	07-Apr-21	20-Mar-21		-100	0%	-18	Frame Support Installation for Roll Out and Delivery											
P-SAB2741	Cable Stay Installation and Pre-Stressing	14	14	24-Mar-21	11-Mar-21	06-Apr-21	24-Mar-21		-99	0%	-13	Cable Stay Installation and Pre-Stressing											
P-SAB2761	Track Installation for the Inspection Gantry Maintenance Work	50	50	13-Feb-21	17-Feb-21	03-Apr-21	07-Apr-21		-96	0%	4	Track Installation for the Inspection Gantry Maintenance Work											
P-SAB2781	Steel Bridge Walkway Installation	50	50	13-Feb-21	17-Feb-21	03-Apr-21	07-Apr-21		-96	0%	4	Steel Bridge Walkway Installation											
P-SAB2801	Installation of Dehumidification System for Main Span	50	50	13-Feb-21	17-Feb-21	03-Apr-21	07-Apr-21		-96	0%	4	Installation of Dehumidification System for Main Span											
P-SAB2821	Remove/Release the Temporary Support and Roll out to Delivery Barge	4	4	08-Apr-21	08-Apr-21	11-Apr-21	11-Apr-21		-100	0%	0	Remove/Release the Temporary Support and Roll out to Delivery Barge											
Completion of the Main Deck		0	0	11-Apr-21	11-Apr-21	11-Apr-21	11-Apr-21		-100		0	Completion of the Main Deck											
P-SAB2841	Completion of the Main Deck Fabrication and Ready to Dispatch	0	0			11-Apr-21*	11-Apr-21		-100	0%	0	Completion of the Main Deck Fabrication and Ready to Dispatch											
Bridge Arch Rib		207	10	01-Jul-20 A	29-Aug-20	18-Feb-21	23-Mar-21		-87		33	Bridge Arch Rib											
Sand Blasting and Painting for Main Steel Bridge Arch Rib		34	0	05-Jan-21 A	09-Jan-21	30-Jan-21 A	11-Feb-21				12	Sand Blasting and Painting for Main Steel Bridge Arch Rib											
Sand Blasting and Internal Painting For South Arch Rib		31	0	05-Jan-21 A	09-Jan-21	30-Jan-21 A	08-Feb-21				9	Sand Blasting and Internal Painting For South Arch Rib											
P-SAB1681	Sand Blasting and Internal Painting For Section NG07 to NG13	24	0	06-Jan-21 A	16-Jan-21	30-Jan-21 A	08-Feb-21		100%		9	Sand Blasting and Internal Painting For Section NG07 to NG13											
P-SAB1682	Sand Blasting and Painting For Section NG19	10	0	05-Jan-21 A	09-Jan-21	19-Jan-21 A	18-Jan-21		100%		-1	Blasting and Painting For Section NG19											
P-SAB1683	Sand Blasting and Painting For Section NG01	15	0	05-Jan-21 A	25-Jan-21	19-Jan-21 A	08-Feb-21		100%		20	Sand Blasting and Painting For Section NG01											
Sand Blasting and Internal Painting For North Arch Rib		34	0	05-Jan-21 A	09-Jan-21	30-Jan-21 A	11-Feb-21				12	Sand Blasting and Internal Painting For North Arch Rib											
P-SAB1781	Sand Blasting and Internal Painting For Section SG07 to SG13	24	0	06-Jan-21 A	16-Jan-21	30-Jan-21 A	08-Feb-21		100%		9	Sand Blasting and Internal Painting For Section SG07 to SG13											
P-SAB1782	Sand Blasting and Painting For Section SG19	10	0	05-Jan-21 A	09-Jan-21	19-Jan-21 A	18-Jan-21		100%		-1	Blasting and Painting For Section SG19											
P-SAB1783	Sand Blasting and Painting For Section SG01	15	0	05-Jan-21 A	28-Jan-21	19-Jan-21 A	11-Feb-21		100%		23	Sand Blasting and Painting For Section SG01											
Segmental Arch Rib Jointing		72	0	14-Dec-20 A	11-Jan-21	07-Feb-21 A	23-Mar-21				44	Segmental Arch Rib Jointing											
South Arch Rib Segmental Jointing		67	0	14-Dec-20 A	16-Jan-21	07-Feb-21 A	23-Mar-21				44	South Arch Rib Segmental Jointing											
P-SAB1901	SG02 to SG06 Segmental Jointing	47	0	14-Dec-20 A	16-Jan-21	22-Jan-21 A	03-Mar-21		100%		40	SG02 to SG06 Segmental Jointing											
P-SAB1921	SG07 to SG13 Segmental Jointing	45	0	05-Jan-21 A	07-Feb-21	07-Feb-21 A	23-Mar-21		100%		44	SG07 to SG13 Segmental Jointing											
North Arch Rib Segmental Jointing		72	0	14-Dec-20 A	11-Jan-21	07-Feb-21 A	23-Mar-21				44	North Arch Rib Segmental Jointing											
P-SAB1841	NG02 to NG06 Segmental Jointing	47	0	14-Dec-20 A	11-Jan-21	22-Jan-21 A	26-Feb-21		100%		35	NG02 to NG06 Segmental Jointing											
P-SAB1861	NG07 to NG13 Segmental Jointing	45	0	05-Jan-21 A	07-Feb-21	07-Feb-21 A	23-Mar-21		100%		44	NG07 to NG13 Segmental Jointing											
Arch Rib External Painting		43	10	05-Jan-21 A	09-Jan-21	18-Feb-21	26-Feb-21		-87		8	Arch Rib External Painting											
External Painting For South Arch Rib		43	10	05-Jan-21 A	09-Jan-21	18-Feb-21	26-Feb-21		-87		8	External Painting For South Arch Rib											
P-SAB2021	External Painting For SG14 to SG18	15	0	05-Jan-21 A	09-Jan-21	13-Jan-21 A	23-Jan-21		100%		10	External Painting For SG14 to SG18											
P-SAB2041	External Painting For SG02 to SG06	15	0	23-Jan-21 A	26-Jan-21	01-Feb-21 A	09-Feb-21		100%		8	External Painting For SG02 to SG06											
P-SAB2061	External Painting For SG07 to SG13	12	10	08-Feb-21 A	15-Feb-21	18-Feb-21	26-Feb-21		-87	16.67%	8	External Painting For SG07 to SG13											
External Painting For North Arch Rib		43	10	05-Jan-21 A	09-Jan-21	18-Feb-21	26-Feb-21		-87		8	External Painting For North Arch Rib											
P-SAB1961	External Painting For NG14 to NG18	15	0	05-Jan-21 A	09-Jan-21	16-Jan-21 A	23-Jan-21		100%		7	External Painting For NG14 to NG18											
P-SAB1981	External Painting For NG02 to NG06	15	0	23-Jan-21 A	23-Jan-21	01-Feb-21 A	06-Feb-21		100%		5	External Painting For NG02 to NG06											
P-SAB2001	External Painting For NG07 to NG13	12	10	08-Feb-21 A	15-Feb-21	18-Feb-21	26-Feb-21		-87	16.67%	8	External Painting For NG07 to NG13											
Arch Rib Sub-Assembly Work		140	0	01-Jul-20 A	29-Aug-20	17-Jan-21 A	15-Jan-21				-2	Arch Rib Sub-Assembly Work											
North Arch Rib Sub-Assembly Work		126	0	01-Jul-20 A	12-Sep-20	17-Jan-21 A	15-Jan-21				-2	North Arch Rib Sub-Assembly Work											
P-SAB1461	Arch Rib Sub-Assembly for Section NG08 to NG12	126	0	01-Jul-20 A	12-Sep-20	17-Jan-21 A	15-Jan-21		100%		-2	Sub-Assembly for Section NG08 to NG12											
South Arch Rib Sub-Assembly Work		126	0	01-Jul-20 A	29-Aug-20	17-Jan-21 A	01-Jan-21				-16	South Arch Rib Sub-Assembly Work											
P-SAB1581	Arch Rib Sub-Assembly for Section SG08 to SG12	126	0	01-Jul-20 A	29-Aug-20	17-Jan-21 A	01-Jan-21		100%		-16	Sub-Assembly for Section SG08 to SG12											
Sides Span Fabrication		110	79	27-Dec-20 A	09-Jan-21	28-Apr-21	20-Apr-21		-93		-8	Sides Span Fabrication											

█ Remaining Level of Effort █ Remaining Work ◆ Milestone
█ Primary Baseline █ Critical Remaining Work ▶ Summary
█ Actual Work ◆ Baseline Milestone

CRBC
Three Month Rolling Programme

Date	Revision	Checked	Approved
08-Feb-21	Monthly updated on 08 February 2021		

Contract No. NE/2017/07 Cross Bay Link, Tseng Kwan O - Main Bridge and Associated Works

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Planned Start	Finish	Planned Finish	Total Cost	Activity % Complete	IRA	Balance - Finish Date	Gantt Chart											
												24	31	07	14	21	28	07	14	21	28	04	11
Sub-Assembly of Side Spans												Sub-Assembly of Side Spans											
P-SAB1181	Sub-Assembly Work for Section of C23 to C28 Main Deck of Steel bridge	57	16	29-Dec-20 A	17-Jan-21	24-Feb-21	14-Mar-21	-93	71.93%		18	Sub-Assembly Work for Section of C23 to C28 Main Deck of Steel bridge											
Full Assembly Work for Sides Span												Full Assembly Work for Sides Span											
East Side Span Assembly Work												East Side Span Assembly Work											
P-SAB2880	Frame Support Installation for Roll Out and Delivery	69	32	16-Jan-21 A	09-Jan-21	28-Apr-21	20-Apr-21	-93			-8	Frame Support Installation for Roll Out and Delivery											
P-SAB2881	Full Assembly and Touch up of East Side Span C01 to C06	14	0	16-Jan-21 A	09-Jan-21	28-Jan-21 A	22-Jan-21	-79	100%		-6	Full Assembly and Touch up of East Side Span C01 to C06											
West Side Span Assembly Work												West Side Span Assembly Work											
P-SAB2920	Frame Support Installation for Roll Out and Delivery	75	75	09-Feb-21	05-Feb-21	24-Apr-21	14-Apr-21	-93	0%		-10	Frame Support Installation for Roll Out and Delivery											
P-SAB2921	Full Assembly and Touch up of West Side Span C21 To C28	14	14	09-Feb-21	05-Feb-21	22-Feb-21	18-Feb-21	-82	0%		-4	Full Assembly and Touch up of West Side Span C21 To C28											
Sub-Element Installation Work for Sides Span												Sub-Element Installation Work for Sides Span											
P-SAB2961	Track Installation for the Inspection Gantry Maintenance Work	44	44	16-Mar-21	08-Mar-21	28-Apr-21	20-Apr-21	-93	0%		-8	Track Installation for the Inspection Gantry Maintenance Work											
P-SAB2981	Installation of Dehumidification System for Sides Spans	40	40	16-Mar-21	08-Mar-21	24-Apr-21	16-Apr-21	-93	0%		-8	Installation of Dehumidification System for Sides Spans											
P-SAB3001	Remove/Release the Temporary Support and Roll out to Delivery Barge	40	40	16-Mar-21	08-Mar-21	24-Apr-21	16-Apr-21	-93	0%		-8	Remove/Release the Temporary Support and Roll out to Delivery Barge											
Completion of the Sides Deck												Completion of the Sides Deck											
P-SAB3021	Completion of the Sides Span Fabrication and Ready to Dispatch	4	4	25-Apr-21	17-Apr-21	28-Apr-21	20-Apr-21	-93	0%		-8	Completion of the Sides Span Fabrication and Ready to Dispatch											
Sand Blasting and Painting For Side Span												Sand Blasting and Painting For Side Span											
P-SAB1241	Sand Blasting and Painting for the Steel Bridge of Section C01 to C07	0	0	28-Apr-21	20-Apr-21	28-Apr-21*	20-Apr-21	-93	0%		-8	Sand Blasting and Painting for the Steel Bridge of Section C01 to C07											
P-SAB1261	Sand Blasting and Painting for the Steel Bridge of Section C22 to C28	68	31	27-Dec-20 A	09-Jan-21	17-Mar-21	15-Mar-21	-93			-2	Sand Blasting and Painting for the Steel Bridge of Section C22 to C28											
Section 1 of the Works- All Works within Portion I of the Site (Entrusted Works of TKOI Viaduct)												Section 1 of the Works- All Works within Portion I of the Site (Entrusted Works of TKOI Viaduct)											
Bored Piling Works												Bored Piling Works											
Bored Piling Construction Group 1 - 2 Nos. Bored Piling Rig												Bored Piling Construction Group 1 - 2 Nos. Bored Piling Rig											
Bored Piling Construction for Pile 5B (Bridge S400) - 1no.Piling Rig												Bored Piling Construction for Pile 5B (Bridge S400) - 1no.Piling Rig											
S1-BP-10010	Piling Platform Erection for Bored Pile 5B	145	145	20-Feb-21	30-Jan-21	16-Jul-21	19-Jun-21	-27			-27	Piling Platform Erection for Bored Pile 5B											
S1-BP-10020	Bored Piling Construction for Pile 5B - Bridge S400 (2 Piles) - 1 Piling Rig	32	32	26-Feb-21	30-Jan-21	30-Mar-21	03-Mar-21	-27	0%		-27	Bored Piling Construction for Pile 5B - Bridge S400 (2 Piles) - 1 Piling Rig											
S1-BP-10030	Piling Platform dismantle from Pile 5B and relocate to Pile 5C	20	20	26-Feb-21	30-Jan-21	03-Mar-21	04-Feb-21	-27	0%		-27	Piling Platform dismantle from Pile 5B and relocate to Pile 5C											
Bored Pile Test												Bored Pile Test											
S1-BP-10210	Group 1 Bored Pile Test and Dismantle All Platform	7	7	23-Mar-21	24-Feb-21	30-Mar-21	03-Mar-21	-27	0%		-27	Group 1 Bored Pile Test and Dismantle All Platform											
Bored Piling Construction for Pile 9B (Bridge CT) - 1no.Piling Rig												Bored Piling Construction for Pile 9B (Bridge CT) - 1no.Piling Rig											
S1-BP-10040	Piling Platform Erection for Bored Pile 9B	100	100	07-Apr-21	11-Mar-21	16-Jul-21	19-Jun-21	-27	0%		-27	Piling Platform Erection for Bored Pile 9B											
S1-BP-10050	Bored Piling Construction for Pile 9B - Bridge CT (2Piles) - 1 Piling Rig	32	32	26-Feb-21	30-Jan-21	30-Mar-21	03-Mar-21	-27	0%		-27	Bored Piling Construction for Pile 9B - Bridge CT (2Piles) - 1 Piling Rig											
S1-BP-10060	Piling Platform dismantle from Pile 9B and relocate to Pile 9C	20	20	26-Feb-21	30-Jan-21	03-Mar-21	04-Feb-21	-27	0%		-27	Piling Platform dismantle from Pile 9B and relocate to Pile 9C											
Bored Piling Construction for Pile 5C (Bridge S400) - 1no.Piling Rig												Bored Piling Construction for Pile 5C (Bridge S400) - 1no.Piling Rig											
S1-BP-10070	Bored Piling Construction for Pile 5C - Bridge S400 (2 Piles) - 1 Piling Rig	27	27	30-Mar-21	03-Mar-21	26-Apr-21	30-Mar-21	-27	0%		-27	Bored Piling Construction for Pile 5C - Bridge S400 (2 Piles) - 1 Piling Rig											
S1-BP-10080	Piling Platform dismantle from Pile 5C and relocate to Pile 5H	20	20	30-Mar-21	03-Mar-21	19-Apr-21	23-Mar-21	-27	0%		-27	Piling Platform dismantle from Pile 5C and relocate to Pile 5H											
Bored Piling Construction for Pile 9C (Bridge CT) - 1no.Piling Rig												Bored Piling Construction for Pile 9C (Bridge CT) - 1no.Piling Rig											
S1-BP-10090	Bored Piling Construction for Pile 9C - Bridge CT (2 Piles) - 1 Piling Rig	27	27	30-Mar-21	03-Mar-21	26-Apr-21	30-Mar-21	-27	0%		-27	Bored Piling Construction for Pile 9C - Bridge CT (2 Piles) - 1 Piling Rig											
S1-BP-10100	Piling Platform dismantle from Pile 9C and relocate to Pile 9H	20	20	30-Mar-21	03-Mar-21	19-Apr-21	23-Mar-21	-27	0%		-27	Piling Platform dismantle from Pile 9C and relocate to Pile 9H											
Bored Piling Construction for Pile 5H (Bridge S400) - 1no.Piling Rig												Bored Piling Construction for Pile 5H (Bridge S400) - 1no.Piling Rig											
S1-BP-10110	Bored Piling Construction for Pile 5H - Bridge S400 (2 Piles) - 1 Piling Rig	20	20	26-Apr-21	30-Mar-21	16-May-21	19-Apr-21	-2	0%		-27	Bored Piling Construction for Pile 5H - Bridge S400 (2 Piles) - 1 Piling Rig											
Bored Piling Construction for Pile 9H (Bridge CT) - 1no.Piling Rig												Bored Piling Construction for Pile 9H (Bridge CT) - 1no.Piling Rig											
S1-BP-10130	Bored Piling Construction for Pile 9H - Bridge CT (2 Piles) - 1 Piling Rig	20	20	26-Apr-21	30-Mar-21	16-May-21	19-Apr-21	-27	0%		-27	Bored Piling Construction for Pile 9H - Bridge CT (2 Piles) - 1 Piling Rig											
Bored Piling Construction Group 2 - 2 Nos. Bored Piling Rig												Bored Piling Construction Group 2 - 2 Nos. Bored Piling Rig											
Bored Piling Construction for Pile 5D (Bridge S400) - 1no.Piling Rig												Bored Piling Construction for Pile 5D (Bridge S400) - 1no.Piling Rig											
S1-BP-10220	Piling Platform Erection for Bored Pile 5D	32	32	20-Feb-21	06-Feb-21	24-Mar-21	10-Mar-21	-15	0%		-15	Piling Platform Erection for Bored Pile 5D											
S1-BP-10230	Bored Piling Construction for Pile 5D - Bridge S400 (2 Piles) - 1 Piling Rig	5	5	20-Feb-21	06-Feb-21	25-Feb-21	11-Feb-21	-15	0%		-15	Bored Piling Construction for Pile 5D - Bridge S400 (2 Piles) - 1 Piling Rig											
S1-BP-10240	Piling Platform dismantle from Pile 5D and relocate to Pile 5E	20	20	25-Feb-21	11-Feb-21	17-Mar-21	03-Mar-21	-15	0%		-15	Piling Platform dismantle from Pile 5D and relocate to Pile 5E											
Bored Pile Test												Bored Pile Test											
S1-BP-10400	Group 2 Bored Pile Test and Dismantle All Platform	7	7	17-Mar-21	03-Mar-21	24-Mar-21	10-Mar-21	-15	0%		-15	Group 2 Bored Pile Test and Dismantle All Platform											
Bored Piling Construction for Pile 9D (Bridge CT) - 1no.Piling Rig												Bored Piling Construction for Pile 9D (Bridge CT) - 1no.Piling Rig											
S1-BP-10250	Piling Platform Erection for Bored Pile 9D	100	100	18-Mar-21	19-Feb-21	26-Jun-21	30-May-21	-22	0%		-28	Piling Platform Erection for Bored Pile 9D											
S1-BP-10260	Bored Piling Construction for Pile 9D - Bridge CT (2 Piles) - 1 Piling Rig	32	32	05-Mar-21	06-Feb-21	06-Apr-21	10-Mar-21	-28	0%		-28	Bored Piling Construction for Pile 9D - Bridge CT (2 Piles) - 1 Piling Rig											
S1-BP-10270	Piling Platform dismantle from Pile 9D and relocate to Pile 9E	20	20	05-Mar-21	06-Feb-21	10-Mar-21	11-Feb-21	-28	0%		-28	Piling Platform dismantle from Pile 9D and relocate to Pile 9E											
Bored Piling Construction for Pile 5E (Bridge S400) - 1no.Piling Rig												Bored Piling Construction for Pile 5E (Bridge S400) - 1no.Piling Rig											
S1-BP-10280	Bored Piling Construction for Pile 5E - Bridge S400 (2 Piles) - 1 Piling Rig	27	27	24-Mar-21	10-Mar-21	20-Apr-21	06-Apr-21	-15	0%		-15	Bored Piling Construction for Pile 5E - Bridge S400 (2 Piles) - 1 Piling Rig											
S1-BP-10290	Piling Platform dismantle from Pile 5E and relocate to Pile 5F	20	20	24-Mar-21	10-Mar-21	13-Apr-21	30-Mar-21	-15	0%		-15	Piling Platform dismantle from Pile 5E and relocate to Pile 5F											
Bored Piling Construction for Pile 9E (Bridge CT) - 1no.Piling Rig												Bored Piling Construction for Pile 9E (Bridge CT) - 1no.Piling Rig											
S1-BP-10300	Bored Piling Construction for Pile 9E - Bridge S400 (2 Piles) - 1 Piling Rig	27	27	06-Apr-21	10-Mar-21	03-May-21	06-Apr-21	-28	0%		-28	Bored Piling Construction for Pile 9E - Bridge S400 (2 Piles) - 1 Piling Rig											
S1-BP-10310	Piling Platform dismantle from Pile 9E and relocate to Pile 9F	20	20	06-Apr-21	10-Mar-21	26-Apr-21	30-Mar-21	-28	0%		-28	Piling Platform dismantle from Pile 9E and relocate to Pile 9F											
Bored Piling Construction for Pile 5F (Bridge S400) - 1no.Piling Rig												Bored Piling Construction for Pile 5F (Bridge S400) - 1no.Piling Rig											
S1-BP-10320	Bored Piling Construction for Pile 5F - Bridge CT (2 Piles) - 1 Piling Rig	20	20	20-Apr-21	06-Apr-21	10-May-21	26-Apr-21	-14	0%		-15	Bored Piling Construction for Pile 5F - Bridge CT (2 Piles) - 1 Piling Rig											

■ Remaining Level of Effort ■ Remaining Work ◆ Milestone
■ Primary Baseline ■ Critical Remaining Work ▶ Summary
■ Actual Work ◆ Baseline Milestone

CRBC
Three Month Rolling Programme

Date	Revision	Checked	Approved
08-Feb-21	Monthly updated on 08 February 2021		

Contract No. NE/2017/07 Cross Bay Link, Tseng Kwan O - Main Bridge and Associated Works

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Planned Start	Finish	Planned Finish	Total Float	Activity % Complete	IRA	Balance -> Finish (Lst)	Gantt Chart											
												24	31	07	14	21	28	07	14	21	28	04	11
S1-PD-10310	Pre-Drilling for Pile 9E (2 holes) Bridge CT - 2 Drilling Rigs	14	7	05-Feb-21 A	06-Feb-21	12-Mar-21	20-Feb-21	41	50%		-21	Pre-Drilling for Pile 9E (2 holes) Bridge CT - 2 Drilling Rigs											
S1-PD-10320	Dismantle Platform and Pre-Drilling Rig from Pile 9E and Relocate to Pile 9G	5	3	06-Feb-21 A	20-Feb-21	15-Mar-21	25-Feb-21	41	40%		-19	Dismantle Platform and Pre-Drilling Rig from Pile 9E and Relocate to Pile 9G											
Pre -Drilling for Pier 5G (Bridge S400)- 1 No. Drilling Rig																							
S1-PD-10330	Pre-Drilling for Pile 5G (2 holes) Bridge S400 - 1 Drilling Rig	14	0	16-Jan-21 A	25-Feb-21	23-Jan-21 A	11-Mar-21		100%		46	Pre-Drilling for Pile 5G (2 holes) Bridge S400 - 1 Drilling Rig											
S1-PD-10340	Dismantle Platform and Pre-Drilling Rig from Pile 5G and Relocate to Pile 2K	5	0	20-Jan-21 A	11-Mar-21	25-Jan-21 A	16-Mar-21		100%		49	Dismantle Platform and Pre-Drilling Rig from Pile 5G and Relocate to Pile 2K											
Pre -Drilling for Pier 9G (Bridge CT) - 1 No. Drilling Rig																							
S1-PD-10350	Pre-Drilling for Pile 9G (2 holes) Bridge CT - 1 Drilling Rigs	14	0	16-Jan-21 A	25-Feb-21	26-Jan-21 A	11-Mar-21		100%		43	Pre-Drilling for Pile 9G (2 holes) Bridge CT - 1 Drilling Rigs											
S1-PD-10360	Dismantle Platform and Pre-Drilling Rig from Pile 9G and Relocate to Pile 2K	5	0	21-Jan-21 A	11-Mar-21	27-Jan-21 A	16-Mar-21		100%		47	Dismantle Platform and Pre-Drilling Rig from Pile 9G and Relocate to Pile 2K											
Pre -Drilling for Pier 2K (Bridge ML) - 2 No. Drilling Rig																							
S1-PD-10370	Pre-Drilling for Pile 2K (2 holes) Bridge CT - 2 Drilling Rigs	7	6	04-Feb-21 A	16-Mar-21	21-Mar-21	25-Mar-21	55	42.86%		3	Pre-Drilling for Pile 2K (2 holes) Bridge CT - 2 Drilling Rigs											
S1-PD-10380	Dismantle Platform of Pre-Drill Pile 2K	2	2	06-Feb-21 A	23-Mar-21	21-Mar-21	25-Mar-21	55	0%		3	Dismantle Platform of Pre-Drill Pile 2K											
Section 2 of Works-All Works within Portion II,III,IV and VI																							
CBL Main Bridge and Marine Viaduct																							
Pier (Precast Pier under CSD)																							
Pier Erection with Crane Barge 1000 Tons																							
Pier W2																							
S2-PR3040	Installation of Pier -W2	4	0	13-Jan-21 A	09-Jan-21	05-Mar-21	04-Feb-21	-34	100%	0	-22	Pier -W2											
S2-PR3060	Rebar fixing and 2nd stage Concreting for connection between pier and pile cap -W2	14	0	14-Jan-21 A	14-Jan-21	21-Jan-21 A	29-Jan-21		100%	0	7	Rebar fixing and 2nd stage Concreting for connection between pier and pile cap -W2											
S2-PR3070	Rebar Fixing and 2nd Stage of Cross Beam Construction - W2	10	14	22-Jan-21 A		27-Feb-21		-34	0%	0		Rebar Fixing and 2nd Stage of Cross Beam Construction - W2											
S2-PR3080	Installation of temp. bearing/jacking system -W2	5	5	01-Mar-21	30-Jan-21	05-Mar-21	04-Feb-21	-34	0%	0	-22	Installation of temp. bearing/jacking system -W2											
Pier E2																							
S2-PR3360	Installation of Pier -E2	4	0	16-Jan-21 A	09-Jan-21	16-Jan-21 A	13-Jan-21		100%	0	-3	Installation of Pier -E2											
S2-PR3380	Rebar fixing and 2nd stage Concreting for connection between pier and pile cap -E2	14	0	18-Jan-21 A	14-Jan-21	23-Jan-21 A	29-Jan-21		100%	0	5	Rebar fixing and 2nd stage Concreting for connection between pier and pile cap -E2											
S2-PR3390	Rebar Fixing and 2nd Stage of Cross Beam Construction - E2	10	10	09-Feb-21		23-Feb-21		-30	0%	0		Rebar Fixing and 2nd Stage of Cross Beam Construction - E2											
S2-PR3400	Installation of temp. bearing/ jacking system-E2	5	5	24-Feb-21	30-Jan-21	01-Mar-21	04-Feb-21	-30	0%	0	-18	Installation of temp. bearing/ jacking system-E2											
Pier Erection with crane barge 4000 Tons																							
Pier W5																							
S2-PR3300	Installation of Pier -W5	4	4	09-Feb-21	22-Feb-21	27-Mar-21	09-Apr-21	6	0%	0	8	Installation of Pier -W5											
S2-PR3320	Rebar fixing and 2nd stage Concreting for connection between pier and pile cap -W5	19	19	17-Feb-21	26-Feb-21	10-Mar-21	19-Mar-21	6	0%	0	8	Rebar fixing and 2nd stage Concreting for connection between pier and pile cap -W5											
S2-PR3330	In-situ concrete infill for cross beam -W5	10	10	11-Mar-21	20-Mar-21	22-Mar-21	31-Mar-21	6	0%	0	8	In-situ concrete infill for cross beam -W5											
S2-PR3340	Installation of temp. Bearing/jacking system -W5	5	5	23-Mar-21	01-Apr-21	27-Mar-21	09-Apr-21	6	0%	0	8	Installation of temp. Bearing/jacking system -W5											
Concrete Bridge Decks																							
Delivery and Erection of Precast Girder for Marine Viaduct																							
Remaining Works of East Side of Precast Girder																							
S2-CB2950	Construction of in-situ diaphragm at Pier E3 ,Pier E4,Pier E5,Pier E6	160	34	20-Oct-20 A	24-Feb-21	02-Jun-21	06-Sep-21	-12	78.75%	0	80	Construction of in-situ diaphragm at Pier E3 ,Pier E4,Pier E5,Pier E6											
SE7-A																							
S2-CB2320	Preparation Work, Roll Out and Delivery of Precast Box Girder Span E7 - Abut. EA(South Deck)	11	11	08-Apr-21	11-Mar-21	04-May-21	08-Apr-21	-12	0%	0	-21	Preparation Work, Roll Out and Delivery of Precast Box											
S2-CB2330	Erection of precast girder for span E7 - Abutment EA(South Deck)	1	1	21-Apr-21	24-Mar-21	21-Apr-21	24-Mar-21	-12	0%	0	-21	Erection of precast girder for span E7 - Abutment EA(S											
S2-CB2340	Remove Supporting Beam and Delivery Barge Return to Factory	10	10	22-Apr-21	25-Mar-21	04-May-21	08-Apr-21	-12	0%	0	-21	Remove Supporting Beam and Delivery Barge Return to Factory											
NE3-4																							
S2-CB2350	Preparation Work, Roll Out and Delivery of Precast Box Girder Span E3 - E4 (North Deck)	11	11	09-Feb-21	09-Jan-21	24-Feb-21	21-Jan-21	-12	0%	0	-26	Preparation Work, Roll Out and Delivery of Precast Box Girder Span E3 - E4 (North Deck)											
S2-CB2360	Erection of Precast Girder for Span E3 - E4 (North Deck)	1	1	25-Feb-21	28-Jan-21	25-Feb-21	28-Jan-21	-12	0%	0	-21	Erection of Precast Girder for Span E3 - E4 (North Deck)											
S2-CB2370	Remove Supporting Beam and Delivery Barge Return to Factory	10	10	26-Feb-21	29-Jan-21	09-Mar-21	09-Feb-21	-12	0%	0	-21	Remove Supporting Beam and Delivery Barge Return to Factory											
NE2-3																							
S2-CB2410	Preparation Work, Roll Out and Delivery of Precast Box Girder Span E2 - E3(North Deck)	11	11	10-Mar-21	10-Feb-21	22-Mar-21	25-Feb-21	-12	0%	0	-21	Preparation Work, Roll Out and Delivery of Precast Box Girder Span E2 - E3(North Deck)											
S2-CB2420	Erection of Precast Girder for Span E2 - E3(North Deck)	1	1	23-Mar-21	26-Feb-21	23-Mar-21	26-Feb-21	-12	0%	0	-21	Erection of Precast Girder for Span E2 - E3(North Deck)											
S2-CB2430	Remove Supporting Beam and Delivery Barge Return to Factory	10	10	24-Mar-21	27-Feb-21	07-Apr-21	10-Mar-21	-12	0%	0	-21	Remove Supporting Beam and Delivery Barge Return to Factory											
SE2-3																							
S2-CB2440	Preparation Work, Roll Out and Delivery of Precast Box Girder Span E2 - E3 (South Deck)	11	11	11-Mar-21	11-Feb-21	23-Mar-21	26-Feb-21	-12	0%	0	-21	Preparation Work, Roll Out and Delivery of Precast Box Girder Span E2 - E3 (South Deck)											
S2-CB2450	Erection of Precast Girder for Span E2 - E3 (South Deck)	1	1	24-Mar-21	27-Feb-21	24-Mar-21	27-Feb-21	-12	0%	0	-21	Erection of Precast Girder for Span E2 - E3 (South Deck)											
S2-CB2460	Remove Supporting Beam and Delivery Barge Return to Factory	10	10	25-Mar-21	01-Mar-21	08-Apr-21	11-Mar-21	-12	0%	0	-21	Remove Supporting Beam and Delivery Barge Return to Factory											
NW3-2																							
S2-CB2470	Preparation Work, Roll Out and Delivery of Precast Box Girder Span W2 - W3 (North Deck)	11	11	06-May-21	23-Apr-21	18-May-21	06-May-21	-12	0%	0	-10	Preparation Work, Roll Out and Delivery of Precast Box											
SW5-4																							
S2-CB2530	Preparation Work, Roll Out and Delivery of Precast Box Girder Span W4 - W5 (South Deck)	1	1	05-May-21	09-Apr-21	05-May-21	09-Apr-21	-12	0%	0	-21	Preparation Work, Roll Out and Delivery of Precast Box											
S2-CB2540	Erection of Precast Girder for Span W4 - W5 (South Deck)	1	1	06-May-21	12-Apr-21	06-May-21	12-Apr-21	-12	0%	0	-20	Erection of Precast Girder for Span W4 - W5 (South Deck)											
S2-CB2550	Remove Supporting Beam and Delivery Barge Return to Factory	10	10	07-May-21	13-Apr-21	18-May-21	23-Apr-21	-12	0%	0	-20	Remove Support											
SE3-4																							
S2-CB2380	Preparation Work, Roll Out and Delivery of Precast Box Girder Span E3 - E4 (South Deck)	11	11	09-Feb-21	09-Jan-21	24-Feb-21	21-Jan-21	-11	0%	0	-26	Preparation Work, Roll Out and Delivery of Precast Box Girder Span E3 - E4 (South Deck)											

■ Remaining Level of Effort ■ Remaining Work ■ Critical Remaining Work
■ Primary Baseline ■ Baseline Milestone
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◆ Milestone ▶ Summary

CRBC
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Date	Revision	Checked	Approved
08-Feb-21	Monthly updated on 08 February 2021		

Contract No. NE/2017/07 Cross Bay Link, Tseng Kwan O - Main Bridge and Associated Works

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Planned Start	Finish	Planned Finish	Total Float	Activity % Complete	IRA	Balance to Finish (Lst)	Gantt Chart (Timeline)											
												24	31	07	14	21	28	07	14	21	28	04	11
S2-CB2390	Erection of Precast Girder for Span E3 - E4 (South Deck)	1	1	26-Feb-21	29-Jan-21	26-Feb-21	29-Jan-21	-12	0%	0	-21	Erection of Precast Girder for Span E3 - E4 (South Deck)											
S2-CB2400	Remove Supporting Beam and Delivery Barge Return to Factory	10	10	27-Feb-21	30-Jan-21	10-Mar-21	10-Feb-21	-12	0%	0	-21	Remove Supporting Beam and Delivery Barge Return to Factory											
Remaining Works of West Side of Precast Girder																							
S2-CB2722	Construction of in-situ diaphragm at Pier W3 and Pier W4	28	28	28-Apr-21	16-Apr-21	01-Jun-21	20-May-21	-11	0%	0	-10	Construction of in-situ diaphragm at Pier W3 and Pier W4											
Crane Barge Mobilisation For 2nd BaachConcrete Deck Installation																							
S2-CB3000	Mobilization of crane barge (~4000T) for 2nd barge of concrete Deck Installation ** Assume 15/2/2021	0	0	16-Feb-21	28-Jan-21	16-Feb-21	28-Jan-21	-4	0%	0	-13	Mobilization of crane barge (~4000T) for 2nd barge of concrete Deck Installation ** Assume 15/2/2021											
NW5-4																							
S2-CB2290	Preparation Work, Roll Out and Delivery of Precast Box Girder Span W4 - W5 (North Deck)	11	11	09-Apr-21	12-Mar-21	05-May-21	22-Apr-21	-12	0%	0	-10	Preparation Work, Roll Out and Delivery of Precast Box Girder Span W4 - W5 (North Deck)											
S2-CB2300	Erection of Precast Girder for Span W4 - W5 (North Deck)	1	1	22-Apr-21	10-Apr-21	22-Apr-21	10-Apr-21	-12	0%	0	-10	Erection of Precast Girder for Span W4 - W5 (North Deck)											
S2-CB2310	Remove Supporting Beam and Delivery Barge Return to Factory	10	10	23-Apr-21	12-Apr-21	05-May-21	22-Apr-21	-12	0%	0	-10	Remove Supporting Beam and Delivery Barge Return to Factory											
Procurement and Delivery																							
S2-CB2485	Procurement and delivery of bearing system	180	54	28-Oct-19 A	09-Jul-20	19-Apr-21	10-Feb-21	50	70%	0	-52	Procurement and delivery of bearing system											
S2-CB2486	Procurement and delivery of fabricated movement joints	180	89	20-Oct-20 A	09-Nov-20	01-Jun-21	19-Jun-21	0	50.56%	0	15	Procurement and delivery of fabricated movement joints											
S2-CB2488	Procurement and delivery of bituminous materials	180	138	03-Sep-20 A	02-Jan-21	30-Jul-21	11-Aug-21	0	23.33%	0	10	Procurement and delivery of bituminous materials											
Steel Bridge																							
Main Span (Steel) and Arch Ribs																							
Erection of Steel Arch Bridge																							
S2-MS2060	Positioning of Main Steel Arch Bridge	10	10	04-May-21	04-May-21	14-May-21	14-May-21	-78	0%	0	0	Positioning of Main Steel Arch Bridge											
Sea Transportation of Steel Arch Bridge																							
S2-MS2001	Divert the navigation channel from W1-E1 to W1-W2 and E1-E2	10	10	21-Apr-21	21-Apr-21	03-May-21	03-May-21	-78	0%	0	0	Divert the navigation channel from W1-E1 to W1-W2 and E1-E2											
S2-MS2020	Load-Out MainSteel Arch Bridge To Delivery Barge	12	12	12-Apr-21	12-Apr-21	23-Apr-21	23-Apr-21	-100	0%	0	0	Load-Out MainSteel Arch Bridge To Delivery Barge											
S2-MS2040	Delivery the MainSteel Arch Bridge from Factory to Hong Kong	10	10	24-Apr-21	24-Apr-21	03-May-21	03-May-21	-100	0%	2.7	0	Delivery the MainSteel Arch Bridge from Factory to Hong Kong											
Side Span Deck(Steel)																							
West Side Span Deck																							
S2-SS2000	Installation of temporary support bracket at Pier W2	18	18	16-Mar-21	16-Feb-21	08-Apr-21	08-Mar-21	-42	0%	0	-24	Installation of temporary support bracket at Pier W2											
S2-SS2005	Installation of Temporary Support Tower at Pier W1	18	18	09-Feb-21	09-Jan-21	04-Mar-21	29-Jan-21	-31	0%	0	-26	Installation of Temporary Support Tower at Pier W1											
East Side Span Deck																							
S2-SS2105	Installation of temporary support bracket at Pier E2	18	18	02-Mar-21	05-Feb-21	22-Mar-21	01-Mar-21	-30	0%	0	-18	Installation of temporary support bracket at Pier E2											
S2-SS2110	Installation of Temporary Support Tower at Pier E1	18	18	09-Feb-21	09-Jan-21	04-Mar-21	29-Jan-21	-31	0%	0	-26	Installation of Temporary Support Tower at Pier E1											
Pier (In-situ Pier under Conforming Design)																							
Pier W1																							
S2-PR3910	Installation of temporary Bearing/ Jacking System and Access Ladder	18	0	06-Jan-21 A	27-Jan-21	02-Mar-21	16-Feb-21	50	100%	0	-12	Installation of temporary Bearing/ Jacking System and Access Ladder											
S2-PR3920	Construction of Decoration wall 2 (WIC) include installation of the prefabrication Decoration Wall- W1	15	16	06-Jan-21 A	27-Jan-21	02-Mar-21	16-Feb-21	50	0%	0	-12	Construction of Decoration wall 2 (WIC) include installation of the prefabrication Decoration Wall- W1											
Pier E1																							
S2-PR3520	Installation of temporary Bearing/ Jacking System and Access Ladder	18	0	18-Jan-21 A	09-Jan-21	02-Mar-21	29-Jan-21	5	100%	0	-24	Installation of temporary Bearing/ Jacking System and Access Ladder											
S2-PR3530	Construction of Decoration wall 2 (E1C) - include installation of the prefabrication Decoration Wall- E1	15	16	24-Dec-20 A	09-Jan-21	02-Mar-21	29-Jan-21	5	0%	0	-24	Construction of Decoration wall 2 (E1C) - include installation of the prefabrication Decoration Wall- E1											
Section 5 of the Works-All Works within Portion V (CBL E&M Plantroom)																							
ABWF Work																							
S5-PR2080	ABWF Work and EVA Routing	131	0	22-Jan-20 A	10-Feb-20	20-Jan-21 A	20-Jul-20		100%	0	-152	ABWF Work and EVA Routing											
Remianing Work																							
S5-PR2120	External works (including landscaping)	90	75	30-Jul-20 A	07-Sep-20	14-May-21	23-Dec-20	101	16.67%	0	-112	External works (including landscaping)											
S5-PR2200	Water works,plumbing and drainage works	60	50	30-Jul-20 A	24-Dec-20	15-Jul-21	10-Mar-21	101	16.67%	0	-102	Water works,plumbing and drainage works											
Milestone and Key Date related to KDS																							
S5-PR2260	Completion of Key Date 1 of the Works	0	0			20-Jan-21 A	22-Jan-21		100%	0	2	Completion of Key Date 1 of the Works											
S5-PR2280	Key Date 1	0	0			20-Jan-21 A	22-Jan-21		100%	0	2	Key Date 1											
Major Services System																							
Electrical System																							
UPS Room																							
S5-PR2580	UPS Installation (Including E&M Work)	100	100	09-Feb-21	18-Feb-21	15-Jun-21	21-Jun-21	123	0%	0	5	UPS Installation (Including E&M Work)											
Generator Room																							
S5-PR2500	Generator Installation (Including E&M Work)	90	90	09-Feb-21	18-Feb-21	02-Jun-21	08-Jun-21	133	0%	0	5	Generator Installation (Including E&M Work)											
S5-PR2550	EPD Submission and Approval	56	56	09-Feb-21	15-Jan-21	21-Apr-21	24-Mar-21	170	0%	0	-21	EPD Submission and Approval											
Fire Services System																							
Statutory Submission																							
S5-PR2680	Completion of All Necessary FSD Requirement and Submission of FSI/314 and FSI/501 to FSD	14	0	20-Jan-21 A	09-Jan-21	20-Jan-21 A	22-Jan-21		100%	0	2	Completion of All Necessary FSD Requirement and Submission of FSI/314 and FSI/501 to FSD											
Statutory Inspection																							
S5-PR2800	WSD Inspection	14	14	09-Feb-21	09-Jan-21	27-Feb-21	08-Feb-21	212	0%	0	-14	WSD Inspection											
S5-PR2820	FSD Inspection	14	14	09-Feb-21	23-Jan-21	27-Feb-21	08-Feb-21	212	0%	0	-14	FSD Inspection											
S5-PR3020	Accomplish of FS Work	0	0			27-Feb-21	08-Feb-21	212	0%	0	-14	Accomplish of FS Work											
MVAC System																							
Installation of MVAC System																							
		140	39	28-Sep-20 A	09-Oct-20	29-Mar-21	26-Feb-21	187			-26	Installation of MVAC System											

█ Remaining Level of Effort █ Remaining Work ◆ ◆ Milestone
█ Primary Baseline █ Critical Remaining Work ◆ ◆ Baseline Milestone
█ Actual Work ◆ ◆ Milestone ◆ ◆ Baseline Milestone

CRBC

Three Month Rolling Programme

Date	Revision	Checked	Approved
08-Feb-21	Monthly updated on 08 February 2021		

Contract No. NE/2017/07 Cross Bay Link, Tseng Kwan O - Main Bridge and Associated Works

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Planned Start	Finish	Planned Finish	Total Float	Activity % Complete	TRA	Balance -> Finish -> Day	February 2021							March 2021					April 2021				May 2021				
												24	31	07	14	21	28	07	14	21	28	04	11	18	25	02	09	16	23	30		
S5-PR2840	MVAC Installation Work	70	21	28-Sep-20 A	09-Oct-20	08-Mar-21	02-Jan-21	187	70%	0	-52																					
S5-PR2900	MVAC Testing and Commissioning	18	18	09-Mar-21	03-Feb-21	29-Mar-21	26-Feb-21	187	0%	0	-26																					
S5-PR2920	Accomplish of MVAC Installation	0	0			29-Mar-21	26-Feb-21	187	0%	0	-26																					

Remaining Level of Effort	Remaining Work	Milestone
Primary Baseline	Critical Remaining Work	Summary
Actual Work	Baseline Milestone	

CRBC
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Contract 2

Activity ID	Activity Name	Original Duration	Actual Duration	Remaining Duration	Calendar	Start	Finish	Late Start	Late Finish	Total Float	TRA	Activity % Complete	2020		2021	
													Q4		Q1	
MPU20201108	NE/2017/08 Programme Update (Nov 2020)	939.0	549.0	493.0		02-Jan-19 A	11-Jul-22	31-Jul-20	28-Mar-22	-82.5						
MPU20201108.2	Design and Method Statement, Material Submissions	264.0	147.0	117.0	(7days)	15-Jun-20 A	05-Mar-21	28-Sep-20	23-Jul-21	139.5						
MPU20201108.2.1	Contractor's Design	128.0	34.0	94.0	(7days)	06-Oct-20 A	10-Feb-21	28-Sep-20	24-May-21	103.0						
MPU20201108.2.1.3	Design of Noise Enclosure Structural Steek Works	21.0	4.0	7.0	(7days)	05-Nov-20 A	15-Nov-20	28-Sep-20	05-Oct-20	-41.5						
PD1093	Review and Acceptance of Design of Noise Enclosure Structural Steel Works (Rev.B)	21.0	4.0	7.0	(7days)	05-Nov-20 A	15-Nov-20	28-Sep-20	05-Oct-20	-41.5	0	66.67%				
MPU20201108.2.1.7	Design of Noise Enclosure Transparent Panels	21.0	34.0	1.0	(7days)	06-Oct-20 A	09-Nov-20	04-Feb-21	05-Feb-21	87.5						
PD1110	Review and Acceptance of Design of Noise Enclosure Transparent Panels by PM (Rev. B)	21.0	34.0	1.0	(7days)	06-Oct-20 A	09-Nov-20	04-Feb-21	05-Feb-21	87.5	0	95.24%				
MPU20201108.2.1.4	Design of E&M Works for Lift Installation	63.0	0.0	63.0	(7days)	10-Dec-20	10-Feb-21	23-Mar-21	24-May-21	103.0						
PD1040	Prepare and Submission of Design of E&M Works for Lift Installation	21.0	0.0	21.0	(7days)	10-Dec-20	30-Dec-20	23-Mar-21	12-Apr-21	103.0	0	0%				
PD1043	Review and Acceptance of E&M Works for Lift Installation (21D for PM Acceptance)	21.0	0.0	21.0	(7days)	31-Dec-20	20-Jan-21	13-Apr-21	03-May-21	103.0	0	0%				
PD1047	Review and Acceptance of E&M Works for Lift Installation (21D for HyD Acceptance)	21.0	0.0	21.0	(7days)	21-Jan-21	10-Feb-21	04-May-21	24-May-21	103.0	0	0%				
MPU20201108.2.2	Temporary Works Design	114.0	18.0	96.0	(7days)	22-Oct-20 A	12-Feb-21	14-Oct-20	11-May-21	88.0						
MPU20201108.2.2.22	Temporary Working Platform for Seawall Modification Type II	21.0	18.0	3.0	(7days)	22-Oct-20 A	11-Nov-20	14-Oct-20	17-Oct-20	-25.5						
TW1520	Review and Acceptance of Temp. Working Platform for Seawall Modification Type 2 (21D for PM Acceptance)	21.0	18.0	3.0	(7days)	22-Oct-20 A	11-Nov-20	14-Oct-20	17-Oct-20	-25.5	0	85.71%				
MPU20201108.2.2.21	Formwork Design for Seawall Modification Type I	35.0	0.0	35.0	(7days)	09-Nov-20	13-Dec-20	25-Jan-21	01-Mar-21	77.5						
TW1490	Prepare and Submission of Formwork Design for Seawall Modification Type 1	14.0	0.0	14.0	(7days)	09-Nov-20	22-Nov-20	25-Jan-21	08-Feb-21	77.5	0	0%				
TW1500	Review and Acceptance of Formwork Design for Seawall Modification Type 1 (21D for PM Acceptance)	21.0	0.0	21.0	(7days)	23-Nov-20	13-Dec-20	08-Feb-21	01-Mar-21	77.5	0	0%				
MPU20201108.2.2.16	Formwork Design for Elevated Cycle Track Decking	35.0	0.0	35.0	(7days)	21-Dec-20	24-Jan-21	07-Apr-21	11-May-21	107.0						
TW1390	Prepare and Submission of Formwork Design for Elevated Cycle Track Decking	14.0	0.0	14.0	(7days)	21-Dec-20	03-Jan-21	07-Apr-21	20-Apr-21	107.0	0	0%				
TW1400	Review and Acceptance of Formwork Design for Elevated Cycle Track Decking (21D for PM Acceptance)	21.0	0.0	21.0	(7days)	04-Jan-21	24-Jan-21	21-Apr-21	11-May-21	107.0	0	0%				
MPU20201108.2.2.8	Formwork Design for Elevated Deck Beams/Slab	35.0	0.0	35.0	(7days)	09-Nov-20	13-Dec-20	19-Dec-20	23-Jan-21	40.5						
TW1230	Prepare and Submission of Formwork Design for Elevated Beams/Slab	14.0	0.0	14.0	(7days)	09-Nov-20*	22-Nov-20	19-Dec-20	02-Jan-21	40.5	0	0%				
TW1240	Review and Acceptance of Formwork Design for Elevated Beams/Slab (21D for PM Acceptance)	21.0	0.0	21.0	(7days)	23-Nov-20	13-Dec-20	02-Jan-21	23-Jan-21	40.5	0	0%				
MPU20201108.2.2.15	Formwork Design for Elevated Cycle Track Columns	29.0	7.0	22.0	(7days)	02-Nov-20 A	30-Nov-20	05-Feb-21	26-Feb-21	88.0						
TW1370	Prepare and Submission of Formwork Design for Elevated Cycle Track Columns	14.0	7.0	1.0	(7days)	02-Nov-20 A	09-Nov-20	05-Feb-21	05-Feb-21	88.0	0	92.86%				
TW1380	Review and Acceptance of Formwork Design for Elevated Cycle Track Columns (21D for PM Acceptance)	21.0	0.0	21.0	(7days)	10-Nov-20	30-Nov-20	06-Feb-21	26-Feb-21	88.0	0	0%				
MPU20201108.2.2.13	Formwork and Falsework Design for Construction of Lift Tower	14.0	0.0	14.0	(7days)	30-Jan-21	12-Feb-21	20-Apr-21	03-May-21	80.0						
TW1330	Prepare and Submission of Formwork Design for Lift Tower	14.0	0.0	14.0	(7days)	30-Jan-21	12-Feb-21	20-Apr-21	03-May-21	80.0	0	0%				
MPU20201108.2.3	Method Statement for Major Construction Works	137.0	20.0	117.0	(7days)	20-Oct-20 A	05-Mar-21	07-Oct-20	24-May-21	80.0						
MPU20201108.2.3.10	Construction of Lift Tower	36.0	0.0	36.0	(7days)	29-Jan-21	05-Mar-21	20-Apr-21	24-May-21	80.0						
MS1100	Prepare and Submission of Method Statement for Construction of Lift Tower (21D for PM Acceptance)	35.0	0.0	35.0	(7days)	30-Jan-21	05-Mar-21	20-Apr-21	24-May-21	80.0	0	0%				
MS1150	Prepare and Submission of Method Statement for Installation of Lift (21D for PM Acceptance)	35.0	0.0	35.0	(7days)	29-Jan-21	04-Mar-21	20-Apr-21	24-May-21	81.0	0	0%				
MPU20201108.2.3.11	Seawall Modification Type I	35.0	0.0	35.0	(7days)	09-Nov-20	13-Dec-20	25-Jan-21	01-Mar-21	77.5						
MS1350	Prepare and Submission of Method Statement for Seawall Modification Type I	14.0	0.0	14.0	(7days)	09-Nov-20	22-Nov-20	25-Jan-21	08-Feb-21	77.5	0	0%				
MS1540	Review and Acceptance of Method Statement for Seawall Modification Type I by PM	21.0	0.0	21.0	(7days)	23-Nov-20	13-Dec-20	08-Feb-21	01-Mar-21	77.5	0	0%				
MPU20201108.2.3.20	Seawall Modification Type II	24.0	20.0	10.0	(7days)	20-Oct-20 A	18-Nov-20	07-Oct-20	17-Oct-20	-32.5						
MS1555	Prepare and Submission of Method Statement for Seawall Modification Type II (Rev.1)	4.0	0.0	4.0	(7days)	09-Nov-20	12-Nov-20	07-Oct-20	11-Oct-20	-32.5	0	0%				

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													Q4	Q1	Q4	Q1	
MS1560	Review and Acceptance of Method Statement for Seawall Modification Type II (Rev.1) by PM	21.0	20.0	6.0	(7days)	20-Oct-20 A	18-Nov-20	11-Oct-20	17-Oct-20	-32.5		71.43%					
MPU20201108.2.3.14 Noise Barrier Construction																	
MS1530	Review and Acceptance of Method Statement for Noise Barrier Construction (Rev.A) by PM	21.0	20.0	3.0	(7days)	20-Oct-20 A	11-Nov-20	19-Oct-20	22-Oct-20	-20.5		85.71%					
MPU20201108.2.4 General Submissions																	
GS1165	Preparation & Submission of ICE (E&M) PII Policy	28.0	0.0	28.0	(7days)	31-Dec-20	27-Jan-21	27-Apr-21	24-May-21	117.0	0	0%					
MPU20201108.2.4.1 TTA and XP Submission																	
MPU20201108.2.4.1.3 Wan Po Road																	
GS2000	Preparation of TTA and Submission of TTA (Carriageway) to TMLG	80.0	147.0	5.0	(7days)	15-Jun-20 A	13-Nov-20	10-Nov-20	15-Nov-20	1.5	0	93.75%					
GS2010	Review of TTA Scheme (Carriageway)	30.0	0.0	30.0	(7days)	14-Nov-20	13-Dec-20	24-May-21	23-Jun-21	191.5	0	0%					
GS2020	Submission of Revised TTA (Carriageway) and Acceptance of TTA in TMLG	30.0	0.0	30.0	(7days)	14-Dec-20	12-Jan-21	23-Jun-21	23-Jul-21	191.5	0	0%					
GS2500	Preparation of TTA and Submission of TTA (Footpath) to TMLG	60.0	0.0	60.0	(7days)	14-Nov-20	12-Jan-21	15-Nov-20	14-Jan-21	1.5	0	0%					
GS2510	Review of TTA Scheme (Footpath)	30.0	0.0	30.0	(7days)	13-Jan-21	11-Feb-21	14-Jan-21	13-Feb-21	1.5	0	0%					
MPU20201108.2.5 Project Manager Acceptance of Sub-Contractors																	
SC1040	ICE for E&M Works	0.0	0.0	0.0	(7days)		30-Dec-20*		30-Dec-20	0.0	0	0%					
MPU20201108.7 Construction Works																	
MPU20201108.7.1 Preliminaries																	
PREL1130-02	Sample Selection and Testing for Structural Steels for Pre-fabrication of Noise Enclosure	33.0	108.0	20.0	(6days)	02-Jul-20 A	01-Dec-20	09-Sep-20	05-Oct-20	-48.5	0	39.39%					
PREL1130-12	Fabrication of Structural Elements for Noise Enclosure	60.0	0.0	60.0	(6days)	02-Dec-20	16-Feb-21	05-Oct-20	15-Dec-20	-48.5	0	0%					
PREL1130-22	Delivery of Structural Elements for At-grade Road Noise Enclosure	60.0	0.0	60.0	(6days)	14-Dec-20	27-Feb-21	16-Oct-20	29-Dec-20	-48.5	0	0%					
PREL1140-01	Fabrication of Sub-frame and PMMA Panels for Noise Enclosure	60.0	0.0	60.0	(6days)	02-Dec-20	16-Feb-21	05-Feb-21	23-Apr-21	53.5	0	0%					
PREL1140-21	Delivery of Sub-frame and PMMA Panels for Noise Enclosure	30.0	0.0	30.0	(6days)	27-Jan-21	05-Mar-21	06-Apr-21	12-May-21	53.5	0	0%					
PREL1150-00	Procurement, factory acceptance test for Lift	90.0	0.0	90.0	(6days)	09-Nov-20	27-Feb-21	23-Dec-20	16-Apr-21	38.0	0	0%					
PREL1250	Procurement, Factory Acceptance Test and Delivery of Bearing	80.0	300.0	22.0	(7days)	14-Jan-20 A	30-Nov-20	15-Dec-20	06-Jan-21	36.5	0	72.5%					
MPU20201108.7.2 Construction Works of Portion 1																	
MPU20201108.7.2.1 Cycle Track - U-trough																	
MPU20201108.7.2.1.1 Excavation to U-trough Level(+5.0mPD to +4.4mPD) (700m3)																	
PORI.UT.EX1050	Excavation to U-trough Founding Level for Construction of Bay 1-2 (+5.0mPD to +4.4mPD)	8.0	0.0	8.0	(6days)	30-Dec-20	08-Jan-21	03-Jul-21	13-Jul-21	148.5	0	0%					
PORI.UT.EX1060	Utilities Diversion for Bay 1-2	30.0	0.0	30.0	(6days)	09-Jan-21	16-Feb-21	13-Jul-21	17-Aug-21	148.5	0	0%					
MPU20201108.7.2.1.2 Construction of U-trough Structure (9 Bays, 27D/Bay, 1 Team)																	
PORI.UT.ST1010-23	Construction of U-trough Structure Bay 9 Wall Stem (2nd pour)	10.0	0.0	10.0	(6days)	09-Nov-20	19-Nov-20	03-Aug-21	14-Aug-21	216.5	0	0%					
PORI.UT.ST1010-33	Construction of U-trough Structure Bay 8 Wall Stem (2nd pour)	10.0	0.0	10.0	(6days)	20-Nov-20	01-Dec-20	14-Aug-21	26-Aug-21	216.5	0	0%					
PORI.UT.ST1010-43	Construction of U-trough Structure Bay 7 Wall Stem (2nd pour)	10.0	0.0	10.0	(6days)	02-Dec-20	12-Dec-20	26-Aug-21	07-Sep-21	216.5	0	0%					
PORI.UT.ST1010-53	Construction of U-trough Structure Bay 6 Wall Stem (2nd pour)	10.0	0.0	10.0	(6days)	14-Dec-20	24-Dec-20	07-Sep-21	18-Sep-21	216.5	0	0%					
PORI.UT.ST1040-21	Construction of U-trough Structure Bay 3 Base Slab	14.0	0.0	14.0	(6days)	09-Nov-20	24-Nov-20	12-May-21	29-May-21	148.5	0	0%					
PORI.UT.ST1040-51	Construction of U-trough Structure Bay 3 Wall Stem (1st pour)	14.0	0.0	14.0	(6days)	25-Nov-20	10-Dec-20	29-May-21	16-Jun-21	148.5	0	0%					
PORI.UT.ST1040-61	Construction of U-trough Structure Bay 5 Wall Stem (2nd pour)	10.0	0.0	10.0	(6days)	28-Dec-20	08-Jan-21	18-Sep-21	02-Oct-21	216.5	0	0%					
PORI.UT.ST1040-71	Construction of U-trough Structure Bay 4 Wall Stem (2nd pour)	10.0	0.0	10.0	(6days)	09-Jan-21	20-Jan-21	02-Oct-21	15-Oct-21	216.5	0	0%					

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													Q4	Q1	Q2	Q3
PORI.UT.ST1040-81	Construction of U-trough Structure Bay 3 Wall Stem (2nd pour)	10.0	0.0	10.0	(6days)	21-Jan-21	01-Feb-21	15-Oct-21	27-Oct-21	216.5	0	0%				
PORI.UT.ST1050	Access Road Modification from Seaside to Depot Side	14.0	0.0	14.0	(6days)	11-Dec-20	29-Dec-20	16-Jun-21	03-Jul-21	148.5	0	0%				
MPU20201108.7.2.1.4 Remaining Works		116.0	27.0	90.0	(6days)	07-Oct-20 A	27-Feb-21	16-Mar-21	07-Jul-21	103.5						
PORI.UT.1055	Review and Acceptance of Design for ELS for Drainage	30.0	27.0	20.0	(6days)	07-Oct-20 A	01-Dec-20	16-Mar-21	12-Apr-21	103.5		33.33%				
PORI.UT.1060	Construction of Drainage for SMH102 to SMH103	35.0	0.0	35.0	(6days)	02-Dec-20	14-Jan-21	12-Apr-21	25-May-21	103.5	0	0%				
PORI.UT.1070	Construction of Drainage for SMH103 to SMH104	35.0	0.0	35.0	(6days)	15-Jan-21	27-Feb-21	25-May-21	07-Jul-21	103.5	0	0%				
MPU20201108.7.2.2 Elevated Cycle Track		115.0	23.0	92.0	(6days)	12-Oct-20 A	02-Mar-21	11-Sep-20	11-May-21	56.0						
MPU20201108.7.2.2.4 Excavation to Pile Cap Level (+5.0mPD to +2.8mPD) (2000m3)		53.0	23.0	30.0	(6days)	12-Oct-20 A	12-Dec-20	11-Sep-20	04-Jan-21	16.0						
PORI.ED.EX1030	Excavation to Strut Level (+5.0mPD to +4.0mPD)	8.0	23.0	8.0	(6days)	12-Oct-20 A	17-Nov-20	11-Sep-20	21-Sep-20	-46.5	0	0%				
PORI.ED.EX1040	Installation of Concrete Blocks and Struts for ELS	20.0	0.0	20.0	(6days)	14-Nov-20	07-Dec-20	03-Dec-20	28-Dec-20	16.0		0%				
PORI.ED.EX1060	Excavation to Pile Cap Founding Level (+2.8mPD)	20.0	0.0	20.0	(6days)	20-Nov-20	12-Dec-20	09-Dec-20	04-Jan-21	16.0		0%				
MPU20201108.7.2.2.5 Construction of Pile Caps (10 PC, 14D/Cap, 4teams)		42.0	0.0	42.0	(6days)	18-Nov-20	08-Jan-21	20-Nov-20	06-Apr-21	69.0						
PORI.ED.PC1010	Construction of PC10 (incl. Installation of Capping plate)	14.0	0.0	14.0	(6days)	18-Nov-20	03-Dec-20	20-Nov-20	05-Dec-20	2.0		0%				
PORI.ED.PC1020	Construction of PC9 (incl. Installation of Capping plate)	14.0	0.0	14.0	(6days)	18-Nov-20	03-Dec-20	20-Nov-20	05-Dec-20	2.0		0%				
PORI.ED.PC1030	Construction of PC8 (incl. Installation of Capping plate)	14.0	0.0	14.0	(6days)	18-Nov-20	03-Dec-20	20-Nov-20	05-Dec-20	2.0		0%				
PORI.ED.PC1040	Construction of PC7 (incl. Installation of Capping plate)	14.0	0.0	14.0	(6days)	04-Dec-20	19-Dec-20	21-Dec-20	08-Jan-21	14.0		0%				
PORI.ED.PC1050	Construction of PC6 (incl. Installation of Capping plate)	14.0	0.0	14.0	(6days)	04-Dec-20	19-Dec-20	21-Dec-20	08-Jan-21	14.0		0%				
PORI.ED.PC1060	Construction of PC5 (incl. Installation of Capping plate)	14.0	0.0	14.0	(6days)	04-Dec-20	19-Dec-20	21-Dec-20	08-Jan-21	14.0		0%				
PORI.ED.PC1070	Construction of PC4 (incl. Installation of Capping plate)	14.0	0.0	14.0	(6days)	04-Dec-20	19-Dec-20	21-Dec-20	08-Jan-21	14.0		0%				
PORI.ED.PC1080	Construction of PC3 (incl. Installation of Capping plate)	14.0	0.0	14.0	(6days)	21-Dec-20	08-Jan-21	18-Mar-21	06-Apr-21	69.0		0%				
PORI.ED.PC1090	Construction of PC2 (incl. Installation of Capping plate)	14.0	0.0	14.0	(6days)	21-Dec-20	08-Jan-21	09-Jan-21	25-Jan-21	14.0		0%				
PORI.ED.PC1100	Construction of PC1 (incl. Installation of Capping plate)	14.0	0.0	14.0	(6days)	21-Dec-20	08-Jan-21	09-Jan-21	25-Jan-21	14.0		0%				
MPU20201108.7.2.2.6 Construction of Columns and Abutment (16pcs, 10D/column, 4 teams)		54.0	0.0	54.0	(6days)	04-Dec-20	08-Feb-21	27-Feb-21	11-May-21	72.0						
PORI.ED.CP1010	Construction of Abutment 1A	30.0	0.0	30.0	(6days)	04-Dec-20	11-Jan-21	16-Mar-21	22-Apr-21	81.0	0	0%				
PORI.ED.CP1020	Installation of Bearings	15.0	0.0	15.0	(6days)	12-Jan-21	28-Jan-21	23-Apr-21	11-May-21	81.0	0	0%				
PORI.ED.CP1030	Construction Column PC9-CA	10.0	0.0	10.0	(6days)	21-Dec-20	04-Jan-21	27-Feb-21	10-Mar-21	53.0		0%				
PORI.ED.CP1040	Construction Column PC9-CB	10.0	0.0	10.0	(6days)	21-Dec-20	04-Jan-21	27-Feb-21	10-Mar-21	53.0		0%				
PORI.ED.CP1050	Construction Column PC8-CA	10.0	0.0	10.0	(6days)	21-Dec-20	04-Jan-21	27-Feb-21	10-Mar-21	53.0		0%				
PORI.ED.CP1060	Construction Column PC8-CB	10.0	0.0	10.0	(6days)	21-Dec-20	04-Jan-21	27-Feb-21	10-Mar-21	53.0		0%				
PORI.ED.CP1070	Construction Column PC7-CA	10.0	0.0	10.0	(6days)	05-Jan-21	15-Jan-21	11-Mar-21	22-Mar-21	53.0		0%				
PORI.ED.CP1080	Construction Column PC7-CB	10.0	0.0	10.0	(6days)	05-Jan-21	15-Jan-21	11-Mar-21	22-Mar-21	53.0		0%				
PORI.ED.CP1090	Construction Column PC6-CA	10.0	0.0	10.0	(6days)	05-Jan-21	15-Jan-21	11-Mar-21	22-Mar-21	53.0		0%				
PORI.ED.CP1095	Construction Column PC6-CB	10.0	0.0	10.0	(6days)	05-Jan-21	15-Jan-21	11-Mar-21	22-Mar-21	53.0		0%				
PORI.ED.CP1100	Construction Column PC5-CA	10.0	0.0	10.0	(6days)	16-Jan-21	27-Jan-21	23-Mar-21	06-Apr-21	53.0		0%				
PORI.ED.CP1110	Construction Column PC5-CB	10.0	0.0	10.0	(6days)	16-Jan-21	27-Jan-21	23-Mar-21	06-Apr-21	53.0		0%				
PORI.ED.CP1120	Construction Column PC4-CA	10.0	0.0	10.0	(6days)	28-Jan-21	08-Feb-21	07-Apr-21	17-Apr-21	53.0		0%				
PORI.ED.CP1130	Construction Column PC4-CB	10.0	0.0	10.0	(6days)	16-Jan-21	27-Jan-21	23-Mar-21	06-Apr-21	53.0		0%				

- █ Actual Level of Effort
- █ Actual Work
- █ Remaining Work
- █ Critical Remaining Work
- ◆ Milestone
- ▶ summary

MPU (Nov-20)
Page 3

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08-Nov-20	Monthly Programme Update (Nov 2020)	TL	StL

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PORIII.ED.GD.0200	Drainage Diversion of Portion I Existing 1500mm pipe to SMH4046896 (PMI052)	14.0	0.0	14.0	(6days)	09-Nov-20	24-Nov-20	10-Aug-20	26-Aug-20	-74.5	0	0%				
PORIII.ED.GD.0220	Further Excavation and Installation of ELS (lagging) to +0.31mPD for SMH012 including Blinding (NCE108, PMI052)	17.0	0.0	17.0	(6days)	25-Nov-20	14-Dec-20	26-Aug-20	15-Sep-20	-74.5	0	0%				
PORIII.ED.GD.0230	Construction of Manhole SMH011 (1st Portion) (below +2.9mPD) (PMI052)	10.0	3.0	10.0	(6days)	05-Nov-20 A	19-Nov-20	25-Aug-20	05-Sep-20	-61.5	0	0%				
PORIII.ED.GD.0240	Construction of Manhole SMH012 (1st Portion) (below +2.9mPD) (PMI052)	10.0	0.0	10.0	(6days)	15-Dec-20	28-Dec-20	15-Sep-20	26-Sep-20	-74.5	0	0%				
PORIII.ED.GD.0250	Backfilling for SMH011 to +2.3mPD (PMI052)	10.0	0.0	10.0	(6days)	20-Nov-20	01-Dec-20	05-Sep-20	17-Sep-20	-61.5	0	0%				
PORIII.ED.GD.0250-01	Excavation to +2.3mPD for PC30 (PMI052)	4.0	0.0	4.0	(6days)	02-Dec-20	05-Dec-20	17-Sep-20	22-Sep-20	-61.5	0	0%				
PORIII.ED.GD.0260	Removal of Struts in ELS for SMH011 and Cutting of Sheet Piles at +2.3mPD (PMI052)	4.0	0.0	4.0	(6days)	07-Dec-20	10-Dec-20	22-Sep-20	26-Sep-20	-61.5	0	0%				
PORIII.ED.GD.0270	Backfilling for SMH012 to +2.3mPD (PMI052)	10.0	0.0	10.0	(6days)	29-Dec-20	09-Jan-21	26-Sep-20	10-Oct-20	-74.5	0	0%				
PORIII.ED.GD.0270-01	Excavation to +2.3mPD for PC18 (PMI052)	4.0	0.0	4.0	(6days)	11-Jan-21	14-Jan-21	10-Oct-20	15-Oct-20	-74.5	0	0%				
PORIII.ED.GD.0280	Removal of Struts in ELS for SMH012 and Cutting of Sheet Piles at +2.3mPD (PMI052)	4.0	0.0	4.0	(6days)	15-Jan-21	19-Jan-21	15-Oct-20	20-Oct-20	-74.5	0	0%				
PORIII.ED.GD.0310	Excavate to +2.3mPD for Grid 3	5.0	0.0	5.0	(6days)	18-Nov-20	23-Nov-20	03-Oct-20	09-Oct-20	-37.5	0	0%				
PORIII.ED.GD.1010-02	Installation of Capping Plate for PC22, PC24 (4nos, 4D/no, 2teams) (PMI052)	8.0	0.0	8.0	(6days)	27-Nov-20	05-Dec-20	16-Sep-20	25-Sep-20	-58.5	0	0%				
PORIII.ED.GD.1010-03	Installation of Capping Plate for PC30 (4nos, 4D/no, 2teams) (PMI052)	8.0	0.0	8.0	(6days)	11-Dec-20	19-Dec-20	26-Sep-20	08-Oct-20	-61.5	0	0%				
PORIII.ED.GD.1010-04	Installation of Capping Plate for PC18, 20 (4nos, 4D/no, 2teams) (PMI052)	8.0	0.0	8.0	(6days)	20-Jan-21	28-Jan-21	20-Oct-20	30-Oct-20	-74.5	0	0%				
PORIII.ED.GD.1010-05	Installation of Capping Plate for PC14, 16 (4nos, 4D/no, 2 teams) (PMI052)	8.0	0.0	8.0	(6days)	24-Nov-20	02-Dec-20	09-Oct-20	19-Oct-20	-37.5	0	0%				
PORIII.ED.GD.1010-06	Installation of Capping Plate for PC26, PC28 (4nos, 4D/no, 2 teams)	8.0	0.0	8.0	(6days)	18-Nov-20	26-Nov-20	05-Sep-20	15-Sep-20	-59.5	0	0%				
PORIII.ED.GD.1020	Construction of PC30 (PMI052)	9.0	0.0	9.0	(6days)	21-Dec-20	02-Jan-21	08-Oct-20	19-Oct-20	-61.5	0	0%				
PORIII.ED.GD.1021	Construction of PC28 (PMI052)	9.0	0.0	9.0	(6days)	27-Nov-20	07-Dec-20	15-Sep-20	25-Sep-20	-59.5	0	0%				
PORIII.ED.GD.1022	Construction of PC26 (PMI052)	9.0	0.0	9.0	(6days)	27-Nov-20	07-Dec-20	15-Sep-20	25-Sep-20	-59.5	0	0%				
PORIII.ED.GD.1023	Construction of PC24 (PMI052)	9.0	0.0	9.0	(6days)	08-Dec-20	17-Dec-20	25-Sep-20	08-Oct-20	-59.5	0	0%				
PORIII.ED.GD.1024	Construction of PC22 (PMI052)	9.0	0.0	9.0	(6days)	08-Dec-20	17-Dec-20	25-Sep-20	08-Oct-20	-59.5	0	0%				
PORIII.ED.GD.1025	Construction of PC20 (PMI052)	9.0	0.0	9.0	(6days)	29-Jan-21	08-Feb-21	30-Oct-20	10-Nov-20	-74.5	0	0%				
PORIII.ED.GD.1026	Construction of PC18 (PMI052)	9.0	0.0	9.0	(6days)	29-Jan-21	08-Feb-21	30-Oct-20	10-Nov-20	-74.5	0	0%				
PORIII.ED.GD.1027	Construction of PC16 (PMI052)	9.0	0.0	9.0	(6days)	04-Jan-21	13-Jan-21	19-Oct-20	30-Oct-20	-61.5	0	0%				
PORIII.ED.GD.1028	Construction of PC14 (PMI052)	9.0	0.0	9.0	(6days)	04-Jan-21	13-Jan-21	19-Oct-20	30-Oct-20	-61.5	0	0%				
MPU20201108.7.4.1.7	Construction of PC42 (16D) + Abutment 2B (28D) + Bearing Installation (14D)	33.0	0.0	33.0	(6days)	09-Nov-20	16-Dec-20	18-Dec-20	23-Jan-21	29.5						
PORIII.AB2B.1010-01	Construction of Abutment 2B (2nd pour)	14.0	0.0	14.0	(6days)	09-Nov-20	24-Nov-20	18-Dec-20	07-Jan-21	34.5	0	0%				
PORIII.AB2B.1020	Bearing Installation at Abutment 2B	14.0	0.0	14.0	(6days)	01-Dec-20	16-Dec-20	07-Jan-21	23-Jan-21	29.5	0	0%				
MPU20201108.7.4.2	Construction of U-trough Structure	88.0	10.0	78.0	(6days)	28-Oct-20 A	10-Feb-21	31-Jul-20	03-Nov-20	-82.5						
MPU20201108.7.4.2.6	Construction of U-trough Structure	88.0	10.0	78.0	(6days)	28-Oct-20 A	10-Feb-21	31-Jul-20	03-Nov-20	-82.5						
PORIII.UT.ST1107	Excavation to Revised Formation Level and Construction of New Blinding for Bay 2	10.0	10.0	4.0	(6days)	28-Oct-20 A	12-Nov-20	31-Jul-20	05-Aug-20	-82.5	0	60%				
PORIII.UT.ST1110	Construction of Base Slab Bay 2	18.0	0.0	18.0	(6days)	13-Nov-20	03-Dec-20	05-Aug-20	26-Aug-20	-82.5	0	0%				
PORIII.UT.ST1115	Excavation to Revised Formation Level, Construction of New Blinding for Bay 3 & 4	10.0	0.0	10.0	(6days)	04-Dec-20	15-Dec-20	26-Aug-20	07-Sep-20	-82.5	0	0%				
PORIII.UT.ST1117	Re-construction of Capping Plate for Bay 3	10.0	0.0	10.0	(6days)	16-Dec-20	29-Dec-20	07-Sep-20	18-Sep-20	-82.5	0	0%				
PORIII.UT.ST1120	Construction of Base Slab Bay 3	18.0	0.0	18.0	(6days)	30-Dec-20	20-Jan-21	18-Sep-20	12-Oct-20	-82.5	0	0%				
PORIII.UT.ST1125	Re-construction of Capping Plate for Bay 4	10.0	0.0	10.0	(6days)	30-Dec-20	11-Jan-21	28-Sep-20	12-Oct-20	-74.5	0	0%				
PORIII.UT.ST1130	Construction of Base Slab Bay 4	18.0	0.0	18.0	(6days)	21-Jan-21	10-Feb-21	12-Oct-20	03-Nov-20	-82.5	0	0%				

- █ Actual Level of Effort
- █ Actual Work
- █ Remaining Work
- █ Critical Remaining Work
- ◆ Milestone
- ▶ summary

MPU (Nov-20)
Page 5

Date	Revision	Checked	Approved
08-Nov-20	Monthly Programme Update (Nov 2020)	TL	StL

Activity ID	Activity Name	Original Duration	Actual Duration	Remaining Duration	alendar	Start	Finish	Late Start	Late Finish	Total Float	TRA	Activity % Complete	2020		2021		
													Q4	Q1	Q4	Q1	
MPU20201108.7.5 Modification of Seawall (Portion II and III)																	
MPU20201108.7.5.3 Seawall Modification Type 2																	
SW.WWII.1000	Construction of Seawall Modification Type 2 (2 teams, <15m per bay)	80.0	13.0	80.0	(6days)	23-Oct-20 A	26-Feb-21	17-Oct-20	23-Jan-21	-26.5		0%					
MPU20201108.7.6 Construction of the At-grade Noise Semi Enclosures																	
MPU20201108.7.6.7 Construction of Northern Drainage (SMH001 to SMH003)																	
PORIII.AG.1102	Utilities Ducts Laying across Road D9 (Northern Portion)	32.0	0.0	32.0	(6days)	09-Nov-20	15-Dec-20	10-Sep-20	20-Oct-20	-47.5		0%					
PORIII.AG.2000	Cable Laying and Decommissioning of Existing Cross Road UUs at Wan O Road	50.0	0.0	50.0	(6days)	16-Dec-20	18-Feb-21	20-Oct-20	18-Dec-20	-47.5		0%					
MPU20201108.7.6.3 Construction of Pad Footing (Bay 1 to 11)																	
MPU20201108.7.6.3.3 Base Slab																	
MPU20201108.7.6.3.3.1 North Bound																	
PORIII.AG.1460	Construction of Pad Footing Bay NB-N17 Base Slab	10.0	0.0	10.0	(6days)	23-Nov-20	03-Dec-20	15-Jan-21	27-Jan-21	43.5		0%					
PORIII.AG.1470	Construction of Pad Footing Bay NB-N18 Base Slab	10.0	0.0	10.0	(6days)	16-Dec-20	29-Dec-20	08-Feb-21	23-Feb-21	43.5		0%					
MPU20201108.7.6.3.4 Wall Stem																	
MPU20201108.7.6.3.4.2 South Bound																	
PORIII.AG.1910	Backfilling to Interim Formation Level (7 Layers, 5D/layer) for Bay 1 to 11	35.0	119.0	20.0	(6days)	17-Jun-20 A	01-Dec-20	26-Sep-20	22-Oct-20	-33.5		42.86%					
PORIII.AG.1920	Backfilling to Interim Formation Level (7 Layers, 5D/layer) for Bay 12 to 16	35.0	20.0	30.0	(6days)	15-Oct-20 A	12-Dec-20	15-Sep-20	22-Oct-20	-43.5		14.29%					
MPU20201108.7.6.3.4.1 North Bound																	
PORIII.AG.1890	Construction of Pad Footing Bay NB-N17 Wal Stem	10.0	0.0	10.0	(6days)	04-Dec-20	15-Dec-20	27-Jan-21	08-Feb-21	43.5		0%					
PORIII.AG.1900	Construction of Pad Footing Bay NB-N18 Wal Stem	10.0	0.0	10.0	(6days)	30-Dec-20	11-Jan-21	23-Feb-21	06-Mar-21	43.5		0%					
MPU20201108.7.6.4 Construction of Semi-Noise Enclosure and Directional Sign																	
PORIII.AG.1190	Construction of Semi-Noise Enclosure CH13532.187 to CH13878 Main Frame	90.0	0.0	90.0	(6days)	19-Dec-20	13-Apr-21	22-Oct-20	09-Feb-21	-48.5		0%					
MPU20201108.7.8 Wan O Road																	
MPU20201108.7.8.2 Carriage Way Excavation Permit																	
MPU20201108.7.8.2.1 TTA Stage 1																	
WO.CA.TTA1030	UU Diversion and Installation of Sheet Pile at Northern Footpath (Except Roundabout)	38.0	307.0	18.0	(6days)	28-Oct-19 A	12-Dec-20	10-Sep-20	03-Oct-20	-59.5		52.63%					
MPU20201108.7.8.2.3 TTA Stage 2																	
MPU20201108.7.8.2.3.1 Northern Portion																	
MPU20201108.7.8.2.3.1.2 PBSh Works																	
WO.CA.TTA2NP.1150	Construction of PBSh (23nos, Rig 2) (PC60, 61, 63-65)	76.0	171.0	7.0	(6days)	15-Apr-20 A	16-Nov-20	02-Sep-20	10-Sep-20	-54.5		90.79%					
WO.CA.TTA2NP.1150-02	Construction of PBSh (7nos, Rig 2) (PC57-58)	30.0	53.0	12.0	(6days)	04-Sep-20 A	21-Nov-20	24-Oct-20	09-Nov-20	-11.5		60%					
WO.CA.TTA2NP.1150-03	Construction of PBSh (8nos, Rig 1) (PC66-69)	31.0	150.0	5.0	(6days)	12-May-20 A	21-Nov-20	04-Sep-20	10-Sep-20	-59.5		83.87%					
WO.CA.TTA2NP.1170	Construction of PBSh (14nos, Rig 1) (PC66-PC72)	60.0	89.0	7.0	(6days)	24-Jul-20 A	16-Nov-20	27-Aug-20	04-Sep-20	-59.5		88.33%					
MPU20201108.7.8.2.3.1.3 Excavation and Construction of RC Structure																	
WO.CA.TTA2NP.1060	Installation of Sheet pile at Roundabout Northern Portion	12.0	0.0	12.0	(6days)	03-Dec-20	16-Dec-20	19-Nov-20	03-Dec-20	-11.5		0%					
WO.CA.TTA2NP.1065	Installation of Struts and Excavation to Pile Cap Level at Roundabout Northern Portion	13.0	0.0	13.0	(6days)	17-Dec-20	04-Jan-21	03-Dec-20	18-Dec-20	-11.5		0%					
WO.CA.TTA2NP.1067	Concrete Block Installation as Lateral Support on top of Box Culvert	25.0	0.0	25.0	(6days)	14-Dec-20	14-Jan-21	03-Oct-20	03-Nov-20	-59.5		0%					
WO.CA.TTA2NP.1070	Construction of ELS (Northern Footpath)	39.0	0.0	39.0	(6days)	15-Jan-21	04-Mar-21	03-Nov-20	18-Dec-20	-59.5		0%					

- Actual Level of Effort
- Actual Work
- Remaining Work
- Critical Remaining Work

- Milestone
- summary

MPU (Nov-20)
Page 6

Date	Revision	Checked	Approved
08-Nov-20	Monthly Programme Update (Nov 2020)	TL	StL

Activity ID	Activity Name	Original Duration	Actual Duration	Remaining Duration	alendar	Start	Finish	Late Start	Late Finish	Total Float	TRA	Activity % Complete	2020		2021		
													Q4	Q1			
MPU20201108.7.8.2.3.2	Southern Portion and Central Barrier	245.0	204.0	42.0	(6days)	03-Mar-20 A	29-Dec-20	27-Aug-20	13-Mar-21	59.5				29-Dec-20, MPU20201108.7.8.2.3.2	Southern Portion and Central Barrier		
MPU20201108.7.8.2.3.2.2	PBSH Works	245.0	204.0	42.0	(6days)	03-Mar-20 A	29-Dec-20	27-Aug-20	13-Mar-21	59.5				29-Dec-20, MPU20201108.7.8.2.3.2.2	PBSH Works		
WO.CA.TTA2SP.1310	Construction of PBSH (25nos, Rig 1) (PC73 to PC81)	75.0	204.0	7.0	(6days)	03-Mar-20 A	16-Nov-20	27-Aug-20	04-Sep-20	-59.5	0	90.67%		Construction of PBSH (25nos, Rig 1) (PC73 to PC81)			
WO.CA.TTA2SP.1320	Construction of PBSH (12nos, Rig 2) (PC59 & PC62)	45.0	56.0	18.0	(6days)	01-Sep-20 A	02-Dec-20	29-Oct-20	19-Nov-20	-11.5	0	60%		Construction of PBSH (12nos, Rig 2) (PC59 & PC62)			
WO.CA.TTA2SP.1330	Pile Loading Test	21.0	0.0	21.0	(6days)	03-Dec-20	29-Dec-20	17-Feb-21	13-Mar-21	59.5	0	0%		Pile Loading Test			
MPU20201108.7.8.2.15	Wan Po Road	63.0	48.0	15.0	(6days)	10-Sep-20 A	25-Nov-20	14-Sep-20	30-Sep-20	-45.0				25-Nov-20, MPU20201108.7.8.2.15	Wan Po Road		
MPU20201108.7.8.2.15.1	Laying of Cable Duct and Earthing Conductor at Portion III (CE030)	63.0	48.0	15.0	(6days)	10-Sep-20 A	25-Nov-20	14-Sep-20	30-Sep-20	-45.0				25-Nov-20, MPU20201108.7.8.2.15.1	Laying of Cable Duct and Earthing Conductor at Portion III (CE030)		
WO1299	Ducting Works	9.0	48.0	9.0	(6days)	10-Sep-20 A	18-Nov-20	14-Sep-20	23-Sep-20	-45.0	0	0%		Ducting Works			
WO1309	Backfilling, Reinstatement of Road Works and Closing of TTA	6.0	0.0	6.0	(6days)	19-Nov-20	25-Nov-20	24-Sep-20	30-Sep-20	-45.0	0	0%		Backfilling, Reinstatement of Road Works and Closing of TTA			
WO1319	Handover to C1 for Power Energization of the E&M Plant Room (CE030)	0.0	0.0	0.0	(6days)		25-Nov-20*		30-Sep-20	-45.0	0	0%		Handover to C1 for Power Energization of the E&M Plant Room (CE030)			
MPU20201108.8	Miscellaneous Works (Portion I, II and III)	939.0	549.0	493.0	(6days)	02-Jan-19 A	11-Jul-22	31-Jul-20	28-Mar-22	-82.5							
MISC4030	Tree Preservation and Protection Works	939.0	549.0	493.0	(6days)	02-Jan-19 A	11-Jul-22	31-Jul-20	28-Mar-22	-82.5	0	47.5%					

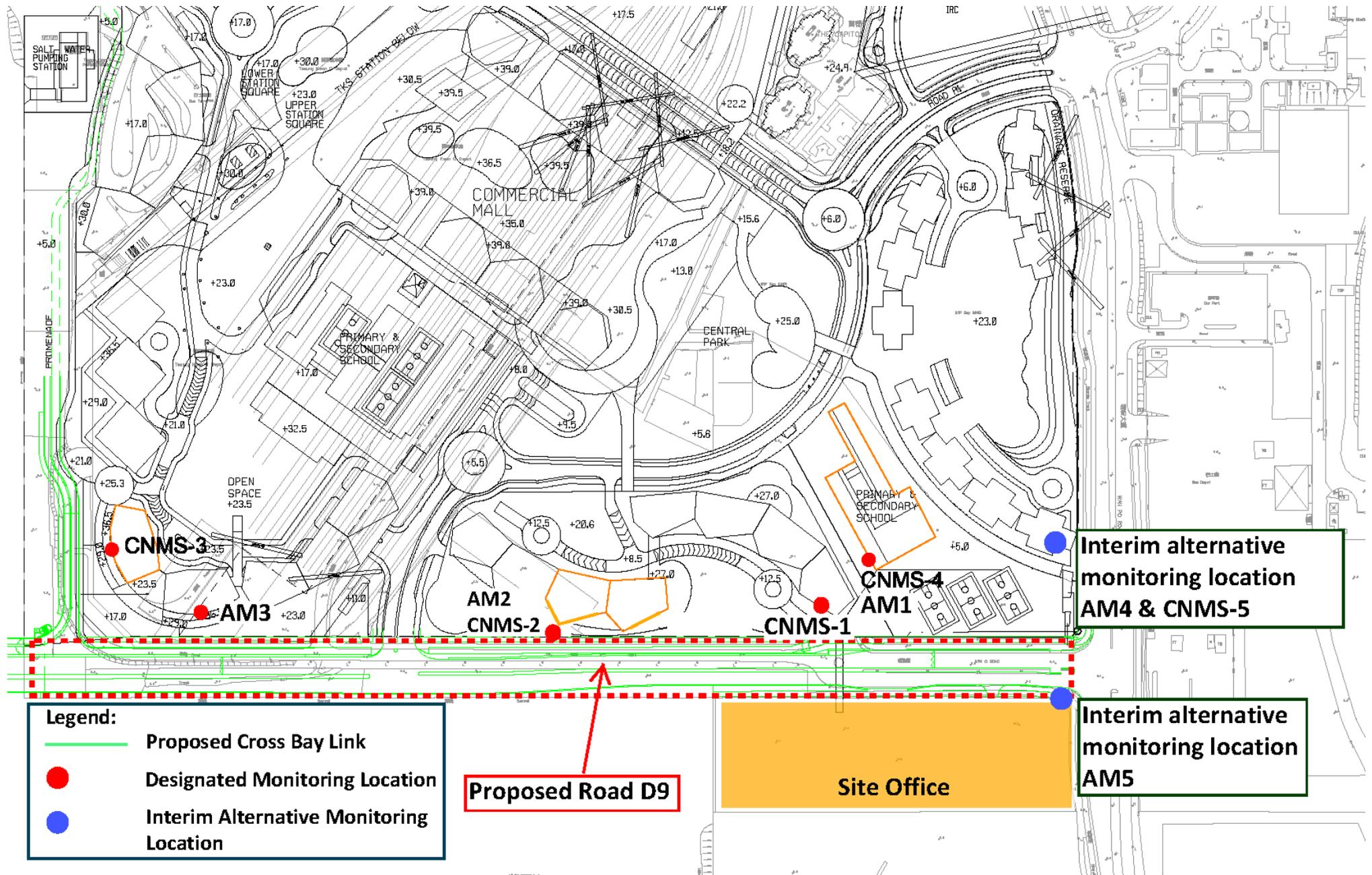
- █ Actual Level of Effort
- █ Actual Work
- █ Remaining Work
- █ Critical Remaining Work
- ◆ Milestone
- ▶ summary

MPU (Nov-20)
Page 7

Date	Revision	Checked	Approved
08-Nov-20	Monthly Programme Update (Nov 2020)	TL	StL

Appendix D

Monitoring Location
(Air Quality, Noise and Water Quality)



Legend:

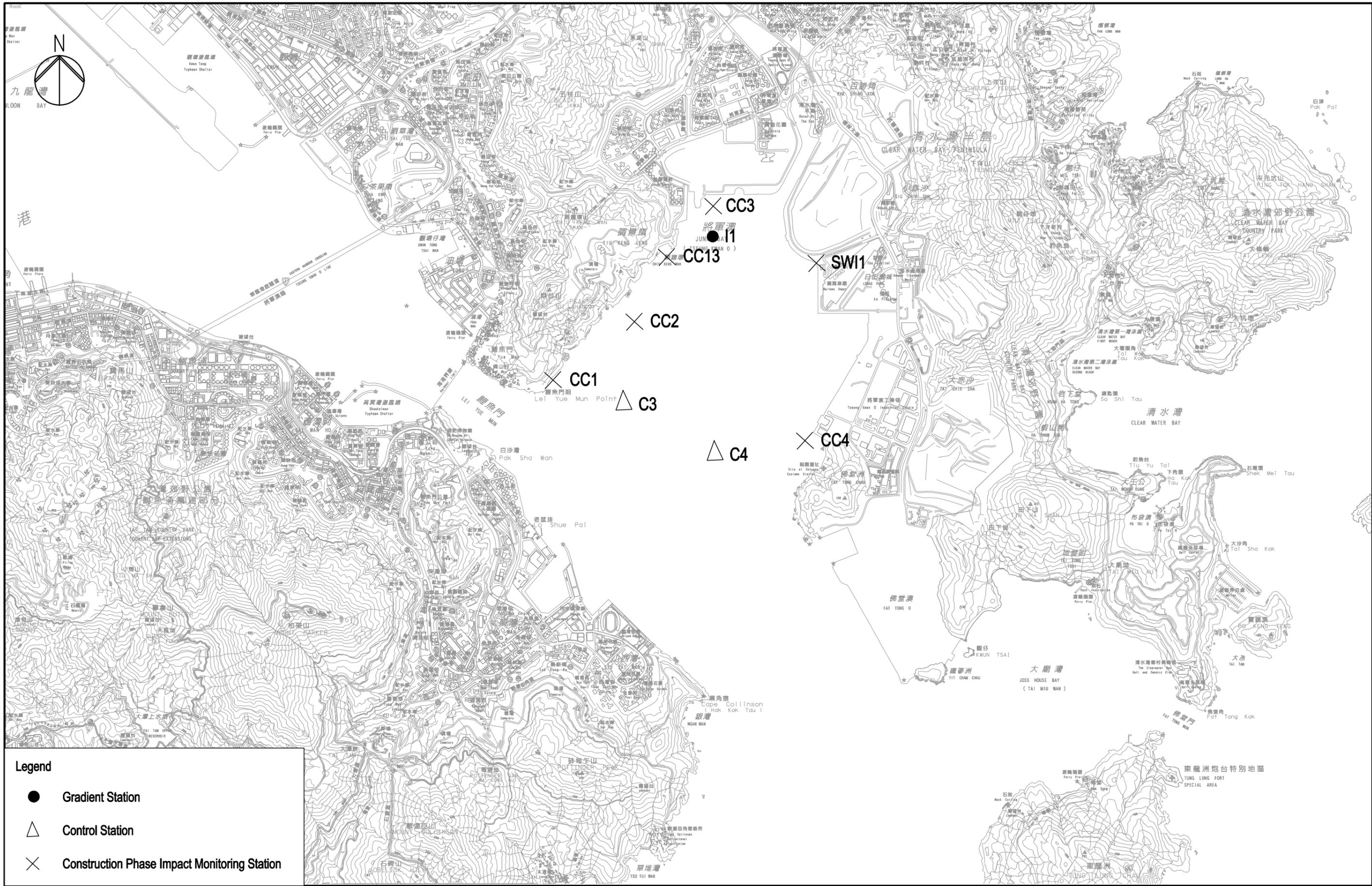
- Proposed Cross Bay Link
- Designated Monitoring Location
- Interim Alternative Monitoring Location

Proposed Road D9

Site Office

Interim alternative monitoring location AM4 & CNMS-5

Interim alternative monitoring location AM5



Legend

- Gradient Station
- △ Control Station
- × Construction Phase Impact Monitoring Station

3/1/2013
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 Plotted:


土木工程拓展署
 Civil Engineering and
 Development Department


 Ove Arup & Partners
 Hong Kong Limited

Job Title
Agreement No. CE 43/2008(HY)
Cross Bay Link, Tseung Kwan O - Investigation

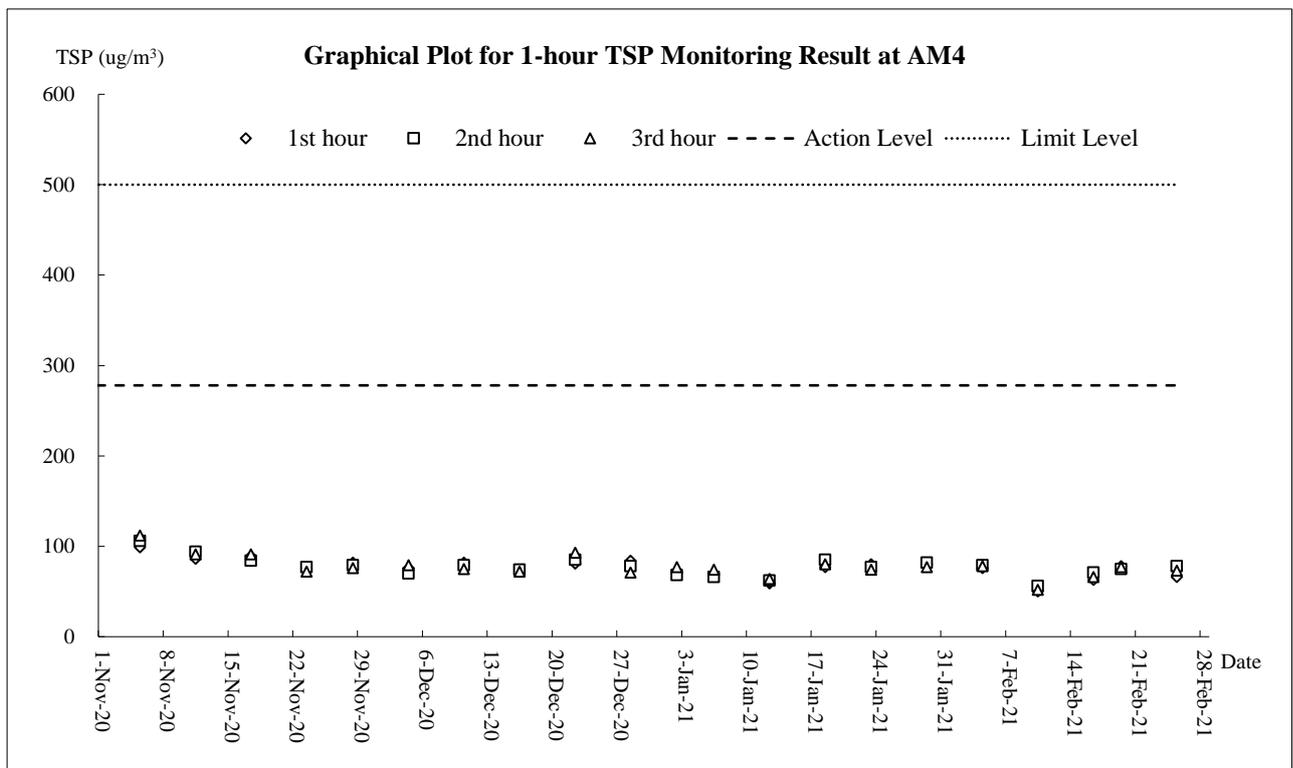
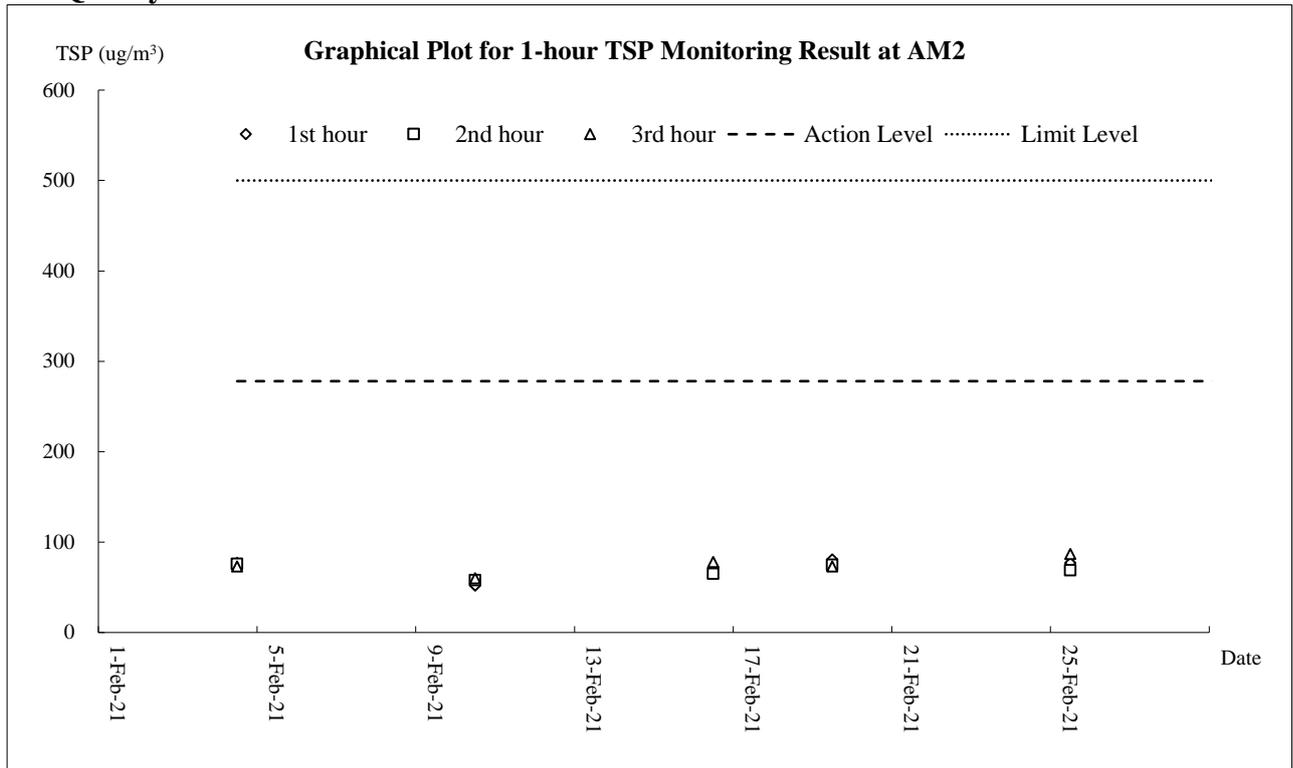
Drawing Title
**Locations of Water Quality
 Monitoring Stations**

Drawn	GL	Date	03/13	Drawing No.	209506/EMA/WQ/001	
C	THIRD ISSUE	03/13	Checked	JP	Approved	ST
B	SECOND ISSUE	01/13	Scale	1:30000 (A3)		
A	FIRST ISSUE	03/11	Status	FINAL		
Rev.	Description	Date	Rev.	C		

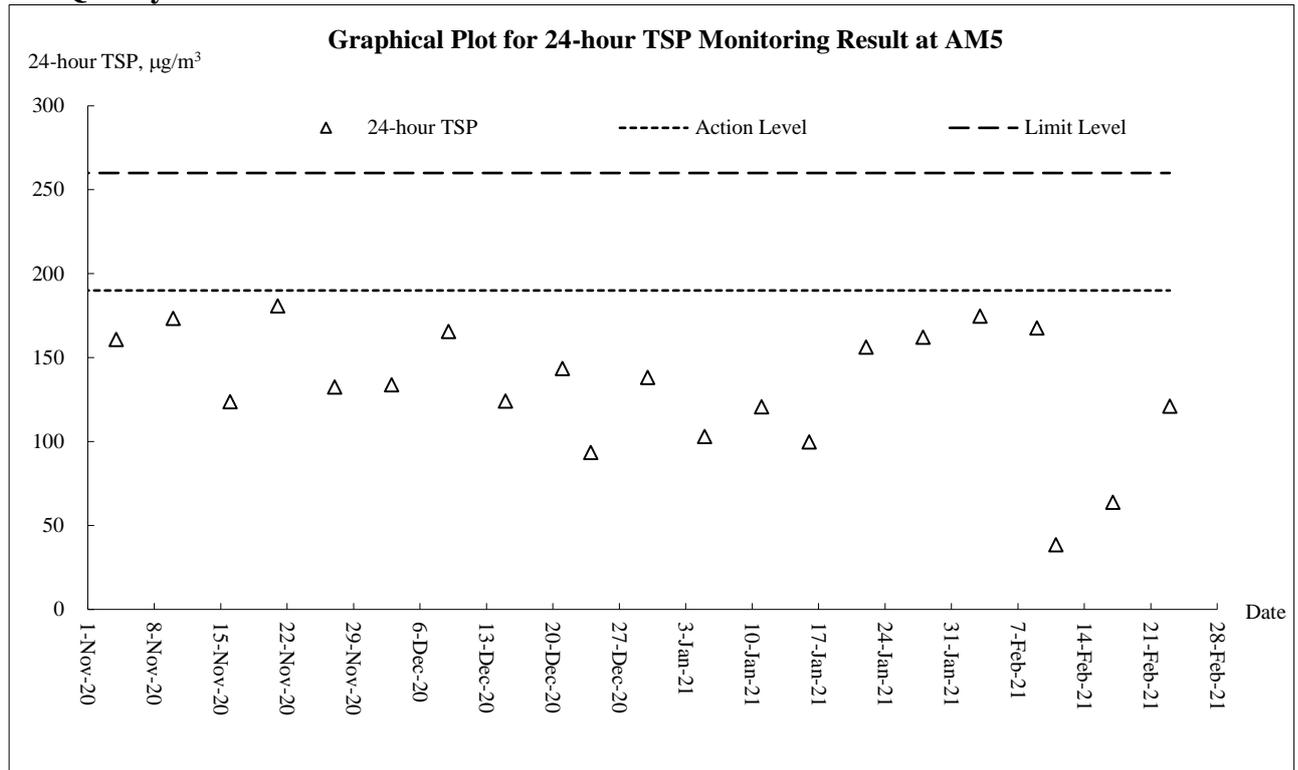
Appendix E

Graphical Plots of Monitoring Results

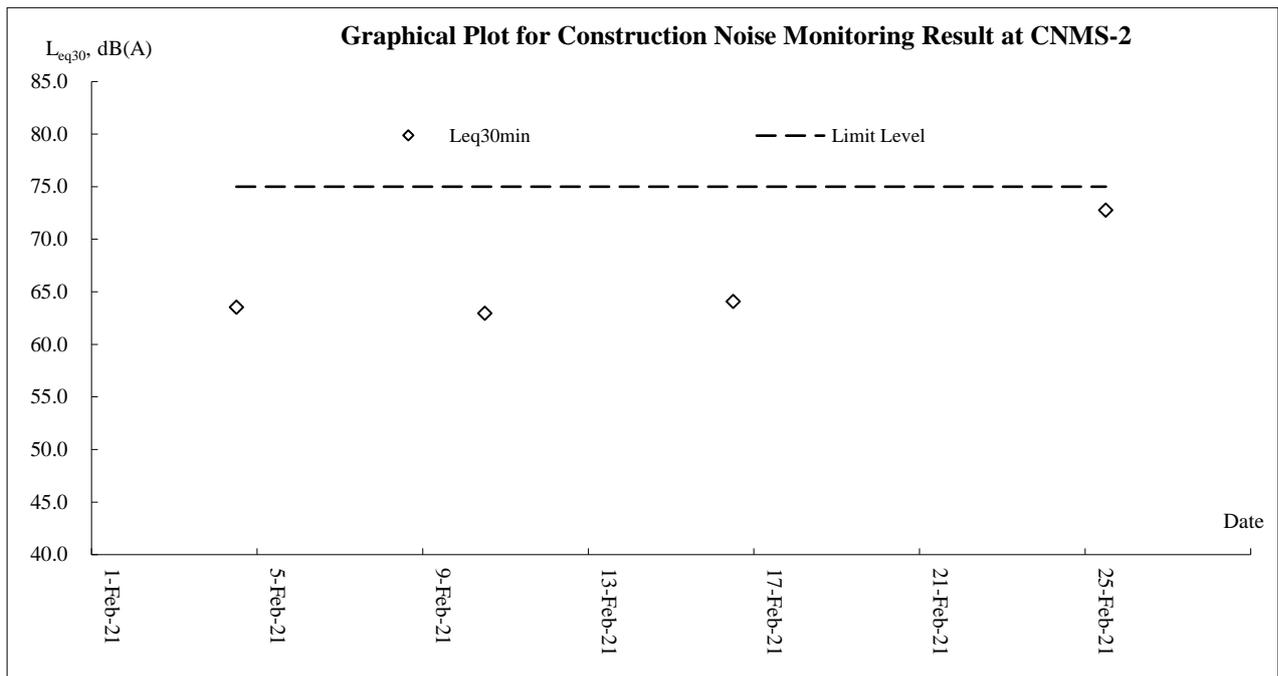
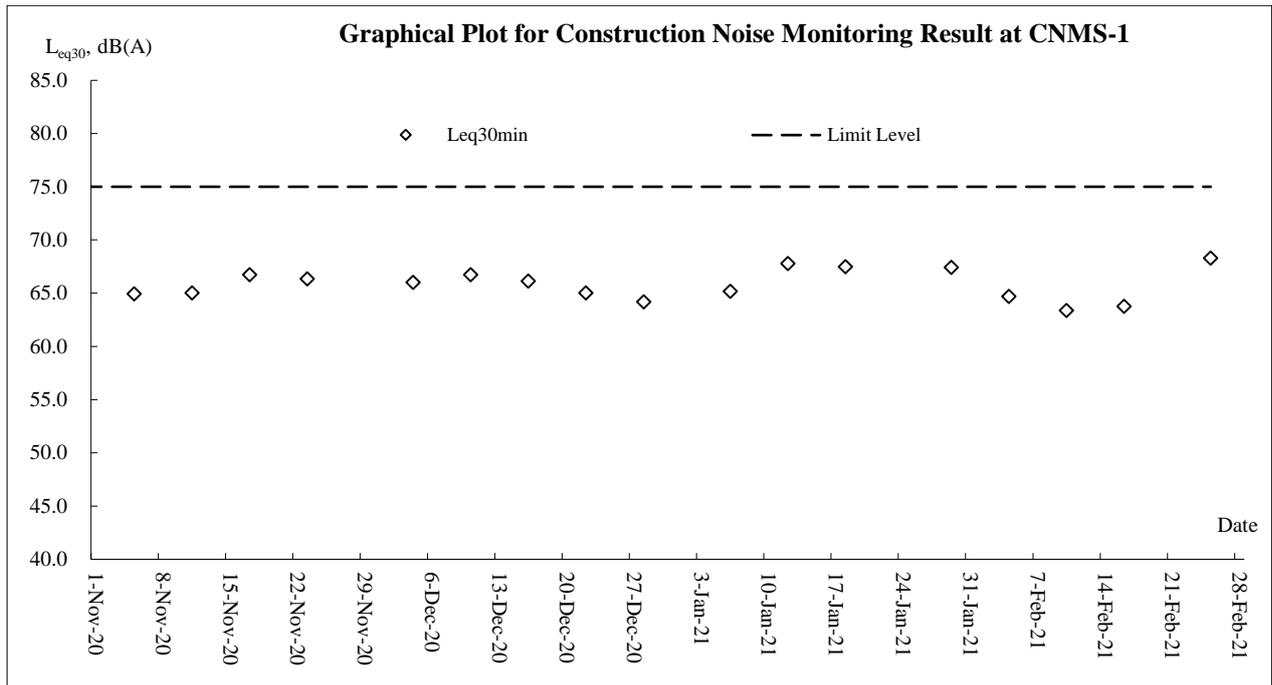
Air Quality – 1 Hour TSP

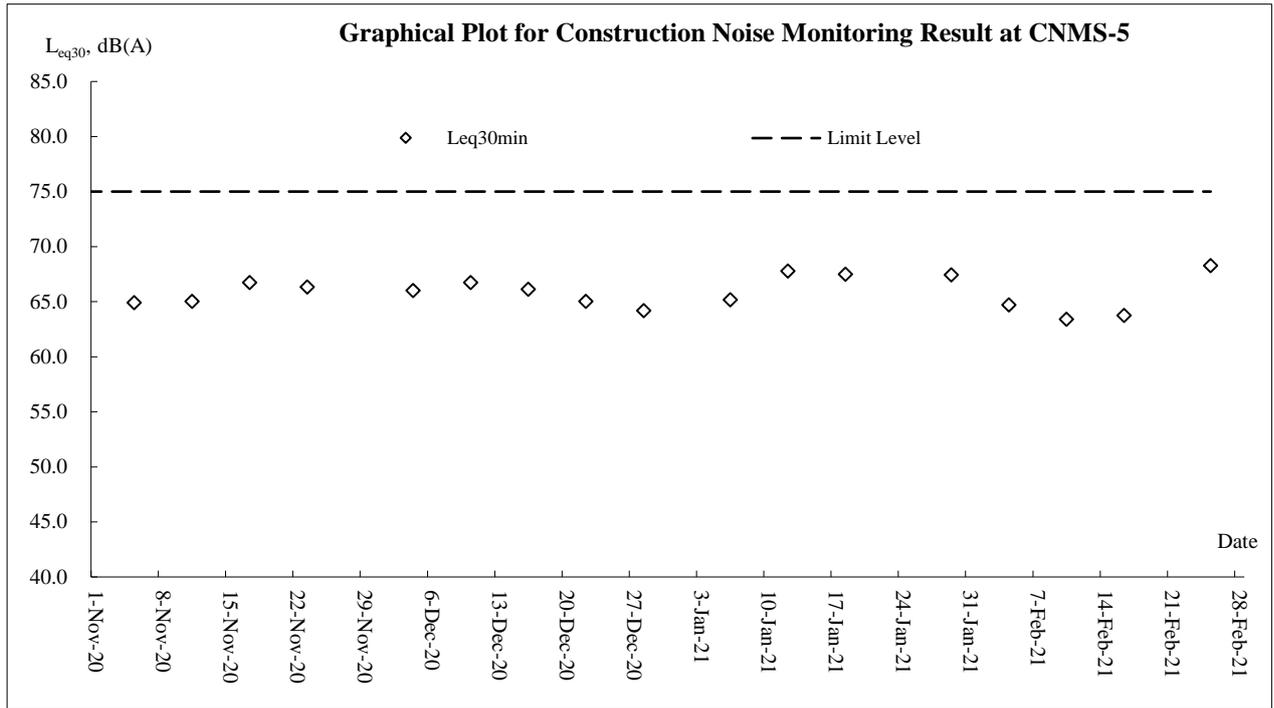


Air Quality - 24-Hour TSP



Construction Noise





Appendix F

Meteorological Information

The weather of December 2020

The weather for December 2020 was cloudier than usual. The mean amount of cloud in the month was 62 percent, 10 percent above the normal of 52 percent. The mean temperature for December 2020 was 18.1 degrees, 0.2 degrees above the normal figure of 17.9 degrees. The month was also much drier than usual with a total rainfall of only 1.5 millimetres, about 6 percent of the normal figure of 26.8 millimetres. The annual total rainfall in 2020 was 2395.0 millimetres, near the annual normal of 2398.5 millimetres.

The weather of January 2021

January 2021 was characterized by colder weather during the first half of the month and relatively milder weather in the latter part. Overall, the month was colder than usual with a mean temperature of 16.2 degrees, 0.3 degrees below the normal figure of 16.5 degrees (or 0.1 degrees below the 1981-2010 normal). With dry winter monsoon dominating over southern China for most of the time in the month, January 2021 was also much sunnier and drier than usual. The monthly total sunshine duration amounted to 217.3 hours, 49 percent above the normal of 145.8 hours (or 52 percent above the 1981-2010 normal). Only traces of rainfall was recorded in the month, making it one of the eight Januaries with traces of rainfall since records began in 1884.

The weather of February 2021

With the northeast monsoon over southern China generally weaker than normal for most of the time in the month, February 2021 was much warmer and sunnier than usual in Hong Kong. The monthly mean maximum temperature of 23.5 degrees, monthly mean temperature of 19.8 degrees and monthly mean minimum temperature of 17.5 degrees were 4.1 degrees, 2.7 degrees and 2.2 degrees above their corresponding normals (or 4.6 degrees, 3.0 degrees and 2.5 degrees above their corresponding 1981-2010 normals) and respectively the second, third and fourth highest on record for February. The total duration of bright sunshine in the month was 205.1 hours, more than twice of the normal of 101.7 hours (or 110.9 hours above the 1981-2010 normal of 94.2 hours) and the fourth highest on record for February. Mainly attributing to the exceptional warm and sunny weather in February 2021, the winter from December 2020 to February 2021 was warmer than usual in Hong Kong. The mean temperature of 18.0 degrees was one of the seventh highest on record for the same period. The monthly rainfall was 62.1 millimetres, about 60 percent above the normal of 38.9 millimetres (or 14 percent above the 1981-2010 normal of 54.4 millimetres) in February. The accumulated rainfall recorded in the first two months of the year was 62.1 millimetres, a deficit of 14 percent compared to the normal of 71.9 millimetres (or 21 percent below the 1981-2010 normal of 78.9 millimetres) for the same period.

*The detailed meteorological data for each successive day can be referred to in the Monthly EM&A Reports (Dec 2020, Jan 2021 and Feb 2021).

Appendix G
Waste Flow Table

Contract 1

Monthly Summary Waste Flow Table for 2020 (year)

Name of Person completing the record: Calvin So (EO)

Project : Cross Bay Link, TKO, Main Bridge and Associated Works

Contract No.: NE/2017/07

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	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 ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000 m ³)
Jan	1.020	0.000	0.000	0.000	1.020	0.000	0.000	0.088	0.000	0.000	0.100
Feb	0.102	0.000	0.000	0.000	0.102	0.000	0.000	0.095	0.000	0.000	0.073
Mar	0.018	0.000	0.000	0.000	0.018	0.000	0.000	0.073	0.000	0.000	0.092
Apr	0.060	0.000	0.000	0.000	0.060	0.000	0.000	0.090	0.000	0.000	0.133
May	0.180	0.000	0.000	0.000	0.180	0.000	0.000	0.092	0.000	0.000	0.048
Jun	0.006	0.000	0.000	0.000	0.006	0.000	0.000	0.095	0.000	0.000	0.053
Sub-total	1.386	0.000	0.000	0.000	1.386	0.000	0.000	0.533	0.000	0.000	0.499
Jul	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.101	0.000	0.000	0.080
Aug	0.054	0.000	0.000	0.000	0.054	0.000	0.000	0.091	0.000	0.000	0.098
Sep	0.264	0.000	0.000	0.000	0.264	0.000	0.000	0.121	0.000	0.000	0.173
Oct	0.624	0.000	0.000	0.000	0.624	0.000	0.000	0.096	0.000	0.000	0.229
Nov	0.462	0.000	0.000	0.000	0.462	0.000	0.000	0.089	0.000	0.000	0.228
Dec	0.312	0.000	0.000	0.000	0.312	0.306	0.000	0.110	0.000	0.000	0.173
Total	3.102	0.000	0.000	0.000	3.102	0.306	0.000	1.141	0.000	0.000	1.479

Note:

1. For non-inert portion of C&D material, assume the density of 1 m³ general refuse is equal to 200 kg.
2. For inert portion of C&D material, assume 6 m³ per each full-filled dump truck.
3. All values are round off to the third decimal places.

Monthly Summary Waste Flow Table for 2021 (year)

Name of Person completing the record: Calvin So (EO)

Project : Cross Bay Link, TKO, Main Bridge and Associated Works

Contract No.: NE/2017/07

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated	Hard Rock and Large Broken Concrete	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 ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000 m ³)	
Jan	0.132	0.000	0.000	0.000	0.132	0.000	0.000	0.113	0.000	0.000	0.399	
Feb	0.108	0.000	0.000	0.000	0.108	0.000	0.000	0.186	0.000	0.000	0.351	
Mar	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Apr	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
May	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Jun	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Sub-total	0.240	0.000	0.000	0.000	0.240	0.000	0.000	0.299	0.000	0.000	0.750	
Jul	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Aug	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Sep	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Oct	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Nov	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Dec	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Total	0.240	0.000	0.000	0.000	0.240	0.000	0.000	0.299	0.000	0.000	0.750	

Note:

1. For non-inert portion of C&D material, assume the density of 1 m³ general refuse is equal to 200 kg.
2. For inert portion of C&D material, assume 6 m³ per each full-filled dump truck.
3. All values are round off to the third decimal places.

Contract 2

Monthly Summary Waste Flow Table for 2020 Year

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Borken Concrete	Reused in the Contract	Reused in other Projects	Disposal as Public Fill	Imported Fill	Metals	Paper / Cardboard Packaging	Plastics (See note 3)	Chemical Waste	Other, e.g. general refuse
	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000m ³]
Jan	1.374	0.000	0.000	0.000	1.374	0.000	0.000	0.000	0.000	0.000	0.019
Feb	1.750	0.000	0.000	0.000	1.750	0.000	0.000	0.000	0.000	0.000	0.004
Mar	3.422	0.000	0.000	0.000	3.422	0.000	0.000	0.000	0.000	0.000	0.013
Apr	6.641	0.000	0.000	0.000	6.641	0.000	0.000	0.000	0.000	0.000	0.035
May	2.256	0.000	0.000	0.000	2.256	0.000	0.000	0.000	0.000	0.000	0.052
June	0.397	0.000	0.000	0.000	0.397	0.000	0.000	0.000	0.000	0.000	0.019
SUB-TOTAL	15.841	0.000	0.000	0.000	15.841	0.000	0.000	0.000	0.000	0.000	0.141
Jul	0.563	0.000	0.000	0.000	0.563	1.425	0.000	0.000	0.000	0.000	0.018
Aug	0.604	0.000	0.000	0.000	0.604	1.024	0.000	0.000	0.000	0.000	0.022
Sep	0.547	0.000	0.000	0.000	0.547	0.672	0.000	0.045	0.010	0.000	0.040
Oct	1.448	0.000	0.000	0.000	1.448	0.802	0.005	0.050	0.015	0.015	0.026
Nov	2.152	0.000	0.000	0.000	2.152	0.570	0.003	0.050	0.005	0.000	0.008
Dec	1.103	0.000	0.000	0.000	1.103	0.436	0.005	0.080	0.010	0.000	0.025
TOTAL	22.258	0.000	0.000	0.000	22.258	4.929	0.013	0.225	0.040	0.015	0.280

Remark: Total quantity of inert C&D materials generated from July to November 2020 were updated.

- Note: Conversion to 1000m³ for general refuse is weight in 1000kg multiply by 0.002
 Conversion to 1000m³ for Inert C&D is weight in 1000kg multiply by 0.0005
 Plastics refer to plastic bottles / containers, plastic sheets / foam from packaging material
 Plastics refer to plastic bottles / containers, plastic sheets / foam from packaging material
 Assume the loaded volume of a dump truck for internal inert waste transfer is 17.9 m³

Monthly Summary Waste Flow Table for 2021 Year

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Borken Concrete	Reused in the Contract	Reused in other Projects	Disposal as Public Fill	Imported Fill	Metals	Paper / Cardboard Packaging	Plastics (See note 3)	Chemical Waste	Other, e.g. general refuse
	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000m ³]
Jan	1.685	0.000	0.000	0.000	1.685	0.744	0.005	0.050	0.020	0.000	0.032
Feb	0.244	0.000	0.000	0.000	0.244	0.307	0.005	0.050	0.020	0.000	0.011
Mar											
Apr											
May											
June											
SUB-TOTAL	1.928	0.000	0.000	0.000	1.928	1.051	0.010	0.100	0.040	0.000	0.043
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
TOTAL	1.928	0.000	0.000	0.000	1.928	1.051	0.010	0.100	0.040	0.000	0.043

Note: Conversion to 1000m³ for general refuse is weight in 1000kg multiply by 0.002
 Conversion to 1000m³ for Inert C&D is weight in 1000kg multiply by 0.0005
 Plastics refer to plastic bottles / containers, plastic sheets / foam from packaging material
 Plastics refer to plastic bottles / containers, plastic sheets / foam from packaging material
 Assume the loaded volume of a dump truck for internal inert waste transfer is 17.9 m³

Appendix H

Complaint Summary

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action
1	Not provided	14-Mar-19	Junk Bay	Unwilling to disclose	Marine Water	EPD	N08/RE/000074 32-19	The complainant said muddy water and mud was discharged from work barges under CBL between 7:00 - 10pm. The complainant said he observed the act during his recent fishing activities in the nearby area.	According to ET's investigation, Contractor of Contract 1 (CRBC) had provided proper water mitigation measures to minimize the water impact of marine piling work to the nearby waterbody. No abnormal and turbid water discharged from site was observed and no exceedance was recorded from the marine water impact quality monitoring. Nevertheless, the Contractor of Contract 1 was reminded to strictly implement all the water mitigation measures as stated in EP and EM&A Manual and ET will keep closely inspect the site condition in subsequent weekly site inspection. .
2	4-Jan-20	9-Jan-20	Wan O Road	Unwilling to disclose	Noise	CEDD	NA	The Complainant complained about the noise nuisance generated by road breaking work at Wan O Road	As advised by the Contractor of Contract 2 - NE/2017/08 (Build King), road breaking work was commenced at Wan O Road on 4 January 2020 morning. The work involved one road breaker to conduct the breaking activity which generate noise impact. Noise mitigation measure such as wrapped the head of the breaker with acoustic material was implemented on the day of complaint received to minimize the impact to resident nearby. Movable noise barrier was provided on site, but it was not adopted due to miscommunication of workers. Upon received the complaint on 4 January 2020, Build King has immediately adopted the movable noise barrier for road breaking work as noise mitigation measure to minimize the noise impact.
3	15-Jan-20	15-Jan-20	Wan O Road	Unwilling to disclose	Noise	CEDD	NA	The Complainant complained about the noise nuisance generated by road breaking work at Wan O Road	As advised by the Contractor, the movable noise barrier was not immediately adopted after relocation of the road breaker on 15 January 2020. Upon received the complaint, the Contractor has immediately adopted the noise barrier as noise mitigation measure for the road breaking work to minimize the noise impact. In addition, the Contractor has issued a warning letter to the relevant subcontractor for poor environmental performance and requested their worker to strictly implement the use of movable noise barrier. In order to prevent the incident happens again, ET also advised that the Contractor should dedicate a worker to ensure the noise barrier is implemented prior to road breaking activities.
4	25-Feb-20	26-Feb-20	Works Area A	Unwilling to disclose	Noise	CEDD	NA	The Complainant complained about the noise nuisance caused by hammering/chiseling works at Works Area A	As advised by the Contractor of Contract 1 - NE/2017/07 (CRBC), hammering/chiseling works for drilling platform maintenance was conducted at Works Area A on 25 February 2020 morning and no Powered Mechanical Equipment (PME) was involved. Upon received the complaint, CRBC has stopped the relevant work immediately. In order to minimize the noise nuisance caused by the hammering work, CRBC decided to relocate the hammering work from Works Area A to the marine working area which is far away from the residential areas. CEDD replied the complainant on 25 February 2020 and the complainant was satisfied with the proposed mitigation measure.
5	15-Mar-20	18-Mar-20	Junk Bay	Unwilling to disclose	Noise	EPD	NA	The Complainant complained about the construction noise from Junk Bay	As advised by the Contractor of Contract 1 – Contract No. NE/2017/07 (CRBC), their workers reported for duty around 08:00 on 15 March 2020. The workers were standby on a flat top barge in which a precast unit was temporarily stored and waited for the mobilization of crane barge to carry out lifting operation of the precast unit. No hammering work nor other noisy work activity was carried out on the flat top barge in the complaint period. In addition, no Powered Mechanical Equipment (PME) was used until the crane barge was mobilized for lifting operations between 15:00 and 19:00. RSS checked their own records and confirmed that there was no operation of PME in Junk Bay before 09:00 on 15 March 2020. The complaint was considered not related to the Project since there is no operation of PME during the complaint period.
6	2-Apr-20	7-Apr-20	Lohas Park Station Exit A and TKO Salt Water Pumping Station	Unwilling to disclose	Construction Dust	CEDD	NA	The Complainant complained about the dump truck tracking mud on the road adjacent to Lohas Park Station Exit A and TKO Salt Water Pumping Station at approximately 09:50 that morning.	Joint site inspection among the Supervisor, the Contractor, ET and IEC was also carried out on 8 April 2020 to inspect the environmental performance of the construction site. Proper wheel washing facilities was provided at the site entrance near the Lohas Park Station Exit A and all the vehicle were properly washed prior leaving the site. No tracking mud was observed at the complaint location during the site inspection. As advised by RSS, it is confirmed by MTRCL that the complaint location was under MTRCL management and the tracking mud issue was followed up by MTRCL.
7	20-Apr-20	6-May-20	Junk Bay	Lui man Kwong, Member fo Sai Kung District Council	Noise	CEDD	TKO-MK-200421-(R)-1289	The Complainant complained about the noise nuisance generated by construction works from Junk Bay on 20 April 2020 around 6 a.m. to 7 a.m.	As advised by the Contractor of Contract 1 – Contract No. NE/2017/07 (CRBC), there was no marine work carried out at Junk Bay from 06:00 to 07:00 on 20 April 2020 as their workers reported for duty after 08:00 on that day. RSS checked their own records and confirmed that there was no marine work was carried out at Junk Bay before 08:00 on 20 April 2020.

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action
8	5-May-20	6-May-20	General	Unwilling to disclose	Construction Dust, Noise, Wastewater	CEDD	NA	The Complainant complained about the noise nuisance generated by evening works, the wastewater generated from site are not well treated, and the dust generation caused by the construction work.	During the regular joint site inspection among the Supervisor, the Contractor and ET carried out in the past few weeks, it was observed that construction dust and wastewater mitigation measures were implemented properly in both Contracts of the Project. In addition, according to the evening noise monitoring conducted in the past month, the evening noise measurement results were found within the range of the baseline noise monitoring results, which implies that the construction noise from evening works was insignificant. It is considered the complaint is not project related.
9	23-Jul-20	23-Jul-20	Junk Bay	Resident of Ocean Shores	Light Nuisance	CEDD	NA	The Complainant complained about the light nuisance caused by the 4000 tone crane barge during the evening on 22 July 2020.	According to the works schedule of Contract 1, no marine work was conducted on 22 July 2020 evening. The Contractor of Contract 1 (CRBC) advised that the illumination (e.g. flashlight, headlight) on the crane barge is required for safety reason - to keep the barge being visible and to avoid collision by other marine vessel. In order to minimize the light nuisance to the public, it is agreed by CRBC that the illumination on the crane barge will be kept to a minimum in the evening. It is considered the complaint is not project related.
10	28-Jul-20	28-Jul-20	Wan O Road	Resident of Lohas Park Phase 4	Noise	CEDD	NA	The complainant complained about the noise nuisance caused by breaking work at Wan O Road at approximately 10:00am on 28 July 2020.	As advised by the Contractor of Contract 2 – NE/201708 (Build King), breaking work was carried out at Wan O Road at the complaint period and movable noise barrier as noise mitigation measure was implemented during the road breaking work. Noise monitoring was conducted by Build King on 30 July 2020 during the breaking work, the monitoring result did not exceeded the limit level 75dB(A) which revealed that the construction noise received at representative NSR were within acceptable level. Noise monitoring was also conducted by ET on 31 July 2020 and no limit level exceedance was record. It is considered the complaint is related to the Project. However, noise mitigation measure was implemented by Build King during the complaint period.
11	23-Jul-20	13-Aug-20	Junk Bay	Resident of Ocean Shores	Noise	EPD	NA	The Complainant complained about the noise nuisance caused by the 4000 tone crane barge during the restricted hours on 23 July 2020.	According to the works schedule of Contract 1, no marine work was conducted between 22 July 2020 19:00 and 23 July 2020 08:00. RSS checked their own records and confirmed that there was no marine work carried out at Junk Bay between 22 July 2020 19:00 and 23 July 2020 08:00. It is considered the complaint is not related to the Project since no marine work was carried out by CRBC during the reporting period
12	24-Aug-20	26-Aug-20	Junk Bay	Ocean Shores Owner's Committee Chairman Chan Kai Wai	Noise	CEDD	NA	The Complainant complained about the operation of derrick barge at Junk Bay on Sunday	As advised by the Contractor of Contract 1 – Contract No. NE/2017/07 (CRBC), working platform setup work was carried out at pier W4 on 23 August 2020. One derrick barge was used for lifting work between 09:00 - 11:30. During the working platform setting up work, only lifting of platform material was carried out by the derrick barge at V-pier W4. Bolt and nut tightening work for the working platform was then carried out by the workers at pier W4. No hammering work was carried out on 23 August 2020. According to the issued Construction Noise Permit (CNP) GW-RE0438-20, derrick barge (group A, D, E of the PME listed in condition 3a of the CNP) is allowed to be operated on general holiday (including Sunday) 09:00 – 20:00. The operation of the derrick barge on 23 August 2020 was within the permitted hours. It is considered the complaint is related to the Project. However, the Contractor did not breach the requirement stated in the issued CNP with the use of one derrick barge on Sunday and no noise nuisance should be generated by the bolt and nut tightening work performed on 23 August 2020.
13	24-Aug-20	26-Aug-20	Junk Bay	Mr Lee	Noise	CEDD	NA	The Complainant complained about the noise nuisance generated by hammering works on the derrick barge at Junk Bay on Sunday. He also enquiry whether the Construction Noise Permit will be displayed at the site entrance.	As advised by the Contractor of Contract 1 – Contract No. NE/2017/07 (CRBC), working platform setup work was carried out at pier W4 on 23 August 2020. One derrick barge was used for lifting work between 09:00 - 11:30. During the working platform setting up work, only lifting of platform material was carried out by the derrick barge at V-pier W4. Bolt and nut tightening work for the working platform was then carried out by the workers at pier W4. No hammering work was carried out on 23 August 2020. According to the issued Construction Noise Permit (CNP) GW-RE0438-20, derrick barge (group A, D, E of the PME listed in condition 3a of the CNP) is allowed to be operated on general holiday (including Sunday) 09:00 – 20:00. The operation of the derrick barge on 23 August 2020 was within the permitted hours. In addition, the issued CNP was displayed at the site entrance at Wan O Road for public inspection. It is considered the complaint is not related to the Project since no hammering work was carried out during the complaint period

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action
14	14-Sep-20	15-Sep-20	Junk Bay	Unwilling to disclose	Water Quality	1823	NA	The Complainant complained about the suspected pollutant spilled at Junk Bay from the ro-ro barge of the Project	RSS noted the presence of the pollutant on 12 September 2020 at around 11:35 a.m. Trace of pollutant discharge was also found from the box culvert near the complaint location. Catch pits at the site office and at Wan O Road were checked once the pollutant was spotted on 12 September 2020. The catch pits were found clean and no pollutant discharge was found. In addition, no pollutant was observed during the operation of the ro-ro barge. Joint site inspection among the Site Supervisor, the Contractors and ET was carried out on 16 September 2020. No marine pollutant was spotted at the complaint location and from the box culvert. In addition, discharge points of Contract 2 at Wan O Road were inspected and no trace pollutant discharge was observed. The IR revealed that the complaint is not related to the Project since the source of pollutants in the box culvert should be outside the site area of the Project, and there is no trace of pollutant discharged from the construction site and the ro-ro barge.
15	20-Sep-20	21-Sep-20	Junk Bay	Unwilling to disclose	Noise	CEDD	NA	The Complainant complained about the noise nuisance generated from the construction work conducted on 20 September 2020 at Junk Bay	As advised by the Contractor of Contract 1 – Contract No. NE/2017/07 (CRBC), concrete disposal and tidy up work were carried out at pier W1 on 20 September 2020. One derrick barge was used for lifting of concrete debris and formwork at pier W1. No concrete breaking was carried out on 20 September 2020 morning and no electric breaker and backhoe was used. According to the issued Construction Noise Permit (CNP) GW-RE0438-20, derrick barge (group A, D and E of the PME listed in condition 3a of the CNP) is allowed to be operated on general holiday (including Sunday) 09:00 – 20:00. The operation of the derrick barge on 20 September 2020 was within the permitted hours. In the view of the works carried out on 20 September 2020, the operation of derrick barge is considered as the only noise source from Cross Bay Link Project and the noise impact should not be significant to the surrounding NSRs since the pier W1 is located far away (over 900m away to Ocean Shores). Investigation indicated that the complaint is unlikely related to the Project since the noise generated from the derrick barge should be insignificant as the marine work area is located far away from the surrounding NSRs.
16	18-Oct-20	27-Oct-20	Work Area A	Unwilling to disclose	Noise	EPD	NA	The Complainant complained about the noise nuisance generated by Power Mechanical Equipment such as bar bender and cutter at Works Area A (Working Area 2 of the CNP) at around 09:00 and 17:30 on 18 October 2020 (Sunday)	As advised by the Contractor of Contract 1 – Contract No. NE/2017/07 (CRBC), stainless steel rebar cutting work with the use of grinder was performed at the complaint location by two workers without notification to CRBC and RSS on 18 October 2020 at around 09:00 hours. The rebar cutting work was spotted by RSS at around 09:15 hours and was stopped immediately. No rebar cutting work was believed to be carried out at 17:30 hours as these two workers were off-duty at 17:00 hours. According to the issued CNP GW-RE0819-20, the use of grinder is not allowed to be operated at working area 2 during restricted hours. A permit to work system had been implemented to ensure Contractor and RSS were notified in advance of any construction work during restricted hours, but the information may not have been properly delivered to frontline staff. After the incident was happened, a series of follow-up action were implemented by CRBC to ensure no prohibited construction work would be performed during restricted hours. The IR revealed that the complaint is related to the Project since stainless steel rebar cutting work was performed with the use of grinder in the complaint period. However, this should be a single incident and CRBC has carried out follow-up action to prevent the incident to be happened again.
17	27-Nov-20	27-Nov-20	D9 Road	Unwilling to disclose	Noise	1823	NA	The Complainant complained about the noise nuisance and the mosquito issue generated from the construction site at D9 Road.	As advised by the Contractor of Contract 2 (Build King), pre-bored socketed H-piling work was carried out at Wan O Road near Lohas Park Phase 4 while no construction work was carried out at Wan O Road near Lohas Park Phase 2A on 27 November 2020. Noise mitigation measure such as erecting noise barrier was properly implemented by the Contractor during operation of pre-bored socket H-piling work near Lohas Park Phase 4. According to the recent noise monitoring event held at Lohas Park Phase 4 during the operation of the pre-bored socket H-piling work, the obtained monitoring result Leq30min is well below the noise criteria 75 db(A). This implies that the noise impact generated from the pre-bored socketed H-piling work should be acceptable at Lohas Park Phase 4. The IR revealed that the complaint is related to the Project. However, noise mitigation measure was implemented properly by the Contractor and no exceedance of noise monitoring result was recorded during the operation of the piling work. Nevertheless, the Contractor was reminded to implement the noise mitigation measures as far as practicable to reduce noise impact to the public.

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action
18	24-Dec-20	24-Dec-20	Wan O Road	SKDC member Mr. CHEUNG Mei Hung	Noise	EPD	NA	<p>The complainant complained the construction works near Lohas Park Phase 4 started at 9am on weekdays and cause noise nuisance to the resident. He urge the Contractor to schedule noisy construction activities such as breaking and piling works to be carried out after 10am on weekdays and enhance the noise mitigation measures with a view to minimise the noise nuisance to the nearby residents.</p>	<p>As advised by the Contractor of Contract 2 – Contract No. NE/2017/08 (Build King), pre-bored socketed H-piling (PBSH) work was carried out at Wan O Road in early December 2020 and was completed on 11 December 2020. No noisy construction activities such as breaking and piling work was carried out at the complaint location after the completion of PBSH work on 11 December 2020.</p> <p>In the view of minimizing the noise nuisance to the nearby residents, the Contractor will schedule the coming noisy construction work such as sheet piling works after 10 am on Saturday. However, in order to catch up with the construction progress, the noisy construction work will be scheduled after 9 am on weekdays (i.e. Monday to Friday).</p> <p>The IR revealed that the complaint is not related to the Project since no noisy construction work was carried out during the complaint period. Nevertheless, the Contractor was reminded to implement the noise mitigation measures as far as practicable to reduce noise</p>
19	18-Jan-21	27-Jan-21	Wan O Road	SKDC member Mr. CHEUNG Mei Hung	Noise	EPD	NA	<p>The complainant complained the construction works near Lohas Park Phase 4 cause noise nuisance to the resident. He urge the Contractor to start the noisy construction activities as late as possible on each working day and enhance the noise mitigation measures to minimise the noise nuisance to the nearby residents. He would also like to know when the noisy construction activities will be finished.</p>	<p>As advised by the Contractor of Contract 2 – Contract No. NE/2017/08 (Build King), sheet piling work was carried out near Lohas Park Phase 4 at Wan O Road in January 2021. The sheet piling work was scheduled after 9am on weekdays (i.e. Monday to Friday) and after 10 am on Saturday in order to minimize the noise nuisance to the nearby residents. The sheet piling work at Wan O Road is expected to be finished at the end of February 2021. In addition, noise mitigation measures such as movable noise barrier and the use of QPME were implemented properly.</p> <p>The IR revealed that the complaint is related to the Project. However, noise mitigation measure was implemented properly by the Contractor and no exceedance of noise monitoring result was recorded during the operation of the piling work. Nevertheless, the Contractor was reminded to implement the noise mitigation measures as far as practicable to reduce noise impact to the public.</p>
20	26-Feb-21	26-Feb-21	Wan O Road	Unwilling to disclose	Noise	CEDD	NA	<p>The Complainant complained about the construction works near Lohas Park Phase 6 which cause noise nuisance to the resident.</p>	<p>As advised by the Contractor of Contract 2 – Contract No. NE/2017/08 (Build King), concrete breaking work for seawall modification was carried out near Lohas Park Phase 6 at Road D9 during the complaint period. Noise mitigation measure such as erecting noise barrier was properly implemented by the Contractor during concrete breaking work work near Lohas Park Phase 6.</p> <p>According to the recent noise monitoring event held at Lohas Park Phase 4 during concrete breaking work, the obtained monitoring result Leq30min is well below the noise criteria 75 db(A). This implies that the noise impact generated from the concrete breaking work should be acceptable at Lohas Park Phase 6.</p> <p>The IR revealed that the complaint is related to the Project. However, noise mitigation measure was implemented properly by the Contractor and no exceedance of noise monitoring result was recorded during the operation of the breaking work. Nevertheless, the Contractor was reminded to implement the noise mitigation measures as far as practicable to reduce noise impact to the public.</p>

Appendix I

**Implementation Schedule for
Environmental Mitigation Measures**

EIA Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to Address	Location/ Timing	Implementation		Requirements and/or Standards to be Achieved
				Agent	Stage	
Dust Impact (Contraction Phase)						
S5.5.5.1	Regular watering under good site practice shall be adopted. In accordance with the “Control of Open Fugitive Dust Sources” (USEPA AP-42), watering once per hour on exposed worksites and haul road is recommended to achieve dust removal efficiency of 91.7%.	Good construction site practices to control the dust impact on the nearby sensitive receivers to within the relevant criteria	All construction sites	Contractor	Construction stage	<ul style="list-style-type: none"> • APCO (Cap. 311); and • Air Pollution Control (Construction Dust) Regulation
S5.5.5.3	<p>The following dust suppression measures shall also be incorporated by the Contractor to control the dust nuisance throughout the construction phase:</p> <ul style="list-style-type: none"> • Any excavated or stockpiled dusty material shall be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading; • Any dusty materials remaining after a stockpile is removed shall be wetted with water and cleared from the surface of roads; • A stockpile of dusty material shall not extend beyond the pedestrian barriers, fencing or traffic cones; • The load of dusty materials on a vehicle leaving a construction site shall be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle; • Where practicable, vehicle washing facilities with high pressure water jet shall be provided at every discernible or designated vehicle exit point. The area where vehicle washing takes place and the road section between the washing facilities and the exit point shall be paved with concrete, bituminous materials or hardcores; • When there are open excavation and reinstatement works, hoarding of not less than 2.4m high shall be provided as far as practicable along the site boundary with provision for public crossing. Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction period; • The portion of any road leading to the construction site that is within 30m of a vehicle entrance or exit shall be kept clear 	Good construction site practices to control the dust impact on the nearby sensitive receivers to within the relevant criteria	All construction sites	Contractor	Construction stage	<ul style="list-style-type: none"> • APCO (Cap. 311); and • Air Pollution Control (Construction Dust) Regulation

EIA Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to Address	Location/ Timing	Implementation		Requirements and/or Standards to be Achieved
				Agent	Stage	
	of dusty materials; <ul style="list-style-type: none"> Surfaces where any pneumatic or power driven drilling, cutting, polishing or other mechanical breaking operation takes place shall be sprayed with water or a dust suppression chemical continuously; Any area that involves demolition activities shall be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet; Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting shall be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding; Any skip hoist for material transport shall be totally enclosed by impervious sheeting; Exposed earth shall be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shortcrete or other suitable surface stabiliser within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies. 					
S5.5.5.4	For the barging facilities at the site compound, the following good site practice is required: <ul style="list-style-type: none"> All road surfaces within the barging facilities shall be paved. Vehicles should pass through designated wheel wash facilities. Continuous water spray shall be installed at the loading point. 	Good construction site practices to control the dust impact on the nearby sensitive receivers to within the relevant criteria	Site compound	Contractor	Construction stage	<ul style="list-style-type: none"> APCO (Cap. 311); and Air Pollution Control (Construction Dust) Regulation
S5.5.5.5	An audit and monitoring programme during the construction phase should be implemented by the Contractor to ensure that the construction dust impacts are controlled to within the HKAQO. Detailed requirements for the audit and monitoring programmes are given separately in the EM&A manual.	Monitor the 1-Hour and 24-Hr TSP levels at the representative dust monitoring stations to ensure compliance with relevant criteria throughout the construction period	Selected representative dust monitoring station (Drawing no. 209506/EMA/AIR/001)	Contractor	Construction stage	<ul style="list-style-type: none"> APCO (Cap. 311); and Air Pollution Control (Construction Dust) Regulation
Noise Impact (Contraction Phase)						

EIA Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to Address	Location/ Timing	Implementation		Requirements and/or Standards to be Achieved
				Agent	Stage	
S6.6.4.3	Good site practice and noise management techniques: <ul style="list-style-type: none"> • Only well-maintained plant shall be operated on-site and the plant shall be serviced regularly during the construction programme; • Machines and plant (such as trucks, cranes) that are in intermittent use shall be shut down between work periods or throttled down to a minimum; • Plant known to emit noise strongly in one direction, where possible, shall be orientated so that the noise is directed away from nearby NSRs; • Silencers or mufflers on construction equipment shall be properly fitted and maintained during the construction works; • Mobile plant shall be sited as far away from NSRs as possible and practicable; and • Material stockpiles, site office and other structures shall be effectively utilised, where practicable, to screen noise from on-site construction activities. 	To minimize construction noise impact arising from the Project on the affected NSRs	All construction sites	Contractor	Construction stage	<ul style="list-style-type: none"> • Annex 5, TM-EIAO
S6.6.4.5-6	Use of quiet powered mechanical equipment and working methods	Reduce noise levels of plant items	All construction sites	Contractor	Construction stage	<ul style="list-style-type: none"> • Annex 5, TM-EIAO
S6.6.4.7	Install site hoarding at the site boundaries between noisy construction activities and NSRs	Reduce the construction noise levels at low-level zone of NSRs through partial screening	All construction sites	Contractor	Construction stage	<ul style="list-style-type: none"> • Annex 5, TM-EIAO
S6.6.4.8-11	Use of temporary or movable noise barriers and full enclosure for relatively fixed plant source	Screen the noisy plant items to be used at all construction sites	For plant items listed in Table 6.7 and Appendix 6.1 of the EIA report at all construction sites	Contractor	Construction stage	<ul style="list-style-type: none"> • Annex 5, TM-EIAO
	Implement a noise monitoring programme under the EM&A manual	Monitor the construction noise levels at the selected representative locations	Selected representative noise monitoring stations (Drawing no. 209506/EMA/NS/001 & 209506/EMA/NS/002)	Contractor	Construction stage	<ul style="list-style-type: none"> • Annex 5, TM-EIAO
S6.7.3.1	Partial enclosures along Road D9 and application of low noise surfacing material along CBL and Road D9	To minimize road traffic noise impact arising from the CBL and Road D9 on the affected NSRs	CBL and Road D9 (Drawing no. 209506/EMA/NS/003)	CEDD/ Contractor	During operational stage	<ul style="list-style-type: none"> • Annex 5, TM-EIAO

EIA Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to Address	Location/ Timing	Implementation		Requirements and/or Standards to be Achieved
				Agent	Stage	
Water Quality Impact (Contraction Phase)						
S8.6.4.3	<p>Marine Piling and Pile Excavation Works Marine piling and pile excavation works shall be undertaken in such a manner as to minimize re-suspension of sediments. Standard good practice measures shall be implemented, including the following requirements:</p> <ul style="list-style-type: none"> • All marine piling and pile excavation works shall be conducted within a floating single silt curtain. • Mechanical closed grabs (with a size of 5m³) shall be designed and maintained to avoid spillage and should seal tightly while being lifted. • Barges shall have tight fitting seals to their bottom openings to prevent leakage of material. • Any pipe leakages shall be repaired quickly. Plant should not be operated with leaking pipes. • Loading of barges shall be controlled to prevent splashing of dredged material to the surrounding water. Barges shall not be filled to a level which will cause overflow of materials or pollution of water during loading or transportation. • Excess material shall be cleaned from the decks and exposed fittings of barges before the vessel is moved. • Adequate freeboard shall be maintained on barges to reduce the likelihood of decks being washed by wave action. • All vessels shall be sized such that adequate clearance is maintained between vessels and the sea bed at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash. • The works shall not cause foam, oil, grease, litter or other objectionable matter to be present in the water within and adjacent to the works site. 	To control potential impacts from marine piling and pile excavation works	During marine piling and pile excavation works	Contractor	Construction stage	<ul style="list-style-type: none"> • TM-EIAO; and • WPCO
S8.6.4.4	<p>Construction Site Runoff</p> <p>In accordance with the Practice Note for Professional Persons on Construction Site Drainage, Environmental Protection Department, 1994 (ProPECC PN 1/94), construction phase mitigation measures, where appropriate, shall include the following:</p> <ul style="list-style-type: none"> • The design of efficient silt removal facilities shall be based on the guidelines in Appendix A1 of ProPECC PN 1/94. The 	Control potential water quality impacts from construction site run-off	All construction sites	Contractor	Construction stage	<ul style="list-style-type: none"> • TM-EIAO; and • WPCO

EIA Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to Address	Location/ Timing	Implementation		Requirements and/or Standards to be Achieved
				Agent	Stage	
	<p>detailed design of the sand/silt traps shall be undertaken by the contractor prior to the commencement of construction;</p> <ul style="list-style-type: none"> Open stockpiles of construction materials (for example, aggregates, sand and fill material) of more than 50m³ shall be covered with tarpaulin or similar fabric during rainstorms. Measures shall be taken to prevent the washing away of construction materials, soil, silt or debris into any marine water bodies; All vehicles and plant shall be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing facilities shall be provided at every construction site exit where practicable. Wash-water shall have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-wash bay to the public road shall be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains; Construction solid waste, debris and rubbish on site shall be collected, handled and disposed of properly to avoid water quality impacts; All fuel tanks and storage areas shall be provided with locks and sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching water sensitive receivers nearby; and Regular environmental audit on the construction site shall be carried out in order to prevent any malpractices. Notices shall be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the meander, wetlands and fish ponds. 					
S8.6.4.6	<p>Sewage from workforce</p> <ul style="list-style-type: none"> Portable chemical toilets and sewage holding tanks shall be provided for handling the construction sewage generated by the workforce; A licensed contractor shall be employed to provide 	Control potential water quality impacts from sewage	All construction sites	Contractor	Construction stage	<ul style="list-style-type: none"> TM-EIAO; and WPCO

EIA Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to Address	Location/ Timing	Implementation		Requirements and/or Standards to be Achieved
				Agent	Stage	
	appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance.					
	Monitoring Implement a marine water quality monitoring programme under the EM&A on level of suspended solids (SS) / turbidity and dissolved oxygen (DO) shall be carried out.	Control potential water quality impacts from marine piling and pile excavation works	Selected monitoring stations (Drawing no. 209506/EMA/WQ/001)	Contractor	Construction station	<ul style="list-style-type: none"> • TM-EIAO; and • WPCO
S8.7.3.2	Operational phase – Runoff from road surface Proper drainage systems with silt traps and oil interceptors shall be installed, maintained and cleaned at regular intervals.	Control potential water quality impacts from road surface runoff	CBL and Road D9	Contractor	Construction and operational stage	<ul style="list-style-type: none"> • TM-EIAO; and • WPCO
Waste Management (Contraction Phase)						
S9.5.2	Good Site Practices Recommendations for good site practices: <ul style="list-style-type: none"> • Nomination of an approved personnel to be responsible for the implementation of good site practices, arrangements for collection and effective deposal to an appropriate facility of all wastes generated at the site; • Training of site personnel in proper waste management and chemical handling procedures; • Provision of sufficient waste disposal points and regular collection for disposal; • Separation of chemical wastes for special handling and appropriate treatment at the Chemical Waste Treatment Centre; • Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; and • Implementation of a recording system for the amount of wastes generated/recycled and disposal sites. 	Good site practices which ensure waste generated during construction phase is properly managed	All construction sites	Contractor	Construction stage	<ul style="list-style-type: none"> • Waste Disposal Ordinance (Cap. 54); • ETWB TCW No. 19/2005

EIA Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to Address	Location/ Timing	Implementation		Requirements and/or Standards to be Achieved
				Agent	Stage	
S9.5.4	<p><u>Waste Reduction Measures</u> Recommendations for achieving waste reduction include:</p> <ul style="list-style-type: none"> • On-site reuse of any material excavated as far as practicable; • Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of material and their proper disposal; • Collection of aluminum cans and waste paper by individual collectors during construction should be encouraged. Separately labelled recycling bins should also be provided to segregate these wastes from other general refuse by the workforce; • Recycling of any unused chemicals and those with remaining functional capacity as far as possible; • Prevention of the potential damage or contamination to the construction materials through proper storage and good site practices; • Planning and stocking of construction materials should be made carefully to minimize amount of waste generated avoid unnecessary generation of waste; and • Training on the importance of appropriate waste management procedures, including waste reduction, reuse and recycling should be provided to workers. 	To reduce amount of waste generated during construction phase	All construction sites	Contractor	Construction stage	<ul style="list-style-type: none"> • Waste Disposal Ordinance (Cap. 54); • ETWB TCW No. 19/2005
S9.5.5-6	<p><u>Storage, Collection and Transportation of Waste</u> Recommendations for proper storage include:</p> <ul style="list-style-type: none"> • Waste such as soil should be handled and stored well to ensure secure containment; • Stockpiling area should be provided with covers and water spraying system to prevent materials from being washed away and to reduce wind-blown litter; and • Different locations should be designated to stockpile each material to enhance reuse. <p>With respect to the collection and transportation of waste from the construction works, the following is recommended:</p> <ul style="list-style-type: none"> • Remove waste in a timely manner; • Employ trucks with cover or enclosed containers for waste transportations; • Obtain relevant waste disposal permits from the appropriate 	To reduce the environmental implications of improper storage	All construction sites	Contractor	Construction stage	<ul style="list-style-type: none"> • Waste Disposal Ordinance (Cap. 54); • ETWB TCW No. 19/2005

EIA Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to Address	Location/ Timing	Implementation		Requirements and/or Standards to be Achieved
				Agent	Stage	
	authorities; and <ul style="list-style-type: none"> Disposal of waste should be done at licensed waste disposal facilities. 					
S9.5.8-11	<p><u>C&D Materials</u> The following mitigation measures shall be implemented in handling the waste:</p> <ul style="list-style-type: none"> Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement; Carry out on-site sorting; Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate; Implement a trip-ticket system for each works contract to ensure that the disposal of C&D materials are properly documented and verified; Disposal of the C&D materials onto any sensitive locations such as agricultural lands, etc. should be avoided. The Contractor shall propose the final disposal sites to the Project Proponent and get its approval before implementation; Standard formwork or pre-fabrication order to minimise the arising of C&D materials. The use of more durable formwork or plastic facing for the construction works should be considered. Metal hoarding should be used to enhance the possibility of recycling. The purchasing of construction materials will be carefully planned in order to avoid over ordering and wastage; and The Contractor should recycle as much of the C&D materials as possible on-site. Public fill and C&D waste should be segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal. Where practicable, concrete and masonry can be crushed and used as fill. Steel reinforcement bar can be used by scrap steel mills. Different areas of the sites should be considered for such segregation and storage. 	Good site practice to minimize the waste generation and recycle the C&D materials as far as practicable so as to reduce the amount for final disposal	All construction sites	Contractor	Construction stage	<ul style="list-style-type: none"> Waste Disposal Ordinance (Cap. 54); ETWB TCW No. 19/2005 ETWB TCW No. 06/2010
S9.5.13	<p><u>Excavated Marine Sediments</u> During transportation and disposal of the excavated marine sediments, the following measures shall be taken to minimize potential environmental impacts:</p> <ul style="list-style-type: none"> Bottom opening of barges should be fitted with tight fitting 	To minimize potential impacts on water quality	All construction sites where applicable	Contractor	Construction stage	<ul style="list-style-type: none"> ETWBTC (Works) No. 34/2002

EIA Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to Address	Location/ Timing	Implementation		Requirements and/or Standards to be Achieved
				Agent	Stage	
	<p>seals to prevent leakage of material. Excess material should be cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessel is moved;</p> <ul style="list-style-type: none"> Monitoring of the barge loading should be conducted to ensure that loss of material does not take place during transportation; Transport barges or vessels should be equipped with automatic self-monitoring devices as specified by the DEP; and Barges should not be filled to a level that would cause the overflow of materials or sediment-laden water during loading or transportation. 					
S9.5.14-17	<p>For those processes which generate chemical waste, the Contractor shall identify any alternatives that generate reduced quantities or even no chemical waste, or less dangerous types of chemical waste.</p> <p>If chemical waste is produced at the construction site, the Contractor is required to register with EPD as chemical waste producers. Chemical waste shall be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes as follows. Containers used for storage of chemical wastes shall:</p> <ul style="list-style-type: none"> Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; Have a capacity of less than 450 L unless the specification have been approved by EPD; and Display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Regulations. <p>The storage area for chemical wastes shall:</p> <ul style="list-style-type: none"> Be clearly labelled and used solely for the storage of chemical wastes; Be enclosed on at least 3 sides; Have an impermeable floor and bunding of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in the area, whichever is greatest; 	To ensure proper management of chemical waste	All construction sites	Contractor	Construction stage	<ul style="list-style-type: none"> Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Labelling and Storage of Chemical Waste

EIA Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to Address	Location/ Timing	Implementation		Requirements and/or Standards to be Achieved
				Agent	Stage	
	<ul style="list-style-type: none"> Have adequate ventilation; Be covered to prevent rainfall entering (water collected within the bund must be tested and disposed as chemical waste, if necessary); and Be arranged so that incompatible materials are adequately separated. Disposal of chemical waste shall: <ul style="list-style-type: none"> Be via a licensed waste collector; and Be to a facility licensed to receive chemical waste, such as the CWTC which also offers a chemical waste collection service and can supply the necessary storage containers; or Be to a re-user of the waste, under approval from EPD. 					
S9.5.18	<p>Sewage An adequate number of portable toilets shall be provided for the on-site construction workers. Any waste shall be transferred to a sewage treatment works by a licensed collector.</p>	Proper handling of sewage from worker to avoid odour, pest and litter impacts	All construction sites	Contractor	Construction stage	<ul style="list-style-type: none"> Waste Disposal Ordinance (Cap. 54)
S9.5.19	<p>General Refuse General refuse generated on-site shall be stored in enclosed bins or compaction units separately from construction and chemical wastes. Recycling bins shall also be provided to encourage recycling. A reputable waste collector shall be employed by the Contractor to remove general refuse from the site on a daily basis separately from the construction and chemical wastes. Burning of refuse on construction sites is prohibited by law.</p>	Minimize production of general refuse and avoid odour, pest and litter impacts	All construction sites	Contractor	Construction stage	<ul style="list-style-type: none"> Waste Disposal Ordinance (Cap. 54)
S10.7.2.4	Good Site Practices – The integrity and effectiveness of all silt curtains shall be regularly inspected. Effluent monitoring should be incorporated to make sure that the discharged effluent from construction sites meets the relevant effluent discharge guidelines.	To minimize potential impacts on water quality and protect marine communities within Junk Bay	All construction sites	Contractor	Construction stage	<ul style="list-style-type: none"> TM-EIAO; and WPCO
S10.7.2.5	Site runoff control – For works on land, standard site runoff control measures will be established and strictly enforced to ensure that discharge of contaminated or silt-laden runoff into marine waters is minimized.	To minimize potential impacts on water quality and protect marine communities within Junk Bay	All construction sites	Contractor	Construction stage	<ul style="list-style-type: none"> TM-EIAO; and WPCO
S10.9.1.1	The marine water quality monitoring programme recommended in Chapter 8 of this EIA report and this EMIS would also serve to protect the marine communities inside Junk Bay.	To minimize potential impacts on water quality and protect marine	Selected monitoring stations (Drawing no. 209506/EMA/WQ/001)	Contractor	Construction stage	<ul style="list-style-type: none"> TM-EIAO; and WPCO

EIA Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to Address	Location/ Timing	Implementation		Requirements and/or Standards to be Achieved
				Agent	Stage	
		communities within Junk Bay				
S11.6.2.2	Good Site Practices: – The integrity and effectiveness of all silt curtains should be regularly inspected. Effluent monitoring shall be incorporated to make sure that the discharged effluent from construction sites meets the relevant effluent discharge guidelines.	To minimize potential impacts on water quality and protect fishery resources	All construction sites	Contractor	Construction stage	<ul style="list-style-type: none"> • TM-EIAO; and • WPCO
S11.6.2.3	Site runoff control - For works on land, standard site runoff control measures will be established and strictly enforced to ensure that discharge of contaminated or silt-laden runoff is minimized.	To minimize potential impacts on water quality and protect fishery resources	All construction sites	Contractor	Construction stage	<ul style="list-style-type: none"> • TM-EIAO; and • WPCO
S11.8.1.1	The marine water quality monitoring programme recommended in Chapter 8 of this EIA report and this EMIS would also serve to protect the fishery resources.	To minimize potential impacts on water quality and protect fishery resources	Selected monitoring stations (Drawing no. 209506/EMA/WQ/001)	Contractor	Construction stage	<ul style="list-style-type: none"> • TM-EIAO; and • WPCO
Landscape and Visual						
S13.8.1.2	The following mitigation measures should be implemented in the construction stage <ul style="list-style-type: none"> • CM1 – The construction area and contractor’s temporary works areas should be minimized to avoid impacts on adjacent landscape. • CM2 – Reduction of construction period to practical minimum. • CM3 – Topsoil, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where the soil material meets acceptable criteria and where practical. The Contract Specification shall include storage and reuse of topsoil as appropriate. • CM4 – Existing trees on boundary of the Project Area shall be carefully protected during construction. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in contractor’s works areas. (Tree protection measures will be detailed at Tree Removal Application stage). 	Minimize effects of landscape and visual impacts	Work site/during construction	Funded and implemented by CEDD	Construction stage	

EIA Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to Address	Location/ Timing	Implementation		Requirements and/or Standards to be Achieved
				Agent	Stage	
	<ul style="list-style-type: none"> • CM5 – Trees unavoidably affected by the works shall be transplanted where practical. Trees should be transplanted straight to their final receptor site and not held in a temporary nursery. A detailed Tree Transplanting Specification shall be provided in the Contract Specification, if applicable. Sufficient time for necessary tree root and crown preparation periods shall be allowed in the project programme. • CM6 – Advance screen planting to proposed roads and associated structures. • CM7 – hydroseeding or sheeting of soil stockpiles with visually unobtrusive material (in earth tone). • CM8 – Screening of construction works by hoardings/noise barriers around works area in visually unobtrusive colours, to screen Works. • CM9 – Control night-time lighting and glare by hooding all lights. • CM10 – Ensure no run-off into water body adjacent to the Project Area. • CM11 – Avoidance of excessive height and bulk of buildings and structures 					
S13.8.1.2	OM1 – Compensatory tree planting for all felled trees shall be provided to the satisfaction of relevant Government departments. Required numbers and locations of compensatory trees shall be determined and agreed separately with Government during the Tree Felling Application process under ETWBTC 3/2006.	Minimize effects of landscape and visual impacts	Within the site boundary of the proposed works	Funded and implemented by CEDD. Maintained by CEDD and LCSD.	Design, construction and operational stages	
S13.8.1.2	The following mitigation measures should be implemented in the operational stage: <ul style="list-style-type: none"> • OM2 – A continuous belt of screen planting along the roads. Planting of the belt of trees shall be carried out as advance works ahead of other site formation and building works. • OM3 – Maximise soft landscape of the site, where space permits, roadside berms /slope treatment works should be created. • OM4 – During detailed design, refine structure layout to create a planting strips along the roads to enhance greenery. • OM5 – Use appropriate (visually unobtrusive and 	Minimize effects of landscape and visual impacts	CBL and Road D9/during construction and operation	Funded and implemented by CEDD. Maintained by CEDD and LCSD.	Design, construction and operational stages	

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				Agent	Stage	
	non-reflective) building materials and colours, and aesthetic design in built structures. <ul style="list-style-type: none"> • OM6 – Streetscape elements (e.g. paving, signage, street furniture, lighting etc.) shall be sensitively designed in a manner that responds to the local context, and minimizes potential negative landscape and visual impacts. Lighting units should be directional and minimize unnecessary light spill. • OM7 – Avoidance of excessive height and bulk of buildings and structures 					
Landfill Gas						
S14.7.5	Precautionary measures The following guidance has been extracted from the EPD’s Landfill Gas Hazard Assessment Guidance Note Guidance to ensure a robust and comprehensive set of measures to protect workers are provided. <ul style="list-style-type: none"> • During all works, safety procedures shall be implemented to minimize the risks of fires and explosions, asphyxiation of workers (especially in confined space) and toxicity effects resulting from contact with contaminated soils and groundwater. • Safety officers who are specifically trained with regard to LFG and leachate related hazards and the appropriate actions to take in adverse circumstances shall be present on all worksites throughout the works. • All personnel who work on site and all visitors to the site shall be made aware of the possibility of ignition of gas in the vicinity of the works, the possible presence of contaminated water and the need to avoid physical contact with it. • Those staff who work in, or have responsibility for “at risk” areas, including all excavation workers, supervisors and engineers working within the consultation zone, shall receive appropriate training on working in areas susceptible to LFG hazards. • Enhanced personal hygiene practices including washing thoroughly after working and eating only in “clean” areas shall be adopted where contact may have been made with any groundwater which is thought to be contaminated with 	Health and safety of the workers	Construction sites within 250m Consultation Zone (Drawing no. 209506/EMA/LFG/001)	Contractor	Construction stage	<ul style="list-style-type: none"> • Landfill Gas Hazard Assessment Guidance Note (EPD/TR8/97)

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				Agent	Stage	
	<p>leachate.</p> <ul style="list-style-type: none"> • Ground level construction plant shall be fitted with vertical exhausts at least 0.6m above ground level and with spark arrestors. • During piping assembly or ducting construction, all valves/seals shall be closed immediately after installation. As construction progresses, all valves/seals should be closed as installed to prevent the migration of gases through the pipeline/conduit. All piping /ducting shall be capped at the end of each working day. • Mobile offices, equipment stores, mess rooms etc. shall be located on an area which has been proven to be gas free (by survey with portable gas detectors) and ongoing monitoring shall be carried out to ensure that these areas remain gas free. Alternatively, such buildings shall be raised clear of the ground. If buildings are raised clear of the ground, the minimum, clear separation distance (as measured from the highest point on the ground surface to the underside of the lowest floor joist) shall be 500mm. However, in this case, it is highly recommended that all the site offices, equipment stores and mess rooms should be located outside the 250m Consultation Zone. • Smoking and naked flames shall be prohibited within confined spaces. “No Smoking” and “No Naked Flame” notices in Chinese and English shall be posted prominently around the construction site. Safety notices shall be posted warning of the potential hazards. • Welding, flame-cutting or other hot works may only be carried out in confined spaces when controlled by a “permit to work” procedure, properly authorized by the Safety Office. The permit to work procedure shall set down clearly the requirements for continuous monitoring of methane, carbon dioxide and oxygen throughout the period during which the hot works are in progress. The procedure shall also require the presence of an appropriately qualified person who shall be responsible for reviewing the gas measurements as they are made, and who shall have executive responsibility for suspending the work in the event of 					

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				Agent	Stage	
	<p>unacceptable or hazardous conditions. Only those workers who are appropriately trained and fully aware of the potentially hazardous conditions which may arise shall be permitted to carry out hot works in confined areas.</p> <ul style="list-style-type: none"> During the construction works, adequate fire extinguishers and breathing apparatus sets shall be made available on site and appropriate training given in their use. 					
S14.7.6	<p>Landfill gas monitoring The following monitoring shall be undertaken when construction works are carried out in confined space within the 250m Consultation Zone:</p> <ul style="list-style-type: none"> The works area shall be monitored for methane, carbon dioxide and oxygen using appropriately calibrated portable gas detection equipment. The monitoring requirements and procedures specified in Paragraphs 8.23 to 8.28 of EPD's Guidance Note shall be followed. The monitoring frequency and areas to be monitored shall be set down prior to commencement of the works. Depending on the results of the measurements, actions required will vary. As a minimum these shall encompass the actions specified in Table 14.6 of the EIA report. When portable monitoring equipment is used, the frequency and areas to be monitored should be set down prior to commencement of the works either by the Safety Officer or by an appropriately qualified person. All measurements shall be made with the monitoring tube located not more than 10mm from the surface. A standard form, detailing the location, time of monitoring and equipment used together with the gas concentrations measured, shall be used when undertaking manual monitoring to ensure that all relevant data are recorded. If methane (flammable gas) or carbon dioxide concentrations are in excess of the trigger levels or that of oxygen is below the level specified in the Emergency Management in the following section, then evacuation shall be initiated. 	Health and safety of the workers	Confined space of construction sites within 250m Consultation Zone	Contractor	Construction stage	<ul style="list-style-type: none"> Landfill Gas Hazard Assessment Guidance Note (EPD/TR8/97)
S14.7.8-9	<p>Emergency management In the event of the trigger levels specified in Table 14.6 of the EIA report being exceeded, a person, such as the Safety</p>	Health and safety of the workers	Confined space of construction sites within 250m Consultation Zone	Contractor	Construction stage	<ul style="list-style-type: none"> Landfill Gas Hazard Assessment

EIA Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to Address	Location/ Timing	Implementation		Requirements and/or Standards to be Achieved
				Agent	Stage	
	<p>Officer, shall be nominated, with deputies, to be responsible for dealing with any emergency which may occur due to LFG.</p> <p>In an emergency situation the nominated person, or his deputies, shall have the necessary authority and shall ensure that the confined space is evacuated and the necessary works implemented for reducing the concentrations of gas.</p>					<p>Guidance Note (EPD/TR8/97)</p>
S14.7.16	<p>Protection measures – Operational phase</p> <ul style="list-style-type: none"> • An assumed presence of landfill gas shall be adopted at all times by maintenance workers; • all maintenance workers inspecting any manhole shall be fully trained in the issue of LFG hazard; • any manhole which is large enough to permit to access to personnel shall be subject to entry safety procedure; • Code of Practice on Safety and Health at Work in Confined Spaces shall be followed to ensures compliance with the Factories and Industrial Undertakings (Confined Spaces) Regulations of the Factories and Industrial Undertakings Ordinance; • a strictly regulated “work permit procedure” shall be implemented and the relevant safety procedures must be rigidly followed; and • Adequate communication with maintenance staff shall be maintained with respect to LFG. 	Health and safety of the workers	Utility maintenance areas within 250m Consultation Zone/during operational period	Utility companies	Operational stage	<ul style="list-style-type: none"> • Landfill Gas Hazard Assessment Guidance Note (EPD/TR8/97); and • Code of Practice on Safety and Health at Work in Confined Space
S14.7.17	<p>General recommended precautionary & protection measures – Operational phase</p> <p>LGF surveillance exercise shall be undertaken by the utility companies at the utility manholes/inspection chambers. The surveillance exercise shall be undertaken for the duration of the site occupancy, or until such time that EPD agree that surveillance is no longer required and this shall be based on all the available monitoring data for methane, carbon dioxide and oxygen.</p>	Health and safety of the workers	Utility maintenance areas within 250m Consultation Zone/during operational period	Utility companies	Operational stage	<ul style="list-style-type: none"> • Landfill Gas Hazard Assessment Guidance Note (EPD/TR8/97); and • Code of Practice on Safety and Health at Work in Confined Space