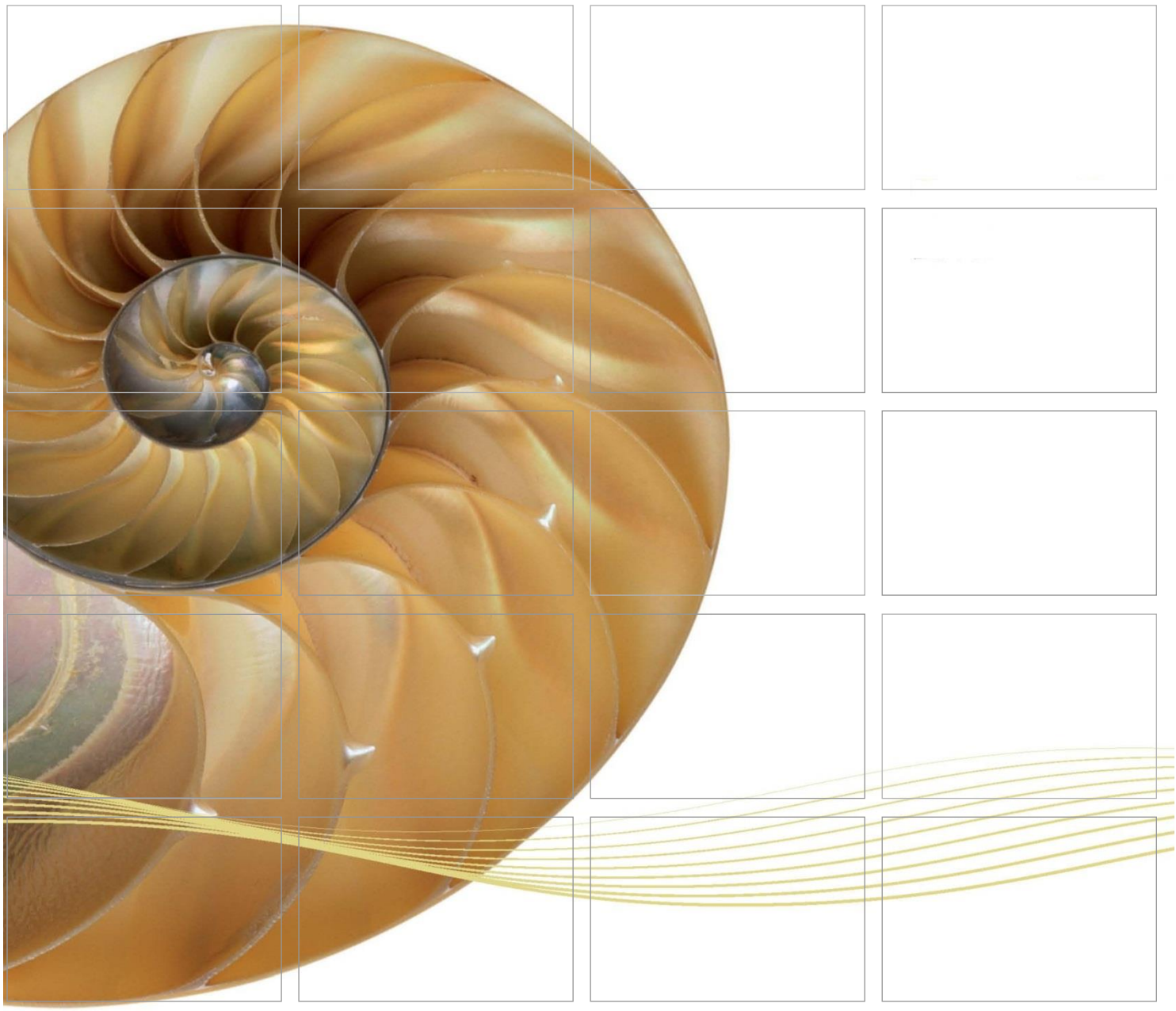
REPORT



Contract No. HY/2017/10
Tuen Mun – Chek Lap Kok Link – Northern Connection Tunnel Buildings, Electrical and Mechanical Works

Seventh Quarterly EM&A Report

27 April 2020

Environmental Resources Management
2507, 25/F One Harbourfront
18 Tak Fung Street
Hunghom, Kowloon
Hong Kong
Telephone 2271 3000
Facsimile 2723 5660

www.erm.com

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The business of sustainability

Contract No. HY/2017/10
Tuen Mun – Chek Lap Kok Link – Northern Connection Tunnel Buildings, Electrical and Mechanical Works

Environmental Resources Management

2507, 25/F One Harbourfront
18 Tak Fung Street
Hunghom, Kowloon
Hong Kong
Telephone: (852) 2271 3000
Facsimile: (852) 2723 5660
E-mail: post.hk@erm.com
http://www.erm.com

Seventh Quarterly EM&A Report

Document Code: 0463091_7th Quarterly EM&A_20200427.doc

Client: Gammon	Project No: 0463091
Summary: This document presents the Seventh Quarterly EM&A Report for Tuen Mun – Chek Lap Kok Link – Northern Connection Tunnel Buildings, Electrical and Mechanical Works.	Date: 27 April 2020 Approved by: *Mr Craig Reid* *Partner* Certified by: *Dr Jasmine Ng* *ET Leader*

Revision	Description	By	Checked	Approved	Date
	Seventh Quarterly Monthly EM&A Report	CW	JN	CAR	27/4/20

Distribution

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☐ Confidential

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Ref.: HYDHZMBEEM00_0_8023L.20.doc

12 May 2020

By Fax (2783 0155) and By Post

AECOM Asia Company Limited
Supervising Officer's Representative Office
No. 8 Mong Fat Street, Tuen Mun, New Territories, Hong Kong

Attention: Mr. Desmond Fung

Dear Mr. Fung,

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

Contract No. HY/2017/10
TM-CLKL – Northern Connection Tunnel Buildings, E&M Works
7th Quarterly EM&A Report for December 2019 – February 2020

Reference is made to the Environmental Team's submission of the quarterly EM&A report for December 2019 – February 2020 (ET's ref.: "*0463091_7th Quarterly EM&A_20200427.doc*" dated 27 April 2020) certified by the ET Leader and provided to us via e-mail on 27 April 2020.

Please be informed that we have no adverse comments on the captioned submission.

Thank you for very much your attention. Please feel free to contact the undersigned or the ENPO Leader, Mr. Y H Hui, should you require further information.

Yours sincerely,
For and on behalf of
Ramboll Hong Kong Limited

F. C. Tsang
Independent Environmental Checker
Tuen Mun-Chek Lap Kok Link

c.c.

HyD	Mr. Patrick Ng	(By Fax: 3188 6614)
HyD	Mr. Andy Ho	(By Fax: 3188 6614)
AECOM	Mr. Conrad Ng	(By Fax: 3922 9797)
ERM	Dr. Jasmine Ng	(By Fax: 2723 5660)
Gammon	Mr. Max Poon	(By Fax: 3520 0486)

Internal: DY, YH, RY, ENPO Site

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Ramboll Hong Kong Limited 英環香港有限公司
21/F, BEA Harbour View Centre, 56 Gloucester Road, Wan Chai, Hong Kong Tel: 852.3465 2888 Fax: 852.3465 2899
www.ramboll.com

TABLE OF CONTENTS

List of Appendices

Under *Contract No. HY/2017/10*, Gammon Construction Limited (GCL) is commissioned by the Highways Department (HyD) to undertake Northern Connection Tunnel Buildings, Electrical and Mechanical Works of the Tuen Mun – Chek Lap Kok Link Project (TM-CLK Link Project) while AECOM Asia Company Limited was appointed by HyD as the Engineer. For implementation of the environmental monitoring and audit (EM&A) programme under the Contract, ERM-Hong Kong, Limited (ERM) has been appointed as the Environmental Team (ET) in accordance with *Environmental Permit No. EP-354/2009/A*. Ramboll Hong Kong Ltd. was employed by HyD as the Independent Environmental Checker (IEC) and Environmental Project Office (ENPO). Subsequent applications for variation of environmental permits (VEP), *EP-354/2009/B*, *EP-354/2009/C* and *EP-354/2009/D*, were granted on 28 January 2014, 10 December 2014 and 13 March 2015, respectively.

The construction phase of the Contract commenced on 7 June 2018 and will tentatively be completed by 2021. The impact monitoring of the EM&A programme, including air quality and environmental site inspections, were commenced on 7 June 2018.

This is the Seventh Quarterly EM&A Report presenting the EM&A works carried out during the period from 1 December 2019 to 29 February 2020 for the *Contract No. HY/2017/10 Northern Connection Tunnel Buildings, Electrical and Mechanical Works* (the "Contract") in accordance with the Updated EM&A Manual of the TM-CLK Link Project. As informed by the Contractor, major activities in the reporting period included:

<u>December 2019</u>

Land-based Works

- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Toll Control Building;
- Electrical and Mechanical Works at Ventilation Plant Room;
- Electrical and Mechanical Works at North Ventilation Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Administration Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Maintenance Depot;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Fire Services Department Building;

- Electrical and Mechanical Works and Architectural Builder's Work at Customs and Excise Department Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at N1;
- Electrical and Mechanical Works at Kiosk N2;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at the Tunnel;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at underpass at C3 area;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Toll Booth;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Satellite Control Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Kiosk S2; and
- Electrical and Mechanical Works at South Ventilation Building.

January 2020

Land-based Works

- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Toll Control Building;
- Electrical and Mechanical Works at Ventilation Plant Room;
- Electrical and Mechanical Works at North Ventilation Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Administration Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Maintenance Depot;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Fire Services Department Building;
- Electrical and Mechanical Works and Architectural Builder's Work at Customs and Excise Department Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at N1;
- Electrical and Mechanical Works at Kiosk N2;

- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at the Tunnel;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at underpass at C3 area;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Satellite Control Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Kiosk S2; and
- Electrical and Mechanical Works at South Ventilation Building.

February 2020

Land-based Works

- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Main Control Building;
- Electrical and Mechanical Works at Ventilation Plant Room;
- Electrical and Mechanical Works at North Ventilation Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Administration Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Maintenance Depot;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Fire Services Department Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Customs and Excise Department Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at N1;
- Electrical and Mechanical Works at Kiosk N2;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at the Tunnel;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at underpass at C3 area;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Satellite Control Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Kiosk S2; and

- Electrical and Mechanical Works at South Ventilation Building.

A summary of monitoring and audit activities conducted in the reporting period is listed below (1):

24-hour TSP Monitoring	30 sessions
1-hour TSP Monitoring	30 sessions
Landfill Gas Hazard Monitoring	44 days
Joint Environmental Site Inspection	13 sessions

Summary of Breaches of Action/Limit Levels

Breaches of Action and Limit Levels for Air Quality

Four (4) exceedances of Action Level and one (1) exceedance of Limit Level of 1-hour TSP were recorded by the Environmental Team of Contract No. *HY/2012/08* during the reporting period. No exceedance of 24-hour TSP Action and Limit Levels were recorded during the reporting period.

Breaches of Action Level for Landfill Gas Hazard Monitoring

Results of landfill gas hazard monitoring in the reporting period complied with the Action Level.

Environmental Complaints, Non-compliance & Summons

There was no environmental complaint, notification of summons or successful prosecution recorded in the reporting period.

Reporting Change

There was no reporting change in the reporting period.

Upcoming Works for the Next Reporting Period

Works to be undertaken in the coming quarter include the following:

March 2020

Land-based Works

- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Main Control Building;
- Electrical and Mechanical Works at Ventilation Plant Room;
- Electrical and Mechanical Works at North Ventilation Building;

(1) ET justification on the Contract Specific Environmental Monitoring and Audit activities under this Contract was submitted to ENPO on 11 September 2018

- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Administration Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Maintenance Depot;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Fire Services Department Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Customs and Excise Department Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at N1;
- Electrical and Mechanical Works at Kiosk N2;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at the Tunnel;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at underpass at C3 area;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Satellite Control Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Kiosk S2; and
- Electrical and Mechanical Works at South Ventilation Building.

April 2020

Land-based Works

- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Main Control Building;
- Electrical and Mechanical Works at Ventilation Plant Room;
- Electrical and Mechanical Works at North Ventilation Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Administration Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Maintenance Depot;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Fire Services Department Building;

- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Customs and Excise Department Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at N1;
- Electrical and Mechanical Works at Kiosk N2;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at the Tunnel;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at underpass at C3 area;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Satellite Control Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Kiosk S2; and
- Electrical and Mechanical Works at South Ventilation Building.

May 2020

Land-based Works

- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Main Control Building;
- Electrical and Mechanical Works at Ventilation Plant Room;
- Electrical and Mechanical Works at North Ventilation Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Administration Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Maintenance Depot;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Fire Services Department Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Customs and Excise Department Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at N1;
- Electrical and Mechanical Works at Kiosk N2;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at the Tunnel;

- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at underpass at C3 area;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Satellite Control Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Kiosk S2; and
- Electrical and Mechanical Works at South Ventilation Building.

F**uture Key Issues**

Potential environmental impacts arising from the above upcoming construction activities in the coming quarterly period are mainly associated with dust and waste management issues.

1 INTRODUCTION

1.1 BACKGROUND

According to the findings of the Northwest New Territories (NWNT) Traffic and Infrastructure Review conducted by the Transport Department, Tuen Mun Road, Ting Kau Bridge, Lantau Link and North Lantau Highway would be operating beyond capacity after 2016. This forecast has been based on the estimated increase in cross boundary traffic, developments in the Northwest New Territories (NWNT), and possible developments in North Lantau, including the Airport developments, the Lantau Logistics Park (LLP) and the Hong Kong – Zhuhai – Macao Bridge (HZMB). In order to cope with the anticipated traffic demand, two new road sections between NWNT and North Lantau – Tuen Mun – Chek Lap Kok Link (TM-CLKL) and Tuen Mun Western Bypass (TMWB) are proposed.

An Environmental Impact Assessment (EIA) of TM-CLKL (the Project) was prepared in accordance with the EIA Study Brief (No. ESB-175/2007) and the *Technical Memorandum of the Environmental Impact Assessment Process* (*EIAO-TM*). The EIA Report was submitted under the Environmental Impact Assessment Ordinance (EIAO) in August 2009. Subsequent to the approval of the EIA Report (EIAO Register Number AEIAR-146/2009), an Environmental Permit (EP-354/2009) for TM-CLKL was granted by the Director of Environmental Protection (DEP) on 4 November 2009, and EP variation (VEP) (EP-354/2009/A) was issued on 8 December 2010. Subsequent applications for variation of environmental permits (VEPs), *EP-354/2009/B, EP-354/2009/C* and *EP-354/2009/D*, were granted on 28 January 2014, 10 December 2014 and 13 March 2015, respectively.

Under *Contract No. HY/2017/10*, Gammon Construction Limited (GCL) is commissioned by the Highways Department (HyD) to undertake the Northern Connection Tunnel Buildings, Electrical and Mechanical Works of TM-CLKL while AECOM Asia Company Limited was appointed by HyD as the Engineer. For implementation of the environmental monitoring and audit (EM&A) programme under the Contract, ERM-Hong Kong, Limited (ERM) has been appointed as the Environmental Team (ET). Ramboll Hong Kong Ltd. was employed by HyD as the Independent Environmental Checker (IEC) and Environmental Project Office (ENPO).

The construction phase of the Contract commenced on 7 June 2018 and will be tentatively completed by 2021. The impact monitoring phase of the EM&A programme, including air quality and environmental site inspections, commenced on 7 June 2018.

The general layout plan of the Contract components is presented in *Figures 1.1 & 1.2a to c.*

Project Management Initials: Designer: KATH Checked: SYLC Approved: CWN ISO A1 594mm x 841mm

N

TUEN MUN

LUNG KWU TAN

URMSTON ROAD

TAI LAM CHUNG RESERVOIR

TSING YI

A

01
7061

01
7063

TUEN MUN TO
CHEK LAP KOK LINK

SOUTH CHINA SEA

SIU MO TO

TAI MO TO

HONG KONG
BOUNDARY
CROSSING
FACILITIES

01
7062

CHEK LAP KOK

A

TUNG
CHUNG

LANTAU ISLAND

AECOM

PROJECT
TUEN MUN -
CHEK LAP KOK LINK

CONTRACT TITLE
TUEN MUN - CHEK LAP KOK LINK
- NORTHERN CONNECTION TUNNEL
BUILDINGS, ELECTRICAL AND
MECHANICAL WORKS

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

CONSULTANT
AECOM Asia Company Ltd.
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SUB-CONSULTANTS

Figure 1.1

ISSUE/REVISION

I/R	DATE	DESCRIPTION	CHK.
A	JAN.18	TENDER ADDENDUM NO.1	SYLC
-	DEC.17	TENDER DRAWING	SYLC

STATUS

SCALE: A1 1 : 40000
DIMENSION UNIT: MILLIMETRES

KEY PLAN

PROJECT NO.: 60240249
CONTRACT NO.: HY/2017/10

SHEET TITLE
OVERALL SITE PLAN

SHEET NUMBER
60240249/C4/7051A

Plot File by: jerrywong
PATH: X:\TO\To RSSMSL\C4 Drawings\C4_Drawing (2018_01_02)\Architectural drawings -DGN\60240249_C4_7051.dgn

Project Management Initials: Designed: KATH Checked: SYLC Approved: CWN ISO A1 594mm x 841mm

Plot File by: jerrywong 23-Jan-18
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AECOM

PROJECT
TUEN MUN - CHEK LAP KOK LINK

CONTRACT TITLE
TUEN MUN - CHEK LAP KOK LINK - NORTHERN CONNECTION TUNNEL BUILDINGS, ELECTRICAL AND MECHANICAL WORKS

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

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Figure 1.2a

ISSUE/REVISION

I/R	DATE	DESCRIPTION	CHK.
A	JAN.18	TENDER ADDENDUM NO.1	SYLC
-	DEC.17	TENDER DRAWING	SYLC

STATUS

SCALE	DIMENSION UNIT
A1 1 : 2500	MILLIMETRES

KEY PLAN

PROJECT NO.	CONTRACT NO.
60240249	HY/2017/10

SHEET TITLE
ZONING PLAN (SHEET 1)

SHEET NUMBER
60240249/C4/7061A

Project Management Initials: Designer: KATH Checked: SYLC Approved: CWN ISO A1 594mm x 841mm

N

AECOM

PROJECT
TUEN MUN -
CHEK LAP KOK LINK

CONTRACT TITLE
TUEN MUN - CHEK LAP KOK LINK - NORTHERN CONNECTION TUNNEL BUILDINGS, ELECTRICAL AND MECHANICAL WORKS

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

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Figure 1.2b

ISSUE/REVISION

I/R	DATE	DESCRIPTION	CHK.
A	JAN.18	TENDER ADDENDUM NO.1	SYLC
	DEC.17	TENDER DRAWING	SYLC

STATUS

SCALE: A1 1 : 2500
DIMENSION UNIT: MILLIMETRES

KEY PLAN

PROJECT NO.: 60240249
CONTRACT NO.: HY/2017/10

SHEET TITLE
ZONING PLAN
(SHEET 2)

SHEET NUMBER
60240249/C4/7062A

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Project Management Initials: Designer: KATH Checked: SYLC Approved: CWN ISO A1 594mm x 841mm

Plot File by: jerrywong 17-Jan-18
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AECOM

PROJECT
TUEN MUN -
CHEK LAP KOK LINK

CONTRACT TITLE
TUEN MUN - CHEK LAP KOK LINK - NORTHERN CONNECTION TUNNEL BUILDINGS, ELECTRICAL AND MECHANICAL WORKS

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

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Figure 1.2c

ISSUE/REVISION

A	JAN.18	TENDER ADDENDUM NO.1	SYLC
	DEC.17	TENDER DRAWING	SYLC
	DATE	DESCRIPTION	CHK.

STATUS

SCALE
A1 1 : 2500

DIMENSION UNIT
MILLIMETRES

KEY PLAN

PROJECT NO.
60240249

CONTRACT NO.
HY/2017/10

SHEET TITLE
ZONING PLAN
(SHEET 3)

SHEET NUMBER
60240249/C4/7063A

1.2 SCOPE OF REPORT

This is the Seventh Quarterly EM&A Report under the *Contract No. HY/2017/10 Tuen Mun – Chek Lap Kok Link – Northern Connection Tunnel Buildings, Electrical and Mechanical Works*. This report presents a summary of the environmental monitoring and audit works from 1 December 2019 to 29 February 2020.

1.3 ORGANIZATION STRUCTURE

The organization structure of the Contract is shown in *Appendix A*. The key personnel contact names and contact details are summarized in *Table 1.1* below.

Table 1.1 Contact Information of Key Personnel

Party	Position	Name	Telephone	Fax
HyD (Highways Department)	Project Coordinator	Joseph Lee	2762 4958	3188 6614
	Senior Engineer	Cheng Pan	2762 3383	3188 6614
ER (AECOM Asia Company Limited)	Principle Resident Engineer	S. W. Fok	2293 6200	2293 6300
	Resident Engineer	Desmond Fung	2293 6200	2293 6300
ENPO / IEC (Ramboll Hong Kong Ltd.)	ENPO Leader	Y.H. Hui	3465 2850	3465 2899
	IEC	Dr. F.C. Tsang	3465 2851	3465 2899
Contractor (Gammon Construction Limited)	Site Agent	Kenneth Tai	9039 4723	-
	Environmental Officer	Max Poon	9103 6303	-
ET (ERM-HK)	ET Leader	Dr. Jasmine Ng	2271 3311	2723 5660

1.4 SUMMARY OF CONSTRUCTION WORKS

The construction phase of the Contract commenced on 7 June 2018. The rolling construction programme for the period of December 2019 to February 2020 is shown in *Appendix B*.

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

<u>December 2019</u>

Land-based Works

- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Toll Control Building;

- Electrical and Mechanical Works at Ventilation Plant Room;
- Electrical and Mechanical Works at North Ventilation Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Administration Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Maintenance Depot;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Fire Services Department Building;
- Electrical and Mechanical Works and Architectural Builder's Work at Customs and Excise Department Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at N1;
- Electrical and Mechanical Works at Kiosk N2;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at the Tunnel;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at underpass at C3 area;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Toll Booth;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Satellite Control Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Kiosk S2; and
- Electrical and Mechanical Works at South Ventilation Building.

January 2020

Land-based Works

- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Toll Control Building;
- Electrical and Mechanical Works at Ventilation Plant Room;
- Electrical and Mechanical Works at North Ventilation Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Administration Building;

- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Maintenance Depot;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Fire Services Department Building;
- Electrical and Mechanical Works and Architectural Builder's Work at Customs and Excise Department Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at N1;
- Electrical and Mechanical Works at Kiosk N2;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at the Tunnel;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at underpass at C3 area;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Satellite Control Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Kiosk S2; and
- Electrical and Mechanical Works at South Ventilation Building.

February 2020

Land-based Works

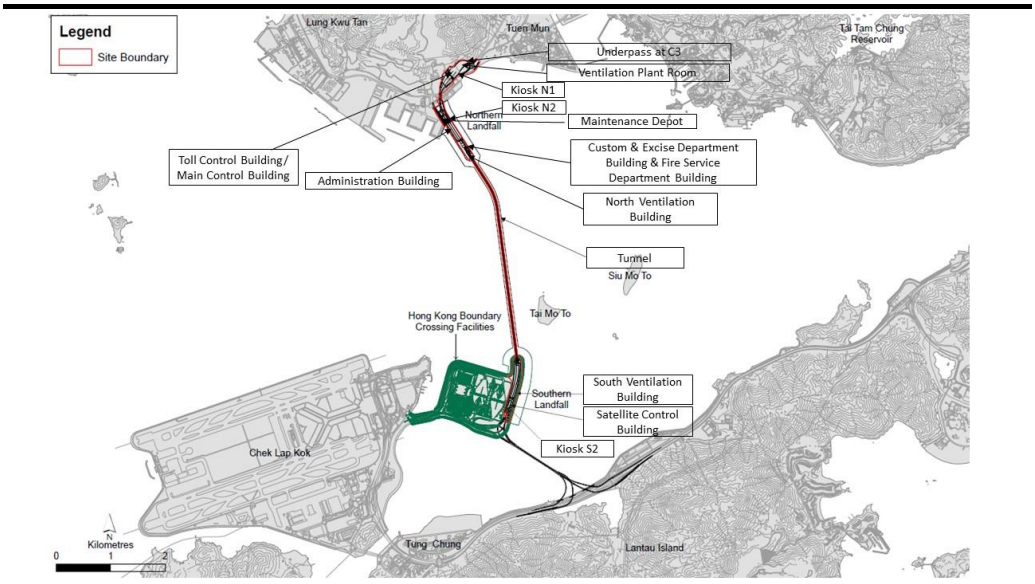
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Main Control Building;
- Electrical and Mechanical Works at Ventilation Plant Room;
- Electrical and Mechanical Works at North Ventilation Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Administration Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Maintenance Depot;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Fire Services Department Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Customs and Excise Department Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at N1;

- Electrical and Mechanical Works at Kiosk N2;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at the Tunnel;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at underpass at C3 area;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Satellite Control Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Kiosk S2; and
- Electrical and Mechanical Works at South Ventilation Building.

The locations of the construction activities are shown in *Figure 1.3*. The Environmental Sensitive Receivers in the vicinity of the Contract are shown in *Figure 1.4*.

The implementation schedule of environmental mitigation measures is presented in *Appendix C*.

Figure 1.3 Locations of Major Construction Activities in the Reporting Period



2 EM&A RESULTS

The EM&A programme required environmental monitoring for air quality and environmental site inspections for air quality, water quality and waste management. The EM&A requirements and related findings for each component are summarized in the following sections

2.1 AIR QUALITY

2.1.1 Monitoring Requirements and Equipment

In accordance with the Updated EM&A Manual and the Enhanced TSP Monitoring Plan, impact 1-hour TSP monitoring was conducted three (3) times every six (6) days and impact 24-hour TSP monitoring was carried out once every six (6) days when the highest dust impact was expected. 1-hr and 24-hr TSP monitoring frequency was increased to three times per day every three days and daily every three days, respectively, as excavation works for launching shaft under *Contract No. HY/2012/08 Tuen Mun-Chek Lap Kok Link – Northern Connection Sub-sea Tunnel Section* commenced on 24 October 2014.

Results of air quality monitoring were adopted from the published EM&A data of *Contract No. HY/2012/08 Tuen Mun-Chek Lap Kok Link – Northern Connection Sub-sea Tunnel Section* (1).

The Action and Limit Levels of the air quality monitoring were adopted from the published EM&A reports of *Contract No. HY/2012/08 Tuen Mun-Chek Lap Kok Link – Northern Connection Sub-sea Tunnel Section* (2). The Action and Limit Levels are provided in *Appendix D*.

The locations of the monitoring stations overlapped with Contract No. HY/2012/08 are shown in *Figure 2.1* and presented in *Table 2.1*.

(1) Published EM&A data for impact air quality monitoring by *Contract No. HY/2012/08* are available at: http://www.hzmbenpo.com/

(2) Published EM&A reports of *Contract No. HY/2012/08* are available at: http://www.hzmbenpo.com/

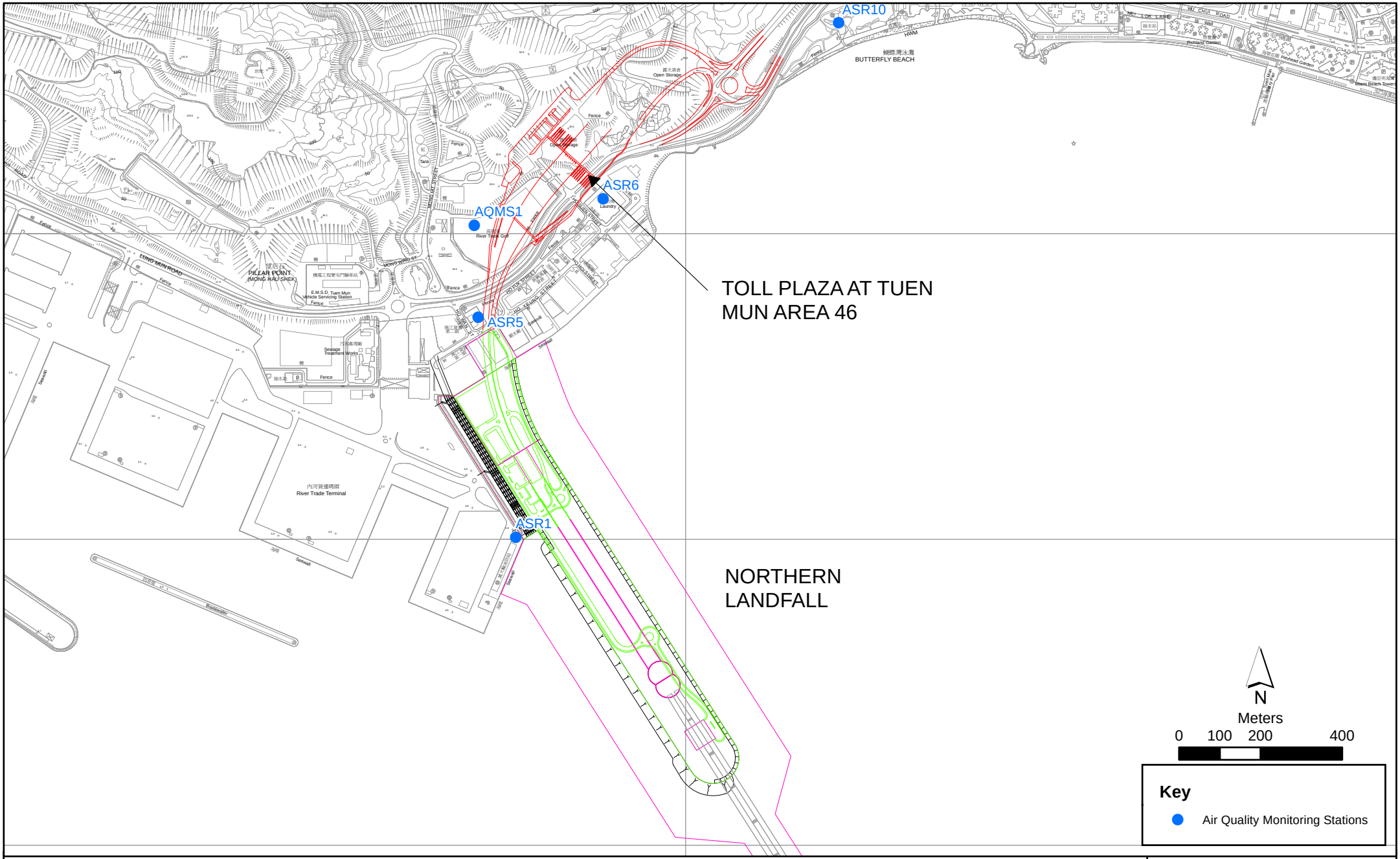


Figure 2.1

Air Quality Monitoring Stations for the Enhanced TSP Monitoring
(Source: Adopted from Contract No. HY/2012/08 Tuen Mun-Chek Lap Kok Link - Northern Connection Sub-sea Tunnel Section)

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Date: 21/2/2014

Environmental Resources Management

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Table 2.1 Locations of Impact Air Quality Monitoring Stations and its Corresponding Monitoring Requirements

Monitoring Station	Monitoring Dates	Location	Description	Parameters & Frequency
ASR1	1, 4, 7, 10, 13, 16, 19, 22, 25, 28 and 31 December 2019	Tuen Mun Fireboat Station	Office	TSP monitoring • 1-hour Total Suspended Particulates (1-hour TSP, µg/m³), 3 times in every 6 days • 24-hour Total Suspended Particulates (24-hour TSP, µg/m³), daily for 24-hour in every 6 days
ASR5	3, 6, 9, 12, 15, 18, 21, 24 and 30 January 2020	Pillar Point Fire Station	Office	
AQMS1		Previous River Trade Golf	Bare ground	
ASR6	2, 5, 8, 11, 14, 17, 20, 23, 26 and 29 February 2020	Butterfly Beach Laundry	Office	Enhanced TSP monitoring (commenced on 24 October 2014 under *Contract No. HY/2012/08*) • 1-hour Total Suspended Particulates (1-hour TSP, µg/m³), 3 times in every 3 days • 24-hour Total Suspended Particulates (24-hour TSP, µg/m³), daily for 24-hour in every 3 days
ASR10		Butterfly Beach Park	Recreational uses	

2.1.2 Results and Observations

Results of air quality monitoring were adopted from the published EM&A data of *Contract No. HY/2012/08 Tuen Mun-Chek Lap Kok Link – Northern Connection Sub-sea Tunnel Section* [(1)].

Four (4) exceedances of Action Level and one (1) exceedance of Limit Level of 1-hour TSP were recorded by the Environmental Team of Contract No. *HY/2012/08* during the reporting period. The exceedances were considered not related to this Contract upon further investigation and the investigation report is presented in *Appendix I*. No action is required to be undertaken in accordance with the Event Action Plan as presented in *Appendix E*.

2.2 EM&A SITE INSPECTION

Site inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures under the Contract. Thirteen (13) site inspections were carried out in the reporting period on 6, 13, 20 and 27 December 2019, 3, 10, 17, 24 and 31 January 2020 and 6, 14, 21 and 28 February 2020.

Key observations and recommendations during the site inspections in this reporting period are summarized in *Table 2.2*.

(1) Published EM&A data for impact air quality monitoring by *Contract No. HY/2012/08* are available at: http://www.hzmbenpo.com/

Table 2.2 Specific Observations and Recommendations during the Weekly Site Inspection in this Reporting Period

Inspection Date	Observations	Recommendations/ Remarks
6 December 2019	Satellite Control Building • Chemicals were observed not placed in drip tray. • Damaged drip tray should be replaced.	Satellite Control Building • The Contractor was reminded to place chemicals in drip tray. • The Contractor was reminded to replace the damaged drip tray.
13 December 2019	Fire Services Department Building • Chemical containers were observed not placed in drip tray. Customs and Excise Department Building • Dusty materials should be properly covered.	Fire Services Department Building • The Contractor was reminded to place chemical containers in drip tray. Customs and Excise Department Building • The Contractor was reminded to cover the dusty materials with tarpaulin sheet.
20 December 2019	Customs and Excise Department Building • Cement bags should be covered properly with tarpaulin sheet. • Chemical containers were observed not locked.	Customs and Excise Department Building • The Contractor was reminded to cover properly the cement bags. • The Contractor was reminded to place chemical containers in drip tray.
27 December 2019	Satellite Control Building • Better housekeeping should be maintained. • Chemical containers were observed not placed in drip tray. South Ventilation Building • Accumulated general refuse should be cleared.	Satellite Control Building • The Contractor was reminded to maintain better housekeeping and regularly cleanup general refuse. • The Contractor was reminded to place chemical containers in drip tray. South Ventilation Building • The Contractor was reminded to clear accumulated general refuse.
3 January 2020	Satellite Control Building • Chemical containers were observed not placed in drip tray. • Housekeeping should be maintained. South Ventilation Building • Oil drum on forklift should be removed.	Satellite Control Building • The Contractor was reminded to place chemical containers in drip tray. • The Contractor was reminded to maintain better housekeeping. South Ventilation Building • The Contractor was reminded to remove the oil drum.
10 January 2020	Tunnel • Accumulated general refuse should be removed.	Tunnel • The Contractor was reminded to regularly cleanup general refuse.
17 January 2020	North Ventilation Building • Nil	North Ventilation Building • Nil
24 January 2020	South Ventilation Building • Drip tray for pipe threading machine was observed damaged.	South Ventilation Building • The Contractor was reminded to provide a proper drip tray.
31 January 2020	Tunnel • Accumulated general refuse should be removed.	Tunnel • The Contractor was reminded to maintain better housekeeping.
6 February 2020	Tunnel • Chemicals was observed on the hard paved surface. • General refuse was found accumulated.	Tunnel • The Contractor was reminded to remove chemical stain. • The Contractor was reminded to keep good housekeeping.

Inspection Date	Observations	Recommendations/ Remarks
14 February 2020	Fire Services Department Building • Accumulated general refuse should be removed. • Pipe threading machine should be placed in drip tray. • Chemical container should be placd in drip tray. Customs and Excise Department Building • Retained water in the drip tray was observed. • Accumulated general refuse were observed.	Fire Services Department Building • The Contractor was reminded to clear general refuse. • The Contractor was reminded to place pipe threading machine in drip tray. • The Contractor was reminded to place chemical container in drip tray. Customs and Excise Department Building • The Contractor was reminded to clear retained water. • The Contractor was reminded to clear refuse.
21 February 2020	Satellite Control Building • Chemical container should be placed in drip tray. Tunnel • Better housekeeping should be maintained.	Satellite Control Building • The Contractor was reminded to place the chemical container in drip tray. Tunnel • The Contractor was reminded to keep better housekeeping.
28 February 2020	Ventilation Shaft • Accumulated general refuse should be removed. • Pipe threading machine should be placed in drip tray.	Ventilation Shaft • The Contractor was reminded to maintain better housekeeping. • The Contractor was reminded to place pipe threading machine in drip tray.

The Contractor has rectified all of the observations as identified during environmental site inspections in the reporting period.

2.3 *LANDFILL GAS HAZARD MONITORING*

In accordance with the Updated EM&A Manual of the TM-CLK Link Project, landfill gas hazard monitoring should be performed to ensure that the works area at Pillar Point Valley (PPV) Landfill is free of landfill gas during any excavations works. A total of 44 days of landfill gas hazard monitoring was conducted at Toll Control Building/Main Control Building in the reporting period (*Appendix F*).

No landfill gas monitoring was scheduled since 25 January 2020 as no excavation work at Toll Control Building/Main Control Building was undertaken since 25 January 2020.

The Action Level of the landfill gas hazard monitoring were adopted from the Updated EM&A Manual of the TM-CLK Link Project and are provided in *Appendix D*.

2.3.1 *Results and Observations*

Results for landfill gas hazard monitoring are summarized in *Table 2.3* and the monitoring data is provided in *Appendix G.*

Results of methane, oxygen and carbon dioxide in the reporting period complied with the Action Level. No action as stated in the Updated EM&A Manual of the TM-CLK Link Project and presented in *Appendix D* is required to be undertaken.

Table 2.3 Summary of Landfill Gas Hazard Monitoring Results in the Reporting Period

		Average (%)	Range (%)	Action Level (%) [a]
December 2019	Methane	0	0	10/20
	Oxygen	20.8	20.8-20.9	19/18
	Carbon Dioxide	0.03	0.03-0.04	0.5/1.5
January 2020 [b]	Methane	0	0	10/20
	Oxygen	20.8	20.8-20.9	19/18
	Carbon Dioxide	0.03	0.03-0.04	0.5/1.5

Notes:

(a) Depending on the results of the measurements, actions required will vary. Actions in the event of landfill gas being detected in excavation/confined area was adopted from the Updated EM&A Manual of the TM-CLK Link Project

(b) No landfill gas monitoring was scheduled since 25 January 2020 as no excavation work at Toll Control Building/Main Control Building was undertaken since 25 January 2020

2.4 WASTE MANAGEMENT STATUS

The Contractor had submitted application form for registration as chemical waste producer under the Contract. Sufficient numbers of receptacles were available for general refuse collection and sorting.

Wastes generated during this reporting period included mainly construction wastes (inert and non-inert). Reference has been made to the waste flow table prepared by the Contractor (*Appendix H*). The quantities of different types of wastes are summarized in *Table 2.4*.

Table 2.4 Quantities of Different Waste Generated in the Reporting Period

Month/Year	Inert C&D Materials [a] (m^3)	Inert Construction Waste Re-used (m^3)	Non-inert Construction Waste [b] (kg)	Imported Fill (m^3)	Recyclable Materials [c] (kg)	Chemical Wastes (kg)
December 2019	489	0	276,850	0	0	0
January 2020	10	0	187,500	0	70	0
February 2020	47	0	176,100	0	84	0

Notes:

(a) Inert construction wastes include hard rock and large broken concrete disposed as public fill.

(b) Non-inert construction wastes include general refuse disposed at landfill.

(c) Recyclable materials include metals, paper, cardboard, plastics, timber and others.

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

For chemical waste containers, the Contractor was reminded to treat chemical waste properly and store the containers temporarily in designated chemical waste storage area on site in accordance with the *Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes*.

2.5 *ENVIRONMENTAL LICENSES AND PERMITS*

The status of environmental licensing and permit is summarized in *Table 2.5* below.

Table 2.5 Summary of Environmental Licensing and Permit Status

License/ Permit	License or Permit No.	Date of Issue	Date of Expiry	License/ Permit Holder	Remarks
Environmental Permit	EP-354/2009/D	13 March 2015	N/A	HyD	Tuen Mun- Chek Lap Kok Link
APCO Construction Dust Notification	433493	14 May 2018	N/A	GCL	For Tuen Mun working area
Construction Waste Billing Account	7030836	15 May 2018	N/A	GCL	N/A
Chemical Waste Producer Registration	5213-422-G2827-01	13 June 2018	N/A	GCL	N/A
Discharge License under WPCO for Buildings at C2 area	WT00031783-2018	22 October 2018	31 October 2023	GCL	Sampling Frequency: Bimonthly
Discharge License under WPCO for Buildings at C3 area	WT00032062-2018	30 October 2018	31 October 2023	GCL	Sampling Frequency: Quarterly
Construction Noise Permit	GW-RW0524-19	3 November 2019	29 April 2020	GCL	For Toll Control Building/Main Control Building, Administration Building, Maintenance Depot, FSD, C&ED, Boundary Wall, Tunnel, Approach ramp, NVB and WA18
Construction Noise Permit	GW-RW0054-20	11 February 2020	11 August 2020	GCL	For Toll Control Building/Main Control Building, Administration Building, Maintenance Depot, FSD, C&ED, Boundary Wall, Tunnel, Approach ramp, NVB and WA18
Construction Noise Permit	GW-RS0778-19	30 August 2019	28 Februry 2020	GCL	For Kiosk S2 and SCB
Construction Noise Permit	GW-RS1130-19	19 December 2019	18 June 2020	GCL	For Kiosk S2 and SCB
Construction Noise Permit	GW-RS0448-19	25 September 2019	14 December 2019	GCL	For Deck Void Lighting Installation
Construction Noise Permit	GW-RS0039-20	23 January 2020	22 July 2020	GCL	For HKBCF Area

2.6 IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES

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

A summary of the Implementation Schedule of Environmental Mitigation Measures (EMIS) is presented in *Appendix C*. The necessary mitigation measures relevant to this Contract were implemented properly.

2.7 SUMMARY OF EXCEEDANCES OF THE ENVIRONMENTAL QUALITY PERFORMANCE LIMIT

Four (4) exceedances of Action Level and one (1) exceedance of Limit Level of 1-hour TSP were recorded by the Environmental Team of Contract No. *HY/2012/08* during the reporting period. The exceedances were considered not related to this Contract upon further investigation and the investigation report is presented in *Appendix I*. No action is required to be undertaken in accordance with the Event Action Plan as presented in *Appendix E*.

No exceedance of Action and Limit Levels for 24-hour TSP was recorded in the reporting period.

Results of landfill gas hazard monitoring in the reporting period complied with the Action Level.

Cumulative statistics are provided in *Appendix I*.

2.8 SUMMARY OF COMPLAINTS, NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

The Environmental Complaint Handling Procedure is provided in *Figure 2.2*.

There was no environmental complaint, notification of summons or successful prosecution recorded in the reporting period.

Statistics on complaints, notifications of summons, successful prosecutions are summarized in *Appendix I*.

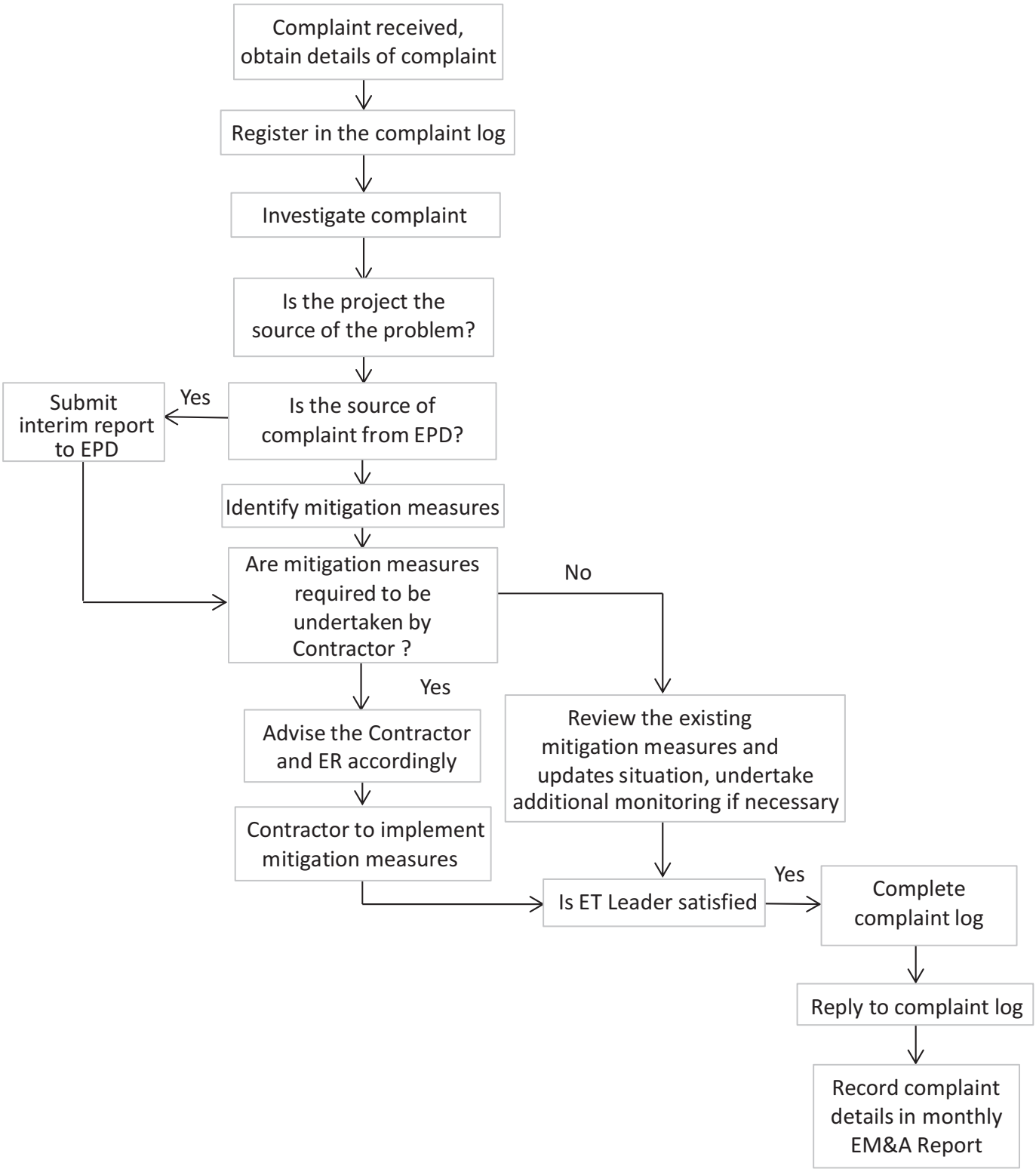

Figure 2.2 Environmental Complaint Handling Procedure

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DATE: 06/12/2013

Environmental Resources Management

ERM

3 FUTURE KEY ISSUES

3.1 CONSTRUCTION ACTIVITIES FOR THE COMING QUARTER

As informed by the Contractor, the major works for the Contract in the coming quarter are summarized below:

March 2020

Land-based Works

- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Main Control Building;
- Electrical and Mechanical Works at Ventilation Plant Room;
- Electrical and Mechanical Works at North Ventilation Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Administration Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Maintenance Depot;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Fire Services Department Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Customs and Excise Department Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at N1;
- Electrical and Mechanical Works at Kiosk N2;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at the Tunnel;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at underpass at C3 area;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Satellite Control Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Kiosk S2; and
- Electrical and Mechanical Works at South Ventilation Building.

April 2020

Land-based Works

- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Main Control Building;
- Electrical and Mechanical Works at Ventilation Plant Room;
- Electrical and Mechanical Works at North Ventilation Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Administration Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Maintenance Depot;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Fire Services Department Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Customs and Excise Department Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at N1;
- Electrical and Mechanical Works at Kiosk N2;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at the Tunnel;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at underpass at C3 area;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Satellite Control Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Kiosk S2; and
- Electrical and Mechanical Works at South Ventilation Building.

May 2020

Land-based Works

- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Main Control Building;
- Electrical and Mechanical Works at Ventilation Plant Room;
- Electrical and Mechanical Works at North Ventilation Building;

- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Administration Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Maintenance Depot;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Fire Services Department Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Customs and Excise Department Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at N1;
- Electrical and Mechanical Works at Kiosk N2;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at the Tunnel;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at underpass at C3 area;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Satellite Control Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Kiosk S2; and
- Electrical and Mechanical Works at South Ventilation Building.

3.2 KEY ISSUES FOR THE COMING QUARTER

Potential environmental impacts arising from the above upcoming construction activities are mainly associated with dust and waste management issues.

4 CONCLUSIONS AND RECOMMENDATIONS

4.1 CONCLUSIONS

This Seventh Quarterly EM&A Report presents the findings of the EM&A activities undertaken during the period from 1 December 2019 to 29 February 2020, in accordance with the Updated EM&A Manual and the requirements of EP-354/2009/D.

Air quality monitoring (including 1-hour TSP and 24-hour TSP) was carried out in this reporting period.

Four (4) exceedances of Action Level and one (1) exceedance of Limit Level of 1-hour TSP were recorded by the Environmental Team of Contract No. *HY/2012/08* during the reporting period. The exceedances were considered not related to this Contract upon further investigation and the investigation report is presented in *Appendix I*. No action is required to be undertaken in accordance with the Event Action Plan as presented in *Appendix E*.

No exceedance of Action and Limit Levels for 24-hour TSP was recorded in the reporting month.

Results of landfill gas hazard monitoring in the reporting period complied with the Action Level.

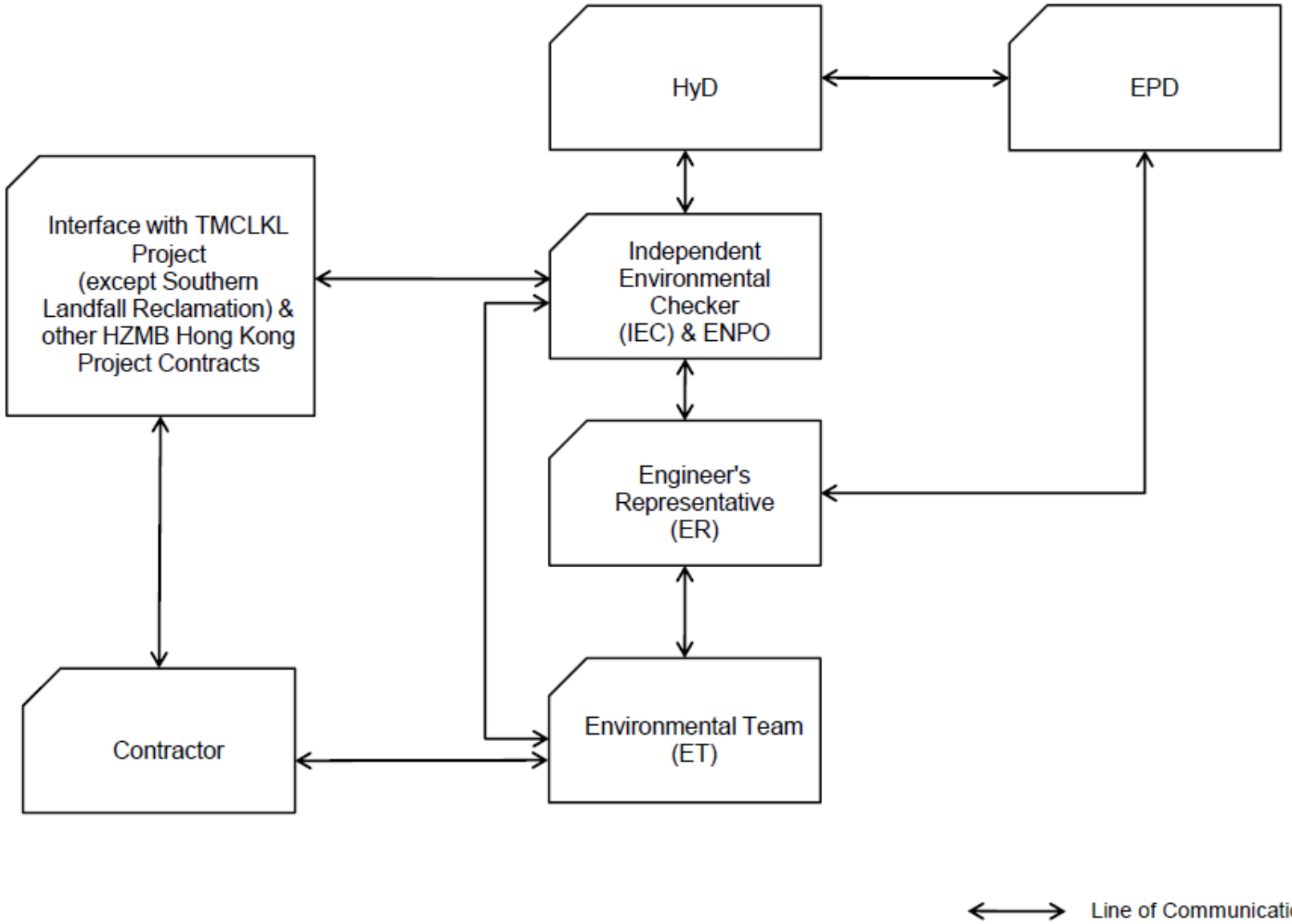
Environmental site inspection was carried out thirteen (13) times in the reporting period. Remedial actions recommended for the deficiencies identified during the site audits were properly implemented by the Contractor.

There was no environmental complaint, notification of summons or successful prosecution recorded in the reporting period.

The ET will keep track on the construction works to confirm compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

Appendix A

Project Organization for Environmental Works



Appendix A1

DATE: 09/07/2018

Contract No. HY/2017/10 Northern Connection Tunnel Buildings, Electrical and Mechanical Works, Project Organization

Environmental Resources Management

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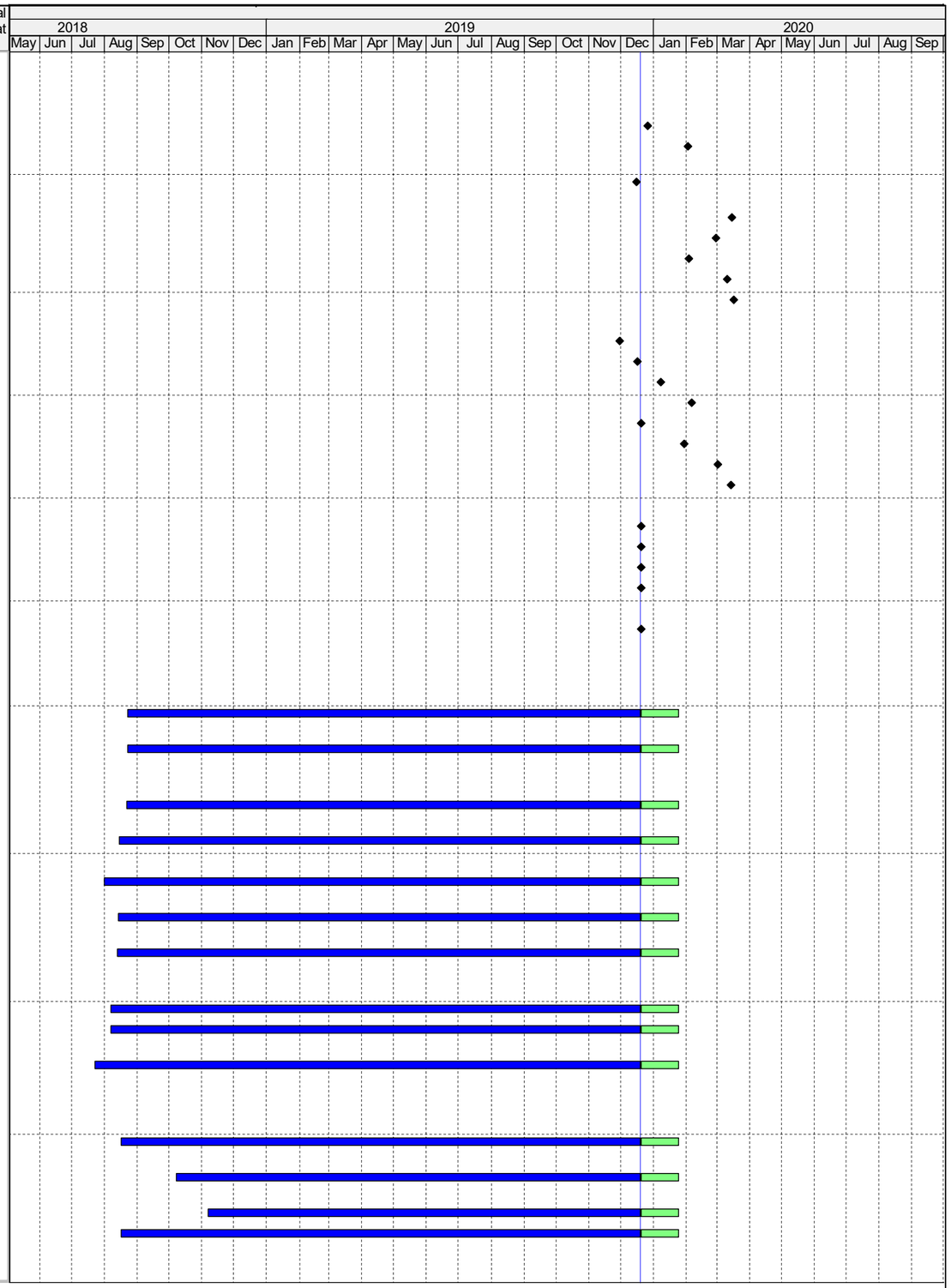
Appendix B

Construction Programme

ID	Activity	Duration (Days)	Duration % Complete	Start	Finish	Total Float
HY2017/10 - Works Programme Three Month Rolling Programme 20-Dec-19						
Contract Dates						
Key Dates						
KD03	KD03 - Satellite Control Bldg & TCSS Provision	0	0%			
KD05	KD05 - E&M for Toll Area,N1,Underpass,Plant Rm,Footbridges/Roads	0	0%			
KD06	KD06 - E&M for Admin Bldg, Depot, Training Ground, N Vent Bldg, N2	0	100%			
KD06A	KD6A - E&M for Approach Roads and At-Grade Rd at North Side	0	0%			
KD06B	KD6B - E&M for South Vent Duct, Tunnel, Approach Roads	0	0%			
KD06C	KD6C - E&M for South Vent Building	0	0%			
KD07	KD07 - E&M for Satellite Control Bldg and S1 & S2	0	0%			
KD07A	KD7A - E&M for Approach Roads and At-Grade Rd at South Side	0	0%			
Portion Access Dates						
P365	Access to Portion IVa (ML03)	0	100%	30-Nov-19 A		
P390	Access to Portion Va	0	100%	17-Dec-19 A		
P420	Access to Portion II - 8 Jan 2020	0	0%	08-Jan-20*		
P430	Access to Portion VId (Day 641)	0	0%	06-Feb-20		
P440	Access to Portion IVb	0	0%	20-Dec-19		
P450	Access to Portion IVc	0	0%	30-Jan-20		
P460	Access to Portion VIc (Day 666 or notified by engineer)	0	0%	02-Mar-20		
P470	Access to Portion VIa (Day 678 or notified by engineer)	0	0%	14-Mar-20		
Portion Possession Dates						
P325	Possession to Portion XXII (Day 483)	0	0%	20-Dec-19		
P335	Possession to Portion XXIII (Day 483)	0	0%	20-Dec-19		
P345	Possession to Portion VIb (Day 483)	0	0%	20-Dec-19		
P355	Possession to Portion VII	0	0%	20-Dec-19		
Portion Handover Dates						
H110	Vacate Portion XVIIb (Day 137 after Possession)	0	0%			
Major Design Submission & Approval						
Toll Control Building						
MVAC System						
TCB-EMD1095	Authorities Review and Comment of AHU/PAU Static Pressure Calculation	56	50%	23-Aug-18 A		
TCB-EMD1115	Authorities Review and Comment of MVAC Pump head calculation	56	50%	23-Aug-18 A		
Electrical System						
TCB-EMD1015	Authorities Review and Comment of UPS and Battery Capacity Calculations	56	50%	22-Aug-18 A		
TCB-EMD1055	Authorities Review and Comment of Generator Calculation	56	50%	15-Aug-18 A		
Fire Service System						
TCB-EMD1175	Authorities Review and Comment of FS Pump Head Calculation	56	50%	01-Aug-18 A		
TCB-EMD1195	Authorities Review and Comment of Sprinkler Pump Head Calculation	56	50%	14-Aug-18 A		
TCB-EMD1215	Authorities Review and Comment of FM200 System Design Calculation	56	50%	13-Aug-18 A		
Plumbing & Drainage System						
TCB-EMD1235	Authorities Review and Comment of Pump Head Calculation	56	50%	07-Aug-18 A		
TCB-EMD1275	Authorities Review and Comment of Hot water system capacity calculation	56	50%	07-Aug-18 A		
TCB-EMD1395	Authorities Review and Comment of Drainage Sump Pumps and Pump Pits Calculation	56	50%	23-Jul-18 A		
Administration Building						
MVAC System						
ADB-EMD1015	Authorities Review and Comment of AC Cooling Capacity Calculation	56	50%	17-Aug-18 A		
ADB-EMD1035	Authorities Review and Comment of AHU/PAU Static Pressure Calculation	56	50%	08-Oct-18 A		
ADB-EMD1055	Authorities Review and Comment of Pump head calculation	56	50%	07-Nov-18 A		
ADB-EMD1075	Authorities Review and Comment of Mechanical Ventilation Capacity Calculation	56	50%	17-Aug-18 A		
Electrical System						



CONTRACT NO. HY2017/10

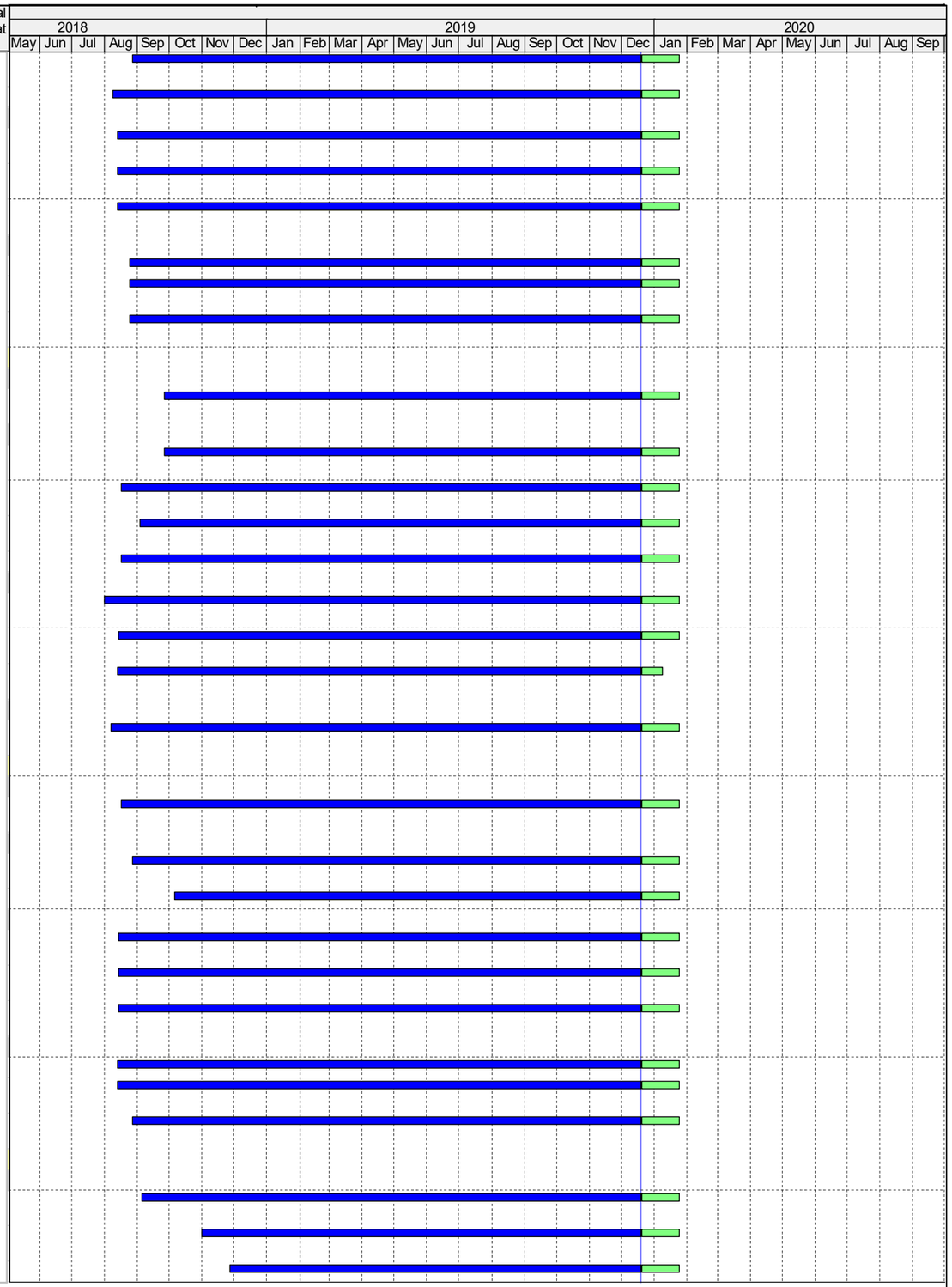
NORTHERN TUNNEL CONNECTION BUILDING E&M WORKS

THREE MONTHLY PROGRAMME AS OF 20 Dec 2019

P 1

Date	Revision	Checked	Approved
20-Dec-19			

ID	Activity	Duration (Days)	Duration % Complete	Start	Finish	Total Float
ADB-EMD1115	Authorities Review and Comment of Electrical Loading Demand Calculation	56	50%	27-Aug-18 A		
ADB-EMD1135	Authorities Review and Comment of Generator Calculation	56	50%	09-Aug-18 A		
Fire Service System						
ADB-EMD1155	Authorities Review and Comment of FS Pump Head Calculation	56	50%	13-Aug-18 A		
ADB-EMD1175	Authorities Review and Comment of Sprinkler Pump Head Calculation	56	50%	13-Aug-18 A		
ADB-EMD1195	Authorities Review and Comment of FM200 System Design Calculation	56	50%	13-Aug-18 A		
Plumbing & Drainage System						
ADB-EMD1215	Authorities Review and Comment of Pump Head Calculation	56	50%	25-Aug-18 A		
ADB-EMD1235	Authorities Review and Comment of Pressure Vessel Calculation	56	50%	25-Aug-18 A		
ADB-EMD1255	Authorities Review and Comment of Hot water system capacity calculation	56	50%	25-Aug-18 A		
North Ventilation Building						
MVAC System						
NVB-EMD1035	Authorities Review and Comment of Mechanical Ventilation Capacity Calculation	56	50%	26-Sep-18 A		
Electrical System						
NVB-EMD1055	Authorities Review and Comment of HV Electrical Loading Calculation	56	50%	26-Sep-18 A		
NVB-EMD1075	Authorities Review and Comment of UPS and Battery Capacity Calculations	56	50%	17-Aug-18 A		
NVB-EMD1095	Authorities Review and Comment of Electrical Loading Demand Calculation	56	50%	03-Sep-18 A		
NVB-EMD1115	Authorities Review and Comment of Generator Calculation	56	50%	17-Aug-18 A		
Fire Service System						
NVB-EMD1135	Authorities Review and Comment of FS Pump Head Calculation	56	50%	01-Aug-18 A		
NVB-EMD1155	Authorities Review and Comment of Sprinkler Pump Head Calculation	56	50%	14-Aug-18 A		
NVB-EMD1175	Authorities Review and Comment of FM200 System Design Calculation	28	50%	13-Aug-18 A		
Plumbing & Drainage System						
NVB-EMD1305	Authorities Review and Comment of Drainage Sump Pumps and Pump Pits Calculation	56	50%	07-Aug-18 A		
Maintenance Depot						
MVAC System						
MD-EMD1015	Authorities Review and Comment of AC Cooling Capacity Calculation	56	50%	17-Aug-18 A		
Electrical System						
MD-EMD1075	Authorities Review and Comment of Electrical Loading Demand Calculation	56	50%	27-Aug-18 A		
MD-EMD1095	Authorities Review and Comment of Generator Calculation	56	50%	06-Oct-18 A		
Fire Service System						
MD-EMD1115	Authorities Review and Comment of FS Pump Head Calculation	56	50%	14-Aug-18 A		
MD-EMD1135	Authorities Review and Comment of Sprinkler Pump Head Calculation	56	50%	14-Aug-18 A		
MD-EMD1155	Authorities Review and Comment of FM200 System Design Calculation	56	50%	14-Aug-18 A		
Plumbing & Drainage System						
MD-EMD1175	Authorities Review and Comment of Pump Head Calculation	56	50%	13-Aug-18 A		
MD-EMD1195	Authorities Review and Comment of Pressure Vessel Calculation	56	50%	13-Aug-18 A		
MD-EMD1215	Authorities Review and Comment of Drainage Sump Pumps and Pump Pits Calculation	56	50%	27-Aug-18 A		
Satellite Control Building						
Electrical System						
SCB-EMD1055	Authorities Review and Comment of UPS and Battery Capacity Calculations	56	50%	05-Sep-18 A		
SCB-EMD1075	Authorities Review and Comment of Electrical Loading Demand Calculation	56	50%	01-Nov-18 A		
SCB-EMD1095	Authorities Review and Comment of Generator Calculation	56	50%	27-Nov-18 A		



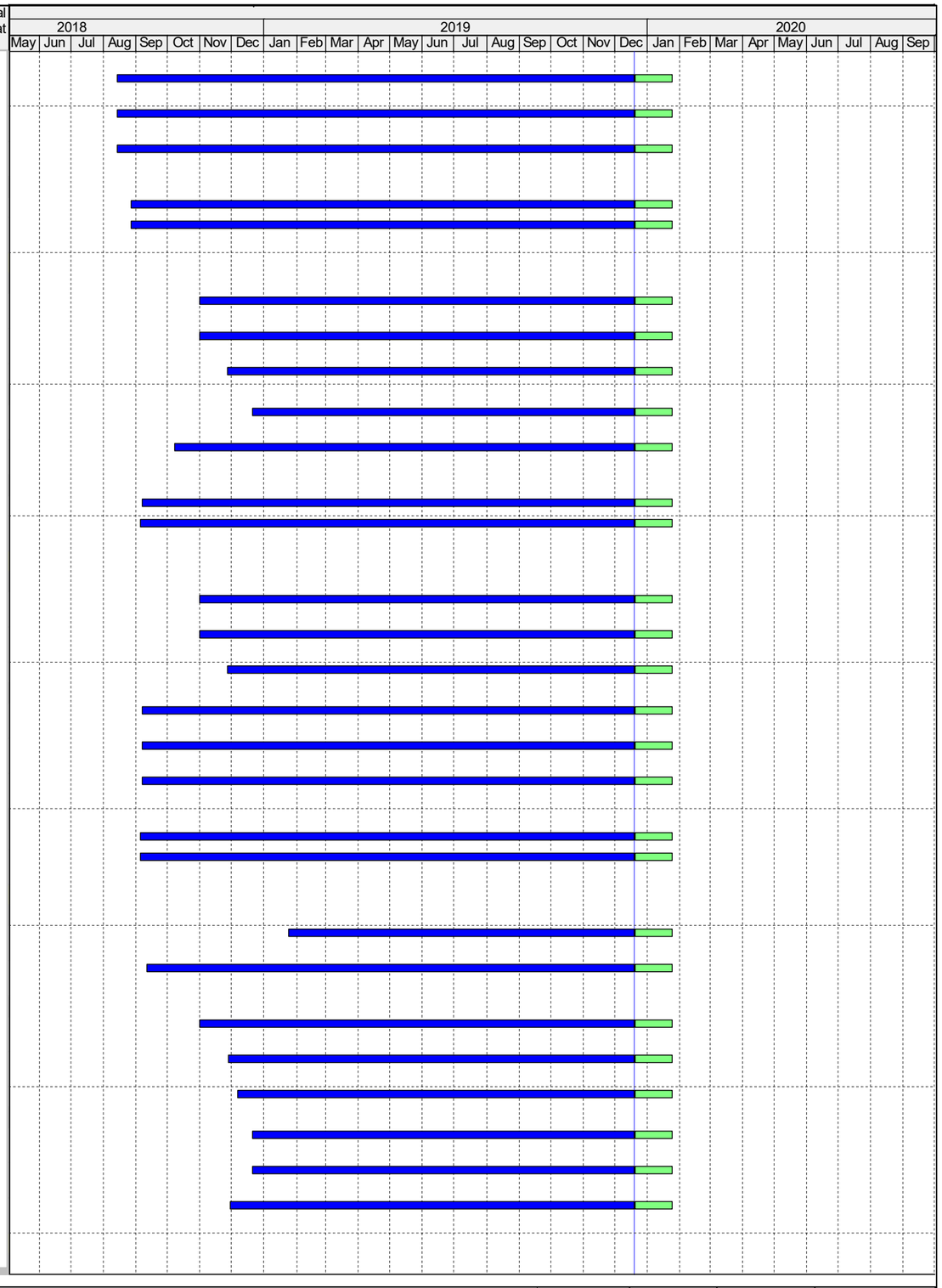
CONTRACT NO. HY2017/10

NORTHERN TUNNEL CONNECTION BUILDING E&M WORKS

THREE MONTHLY PROGRAMME AS OF 20 Dec 2019

P 2	Date	Revision	Checked	Approved
	20-Dec-19			

ID	Activity	Duration (Days)	Duration % Complete	Start	Finish	Total Float
	Fire Service System					
SCB-EMD1115	Authorities Review and Comment of FS Pump Head Calculation	56	50%	14-Aug-18 A		
SCB-EMD1135	Authorities Review and Comment of Sprinkler Pump Head Calculation	56	50%	14-Aug-18 A		
SCB-EMD1155	Authorities Review and Comment of FM200 System Design Calculation	56	50%	14-Aug-18 A		
	Plumbing & Drainage System					
SCB-EMD1285	Authorities Review and Comment of Pump Head Calculation	56	50%	27-Aug-18 A		
SCB-EMD1335	Authorities Review and Comment of Pressure Vessel Calculation	56	50%	27-Aug-18 A		
	Costom & Excise Department Building					
	Electrical System					
CEDB-EMD1015	Authorities Review and Comment of UPS and Battery Capacity Calculations	56	50%	01-Nov-18 A		
CEDB-EMD1035	Authorities Review and Comment of Electrical Loading Demand Calculation	56	50%	01-Nov-18 A		
CEDB-EMD1055	Authorities Review and Comment of Generator Calculation	56	50%	27-Nov-18 A		
	Fire Service System					
CEDB-EMD1075	Authorities Review and Comment of FS Pump Head Calculation	56	50%	21-Dec-18 A		
CEDB-EMD1095	Authorities Review and Comment of Sprinkler Pump Head Calculation	56	50%	08-Oct-18 A		
	Plumbing & Drainage System					
CEDB-EMD1135	Authorities Review and Comment of Pump Head Calculation	56	50%	07-Sep-18 A		
CEDB-EMD1155	Authorities Review and Comment of Pressure Vessel Calculation	56	50%	05-Sep-18 A		
	Fire Services Department Building					
	Electrical System					
FSDB-EMD1015	Authorities Review and Comment of UPS and Battery Capacity Calculations	56	50%	01-Nov-18 A		
FSDB-EMD1035	Authorities Review and Comment of Electrical Loading Demand Calculation	56	50%	01-Nov-18 A		
FSDB-EMD1055	Authorities Review and Comment of Generator Calculation	56	50%	27-Nov-18 A		
	Fire Service System					
FSDB-EMD1075	Authorities Review and Comment of FS Pump Head Calculation	56	50%	07-Sep-18 A		
FSDB-EMD1095	Authorities Review and Comment of Sprinkler Pump Head Calculation	56	50%	07-Sep-18 A		
FSDB-EMD1205	Authorities Review and Comment of FM200 System Design Calculation	56	50%	07-Sep-18 A		
	Plumbing & Drainage System					
FSDB-EMD1135	Authorities Review and Comment of Pump Head Calculation	56	50%	05-Sep-18 A		
FSDB-EMD1155	Authorities Review and Comment of Pressure Vessel Calculation	56	50%	05-Sep-18 A		
	South Ventilation Building					
	MVAC System					
SVB-EMD1015	Authorities Review and Comment of Staircase Pressurization System Calculation	56	50%	24-Jan-19 A		
SVB-EMD1035	Authorities Review and Comment of Mechanical Ventilation Capacity Calculation	56	50%	11-Sep-18 A		
	Electrical System					
SVB-EMD1055	Authorities Review and Comment of HV Electrical Loading Calculation	56	50%	01-Nov-18 A		
SVB-EMD1095	Authorities Review and Comment of Electrical Loading Demand Calculation	56	50%	28-Nov-18 A		
SVB-EMD1115	Authorities Review and Comment of Generator Calculation	56	50%	07-Dec-18 A		
	Fire Service System					
SVB-EMD1135	Authorities Review and Comment of FS Pump Head Calculation	56	50%	21-Dec-18 A		
SVB-EMD1155	Authorities Review and Comment of Sprinkler Pump Head Calculation	56	50%	21-Dec-18 A		
SVB-EMD1175	Authorities Review and Comment of FM200 System Design Calculation	56	50%	30-Nov-18 A		
	Vehicular Underpass					
	Fire Service System					



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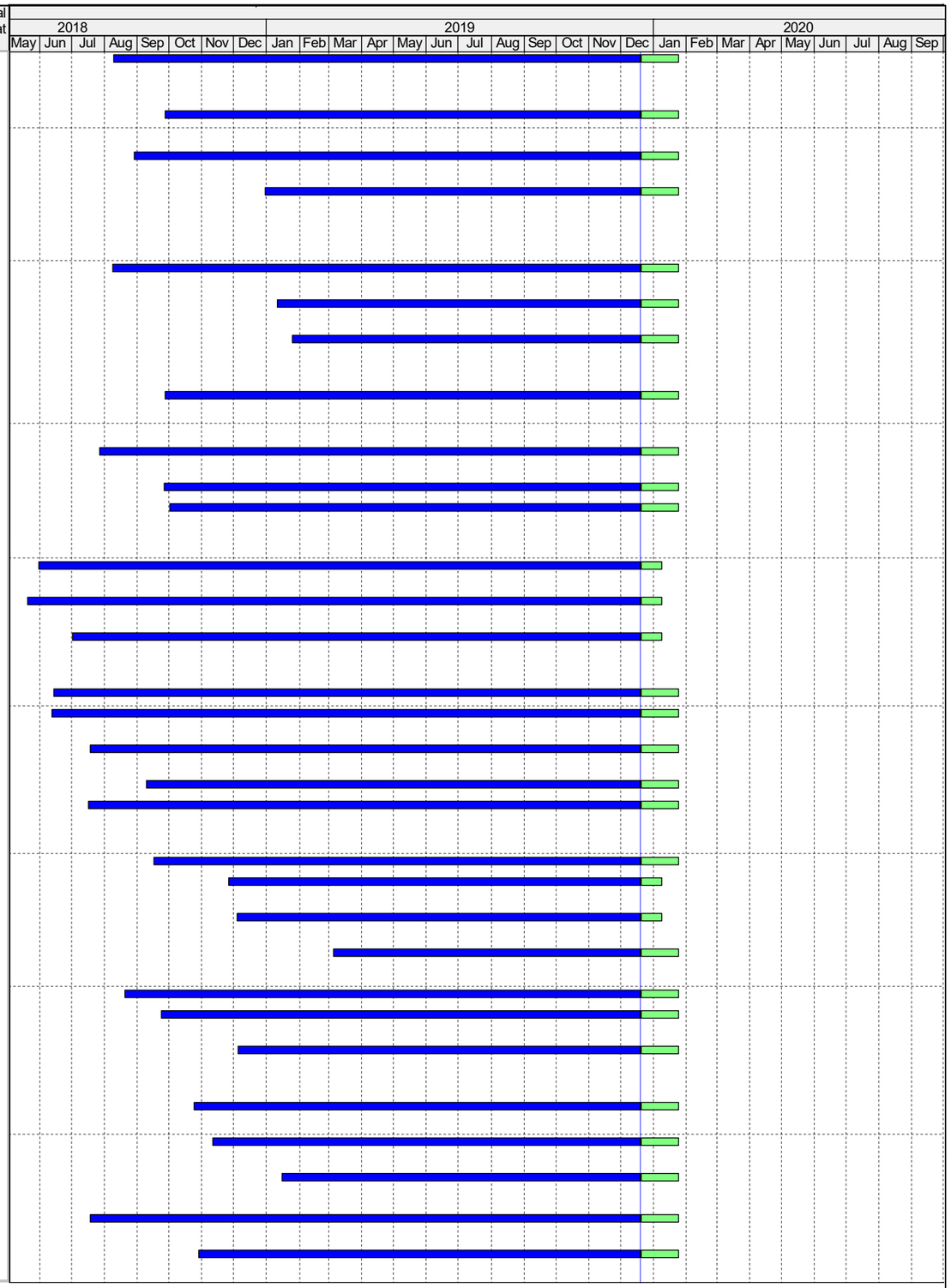
Date	Revision	Checked	Approved
20-Dec-19			

ID	Activity	Duration (Days)	Duration % Complete	Start	Finish	Total Float
VU-EMD1025	Authorities Review and Comment of Foam system design calculation	56	50%	09-Aug-18 A		
Plumbing & Drainage System						
VU-EMD1045	Authorities Review and Comment of Pump Head Calculation	56	50%	27-Sep-18 A		
Tunnel Lighting System						
VU-EMD1145	Authorities Review and Comment of Design Proposal of Tunnel Lighting System (TLS)	56	50%	29-Aug-18 A		
VU-EMD1165	Authorities Review and Comment of Tunnel Lighting Lux Calculation	56	50%	31-Dec-18 A		
Tunnel						
Fire Service System						
TUN-EMD1035	Authorities Review and Comment of Foam system design calculation	56	50%	09-Aug-18 A		
TUN-EMD1115	Authorities Review and Comment of FS Pump Head Calculation	56	50%	11-Jan-19 A		
TUN-EMD1135	Authorities Review and Comment of Sprinkler Pump Head Calculation	56	50%	25-Jan-19 A		
Plumbing & Drainage System						
TUN-EMD1185	Authorities Review and Comment of Drainage Sump Pumps and Pump Pits Calculation	56	50%	27-Sep-18 A		
CCMS, TCS and ELV System						
ELV-EMD1015	Authorities Review and Comment of System Design for Toll Control system	56	50%	27-Jul-18 A		
ELV-EMD1035	Authorities Review and Comment of System Design for CMCS	56	50%	26-Sep-18 A		
ELV-EMD1055	Authorities Review and Comment of System Design for other ELV systems	56	50%	02-Oct-18 A		
Major Material Submission & Approval						
GEN-EMM1020	Authorities Review and Comment of Technical Info. - Miscellaneous 1st fix Materials/ Equipment	28	50%	31-May-18 A		
GEN-EMM1050	Authorities Review and Comment of Technical Info. - Miscellaneous 2nd fix Materials/ Equipment	28	50%	20-May-18 A		
GEN-EMM1080	Authorities Review and Comment of Technical Info. - Miscellaneous final fix Materials/ Equipment	28	50%	02-Jul-18 A		
MVAC System						
MVAC-EMM1015	Authorities Review and Comment of Technical Info. - Chiller	56	50%	14-Jun-18 A		
MVAC-EMM1035	Authorities Review and Comment of Technical Info. - Chilled Water Pump	56	50%	12-Jun-18 A		
MVAC-EMM1075	Authorities Review and Comment of Technical Info. - Computer Room AC (CRAC) Unit	56	50%	19-Jul-18 A		
MVAC-EMM1095	Authorities Review and Comment of Technical Info. - AHU & PAU	56	50%	10-Sep-18 A		
MVAC-EMM1115	Authorities Review and Comment of Technical Info. - Staircase Pressurization Fan	56	50%	17-Jul-18 A		
Electrical System						
ELE-EMM1075	Authorities Review and Comment of Technical Info. - HV Cables	56	50%	17-Sep-18 A		
ELE-EMM1155	Authorities Review and Comment of Technical Info. - UPS and Battery	28	50%	26-Nov-18 A		
ELE-EMM1175	Authorities Review and Comment of Technical Info. - MCB & MCCB & Distribution Board	28	50%	04-Dec-18 A		
ELE-EMM1225	Authorities Review and Comment of Technical Info. - PV System	56	50%	05-Mar-19 A		
Fire Service System						
FS-EMM1015	Authorities Review and Comment of Technical Info. - FM200	56	50%	20-Aug-18 A		
FS-EMM1095	Authorities Review and Comment of Technical Info. - FR/ HR system	56	50%	24-Sep-18 A		
FS-EMM1115	Authorities Review and Comment of Technical Info. - Gas detection	56	50%	05-Dec-18 A		
Plumbing & Drainage System						
PD-EMM1015	Authorities Review and Comment of Technical Info. - Sump Pump	56	50%	25-Oct-18 A		
PD-EMM1035	Authorities Review and Comment of Technical Info. - Hot Water System	56	50%	11-Nov-18 A		
PD-EMM1055	Authorities Review and Comment of Technical Info. - LMCP (PD)	56	50%	16-Jan-19 A		
Tunnel Ventilation System						
TVS-EMM1035	Authorities Review and Comment of Technical Info. - Pressurization Fan	56	50%	19-Jul-18 A		
TVS-EMM1105	Authorities Review and Comment of Technical Info. - AQMS Equipment	56	50%	29-Oct-18 A		



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Date	Revision	Checked	Approved
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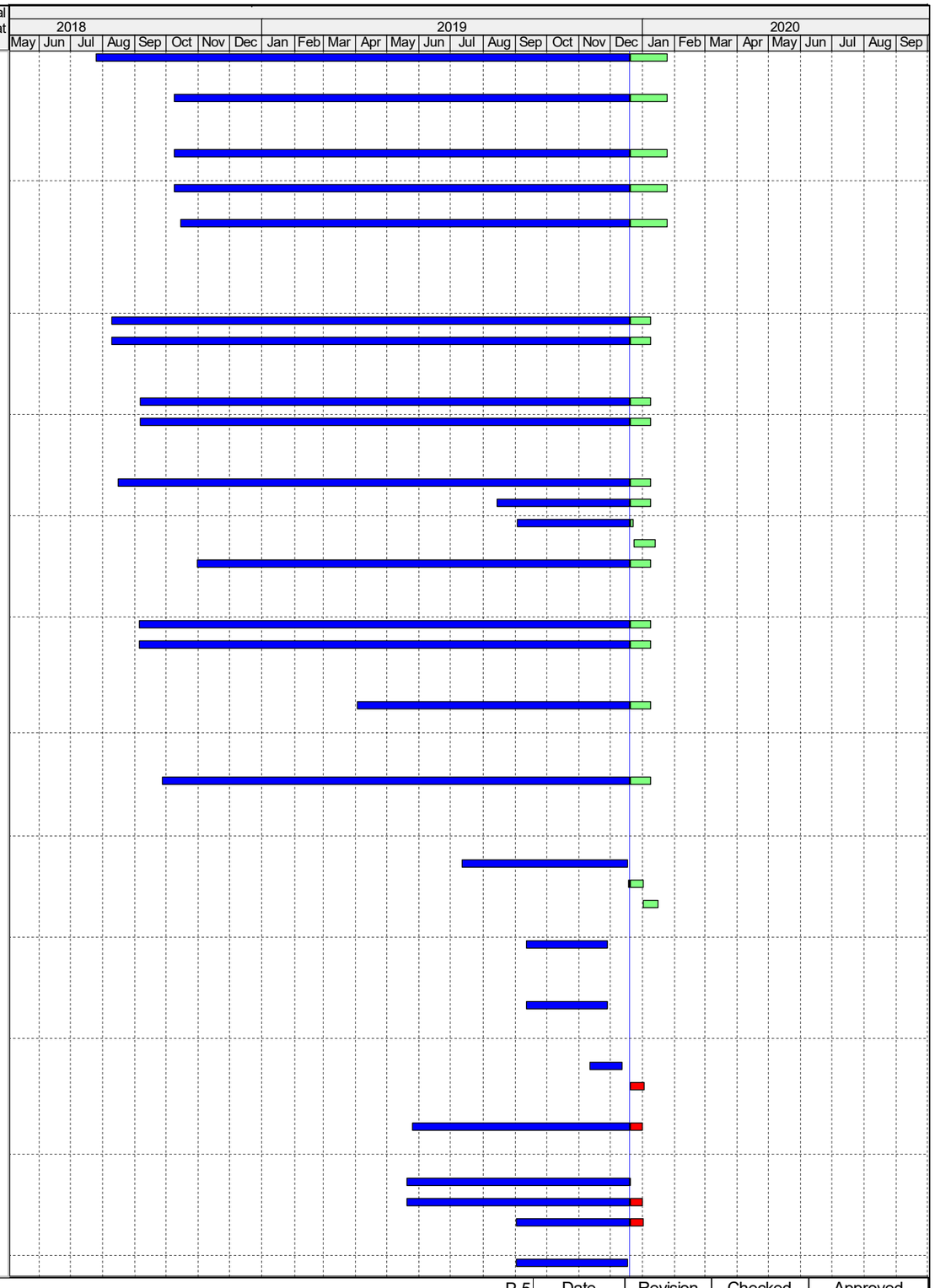
ID	Activity	Duration (Days)	Duration % Complete	Start	Finish	Total Float
TVS-EMM1155	Authorities Review and Comment of Technical Info. - MFSD	56	50%	26-Jul-18 A		
Tunnel and Road Lighting System						
TRLS-EMM1035	Authorities Review and Comment of Technical Info. - Road Lighting Fitting	56	50%	09-Oct-18 A		
CCMS, TCS and ELV System						
ELV-EMM1020	Authorities Review and Comment of Technical Info. - CMCS Equipment	56	50%	09-Oct-18 A		
ELV-EMM1050	Authorities Review and Comment of Technical Info. - TCS Equipment	56	50%	09-Oct-18 A		
ELV-EMM1080	Authorities Review and Comment of Technical Info. - other ELV Equipment	56	50%	15-Oct-18 A		
Drawing Submission & Approval						
Satellite Control Building						
Individual Shop Drawing						
SCB-ISD1040	Authorities Review and Comment of SCB ISD 1st batch	28	50%	10-Aug-18 A		
SCB-ISD1090	Authorities Review and Comment of SCB ISD 2nd batch	28	50%	10-Aug-18 A		
Costom & Excise Department Building						
Individual Shop Drawing						
CEDB-ISD1040	Authorities Review and Comment of C&EDB ISD 1st batch	28	50%	06-Sep-18 A		
CEDB-ISD1090	Authorities Review and Comment of C&EDB ISD 2nd batch	28	50%	06-Sep-18 A		
Tunnel						
Individual Shop Drawing						
TUN-ISD1090	Authorities Review and Comment of Tunnel ISD 2nd batch	28	50%	16-Aug-18 A		
TUN-ISD1140	Authorities Review and Comment of Tunnel ISD 3rd batch	28	50%	14-Aug-19 A		
TUN-ISD1170	Preparation and Resubmission of Tunnel ISD 4th batch	30	90%	03-Sep-19 A		
TUN-ISD1180	ER Review and Approval of Tunnel ISD 4th batch	15	0%	24-Dec-19		
TUN-ISD1190	Authorities Review and Comment of Tunnel ISD 4th batch	28	50%	31-Oct-18 A		
Fire Services Department Building						
Individual Shop Drawing						
FSDB-ISD1040	Authorities Review and Comment of FSDB ISD 1st batch	28	50%	05-Sep-18 A		
FSDB-ISD1090	Authorities Review and Comment of FSDB ISD 2nd batch	28	50%	05-Sep-18 A		
Vehicular Underpass						
Individual Shop Drawing						
VU-ISD1090	Authorities Review and Comment of Vehicular Underpass ISD 2nd batch	28	50%	02-Apr-19 A		
North Ventilation Building						
Individual Shop Drawing						
NVB-ISD1090	Authorities Review and Approval of NVB ISD - 2nd batch	28	50%	27-Sep-18 A		
E&M Manufacture & Delivery						
Toll Control Building						
CCMS, TCS and ELV System						
TCB-MD1210	Manufacture - TCS Equipment	180	100%	12-Jul-19 A		
TCB-MD1212	FAT - TCS Equipment	14	5%	19-Dec-19 A		
TCB-MD1215	Shipping to HK - TCS Equipment	14	0%	02-Jan-20		
Electrical System						
TCB-MD1280	Manufacture & Delivery to HK - PV System Equipment	60	100%	12-Sep-19 A		
Administration Building						
Electrical System						
ADB-MD1310	Manufacture & Delivery to HK - PV System Equipment	60	100%	12-Sep-19 A		
Satellite Control Building						
Electrical System						
SCB-MD1025	Shipping to HK - Generator	28	100%	12-Nov-19 A		
SCB-MD1045	Shipping to HK - LV Switchboard	14	0%	20-Dec-19		
MVAC System						
SCB-MD1010	Manufacture & Delivery to HK - Computer Room Air Conditioning (CRAC) Unit	120	90%	25-May-19 A		
Fire Service System						
SCB-MD1100	Manufacture & Delivery to HK - FM200	150	100%	20-May-19 A		
SCB-MD1110	Manufacture & Delivery to HK - FS Pump	120	90%	20-May-19 A		
SCB-MD1130	Manufacture & Delivery to HK - LMCP (FS)	60	78.33%	02-Sep-19 A		
Plumbing & Drainage System						
SCB-PO1120	Manufacture & Delivery to HK - LMCP (PD)	60	100%	02-Sep-19 A		



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NORTHERN TUNNEL CONNECTION BUILDING E&M WORKS

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Date	Revision	Checked	Approved
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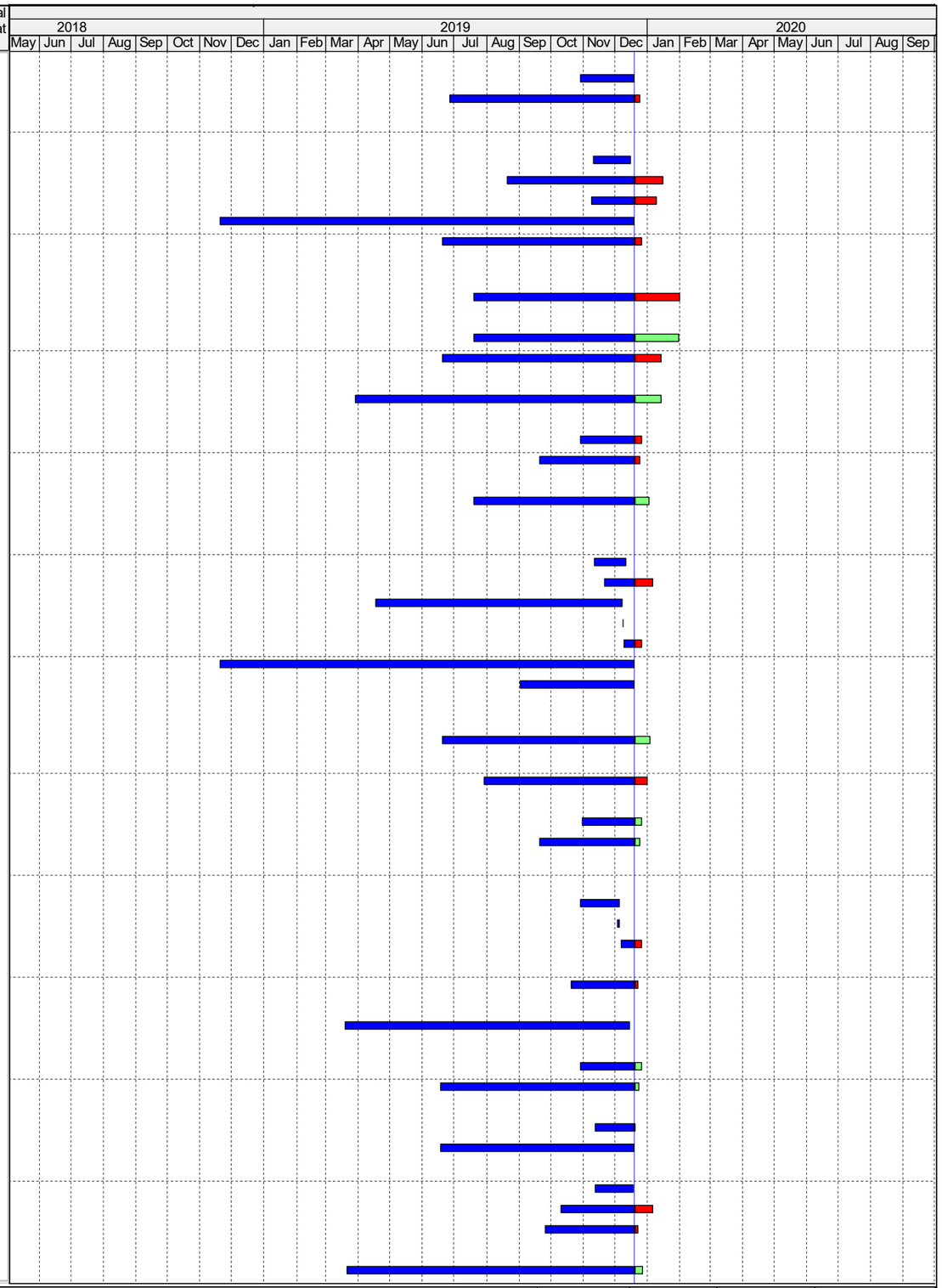
ID	Activity	Duration (Days)	Duration % Complete	Start	Finish	Total Float
CCMS and ELV System						
SCB-MD1155	Shipping to HK - CMCS Equipment	14	100%	30-Oct-19 A		
SCB-MD1160	Manufacture & Delivery to HK - other ELV Equipment	83	93.98%	27-Jun-19 A		
Costom & Excise Department Building						
Electrical System						
CEDB-MD1025	Shipping to HK - Generator	28	100%	11-Nov-19 A		
CEDB-MD1035	Shipping to HK - UPS and Battery	42	35%	21-Aug-19 A		
CEDB-MD1045	Shipping to HK - LV Switchboard	14	0%	09-Nov-19 A		
CEDB-MD1050	Manufacture & Delivery to HK - LV Cables	120	100%	20-Nov-18 A		
CEDB-MD1060	Manufacture & Delivery to HK - MCB & MCCB and Distribution Board	38	81.58%	20-Jun-19 A		
MVAC System						
CEDB-MD1010	Manufacture & Delivery to HK - AHU & PAU	60	28.33%	20-Jul-19 A		
Fire Service System						
CEDB-MD1090	Manufacture & Delivery to HK - FM200	120	65%	20-Jul-19 A		
CEDB-MD1120	Manufacture & Delivery to HK - LMCP (FS)	51	49.02%	20-Jun-19 A		
Plumbing & Drainage System						
CEDB-MD1080	Manufacture & Delivery to HK - Water Pump	90	71.11%	29-Mar-19 A		
CCMS and ELV System						
CEDB-MD1175	Shipping to HK - CMCS Equipment	14	50%	30-Oct-19 A		
CEDB-MD1180	Manufacture & Delivery to HK - other ELV Equipment	83	93.98%	21-Sep-19 A		
Lift System						
CEDB-MD1000	Manufacture & Delivery to HK - Lift System	124	88.71%	20-Jul-19 A		
Fire Services Department Building						
Electrical System						
FSDB-MD1005	Shipping to HK - Generator	28	100%	12-Nov-19 A		
FSDB-MD1015	Shipping to HK - UPS and Battery	42	57.14%	21-Nov-19 A		
FSDB-MD1020	Manufacture - LV Switchboard	86	100%	17-Apr-19 A		
FSDB-MD1022	FAT - LV Switchboard	10	100%	09-Dec-19 A		
FSDB-MD1025	Shipping to HK - LV Switchboard	14	50%	10-Dec-19 A		
FSDB-MD1030	Manufacture & Delivery to HK - LV Cables	120	100%	20-Nov-18 A		
FSDB-MD1040	Manufacture & Delivery to HK - MCB & MCCB and Distribution Board	60	100%	02-Sep-19 A		
Fire Service System						
FSDB-MD1185	Manufacture & Delivery to HK - FM200	150	90%	20-Jun-19 A		
Plumbing & Drainage System						
FSDB-MD1060	Manufacture & Delivery to HK - Water Pump	90	86.67%	29-Jul-19 A		
CCMS and ELV System						
FSDB-MD1135	Shipping to HK - CMCS Equipment	14	50%	31-Oct-19 A		
FSDB-MD1140	Manufacture & Delivery to HK - other ELV Equipment	83	93.98%	21-Sep-19 A		
South Ventilation Building						
Electrical System						
SVB-MD1035	Shipping to HK - LV Switchboard	14	100%	30-Oct-19 A		
SVB-MD1042	FAT - HV Switchboard	14	100%	04-Dec-19 A		
SVB-MD1045	Shipping to HK - HV Switchboard	14	50%	07-Dec-19 A		
MVAC System						
SVB-MD1175	Shipping to HK - Tunnel Ventilation Fan	45	91.11%	20-Oct-19 A		
Fire Service System						
SVB-MD1130	Manufacture & Delivery to HK - FS Pump	120	100%	19-Mar-19 A		
CCMS and ELV System						
SVB-MD1205	Shipping to HK - CMCS Equipment	14	50%	30-Oct-19 A		
SVB-MD1210	Manufacture & Delivery to HK - other ELV Equipment	83	95%	18-Jun-19 A		
Vehicular Underpass						
VU-MD1065	Shipping to HK - CMCS Equipment	21	95.24%	13-Nov-19 A		
VU-MD1070	Manufacture & Delivery to HK - other ELV Equipment	90	100%	18-Jun-19 A		
Tunnel						
TUN-MD1045	Shipping to HK - CMCS Equipment	7	100%	13-Nov-19 A		
TUN-MD1060	Manufacture & Delivery to HK - Sump Pump	109	83.49%	11-Oct-19 A		
TUN-MD1090	Shipping to HK - AQMS Equipment	7	50%	26-Sep-19 A		
Approach Road						
AR-MD1000	Manufacture & Delivery to HK - Road Lighting Fitting	90	92.22%	21-Mar-19 A		



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20-Dec-19			

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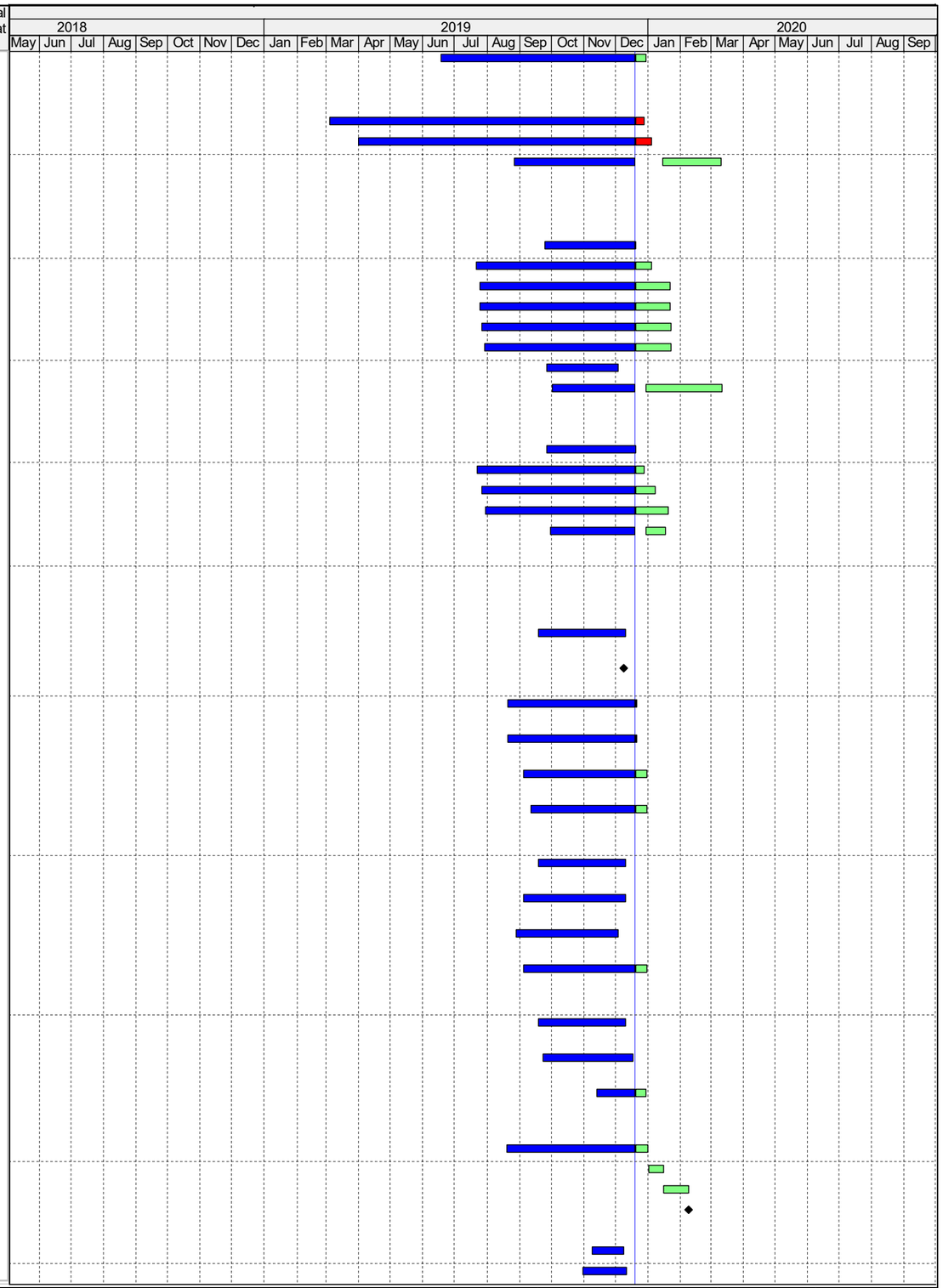
AR-MD1020	Manufacture & Delivery to HK - other ELV Equipment	83	86.75%	18-Jun-19 A		
Key Date 1 - Toll Control Building (TCB) & TCSS Provision						
ABWF Works (for All)						
ATCB1010	Door and Window Frames	82	93.9%	04-Mar-19 A		
ATCB1120	External Cladding and Wall Plastering	94	89%	01-Apr-19 A		
ATCB1130	ABWF second fix & final fix	90	50%	27-Aug-19 A		
Key Date 2 - Administration Building, Maintenance Depot, Kiosk N2, TCSS Provision						
Administration Building (ADB)						
ABWF Works (for All)						
AADB1140	Door and Window Frames	19	99%	25-Sep-19 A		
AADB1151	ABWF Works to Plant Rooms 1/F	52	80%	22-Jul-19 A		
AADB1160	ABWF Works to Office and Corridors G/F	126	80%	25-Jul-19 A		
AADB1161	ABWF Works to Office and Corridors 1/F	126	80%	25-Jul-19 A		
AADB1170	ABWF Works to Toilets G/F	132	80%	27-Jul-19 A		
AADB1171	ABWF Works to Toilets 1/F	132	80%	30-Jul-19 A		
AADB1190	External Cladding and Wall Plastering	69	100%	27-Sep-19 A		
AADB1200	ABWF second fix & final fix	90	35%	02-Oct-19 A		
Maintenance Depot						
ABWF Works (for All)						
AMD1010	Door and Window Frames	10	100%	27-Sep-19 A		
AMD1020	ABWF Works to Plant Rooms	58	90%	23-Jul-19 A		
AMD1030	ABWF Works to Office and Corridors	132	90%	27-Jul-19 A		
AMD1040	ABWF Works to Toilets	144	84%	31-Jul-19 A		
AMD1070	ABWF second fix & final fix	80	80%	30-Sep-19 A		
Key Date 6 - E&M Works for Administration Building, Maintenance Depot, North Vent Building, Kiosk N2						
E&M Works for Administration Building						
Installation						
G/F						
ADB-EMGF1030	E&M Installation - Final fix - G/F	40	100%	19-Sep-19 A		
ADB-EMGF1190	Sub-circuit Power On - LV Switch Room - G/F	0	100%			
ADB-EMGF1210	E&M Installation - Generator Room & Fuel Tank Room - G/F	70	98%	21-Aug-19 A		
ADB-EMGF1240	E&M Installation - MVAC Plant Rooms - G/F	76	98%	21-Aug-19 A		
ADB-EMGF1280	E&M Installation - PD Plant Rooms - G/F	50	85%	05-Sep-19 A		
ADB-EMGF1300	E&M Installation - ELV Plant Rooms - G/F	50	85%	12-Sep-19 A		
1/F						
ADB-EM1F1030	E&M Installation - Final fix - 1/F	40	100%	19-Sep-19 A		
ADB-EM1F1060	E&M Installation - MVAC Plant Rooms - 1/F	64	100%	05-Sep-19 A		
ADB-EM1F1080	E&M Installation - Electical Plant Rooms - 1/F	64	100%	29-Aug-19 A		
ADB-EM1F1100	E&M Installation - ELV Plant Rooms - 1/F	52	85%	05-Sep-19 A		
Roof						
ADB-EMRF1010	E&M Installation - 1st fix - Roof	25	100%	19-Sep-19 A		
ADB-EMRF1013	E&M Installation - 2nd fix - Roof	25	100%	23-Sep-19 A		
ADB-EMRF1016	E&M Installation - Final fix - Roof	25	75%	14-Nov-19 A		
Lift Installation (L01)						
ADB-LF1020	Lift & lift machine room installation	80	90%	20-Aug-19 A		
ADB-LF1030	Testing & commissioning	12	0%	02-Jan-20		
ADB-LF1040	Final adjustment, Submission of Form LE5 & EMSD processing	18	0%	16-Jan-20		
ADB-LF1050	Issuance of lift use permit	0	0%			
Testing and Commissioning						
ADB-TC1000	T&C for Subcircuit Power On	18	100%	09-Nov-19 A		
ADB-TC1020	Equipment Start-up T&C for FSI for FSI	12	100%	31-Oct-19 A		



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Date	Revision	Checked	Approved
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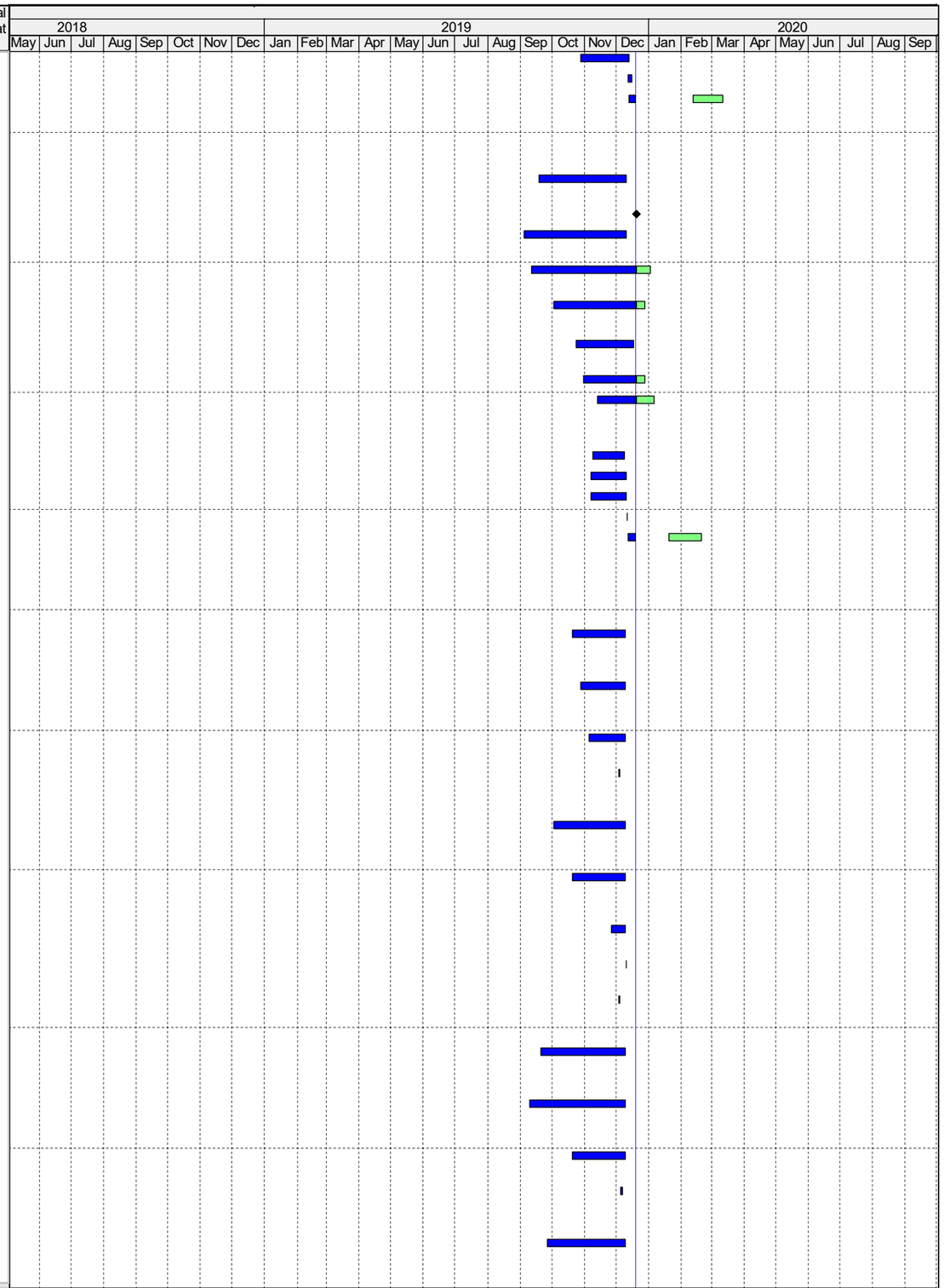
ID	Activity	Duration (Days)	Duration % Complete	Start	Finish	Total Float
ADB-TC1023	Individual E&M System T&C for FSI	46	100%	29-Oct-19 A		
ADB-TC1025	Integrated T&C for FSI	6	100%	13-Dec-19 A		
ADB-TC1030	Non-Essential T&C	30	20%	14-Dec-19 A		
E&M Works for Maintenance Depot						
Installation						
G/F						
MD-EMGF1030	E&M Installation - Final fix - G/F	40	100%	19-Sep-19 A		
MD-EMGF1070	Sub-Circuit Power On - LV Switch Room - G/F	0	0%			
MD-EMGF1140	E&M Installation - MVAC Plant Rooms - G/F	90	100%	05-Sep-19 A		
MD-EMGF1180	E&M Installation - PD Plant Rooms - G/F	85	90%	12-Sep-19 A		
MD-EMGF1200	E&M Installation - Elv Plant Rooms - G/F	60	90%	03-Oct-19 A		
R/F						
MD-EMRF1010	E&M Installation - 1st fix - R/F	30	100%	24-Oct-19 A		
MD-EMRF1020	E&M Installation - 2nd fix - R/F	30	80%	31-Oct-19 A		
MD-EMRF1030	E&M Installation - Final fix - R/F	30	60%	14-Nov-19 A		
Testing & Commissioning						
MD-TC1000	T&C for Subcircuit Power On	12	100%	09-Nov-19 A		
MD-TC1030	Equipment Start-up T&C for FSI	6	100%	07-Nov-19 A		
MD-TC1033	Individual E&M System T&C for FSI	28	100%	07-Nov-19 A		
MD-TC1035	Integrated T&C for FSI	6	100%	12-Dec-19 A		
MD-TC1040	Non-Essential T&C	30	20%	13-Dec-19 A		
E&M Works for North Ventilation Building						
Installation						
TVF Installation						
SB-NVB-TVF-4						
TVF-NVB1530	Damper/Silencer and duct installation - Lower Attenuator Room (B1/F)	12	100%	21-Oct-19 A		
NB-NVB-TVF-2						
TVF-NVB1050	Damper/Silencer and duct installation - Lower Attenuator Room (B1/F)	12	100%	29-Oct-19 A		
NB-NVB-TVF-3						
TVF-NVB1090	Damper/Silencer and duct installation - Lower Attenuator Room (B1/F)	12	100%	06-Nov-19 A		
TVF-NVB1110	Leakage test for TVF	8	100%	04-Dec-19 A		
SB-NVB-TVF-2						
TVF-NVB1450	Damper/Silencer and duct installation - Lower Attenuator Room (B1/F)	12	100%	03-Oct-19 A		
NB-NVB-TVF-1						
TVF-NVB1010	Damper/Silencer and duct installation - Lower Attenuator Room (B1/F)	12	100%	21-Oct-19 A		
NB-NVB-TVF-4						
TVF-NVB1130	Damper/Silencer and duct installation - Lower Attenuator Room (B1/F)	12	100%	27-Nov-19 A		
TVF-NVB1140	Ventilation fan and duct installation - Fan Room (G/F)	6	100%	11-Dec-19 A		
TVF-NVB1150	Leakage test for TVF	8	100%	04-Dec-19 A		
NB-NVB-TVF-5						
TVF-NVB1170	Damper/Silencer and duct installation - Lower Attenuator Room (B1/F)	12	100%	21-Sep-19 A		
NB-NVB-TVF-6						
TVF-NVB1210	Damper/Silencer and duct installation - Lower Attenuator Room (B1/F)	12	100%	10-Sep-19 A		
NB-NVB-TVF-7						
TVF-NVB1250	Damper/Silencer and duct installation - Lower Attenuator Room (B1/F)	12	100%	21-Oct-19 A		
TVF-NVB1270	Leakage test for TVF	8	100%	06-Dec-19 A		
NB-NVB-TVF-8						
TVF-NVB1290	Damper/Silencer and duct installation - Lower Attenuator Room (B1/F)	12	100%	27-Sep-19 A		
NB-NVB-TVF-9						



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NORTHERN TUNNEL CONNECTION BUILDING E&M WORKS

THREE MONTHLY PROGRAMME AS OF 20 Dec 2019

Date	Revision	Checked	Approved
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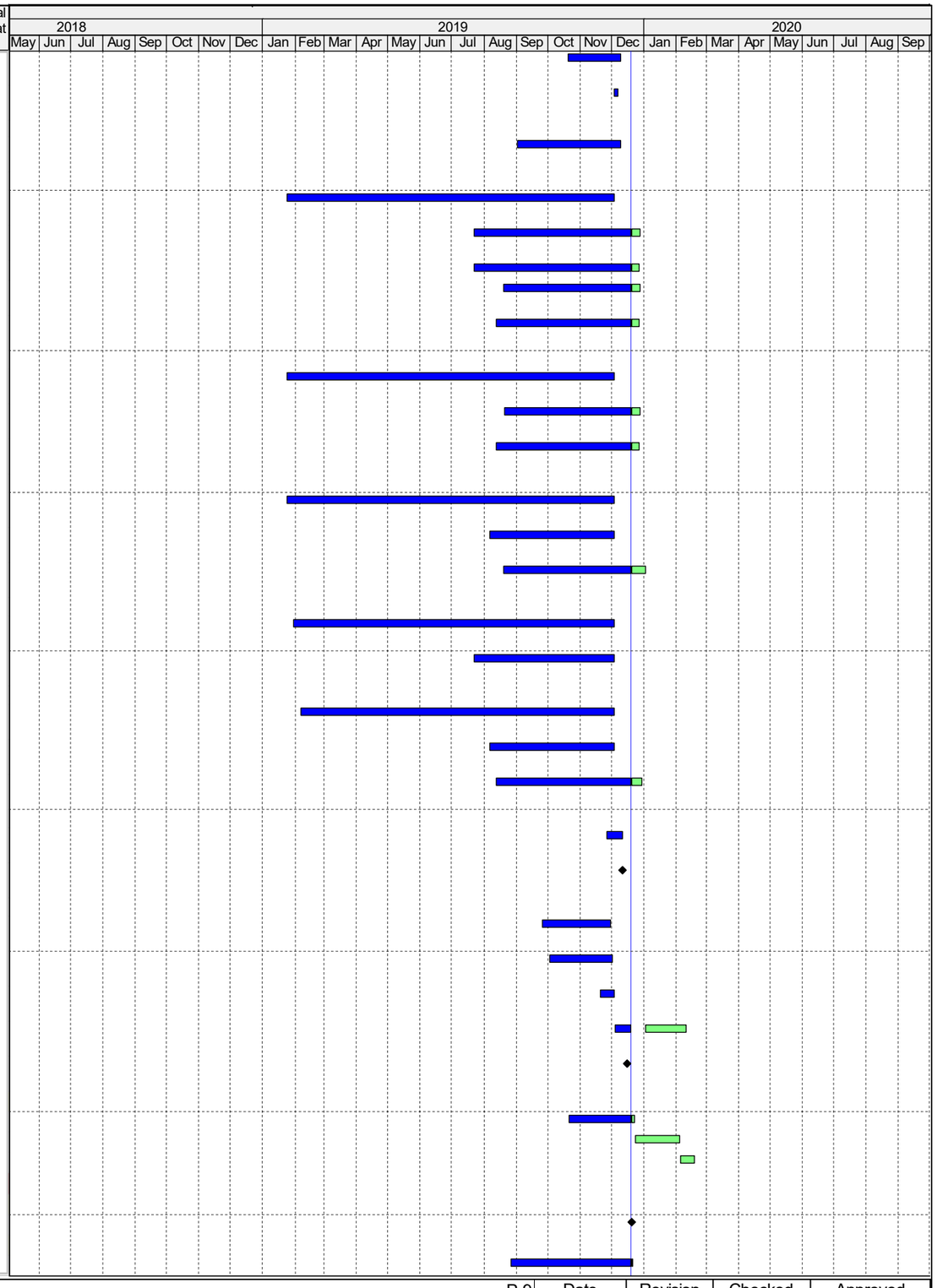
ID	Activity	Duration (Days)	Duration % Complete	Start	Finish	Total Float
TVF-NVB1330	Damper/Silencer and duct installation - Lower Attenuator Room (B1/F)	12	100%	21-Oct-19 A		
TVF-NVB1350	Leakage test for TVF	8	100%	04-Dec-19 A		
NB-NVB-TVF-10						
TVF-NVB1370	Damper/Silencer and duct installation - Lower Attenuator Room (B1/F)	12	100%	02-Sep-19 A		
B2/F						
NVB-EMB21030	E&M Installation - Final fix - B2/F	50	100%	24-Jan-19 A		
NVB-EMB21080	E&M Installation - MVAC Plant Rooms - B2/F(For Services Gallery)	60	90%	22-Jul-19 A		
NVB-EMB21100	E&M Installation - FS Plant Rooms - B2/F(For Tunnel)	45	90%	22-Jul-19 A		
NVB-EMB21120	E&M Installation - PD Plant Rooms - B2/F	60	90%	20-Aug-19 A		
NVB-EMB21140	E&M Installation - Elv Plant Rooms - B2/F	45	90%	13-Aug-19 A		
B1/F						
NVB-EMB11030	E&M Installation - Final fix - B1/F	50	100%	24-Jan-19 A		
NVB-EMB11080	E&M Installation - MVAC Plant Rooms - B1/F(For Services Gallery)	60	90%	21-Aug-19 A		
NVB-EMB11100	E&M Installation - Elv Plant Rooms - B1/F	45	90%	13-Aug-19 A		
G/F						
NVB-EMGF1030	E&M Installation - Final fix - G/F	50	100%	24-Jan-19 A		
NVB-EMGF1120	E&M Installation - Genset Room & Fuel Tank Room - G/F	80	100%	06-Aug-19 A		
NVB-EMGF1200	E&M Installation - PD Plant Rooms - G/F	90	90%	20-Aug-19 A		
1/F						
NVB-EM1F1030	E&M Installation - Final fix - 1/F	50	100%	31-Jan-19 A		
NVB-EM1F1240	E&M Installation - MVAC Plant Rooms - 1/F	90	100%	22-Jul-19 A		
2/F						
NVB-EM2F1030	E&M Installation - Final fix - 2/F	50	100%	07-Feb-19 A		
NVB-EM2F1080	E&M Installation - MVAC Plant Rooms - 2/F	60	100%	06-Aug-19 A		
NVB-EM2F1100	E&M Installation - Elv Plant Rooms - 2/F	45	85%	13-Aug-19 A		
Lift Installation (L01 & L02)						
NVB-LF1040	Final adjustment, Submission of Form LE5 & EMSD processing	20	100%	27-Nov-19 A		
NVB-LF1050	Issuance of lift use permit	0	100%			
Testing & Commissioning						
NVB-TC1030	Equipment Start-up T&C for FSI	12	100%	26-Sep-19 A		
NVB-TC1033	Individual E&M System T&C for FSI	42	100%	03-Oct-19 A		
NVB-TC1035	Integrated T&C for FSI	6	100%	21-Nov-19 A		
NVB-TC1040	Non-Essential T&C	30	0%	05-Dec-19 A		
NVB-TC1050	KD6 Achieved	0	100%			
Remaining E&M Works for Kiosk N2 (Structure Completed under KD2)						
EN2120	ABWF Works (Door, windows, tiles)	30	90%	21-Oct-19 A		
EN2130	E&M Works	31	0%	24-Dec-19		
EN2140	Testing & Comissioning	12	0%	05-Feb-20		
Key Date 3 - Satellite Control Building & TCSS Provision						
Building Structure						
SCB180	Handover Portion XVIIb to HY/2012/08	0	0%			
ABWF Works (for All)						
ASCB1020	ABWF Works to Plant Rooms G/F	60	97%	27-Aug-19 A		



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NORTHERN TUNNEL CONNECTION BUILDING E&M WORKS

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Date	Revision	Checked	Approved
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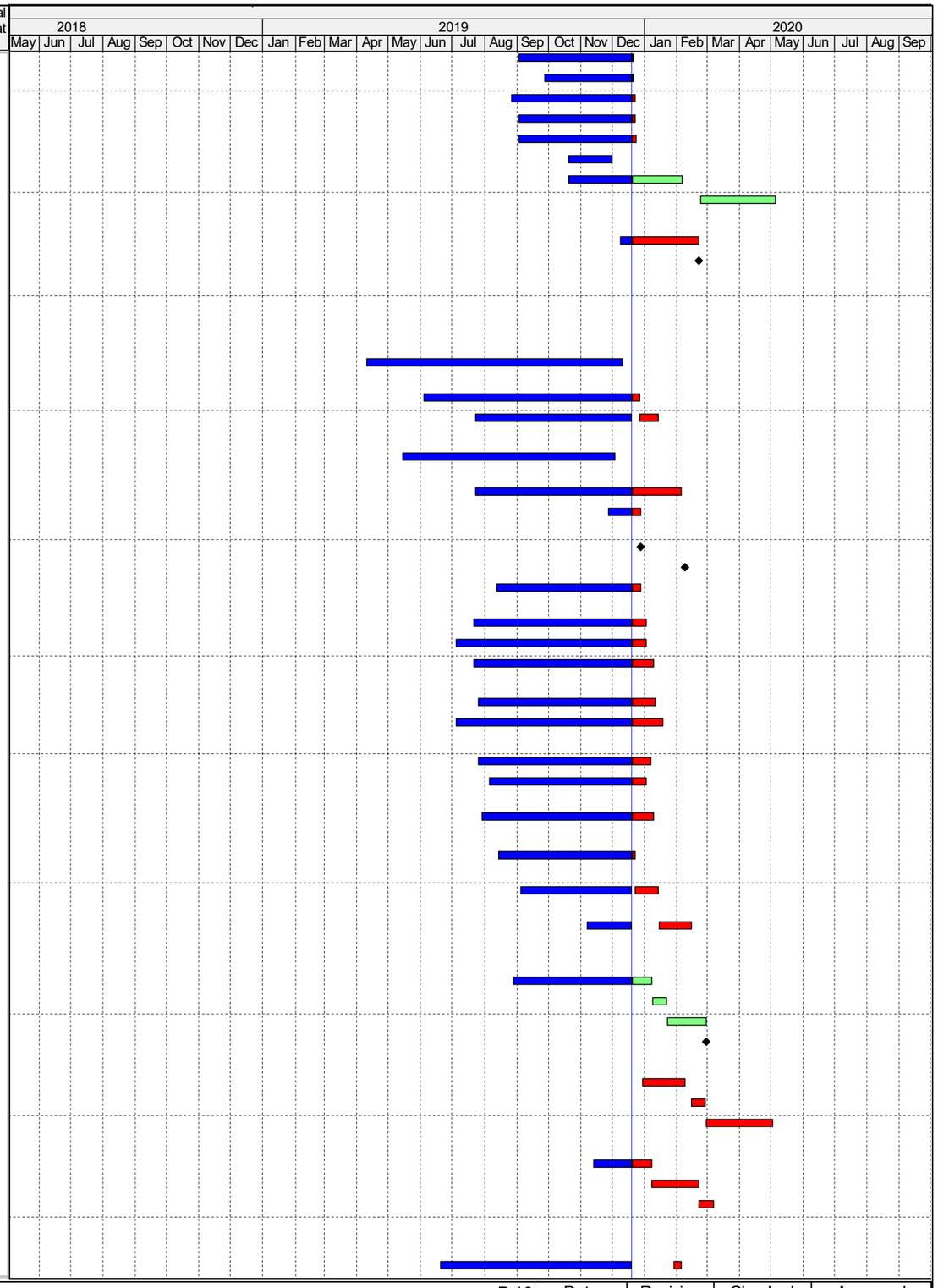
ID	Activity	Duration (Days)	Duration % Complete	Start	Finish	Total Float
ASCB1021	ABWF Works to Plant Rooms 1/F	60	97%	03-Sep-19 A		
ASCB1022	ABWF Works to Plant Rooms 2/F	60	97%	28-Sep-19 A		
ASCB1030	ABWF Works to Office and Corridors G/F	95	97%	27-Aug-19 A		
ASCB1031	ABWF Works to Office and Corridors 1/F	95	97%	03-Sep-19 A		
ASCB1040	ABWF Works to Toilets 1/F	103	97%	03-Sep-19 A		
ASCB1050	Waterproofing and Roofing	50	100%	21-Oct-19 A		
ASCB1060	External Cladding and Wall Plastering	101	65%	21-Oct-19 A		
ASCB1070	ABWF second fix & final fix	56	0%	24-Feb-20		
Provision for TCSS Installation						
SCB210	Cable Containment Installation to enable TCSS installation	62	20%	09-Dec-19 A		
SCB220	KD3 Achieved	0	0%			
Key Date 5 - E&M Works for TCB, Toll Area, Kiosk N1, Underpass, Plant Rm, and Approach Roads						
E&M Works for TCB						
Installation						
Basement						
TCB-EM1001	E&M Installation - 1st fix - Basement	60	100%	10-Apr-19 A		
TCB-EM1002	E&M Installation - 2nd fix - Basement	60	92%	04-Jun-19 A		
TCB-EM1003	E&M Installation - Final fix - Basement	60	77%	24-Jul-19 A		
G/F						
TCB-EMGF1020	E&M Installation - 2nd fix - G/F	60	100%	15-May-19 A		
TCB-EMGF1030	E&M Installation - Final fix - G/F	60	42%	24-Jul-19 A		
TCB-EMGF1080	Wiring Inspection with CLP	12	50%	28-Nov-19 A		
TCB-EMGF1090	Power On Energization by CLP	0	0%			
TCB-EMGF1130	Sub-Circuit Power On - LV Switch Room - G/F	0	0%			
TCB-EMGF1150	E&M Installation - Generator & Fuel Tank Rooms - G/F	90	94%	13-Aug-19 A		
TCB-EMGF1200	E&M Installation - MVAC Plant Rooms - G/F	90	90%	22-Jul-19 A		
TCB-EMGF1220	E&M Installation - FS Plant Rooms - G/F	90	90%	05-Jul-19 A		
TCB-EMGF1240	E&M Installation - PD Plant Rooms - G/F	60	75%	22-Jul-19 A		
1/F						
TCB-EM1F1030	E&M Installation - Final fix - 1/F	60	72%	26-Jul-19 A		
TCB-EM1F1100	E&M Installation - PD Plant Rooms - 1/F	90	75%	05-Jul-19 A		
2/F						
TCB-EM2F1030	E&M Installation - Final fix - 2/F	48	74%	26-Jul-19 A		
TCB-EM2F1080	E&M Installation - MVAC Plant Rooms - 2/F	90	90%	06-Aug-19 A		
TCB-EM2F1100	E&M Installation - Elv Plant Rooms - 2/F	60	75%	30-Jul-19 A		
Roof						
TCB-EMRF1010	E&M Installation - 1st fix - Roof	50	95%	15-Aug-19 A		
TCB-EMRF1020	E&M Installation - 2nd fix - Roof	50	67%	05-Sep-19 A		
TCB-EMRF1030	E&M Installation - Final fix - Roof	40	40%	07-Nov-19 A		
Lift Installation (L01)						
TCB-LF1010	Lift & lift machine room installation	90	85%	29-Aug-19 A		
TCB-LF1020	Testing & commissioning	12	0%	09-Jan-20		
TCB-LF1030	Final adjustment, Submission of Form LE5 & EMSD processing	30	0%	23-Jan-20		
TCB-LF1040	Issuance of lift use permit	0	0%			
Testing and Commissioning						
TCB-TC1000	T&C for Subcircuit Power On	32	0%	30-Dec-19		
TCB-TC1020	Equipment Start-up T&C for FSI	12	0%	15-Feb-20		
TCB-TC1023	Individual E&M System T&C for FSI	49	0%	29-Feb-20		
Kiosk N1						
EN140	ABWF Works (Door, windows, tiles)	30	55%	14-Nov-19 A		
EN150	E&M works	36	0%	08-Jan-20		
EN160	T&C	12	0%	22-Feb-20		
Underpass						
E&M Works at Underpass						
EU120	Remaining E&M Installations	37	85%	20-Jun-19 A		



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THREE MONTHLY PROGRAMME AS OF 20 Dec 2019

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Date	Revision	Checked	Approved
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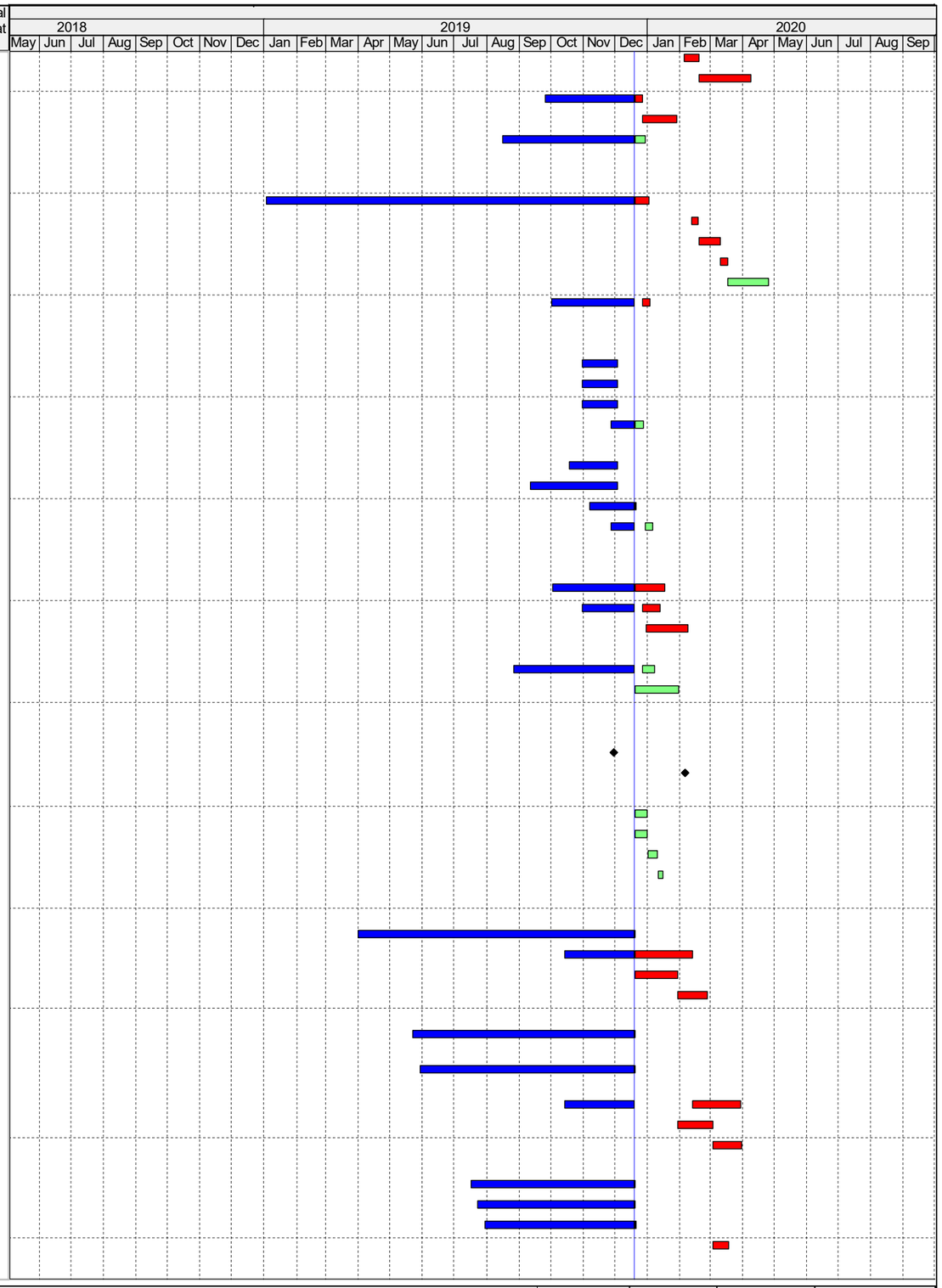
ID	Activity	Duration (Days)	Duration % Complete	Start	Finish	Total Float
EU130	Equipment Start-up T&C for FSI	12	0%	05-Feb-20		
EU135	Individual E&M System T&C for FSI	42	0%	19-Feb-20		
VU110	Jet Fans installation	24	80%	26-Sep-19 A		
VU140	Dampers installation	24	0%	27-Dec-19		
VU180	Cladding Works	25	75%	16-Aug-19 A		
Plant Room						
E&M Works						
EPR130	E&M Installation	90	90%	03-Jan-19 A		
EPR150	Equipment Start-up T&C for FSI	6	0%	12-Feb-20		
EPR153	Individual E&M System T&C for FSI	18	0%	19-Feb-20		
EPR155	Integrated T&C for FSI	6	0%	11-Mar-20		
EPR160	Non-Essential T&C	30	0%	18-Mar-20		
VU160	Pressurization Fans Installation	24	80%	02-Oct-19 A		
Deck Void						
Bridge H1, G1, G2						
DV120	Electrical Installation - Bridge H1	20	100%	31-Oct-19 A		
DV130	Electrical Installation - Bridge G1	20	100%	31-Oct-19 A		
DV140	Electrical Installation - Bridge G2	20	100%	31-Oct-19 A		
DV150	T&C for Electrical Installation	12	50%	28-Nov-19 A		
TD1, TD2, RB_W						
DV190	Electrical Installation - Bridge TD1	20	100%	19-Oct-19 A		
DV200	Electrical Installation - Bridge TD2	20	100%	12-Sep-19 A		
DV210	Electrical Installation - Bridge RB_W	20	90%	07-Nov-19 A		
DV220	T&C for Electrical Installation	12	50%	28-Nov-19 A		
Approach Roads						
Under Portions IX, XI, XX						
AR130	Cabling works - Portion IX	40	45%	03-Oct-19 A		
AR140	Road lighting installation & termination - Portion IX	25	45%	31-Oct-19 A		
AR150	T&C of Roading Lighting	30	0%	31-Dec-19		
Under Portion X						
AR190	Road lighting installation & termination in portion X	90	90%	27-Aug-19 A		
AR200	T&C of Roading Lighting in portion X	30	0%	20-Dec-19		
Key Date 6B - E&M Works for South Vent Duct, Tunnel, and Approach Roads						
E&M Works						
SVD135	Access to Portions IVa (ML03)	0	100%	30-Nov-19 A		
SVD140	Access to Portions VId	0	0%	06-Feb-20		
Ventilation Ducts						
SVD-1000	Cable Containment Installation	8	0%	20-Dec-19		
SVD-1010	Damper Installation	8	0%	20-Dec-19		
SVD-1020	Cable Laying	8	0%	02-Jan-20		
SVD-1030	Installation T&C	4	0%	11-Jan-20		
Service Gallery						
Ch 7200 - 5000						
TNL-SG1010	Wall Mounted Pipe Module Installation CH7200 - 5000	30	99%	01-Apr-19 A		
TNL-SG1030	High Level 2nd Fix and Final Fix Installation CH7200 - 5000	46	10%	15-Oct-19 A		
TNL-SG1040	Cabling Works CH7200 - 5000	29	0%	20-Dec-19		
TNL-SG1050	Low Level 2nd Fix and Final Fix Installation CH7200 - 5000	24	0%	30-Jan-20		
CH5000 - 3050						
TNL-SG1070	Wall Mounted Pipe Module Installation CH5000 - 3050	30	99%	23-May-19 A		
TNL-SG1080	Ceiling Mounted Module Installation CH5000 - 3050	30	99%	30-May-19 A		
TNL-SG1090	High Level 2nd Fix and Final Fix Installation CH5000 - 3050	43	10%	15-Oct-19 A		
TNL-SG1100	Cabling Works CH5000 - 3050	28	0%	30-Jan-20		
TNL-SG1110	Low Level 2nd Fix and Final Fix Installation CH5000 - 3050	24	0%	03-Mar-20		
CH3050 - 2500						
TNL-SG1120	Drilling works CH3050 - 2500	3	99.01%	17-Jul-19 A		
TNL-SG1130	Wall Mounted Pipe Module Installation CH3050 - 2500	12	99%	24-Jul-19 A		
TNL-SG1140	Ceiling Mounted Module Installation CH3050 - 2500	12	99%	31-Jul-19 A		
TNL-SG1160	Cabling Works CH3050 - 2500	13	0%	03-Mar-20		
Road Level & OHVD						



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Date	Revision	Checked	Approved
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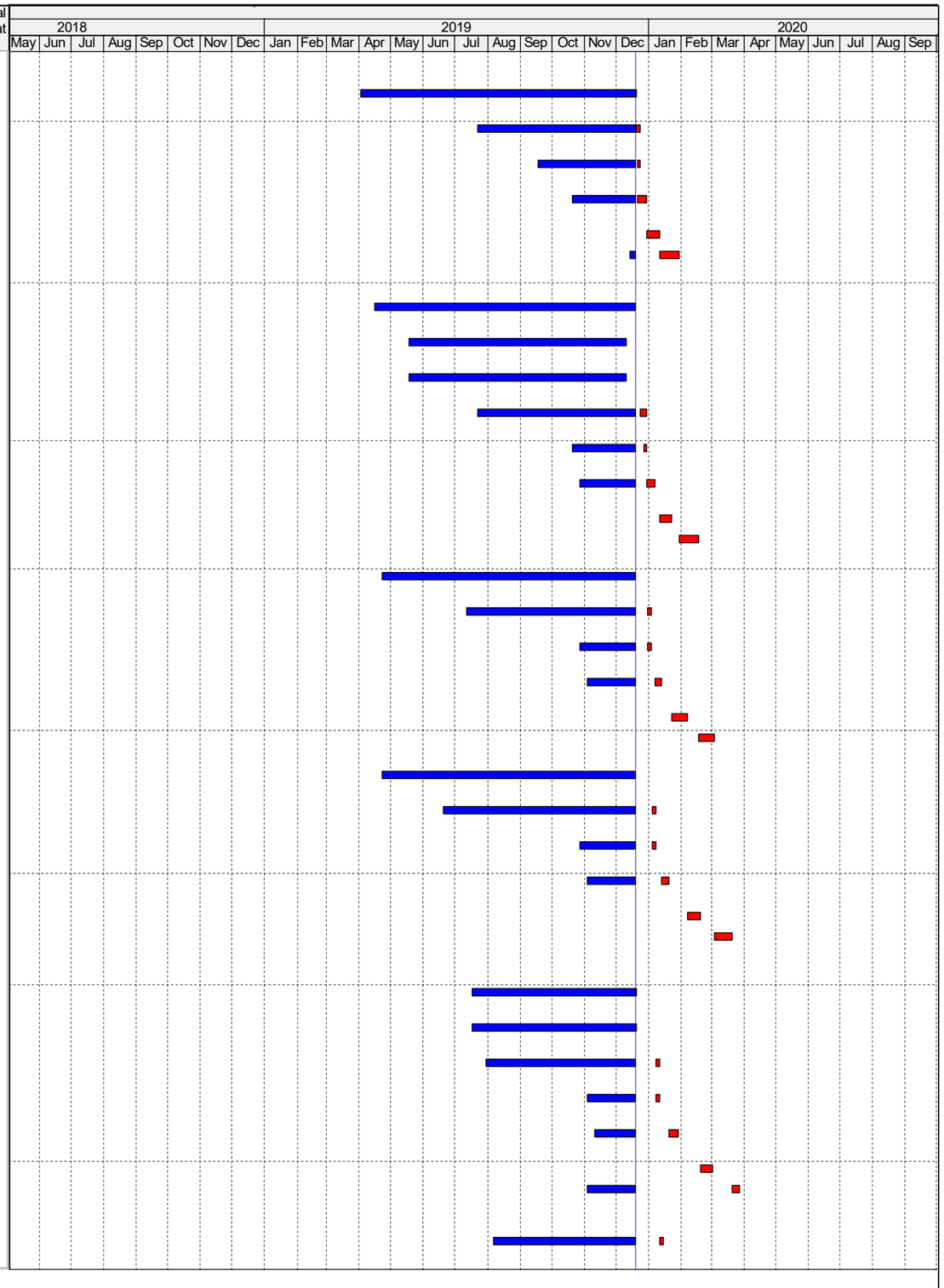
ID	Activity	Duration (Days)	Duration % Complete	Start	Finish	Total Float
Ch 7200 - 5000						
Ch 7200 - 6700						
TNU-RL1800	FH/ HR pipe installation - CH7200 to 6700	8	95%	02-Apr-19 A		
TNU-RL1880	High level wiring works and remaining High level works in the middle of tunnels - CH7200 to 6700	20	85%	22-Jul-19 A		
TNU-RL1910	Low level works - FS nicle module - CH7200 to 6700	10	80%	18-Sep-19 A		
TNU-RL1930	Low level works - FS nicle connection - CH7200 to 6700	10	50%	21-Oct-19 A		
TNU-RL1940	Final connection to small powers - CH7200 to 6700	10	0%	30-Dec-19		
TNU-RL1970	Cladding works - CH7200 to 6700	13	0%	14-Dec-19 A		
Ch 6700 - 6100						
TNU-RL1030	Cabling Works on Brackets - CH6700 to 6100	17	100%	16-Apr-19 A		
TNU-RL1040	MSFD delivery in OHVD - CH6700 to 6100	11	100%	18-May-19 A		
TNU-RL1050	MSFD installation works in OHVD - CH6700 to 6100	11	100%	18-May-19 A		
TNU-RL1060	High level wiring works and remaining High level works in the middle of tunnels - CH6700 to 6100	24	85%	22-Jul-19 A		
TNU-RL1070	Low level works - FS nicle module - CH6700 to 6100	12	80%	21-Oct-19 A		
TNU-RL1080	Low level works - FS nicle connection - CH6700 to 6100	12	50%	28-Oct-19 A		
TNU-RL1090	Final connection to small powers - CH6700 to 6100	10	0%	11-Jan-20		
TNU-RL1100	Cladding works - CH6700 to 6100	15	0%	30-Jan-20		
Ch 6100 - 5600						
TNU-RL1140	Cabling Works on Brackets - CH6100 to 5600	14	100%	23-Apr-19 A		
TNU-RL1170	High level wiring works and remaining High level works in the middle of tunnels - CH6100 to 5600	20	85%	12-Jul-19 A		
TNU-RL1180	Low level works - FS nicle module - CH6100 to 5600	10	70%	28-Oct-19 A		
TNU-RL1190	Low level works - FS nicle connection - CH6100 to 5600	10	50%	04-Nov-19 A		
TNU-RL1200	Final connection to small powers - CH6100 to 5600	10	0%	23-Jan-20		
TNU-RL1210	Cladding works - CH6100 to 5600	13	0%	17-Feb-20		
CH 5600 - 5000						
TNU-RL1250	Cabling Works on Brackets - CH5600 to 5000	17	100%	23-Apr-19 A		
TNU-RL1280	High level wiring works and remaining High level works in the middle of tunnels - CH5600 to 5000	24	85%	20-Jun-19 A		
TNU-RL1290	Low level works - FS nicle module - CH5600 to 5000	12	70%	28-Oct-19 A		
TNU-RL1300	Low level works - FS nicle connection - CH5600 to 5000	12	50%	04-Nov-19 A		
TNU-RL1310	Final connection to small powers - CH5600 to 5000	10	0%	07-Feb-20		
TNU-RL1320	Cladding works - CH5600 to 5000	15	0%	03-Mar-20		
CH5000 - 3050						
CH5000 - 4500						
TNU-RL1860	MSFD delivery in OHVD - CH5000 to 4500	9	98%	17-Jul-19 A		
TNU-RL1890	MSFD installation works in OHVD - CH5000 to 4500	9	98%	17-Jul-19 A		
TNU-RL1900	High level wiring works and remaining High level works in the middle of tunnels - CH5000 to 4500	20	85%	30-Jul-19 A		
TNU-RL1920	Low level works - FS nicle module - CH5000 to 4500	10	70%	04-Nov-19 A		
TNU-RL1950	Low level works - FS nicle connection - CH5000 to 4500	10	50%	11-Nov-19 A		
TNU-RL1960	Final connection to small powers - CH5000 to 4500	10	0%	19-Feb-20		
TNU-RL1980	Cladding works - CH5000 to 4500	13	50%	04-Nov-19 A		
CH4500 - 4000						
TNU-RL1390	High level wiring works and remaining High level works in the middle of tunnels - CH4500 to 4000	20	85%	06-Aug-19 A		



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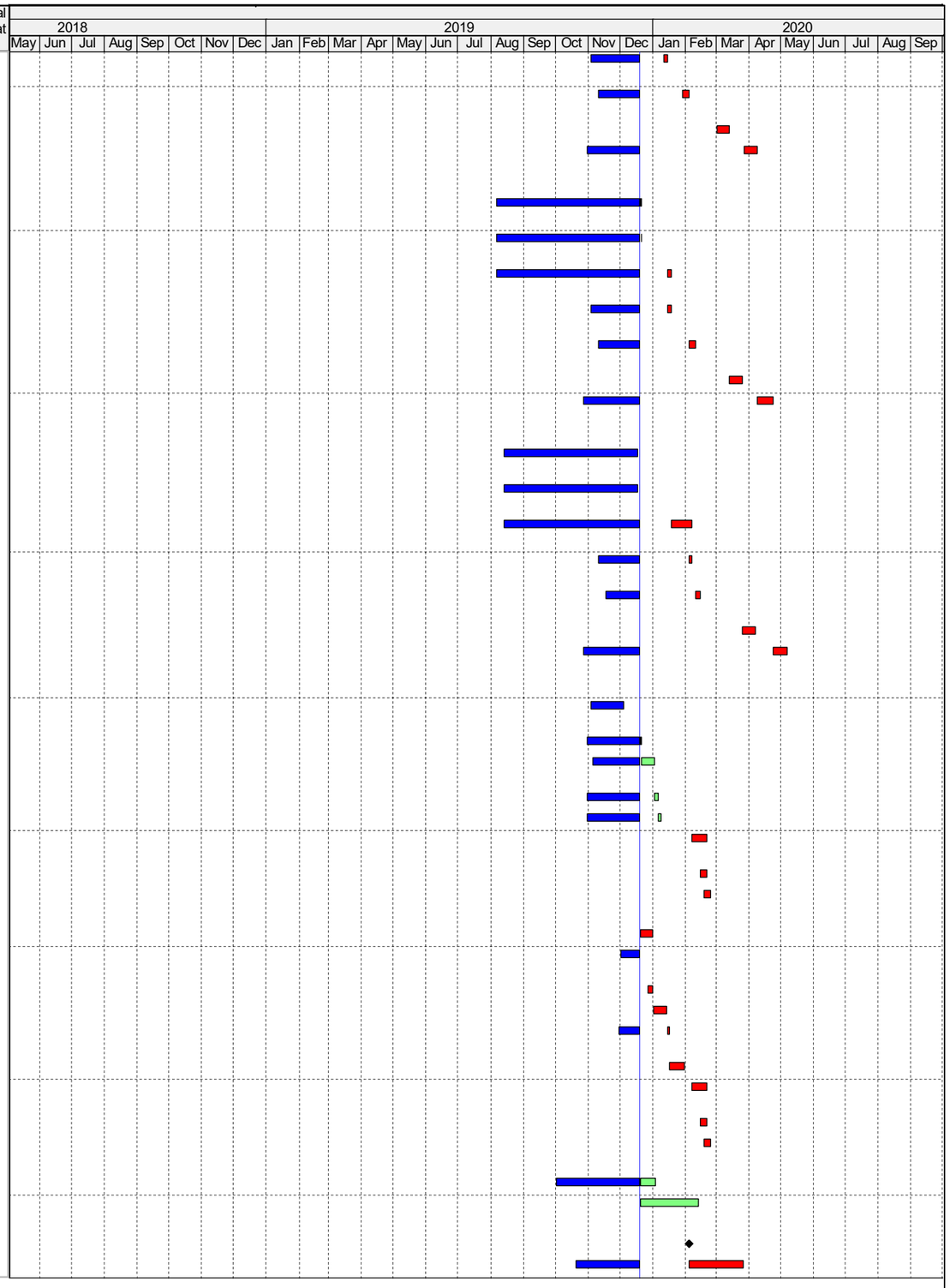
ID	Activity	Duration (Days)	Duration % Complete	Start	Finish	Total Float
TNU-RL1400	Low level works - FS nicle module - CH4500 to 4000	10	70%	04-Nov-19 A		
TNU-RL1410	Low level works - FS nicle connection - CH4500 to 4000	10	50%	11-Nov-19 A		
TNU-RL1420	Final connection to small powers - CH4500 to 4000	10	0%	02-Mar-20		
TNU-RL1430	Cladding works - CH4500 to 4000	13	30%	31-Oct-19 A		
CH4000 - 3500						
TNU-RL1480	MSFD delivery in OHVD - CH4000 to 3500	9	95%	06-Aug-19 A		
TNU-RL1490	MSFD installation works in OHVD - CH4000 to 3500	9	95%	06-Aug-19 A		
TNU-RL1500	High level wiring works and remaining High level works in the middle of tunnels - CH4000 to 3500	20	85%	06-Aug-19 A		
TNU-RL1510	Low level works - FS nicle module - CH4000 to 3500	10	70%	04-Nov-19 A		
TNU-RL1520	Low level works - FS nicle connection - CH4000 to 3500	10	50%	11-Nov-19 A		
TNU-RL1530	Final connection to small powers - CH4000 to 3500	10	0%	13-Mar-20		
TNU-RL1540	Cladding works - CH4000 to 3500	13	20%	28-Oct-19 A		
CH3500 - 3050						
TNU-RL1590	MSFD delivery in OHVD - CH3500 to 3050	9	100%	13-Aug-19 A		
TNU-RL1600	MSFD installation works in OHVD - CH3500 to 3050	9	100%	13-Aug-19 A		
TNU-RL1610	High level wiring works & remaining High level works in the tunnel middle - CH3500 to 3050	20	30%	13-Aug-19 A		
TNU-RL1620	Low level works - FS nicle module - CH3500 to 3050	10	70%	11-Nov-19 A		
TNU-RL1630	Low level works - FS nicle connection - CH3500 to 3050	10	50%	18-Nov-19 A		
TNU-RL1640	Final connection to small powers - CH3500 to 3050	10	0%	25-Mar-20		
TNU-RL1650	Cladding works - CH3500 to 3050	11	20%	28-Oct-19 A		
CH3050 - 2500 (ML02)						
TNU-RL1670	Lighting in the middle of tunnels - CH3050 to 2500	8	100%	04-Nov-19 A		
TNU-RL1680	FH/ HR pipe installation - CH3050 to 2500	4	65%	31-Oct-19 A		
TNU-RL1690	Cabling Works on Brackets - CH3050 to 2500	11	40%	06-Nov-19 A		
TNU-RL1700	MSFD delivery in OHVD - CH3050 to 2500	9	68.99%	31-Oct-19 A		
TNU-RL1710	MSFD installation works in OHVD - CH3050 to 2500	9	68.99%	31-Oct-19 A		
TNU-RL1720	High level wiring works and remaining High level works in the middle of tunnels - CH3050 to 2500	12	0%	07-Feb-20		
TNU-RL1730	Low level works - FS nicle module - CH3050 to 2500	5	0%	15-Feb-20		
TNU-RL1740	Low level works - FS nicle connection - CH3050 to 2500	5	0%	18-Feb-20		
CH3050 - 2500 (ML03)						
TNU-RL3120	Bracket fixing on side wall - CH3050 to 2500	8	0%	20-Dec-19		
TNU-RL3130	Lighting in the middle of tunnels - CH3050 to 2500	8	100%	02-Dec-19 A		
TNU-RL3140	FH/ HR pipe installation - CH3050 to 2500	4	0%	27-Dec-19		
TNU-RL3150	Cabling Works on Brackets - CH3050 to 2500	11	0%	02-Jan-20		
TNU-RL3155	MSFD delivery in OHVD - CH3050 to 2500	9	73.99%	30-Nov-19 A		
TNU-RL3160	MSFD installation works in OHVD - CH3050 to 2500	9	0%	17-Jan-20		
TNU-RL3170	High level wiring works and remaining High level works in the middle of tunnels - CH3050 to 2500	12	0%	07-Feb-20		
TNU-RL3180	Low level works - FS nicle module - CH3050 to 2500	5	0%	15-Feb-20		
TNU-RL3190	Low level works - FS nicle connection - CH3050 to 2500	5	0%	18-Feb-20		
Other Works						
TNU-OW1000	HV Cabling Works in Tunnels	48	80%	02-Oct-19 A		
TNU-OW1010	FR enclosure installation	42	0%	20-Dec-19		
T&C						
TNL-10TC1010	Permanent power available to tunnels from NVB	0	0%	04-Feb-20		
TNL-10TC1016	Partial T&C for Tunnel Ventilation System - CH 7200 to 2500	89	50%	21-Oct-19 A		



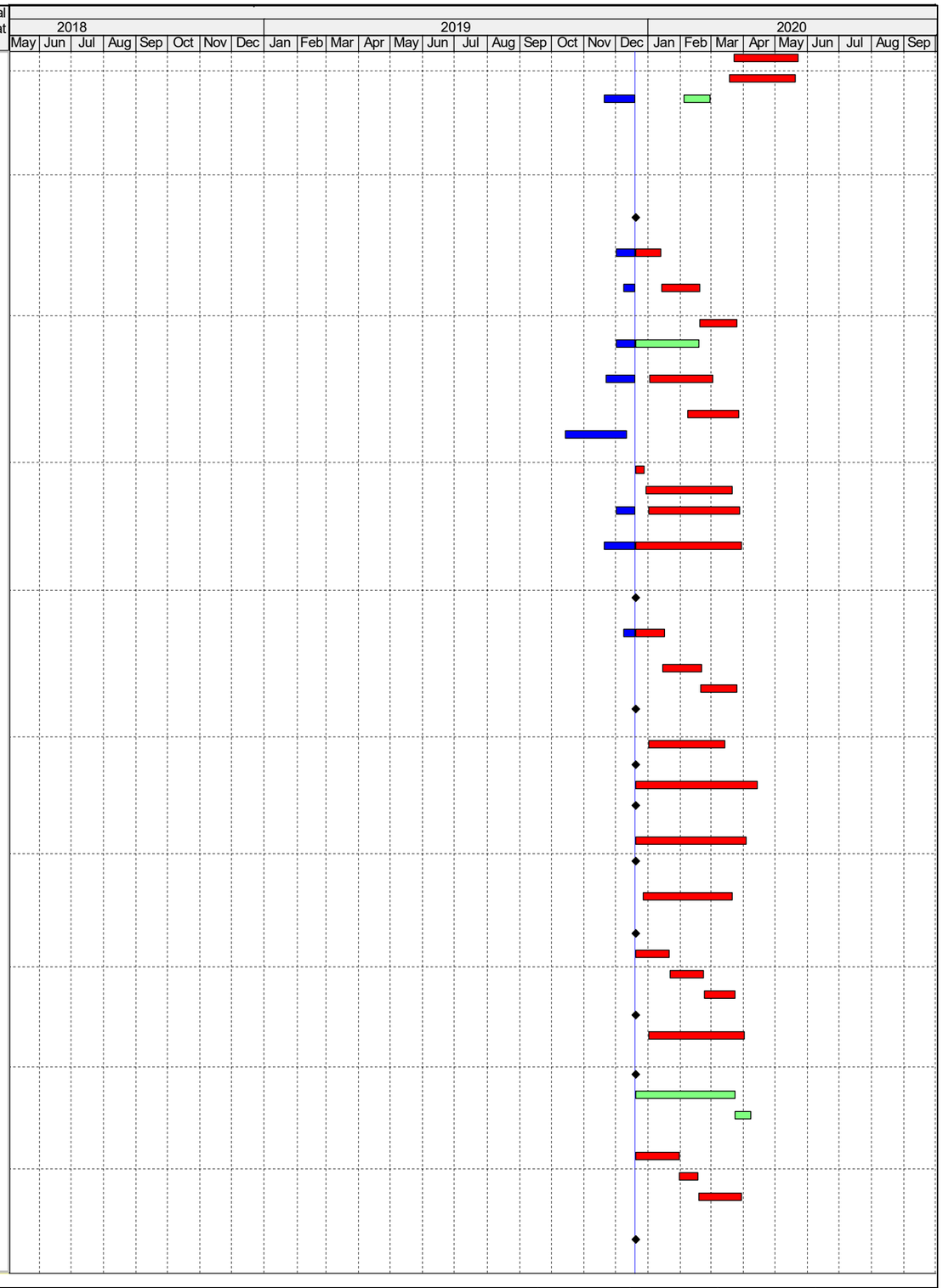
CONTRACT NO. HY2017/10

NORTHERN TUNNEL CONNECTION BUILDING E&M WORKS

THREE MONTHLY PROGRAMME AS OF 20 Dec 2019

Date	Revision	Checked	Approved
20-Dec-19			

ID	Activity	Duration (Days)	Duration % Complete	Start	Finish	Total Float
TNL-10TC1020	T&C for Tunnel Lighting - CH 7200 to 2500	47	0%	23-Mar-20		
TNL-10TC1030	T&C for other Tunnel Services - CH 7200 to 2500	48	0%	18-Mar-20		
TNL-10TC1050	T&C for MSFD - CH 7200 to 2500	30	25%	21-Nov-19 A		
Key Date 7 - E&M Works for Satellite Control Building and Kiosks S1&S2						
E&M Works for Satellite Control Building						
E&M Works						
Installation						
G/F						
SCB-EMGF1000	ABWF Works ready for E&M Mobilization to General Areas - G/F	0	0%	20-Dec-19		
SCB-EMGF1010	E&M Installation - 1st fix - G/F	30	40%	02-Dec-19 A		
SCB-EMGF1020	E&M Installation - 2nd fix - G/F	30	5%	09-Dec-19 A		
SCB-EMGF1030	E&M Installation - Final fix - G/F	30	0%	19-Feb-20		
SCB-EMGF1050	E&M Installation - Generator Room & Fuel Tank Room - G/F	70	35%	02-Dec-19 A		
SCB-EMGF1070	E&M Installation - LV Switch Room - G/F	60	20%	22-Nov-19 A		
SCB-EMGF1080	Cable laying - LV Switch Room - from G/F	42	0%	08-Feb-20		
SCB-EMGF1110	E&M Installation - CLP Tx Room - G/F	18	100%	15-Oct-19 A		
SCB-EMGF1120	Inspection & Handover to CLP	6	0%	20-Dec-19		
SCB-EMGF1130	Installation by CLP - CLP Tx Room - G/F	68	0%	30-Dec-19		
SCB-EMGF1180	E&M Installation - FS Plant Rooms - G/F	80	10%	02-Dec-19 A		
SCB-EMGF1200	E&M Installation - PD Plant Rooms - G/F	90	10%	21-Nov-19 A		
1/F						
SCB-EM1F1000	ABWF Works ready for E&M Mobilization to General Areas - 1/F	0	0%	20-Dec-19		
SCB-EM1F1010	E&M Installation - 1st fix - 1/F	30	30%	09-Dec-19 A		
SCB-EM1F1020	E&M Installation - 2nd fix - 1/F	30	0%	15-Jan-20		
SCB-EM1F1030	E&M Installation - Final fix - 1/F	30	0%	20-Feb-20		
SCB-EM1F1040	ABWF Works ready for E&M Mobilization to Computer Room (TCSS) - 1/F	0	0%	20-Dec-19		
SCB-EM1F1050	E&M Installation - Computer Room (TCSS) - 1/F	60	0%	02-Jan-20		
SCB-EM1F1070	ABWF Works ready for E&M Mobilization to EL Room - 1/F	0	0%	20-Dec-19		
SCB-EM1F1080	E&M Installation - EL Room - 1/F	90	0%	20-Dec-19		
SCB-EM1F1090	ABWF Works ready for E&M Mobilization to FS Plant Rooms - 1/F	0	0%	20-Dec-19		
SCB-EM1F1100	E&M Installation - FS Plant Rooms - 1/F	85	0%	20-Dec-19		
SCB-EM1F1110	ABWF Works ready for E&M Mobilization to Elv Plant Room - 1/F	0	0%	20-Dec-19		
SCB-EM1F1120	E&M Installation - ELV Plant Room - 1/F	70	0%	27-Dec-19		
Roof						
SCB-EMRF1000	ABWF Works ready for E&M Mobilization to R/F	0	0%	20-Dec-19		
SCB-EMRF1003	E&M Installation - 1st fix - R/F	25	0%	20-Dec-19		
SCB-EMRF1006	E&M Installation - 2nd fix - R/F	25	0%	22-Jan-20		
SCB-EMRF1010	E&M Installation - Final fix - R/F	25	0%	24-Feb-20		
SCB-EMRF1020	ABWF Works ready for E&M Mobilization to FS Plant Rooms	0	0%	20-Dec-19		
SCB-EMRF1030	E&M Installation - FS Plant Rooms	75	0%	02-Jan-20		
Lift Installation (L01)						
SCB-LF1010	Access to lift shaft and lift machine room	0	0%	20-Dec-19		
SCB-LF1020	Lift & lift machine room installation	75	0%	20-Dec-19		
SCB-LF1030	Testing & commissioning	12	0%	24-Mar-20		
Kiosk S2						
S2120	Structure	30	0%	20-Dec-19		
S2130	ABWF Works (Door, windows, tiles)	15	0%	31-Jan-20		
S2140	E&M works	36	0%	18-Feb-20		
Key Date 6C - E&M Works for South Ventilation Building						
SVB-SEM1000	SEM Drawings ready for Structural Works for SVB	0	0%	20-Dec-19		
Installation						



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NORTHERN TUNNEL CONNECTION BUILDING E&M WORKS

THREE MONTHLY PROGRAMME AS OF 20 Dec 2019

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20-Dec-19			

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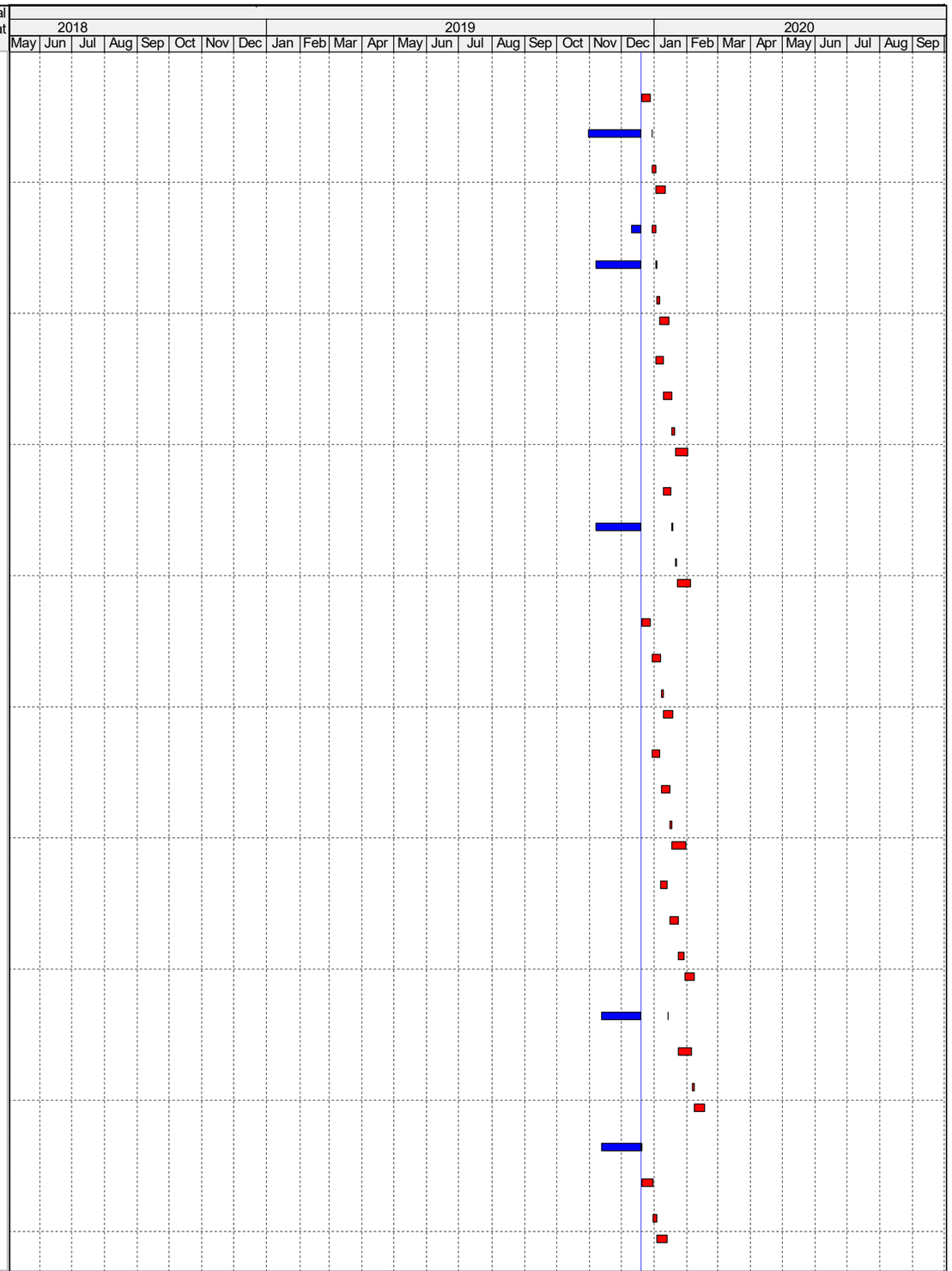
TVF Installation						
NB-SVB-TVF-1						
SVB-TVF2000	Silencer, splitter and duct installation - Upper Attenuator Room (1/F)	6	0%	20-Dec-19		
SVB-TVF2010	Damper/Silencer and duct installation - Lower Attenuator Room(B1/F)	7	90%	31-Oct-19 A		
SVB-TVF2020	Ventilation fan and duct installation - Fan Room (G/F)	2	0%	30-Dec-19		
SVB-TVF2030	Leakage test for TVF	8	0%	02-Jan-20		
NB-SVB-TVF-2						
SVB-TVF2040	Silencer, splitter and duct installation - Upper Attenuator Room (1/F)	6	50%	11-Dec-19 A		
SVB-TVF2050	Damper/Silencer and duct installation - Lower Attenuator Room(B1/F)	7	90%	07-Nov-19 A		
SVB-TVF2060	Ventilation fan and duct installation - Fan Room (G/F)	2	0%	03-Jan-20		
SVB-TVF2070	Leakage test for TVF	8	0%	06-Jan-20		
NB-SVB-TVF-3						
SVB-TVF2080	Silencer, splitter and duct installation - Upper Attenuator Room (1/F)	6	0%	03-Jan-20		
SVB-TVF2090	Damper/Silencer and duct installation - Lower Attenuator Room(B1/F)	7	0%	10-Jan-20		
SVB-TVF2100	Ventilation fan and duct installation - Fan Room (G/F)	2	0%	18-Jan-20		
SVB-TVF2110	Leakage test for TVF	8	0%	21-Jan-20		
NB-SVB-TVF-4						
SVB-TVF2120	Silencer, splitter and duct installation - Upper Attenuator Room (1/F)	6	0%	10-Jan-20		
SVB-TVF2130	Damper/Silencer and duct installation - Lower Attenuator Room(B1/F)	8	90%	07-Nov-19 A		
SVB-TVF2140	Ventilation fan and duct installation - Fan Room (G/F)	2	0%	21-Jan-20		
SVB-TVF2150	Leakage test for TVF	8	0%	23-Jan-20		
SB-SVB-TVF-1						
SVB-TVF2160	Silencer, splitter and duct installation - Upper Attenuator Room (1/F)	6	0%	20-Dec-19		
SVB-TVF2170	Damper/Silencer and duct installation - Lower Attenuator Room(B1/F)	7	0%	30-Dec-19		
SVB-TVF2180	Ventilation fan and duct installation - Fan Room (G/F)	2	0%	08-Jan-20		
SVB-TVF2190	Leakage test for TVF	8	0%	10-Jan-20		
SB-SVB-TVF-2						
SVB-TVF2200	Silencer, splitter and duct installation - Upper Attenuator Room (1/F)	6	0%	30-Dec-19		
SVB-TVF2210	Damper/Silencer and duct installation - Lower Attenuator Room(B1/F)	7	0%	08-Jan-20		
SVB-TVF2220	Ventilation fan and duct installation - Fan Room (G/F)	2	0%	16-Jan-20		
SVB-TVF2230	Leakage test for TVF	8	0%	18-Jan-20		
SB-SVB-TVF-3						
SVB-TVF2240	Silencer, splitter and duct installation - Upper Attenuator Room (1/F)	6	0%	07-Jan-20		
SVB-TVF2250	Damper/Silencer and duct installation - Lower Attenuator Room(B1/F)	7	0%	16-Jan-20		
SVB-TVF2260	Ventilation fan and duct installation - Fan Room (G/F)	2	0%	24-Jan-20		
SVB-TVF2270	Leakage test for TVF	8	0%	30-Jan-20		
SB-SVB-TVF-4						
SVB-TVF2280	Silencer, splitter and duct installation - Upper Attenuator Room (1/F)	6	90%	13-Nov-19 A		
SVB-TVF2290	Damper/Silencer and duct installation - Lower Attenuator Room(B1/F)	8	0%	24-Jan-20		
SVB-TVF2300	Ventilation fan and duct installation - Fan Room (G/F)	2	0%	06-Feb-20		
SVB-TVF2310	Leakage test for TVF	8	0%	08-Feb-20		
SB-SVB-TVF-5						
SVB-TVF2320	Silencer, splitter and duct installation - Upper Attenuator Room (1/F)	6	90%	13-Nov-19 A		
SVB-TVF2330	Damper/Silencer and duct installation - Lower Attenuator Room(B1/F)	7	0%	20-Dec-19		
SVB-TVF2340	Ventilation fan and duct installation - Fan Room (G/F)	2	0%	31-Dec-19		
SVB-TVF2350	Leakage test for TVF	8	0%	03-Jan-20		
SB-SVB-TVF-6						



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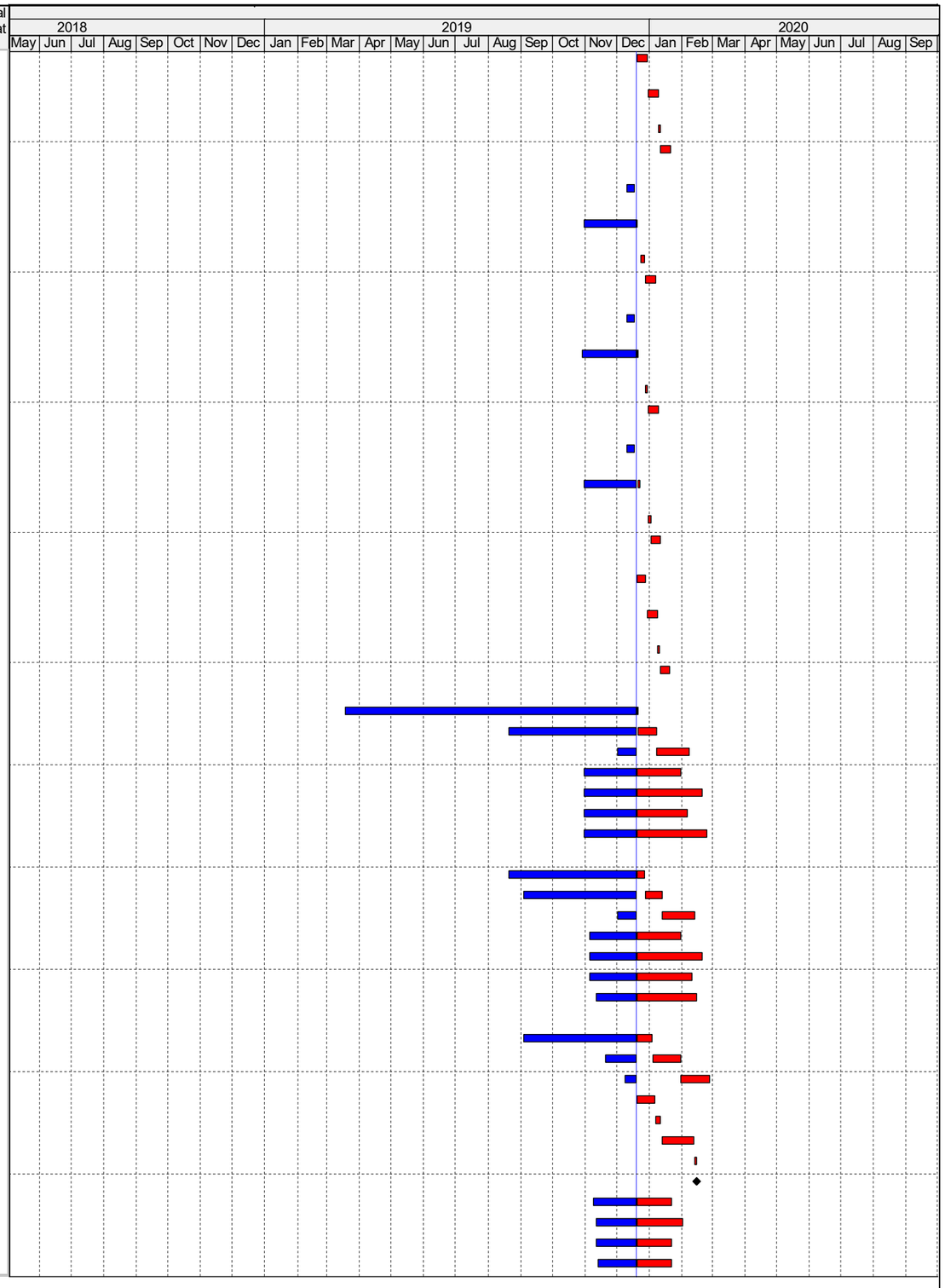
SVB-TVF2360	Silencer, splitter and duct installation - Upper Attenuator Room (1/F)	6	0%	20-Dec-19		
SVB-TVF2370	Damper/Silencer and duct installation - Lower Attenuator Room(B1/F)	7	0%	31-Dec-19		
SVB-TVF2380	Ventilation fan and duct installation - Fan Room (G/F)	2	0%	09-Jan-20		
SVB-TVF2390	Leakage test for TVF	8	0%	11-Jan-20		
SB-SVB-TVF-7						
SVB-TVF2400	Silencer, splitter and duct installation - Upper Attenuator Room (1/F)	6	100%	11-Dec-19 A		
SVB-TVF2410	Damper/Silencer and duct installation - Lower Attenuator Room(B1/F)	7	90%	31-Oct-19 A		
SVB-TVF2420	Ventilation fan and duct installation - Fan Room (G/F)	2	0%	24-Dec-19		
SVB-TVF2430	Leakage test for TVF	8	0%	28-Dec-19		
SB-SVB-TVF-8						
SVB-TVF2440	Silencer, splitter and duct installation - Upper Attenuator Room (1/F)	6	100%	11-Dec-19 A		
SVB-TVF2450	Damper/Silencer and duct installation - Lower Attenuator Room(B1/F)	7	90%	30-Oct-19 A		
SVB-TVF2460	Ventilation fan and duct installation - Fan Room (G/F)	2	0%	28-Dec-19		
SVB-TVF2470	Leakage test for TVF	8	0%	31-Dec-19		
SB-SVB-TVF-9						
SVB-TVF2480	Silencer, splitter and duct installation - Upper Attenuator Room (1/F)	6	100%	11-Dec-19 A		
SVB-TVF2490	Damper/Silencer and duct installation - Lower Attenuator Room(B1/F)	7	90%	31-Oct-19 A		
SVB-TVF2500	Ventilation fan and duct installation - Fan Room (G/F)	2	0%	31-Dec-19		
SVB-TVF2510	Leakage test for TVF	8	0%	03-Jan-20		
SB-SVB-TVF-10						
SVB-TVF2520	Silencer, splitter and duct installation - Upper Attenuator Room (1/F)	6	0%	20-Dec-19		
SVB-TVF2530	Damper/Silencer and duct installation - Lower Attenuator Room(B1/F)	8	0%	30-Dec-19		
SVB-TVF2540	Ventilation fan and duct installation - Fan Room (G/F)	2	0%	09-Jan-20		
SVB-TVF2550	Leakage test for TVF	8	0%	11-Jan-20		
B2/F						
SVB-EMB21010	E&M Installation - 1st fix - B2/F	25	95%	18-Mar-19 A		
SVB-EMB21020	E&M Installation - 2nd fix - B2/F	25	50%	21-Aug-19 A		
SVB-EMB21030	E&M Installation - Final fix - B2/F	25	5%	02-Dec-19 A		
SVB-EMB21060	E&M Installation - Electrical Plant Rooms- B2/F	40	25%	31-Oct-19 A		
SVB-EMB21080	E&M Installation - MVAC Palnt Rooms - B2/F	60	20%	31-Oct-19 A		
SVB-EMB21100	E&M Installation - FS Plant Rooms - B2/F	45	20%	31-Oct-19 A		
SVB-EMB21110	E&M Installation - PD Palnt Rooms - B2/F	60	15%	31-Oct-19 A		
B1/F						
SVB-EMB11010	E&M Installation - 1st fix - B1/F	25	80%	21-Aug-19 A		
SVB-EMB11020	E&M Installation - 2nd fix - B1/F	25	50%	04-Sep-19 A		
SVB-EMB11030	E&M Installation - Final fix - B1/F	25	5%	02-Dec-19 A		
SVB-EMB11060	E&M Installation - Electrical Plant Rooms - B1/F	40	25%	06-Nov-19 A		
SVB-EMB11080	E&M Installation - MVAC Plant Rooms - B1/F	60	20%	06-Nov-19 A		
SVB-EMB11100	E&M Installation - FS Plant Rooms - B1/F	48	20%	06-Nov-19 A		
SVB-EMB11120	E&M Installation - Elv Plant Rooms - B1/F	48	10%	12-Nov-19 A		
G/F						
SVB-EMGF1010	E&M Installation - 1st fix - G/F	25	60%	04-Sep-19 A		
SVB-EMGF1020	E&M Installation - 2nd fix - G/F	25	20%	21-Nov-19 A		
SVB-EMGF1030	E&M Installation - Final fix - G/F	25	5%	09-Dec-19 A		
SVB-EMGF1050	E&M Installation - CLPP HV Switch Room - G/F	12	0%	20-Dec-19 A		
SVB-EMGF1060	Inspection & Handover to CLP	5	0%	07-Jan-20		
SVB-EMGF1070	Installation by CLP - CLPP HV Switch Room - G/F	24	0%	13-Jan-20		
SVB-EMGF1080	Wiring Inspection with CLP	2	0%	13-Feb-20		
SVB-EMGF1090	Power On Energization by CLP	0	0%			
SVB-EMGF1120	E&M Installation - Genset Room & Fuel Tank Rooms - G/F	40	35%	09-Nov-19 A		
SVB-EMGF1140	E&M Installation - Electrical Plant Rooms - G/F	40	20%	12-Nov-19 A		
SVB-EMGF1160	E&M Installation - MVAC Plant Rooms - G/F	40	35%	12-Nov-19 A		
SVB-EMGF1180	E&M Installation - FS Plant Rooms - G/F	40	35%	14-Nov-19 A		



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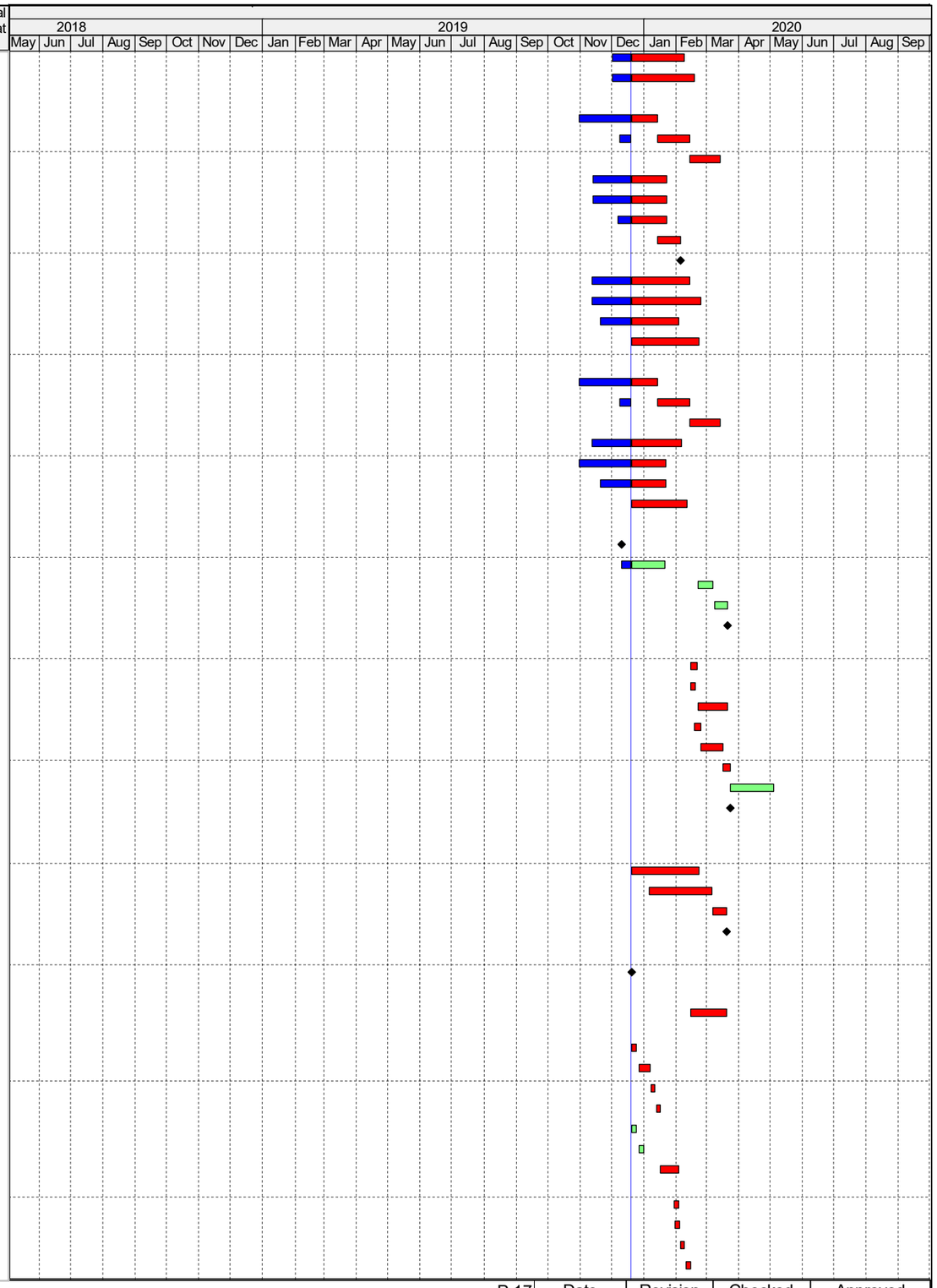
SVB-EMGF1200	E&M Installation - PD Plant Rooms - G/F	40	5%	02-Dec-19 A		
SVB-EMGF1220	E&M Installation - Elv Plant Rooms - G/F	48	5%	02-Dec-19 A		
1/F						
SVB-EM1F1010	E&M Installation - 1st fix - 1/F	25	25%	31-Oct-19 A		
SVB-EM1F1020	E&M Installation - 2nd fix - 1/F	25	5%	09-Dec-19 A		
SVB-EM1F1030	E&M Installation - Final fix - 1/F	25	0%	14-Feb-20		
SVB-EM1F1050	E&M Installation - 11kV Switch & Tx Room 1 - 1/F	41	35%	14-Nov-19 A		
SVB-EM1F1110	E&M Installation - 11kV Switch & Tx Room 2 - 1/F	41	35%	14-Nov-19 A		
SVB-EM1F1170	E&M Installation - LV Switch Room - 1/F	41	35%	07-Dec-19 A		
SVB-EM1F1180	Cable laying - from 1/F	16	0%	14-Jan-20		
SVB-EM1F1190	Sub-Circuit Power On - LV Switch Room - 1/F	0	0%			
SVB-EM1F1220	E&M Installation - Electrical Plant Rooms - 1/F	50	15%	13-Nov-19 A		
SVB-EM1F1240	E&M Installation - MVAC Plant Rooms - 1/F	60	15%	13-Nov-19 A		
SVB-EM1F1260	E&M Installation - FS Plant Rooms - 1/F	50	35%	20-Nov-19 A		
SVB-EM1F1280	E&M Installation - ELV Plant Rooms - 1/F	50	0%	20-Dec-19		
2/F						
SVB-EM2F1010	E&M Installation - 1st fix - 2/F	25	25%	31-Oct-19 A		
SVB-EM2F1020	E&M Installation - 2nd fix - 2/F	25	5%	09-Dec-19 A		
SVB-EM2F1030	E&M Installation - Final fix - 2/F	25	0%	14-Feb-20		
SVB-EM2F1060	E&M Installation - Electrical Plant Rooms - 2/F	40	10%	13-Nov-19 A		
SVB-EM2F1080	E&M Installation - MVAC Plant Rooms - 2/F	40	35%	31-Oct-19 A		
SVB-EM2F1100	E&M Installation - FS Plant Rooms - 2/F	40	35%	20-Nov-19 A		
SVB-EM2F1120	E&M Installation - PD Plant Rooms - 2/F	40	0%	20-Dec-19		
Lift Installation (L01 & L02)						
SVB-LF1010	Access to lift shaft and lift machine room	0	100%	11-Dec-19 A		
SVB-LF1020	Lift & lift machine room installation	50	50%	11-Dec-19 A		
SVB-LF1030	Testing & commissioning	13	0%	22-Feb-20		
SVB-LF1040	Final adjustment, Submission of Form LE5 & EMSD processing	12	0%	09-Mar-20		
SVB-LF1050	Issuance of lift use permit	0	0%			
Testing & Commissioning						
SVB-TC1000	T&C for Subcircuit Power On	6	0%	15-Feb-20		
SVB-TC1010	T&C for DG Licence	4	0%	15-Feb-20		
SVB-TC1020	T&C for TVF	25	0%	22-Feb-20		
SVB-TC1030	Equipment Start-up T&C for FSI	6	0%	18-Feb-20		
SVB-TC1033	Individual E&M System T&C for FSI	18	0%	25-Feb-20		
SVB-TC1035	Intergrated T&C for FSI	6	0%	17-Mar-20		
SVB-TC1040	Non-Essential T&C	30	0%	24-Mar-20		
SVB-TC1050	KD6C Achieved	0	0%			
Key Date 6A - E&M Works for Approach Roads at North Side						
Approach Roads						
EAR120	Road Lighting Cabling	50	0%	20-Dec-19		
EAR130	Road Ligting Installation & Termination	50	0%	06-Jan-20		
EAR140	T&C & Miscellaneous Works for Statutory Inspection	12	0%	07-Mar-20		
EAR300	KD6A Achieved	0	0%			
Tunnel						
EAR265	Access Portions Va	0	0%			
CH7200 - 7300						
TNL-09CL5610	T&C & Miscellaneous Works for Statutory Inspection - CH 7300 to 7200	30	0%	15-Feb-20		
TNU-RL2000	Bracket fixing on side wall - CH7200 to 7300	4	0%	20-Dec-19		
TNU-RL2010	Lighting in the middle of tunnels - CH7200 to 7300	9	0%	27-Dec-19		
TNU-RL2020	FH/ HR pipe installation - CH7200 to 7300	4	0%	08-Jan-20		
TNU-RL2030	Cabling Works on Brackets - CH7200 to 7300	4	0%	13-Jan-20		
TNU-RL2040	MSFD delivery in OHVD - CH7200 to 7300	4	0%	20-Dec-19		
TNU-RL2050	MSFD installation works in OHVD - CH7200 to 7300	4	0%	27-Dec-19		
TNU-RL2060	High level wiring works & remaining High level works in tunnel middle - CH7200 to 7300	12	0%	17-Jan-20		
TNU-RL2070	Low level works - FS nicle module - CH7200 to 7300	4	0%	30-Jan-20		
TNU-RL2080	Low level works - FS nicle connection - CH7200 to 7300	4	0%	31-Jan-20		
TNU-RL2090	Final connection to small powers - CH7200 to 7300	4	0%	05-Feb-20		
TNU-RL2100	Cladding works - CH7200 to 7300	5	0%	10-Feb-20		



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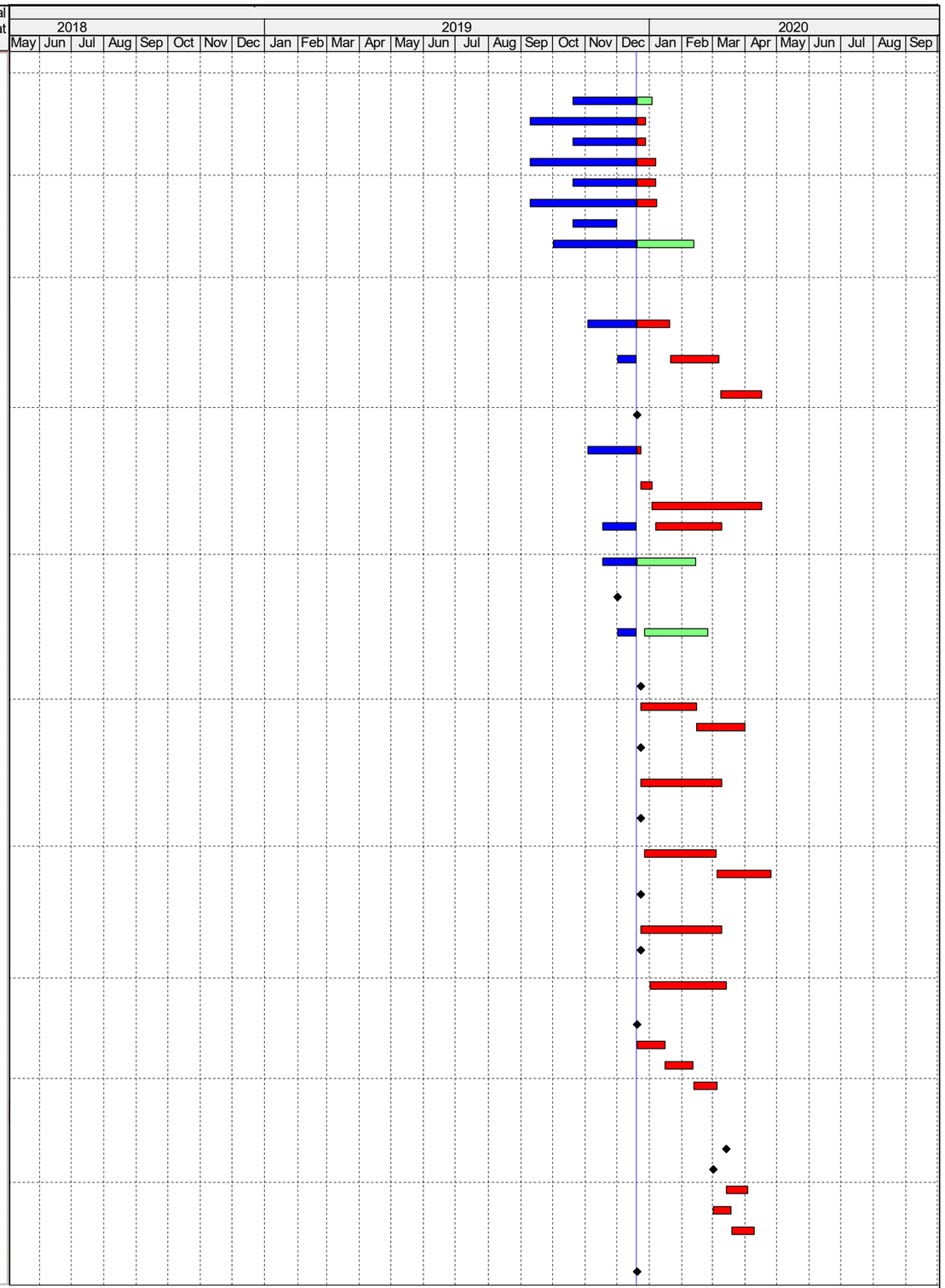
Key Date 10 - FSD Building Structure & E&M Works						
ABWF Works						
AFSD1010	Door and Window Frames	19	52%	21-Oct-19 A		
AFSD1020	ABWF Works to Plant Rooms G/F	56	90%	10-Sep-19 A		
AFSD1021	ABWF Works to Plant Rooms 1/F	56	90%	21-Oct-19 A		
AFSD1030	ABWF Works to Office and Corridors G/F	124	90%	10-Sep-19 A		
AFSD1031	ABWF Works to Office and Corridors 1/F	124	90%	21-Oct-19 A		
AFSD1040	ABWF Works to Toilets G/F	136	90%	10-Sep-19 A		
AFSD1050	Waterproofing and Roofing	52	100%	21-Oct-19 A		
AFSD1060	External Cladding and Wall Plastering	101	60%	02-Oct-19 A		
E&M Works						
Installation						
G/F						
FSDB-EMGF1010	E&M Installation - 1st fix - G/F	40	40%	04-Nov-19 A		
FSDB-EMGF1020	E&M Installation - 2nd fix - G/F	40	5%	02-Dec-19 A		
FSDB-EMGF1030	E&M Installation - Final fix - G/F	30	0%	09-Mar-20		
FSDB-EMGF1040	ABWF Works ready for E&M Mobilization to CLP TX Room - G/F	0	0%	20-Dec-19		
FSDB-EMGF1050	E&M Installation - CLP Tx Room - G/F	18	80%	04-Nov-19 A		
FSDB-EMGF1060	Inspection & Handover to CLP	6	0%	24-Dec-19		
FSDB-EMGF1070	Installation by CLP - CLP Tx Room - G/F	82	0%	03-Jan-20		
FSDB-EMGF1120	E&M Installation - Electrical Plant Rooms - G/F	60	15%	18-Nov-19 A		
FSDB-EMGF1140	E&M Installation - FS Plant Rooms - G/F	50	15%	18-Nov-19 A		
FSDB-EMGF1150	ABWF Works ready for E&M Mobilization to Elv Plant Rooms - G/F	0	100%	02-Dec-19 A		
FSDB-EMGF1160	E&M Installation - Elv Plant Rooms - G/F	50	5%	02-Dec-19 A		
1/F						
FSDB-EM1F1000	ABWF Works ready for E&M Mobilization to General Areas - 1/F	0	0%	24-Dec-19		
FSDB-EM1F1010	E&M Installation - 1st fix - 1/F	40	0%	24-Dec-19		
FSDB-EM1F1020	E&M Installation - 2nd fix - 1/F	39	0%	15-Feb-20		
FSDB-EM1F1040	ABWF Works ready for E&M Mobilization to Emergency Generator & Fuel Tank Rooms - 1/F	0	0%	24-Dec-19		
FSDB-EM1F1050	E&M Installation - Emergency Generator & Fuel Tank Rooms - 1/F	60	0%	24-Dec-19		
FSDB-EM1F1060	ABWF Works ready for E&M Mobilization to LV Switch Room - 1/F	0	0%	24-Dec-19		
FSDB-EM1F1070	E&M Installation - LV Switch Room - 1/F	55	0%	27-Dec-19		
FSDB-EM1F1080	Cable laying - LV Switch Room - from 1/F	41	0%	05-Mar-20		
FSDB-EM1F1110	ABWF Works ready for E&M Mobilization to FS Plant Rooms - 1/F	0	0%	24-Dec-19		
FSDB-EM1F1120	E&M Installation - FS Plant Rooms - 1/F	60	0%	24-Dec-19		
FSDB-EM1F1130	ABWF Works ready for E&M Mobilization to PD Plant Rooms - 1/F	0	0%	24-Dec-19		
FSDB-EM1F1140	E&M Installation - PD Plant Rooms - 1/F	60	0%	02-Jan-20		
Roof						
FSDB-EMRF1000	ABWF Works ready for E&M Mobilization to Roof	0	0%	20-Dec-19		
FSDB-EMRF1010	E&M Installation - 1st fix - Roof	20	0%	20-Dec-19		
FSDB-EMRF1020	E&M Installation - 2nd fix - Roof	20	0%	16-Jan-20		
FSDB-EMRF1030	E&M Installation - Final fix - Roof	20	0%	12-Feb-20		
Key Date 7A - E&M Works for Approach Roads at South Side						
Approach Roads						
EAR170	Access Portions VIa	0	0%	14-Mar-20		
EAR175	Access Portions VIc	0	0%	02-Mar-20		
EAR180	Road Lighting Cabling (VIa)	18	0%	14-Mar-20		
EAR185	Road Lighting Cabling (VIc)	15	0%	02-Mar-20		
EAR190	Road Ligting Installation & Termination	18	0%	19-Mar-20		
Tunnel						
EAR160	Access Portions IVb	0	0%	20-Dec-19		



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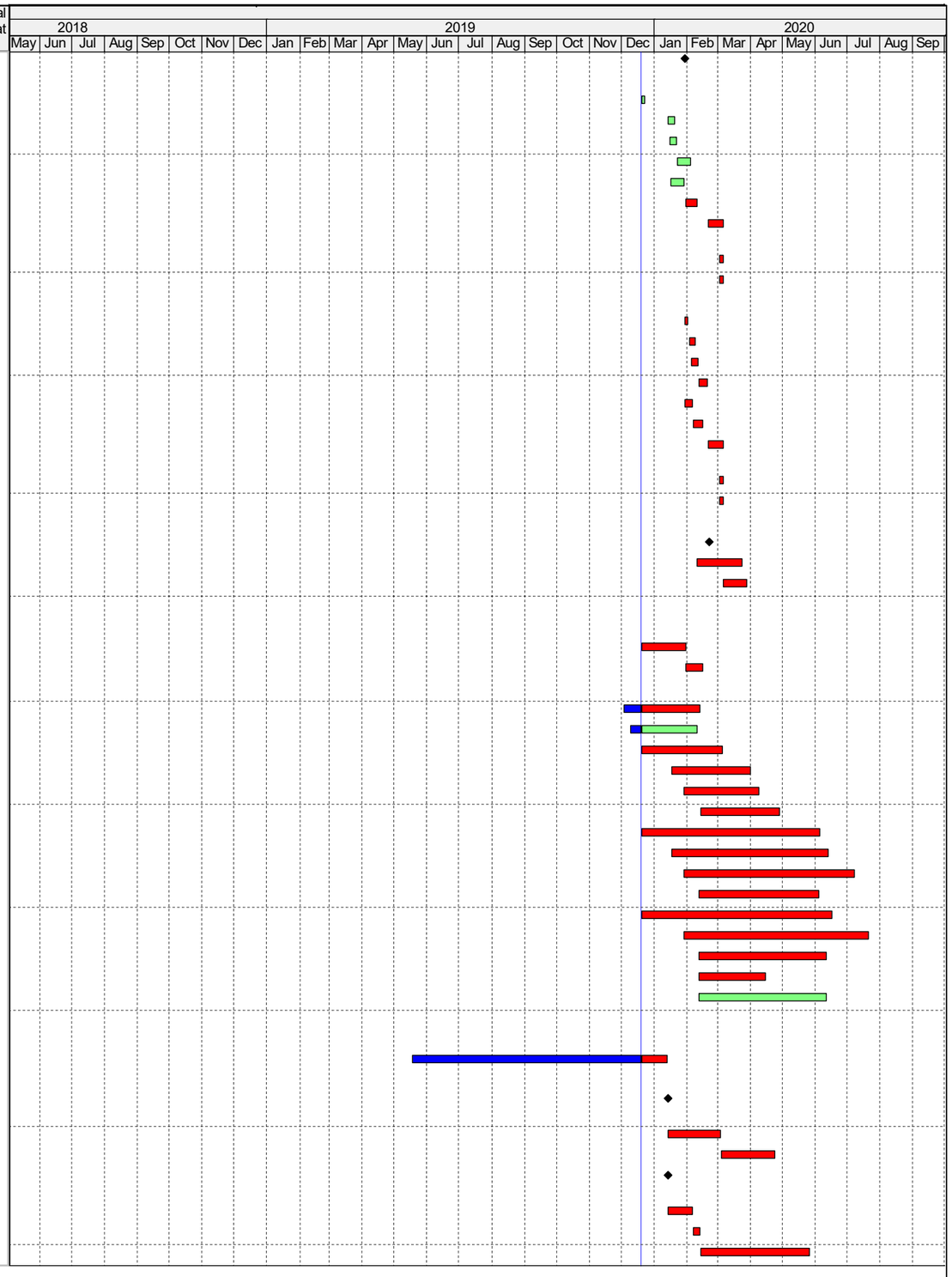
EAR165	Access Portions IVc	0	0%	30-Jan-20		
CH2500 - 2115						
TNU-RL3000	Bracket fixing on side wall - CH2500 to 2115	3	0%	20-Dec-19		
TNU-RL3010	Lighting in the middle of tunnels - CH2500 to 2115	6	0%	14-Jan-20		
TNU-RL3020	FH/ HR pipe installation - CH2500 to 2115	6	0%	16-Jan-20		
TNU-RL3030	Cabling Works on Brackets - CH2500 to 2115	8	0%	23-Jan-20		
TNU-RL3040	MSFD delivery in OHVD - CH2500 to 2115	7	0%	17-Jan-20		
TNU-RL3050	MSFD installation works in OHVD - CH2500 to 2115	8	0%	31-Jan-20		
TNU-RL3060	High level wiring works & remaining High level works in tunnel middle - CH2500 to 2115	12	0%	21-Feb-20		
TNU-RL3070	Low level works - FS nicle module - CH2500 to 2115	4	0%	02-Mar-20		
TNU-RL3080	Low level works - FS nicle connection - CH2500 to 2115	4	0%	02-Mar-20		
CH2115 - 1800						
TNU-RL3240	Bracket fixing on side wall - CH2115 to 1800	3	0%	30-Jan-20		
TNU-RL3250	Lighting in the middle of tunnels - CH2115 to 1800	6	0%	03-Feb-20		
TNU-RL3260	FH/ HR pipe installation - CH2115 to 1800	6	0%	05-Feb-20		
TNU-RL3270	Cabling Works on Brackets - CH2115 to 1800	8	0%	12-Feb-20		
TNU-RL3275	MSFD delivery in OHVD - CH2115 to 1800	7	0%	30-Jan-20		
TNU-RL3280	MSFD installation works in OHVD - CH2115 to 1800	8	0%	07-Feb-20		
TNU-RL3290	High level wiring works & remaining High level works in tunnel middle - CH2115 to 1800	12	0%	21-Feb-20		
TNU-RL3300	Low level works - FS nicle module - CH2115 to 1800	4	0%	02-Mar-20		
TNU-RL3310	Low level works - FS nicle connection - CH2115 to 1800	4	0%	02-Mar-20		
T&C						
TNL-10TC1000	Permanent power available to tunnels from SVB	0	0%	22-Feb-20		
TNL-10TC1130	T&C for Tunnel Lighting - CH 2500 to 1800	37	0%	10-Feb-20		
TNL-10TC1160	T&C for MSFD - CH 2500 to 1800	19	0%	06-Mar-20		
Key Date 9 - C&ED Building & E&M Works						
Building Structure						
CED260	Roof Slab	30	0%	20-Dec-19		
CED270	Top Roof	14	0%	31-Jan-20		
ABWF Works						
ACED1000	Blockwork Walls	54	23%	04-Dec-19 A		
ACED1010	Door and Window Frames	48	20%	10-Dec-19 A		
ACED1020	ABWF Works to Plant Rooms G/F	60	0%	20-Dec-19		
ACED1021	ABWF Works to Plant Rooms 1/F	60	0%	18-Jan-20		
ACED1022	ABWF Works to Plant Rooms 2/F	60	0%	29-Jan-20		
ACED1023	ABWF Works to Plant Rooms 3/F	60	0%	14-Feb-20		
ACED1030	ABWF Works to Office and Corridors G/F	133	0%	20-Dec-19		
ACED1031	ABWF Works to Office and Corridors 1/F	118	0%	18-Jan-20		
ACED1032	ABWF Works to Office and Corridors 2/F	130	0%	29-Jan-20		
ACED1033	ABWF Works to Office and Corridors 3/F	92	0%	12-Feb-20		
ACED1040	ABWF Works to Toilets G/F	142	0%	20-Dec-19		
ACED1041	ABWF Works to Toilets 2/F	142	0%	29-Jan-20		
ACED1042	ABWF Works to Toilets 3/F	98	0%	12-Feb-20		
ACED1050	Waterproofing and Roofing	50	0%	12-Feb-20		
ACED1060	External Cladding and Wall Plastering	97	0%	12-Feb-20		
E&M Works						
Installation						
C&EDB-GF0001	E&M cast-in Installation	90	80%	18-May-19 A		
G/F						
C&EDB-GF1000	ABWF Works ready for E&M Mobilization to General Areas - G/F	0	0%	14-Jan-20		
C&EDB-GF1010	E&M Installation - 1st fix - G/F	40	0%	14-Jan-20		
C&EDB-GF1020	E&M Installation - 2nd fix - G/F	40	0%	04-Mar-20		
C&EDB-GF1040	ABWF Works ready for E&M Mobilization to CLP Tx Room - G/F	0	0%	14-Jan-20		
C&EDB-GF1050	E&M Installation - CLP Tx Room - G/F	18	0%	14-Jan-20		
C&EDB-GF1060	Inspection & Handover to CLP	6	0%	07-Feb-20		
C&EDB-GF1070	Installation by CLP - CLP Tx Room - G/F	82	0%	14-Feb-20		



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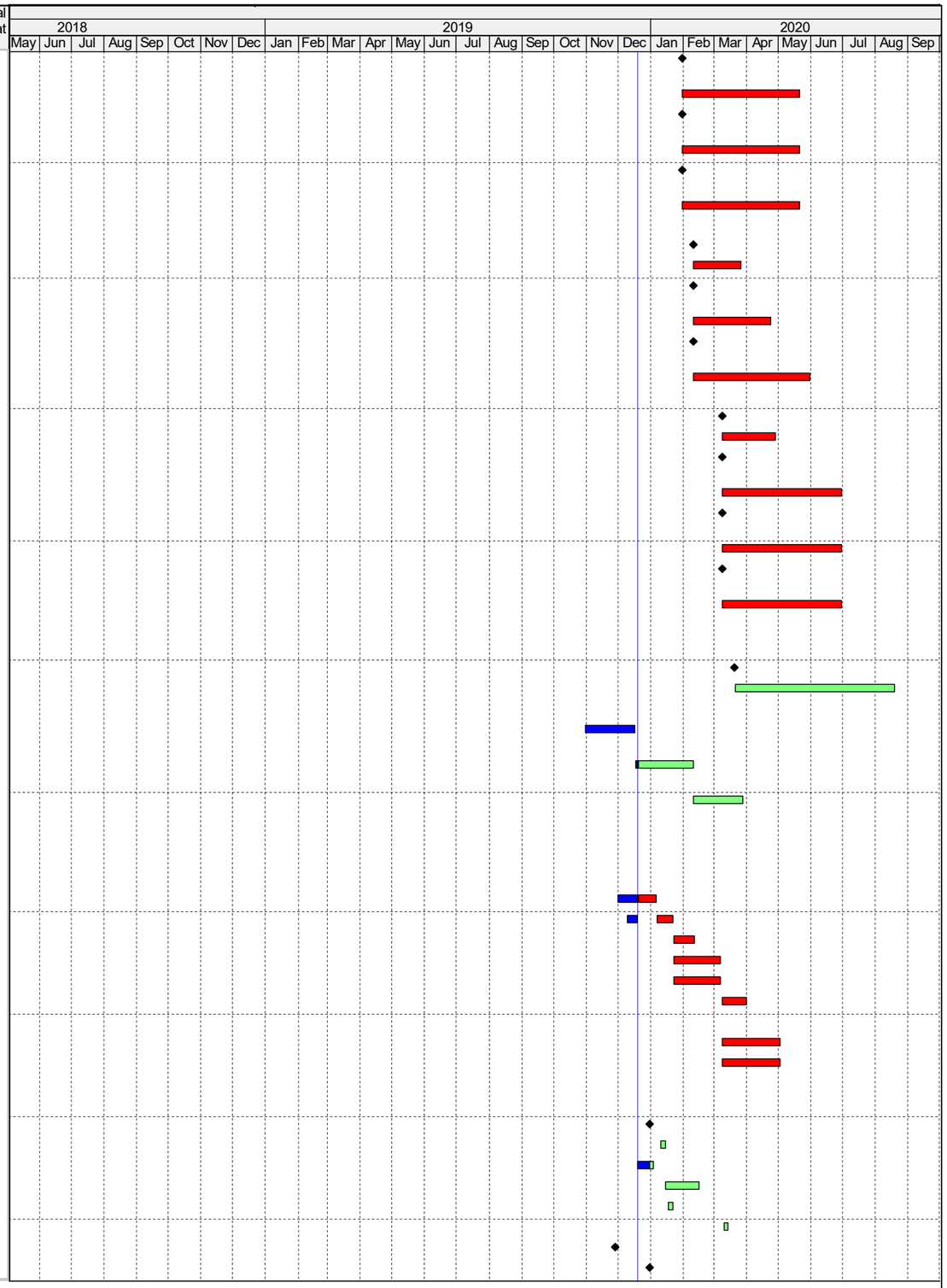
C&EDB-GF1110	ABWF Works ready for E&M Mobilization to Generator & Fuel Tank Rooms - G/F	0	0%	31-Jan-20		
C&EDB-GF1120	E&M Installation - Generator & Fuel Tank Rooms - G/F	90	0%	31-Jan-20		
C&EDB-GF1130	ABWF Works ready for E&M Mobilization to FS Plant Rooms - G/F	0	0%	31-Jan-20		
C&EDB-GF1140	E&M Installation - FS Plant Rooms - G/F	90	0%	31-Jan-20		
C&EDB-GF1150	ABWF Works ready for E&M Mobilization to Elv Plant Rooms - G/F	0	0%	31-Jan-20		
C&EDB-GF1160	E&M Installation - Elv Plant Rooms - G/F	90	0%	31-Jan-20		
1/F						
C&EDB-1F1000	ABWF Works ready for E&M Mobilization to General Areas - 1/F	0	0%	10-Feb-20		
C&EDB-1F1010	E&M Installation - 1st fix - 1/F	40	0%	10-Feb-20		
C&EDB-1F1040	ABWF Works ready for E&M Mobilization to LV Switch Room - 1/F	0	0%	10-Feb-20		
C&EDB-1F1050	E&M Installation - LV Switch Room - 1/F	60	0%	10-Feb-20		
C&EDB-1F1080	ABWF Works ready for E&M Mobilization to Electrical Plant Rooms - 1/F	0	0%	10-Feb-20		
C&EDB-1F1090	E&M Installation - Electrical Plant Rooms - 1/F	90	0%	10-Feb-20		
2/F						
C&EDB-2F1000	ABWF Works ready for E&M Mobilization to General Areas - 2/F	0	0%	09-Mar-20		
C&EDB-2F1010	E&M Installation - 1st fix - 2/F	40	0%	09-Mar-20		
C&EDB-2F1050	ABWF Works ready for E&M Mobilization to Electrical Plant Rooms - 2/F	0	0%	09-Mar-20		
C&EDB-2F1060	E&M Installation - Electrical Plant Rooms - 2/F	90	0%	09-Mar-20		
C&EDB-2F1070	ABWF Works ready for E&M Mobilization to FS Plant Rooms - 2/F	0	0%	09-Mar-20		
C&EDB-2F1080	E&M Installation - FS Plant Rooms - 2/F	90	0%	09-Mar-20		
C&EDB-2F1090	ABWF Works ready for E&M Mobilization to Elv Plant Rooms - 2/F	0	0%	09-Mar-20		
C&EDB-2F1100	E&M Installation - Elv Plant Rooms - 2/F	90	0%	09-Mar-20		
Key Date 11 - Landscape Soft Works & Trees Protection						
Landscape Soft Works						
SL110	Works Substantially Completed at North Side (KD6A)	0	0%			
SL120	Landscape Soft Works at North Side (wet season)	122	0%	21-Mar-20		
Trees Protection						
SL199	Protection Existing Trees & Submit Report with Photographic Record No.10	41	100%	31-Oct-19 A		
SL200	Protection Existing Trees & Submit Report with Photographic Record No.11	41	5%	18-Dec-19 A		
SL201	Protection Existing Trees & Submit Report with Photographic Record No.12	41	0%	10-Feb-20		
Key Date 8 - All Works for Tunnel Comissioning & Opening						
Petrol Filling Station						
Structure						
PS120	Excavation	20	40%	01-Dec-19 A		
PS130	Footing	20	30%	10-Dec-19 A		
PS140	Petrol Filling Station Roof	14	0%	23-Jan-20		
PS150	Structure for Petrol Filling Station	36	0%	23-Jan-20		
PS160	Underground Fuel Tank Structure	36	0%	23-Jan-20		
PS170	Backfilling	20	0%	09-Mar-20		
E&M Works						
EPS110	Miscellaneous ABWF Works	42	0%	09-Mar-20		
EPS120	Fuel Tank/Fuel Pipe System Installation	42	0%	09-Mar-20		
Statutory Inspections and approvals						
Administration Building						
ADB-SI1010	Submit WWO46 Part IV for PD	0	0%	31-Dec-19		
ADB-SI1030	WSD inspection of Plumbing Installation (PL)	4	0%	10-Jan-20		
ADB-SI1040	WSD inspection of Plumbing Installation (FS)	4	50%	20-Dec-19 A		
ADB-SI1050	Water Samples Test	24	0%	15-Jan-20		
ADB-SI1060	Obtain Water Certificate and water supply connection - FS	4	0%	17-Jan-20		
ADB-SI1070	Obtain Water Certificate and water supply connection - PL	4	0%	10-Mar-20		
ADB-SI1100	Obtain DG Licence	0	100%			
ADB-SI1110	Submit CT2B	0	0%	31-Dec-19		



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P 20

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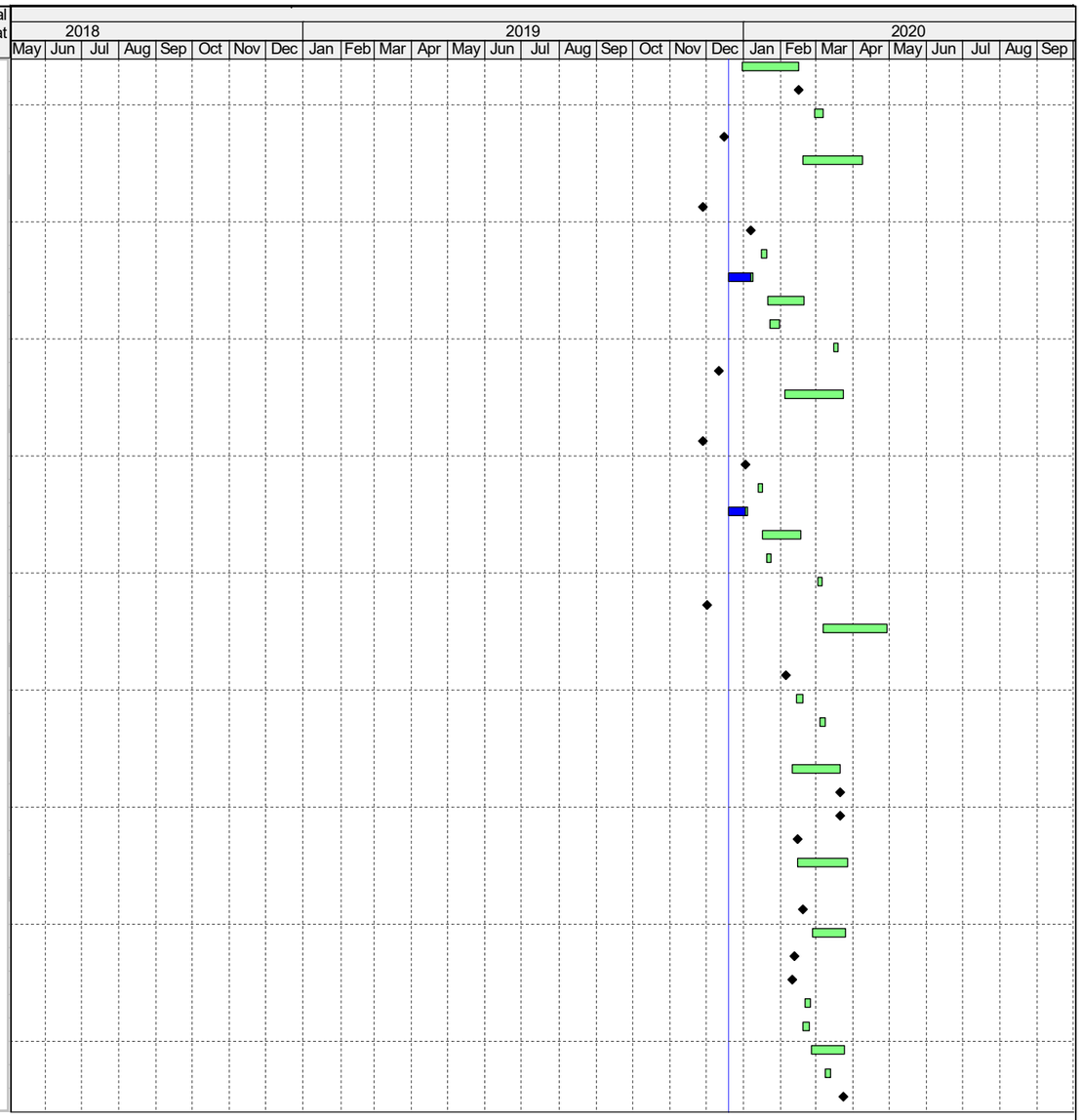
ID	Activity	Duration (Days)	Duration % Complete	Start	Finish	Total Float
ADB-SI1120	EMSD examines site acceptance report and acceptance	36	0%	31-Dec-19		
ADB-SI1130	Submit WWO46 part IV for CT plumbing works	0	0%	15-Feb-20		
ADB-SI1140	WSD inspection and water connection for CT plumbing works	6	0%	29-Feb-20		
ADB-SI1150	Final Submission of Form FSI 314 / 501 to FSD	0	100%			
ADB-SI1160	FSD Inspection	42	0%	19-Feb-20		
Maintenance Depot						
MD-SI1030	Obtain DG Licence	0	100%			
MD-SI1040	Submit WWO46 Part IV for PD	0	0%	07-Jan-20		
MD-SI1060	WSD inspection of Plumbing Installation (PL)	4	0%	16-Jan-20		
MD-SI1070	WSD inspection of Plumbing Installation (FS)	4	50%	20-Dec-19 A		
MD-SI1080	Water Samples Test	24	0%	21-Jan-20		
MD-SI1090	Obtain Water Certificate and water supply connection - FS	4	0%	23-Jan-20		
MD-SI1100	Obtain Water Certificate and water supply connection - PL	4	0%	16-Mar-20		
MD-SI1110	Final Submission of Form FSI 314 / 501 to FSD	0	100%			
MD-SI1120	FSD Inspection	42	0%	04-Feb-20		
North Ventilation Building						
NVB-SI1030	Obtain DG Licence	0	100%			
NVB-SI1090	Submit WWO46 Part IV for PD	0	0%	03-Jan-20		
NVB-SI1110	WSD inspection of Plumbing Installation (PL)	4	0%	13-Jan-20		
NVB-SI1120	WSD inspection of Plumbing Installation (FS)	4	50%	20-Dec-19 A		
NVB-SI1130	Water Samples Test	24	0%	17-Jan-20		
NVB-SI1135	Obtain Water Certificate and water supply connection - FS	4	0%	20-Jan-20		
NVB-SI1140	Obtain Water Certificate and water supply connection - PL	4	0%	03-Mar-20		
NVB-SI2000	Final Submission of Form FSI 314 / 501 to FSD	0	100%			
NVB-SI2010	FSD Inspection	42	0%	07-Mar-20		
Underpass & Plant Room						
VUP-SI1060	Submit WWO46 Part IV for FS	0	0%	05-Feb-20		
VUP-SI1080	WSD inspection of Plumbing Installation (FS)	4	0%	14-Feb-20		
VUP-SI1095	Obtain Water Certificate and water supply connection - FS	4	0%	04-Mar-20		
Toll Control Building & Toll Collector Subway						
TCB-SI1020	DG Inspection by FSD	36	0%	10-Feb-20		
TCB-SI2000	Submit WWO46 Part IV for PD	0	0%	21-Mar-20		
TCB-SI2010	Submit WWO46 Part IV for FS	0	0%	21-Mar-20		
TCB-SI3000	Submit CT2B	0	0%	15-Feb-20		
TCB-SI3010	EMSD examines site acceptance report and acceptance	36	0%	15-Feb-20		
South Ventilation Building						
SVB-SI1010	DG Submission & Vent/425 to FSD	0	0%			
SVB-SI1020	DG Inspection by FSD	24	0%	27-Feb-20		
SVB-SI1090	Submit WWO46 Part IV for PD	0	0%	12-Feb-20		
SVB-SI1100	Submit WWO46 Part IV for FS	0	0%	10-Feb-20		
SVB-SI1110	WSD inspection of Plumbing Installation (PL)	4	0%	21-Feb-20		
SVB-SI1120	WSD inspection of Plumbing Installation (FS)	4	0%	19-Feb-20		
SVB-SI1130	Water Samples Test	24	0%	26-Feb-20		
SVB-SI1135	Obtain Water Certificate and water supply connection - FS	4	0%	09-Mar-20		
SVB-SI2000	Final Submission of Form FSI 314 / 501 to FSD	0	0%			



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Appendix C

Environmental Mitigation and Enhancement Measure Implementation Schedules

(In reference to CINOTECH (2011) Agreement No. CE35/2011 EP Baseline Environmental Monitoring for Hong Kong-Zhuhai-Macao Bridge Tuen Mun-Chep Lap Kok Link – Investigation. Updated EM&A Manual for Tuen Mun-Chek Lap Kok Link)

Contract No. HY/2017/10
Tuen Mun – Chek Lap Kok Link
Northern Connection Tunnel Buildings, Electrical and Mechancial Works
Environmental Mitigation and Enhancement Measure Implementation Schedule

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status *
						D	C	O	
Air Quality									
4.8.1	3.8	Watering of the construction sites in Lantau for 8 times/day and in Tuen Mun for 12 times/day to reduce dust emissions by 87.5% and 91.7% respectively and shall be undertaken.	All areas / throughout construction period	Contractor	TMEIA Avoid dust generation		Y		✓
4.8.1	3.8	The Contractor shall, to the satisfaction of the Engineer, install effective dust suppression measures and take such other measures as may be necessary to ensure that at the Site boundary and any nearby sensitive receiver, dust levels are kept to acceptable levels.	All areas / throughout construction period	Contractor	TMEIA Avoid dust generation		Y		✓
4.8.1	3.8	The Contractor shall not burn debris or other materials on the works areas.	All areas / throughout construction period	Contractor	TMEIA Avoid dust generation		Y		✓
4.8. 1	3.8	In hot, dry or windy weather, the watering programme shall maintain all exposed road surfaces and dust sources wet.	All unpaved haul roads / throughout construction period in hot, dry or windy weather	Contractor	TMEIA Avoid smoke impacts and disturbance		Y		✓
4.8.1	3.8	Where breaking of oversize rock/concrete is required, watering shall be implemented to control dust. Water spray shall be used during the handling of fill material at the site and at active cuts, excavation and fill sites where dust is likely to be created.	All areas / throughout construction period	Contractor	TMEIA Avoid dust generation		Y		✓
4.8. 1	3.8	Open dropping heights for excavated materials shall be controlled to a maximum height of 2m to minimise the fugitive dust arising from unloading.	All areas / throughout construction period	Contractor	TMEIA Avoid dust generation		Y		✓
4.8.1	3.8	During transportation by truck, materials shall not be loaded to a level higher than the side and tail boards, and shall be dampened or covered before transport.	All areas / throughout construction period	Contractor	TMEIA Avoid dust generation		Y		✓
4.8.1	3.8	Materials having the potential to create dust shall not be loaded to a level higher than the side and tail boards, and shall be covered by a clean tarpaulin. The tarpaulin shall be properly secured and shall extend at least 300mm over the edges of the side and tail boards.	All areas / throughout construction period	Contractor	TMEIA Avoid dust generation		Y		✓
4.8.1	3.8	No earth, mud, debris, dust and the like shall be deposited on public roads. Wheel washing facility shall be usable prior to any earthworks excavation activity on the site.	All site exits / throughout construction period	Contractor	TMEIA Avoid dust		Y		✓

Legend: D=Design, C=Construction, O=Operation

Note: Funding Agent for all mitigation measures will be the Highways Department of the Hong Kong SAR Government

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status *
						D	C	O	
4.8.1	3.8	Areas of exposed soil shall be minimised to areas in which works have been completed shall be restored as soon as is practicable.	All exposed surfaces / throughout construction period	Contractor	TMEIA Avoid dust generation		Y		✓
4.8.1	3.8	All stockpiles of aggregate or spoil shall be enclosed or covered and water applied in dry or windy condition.	All areas / throughout construction period	Contractor	TMEIA Avoid dust generation		Y		<>
4.11	Section 3	EM&A in the form of 1 hour and 24 hour dust monitoring and site audit.	All representative existing ASRs/ throughout construction periood	Contractor	EM&A Manual		Y		N/A (Results adopted from published EM&A data of Contract No. HY.2012/08)
WATER QUALITY (LAND WORKS)									
6.10	-	Wastewater from temporary site facilities should be controlled to prevent direct discharge to surface or marine waters.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Sewage effluent and discharges from on- site kitchen facilities shall be directed to Government sewer in accordance with the requirements of the WPCO or collected for disposal offsite. The use of soakaways shall be avoided.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Storm drainage shall be directed to storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sediment basins. Channels, earth bunds or sand bag barriers should be provided on site to properly direct stormwater to such silt removal facilities. Catchpits and perimeter channels should be constructed in advance of site formation works and earthworks.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Silt removal facilities, channels and manholes shall be maintained and any deposited silt and grit shall be removed regularly, including specifically at the onset of and after each rainstorm.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Temporary access roads should be surfaced with crushed stone or gravel.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Measures should be taken to prevent the washout of construction materials, soil, silt or debris into any drainage system.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓

Legend: D=Design, C=Construction, O=Operation

Note: Funding Agent for all mitigation measures will be the Highways Department of the Hong Kong SAR Government

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status *
						D	C	O	
6.10	-	Open stockpiles of construction materials (e.g. aggregates and sand) on site should be covered with tarpaulin or similar fabric during rainstorms.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	5.8	Manholes (including any newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Discharges of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	All vehicles and plant should be cleaned before they leave the construction site to ensure that no earth, mud or debris is deposited by them on roads. A wheel washing bay should be provided at every site exit.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Wheel wash overflow shall be directed to silt removal facilities before being discharged to the storm drain.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Section of construction road between the wheel washing bay and the public road should be surfaced with crushed stone or coarse gravel.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Wastewater generated from concreting, plastering, internal decoration, cleaning work and other similar activities, shall be screened to remove large objects.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Vehicle and plant servicing areas, vehicle wash bays and lubrication facilities shall be located under roofed areas. The drainage in these covered areas shall be connected to foul sewers via a petrol interceptor in accordance with the requirements of the WPCO or collected for off site disposal.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		N/A
6.10	-	The Contractor shall prepare an oil / chemical cleanup plan and ensure that leakages or spillages are contained and cleaned up immediately.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Waste oil should be collected and stored for recycling or disposal, in accordance with the Waste Disposal Ordinance.	All areas/ throughout construction period	Contractor	TM-EIAO Waste Disposal Ordinance		Y		✓

Legend: D=Design, C=Construction, O=Operation

Note: Funding Agent for all mitigation measures will be the Highways Department of the Hong Kong SAR Government

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status *
						D	C	O	
6.10	-	All fuel tanks and chemical storage areas should be provided with locks and be sited on sealed areas. The storage areas should be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		<>
6.10	-	Surface run-off from bunded areas should pass through oil/grease traps prior to discharge to the stormwater system.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Roadside gullies to trap silt and grit shall be provided prior to discharging the stormwater into the marine environment. The sumps will be maintained and cleaned at regular intervals.	Roadside/design and operation	Design Consultant/ Contractor	TM-EIAO	Y		Y	✓
6.10	Section 11	All construction works shall be subject to routine audit to ensure implementation of all EIA recommendations and good working practice.	All areas/ throughout construction period	Contractor	EM&A Manual		Y		✓
WASTE									
12.6		The Contractor shall identify a coordinator for the management of waste.	Contract mobilisation	Contractor	TMEIA		Y		✓
12.6		The Contractor shall prepare and implement a Waste Management Plan which specifies procedures such as a ticketing system, to facilitate tracking of loads and to ensure that illegal disposal of wastes does not occur, and protocols for the maintenance of records of the quantities of wastes generated, recycled and disposed. A recording system for the amount of waste generated, recycled and disposed (locations) should be established.	Contract mobilisation	Contractor	TMEIA, Works Branch Technical Circular No. 5/99 for the Trip-ticket System for Disposal of Construction and Demolition Material		Y		✓
12.6		The Contractor shall apply for and obtain the appropriate licenses for the disposal of public fill, chemical waste and effluent discharges.	Contract mobilisation	Contractor	TMEIA, Land (Miscellaneous Provisions) Ordinance (Cap 28); Waste Disposal Ordinance (Cap 354); Dumping at Sea Ordinance (Cap 466); Water Pollution Control Ordinance.		Y		✓
12.6	8.1	Training shall be provided to workers about the concepts of site cleanliness and appropriate waste management procedures including waste reduction, reuse and recycling.	Contract Mobilisation	Contractor	TMEIA		Y		✓

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EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status *
						D	C	O	
12.6	8.1	The extent of cutting operation should be optimised where possible. Earth retaining structures and bored pile walls should be proposed to minimise the extent of cutting.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	The site and surroundings shall be kept tidy and litter free.	All areas / throughout construction period	Contractor	TMEIA		Y		<>
12.6	8.1	No waste shall be burnt on site.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	The Contractor shall be prohibited from disposing of C&D materials at any sensitive locations. The Contractor should propose the final disposal sites in the EMP and WMP for approval before implementation.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Stockpiled material shall be covered by tarpaulin and /or watered as appropriate to prevent windblown dust/ surface run off.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Excavated material in trucks shall be covered by tarpaulins to reduce the potential for spillage and dust generation.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Wheel washing facilities shall be used by all trucks leaving the site to prevent transfer of mud onto public roads.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Standard formwork or pre-fabrication should be used as far as practicable so as to minimise the C&D materials arising. The use of more durable formwork/plastic facing for construction works should be considered. The use of wooden hoardings should be avoided and metal hoarding should be used to facilitate recycling. Purchasing of construction materials should avoid over-ordering and wastage.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	The Contractor should recycle as many C&D materials (this is a waste section) as possible on-site. The public fill and C&D waste should be segregated and stored in separate containers or skips to facilitate the reuse or recycling of materials and proper disposal. Where practicable, the concrete and masonry should be crushed and used as fill materials. Steel reinforcement bar should be collected for use by scrap steel mills. Different areas of the sites should be considered for segregation and storage activities.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	All falsework will be steel instead of wood.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Chemical waste producers should register with the EPD. Chemical waste should be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes as follows: *f* suitable for the substance to be held,	All areas / throughout construction period	Contractor	TMEIA		Y		✓

Legend: D=Design, C=Construction, O=Operation

Note: Funding Agent for all mitigation measures will be the Highways Department of the Hong Kong SAR Government

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status *
						D	C	O	
		resistant to corrosion, maintained in good conditions and securely closed; *f* Having a capacity of <450L unless the specifications have been approved by the EPD; and w Chinese according to the instructions prescribed in Schedule 2 of the Regulations. *f* Clearly labelled and used solely for the storage of chemical wastes; *f* Enclosed with at least 3 sides; *f* Impermeable floor and bund with 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; *f* Adequate ventilation; *f* Sufficiently covered to prevent rainfall entering (water collected within the bund must be tested and disposed of as chemical waste, if necessary); and *f* Incompatible materials are adequately separated.							
12.6	8.1	Waste oils, chemicals or solvents shall not be disposed of to drain,	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Adequate numbers of portable toilets should be provided for on-site workers. Portable toilets should be maintained in reasonable states, which will not deter the workers from utilising them.	All areas / throughout construction period	Contractor	TMEIA		Y		✓

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EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status *
						D	C	O	
12.6	8.1	Night soil should be regularly collected by licensed collectors.	All areas / throughout construction period	Contractor	TMEIA		Y		N/A
12.6	8.1	General refuse arising on-site should be stored in enclosed bins or compaction units separately from C&D and chemical wastes. Sufficient dustbins shall be provided for storage of waste as required under the Public Cleansing and Prevention of Nuisances By-laws. In addition, general refuse shall be cleared daily and shall be disposed of to the nearest licensed landfill or refuse transfer station. Burning of refuse on construction sites is prohibited.	All areas / throughout construction period	Contractor	TMEIA		Y		<>
12.6	8.1	All waste containers shall be in a secure area on hardstanding;	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Office wastes can be reduced by recycling of paper if such volume is sufficiently large to warrant collection. Participation in a local collection scheme by the Contractor should be advocated. Waste separation facilities for paper, aluminium cans, plastic bottles, etc should be provided on-site.	Site Offices/ throughout construction period	Contractor	TMEIA		Y		✓
12.6	Section 8	EM&A of waste handling, storage, transportation, disposal procedures and documentation through the site audit programme shall be undertaken.	All areas / throughout construction period	Contractor	EM&A Manual		Y		✓
LANDSCAPE AND VISUAL									
10.9	7.6	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) (CM1)	All areas/detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		N/A

Legend: D=Design, C=Construction, O=Operation

Note: Funding Agent for all mitigation measures will be the Highways Department of the Hong Kong SAR Government

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status *
						D	C	O	
10.9	7.6	Trees unavoidably affected by the works shall be transplanted where practical. Trees will 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. Sufficient time for necessary tree root and crown preparation periods shall be allowed in the project programme (CM2)	All areas/detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		N/A
10.9	7.6	Hillside and roadside screen planting to proposed roads, associated structures and slope works (CM3)	All areas/detailed design/ during construction/post construction	Design Consultant/ Contractor	TMEIA	Y	Y		N/A
10.9	7.6	Hydroseeding or sheeting of soil stockpiles with visually unobstrusive material (in earth tone) (CM4)	All areas/detailed design/ during construction/post construction	Design Consultant/ Contractor	TMEIA	Y	Y		N/A
10.9	7.6	Screening of construction works by hoardings around works area in visually unobtrusive colours, to screen works (CM5)	All areas/detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		N/A
10.9	7.6	Control night-time lighting and glare by hooding all lights (CM6)	All areas/detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		N/A
10.9	7.6	Ensure no run-off into water body adjacent to the Project Area (CM7)	All areas/detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		N/A
10.9	7.6	Avoidance of excessive height and bulk of buildings and structures (CM8)	All areas/detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		✓

Legend: D=Design, C=Construction, O=Operation

Note: Funding Agent for all mitigation measures will be the Highways Department of the Hong Kong SAR Government

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status *
						D	C	O	
10.9	7.6	Recycle/ Reuse all felled trees and vegetation, e.g. mulching (CM9)	All areas/detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		N/A
10.9	7.6	Compensatory tree planting 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 (CM10)	All areas/detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		N/A
10.9	7.6	Re-vegetation of affected woodland/shrubland with native species (OM1)	All areas/detailed design/ during construction/ during operation	Design Consultant/ Contractor	TMEIA	Y	Y	Y	n/a. To be implemented by AFCD/HyD/L CSD
10.9	7.6	Tall buffer screen tree / shrub / climber planting should be incorporated to soften hard engineering structures and facilities (OM2)	All areas/detailed design/ during construction/ during operation	Design Consultant/ Contractor	TMEIA	Y	Y	Y	n/a. To be implemented by AFCD/HyD/L CSD
10.9	7.6	Streetscape elements (e.g. paving, signage, street furniture, lighting etc.) shall be sensitively designed in a manner that responds to the local context, and minimises potential negative landscape and visual impacts. Lighting units should be directional and minimise unnecessary light spill (OM3)	All areas/detailed design/ during construction / during operation	Design Consultant/ Contractor	TMEIA	Y	Y	Y	n/a. To be implemented by HyD/LCSD
10.9	7.6	Structure, ornamental tree / shrub / climber planting should be provided along roadside amenity strips, central dividers and newly formed slopes to enhance the townscape quality and further greenery enhancement (OM4)	All areas/detailed design/ during construction / during operation	Design Consultant/ Contractor	TMEIA	Y	Y	Y	n/a. To be implemented by HyD/LCSD
10.9	7.6	Aesthetically pleasing design (visually unobtrusive and non-reflective) as regard to the form, material and finishes	All areas/detailed design/ during construction / during operation	Design Consultant/ Contractor	TMEIA	Y	Y	Y	n/a. To be implemented by HyD

*** Remarks:**

✓	Compliance of Mitigation Measures
<>	Compliance of Mitigation but need improvement
x	Non-compliance of Mitigation Measures
▲	Non-compliance of Mitigation Measures but rectified by Contractor
Δ	Deficiency of Mitigation Measures but rectified by Contractor
N/A	Not Applicable in Reporting Period

Legend: D=Design, C=Construction, O=Operation

Note: Funding Agent for all mitigation measures will be the Highways Department of the Hong Kong SAR Government

Appendix D

Summary of Action and Limit Levels

Table D1 ***Action and Limit Levels for 1-hour and 24-hour TSP***

Parameters	Action	Limit
24 Hour TSP Level in μg/m³	ASR1 = 213 ASR5 = 238 AQMS1 = 213 ASR6 = 238 ASR10 = 214	260
1 Hour TSP Level in μg /m³	ASR1 = 331 ASR5 = 340 AQMS1 = 335 ASR6 = 338 ASR10 = 337	500

Table D2 ***Actions in the Event of Landfill Gas being Detected in Excavation / Confined Area***

Parameter	Measurement	Action
Oxygen	< 19%	- Ventilate to restore oxygen to > 19%
	< 18%	- Stop work - Evacuate personnel / prohibit entry - Increase ventilation to restore to > 19%
Methane	> 10% LEL (> 0.5% v/v)	- Prohibit hot work - Ventilate to restore methane to < 10% LEL
	> 20% LEL (>1% v/v)	- Stop work - Evacuate personnel / prohibit entry - Increase ventilation to restore to < 10%
Carbon Dioxide	> 0.5%	- Ventilate to restore oxygen to < 0.5%
	> 1.5%	- Stop work - Evacuate personnel / prohibit entry - Increase ventilation to restore to < 0.5%

Appendix E

Event Action Plan

Appendix L1 Event/ Action Plan for Air Quality

	ACTION			
EVENT	**ET** [(1)]	**IEC** [(1)]	**ER** [(1)]	**Contractor**
Action Level				
1. Exceedance for one sample	1. Identify the source. 2. Inform the IEC and the ER. 3. Repeat measurement to confirm finding. 4. Increase monitoring frequency to daily.	1. Check monitoring data submitted by the ET. 2. Check Contractor's working method.	1. Notify Contractor.	1. Rectify any unacceptable practice 2. Amend working methods if appropriate
2. Exceedance for two or more consecutive samples	1. Identify the source. 2. Inform the IEC and the ER. 3. Repeat measurements to confirm findings. 4. Increase monitoring frequency to daily. 5. Discuss with the IEC and the Contractor on remedial actions required. 6. If exceedance continues, arrange meeting with the IEC and the ER. 7. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by the ET. 2. Check the Contractor's working method. 3. Discuss with the ET and the Contractor on possible remedial measures. 4. Advise the ER on the effectiveness of the proposed remedial measures. 5. Supervise implementation of remedial measures.	1. Confirm receipt of notification of failure in writing. 2. Notify the Contractor. 3. Ensure remedial measures properly implemented.	1. Submit proposals for remedial actions to IEC within 3 working days of notification 2. Implement the agreed proposals 3. Amend proposal if appropriate

	ACTION			
EVENT	**ET** [(1)]	**IEC** [(1)]	**ER** [(1)]	**Contractor**
Limit Level				
1. Exceedance for one sample	1. Identify the source. 2. Inform the ER and the DEP. 3. Repeat measurement to confirm finding. 4. Increase monitoring frequency to daily. 5. Assess effectiveness of Contractor's remedial actions and keep the IEC, the DEP and the ER informed of the results.	1. Check monitoring data submitted by the ET. 2. Check Contractor's working method. 3. Discuss with the ET and the Contractor on possible remedial measures. 4. Advise the ER on the effectiveness of the proposed remedial measures. 5. Supervise implementation of remedial measures.	1. Confirm receipt of notification of failure in writing. 2. Notify the Contractor. 3. Ensure remedial measures are properly implemented.	1. Take immediate action to avoid further exceedance 2. Submit proposals for remedial actions to IEC within 3 working days of notification 3. Implement the agreed proposals 4. Amend proposal if appropriate
2. Exceedance for two or more consecutive samples	1. Notify the IEC, the ER, the DEP and the Contractor. 2. Identify the source. 3. Repeat measurements to confirm findings. 4. Increase monitoring frequency to daily. 5. Carry out analysis of the Contractor's working procedures to determine possible mitigation to be implemented. 6. Arrange meeting with the IEC and the ER to discuss the remedial actions to be taken. 7. Assess effectiveness of the Contractor's remedial actions	1. Discuss amongst the ER, ET and the Contractor on the potential remedial actions. 2. Review the Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly. 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing. 2. Notify the Contractor. 3. In consultation with the IEC, agree with the Contractor on the remedial measures to be implemented. 4. Ensure remedial measures are properly implemented. 5. If exceedance continues, consider what activity of the work is responsible and instruct the Contractor to stop that activity of work until the exceedance is abated.	1. Take immediate action to avoid further exceedance. 2. Submit proposals for remedial actions to IEC within 3 working days of notification. 3. Implement the agreed proposals. 4. Resubmit proposals if problem still not under control. 5. Stop the relevant activity of works as determined by the ER until the exceedance is abated.

and keep the IEC, the DEP and the ER informed of the results. 8. If the exceedance stops, cease additional monitoring.	

Abbreviations: ET – Environmental Team, IEC – Independent Environmental Checker, SO – Supervising Office, DEP – Director of Environmental Protection

Appendix F

EM&A Monitoring Schedule

HY/2017/10 Tuen Mun - Chek Lap Kok Link - Northern Tunnel Connection Buildings, E&M Works
Tentative Landfill Gas Monitoring Schedule (1 to 31 December 2019)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
01-Dec	02-Dec	03-Dec	04-Dec	05-Dec	06-Dec	07-Dec
	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)
08-Dec	09-Dec	10-Dec	11-Dec	12-Dec	13-Dec	14-Dec
	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)
15-Dec	16-Dec	17-Dec	18-Dec	19-Dec	20-Dec	21-Dec
	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)
22-Dec	23-Dec	24-Dec	25-Dec	26-Dec	27-Dec	28-Dec
	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)			LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)
29-Dec	30-Dec	31-Dec				
	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)				

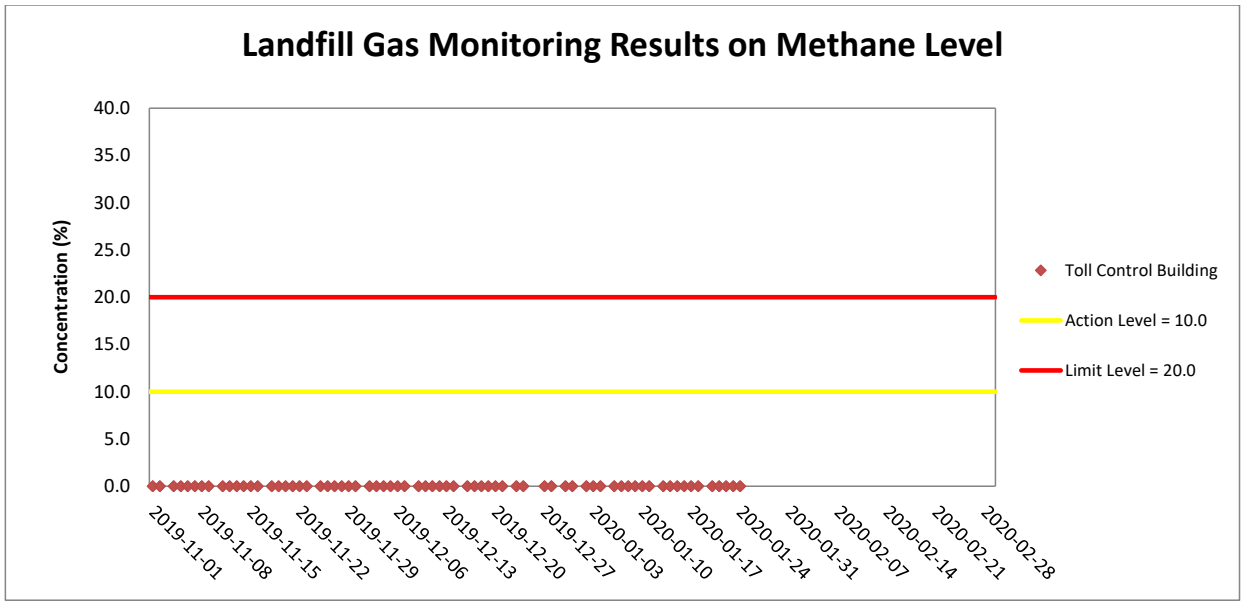
HY/2017/10 Tuen Mun - Chek Lap Kok Link - Northern Tunnel Connection Buildings, E&M Works
Landfill Gas Monitoring Schedule (1 to 31 January 2020)

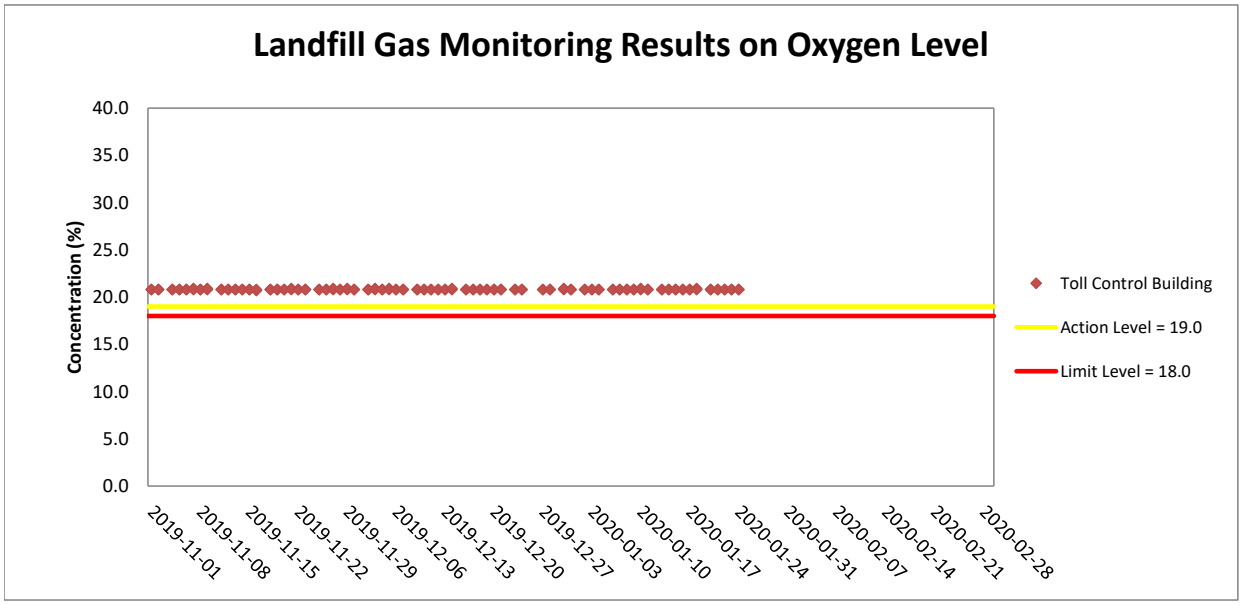
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			01-Jan	02-Jan	03-Jan	04-Jan
				LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)
05-Jan	06-Jan	07-Jan	08-Jan	09-Jan	10-Jan	11-Jan
	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)
12-Jan	13-Jan	14-Jan	15-Jan	16-Jan	17-Jan	18-Jan
	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)
19-Jan	20-Jan	21-Jan	22-Jan	23-Jan	24-Jan	25-Jan
	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	
26-Jan	27-Jan	28-Jan	29-Jan	30-Jan	31-Jan	

Remarks:
No landfill gas monitoring was scheduled since 25 January 2020 as no excavation work at Toll Control Building/Main Control Building was undertaken since 25 January 2020.

Appendix G

Landfill Gas Monitoring Results and Graphical Presentation

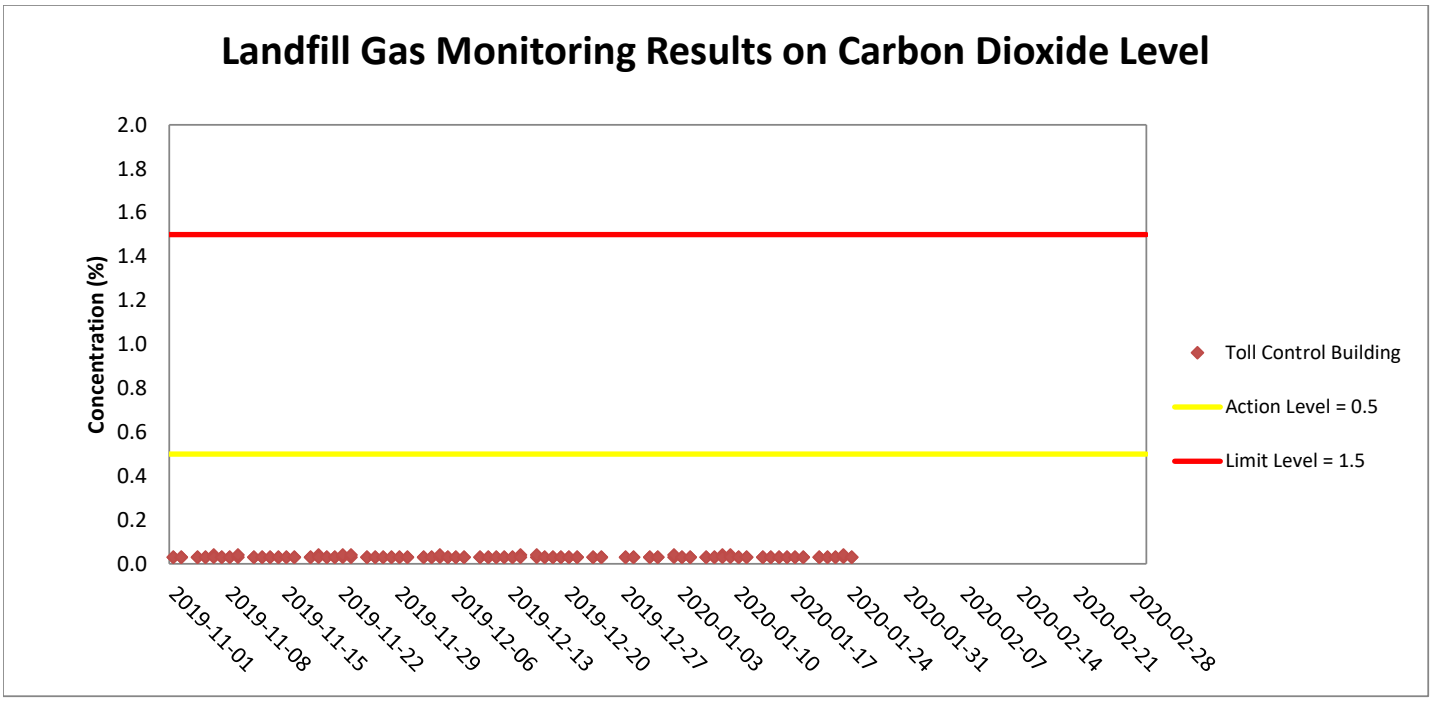




Weather condition within the reporting period was sunny to rainy
Major construction works undertaken within the reporting period include

- *Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Toll Control Building/Main Control Building;*
- *Electrical and Mechanical Works at Ventilation Plant Room;*
- *Electrical and Mechanical Works at North Ventilation Building;*
- *Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Administration Building;*
- *Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Maintenance Depot;*
- *Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Fire Services Department Building;*
- *Electrical and Mechanical Works and Architectural Builder's Work at Customs and Excise Department Building;*
- *Electrical and Mechanical Works and Architectural Builder's Work and Finishes at N1;*
- *Electrical and Mechanical Works at Kiosk N2;*
- *Electrical and Mechanical Works and Architectural Builder's Work and Finishes at the Tunnel;*
- *Electrical and Mechanical Works and Architectural Builder's Work and Finishes at underpass at C3 area;*
- *Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Toll Booth;*
- *Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Satellite Control Building;*
- *Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Kiosk S2; and*
- *Electrical and Mechanical Works at South Ventilation Building.*

No landfill gas monitoring was scheduled since 25 January 2020 as no excavation work at Toll Control Building/Main Control Building was undertaken since 25 January 2020.



Weather condition within the reporting period was sunny to rainy
Major construction works undertaken within the reporting period include

- *Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Toll Control Building/Main Control Building;*
- *Electrical and Mechanical Works at Ventilation Plant Room;*
- *Electrical and Mechanical Works at North Ventilation Building;*
- *Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Administration Building;*
- *Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Maintenance Depot;*
- *Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Fire Services Department Building;*
- *Electrical and Mechanical Works and Architectural Builder's Work at Customs and Excise Department Building;*
- *Electrical and Mechanical Works and Architectural Builder's Work and Finishes at N1;*
- *Electrical and Mechanical Works at Kiosk N2;*
- *Electrical and Mechanical Works and Architectural Builder's Work and Finishes at the Tunnel;*
- *Electrical and Mechanical Works and Architectural Builder's Work and Finishes at underpass at C3 area;*
- *Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Toll Booth;*
- *Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Satellite Control Building;*
- *Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Kiosk S2; and*
- *Electrical and Mechanical Works at South Ventilation Building.*

No landfill gas monitoring was scheduled since 25 January 2020 as no excavation work at Toll Control Building/Main Control Building was undertaken since 25 January 2020.

Appendix F

Monthly Summary of Waste Flow Table

Contract No. : HY/2017/10

Tuen Mun Chek Lap Kok Link – Northern Connection Tunnel Buildings, Electrical and Mechanical Works

Monthly Summary Waste Flow Table for 2019 (Year)

Month\Material	Actual Quantities of Inert C&D Materials Generation						Actual Quantities of C&D wastes Generation		Actual Quantities of Recyclables Generation			
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fills	Imported Fill	Chemical Waste	General Refuse	Metals	Felled trees	Paper/ cardboard packaging	Plastics
Unit	('000m^3)	('000m^3)	('000m^3)	('000m^3)	('000m^3)	('000m^3)	('000Kg)	('000Kg)	('000Kg)	('000Kg)	('000Kg)	('000Kg)
Jan	2.089	-	0.150	-	1.939	-	-	74.680	47.620	-	0.077	-
Feb	2.474	0.008	0.345	-	2.129	-	-	67.230	-	-	0.056	-
Mar	0.079	0.060	-	-	0.079	-	-	73.690	23.310	-	-	-
Apr	0.013	-	-	-	0.013	-	-	56.730	18.020	-	0.056	-
May	-	-	-	-	-	-	-	62.240	-	-	0.056	-
Jun	0.011	0.004	-	-	0.011	-	-	118.070	-	-	0.077	-
SUB-TOTAL	**4.666**	**0.072**	**0.495**	**0.000**	**4.171**	**0.000**	**0.000**	**452.640**	**88.950**	**0.000**	**0.322**	**0.000**
Jul	0.058	0.019	-	-	0.058	-	-	148.880	-	-	0.070	-
Aug	0.192	0.073	-	-	0.192	-	-	177.240	-	-	-	-
Sep	0.177	0.015	-	-	0.177	-	-	196.740	-	-	0.063	-
Oct	0.200	-	-	-	0.200	-	-	265.560	-	-	0.056	-
Nov	0.510	0.119	-	-	0.510	-	-	305.880	-	-	0.063	-
Dec	0.489	0.042	-	-	0.489	-	-	276.850	-	-	-	-
TOTAL	**6.292**	**0.340**	**0.495**	**0.000**	**5.797**	**0.000**	**0.000**	**1,823.790**	**88.950**	**0.000**	**0.574**	**0.000**

Notes :

1 - The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.

2 - Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.

3 - Broken concrete for recycling into aggregates.

4 - Assumed 5 kg per damaged water-filled barrier.

5 - Disposed as Public Fills includes Hard Rock and Large Broken Concrete.

Contract No. : HY/2017/10

Tuen Mun Chek Lap Kok Link – Northern Connection Tunnel Buildings, Electrical and Mechanical Works

Monthly Summary Waste Flow Table for 2020 (Year)

Month\Material	Actual Quantities of Inert C&D Materials Generation									Actual Quantities of C&D wastes Generation		Actual Quantities of Recyclables Generation			
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract				Reused in other Projects	Disposed as Public Fills	Imported Fill	Chemical Waste	General Refuse	Metals	Felled trees	Paper/ cardboard packaging	Plastics
Unit	('000m^3)	('000m^3)	('000m^3)	('000m^3)	('000m^3)	('000m^3)	('000m^3)	('000m^3)	('000m^3)	('000Kg)	('000Kg)	('000Kg)	('000Kg)	('000Kg)	('000Kg)
Jan	0.010	0.000				-	-	0.010	-	-	187.500	-	-	0.070	-
Feb	0.047	0.026				-	-	0.047	-	-	176.100	-	-	0.084	-
Mar	-	0.000				-	-	-	-	-	-	-	-	-	-
Apr	-	0.000				-	-	-	-	-	-	-	-	-	-
May	-	0.000				-	-	-	-	-	-	-	-	-	-
Jun	-	0.000				-	-	-	-	-	-	-	-	-	-
SUB-TOTAL	**0.057**	**0.026**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.057**	**0.000**	**0.000**	**363.600**	**0.000**	**0.000**	**0.154**	**0.000**
Jul	-	0.000				-	-	-	-	-	-	-	-	-	-
Aug	-	0.000				-	-	-	-	-	-	-	-	-	-
Sep	-	0.000				-	-	-	-	-	-	-	-	-	-
Oct	-	-				-	-	-	-	-	-	-	-	-	-
Nov	-	0.000				-	-	-	-	-	-	-	-	-	-
Dec	-	0.000				-	-	-	-	-	-	-	-	-	-
TOTAL	**0.057**	**0.026**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.057**	**0.000**	**0.000**	**363.600**	**0.000**	**0.000**	**0.154**	**0.000**

Notes :

1 - The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.

2 - Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.

3 - Broken concrete for recycling into aggregates.

4 - Assumed 5 kg per damaged water-filled barrier.

5 - Disposed as Public Fills includes Hard Rock and Large Broken Concrete.

Appendix I

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

Appendix I1 Cumulative Statistics on Exceedances

		Total No. recorded in this reporting quarter	Total No. recorded since contract commencement
1-Hr TSP	Action	4	39
	Limit	1	8
24-Hr TSP	Action	0	2
	Limit	0	0
Landfill gas hazard monitoring			
• Methane	Action	0	0
	Limit	0	0
• Oxygen	Action	0	0
	Limit	0	0
• Carbon Dioxide	Action	0	0
	Limit	0	0

Appendix I2 Cumulative Statistics on Complaints, Notifications of Summons and Successful Prosecutions

Reporting Period	Cumulative Statistics		
	Complaints	Notifications of Summons	Successful Prosecutions
This reporting quarter	0	0	0
Total No. received since contract commencement	1	0	0

Email message

Environmental Resources Management

2507,
25/F One Harbourfront,
18 Tak Fung Street,
Hung Hom, Hong Kong
Telephone: (852) 2271 3113
Facsimile: (852) 2723 5660
E-mail: jasmine.ng@erm.com

To	Ramboll Hong Kong Limited (ENPO)
From	ERM- Hong Kong, Limited
Ref/Project number	Contract No. HY/2017/10 Tuen Mun – Chek Lap Kok Link – Northern Connection Tunnel Buildings, Electrical and Mechanical Works
Subject	Notification of Exceedance for Air Quality Impact Monitoring
Date	30 December 2019

Dear Sir/ Madam,

Please find attached the Notification of Exceedance (NOE) of the following Log no.:

Action Level Exceedance
0463091_1December2019_1hrTSP_Station ASR10
0463091_1December2019_1hrTSP_Station ASR5

Limit Level Exceedance
0463091_1December2019_1hrTSP_Station ASR1

Three (3) exceedances were recorded on 1 December 2019.

Regards,

Dr Jasmine Ng
Environmental Team Leader

ERM-Hong Kong, Limited

CONTRACT NO. HY/2017/10
TUEN MUN – CHEK LAP KOK LINK – NORTHERN CONNECTION TUNNEL BUILDINGS, ELECTRICAL AND MECHANICAL WORKS

Air Quality Impact Monitoring

Notification of Exceedance

Log No.	**<u>Action Level Exceedance</u> 0463091_1December2019_1hrTSP_Station ASR10 0463091_1December2019_1hrTSP_Station ASR5 <u>Limit Level Exceedance</u> 0463091_1December2019_1hrTSP_Station ASR1 [Total No. of Exceedances = 3]**	
Date	1 December 2019 (Measured) 6 January 2020 (*R*esults obtained from ENPO Website)	
Monitoring Station	ASR1, ASR5 and ASR10	
Parameter(s) with Exceedance(s)	1- hr TSP	
Action Levels	1-hr TSP (µg/m^3)	ASR1 = 331 ASR5 = 340 ASR6 = 338 ASR10 = 335 AQMS1 = 337
	24-hr TSP (µg/m^3)	ASR1 = 213 ASR5 = 238 ASR6 = 238 ASR10 = 214 AQMS1 = 213
Limit Levels	1-hr TSP (µg/m^3)	500
	24-hr TSP (µg/m^3)	260
Measured Levels	Refer to the attached data sheet (Data are source from Contract No. HY/2012/08).	
Works Undertaken (at the time of monitoring event)	No works undertaken under this Contract on 1 December 2019.	
Possible Reason for Action or Limit Level Exceedance(s)	The exceedance is unlikely to be due to the Contract, in view of the following: • No construction works was conducted on 1 December 2019. • The construction area under this Contract were mainly paved. The remaining unpaved area are seated by machines such as crane machines and generators or used as material storage area with proper cover of tarpaulin sheet. The exposed area are suppressed/covered. Dust are not anticipated. During ET's site inspection on 29 November 2019, the work area at Maintenance Depot and Administration Building were mainly paved. No dust generating activities/dust emission was observed (refer to *Appendix A*). Based on the above, the exceedances are unlikely to be due to the Contract.	
Actions Taken / To Be Taken	The Contractor has been reminded to ensure all dust suppression measures are implemented at the site area. The ET will monitor for future trends in exceedances.	
Remarks	The monitoring results on 1 December 2019, locations of air quality monitoring stations, wind data are attached.	

Results of Air Quality Monitoring

Project	Contract	Date (yyyy-mm-dd)	Station	Time	Parameter	Results	Unit
TMCLKL	HY/2012/08	2019-12-01	AQMS1	13:58:00	1-hour TSP	185	ug/m3
TMCLKL	HY/2012/08	2019-12-01	AQMS1	15:00:00	1-hour TSP	117	ug/m3
TMCLKL	HY/2012/08	2019-12-01	AQMS1	16:02:00	1-hour TSP	161	ug/m3
TMCLKL	HY/2012/08	2019-12-01	ASR1	13:47:00	1-hour TSP	231	ug/m3
TMCLKL	HY/2012/08	2019-12-01	ASR1	14:49:00	1-hour TSP	209	ug/m3
TMCLKL	HY/2012/08	2019-12-01	ASR1	15:51:00	1-hour TSP	747	ug/m3
TMCLKL	HY/2012/08	2019-12-01	ASR10	13:11:00	1-hour TSP	137	ug/m3
TMCLKL	HY/2012/08	2019-12-01	ASR10	14:13:00	1-hour TSP	129	ug/m3
TMCLKL	HY/2012/08	2019-12-01	ASR10	15:15:00	1-hour TSP	407	ug/m3
TMCLKL	HY/2012/08	2019-12-01	ASR5	13:36:00	1-hour TSP	196	ug/m3
TMCLKL	HY/2012/08	2019-12-01	ASR5	14:38:00	1-hour TSP	127	ug/m3
TMCLKL	HY/2012/08	2019-12-01	ASR5	15:40:00	1-hour TSP	377	ug/m3
TMCLKL	HY/2012/08	2019-12-01	ASR6	13:23:00	1-hour TSP	216	ug/m3
TMCLKL	HY/2012/08	2019-12-01	ASR6	14:25:00	1-hour TSP	149	ug/m3
TMCLKL	HY/2012/08	2019-12-01	ASR6	15:27:00	1-hour TSP	160	ug/m3
TMCLKL	HY/2012/08	2019-12-01	AQMS1	17:04:00	24-hour TSP	107	ug/m3
TMCLKL	HY/2012/08	2019-12-01	ASR1	16:53:00	24-hour TSP	168	ug/m3
TMCLKL	HY/2012/08	2019-12-01	ASR10	16:17:00	24-hour TSP	103	ug/m3
TMCLKL	HY/2012/08	2019-12-01	ASR5	16:42:00	24-hour TSP	110	ug/m3
TMCLKL	HY/2012/08	2019-12-01	ASR6	16:29:00	24-hour TSP	134	ug/m3

Note: Indicates Exceedance of Action Level
Indicates Exceedance of Limit Level

Meteorological Data for Impact Monitoring in the reporting period			
Date (yy-mm-dd)	**Time (24hrs)**	**Average of Wind Speed (m/s)**	**Average of Wind Direction(degree)**
19/12/01	1:00	1.3	304
19/12/01	2:00	1.3	319
19/12/01	3:00	0.9	303
19/12/01	4:00	0.4	290
19/12/01	5:00	0.4	339
19/12/01	6:00	0	-
19/12/01	7:00	0	-
19/12/01	8:00	1.3	28
19/12/01	9:00	1.3	28
19/12/01	10:00	1.8	207
19/12/01	11:00	1.3	210
19/12/01	12:00	1.8	309
19/12/01	13:00	2.7	273
19/12/01	14:00	2.2	288
19/12/01	15:00	1.8	272
19/12/01	16:00	0.9	302
19/12/01	17:00	0.9	319
19/12/01	18:00	0.9	288
19/12/01	19:00	1.3	289
19/12/01	20:00	1.3	315
19/12/01	21:00	2.2	309
19/12/01	22:00	1.8	311
19/12/01	23:00	1.3	318

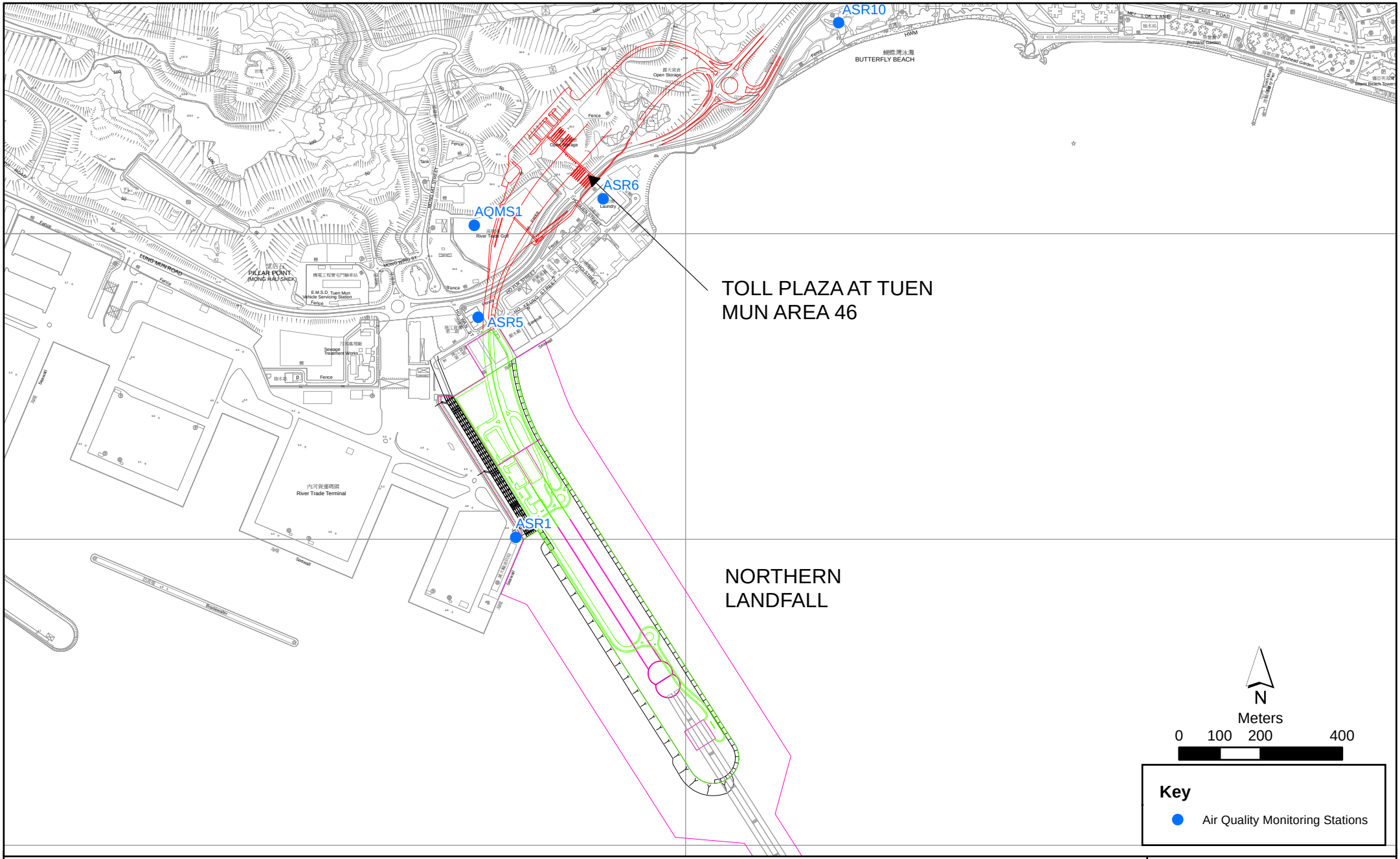


Figure 2.1

Air Quality Monitoring Stations for the Enhanced TSP Monitoring
(Source: Adopted from Contract No. HY/2012/08 Tuen Mun-Chek Lap Kok Link - Northern Connection Sub-sea Tunnel Section)

File: T:\GIS\CONTRACT\0212330\Mxd\0212330_ASR_for_Enhanced_TSP_monitoring.mxd
Date: 21/2/2014

Environmental Resources Management

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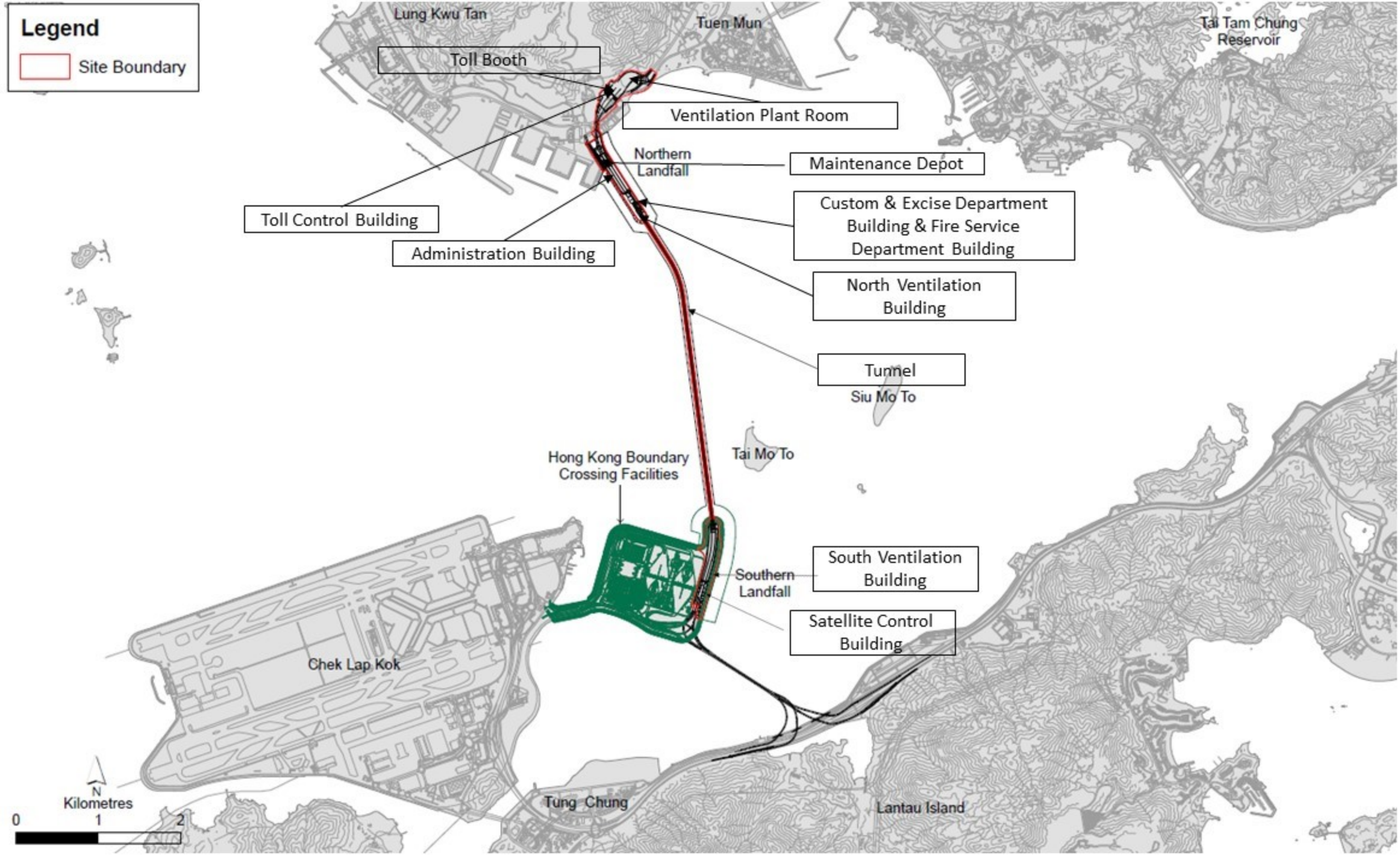

Legend
Site Boundary
Lung Kwu Tan
Tuen Mun
Tai Tam Chung Reservoir
Toll Booth
Ventilation Plant Room
Northern Landfall
Maintenance Depot
Toll Control Building
Custom & Excise Department Building & Fire Service Department Building
Administration Building
North Ventilation Building
Tunnel
Siu Mo To
Tai Mo To
Hong Kong Boundary Crossing Facilities
South Ventilation Building
Southern Landfall
Satellite Control Building
Chek Lap Kok
N
Kilometres
0
1
2
Tung Chung
Lantau Island

Appendix A

ET site inspection on 29 November 2019

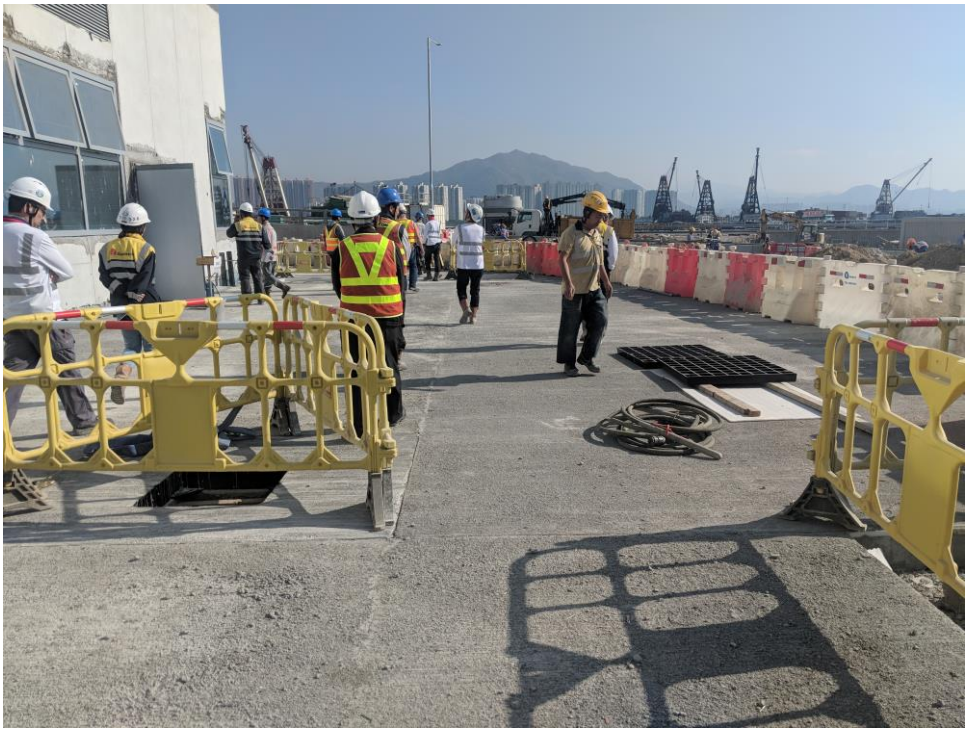


Photo 1 – Site condition at Maintenance Depot

Photo 2 – Site condition at Administration Building

Email message

Environmental Resources Management

2507,
25/F One Harbourfront,
18 Tak Fung Street,
Hung Hom, Hong Kong
Telephone: (852) 2271 3113
Facsimile: (852) 2723 5660
E-mail: jasmine.ng@erm.com

To	Ramboll Hong Kong Limited (ENPO)
From	ERM- Hong Kong, Limited
Ref/Project number	Contract No. HY/2017/10 Tuen Mun – Chek Lap Kok Link – Northern Connection Tunnel Buildings, Electrical and Mechanical Works
Subject	Notification of Exceedance for Air Quality Impact Monitoring
Date	30 December 2019

Dear Sir/ Madam,

Please find attached the Notification of Exceedance (NOE) of the following Log no.:

Action Level Exceedance
0463091_4December2019_1hrTSP_Station ASR1
0463091_4December2019_1hrTSP_Station ASR5

Two (2) exceedances were recorded on 4 December 2019.

Regards,

Dr Jasmine Ng
Environmental Team Leader

ERM-Hong Kong, Limited

CONTRACT NO. HY/2017/10
TUEN MUN – CHEK LAP KOK LINK – NORTHERN CONNECTION TUNNEL BUILDINGS, ELECTRICAL AND MECHANICAL WORKS

Air Quality Impact Monitoring

Notification of Exceedance

Log No.	**<u>Action Level Exceedance</u> 0463091_28November2019_1hrTSP_Station ASR1 0463091_28November2019_1hrTSP_Station ASR5 [Total No. of Exceedances = 2]**	
Date	4 December 2019 (Measured) 6 January 2020 (*R*esults obtained from ENPO Website)	
Monitoring Station	ASR1 and ASR5	
Parameter(s) with Exceedance(s)	1- hr TSP	
Action Levels	1-hr TSP (µg/m³)	ASR1 = 331 ASR5 = 340 ASR6 = 338 ASR10 = 335 AQMS1 = 337
	24-hr TSP (µg/m³)	ASR1 = 213 ASR5 = 238 ASR6 = 238 ASR10 = 214 AQMS1 = 213
Limit Levels	1-hr TSP (µg/m³)	500
	24-hr TSP (µg/m³)	260
Measured Levels	Refer to the attached data sheet (Data are source from Contract No. HY/2012/08).	
Works Undertaken (at the time of monitoring event)	Works undertaken under this Contract on 4 December 2019 included • Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Administration Building; • Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Maintenance Depot; • Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Fire Services Department Building.	
Possible Reason for Action or Limit Level Exceedance(s)	The exceedances are unlikely to be due to the Contract, in view of the following: • With reference to the recorded wind direction (ranged between 14° and 356°, blowing from a northern direction) and wind speed (ranged between 2.7 and 3.1 m/s) when exceedances recorded, ASR5 is located upstream to the construction work area which is unlikely impacted by the construction activities conducted by this Contract on 4 December 2019. ASR1 is located nearby to the construction works at Maintenance Depot and Administration Building. However, the construction works at Maintenance Depot and Administration Building were mainly Electrical and Mechanical Works and Architectural Builders Work and Finishes which are considered not major dust generating works (refer to *Appendix A*). • No major dust generating activities i.e. excavation works was conducted on 4 December 2019. • The construction area under this Contract were mainly paved. The remaining unpaved area are seated by machines such as crane machines and generators or used as material storage area with proper cover of tarpaulin sheet. The exposed area are suppressed/covered. Dust are not anticipated. Based on the above, the exceedances are unlikely to be due to the Contract.	

Actions Taken / To Be Taken	No immediate action is considered necessary. The ET will monitor for future trends in exceedances.
Remarks	The monitoring results on 4 December 2019, locations of air quality monitoring stations and wind data are attached.

Results of Air Quality Monitoring

Project	Contract	Date (yyyy-mm-dd)	Station	Time	Parameter	Results	Unit
TMCLKL	HY/2012/08	2019-12-04	AQMS1	8:44:00	1-hour TSP	156	ug/m3
TMCLKL	HY/2012/08	2019-12-04	AQMS1	9:51:00	1-hour TSP	160	ug/m3
TMCLKL	HY/2012/08	2019-12-04	AQMS1	10:53:00	1-hour TSP	116	ug/m3
TMCLKL	HY/2012/08	2019-12-04	ASR1	8:37:00	1-hour TSP	366	ug/m3
TMCLKL	HY/2012/08	2019-12-04	ASR1	9:39:00	1-hour TSP	220	ug/m3
TMCLKL	HY/2012/08	2019-12-04	ASR1	10:41:00	1-hour TSP	100	ug/m3
TMCLKL	HY/2012/08	2019-12-04	ASR10	8:02:00	1-hour TSP	103	ug/m3
TMCLKL	HY/2012/08	2019-12-04	ASR10	9:04:00	1-hour TSP	113	ug/m3
TMCLKL	HY/2012/08	2019-12-04	ASR10	10:06:00	1-hour TSP	101	ug/m3
TMCLKL	HY/2012/08	2019-12-04	ASR5	8:25:00	1-hour TSP	380	ug/m3
TMCLKL	HY/2012/08	2019-12-04	ASR5	9:27:00	1-hour TSP	180	ug/m3
TMCLKL	HY/2012/08	2019-12-04	ASR5	10:29:00	1-hour TSP	202	ug/m3
TMCLKL	HY/2012/08	2019-12-04	ASR6	8:13:00	1-hour TSP	150	ug/m3
TMCLKL	HY/2012/08	2019-12-04	ASR6	9:15:00	1-hour TSP	163	ug/m3
TMCLKL	HY/2012/08	2019-12-04	ASR6	10:17:00	1-hour TSP	169	ug/m3
TMCLKL	HY/2012/08	2019-12-04	AQMS1	11:55:00	24-hour TSP	97	ug/m3
TMCLKL	HY/2012/08	2019-12-04	ASR1	11:43:00	24-hour TSP	164	ug/m3
TMCLKL	HY/2012/08	2019-12-04	ASR10	11:08:00	24-hour TSP	84	ug/m3
TMCLKL	HY/2012/08	2019-12-04	ASR5	11:31:00	24-hour TSP	190	ug/m3
TMCLKL	HY/2012/08	2019-12-04	ASR6	11:19:00	24-hour TSP	118	ug/m3

Note: Indicates Exceedance of Action Level
Indicates Exceedance of Limit Level

Meteorological Data for Impact Monitoring in the reporting period			
Date (yy-mm-dd)	**Time (24hrs)**	**Average of Wind Speed (m/s)**	**Average of Wind Direction(degree)**
19/12/04	0:00	1.8	328
19/12/04	1:00	2.7	30
19/12/04	2:00	2.2	25
19/12/04	3:00	1.8	13
19/12/04	4:00	1.8	19
19/12/04	5:00	2.7	355
19/12/04	6:00	1.8	339
19/12/04	7:00	1.8	339
19/12/04	8:00	3.1	356
19/12/04	9:00	2.7	14
19/12/04	10:00	2.2	28
19/12/04	11:00	2.2	16
19/12/04	12:00	1.8	31
19/12/04	13:00	1.8	31
19/12/04	14:00	1.3	306
19/12/04	15:00	2.2	325
19/12/04	16:00	1.8	345
19/12/04	17:00	1.8	341
19/12/04	18:00	0.9	306
19/12/04	19:00	0.4	292
19/12/04	20:00	0.4	311
19/12/04	21:00	1.3	14
19/12/04	22:00	1.3	56
19/12/04	23:00	1.8	28

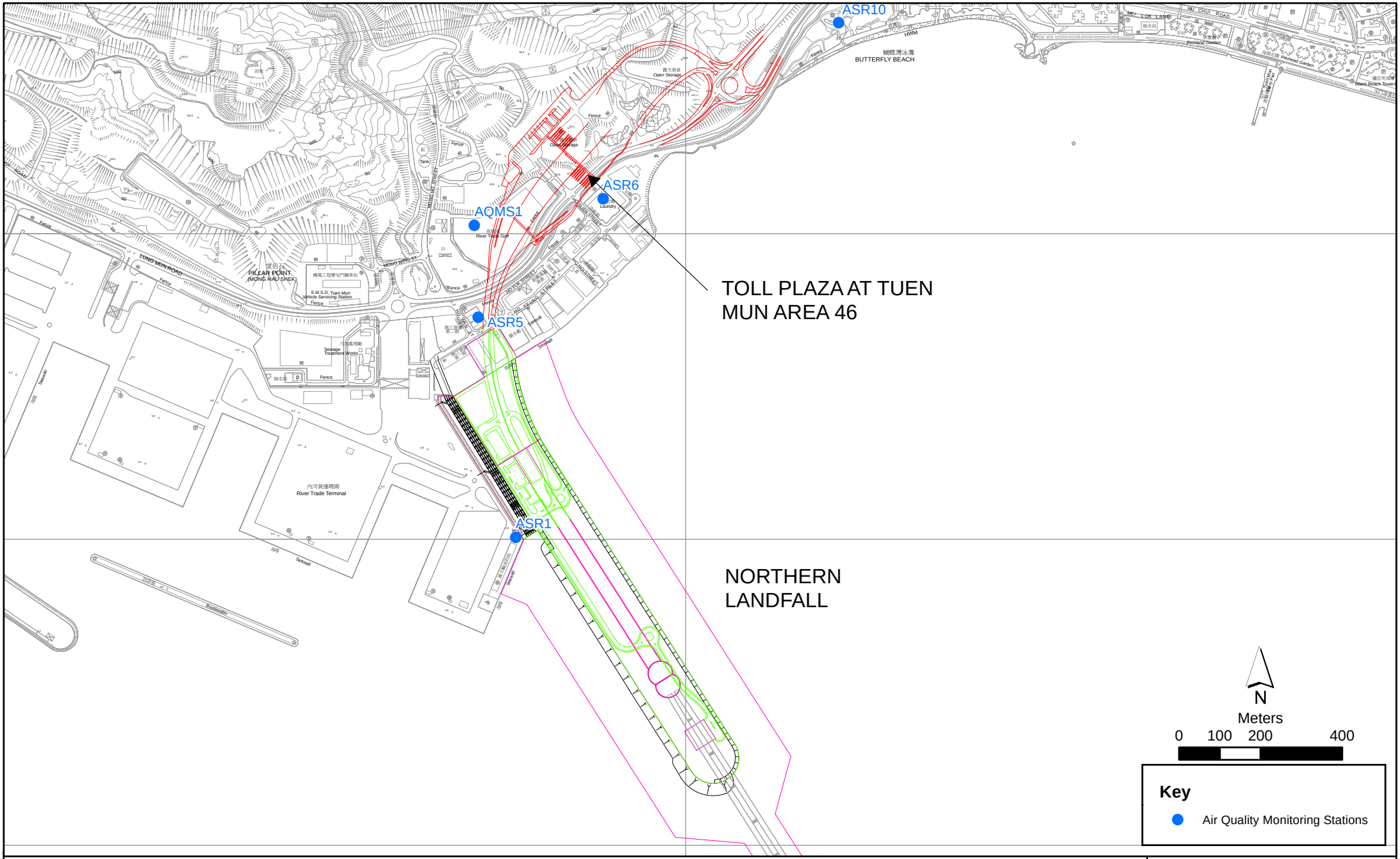


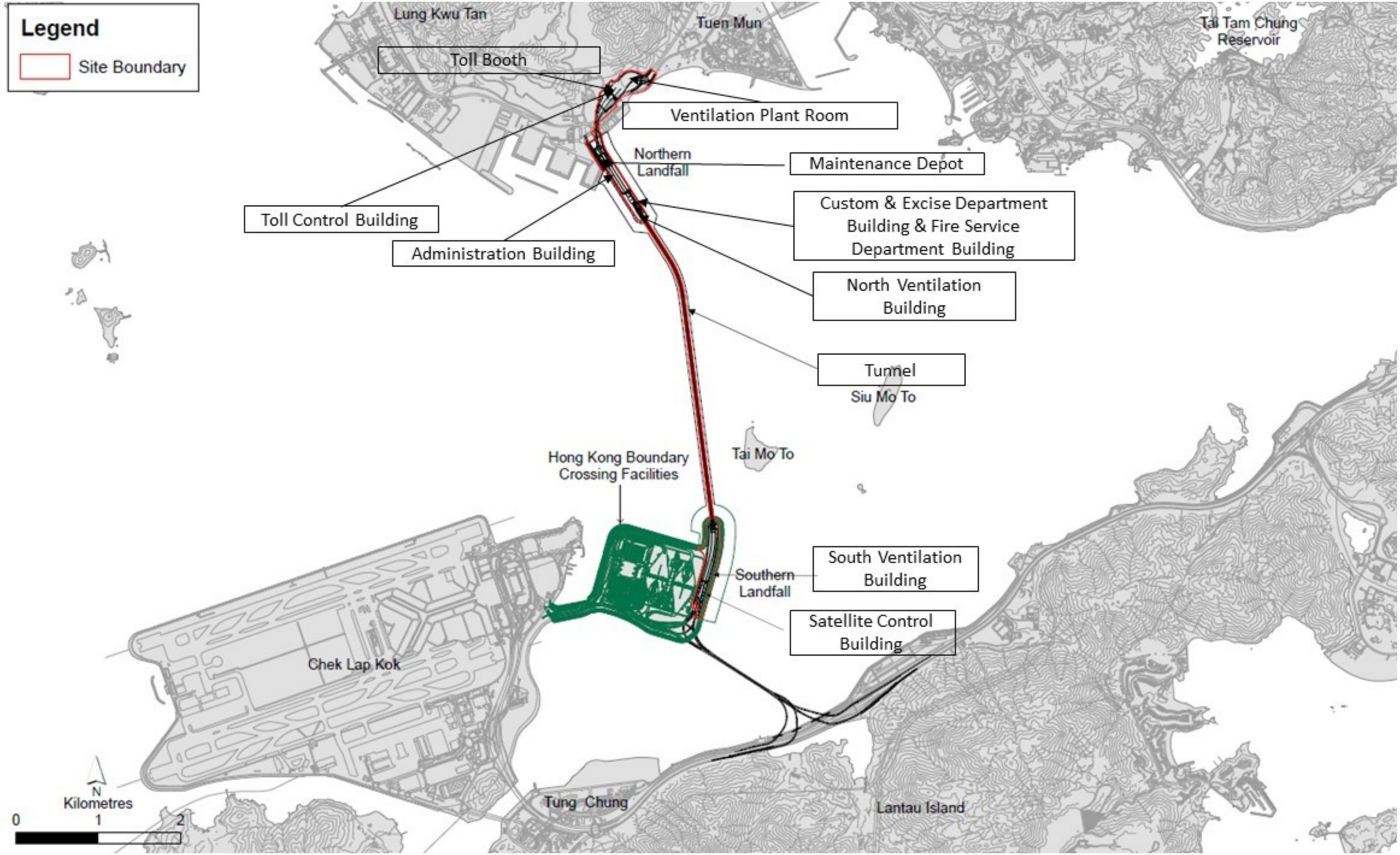
Figure 2.1

Air Quality Monitoring Stations for the Enhanced TSP Monitoring
(Source: Adopted from Contract No. HY/2012/08 Tuen Mun-Chek Lap Kok Link - Northern Connection Sub-sea Tunnel Section)

File: T:\GIS\CONTRACT\0212330\Mxd\0212330_ASR_for_Enhanced_TSP_monitoring.mxd
Date: 21/2/2014

Environmental Resources Management

ERM


Legend
Site Boundary
Lung Kwu Tan
Tuen Mun
Tai Tam Chung Reservoir
Toll Booth
Ventilation Plant Room
Northern Landfall
Maintenance Depot
Toll Control Building
Custom & Excise Department Building & Fire Service Department Building
Administration Building
North Ventilation Building
Tunnel
Siu Mo To
Tai Mo To
Hong Kong Boundary Crossing Facilities
South Ventilation Building
Southern Landfall
Satellite Control Building
Chek Lap Kok
N
Kilometres
0
1
2
Tung Chung
Lantau Island

Appendix A

Site Photo

Photo 1 – Construction works at Administration Building

Photo 2 – Construction works at Maintenance Depot

Photo 3 – Construction works at Fire Services Department Building