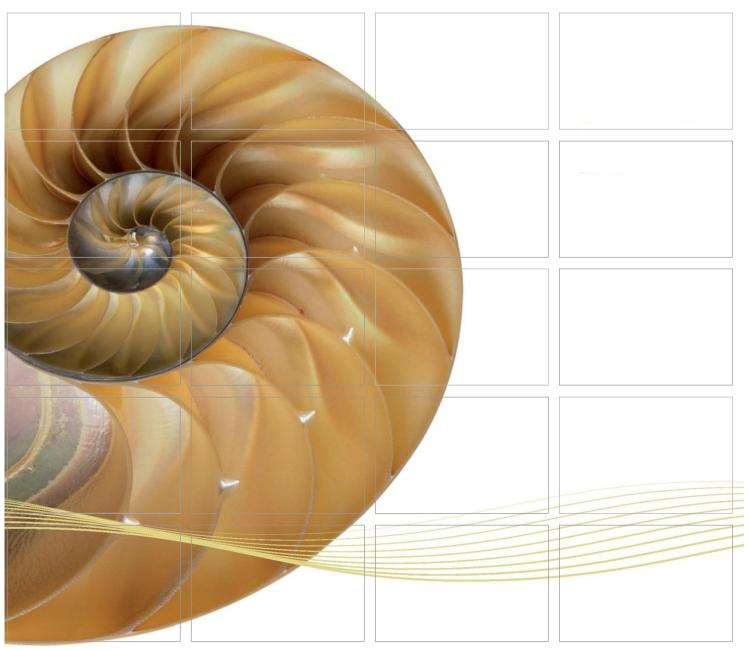
REPORT



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

Thirtieth Monthly EM&A Report

11 December 2020

Environmental Resources Management 2507, 25/F One Harbourfront 18 Tak Fung Street Hunghom, Kowloon

Hunghom, Kowloon Hong Kong Telephone 2271 3000 Facsimile 2723 5660





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

Thirtieth Monthly EM&A Report

Document Code: 0463091_30th Monthly EM&A_20201111.doc

Client:		Project N	0:			
Gammo	n	046309	1			
Summary:		Date:				
		11 Dece	ember 20	20		
		Approved	l by:			
This document presents the Thirtieth Monthly EM&A Report for Tuen Mun – Chek Lap Kok Link – Northern Connection Tunnel Buildings, Electrical and Mechanical Works.			lifi			
		Mr Crai	g Reid			
		Partner				
		Certified I				
		Dr Jasn	nine Na			
		ET Leade	0			
	Thirtieth Monthly EM&A Report	CW	JN	CAR	11/12/20	
Revision	Description	Ву	Checked	Approved	Date	
This report has been prepared by Environmental Resources Management the trading name of 'ERM Hong-Kong, Limited', with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporating our General Terms and Conditions of Business and taking account of the resources devoted to it by agreement with the client.			Distribution Internal Public			
We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.			olic nfidential		001 : 2008 e No. FS 32515	





Ref.: HYDHZMBEEM00_0_8308L.20

11 December 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 <u>30th Monthly EM&A Report for November 2020</u>

Reference is made to the Environmental Team's submission of the monthly EM&A report for November 2020 (ET's ref.: "0463091_30th Monthly EM&A_20201111.doc" dated 11 December 2020) certified by the ET Leader and provided to us via e-mail on 11 December 2020.

Please be informed that we have no adverse comments on the captioned submission. We write to verify the captioned submission in accordance with Condition 4.4 of EP-354/2009/D.

Thank you for 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

Manson Yeung Independent Environmental Checker Tuen Mun-Chek Lap Kok Link

c.c.

HyD	Mr. Patrick Ng	(By Fax: 3188 6614)
HyD	Mr. Francis Chan	(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, ENPO Site

Q:\Projects\HYDHZMBEEM00\02_Proj_Mgt\02_Corr\HYDHZMBEEM00_0_8308L.20.doc

TABLE OF CONTENTS

EXECUTIVE SUMMARY

1	INTRODUCTION	1
1.1	BACKGROUND	1
1.2	SCOPE OF REPORT	2
1.3	ORGANIZATION STRUCTURE	2
1.4	SUMMARY OF CONSTRUCTION WORKS	2
2	EM&A RESULTS	4
2.1	AIR QUALITY	4
2.2	LANDFILL GAS HAZARD MONITORING	5
2.3	EM&A SITE INSPECTION	6
2.4	WASTE MANAGEMENT STATUS	7
2.5	Environmental Licenses and Permits	7
2.6	IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES	9
2.7	SUMMARY OF EXCEEDANCES OF THE ENVIRONMENTAL QUALITY PERFORMAN	ICE
	LIMIT	9
2.8	SUMMARY OF COMPLAINTS, NOTIFICATION OF SUMMONS AND SUCCESSFUL	
	PROSECUTIONS	9
3	FUTURE KEY ISSUES	10
3.1	CONSTRUCTION ACTIVITIES FOR THE COMING MONTH	10
3.2	Key Issues for the Coming Month	10
4	CONCLUSIONS AND RECOMMENDATIONS	11
4.1	Conclusions	11

I

List of Appendices

- Appendix A Project Organization for Environmental Works
- Appendix B Construction Programmes
- Appendix C Implementation Schedule of Environmental Mitigation Measures (EMIS)
- Appendix D Summary of Action and Limit Levels
- Appendix E Event Action Plan
- Appendix F EM&A Monitoring Schedule
- Appendix G Calibration Certificate of Monitoring Equipment
- Appendix H Landfill Gas Monitoring Results and Graphical Presentation
- Appendix I Monthly Summary of Waste Flow Table
- Appendix J Cumulative Statistics on Exceedances, Complaints, Notifications of Summons and Successful Prosecutions
- Appendix K Landscape and Visual Monitoring for 24-Month Establishment Period

EXECUTIVE SUMMARY

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 Thirtieth Monthly EM&A report presenting the EM&A works carried out during the period from 1 to 30 November 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:

Land-based Works

- Handover Inspection at Main Control Building;
- Handover Inspection at Ventilation Plant Room;
- Handover Inspection at North Ventilation Building;
- Handover Inspection at Administration Building;
- Handover Inspection at Maintenance Depot;
- Handover Inspection at Fire Services Department Building;
- Handover Inspection at Customs and Excise Department Building;
- Handover Inspection at N1;
- Handover Inspection at Kiosk N2;
- T&C and FSI at the Tunnel;

- Handover Inspection at underpass at C3 area;
- Handover Inspection at Satellite Control Building;
- Handover Inspection at Kiosk S2;
- Handover Inspection at South Ventilation Building; and
- Landscape Works at Northern Landfall and Southern Landfall.

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

24-hour TSP Monitoring	6 sessions
1-hour TSP Monitoring	6 sessions
Landfill Gas Hazard Monitoring	25 days
Joint Environmental Site Inspection	4 sessions

Summary of Breaches of Action/Limit Levels

Breaches of Action and Limit Levels for Air Quality

Three (3) Action Level and one (1) Limit Level exceedances for 1-hour TSP and two (2) Action Level exceedances for 24-hour TSP were recorded by the Environmental Team of Contract No. *HY*/2012/08 during the reporting period.

Breaches of Action Level for Landfill Gas Hazard Montioring

Results of landfill gas hazard monitoring in the reporting month 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

Landscape and visual monitoring for 24-month establishment period conducted by Contract No. HY/2012/07 and HY/2013/12 was reported in the EM&A report for this Contract in this reporting period.

Upcoming Works for the Next Reporting Month

Works to be undertaken in the next monitoring period of December 2020 include the following:

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

Land-based Works

- Handover Inspection at Main Control Building;
- Handover Inspection at Ventilation Plant Room;
- Handover Inspection at North Ventilation Building;
- Handover Inspection at Administration Building;
- Handover Inspection at Maintenance Depot;
- Handover Inspection at Fire Services Department Building;
- Handover Inspection at Customs and Excise Department Building;
- Handover Inspection at Kiosk N1;
- Handover Inspection at Kiosk N2;
- Handover Inspection at the Tunnel;
- Handover Inspection at C3 area;
- Handover Inspection at Satellite Control Building;
- Handover Inspection at Kiosk S2;
- Handover Inspection at South Ventilation Building; and
- Handover Inspection at Northern Landfall and Southern Landfall.

Future Key Issues

Potential environmental impacts arising from the above upcoming construction activities in the next reporting month of December 2020 are mainly associated with waste management and landfill gas monitoring issues.

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

TUEN MUN -CHEK LAP KOK LINK

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





CONSULTANT

AECOM Asia Company Ltd. www.aecom.com

SUB-CONSULTANTS 分月工作新闻公司

Figure 1.1

ISSUE/REVISION

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

STATUS

SCALE

DIMENSION UNIT

A1 1:40000

MILLIMETRES

KEY PLAN

PROJECT NO.

CONTRACT NO.

60240249

HY/2017/10

SHEET TITLE

OVERALL SITE PLAN

SHEET NUMBER

60240249/C4/7051A





PROJECT

TUEN MUN -CHEK LAP KOK LINK

CONTRACT TITLE

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

CLIENT



CONSULTANT

AECOM Asia Company Ltd. www.aecom.com

SUB-CONSULTANTS 公用工程即開会可

Figure 1.2a

ISSUE/REVISION

			<u> </u>
			-
			Kerl
А	JAN.18	TENDER ADDENDUM NO.1	SYLC
-	DEC.17	TENDER DRAWING	SYLC
/R 修訂	DATE 山翔	DESCRIPTION 內容摘要	CHK. 後株

STATUS

SCALE

DIMENSION UNIT

KEY PLAN

MILLIMETRES

PROJECT NO.

CONTRACT NO. HY/2017/10

60240249

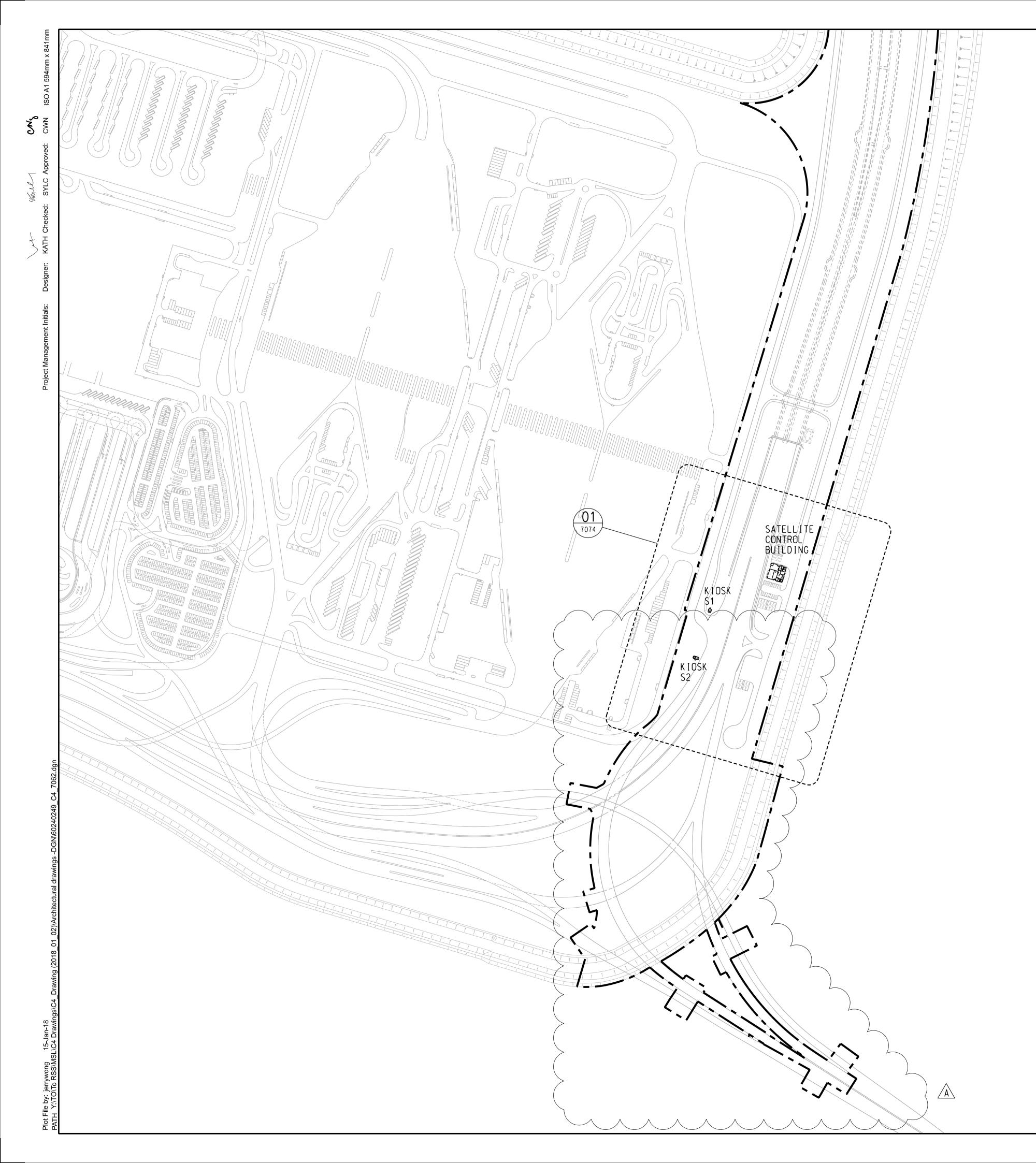
SHEET TITLE

ZONING PLAN

(SHEET 1)

SHEET NUMBER

60240249/C4/7061A





 \wedge

Ν

TUEN MUN -CHEK LAP KOK LINK

CONTRACT TITLE

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

CLIENT ^{業主}



■▲■ 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 工程顧問公司

AECOM Asia Company Ltd. www.aecom.com

SUB-CONSULTANTS 分判工程顧問公司

Figure 1.2b

ISSUE/REVISION

修訂	日期	内容摘要	複核
I/R	DATE	DESCRIPTION	СНК.
-	DEC.17	TENDER DRAWING	SYLC
А	JAN.18	TENDER ADDENDUM NO.1	SYLC
			sterel

STATUS 階段

SCALE ^{比例}	DIMENSION UNIT ^{尺寸單位}
1 1:2500	MILLIMETRES

KEY PLAN 索引圖

PROJECT NO. 項目編號

CONTRACT NO. ^{合約編號}

60240249

HY/2017/10

SHEET TITLE 圖紙名稱

ZONING PLAN (SHEET 2)

SHEET NUMBER 圖紙編號

60240249/C4/7062A





PROJECT

Ν

TUEN MUN -CHEK LAP KOK LINK

CONTRACT TITLE

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

CLIENT ^{業主}



■▲■ 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 工程顧問公司

AECOM Asia Company Ltd. www.aecom.com

SUB-CONSULTANTS 分判工程顧問公司

Figure 1.2c

ISSUE/REVISION

			sterel
А	JAN.18	TENDER ADDENDUM NO.1	SYLC
-	DEC.17	TENDER DRAWING	SYLC
I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 複核

STATUS 階段

SCALE ^{比例}	DIMENSION UNIT 尺寸單位
1 1:2500	MILLIMETRES

KEY PLAN 索引圖

PROJECT NO. 項目編號

CONTRACT NO. ^{合約編號}

HY/2017/10

60240249

SHEET TITLE 圖紙名稱

ZONING PLAN (SHEET 3)

SHEET NUMBER 圖紙編號

60240249/C4/7063A

1.2 SCOPE OF REPORT

This is the Thirtieth Monthly 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 in November 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.

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	ENPO Leader	Y.H. Hui	3465 2850	3465 2899
Ltd.)	IEC	Manson Yeung	9700 6767	3465 2899
Contractor (Gammon	Site Agent	H. H. Lee	6096 6281	-
Construction Limited)	Environmental Officer	Phoebe Ng	9869 1105	-
ET (ERM-HK)	ET Leader	Dr. Jasmine Ng	2271 3311	2723 5660

Table 1.1Contact Information of Key Personnel

1.4 SUMMARY OF CONSTRUCTION WORKS

The construction phase of the Contract commenced on 7 June 2018. The three-month rolling construction programme is shown in Appendix B.

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

Land-based Works

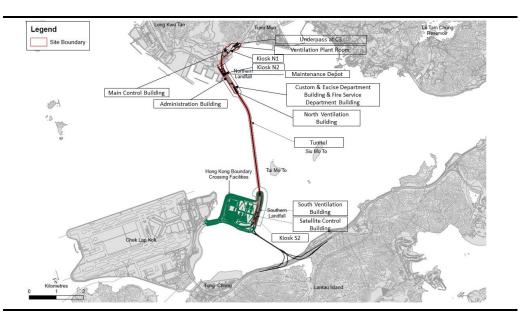
- Handover Inspection at Main Control Building;
- Handover Inspection at Ventilation Plant Room;
- Handover Inspection at North Ventilation Building;

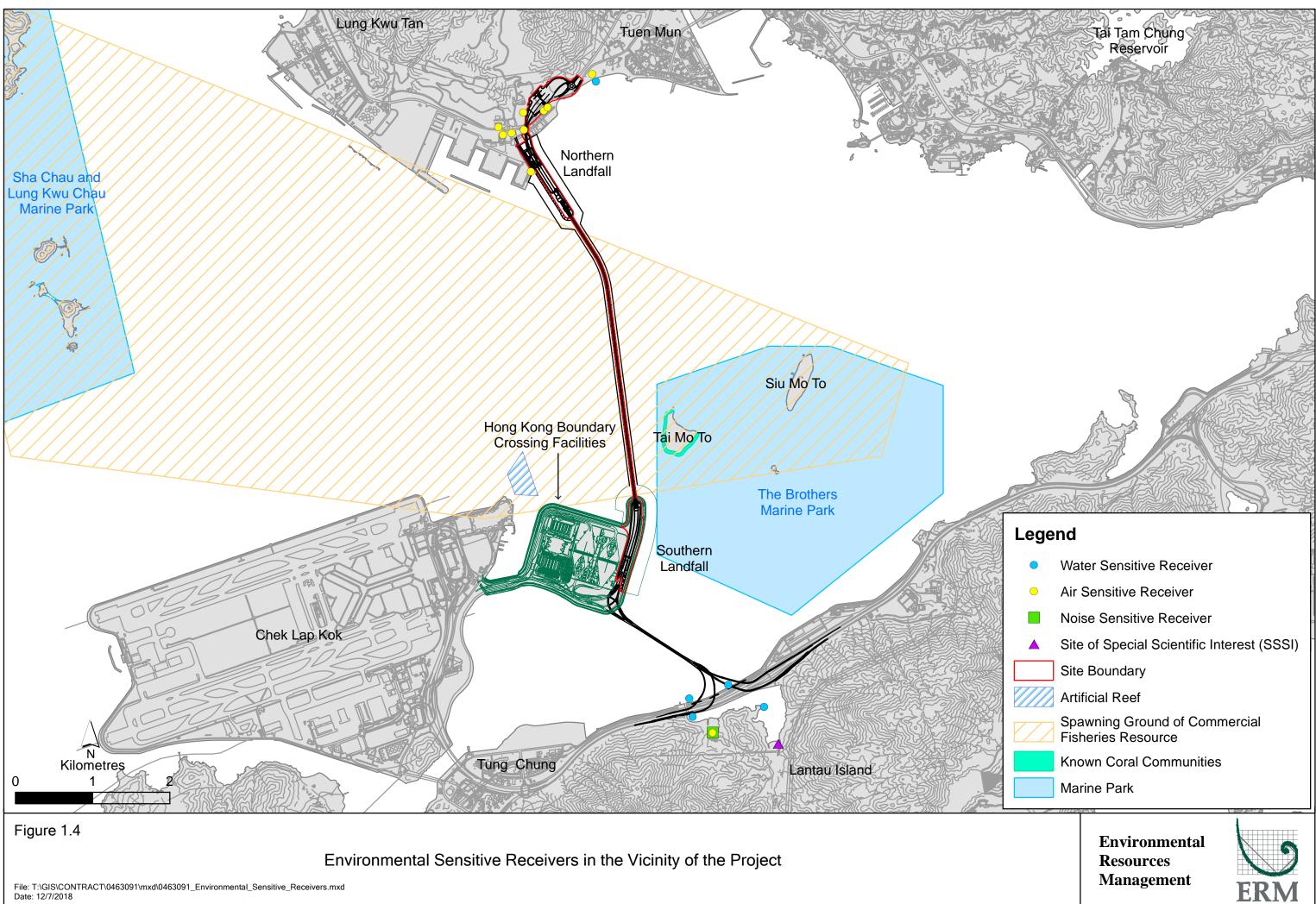
- Handover Inspection at Administration Building;
- Handover Inspection at Maintenance Depot;
- Handover Inspection at Fire Services Department Building;
- Handover Inspection at Customs and Excise Department Building;
- Handover Inspection at N1;
- Handover Inspection at Kiosk N2;
- T&C and FSI at the Tunnel;
- Handover Inspection at underpass at C3 area;
- Handover Inspection at Satellite Control Building;
- Handover Inspection at Kiosk S2;
- Handover Inspection at South Ventilation Building; and
- Landscape Works at Northern Landfall and Southern Landfall.

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 Month





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 24hr 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.

Informed by the Environmental Team of *Contract No. HY/2012/08 Tuen Mun-Chek Lap Kok Link – Northern Connection Sub-sea Tunnel Section*, excavation works for lauching shaft were completed and notification of change on air quality monitoring frequency was submitted to EPD on 14 September 2020. 1-hr and 24-hr TSP monitoring frequency was changed to three times per day every six days and daily every six days, respectively, since 14 September 2020.

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*.

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

Monitoring Station Monitoring Dates Location Description Parameters & Frequency

 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/

Monitoring Station	Monitoring Dates	Location	Description	Parameters & Frequency
ASR1	2, 6, 12, 18, 24 and 30	Tuen Mun	Office	TSP monitoring
	November 2020	Fireboat Station		 1-hour Total Suspended
				Particulates (1-hour TSP,
ASR5		Pillar Point Fire	Office	μ g/m ³), 3 times in every 6 days
		Station		• 24-hour Total Suspended
				Particulates (24-hour TSP,
AQMS1		Previous River	Bare ground	μ g/m ³), daily for 24-hour in
		Trade Golf		every 6 days
				Enhanced TSP monitoring
ASR6		Butterfly Beach	Office	(commenced on 24 October 2014
		Laundry		under Contract No. HY/2012/08)
				 1-hour Total Suspended
ASR10		Butterfly Beach	Recreational	Particulates (1-hour TSP,
		Park	uses	μ g/m ³), 3 times in every 3 days
				• 24-hour Total Suspended
				Particulates (24-hour TSP,
				μ g/m ³), daily for 24-hour in
				every 3 days

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⁾.

Three (3) Action Level and one (1) Limit Level exceedances for 1-hour TSP and two (2) Action Level exceedances for 24-hour TSP were recorded in the reporting period. The exceedances were considered not related to this Contract upon further investigation and the investigation reports are presented in *Appendix J*. No action is required to be undertaken in accordance with the Event Action Plan as presented in *Appendix E*.

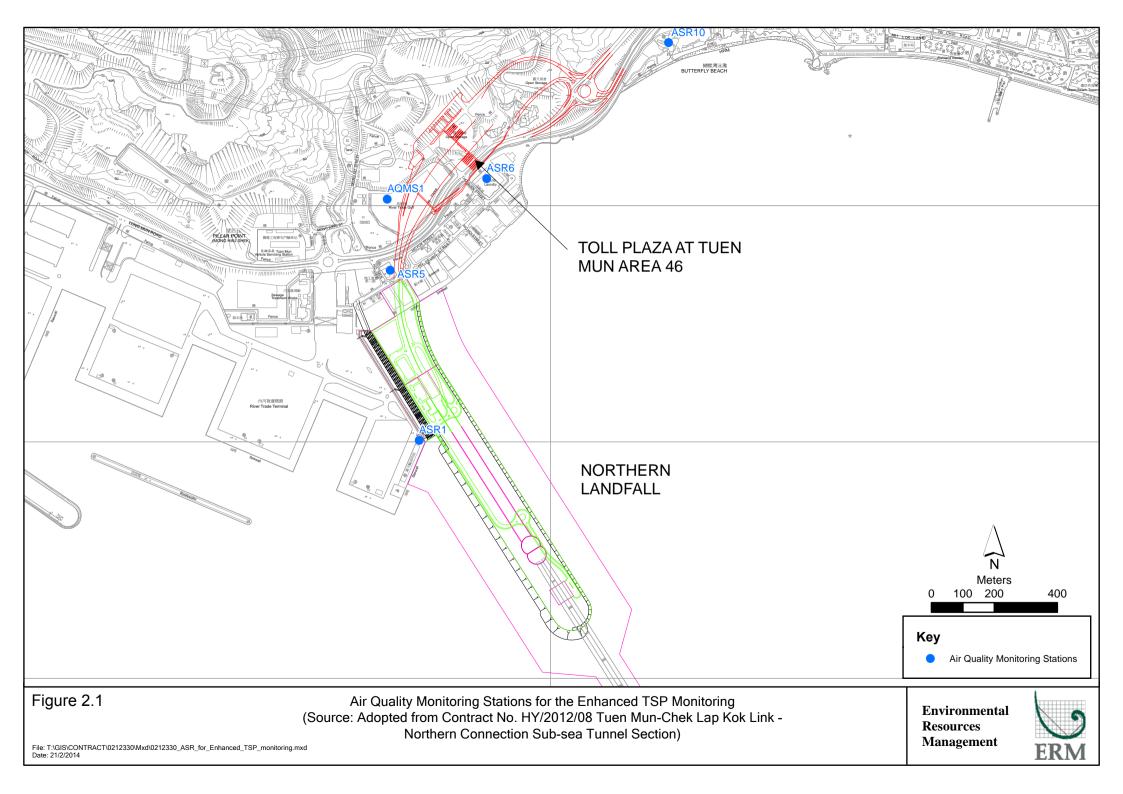
2.2 LANDFILL GAS HAZARD MONITORING

In accordance with the Updated EM&A Manual of the TM-CLK Link Project, landfill gas hazard monitoring should be perform to ensure that the works area at Pillar Point Valley (PPV) Landfill is free of landfill gas. A total of 25 days of landfill gas hazard monitoring was conducted at Main Control Building during 1 to 30 November 2020 (*Appendix F*).

The landfill gas hazard monitoring was conducted in accordance to the Upated EM&A Manual with a Altair 5X Gas Detector. The calibration certificate for the equipment is presented in *Appendix G*.

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

 Published EM&A data for impact air quality monitoring by *Contract No. HY/2012/08* are available at: http://www.hzmbenpo.com/
 ENVIRONMENTAL RESOURCES MANAGEMENT
 0463091_30TH MONTHLY EM&A_20201211.DOC



2.2.1 **Results and Observations**

Results for landfill gas hazard monitoring are summarized in Table 2.2 and the monitoring data is provided in *Appendix H*.

Results of methane, oxygen and carbon dioxide in the reporting month 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 2.2 Summary of Landfill Gas Hazard Monitoring Results in the Reporting Period

	Average (%)	Range (%)	Action Level (%) (a)
Methane	0	0	10/20
Oxygen	20.8	20.8-20.8	19/18
Carbon Dioxide	0.03	0.03-0.03	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.

2.3 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. In the reporting month, four (4) site inspections were carried out on 6, 13, 20 and 27 November 2020.

Key observations and recommendations during the site inspections in this reporting period are summarized in *Table 2.3*.

Table 2.3 Specific Observations and Recommendations during the Weekly Site Inspection in this Reporting Month

Inspection Date	Observations	Recommendations/ Remarks
6 November 2020	South Ventilation BuildingAccumulated residual was observed on site.	South Ventilation BuildingThe Contractor was reminded to keep better housekeeping.
13 November 2020	Customs and Excise Department BuildingNil.	Customs and Excise Department Building Nil.
20 November 2020	C3 Bridge Container VillageChemical containers without drip tray were observed on site.	C3 Bridge Container VillageThe Contractor was reminded to place chemical containers in trip tray.
27 November 2020	Customs and Excise Department BuildingChemical was not placed in drip tray.	Customs and Excise Department BuildingThe Contractor was reminded to place chemical in trip tray.

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

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 I*). The quantities of different types of wastes are summarized in *Table 2.4*.

Table 2.4Quantities of Different Waste Generated in the Reporting Month

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)					
November 2020	114	0	150,600	0	14	0					
	Notes:										
	(a) Inert const	truction wastes in	nclude hard rock a	and large broken co	oncrete disposed as	s public fill.					
	(b) Non-inert construction wastes include general refuse disposed at landfill.										
	(.) D $(, 1, 1, 1)$		1								

(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 properly and store 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.

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	433493	14 May 2018	N/A	GCL	For Tuen Mun working area
Notification					
Construction Waste Billing	7030836	15 May 2018	N/A	GCL	N/A
Account					
Chemical Waste Producer	5213-422-G2827-01	13 June 2018	N/A	GCL	N/A
Registration					
Discharge License under	WT00031783-2018	22 October 2018	31 October 2023	GCL	Sampling Frequency: Bimonthly
WPCO for Buildings at C2					
area					
Discharge License under	WT00032062-2018	30 October 2018	31 October 2023	GCL	Sampling Frequency: Quarterly
WPCO for Buildings at C3					
area					
Discharge License under	WT00034878-2019	1 April 2020	31 March 2025	GCL	Sampling Frequency: Quarterly
WPCO for Southern					
Landfall					
Construction Noise Permit	GW-RW0351-20	3 August 2020	29 January 2021	GCL	For Northern Landfall and Tunnel
Construction Noise Permit	GW-RS0413-20	19 June 2020	15 December 2020	GCL	For HKBCF Area
Construction Noise Permit	GW-RW0501-20	27 October 2020	24 December 2020	GCL	For Lung Mun Road Overnight Works

Table 2.5Summary of Environmental Licensing and Permit Status

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.

The landscape and visual (L&V) mitigation measures were also monitored on weekly basis in the reporting period. The monitoring status is summarized in *Appendix C*.

2.7 SUMMARY OF EXCEEDANCES OF THE ENVIRONMENTAL QUALITY PERFORMANCE LIMIT

Three (3) Action Level and one (1) Limit Level exceedances for 1-hour TSP and two (2) Action Level exceedances for 24-hour TSP was recorded by the Environmental Team of Contract No. *HY*/2012/08 during the reporting period.

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

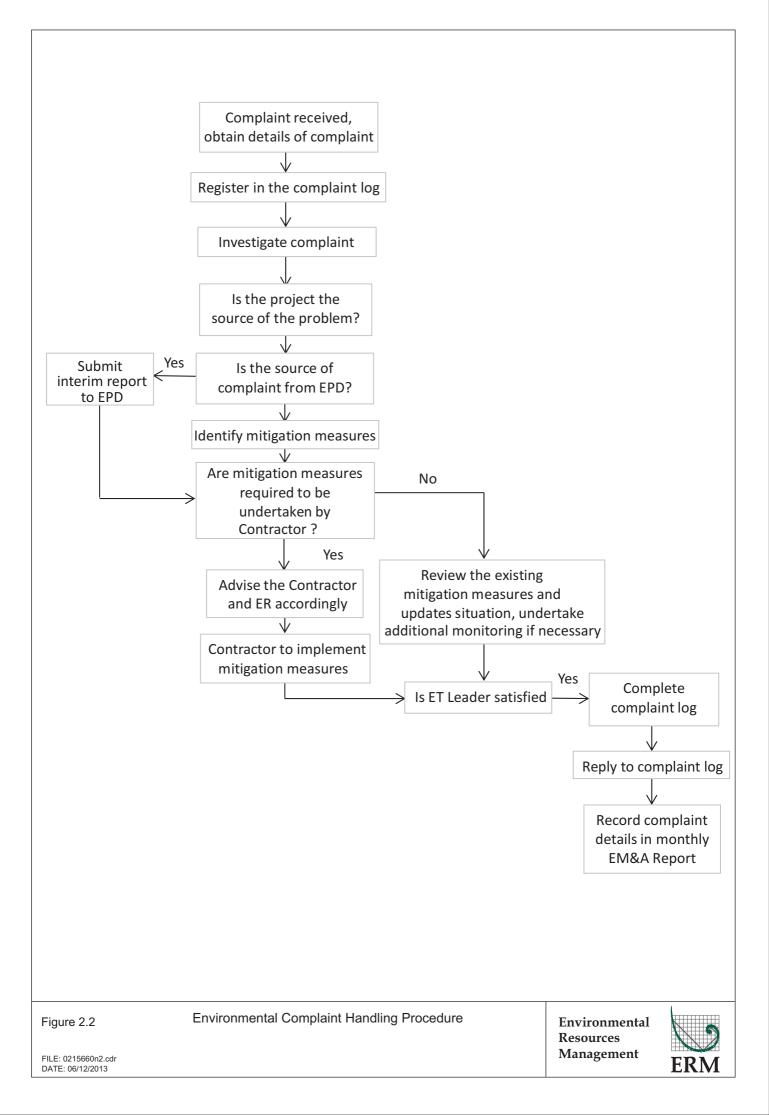
Cumulative statistics are provided in Appendix J.

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 J*.



3 FUTURE KEY ISSUES

3.1 CONSTRUCTION ACTIVITIES FOR THE COMING MONTH

As informed by the Contractor, the major works for the Contract in December 2020 will be:

Land-based Works

- Handover Inspection at Main Control Building;
- Handover Inspection at Ventilation Plant Room;
- Handover Inspection at North Ventilation Building;
- Handover Inspection at Administration Building;
- Handover Inspection at Maintenance Depot;
- Handover Inspection at Fire Services Department Building;
- Handover Inspection at Customs and Excise Department Building;
- Handover Inspection at Kiosk N1;
- Handover Inspection at Kiosk N2;
- Handover Inspection at the Tunnel;
- Handover Inspection at C3 area;
- Handover Inspection at Satellite Control Building;
- Handover Inspection at Kiosk S2;
- Handover Inspection at South Ventilation Building; and
- Handover Inspection at Northern Landfall and Southern Landfall.

3.2 KEY ISSUES FOR THE COMING MONTH

Potential environmental impacts arising from the above upcoming construction activities in the next reporting month of December 2020 are mainly associated with waste management and landfill gas monitoring issues.

4 CONCLUSIONS AND RECOMMENDATIONS

4.1 CONCLUSIONS

This Thirtieth Monthly EM&A Report presents the findings of the EM&A activities undertaken during the period from 1 to 30 November 2020, in accordance with the Updated EM&A Manual and the requirements of EP-354/2009/D.

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

Three (3) Action Level and one (1) Limit Level exceedances for 1-hour TSP and two (2) Action Level exceedances for 24-hour TSP were recorded by the Environmental Team of Contract No. *HY*/2012/08 during the reporting period.

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

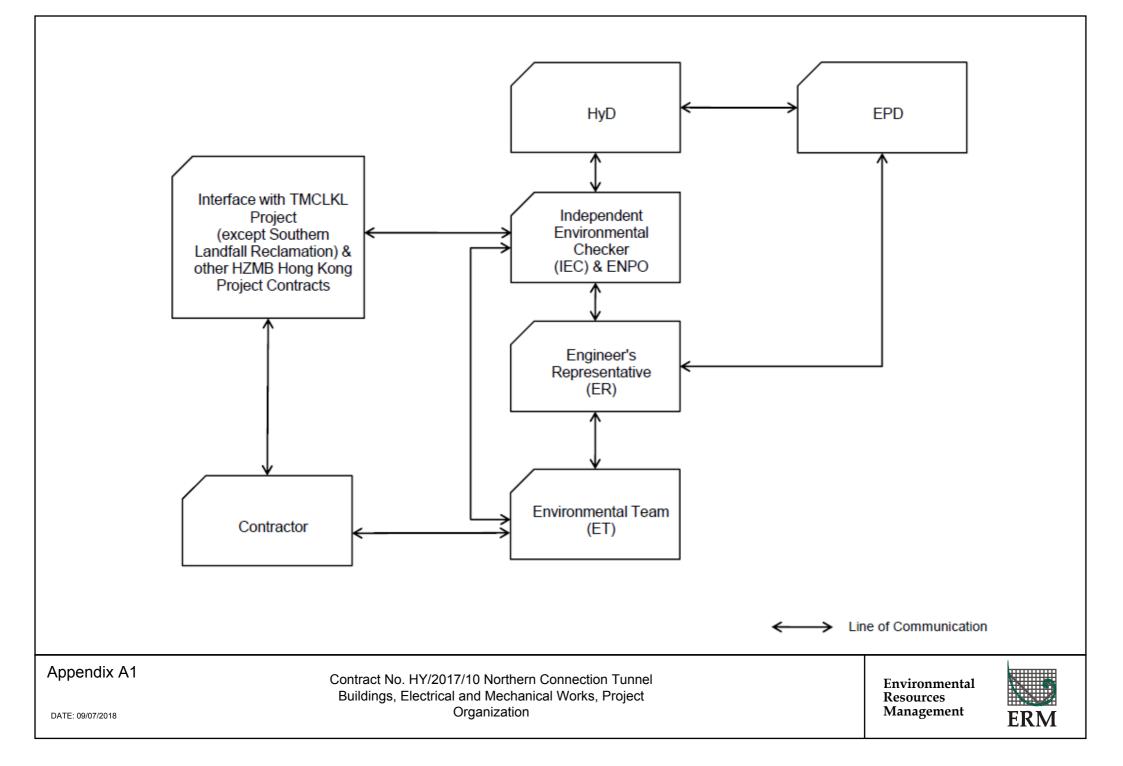
Environmental site inspection was carried out four (4) times in November 2020. Remedial actions recommended for the deficiencies identified during the site audits were properly implemented by the Contractor.

Landscape and visual monitoring for 24-month establishment period conducted by Contract No. HY/2012/07 and HY/2013/12 was reported in the EM&A report for this Contract in this reporting period.

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



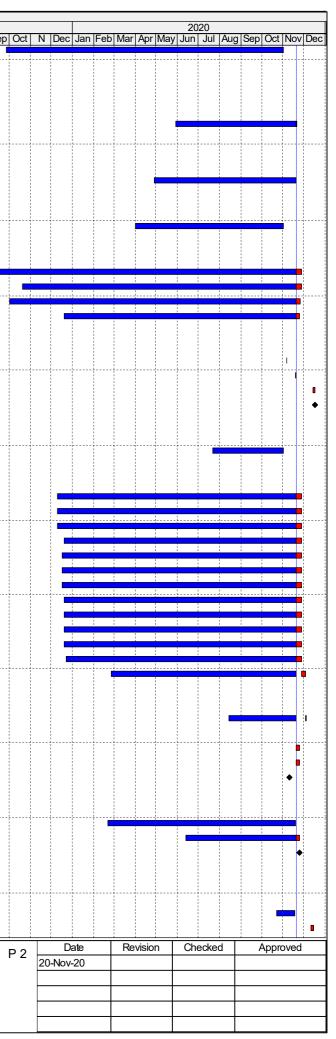
Appendix B

Construction Programme

D	Activity	Duration (Days)	Activity % Complete		Finish	Total Float	20)18					2019	1					2020	
		(Days)	Complete				May Jun	Jul Aug S	Sep Oct	Nov Dec	Jan F	Mar Apr			ep Oct	N De	c Jan F	eb Mar Apr		ig Sep Oct Nov Dec
HY2017/10 - Works Programn	ne Three Month Rolling Programme 20-Nov-20						1			2 2 2 2						5 5 5 5				
Contract Dates																				
Key Dates																				
KD08	KD08 - All Other Works for Tunnel Comissioning & Opening	0	0%													1				•
KD09	KD09 - C&ED Building, E&M Works, & FSD Inspection	0	0%																	
KD10	KD10 - FSD Building, E&M Works, & FSD Inspection	0	0%				-													
KD11	KD11 - Landscape Soft Works & Trees Protection	0	0%																	
Portion Possession Dates P325	Possession to Portion XXII (Day 483)	0	0%													1				
P325 P335	Possession to Portion XXIII (Day 463) Possession to Portion XXIII (Day 483)	0	0%																	
Portion Handover Dates	Possession to Polition AXIII (Day 403)	0	070																	
H120	Vacate Portion XVIb (KD10+28)	0	0%							-										•
H130	Vacate Portion XVIa (KD10+28)	0	0%													1				•
H140	Vacate Portion XVb (KD9+28)	0	0%																	•
H150	Vacate Portion XVa (KD9+28)	0	0%																	•
H160	Vacate Portion XXIa (KD8+28)	0	0%																	•
H170	Vacate Portion XXIb (KD8+28)	0	0%																	•
H180	Vacate Portion XXII (KD8+28)	0	0%																	•
H190	Vacate Portion XXIII (KD8+28)	0	0%							-						1				•
H200	Vacate Portion XII (KD8+28)	0	0%																	•
H210	Vacate Portion XIII (KD8+28)	0	0%			ŀ													· · · · · · · · · · · · · · · · · · ·	•
H220	Vacate Portion XIV (KD8+28)	0	0%																	•
H230	Vacate Portion XVIIa (KD8+28)	0	0%	1																•
H240	Vacate Portion Ve (KD8+28)	0	0%	1												1				•
H250	Vacate Portion Vc (KD8+28)	0	0%	1						-						1				•
H260	Vacate Portion VIb (KD8+28)	0	0%	1																•
H270	Vacate Portion VIII (KD8+28)	0	0%	1																•
H280	Vacate Portion XI (KD8+28)	0	0%	1												1				•
H290	Vacate Portion VII (KD8+28)	0	0%																	•
H300	Vacate Portion IX (KD8+28)	0	0%													1				•
H310	Vacate Portion X (KD8+28)	0	0%			[•
H320	Vacate Portion XXIc (KD8+28)	0	0%							-										•
H330	Vacate Portion WA6 (KD8+28)	0	0%																	•
H340	Vacate Portion XIX (KD11+28)	0	0%																	•
Major Design Submission & A	Approval					[i								· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
Major Material Submission &	Approval						:													
Drawing Submission & Appro	oval																			
Key Date 1 - Toll Control Build	ing (TCB) & TCSS Provision																			
ABWF Works (for All)																				
ATCB1130	ABWF second fix & final fix	90	98%																	
	uilding, Maintenance Depot, Kiosk N2, TCSS Provision																			
Administration Building (ADE	3)																			
ABWF Works (for All)																1				
AADB1200	ABWF second fix & final fix	90	99%																	
Key Date 6 - E&M Works for A	Administration Building, Maintenance Depot, North Vent Building, Kiosk N2																			
Remaining Works																				
KD6-OSW-1000	Remaining Works (Non FSI related)	42	98%																	
Key Date 3 - Satellite Control I	Building & TCSS Provision																			
ABWF Works (for All)																1				
ASCB1020	ABWF Works to Plant Rooms G/F	60	100%					ļ												
ASCB1070	ABWF second fix & final fix	56	98%							-										
	CB, Toll Area, Kiosk N1, Underpass, Plant Rm, and Approach Roads																			
E&M Works for TCB							-													
Remaining Works for TCB																				
KD5-OSW-1000	Remaining Works (Non FSI related)	42	98%			ļ														
Approach Roads																				
Under Portions IX, XI, XX										5 5 5										
AR150	T&C of Roading Lighting	30	100%																	
Under Portion X																				
					ACT NO. HY201	7/10									P 1		Date	Revisio	n Checked	Approved
			100T ··-					0	14/0-							20-No	ov-20			
	TM				CTION TUNNEL			-	WOF	KS										
		Т	HREE N	/ONTHLY P	ROGRAMME AS	S OF 20	0 Nov	2020												

	Activity	Duration (Days)	Activity % Complete
		(Days)	Complete
AR200	T&C of Roading Lighting in portion X	30	100%
Key Date 7 - E&M Works for S	atellite Control Building and Kiosks S1&S2		
E&M Works for Satellite Cont			
E&M Works			
Remaining Works for S	SCB (Non-FSI related)		
KD7-OSW-1010	Remaining Works (Non-FSI related)	42	98%
101-030-1010	Ternalining Works (NOT- STrelated)	42	3070
Key Date 6C - E&M Works for	South Ventilation Building		
Remaining Works for SVB (No		10	0.001/
KD6C-OSW-1000	Remaining Works (Non-FSI related)	42	98%
Key Date 6A - E&M Works for	Approach Roads at North Side		
Approach Roads			
EAR140	T&C & Miscellaneous Works for Statutory Inspection	12	100%
	· · · · ·		10070
Key Date 10 - FSD Building Str	UCLUFE & EXIVI WOFKS		
ABWF Works			
AFSD1030	ABWF Works to Office and Corridors G/F	124	99%
AFSD1031	ABWF Works to Office and Corridors 1/F	124	99%
AFSD1060	External Cladding and Wall Plastering	101	98%
AFSD1070	ABWF second fix & final fix	73	98%
	ABVVF Second IIX & IInal IIX	73	98%
E&M Works			
Statutory Inspections and a	approvals		
FSDB-SI1060	WSD inspection of Plumbing Installation (PL)	4	100%
FSDB-SI1080	Water Samples Test	24	100%
FSDB-SI1100	Obtain Water Certificate and water supply connection - PL	4	0%
FSDB-SI1140	KD10 Achieved	0	0%
_Key Date 7A - E&M Works for	Approach Roads at South Side		
Approach Roads			
EAR200	T&C	12	100%
			10070
Key Date 9 - C&ED Building &	Ealvi Works		
ABWF Works			
ACED1020	ABWF Works to Plant Rooms G/F	60	95%
ACED1021	ABWF Works to Plant Rooms 1/F	60	95%
ACED1022	ABWF Works to Plant Rooms 2/F	60	95%
ACED1023	ABWF Works to Plant Rooms 3/F	60	95%
ACED1030	ABWF Works to Office and Corridors G/F	133	95%
ACED1031	ABWF Works to Office and Corridors 1/F	118	95%
ACED1032	ABWF Works to Office and Corridors 2/F	130	95%
ACED1033	ABWF Works to Office and Corridors 3/F	92	95%
ACED1040	ABWF Works to Toilets G/F	142	95%
ACED1041	ABWF Works to Toilets 2/F	142	95%
ACED1042	ABWF Works to Toilets 3/F	98	95%
ACED1060	External Cladding and Wall Plastering	97	95%
ACED1070	ABWF second fix & final fix	69	95%
		03	3370
EQ.NA \A/amlea			
E&M Works			
Testing and Commissioning			
	Non-Essential T&C	24	95%
Testing and Commissioning C&EDB-TC1030	Non-Essential T&C	24	95%
Testing and Commissioning C&EDB-TC1030 Statutory Inspections and a	Non-Essential T&C		
Testing and Commissioning C&EDB-TC1030 Statutory Inspections and a C&EDB-SI1090	Non-Essential T&C approvals Obtain Water Certificate and water supply connection - FS	4	0%
Testing and Commissioning C&EDB-TC1030 Statutory Inspections and a C&EDB-SI1090 C&EDB-SI1100	Non-Essential T&C approvals Obtain Water Certificate and water supply connection - FS Obtain Water Certificate and water supply connection - PL	4	0% 0%
Testing and Commissioning C&EDB-TC1030 Statutory Inspections and a C&EDB-SI1090 C&EDB-SI1100 C&EDB-SI1130	Non-Essential T&C approvals Obtain Water Certificate and water supply connection - FS Obtain Water Certificate and water supply connection - PL Obtain FSI Certificate FS 172	4	0%
Testing and Commissioning C&EDB-TC1030 Statutory Inspections and a C&EDB-SI1090 C&EDB-SI1100	Non-Essential T&C approvals Obtain Water Certificate and water supply connection - FS Obtain Water Certificate and water supply connection - PL Obtain FSI Certificate FS 172	4	0% 0%
Testing and Commissioning C&EDB-TC1030 Statutory Inspections and a C&EDB-SI1090 C&EDB-SI1100 C&EDB-SI1130 Key Date 11 - Landscape Soft	Non-Essential T&C approvals Obtain Water Certificate and water supply connection - FS Obtain Water Certificate and water supply connection - PL Obtain FSI Certificate FS 172	4	0% 0%
Testing and Commissioning C&EDB-TC1030 Statutory Inspections and a C&EDB-SI1090 C&EDB-SI1100 C&EDB-SI1130 Key Date 11 - Landscape Soft Landscape Soft Works	Non-Essential T&C approvals Obtain Water Certificate and water supply connection - FS Obtain Water Certificate and water supply connection - PL Obtain FSI Certificate FS 172 Works & Trees Protection	4 4 0	0% 0% 100%
Testing and Commissioning C&EDB-TC1030 Statutory Inspections and a C&EDB-SI1090 C&EDB-SI1100 C&EDB-SI1130 Key Date 11 - Landscape Soft Landscape Soft Works SL120	Non-Essential T&C approvals Obtain Water Certificate and water supply connection - FS Obtain Water Certificate and water supply connection - PL Obtain FSI Certificate FS 172 Works & Trees Protection Landscape Soft Works at North Side (wet season)	4 4 0	0% 0% 100% 100%
Testing and Commissioning C&EDB-TC1030 Statutory Inspections and a C&EDB-SI1090 C&EDB-SI1100 C&EDB-SI1130 Key Date 11 - Landscape Soft Landscape Soft Works SL 120 SL 140	Non-Essential T&C approvals Obtain Water Certificate and water supply connection - FS Obtain Water Certificate and water supply connection - PL Obtain FSI Certificate FS 172 Works & Trees Protection Landscape Soft Works at North Side (wet season) Landscape Soft Works at South Side (wet season)	4 4 0 122 102	0% 0% 100% 100% 96%
Testing and Commissioning C&EDB-TC1030 Statutory Inspections and a C&EDB-SI1090 C&EDB-SI100 C&EDB-SI1100 C&EDB-SI1130 Key Date 11 - Landscape Soft Landscape Soft Works SL120 SL140 SL550	Non-Essential T&C approvals Obtain Water Certificate and water supply connection - FS Obtain Water Certificate and water supply connection - PL Obtain FSI Certificate FS 172 Works & Trees Protection Landscape Soft Works at North Side (wet season) Landscape Soft Works at South Side (wet season) KD 11 Achieved	4 4 0	0% 0% 100% 100%
Testing and Commissioning C&EDB-TC1030 Statutory Inspections and a C&EDB-SI1090 C&EDB-SI1100 C&EDB-SI1130 Key Date 11 - Landscape Soft Landscape Soft Works SL 120 SL 140	Non-Essential T&C approvals Obtain Water Certificate and water supply connection - FS Obtain Water Certificate and water supply connection - PL Obtain FSI Certificate FS 172 Works & Trees Protection Landscape Soft Works at North Side (wet season) Landscape Soft Works at South Side (wet season) KD 11 Achieved	4 4 0 122 102	0% 0% 100% 100% 96%
Testing and Commissioning C&EDB-TC1030 Statutory Inspections and a C&EDB-SI1090 C&EDB-SI1100 C&EDB-SI1130 Key Date 11 - Landscape Soft Landscape Soft Works SL120 SL140 SL550 Key Date 8 - All Works for Tun	Non-Essential T&C opprovals Obtain Water Certificate and water supply connection - FS Obtain Water Certificate and water supply connection - PL Obtain FSI Certificate FS 172 Works & Trees Protection Landscape Soft Works at North Side (wet season) Landscape Soft Works at South Side (wet season) KD 11 Achieved Interference	4 4 0 122 102	0% 0% 100% 100% 96%
Testing and Commissioning C&EDB-TC1030 Statutory Inspections and a C&EDB-SI1090 C&EDB-SI1100 C&EDB-SI1130 Key Date 11 - Landscape Soft Landscape Soft Works SL120 SL140 SL550 Key Date 8 - All Works for Turn Statutory Inspections and app	Non-Essential T&C opprovals Obtain Water Certificate and water supply connection - FS Obtain Water Certificate and water supply connection - PL Obtain FSI Certificate FS 172 Works & Trees Protection Landscape Soft Works at North Side (wet season) Landscape Soft Works at South Side (wet season) KD 11 Achieved Interference	4 4 0 122 102	0% 0% 100% 100% 96%
Testing and Commissioning C&EDB-TC1030 Statutory Inspections and a C&EDB-SI1090 C&EDB-SI1100 C&EDB-SI1130 Key Date 11 - Landscape Soft Landscape Soft Works SL120 SL140 SL550 Key Date 8 - All Works for Turn Statutory Inspections and app Administration Building	Non-Essential T&C opprovals Obtain Water Certificate and water supply connection - FS Obtain Water Certificate and water supply connection - PL Obtain FSI Certificate FS 172 Works & Trees Protection Landscape Soft Works at North Side (wet season) Landscape Soft Works at South Side (wet season) KD 11 Achieved nel Comissioning & Opening	4 4 0 122 102 0	0% 0% 100% 100% 96% 0%
Testing and Commissioning C&EDB-TC1030 Statutory Inspections and a C&EDB-SI1090 C&EDB-SI1100 C&EDB-SI1130 Key Date 11 - Landscape Soft Landscape Soft Works SL120 SL140 SL550 Key Date 8 - All Works for Turn Statutory Inspections and app	Non-Essential T&C opprovals Obtain Water Certificate and water supply connection - FS Obtain Water Certificate and water supply connection - PL Obtain FSI Certificate FS 172 Works & Trees Protection Landscape Soft Works at North Side (wet season) Landscape Soft Works at South Side (wet season) KD 11 Achieved Interference	4 4 0 122 102	0% 0% 100% 100% 96%

TM-CLKL NORTHERN CONNECTION TUNNEL BUILDINGS, E&M WORKS THREE MONTHLY PROGRAMME AS OF 20 Nov 2020



	Activity	Duration	Activity %	Start Finish	Total									•							
		(Days)	Complete		Float			2018										20		A	
Maintenance Depot						via	y Ju	1 Jui	Aug	JSep	OCL		Jec J	an		ar Ap	or liviay	/ Jun	Jui	Aug	ľ
MD-SI1100	Obtain Water Certificate and water supply connection - PL	1	100%																		1
North Ventilation Buildin		-	10070				·					····-									ł
NVB-SI1130	Water Samples Test	24	100%														1				
NVB-SI1140	Obtain Water Certificate and water supply connection - PL	24	0%																		ł
	Obtain water certificate and water supply connection - r L	7	070																		į
Petrol Filling Station PFS-SI1030	DC Inspection	18	0%					-		-			-	-			1				į
PFS-SI1030	DG Inspection Obtain DG Licence	0	0%							+											{
		0	070					-				-	-		-						
Toll Control Building & To		4	400%																		1
TCB-SI2020	WSD inspection of Plumbing Installation (PL)	4	100%					-									1				1
TCB-SI2040	WaterSamplesTest	24	100%				-	i.	1				i	i		i					ł
TCB-SI2050	Obtain Water Certificate and water supply connection - PL	4	0%								ļ]
Tunnel								-					-	-							
TNL-10TC2020	Obtain Fire Certificate	0	100%																		
Others Works for Road Ope	ning							-													
OW120	Hard Landscaping Works & Irrigation Systems	96	90.63%					-													
OW130	Street Furniture	96	95%																		
OW145	ELV System Test	70	95%			[1	-	1	1				-			1				1
OW175	Operation Verifications and Trial	18	0%					-													
OW200	KD8 Achieved	0	0%				-	-							-						1
Key Date 12 - Establishment	Works						1														
EW110	Establishment Works	365	0%				-	-	-					-		-					ľ

									20	20					
р	Oct	Ν	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct		Dec
											: : : :				
											1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				٥
											: : : : : : : :				•
											(1 1 1 1 1 1 1 1 1		•		
														1	•
											2 2 2 2 2 2 2 2			I	
	P 3	20	Da -Nov-	ate 20		Re	visio	n	Ch	ecke	d		Appro	oved	1

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	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Im	plementa Stages	ation	Status *
	Reference					D	С	0	
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.		Contractor	TMEIA Avoid dust generation		Y		1
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.	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		1
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
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.	construction period	Contractor	TMEIA Avoid dust generation		Y		N/A
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.	, 0	Contractor	TMEIA Avoid dust generation		Y		N/A
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.	, 0	Contractor	TMEIA Avoid dust generation		Y		N/A
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.	construction period	Contractor	TMEIA Avoid dust generation		Y		N/A
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.		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

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	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Im	plementa Stages	tion	Status *
	Reference					D	С	0	1
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		v
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		N/A
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 period	Contractor	EM&A Manual		Y		N/A (Results adopted from published EM&A data of Contract No. HY/2012/08)
WATER QUAL	ITY (LAND V	NORKS)							
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		N/A
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.	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.	, 0	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.	, 0	Contractor	TM-EIAO		Y		N/A
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		1
6.10	-	Open stockpiles of construction materials (e.g. aggregates and sand) on site should be covered with tarpaulin or similar fabric during rainstorms.		Contractor	TM-EIAO		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

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	L	Location/ Timing	Implementation Agent	Relevant Standard or Requirement		olementa Stages	tion	Status *
	Reference					D	С	0	
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.	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.	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		N/A
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.	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.		Contractor	TM-EIAO		Y		<i>✓</i>
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		<i>√</i>

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	Environmental Protection Measures	Location/ Timing	Implementation	Relevant Standard	Im	plementa	tion	Status *
	Manual			Agent	or Requirement		Stages		
	Reference					D	C	0	
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.		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		N/A
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		Ŷ	N/A
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		√
12.6	8.1		All areas / throughout construction period	Contractor	TMEIA		Y		✓

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

EIA Reference	EM&A Manual	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status *
	Reference					D	С	0	
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		1
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.	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		1
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		1
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.	construction period	Contractor	TMEIA		Y		√

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

EIA Reference	EM&A Manual	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Im	plementa Stages	tion	Status *
	Reference			Ŭ	-	D	C	0	
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.	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: <i>f</i> suitable for the substance to be held, resistant to corrosion, maintained in good conditions and securely closed; <i>f</i> 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. <i>f</i> Clearly labelled and used solely for the storage of chemical wastes; <i>f</i> Enclosed with at least 3 sides; <i>f</i> 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; <i>f</i> Adequate ventilation;	construction period	Contractor	TMEIA		Y		v

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

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Imp	olementa Stages	tion	Status *
	Reference					D	С	0	
		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		1
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.		Contractor	TMEIA		Y		✓
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.	construction period	Contractor	TMEIA		Y		<i>,</i>
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.	construction period	Contractor	TMEIA		Y		4
12.6	Section 8	EM&A of waste handling, storage, transportation, disposal procedures and documentation through the site audit programme shall be undertaken.		Contractor	EM&A Manual		Y		✓

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

EIA Reference	Manual	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Imp	olementa Stages	tion	Status *
	Reference					D	С	0	
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)		Design Consultant/ Contractor	TMEIA	Y	Y		N/A
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)	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		✓
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)	0	Design Consultant/ Contractor	TMEIA	Y	Y		N/A

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

EIA Reference	EM&A Manual	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Im	plementa Stages	tion	Status *
	Reference					D	С	0	
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		n/a. To be maintained by HyD
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 maintained by HyD/LCSD
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		n/a. To be maintained by HyD
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 maintained by HyD/ArchSD
10.9	7.6	JI 0 0 ()	All areas/detailed design/ during construction / during operation	Design Consultant/ Contractor	TMEIA	Y	Y	Y	n/a. To be maintained by HyD/ArchSD
10.9	7.6	Avoidance of excessive height and bulk of buildings and structures (OM6)	All areas/detailed design/ during construction / during operation	Design Consultant/ Contractor	TMEIA	Y	Y	Y	n/a. To be maintained by HyD/ArchSD

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

EIA Reference	EM&A	Environmental Protection Measures	Location/ Timing	Implementation	Relevant Standard	Implementation		tion	Status *
	Manual			Agent	or Requirement	Stages			
	Reference					D	С	0	

* Remarks:

<> Compliance of Mitigation but need improvement

x Non-compliance of Mitigation Measures

▲ Non-compliance of Mitigation Measures but rectified by Contractor

△ Deficiency of Mitigation Measures but rectified by Contractor

N/A Not Applicable in Reporting Period

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

[✓] Compliance of Mitigation Measures

Appendix D

Summary of Action and Limit Levels

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

Table D1Action and Limit Levels for 1-hour and 24-hour TSP

Table D2Actions in the Event of Landfill Gas being Detectedin 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 (>	- Prohibit hot work
	0.5% v/v)	- Ventilate to restore methane to < 10% LEL
	> 20% LEL	- Stop work
	(>1% v/v)	- 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 E1Event/Action Plan for Air Quality

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

	ACTION								
EVENT	ET ⁽¹⁾	IEC ⁽¹⁾	ER ⁽¹⁾	Contractor					
Limit Level									
1. Exceedance for one sample	 Identify the source. Inform the ER and the DEP. 	1. Check monitoring data submitted by the ET.	 Confirm receipt of notification of failure in writing. 	1. Take immediate action to avoid further exceedance					
	3. Repeat measurement to confirm finding.	2. Check Contractor's working method.	 Notify the Contractor. Ensure remedial measures are 	2. Submit proposals for remedial actions to IEC within 3 working days of notification					
	 Increase monitoring frequency to daily. 	 Discuss with the ET and the Contractor on possible remedial measures. 	properly implemented.	3. Implement the agreed proposals					
	5. Assess effectiveness of Contractor's remedial actions and keep the IEC, the DEP and the ER informed of	 Advise the ER on the effectiveness of the proposed remedial measures. 		4. Amend proposal if appropriate					
	the results.	5. Supervise implementation of remedial measures.							
2. Exceedance for two or more consecutive	1. Notify the IEC, the ER, the DEP and the Contractor.	the Contractor on the potential	1. Confirm receipt of notification of failure in writing.	1. Take immediate action to avoid further exceedance.					
samples	2. Identify the source.		remedial actions. 2. Notify the Contractor	2. Notify the Contractor.	2. Submit proposals for remedial				
	3. Repeat measurements to confirm findings.	2. Review the Contractor's remedial actions whenever	3. In consultation with the IEC, agree with the Contractor on the	actions to IEC within 3 working days of notification.					
	4. Increase monitoring frequency to daily.	accordingly. 3. Supervise the implementation of remedial measures	remedial measures to be implemented.	3. Implement the agreed proposals.4. Resubmit proposals if problem sti					
	 5. Carry out analysis of the Contractor's working procedures to determine possible mitigation to be implemented. 6. Arrange meeting with the IEC 		 Ensure remedial measures are properly implemented. 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 	not under control. 5. Stop the relevant activity of works as determined by the ER until the exceedance is abated.					
	and the ER to discuss the remedial actions to be taken. 7. Assess effectiveness of the Contractor's remedial actions		work 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, ER - Engineer's Representative, 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 Landfill Gas Monitoring Schedule (1 to 30 November 2020)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
01-Nov	02-Nov	03-Nov	04-Nov	05-Nov	06-Nov	07-Nov
	LFG Monitoring (a.m. &					
	p.m.)	p.m.)	p.m.)	p.m.)	p.m.)	p.m.)
08-Nov	09-Nov	10-Nov	11-Nov	12-Nov	13-Nov	14-Nov
	LFG Monitoring (a.m. &					
	p.m.)				p.m.)	p.m.)
15-Nov	16-Nov	17-Nov	18-Nov	19-Nov	20-Nov	21-Nov
10-1407	LFG Monitoring (a.m. &	LFG Monitoring (a.m. &				
	p.m.)				p.m.)	p.m.)
	p)	p)	p)	p)	p)	p)
22-Nov	23-Nov	24-Nov	25-Nov	26-Nov		28-Nov
	LFG Monitoring (a.m. &	LFG Monitoring (a.m. &				
	p.m.)	p.m.)	p.m.)	p.m.)	p.m.)	p.m.)
29-Nov	30-Nov					
	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 December 2020)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		01-Dec				05-Dec
		LFG Monitoring (a.m. &				
		p.m.)	p.m.)	p.m.)	p.m.)	p.m.)
				(2.5)		
06-Dec	07-Dec					12-Dec
		LFG Monitoring (a.m. &	• •			
	p.m.)	p.m.)	p.m.)	p.m.)	p.m.)	p.m.)
13-Dec	14-Dec	15-Dec	16-Dec	17-Dec	18-Dec	19-Dec
	LFG Monitoring (a.m. &					
					p.m.)	p.m.)
	. ,		. ,	. ,	. ,	. ,
20-Dec	21-Dec	22-Dec	23-Dec	24-Dec	25-Dec	26-Dec
	LFG Monitoring (a.m. &					
	p.m.)	p.m.)	p.m.)	p.m.)		
	, ,	. ,	, ,	, ,		
27-Dec	28-Dec	29-Dec	30-Dec	31-Dec		
27-Dec						
	- · ·	LFG Monitoring (a.m. &				
	p.m.)	p.m.)	p.m.)	p.m.)		

The schedule is subject to excavation work at Main Control Building. The schedule will be revised after reviewing the progress of the construction works or due to adverse (safety, weather etc) conditions.

Appendix G

Calibration Certificate of Monitoring Equipment



MSA Hong Kong Ltd.

25/F Jupiter Tower, 9 Jupiter Street, Hong Kong Tel 852-22587588 Fax 25478780 Email info.hk@msasafety.com Website www.msasafety.com

Ref.2019/12/009CustomerGammon Constructions Limited

Date: 11-Dec-19

CERTIFICATE FOR CALIBRATION CHECK TEST

Model	Serial No.	Calibration Check Gas	Regulator	Full Scale	Response
Altair 5XIR		1.45% Methane,		100% LEL	29%LEL
	145986	15% Oxygen	.25litre/min	30% Vol	15% O2
		2.5% Carbon Dioxide		9.99%	2.5% CO2

Remarks: Regular inspection completed. Calibration passed

MSA Hong Kong Ltd. certify that instrument/s listed above has/have been calibrated check tested on: 11-Dec-19

This instrument was calibrated in accordance with all requirements of the specifications of MSA.

This instrument must be calibration checked prior to use in accordance with the instruction manual.

This instrument was calibrated using NIST traceable equipment and was in accordance with all requirements of the drawings and specifications of MSA.

For and on behalf of MSA Hong Kong Ltd.

Authorised Signature



MSA Hong Kong Ltd. 25/F Jupiter Tower, 9 Jupiter Street, Hong Kong Tel 852-22587588 Fax 25478780 Email info.hk@msasafety.com Website www.msasafety.com

Date: 26-Nov-20

Ref.2020/11/056CustomerGammon Constructions Limited

CERTIFICATE FOR CALIBRATION CHECK TEST

Model	Serial No.	Calibration Check Gas	Regulator	Full Scale	Response
		1.45% Methane,		100% LEL	29%LEL
Altair 5XIR	145986	15% Oxygen	.25litre/min	30% Vol	15% O2
		2.5% Carbon Dioxide		9.99%	2.5% CO2

Remarks: Regular inspection completed. Calibration passed

MSA Hong Kong Ltd. certify that instrument/s listed above has/have been calibrated check tested on: 26-Nov-20

This instrument was calibrated in accordance with all requirements of the specifications of MSA.

This instrument must be calibration checked prior to use in accordance with the instruction manual.

This instrument was calibrated using NIST traceable equipment and was in accordance with all requirements of the drawings and specifications of MSA.

For and on behalf of MSA Hong Kong Ltd.

Authorised Signature

Appendix H

Landfill Gas Monitoring Results and Graphical Presentation

Landfill Gas Monitoring Results on Methane Level

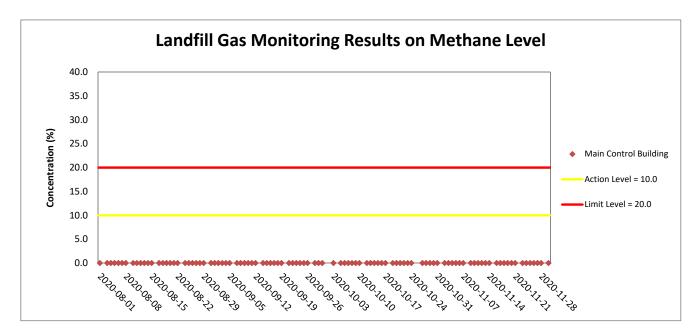
Project	Works	Date(yyyy-mm-dd)	Monitoring Location	Time (hh:mm, 24hour)	Results (%)	Action Level (%)	Limit Level (%)
MCLKL		2020-11-02	Main Control Building	8:15	0		
MCLKL		2020-11-02	Main Control Building	13:15	0		
MCLKL		2020-11-03	Main Control Building	8:15	0		
TMCLKL	HY/2017/10	2020-11-03	Main Control Building	13:15	0		
TMCLKL		2020-11-04	Main Control Building	8:15	0		
TMCLKL	HY/2017/10	2020-11-04	Main Control Building	13:15	0		
TMCLKL	HY/2017/10	2020-11-05	Main Control Building	8:15	0		
TMCLKL		2020-11-05	Main Control Building	13:15	0		
TMCLKL		2020-11-05	Main Control Building	8:15	0		
TMCLKL	HY/2017/10	2020-11-00	Main Control Building	13:15	0		
TMCLKL	HY/2017/10	2020-11-00	Main Control Building	8:15	0		
TMCLKL			Main Control Building		0		
		2020-11-07	-	13:15			
TMCLKL	HY/2017/10	2020-11-09	Main Control Building	8:15	0		
TMCLKL	HY/2017/10	2020-11-09	Main Control Building	13:15	0		
TMCLKL		2020-11-10	Main Control Building	8:15	0		
TMCLKL	HY/2017/10	2020-11-10	Main Control Building	13:15	0		
TMCLKL	HY/2017/10	2020-11-11	Main Control Building	8:15	0		
TMCLKL	HY/2017/10	2020-11-11	Main Control Building	13:15	0		
TMCLKL		2020-11-12	Main Control Building	8:15	0		
TMCLKL	HY/2017/10	2020-11-12	Main Control Building	13:15	0		
TMCLKL	HY/2017/10	2020-11-13	Main Control Building	8:15	0		
TMCLKL	HY/2017/10	2020-11-13	Main Control Building	13:15	0		
TMCLKL	HY/2017/10	2020-11-14	Main Control Building	8:15	0		
TMCLKL		2020-11-14	Main Control Building	13:15	0		
TMCLKL	HY/2017/10	2020-11-16	Main Control Building	8:15	0		
TMCLKL	HY/2017/10	2020-11-16	Main Control Building	13:15	0	10.0	20.0
TMCLKL	HY/2017/10	2020-11-17	Main Control Building	8:15	0		
TMCLKL	HY/2017/10	2020-11-17	Main Control Building	13:15	0		
TMCLKL	HY/2017/10	2020-11-18	Main Control Building	8:15	0		
TMCLKL		2020-11-18	Main Control Building	13:15	0		
TMCLKL	HY/2017/10	2020-11-19	Main Control Building	8:15	0		
TMCLKL	HY/2017/10	2020-11-19	Main Control Building	13:15	0		
TMCLKL		2020-11-20	Main Control Building	8:15	0		
	HY/2017/10	2020-11-20	Main Control Building	13:15	0		
TMCLKL	HY/2017/10		Main Control Building		0		
TMCLKL		2020-11-21	-	8:15	0		
TMCLKL	HY/2017/10	2020-11-21	Main Control Building	13:15	0		
		2020-11-23	Main Control Building	8:15	-		
TMCLKL	HY/2017/10	2020-11-23	Main Control Building	13:15	0		
TMCLKL	HY/2017/10	2020-11-24	Main Control Building	8:15	0		
TMCLKL		2020-11-24	Main Control Building	13:15	0		
TMCLKL		2020-11-25	Main Control Building	8:15	0		
TMCLKL		2020-11-25	Main Control Building	13:15	0		
TMCLKL		2020-11-26	Main Control Building	8:15	0		
TMCLKL	HY/2017/10	2020-11-26	Main Control Building	13:15	0		
TMCLKL		2020-11-27	Main Control Building	8:15	0		
TMCLKL	HY/2017/10	2020-11-27	Main Control Building	13:15	0		
TMCLKL	HY/2017/10	2020-11-28	Main Control Building	8:15	0		
TMCLKL	HY/2017/10	2020-11-28	Main Control Building	13:15	0		
TMCLKL	HY/2017/10	2020-11-30	Main Control Building	8:15	0		
TMCLKL	HY/2017/10	2020-11-30	Main Control Building	13:15	0		
				Average	0		
				Min.	0		
					-		

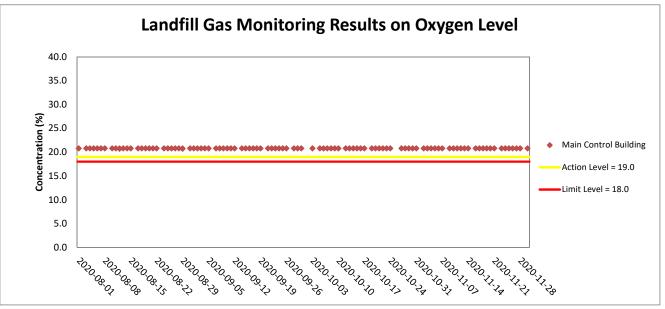
Landfill Gas Monitoring Results on Oxygen Level

Project	Works	Date(yyyy-mm-dd)	Station	Time (hh:mm, 24hour)	Results (%)	Action Level (%)	Limit Level (%)
TMCLKL	HY/2017/10	2020-11-02	Main Control Building	8:15	20.8		
TMCLKL	HY/2017/10	2020-11-02	Main Control Building	13:15	20.8		
TMCLKL	HY/2017/10	2020-11-03	Main Control Building	8:15	20.8		
TMCLKL	HY/2017/10	2020-11-03	Main Control Building	13:15	20.8		
TMCLKL	HY/2017/10	2020-11-04	Main Control Building	8:15	20.8		
TMCLKL	HY/2017/10	2020-11-04	Main Control Building	13:15	20.8		
TMCLKL	HY/2017/10	2020-11-05	Main Control Building	8:15	20.8		
TMCLKL	HY/2017/10	2020-11-05	Main Control Building	13:15	20.8		
TMCLKL	HY/2017/10	2020-11-06	Main Control Building	8:15	20.8		
TMCLKL	HY/2017/10	2020-11-06	Main Control Building	13:15	20.8		
TMCLKL	HY/2017/10	2020-11-07	Main Control Building	8:15	20.8		
TMCLKL	HY/2017/10	2020-11-07	Main Control Building	13:15	20.8		
TMCLKL		2020-11-09	Main Control Building	8:15	20.8		
TMCLKL		2020-11-09	Main Control Building	13:15	20.8		
TMCLKL		2020-11-10	Main Control Building	8:15	20.8		
TMCLKL		2020-11-10	Main Control Building	13:15	20.8		
TMCLKL		2020-11-11	Main Control Building	8:15	20.8		
TMCLKL		2020-11-11	Main Control Building	13:15	20.8		
TMCLKL		2020-11-12	Main Control Building	8:15	20.8		
TMCLKL		2020-11-12	Main Control Building	13:15	20.8		
TMCLKL		2020-11-13	Main Control Building	8:15	20.8		
TMCLKL		2020-11-13	Main Control Building	13:15	20.8		
TMCLKL		2020-11-13	Main Control Building	8:15	20.8		
TMCLKL		2020-11-14	Main Control Building	13:15	20.8		
TMCLKL		2020-11-14	Main Control Building	8:15	20.8		
TMCLKL		2020-11-16	Main Control Building	13:15	20.8	19.0	18.0
TMCLKL		2020-11-10	Main Control Building	8:15	20.8		
TMCLKL		2020-11-17	Main Control Building	13:15	20.8		
TMCLKL		2020-11-17	Main Control Building	8:15	20.8		
TMCLKL		2020-11-18	Main Control Building	13:15	20.8		
TMCLKL			÷	8:15	20.8		
TMCLKL		2020-11-19	Main Control Building		20.8		
TMCLKL		2020-11-19	Main Control Building	13:15	20.8		
TMCLKL		2020-11-20	Main Control Building	8:15	20.8		
		2020-11-20	Main Control Building	13:15			
TMCLKL		2020-11-21	Main Control Building	8:15	20.8		
TMCLKL		2020-11-21	Main Control Building	13:15	20.8		
TMCLKL		2020-11-23	Main Control Building	8:15	20.8		
TMCLKL		2020-11-23	Main Control Building	13:15	20.8		
TMCLKL		2020-11-24	Main Control Building	8:15	20.8		
TMCLKL		2020-11-24	Main Control Building	13:15	20.8		
TMCLKL		2020-11-25	Main Control Building	8:15	20.8		
TMCLKL		2020-11-25	Main Control Building	13:15	20.8		
MCLKL		2020-11-26	Main Control Building	8:15	20.8		
TMCLKL		2020-11-26	Main Control Building	13:15	20.8		
TMCLKL		2020-11-27	Main Control Building	8:15	20.8		
TMCLKL		2020-11-27	Main Control Building	13:15	20.8		
TMCLKL		2020-11-28	Main Control Building	8:15	20.8		
TMCLKL		2020-11-28	Main Control Building	13:15	20.8		
TMCLKL		2020-11-30	Main Control Building	8:15	20.8		
TMCLKL	HY/2017/10	2020-11-30	Main Control Building	13:15	20.8		
				Average	20.8		
				Min.	20.8		
				Max.	20.8		

Landfill Gas Monitoring Results on Carbon Dioxide Level

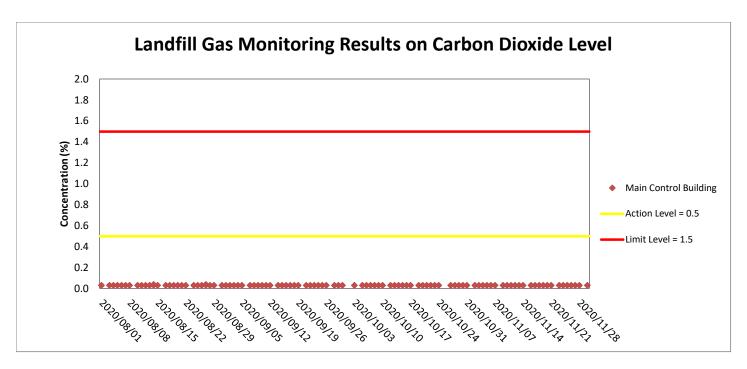
Project	Works	Date(yyyy-mm-dd)	Station	Time (hh:mm, 24hour)	Results (%)	Action Level (%)	Limit Level (%)
TMCLKL		2020-11-02	Main Control Building	8:15	0.03		, í
TMCLKL	HY/2017/10	2020-11-02	Main Control Building	13:15	0.03		
TMCLKL	HY/2017/10	2020-11-03	Main Control Building	8:15	0.03		
TMCLKL	HY/2017/10	2020-11-03	Main Control Building	13:15	0.03		
TMCLKL		2020-11-04	Main Control Building	8:15	0.03		
TMCLKL	HY/2017/10	2020-11-04	Main Control Building	13:15	0.03		
TMCLKL	HY/2017/10	2020-11-05	Main Control Building	8:15	0.03		
TMCLKL		2020-11-05	Main Control Building	13:15	0.03		
TMCLKL		2020-11-06	Main Control Building	8:15	0.03		
TMCLKL	HY/2017/10	2020-11-06	Main Control Building	13:15	0.03		
TMCLKL	HY/2017/10	2020-11-07	Main Control Building	8:15	0.03		
TMCLKL		2020-11-07	Main Control Building	13:15	0.03		
TMCLKL	HY/2017/10	2020-11-09	Main Control Building	8:15	0.03		
TMCLKL	HY/2017/10	2020-11-09	Main Control Building	13:15	0.03		
TMCLKL		2020-11-10	Main Control Building	8:15	0.03		
TMCLKL	HY/2017/10	2020-11-10	Main Control Building	13:15	0.03		
TMCLKL	HY/2017/10	2020-11-10	Main Control Building	8:15	0.03		
TMCLKL	HY/2017/10	2020-11-11	Main Control Building	13:15	0.03		
TMCLKL	HY/2017/10	2020-11-12	Main Control Building	8:15	0.03		
TMCLKL	HY/2017/10	2020-11-12	Main Control Building	13:15	0.03		
TMCLKL	HY/2017/10	2020-11-12	Main Control Building	8:15	0.03		
TMCLKL	HY/2017/10	2020-11-13	Main Control Building	13:15	0.03		
TMCLKL		2020-11-13	Main Control Building	8:15	0.03		
TMCLKL	HY/2017/10	2020-11-14	Main Control Building	13:15	0.03		
TMCLKL	HY/2017/10	2020-11-14	Main Control Building	8:15	0.03		
TMCLKL			ç		0.03	0.5	1.5
TMCLKL	HY/2017/10	2020-11-16	Main Control Building	13:15 8:15	0.03		
TMCLKL	HY/2017/10 HY/2017/10	2020-11-17	Main Control Building				
		2020-11-17	Main Control Building	13:15	0.03		
TMCLKL	HY/2017/10	2020-11-18	Main Control Building	8:15	0.03		
TMCLKL		2020-11-18	Main Control Building	13:15	0.03		
TMCLKL	HY/2017/10	2020-11-19	Main Control Building	8:15	0.03		
TMCLKL	HY/2017/10	2020-11-19	Main Control Building	13:15	0.03		
TMCLKL		2020-11-20	Main Control Building	8:15	0.03		
TMCLKL		2020-11-20	Main Control Building	13:15	0.03		
TMCLKL	HY/2017/10	2020-11-21	Main Control Building	8:15	0.03		
TMCLKL	HY/2017/10	2020-11-21	Main Control Building	13:15	0.03		
TMCLKL		2020-11-23	Main Control Building	8:15	0.03		
TMCLKL	HY/2017/10	2020-11-23	Main Control Building	13:15	0.03		
TMCLKL	HY/2017/10	2020-11-24	Main Control Building	8:15	0.03		
TMCLKL		2020-11-24	Main Control Building	13:15	0.03		
TMCLKL	HY/2017/10	2020-11-25	Main Control Building	8:15	0.03		
TMCLKL	HY/2017/10	2020-11-25	Main Control Building	13:15	0.03		
TMCLKL	HY/2017/10	2020-11-26	Main Control Building	8:15	0.03		
TMCLKL	HY/2017/10	2020-11-26	Main Control Building	13:15	0.03		
TMCLKL	HY/2017/10	2020-11-27	Main Control Building	8:15	0.03		
TMCLKL	HY/2017/10	2020-11-27	Main Control Building	13:15	0.03		
TMCLKL	HY/2017/10	2020-11-28	Main Control Building	8:15	0.03		
TMCLKL		2020-11-28	Main Control Building	13:15	0.03		
TMCLKL	HY/2017/10	2020-11-30	Main Control Building	18:15	0.03		
TMCLKL	HY/2017/10	2020-11-30	Main Control Building	23:15	0.03		
				Average	0.03		
				Min.	0.03		
				Max.	0.03		





Weather condition within the reporting period was sunny to rainy

- Major construction works undertaken within the reporting period include
- Handover Inspection at Main Control Building;
- Electrical and Mechanical Works at Ventilation Plant Room;
- Handover Inspection at North Ventilation Building;
- Handover Inspection at Administration Building;
- *Handover Inspection 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;
- Handover Inspection at Satellite Control Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Kiosk S2;
- Handover Inspection at South Ventilation Building; and
- Soil Mix and Landscape Works at Northern Landfall and Southern Landfall.



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

- Handover Inspection at Main Control Building;
- Electrical and Mechanical Works at Ventilation Plant Room;
- Handover Inspection at North Ventilation Building;
- Handover Inspection at Administration Building;
- Handover Inspection 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;
- Handover Inspection at Satellite Control Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Kiosk S2;
- Handover Inspection at South Ventilation Building; and
- Soil Mix and Landscape Works at Northern Landfall and Southern Landfall.

Appendix I

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 2020 (Year)

		Actual	Quantities of Inert C	&D Materials Genera	tion		Actual Quantities of 0	C&D wastes Generation	Actu	ual Quantities of F	Recyclables Genera	ition
Month\Material	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	0.025	0.000	-	-	0.025	-	-	187.500	-	-	0.070	-
Feb	0.074	0.026	-	-	0.074	-	-	176.100	-	-	0.084	-
Mar	0.650	0.117	-	-	0.366	0.284	-	237.850	-	-	0.042	-
Apr	0.139	0.000	-	-	0.139	-	-	167.820	-	-	-	-
Мау	6.429	0.000	-	1.975	0.023	4.431	-	252.730	-	-	0.056	-
Jun	17.715	0.053	-	0.421	0.034	17.260	-	255.300	-	-	-	-
SUB-TOTAL	25.032	0.196	0.000	2.396	0.661	21.975	0.000	1277.300	0.000	0.000	0.252	0.000
Jul	41.044	0.008	-	6.284	0.035	34.725	-	134.530	-	-	0.056	-
Aug	10.705	0.007	-	-	0.163	10.541	-	132.420	-	-	0.035	-
Sep	0.033	0.005	-	-	0.033	-	-	89.120	-	-	0.028	-
Oct	0.210	0.011	-	-	0.210	-	-	184.460	-	-	0.028	-
Nov	0.114	-	-	-	0.114	-	-	150.600	-	-	0.014	-
Dec	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	77.137	0.227	0.000	8.680	1.216	67.241	0.000	1,968.430	0.000	0.000	0.413	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 J

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

Appendix J1 Cumulative Statistics on Exceedances

		Total No. recorded in this reporting month	Total No. recorded since contract commencement
1-Hr TSP	Action	3	53
	Limit	1	11
24-Hr TSP	Action	2	4
	Limit	0	0
Landfill gas hazar	d monitoring		
Methane		0	0
Oxygen		0	0
Carbon Dioxi	de	0	0

Appendix J2 Cumulative Statistics on Complaints, Notifications of Summons and Successful Prosecutions

Reporting Period		Cumulative Statistics	
	Complaints	Notifications of	Successful
		Summons	Prosecutions
This Reporting Month	0	0	0
(November 2020)			
Total No. received	1	0	0
since contract			
commencement			

Email message		Environmental Resources Management
То	Ramboll Hong Kong Limited (ENPO)	2507, 25/F One Harbourfront, 18 Tak Fung Street,
From	ERM- Hong Kong, Limited	Hung Hom, Hong Kong Telephone: (852) 2271 3113 Facsimile: (852) 2723 5660
Ref/Project number	Contract No. HY/2017/10 Tuen Mun – Chek Lap Kok Link – Northern Connection Tunnel Buildings, Electrical and Mechanical Works	E-mail: jasmine.ng@erm.com
Subject	Notification of Exceedance for Air Quality Impact Monitoring	ERM
Date	27 November 2020	

Dear Sir/ Madam,

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

Action Level Exceedance 0463091_2November2020_24hrTSP_Station ASR1

One (1) exceedance was recorded on 2 November 2020.

Regards,

Jamin

Dr Jasmine Ng Environmental Team Leader

CONFIDENTIALITY NOTICE

This facsimile transmission is intended only for the use of the addressee and is confidential. If you are not the addressee it may be unlawful for you to read, copy, distribute, disclose or otherwise use the information in this facsimile. If you are not the intended recipient, please telephone or fax us immediately.



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.		Action Level Exceedance				
0	0463	091_2November2020_24hrTSP_Station ASR1				
	[Total No. of Exceedances = 1]					
Date		2 November 2020 (Measured)				
	27 November 2020 (Results obtained from ENPO Website)					
Monitoring Station		ASR1				
Parameter(s) with		24 hr TCD				
Exceedance(s)		24 - hr TSP				
Action Levels	1-hr TSP (μg/m³)	ASR1 = 331				
		ASR5 = 340				
		ASR6 = 338 ASR10 = 335				
		AQMS1 = 337				
	24-hr TSP (μg/m ³)	ASR1 = 213				
	- (-0/)	ASR5 = 238				
		ASR6 = 238				
		ASR10 = 214				
		AQMS1 = 213				
Limit Levels	1-hr TSP (μg/m³)	500				
	24-hr TSP (μg/m³)	260				
Measured Levels		source from Contract No. HY/2012/08).				
Works Undertaken (at		Contract on 2 November 2020 included				
the time of monitoring		ustoms and Excise Department Building, including wall painting, vinyl				
event)	sheet floor laying, wall pl	astering and floor sealer painting.				
Possible Reason for	The exceedance is unlikely to	be due to the Contract, in view of the following:				
Action or Limit Level	With reference to the record	rded wind direction (vary between 2° and 358° and) and wind speed				
Exceedance(s)	(ranged between 1.3 and 4	0 m/s), the wind was mainly from north-easterly and north-westerly				
	direction. Haze was observ	ved during the sampling time.				
	Only minor indoor defect	works were conducted which are considered not major dust				
	generating works, thus res	sult of 24-hour TSP at ASR1 was unlikely impacted by the works under				
	this project.					
	• The construction area und	er this Contract were paved/covered with vegetation. Dust are not				
	anticipated.					
	-	dance is unlikely to be due to the Contract.				
Actions Taken / To Be		lered necessary. The ET will monitor for future trends in				
Taken	exceedances.					
Remarks	The monitoring results on 2 N	lovember 2020, locations of air quality monitoring stations and wind				
	data are attached (refer to App	1 1 0				

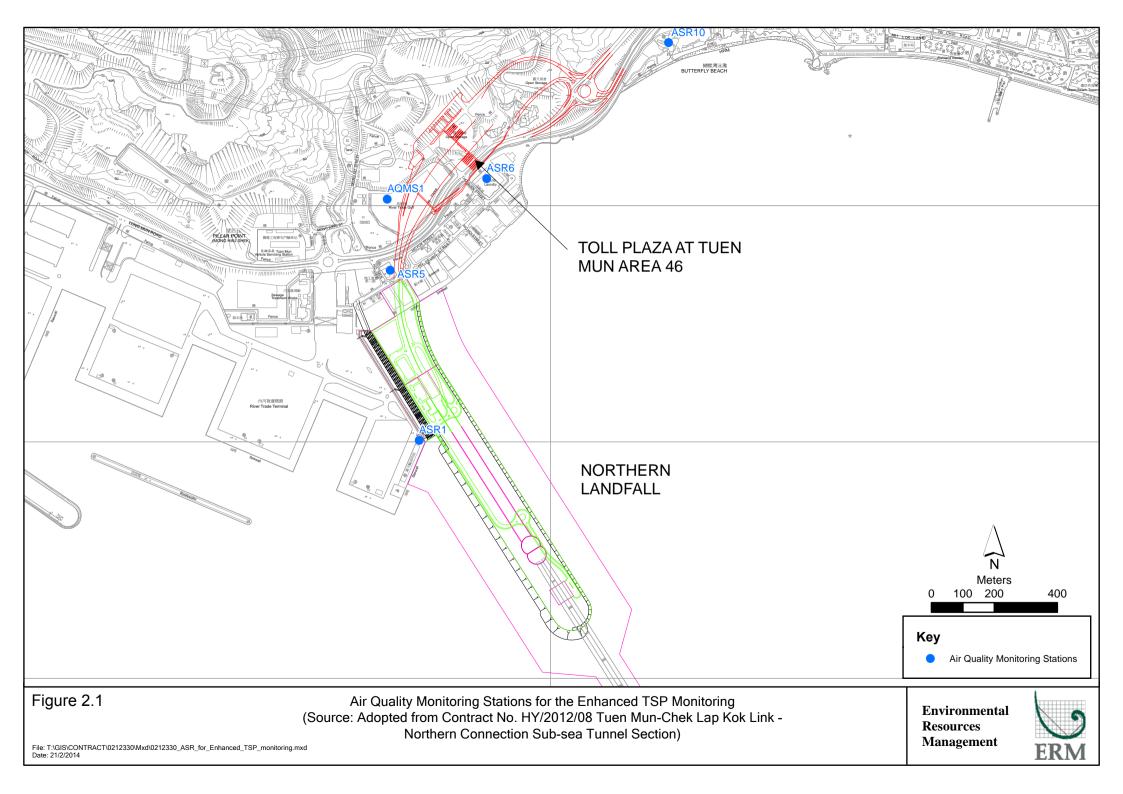
Appendix A

Results of Air Quality Monitoring, Meteorological Data and Locations of Air Quality Monitoring Stations

		Air qual	ity monito	ring results	on 2/11/202	20		
Project	Contract	Date	Station	Weather	Start time	Parameters	Results	Unit
TMCLKL	HY/2012/08	2020-11-02	ASR10	Hazy	8:02:00	1-hour TSP	85	ug/m3
TMCLKL	HY/2012/08	2020-11-02	ASR10	Hazy	9:04:00	1-hour TSP	102	ug/m3
TMCLKL	HY/2012/08	2020-11-02	ASR10	Hazy	10:06:00	1-hour TSP	123	ug/m3
TMCLKL	HY/2012/08	2020-11-02	ASR6	Hazy	8:13:00	1-hour TSP	184	ug/m3
TMCLKL	HY/2012/08	2020-11-02	ASR6	Hazy	9:15:00	1-hour TSP	174	ug/m3
TMCLKL	HY/2012/08	2020-11-02	ASR6	Hazy	10:17:00	1-hour TSP	152	ug/m3
TMCLKL	HY/2012/08	2020-11-02	ASR5	Hazy	8:24:00	1-hour TSP	283	ug/m3
TMCLKL	HY/2012/08	2020-11-02	ASR5	Hazy	9:26:00	1-hour TSP	262	ug/m3
TMCLKL	HY/2012/08	2020-11-02	ASR5	Hazy	10:28:00	1-hour TSP	214	ug/m3
TMCLKL	HY/2012/08	2020-11-02	ASR1	Hazy	8:37:00	1-hour TSP	249	ug/m3
TMCLKL	HY/2012/08	2020-11-02	ASR1	Hazy	9:39:00	1-hour TSP	196	ug/m3
TMCLKL	HY/2012/08	2020-11-02	ASR1	Hazy	10:41:00	1-hour TSP	222	ug/m3
TMCLKL	HY/2012/08	2020-11-02	AQMS1	Hazy	8:48:00	1-hour TSP	109	ug/m3
TMCLKL	HY/2012/08	2020-11-02	AQMS1	Hazy	9:50:00	1-hour TSP	139	ug/m3
TMCLKL	HY/2012/08	2020-11-02	AQMS1	Hazy	10:52:00	1-hour TSP	140	ug/m3
TMCLKL	HY/2012/08	2020-11-02	AQMS1	Hazy	11:54:00	24-hour TSP	95	ug/m3
TMCLKL	HY/2012/08	2020-11-02	ASR1	Hazy	11:43:00	24-hour TSP	<mark>244</mark>	ug/m3
TMCLKL	HY/2012/08	2020-11-02	ASR10	Hazy	11:08:00	24-hour TSP	108	ug/m3
TMCLKL	HY/2012/08	2020-11-02	ASR5	Hazy	11:30:00	24-hour TSP	154	ug/m3
TMCLKL	HY/2012/08	2020-11-02	ASR6	Hazy	11:19:00	24-hour TSP	121	ug/m3

Action level exceedance

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)		
20/11/02	0:00	0.4	19		
20/11/02	1:00	0.4	336		
20/11/02	2:00	0.4	11		
20/11/02	3:00	0.9	349		
20/11/02	4:00	0.4	322		
20/11/02	5:00	0.4	66		
20/11/02	6:00	0.4	34		
20/11/02	7:00	0.9	57		
20/11/02	8:00	1.8	11		
20/11/02	9:00	2.2	25		
20/11/02	10:00	2.2	17		
20/11/02	11:00	2.2	34		
20/11/02	12:00	2.2	30		
20/11/02	13:00	2.2	11		
20/11/02	14:00	1.8	11		
20/11/02	15:00	2.7	324		
20/11/02	16:00	2.7	310		
20/11/02	17:00	2.2	327		
20/11/02	18:00	2.2	343		
20/11/02	19:00	2.7	342		
20/11/02	20:00	4.5	344		
20/11/02	21:00	4.5	328		
20/11/02	22:00	4	333		
20/11/02	23:00	2.7	337		
20/11/03	0:00	1.8	19		
20/11/03	1:00	1.3	2		
20/11/03	2:00	2.2	332		
20/11/03	3:00	2.2	346		
20/11/03	4:00	1.8	346		
20/11/03	5:00	1.8	339		
20/11/03	6:00	2.7	326		
20/11/03	7:00	2.2	358		
20/11/03	8:00	2.2	27		
20/11/03	9:00	2.7	24		
20/11/03	10:00	2.7	34		
20/11/03	11:00	2.2	22		
20/11/03	12:00	1.8	357		
20/11/03	13:00	1.8	16		
20/11/03	14:00	1.8	1		
20/11/03	15:00	1.3	22		
20/11/03	16:00	0.9	332		
20/11/03	17:00	0.4	89		
20/11/03	18:00	1.8	2		
20/11/03	19:00	1.3	34		
20/11/03	20:00	1.3	33		
20/11/03	21:00	1.3	76		
20/11/03	22:00	0.9	20		
20/11/03	23:00	1.3	12		



		Management
То	Ramboll Hong Kong Limited (ENPO)	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
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	1
Subject	Notification of Exceedance for Air Quality Impact Monitoring	ERM
Date	27 November 2020	

Environmental

Resources

Dear Sir/ Madam,

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

Action Level Exceedance 0463091_6November 2020_24hrTSP_Station ASR1

Limit Level Exceedance 0463091_6November2020_1hrTSP_Station ASR1

Two (2) exceedances were recorded on 6 November 2020.

Regards,

famin

Dr Jasmine Ng Environmental Team Leader

CONFIDENTIALITY NOTICE

This facsimile transmission is intended only for the use of the addressee and is confidential. If you are not the addressee it may be unlawful for you to read, copy, distribute, disclose or otherwise use the information in this facsimile. If you are not the intended recipient, please telephone or fax us immediately.



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		Action Loval Excondance						
Log No.	046200	Action Level Exceedance						
	046309	1_6November 2020_24hrTSP_Station ASR1						
		Limit Loval European						
	<u>Limit Level Exceedance</u> 0463091_6November2020_1hrTSP_Station ASR1							
	0463091_6November2020_1hr1SP_Station ASR1							
	[Total No. of Exceedances = 2]							
Date	6 November 2020 (Measured)							
	27 Novem	27 November 2020 (Results obtained from ENPO Website)						
Monitoring Station		ASR1						
Parameter(s) with								
Exceedance(s)		1 – hr TSP and 24 - hr TSP						
Action Levels	1-hr TSP ($\mu g/m^3$) ASR1 = 331							
		ASR5 = 340						
		ASR6 = 338						
	ASR10 = 335 AOMS1 = 337							
		AQMS1 = 337						
	24-hr TSP (μg/m ³)	ASR1 = 213						
	ASR5 = 238 ASR6 = 238							
		ASR0 = 250 ASR10 = 214						
		AQMS1 = 213						
Limit Levels	1-hr TSP (μg/m ³)	500						
	24-hr TSP (µg/m ³)	260						
Measured Levels	Refer to Appendix A (Data are so	purce from Contract No. HY/2012/08).						
Works Undertaken (at		Contract on 6 November 2020 included						
the time of monitoring	Indoor defect works at Cus	stoms and Excise Department Building, including wall painting,						
event)		Ill plastering and floor sealer painting.						
Possible Reason for		be due to the Contract, in view of the following:						
Action or Limit Level	-	ed wind direction (vary between 13° and 325° and) and wind speed						
Exceedance(s)		m/s), the wind was mainly from north-westerly direction and						
		direction. Haze was observed during the sampling time.						
	, ,	ere conducted which are considered not major dust generating						
	-	r TSP and 24-hour TSP at ASR1 were unlikely impacted by the works						
	under this project.	1 151 and 24-nour 151 at ASK1 were uninkely impacted by the works						
	± ,	this Contract ware neved (assumed with warstation Dust are not						
		this Contract were paved/covered with vegetation. Dust are not						
	anticipated.							
		ances are unlikely to be due to the Contract.						
Actions Taken / To Be		red necessary. The ET will monitor for future trends in						
Taken	exceedances.							
Remarks	U	vember 2020, locations of air quality monitoring stations and wind						
	data are attached (refer to Appen	ndix A).						

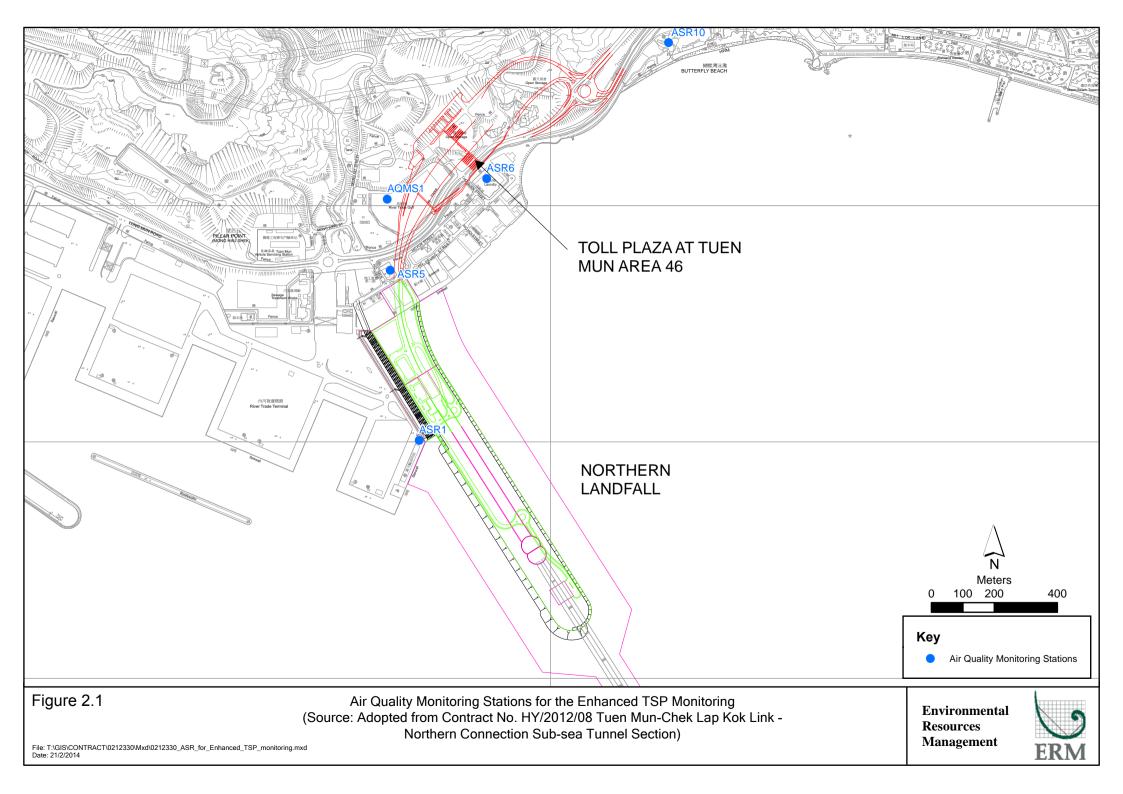
Appendix A

Results of Air Quality Monitoring, Meteorological Data and Locations of Air Quality Monitoring Stations

		Air qual	ity monito	ring results	on 6/11/20	20		
Project	Contract	Date	Station	Weather	Start time	Parameters	Results	Unit
TMCLKL	HY/2012/08	2020-11-06	ASR10	Hazy	8:00:00	1-hour TSP	89	ug/m3
TMCLKL	HY/2012/08	2020-11-06	ASR10	Hazy	9:02:00	1-hour TSP	165	ug/m3
TMCLKL	HY/2012/08	2020-11-06	ASR10	Hazy	10:04:00	1-hour TSP	135	ug/m3
TMCLKL	HY/2012/08	2020-11-06	ASR6	Hazy	8:13:00	1-hour TSP	126	ug/m3
TMCLKL	HY/2012/08	2020-11-06	ASR6	Hazy	9:15:00	1-hour TSP	175	ug/m3
TMCLKL	HY/2012/08	2020-11-06	ASR6	Hazy	10:17:00	1-hour TSP	180	ug/m3
TMCLKL	HY/2012/08	2020-11-06	ASR5	Hazy	8:25:00	1-hour TSP	247	ug/m3
TMCLKL	HY/2012/08	2020-11-06	ASR5	Hazy	9:27:00	1-hour TSP	163	ug/m3
TMCLKL	HY/2012/08	2020-11-06	ASR5	Hazy	10:29:00	1-hour TSP	229	ug/m3
TMCLKL	HY/2012/08	2020-11-06	ASR1	Hazy	8:36:00	1-hour TSP	887	ug/m3
TMCLKL	HY/2012/08	2020-11-06	ASR1	Hazy	9:38:00	1-hour TSP	311	ug/m3
TMCLKL	HY/2012/08	2020-11-06	ASR1	Hazy	10:40:00	1-hour TSP	237	ug/m3
TMCLKL	HY/2012/08	2020-11-06	AQMS1	Hazy	8:47:00	1-hour TSP	182	ug/m3
TMCLKL	HY/2012/08	2020-11-06	AQMS1	Hazy	9:49:00	1-hour TSP	150	ug/m3
TMCLKL	HY/2012/08	2020-11-06	AQMS1	Hazy	10:51:00	1-hour TSP	222	ug/m3
TMCLKL	HY/2012/08	2020-11-06	AQMS1	Hazy	11:53:00	24-hour TSP	141	ug/m3
TMCLKL	HY/2012/08	2020-11-06	ASR1	Hazy	11:42:00	24-hour TSP	<mark>214</mark>	ug/m3
TMCLKL	HY/2012/08	2020-11-06	ASR10	Hazy	11:06:00	24-hour TSP	120	ug/m3
TMCLKL	HY/2012/08	2020-11-06	ASR5	Hazy	11:31:00	24-hour TSP	176	ug/m3
TMCLKL	HY/2012/08	2020-11-06	ASR6	Hazy	11:19:00	24-hour TSP	185	ug/m3

Action level exceedance

	Ν	leteorological Data for Impact Monitoring i	n the reporting period
Date (yy-mm-dd)	Time (24hrs)	Average of Wind Speed (m/s)	Average of Wind Direction(degree)
20/11/06	0:00	0.9	45
20/11/06	1:00	0.9	50
20/11/06	2:00	0.9	15
20/11/06	3:00	0.9	70
20/11/06	4:00	0.4	21
20/11/06	5:00	0.4	56
20/11/06	6:00	0.4	54
20/11/06	7:00	0	350
20/11/06	8:00	0.4	54
20/11/06	9:00	2.7	304
20/11/06	10:00	1.3	79
20/11/06	11:00	1.3	111
20/11/06	12:00	1.8	260
20/11/06	13:00	2.7	275
20/11/06	14:00	2.7	273
20/11/06	15:00	2.2	263
20/11/06	16:00	1.3	266
20/11/06	17:00	1.3	286
20/11/06	18:00	0.9	301
20/11/06	19:00	1.8	320
20/11/06	20:00	0.9	310
20/11/06	21:00	0.4	323
20/11/06	22:00	0.9	312
20/11/06	23:00	0.4	321
20/11/07	0:00	0.4	325
20/11/07	1:00	1.8	307
20/11/07	2:00	0.4	105
20/11/07	3:00	0.4	315
20/11/07	4:00	0.9	306
20/11/07	5:00	1.3	315
20/11/07	6:00	1.3	315
20/11/07	7:00	2.2	27
20/11/07	8:00	2.7	30
20/11/07	9:00	2.2	18
20/11/07	10:00	1.8	13
20/11/07	11:00	1.3	307
20/11/07	12:00	1.3	318
20/11/07	13:00	1.3	313
20/11/07	14:00	1.8	262
20/11/07	15:00	1.8	277
20/11/07	16:00	2.7	325
20/11/07	17:00	1.8	307
20/11/07	18:00	0.9	303
20/11/07	19:00	1.8	306
20/11/07	20:00	0.4	130
20/11/07	21:00	0.9	326
20/11/07	22:00	1.3	19
20/11/07	23:00	0.9	20





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

LegNe		Action Level France demon				
Log No.	<u>Action Level Exceedance</u>					
		01_12November 2020_1hrTSP_Station ASR6				
		01_12November 2020_1hrTSP_Station ASR5				
	046309	01_12November 2020_1hrTSP_Station ASR1				
	[Total No. of Exceedances = 3]					
Date		12 November 2020 (Measured)				
	27 Novem	ber 2020 (Results obtained from ENPO Website)				
Monitoring Station		ASR6, ASR5 and ASR1				
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 Appendix A (Data are s	ource from Contract No. HY/2012/08).				
Works Undertaken (at	Works undertaken under this C	Contract on 12 November 2020 included				
the time of monitoring	• Indoor defect works at Cu	stoms and Excise Department Building, including wall painting,				
event)	vinyl sheet floor laying, wa	all plastering and floor sealer painting.				
Possible Reason for		be due to the Contract, in view of the following:				
Action or Limit Level	-	led wind direction (vary between 192° and 228° and) and wind speed				
Exceedance(s)		2 m/s), the wind was mainly from south-westerly direction. Haze				
()	was observed during the sa					
	Ũ					
		ere conducted which are considered not major dust generating				
	works, thus results of 1-hou	ur TSP at ASR6, ASR5 and ASR1 were unlikely impacted by the works				
	under this project.					
	• The construction area under	r this Contract were paved/covered with vegetation. Dust are not				
	anticipated.					
	-	ances are unlikely to be due to the Contract.				
Actions Taken / To Be		ered necessary. The ET will monitor for future trends in				
Taken	exceedances.	,				
Remarks	The monitoring results on 12 N	ovember 2020, locations of air quality monitoring stations and wind				
	data are attached (refer to Appe					
	and are anached (refer to Appe	11111 I 1j.				

Appendix K

Landscape and Visual Monitoring for 24-Month Establishment Period

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



4 December 2020

Our ref: 0215660_226_Establishment L&V Checklist Sept-Nov 2020.docx

By email

Mr Manson Yeung Independent Environmental Checker Ramboll Hong Kong Limited 21/F, BEA Harbour View Centre 56 Gloucester Road Wan Chai, Hong Kong

Dear Sir,

Contract No. HY/2012/07 Tuen Mun-Chek Lap Kok Link -Southern Connection Viaduct Section

<u>Reporting of Landscape Planting Works during the 24-month</u> <u>Establishment Period (September to November 2020)</u>

In accordance with *Section 7.3.1.2* of the *Updated EM&A Manual*, we are pleased to provide you with the *Establishment Landscape Monitoring Checklist for September to November 2020* for your perusal and counter-signature.

Should you require any further information or clarification, please do not hesitate to contact the undersigned.

Yours faithfully For ERM-Hong Kong, Ltd

Dr Jasmine Ng Environmental Team Leader

Direct Tel: (852) 2271 3311 E-mail: jasmine.ng@erm.com

<u>c.c.</u> AECOM GCL

I (Attn: Mr K P Wong) (Attn: Mr Roy Leung)



Registered Office ERM-Hong Kong, Ltd 2507, 25/F One Harbourfront 18 Tak Fung Street Hunghom, Kowloon Hong Kong

OHSAS 18001 Occupational Health and Safety Management OHS 515956

Offices worldwide

Inspection Date:	8 th and 9 th October 2020	Inspected By:	Ray Yan		
Time:	9:30 a.m. – 5:00 p.m.	Weather Condition:	Sunny		
Participants:	8th October 2020: Spring Tsui (AECOM – RSFO) and Manson Yeung (Ramboll – IEC)				
	9th October 2020: Spring Tsui (AECOM – RS	SFO) and Manson Yeung	(Ramboll – IEC)		

1	Zone: Area along Cheung Tung Road	N/A or not observed	Yes	No	Remarks / Photo
1.1	Is watering provided to plants to ensure satisfactory growth and health (manual and automatic irrigation)?		Ø		
1.2	Are tree stakes, guys and ties provided properly for safety and avoid chaffing of bark?		Ø		
1.3	Are trees or limb overhanging branches pruned?		V		
1.4	Are pest and disease observed?				
1.5	Are litter and debris removed?		\checkmark		
1.6	Are plants/ grasses overgrown?			V	
1.7	After inclement weather conditions, are proper action implemented to replace dead plants, repair damaged plants, bed in all plants that have blown over, firm up all other plants and immediately thereafter, remove dead plants and plant debris from the site?	V			
1.8	Are planting locations and tree spacing matched with the approved planting plans?		Ø		
1.9	Are the planting species on site matched with the approved planting plans? Consolidated planting schedule in Annex B.		Ø		
		Good	Fair	Poor	
1.10	Overall health condition of the plants?	\square			

2	Zone: Southern Landfall, HKBCF	N/A or not observed	Yes	No	Remarks / Photo
2.1	Is watering provided to plants to ensure satisfactory growth and health (manual and automatic irrigation)?		V		
2.2	Are tree stakes, guys and ties provided properly for safety and avoid chaffing of bark?		V		
2.3	Are trees or limb overhanging branches pruned?		V		
2.4	Are pest and disease observed?			Ø	
2.5	Are litter and debris removed?		\square		
2.6	Are plants/ grasses overgrown?			V	
2.7	After inclement weather conditions, are proper action implemented to replace dead plants, repair damaged plants, bed in all plants that have blown over, firm up all other plants and immediately thereafter, remove dead plants and plant debris from the site?	V			
2.8	Are planting locations and tree spacing matched with the approved planting plans?		Ø		
2.9	Are the planting species on site matched with the approved planting plans? Consolidated planting schedule in Annex B.		V		
		Good	Fair	Poor	
2.10	Overall health condition of the plants?	\square			

3	Zone: Area within Expressway Boundary	N/A or not observed	Yes	No	Remarks / Photo
3.1	Is watering provided to plants to ensure satisfactory growth and health (manual and automatic irrigation)?		V		
3.2	Are tree stakes, guys and ties provided properly for safety and avoid chaffing of bark?			- 1	Obs. 2
3.3	Are trees or limb overhanging branches pruned?		\checkmark		
3.4	Are pest and disease observed?			\checkmark	
3.5	Are litter and debris removed?		\square		
3.6	Are plants/ grasses overgrown?			2	
3.7	After inclement weather conditions, are proper action implemented to replace dead plants, repair damaged plants, bed in all plants that have blown over, firm up all other plants and immediately thereafter, remove dead plants and plant debris from the site?				
3.8	Are planting locations and tree spacing matched with the approved planting plans?		V		
3.9	Are the planting species on site matched with the approved planting plans? Consolidated planting schedule in Annex B.		V		
		Good	Fair	Poor	
3.10	Overall health condition of the plants?		Ŋ	□ _	Obs. 1 & 2
4	Zone: Slopes outside Expressway Boundary	N/A or not	Yes	No	Remarks
4.1	Is watering provided to plants to ensure satisfactory growth and health (manual and automatic irrigation)?	observed □	V		Photo
4.2	Are tree stakes, guys and ties provided properly for safety and avoid chaffing of bark?		V		
4.3	Are trees or limb overhanging branches pruned?		V		
4.4	Are pest and disease observed?			\checkmark	
	•			_	
	Are litter and debris removed?		\checkmark		
4.5				□ ☑	
4.5 4.6	Are litter and debris removed?	_	_	-	
4.54.64.74.8	Are litter and debris removed? Are plants/ grasses overgrown? After inclement weather conditions, are proper action implemented to replace dead plants, repair damaged plants, bed in all plants that have blown over, firm up all other plants and immediately thereafter, remove dead plants and plant debris from the site? Are planting locations and tree spacing matched with the approved planting plans?				Obs. 3
4.5 4.6 4.7 4.8	Are litter and debris removed? Are plants/ grasses overgrown? After inclement weather conditions, are proper action implemented to replace dead plants, repair damaged plants, bed in all plants that have blown over, firm up all other plants and immediately thereafter, remove dead plants and plant debris from the site? Are planting locations and tree spacing matched with the approved				Obs. 3 Obs. 3
4.5 4.6 4.7 4.8	Are litter and debris removed? Are plants/ grasses overgrown? After inclement weather conditions, are proper action implemented to replace dead plants, repair damaged plants, bed in all plants that have blown over, firm up all other plants and immediately thereafter, remove dead plants and plant debris from the site? Are planting locations and tree spacing matched with the approved planting plans? Are the planting species on site matched with the approved planting				
 4.5 4.6 4.7 4.8 4.9 	Are litter and debris removed? Are plants/ grasses overgrown? After inclement weather conditions, are proper action implemented to replace dead plants, repair damaged plants, bed in all plants that have blown over, firm up all other plants and immediately thereafter, remove dead plants and plant debris from the site? Are planting locations and tree spacing matched with the approved planting plans? Are the planting species on site matched with the approved planting				
 4.5 4.6 4.7 4.8 4.9 4.10 	Are litter and debris removed? Are plants/ grasses overgrown? After inclement weather conditions, are proper action implemented to replace dead plants, repair damaged plants, bed in all plants that have blown over, firm up all other plants and immediately thereafter, remove dead plants and plant debris from the site? Are planting locations and tree spacing matched with the approved planting plans? Are the planting species on site matched with the approved planting plans? Consolidated planting schedule in Annex B.	□ ☑ □ Good	□ □ □ Fair	・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・	

Follow up actions for previous Site Audit:

Follow-up actions taken for the observations as recorded during the previous landscape monitoring conducted on 22 June 2020: i) *Bauhinia variegate* on slope (10NW-C/F13) was put in upright position but in wilting (see Observation 1 for details); ii) *Bauhinia variegate* on slope (10NW-C/F15) was vigorous; and iii) General refuse was removed from the slope (10NW-C/F3).

Observations:

Obs. 1: The tree (*Bauhinia variegate*) on slope (10NW-C/F13) (i.e. the collapsed tree as identified during the previous landscape monitoring conducted on 22 June 2020) was put in upright position but in wilting. The tree health condition in terms of irrigation should be closely monitored and reviewed.

Obs. 2: The trees (*Bridelia tomentosa*) on slope (10NW-C/F15) became bent and wilted. It should be supported in upright position with appropriate staking or guying materials, and the tree health condition in terms of irrigation should be closely monitored and reviewed.

Obs. 3: A portion of the landscape planting area on slope (9SE-B/F85) was trenched by a powered mechanical equipment working for drainage works (NOT under Contract No. HY/2012/07) in the vicinity of Cheung Tung Road. The disturbed landscape planting area shall be reinstated to the original condition with the proposed shrub species re-planted in order to maintain the required total compensatory planting area for Contract No. HY/2012/07.

Corrective Actions (if any):

- Tree health condition, irrigation in particular, should be closely monitored and reviewed.
- Tree support systems (e.g. staking or guying materials) should be appropriately selected for tree species, whips in particular.
- Reinstatement of disturbed landscape planting area on slope (9SE-B/F85) to its original condition with the proposed shrub species re-planted shall be implemented once the drainage works (NOT under Contract No. HY/2012/07) has been completed.

General Conclusion:

Total number of trees planted: 72 (Zone 1); 275 (Zone 2); 714 (Zone 3); and 143 (Zone 4).

Planting area under Contract No. HY/2012/07: 14.41 ha (based on the survey data provided by the SOR).

Inspected by (ET's Representative):	Ray Yan	Title:	Deputy Environmental Team Leader
Signature:	Kay	Date:	27 October 2020
Reviewed by (RSS Landscape Representative):	Candy Lau	Title:	Senior Resident Landscape Architect
Signature:	Candy	Date:	30 November 2020
Contractor's Representative: Signature:	Roylogna	Title: Date:	Senior En Engineer 4 Dec 2020.
Checked by (IEC's Representative): Signature:	Manson Yeung	Title: Date:	Independent Enjronmental Checker 7 Dec 2020

Page 3 of 5

Contract No. HY/2012/07 – Tuen Mun – Chek Lap Kok Link – Southern Connection Viaduct Section

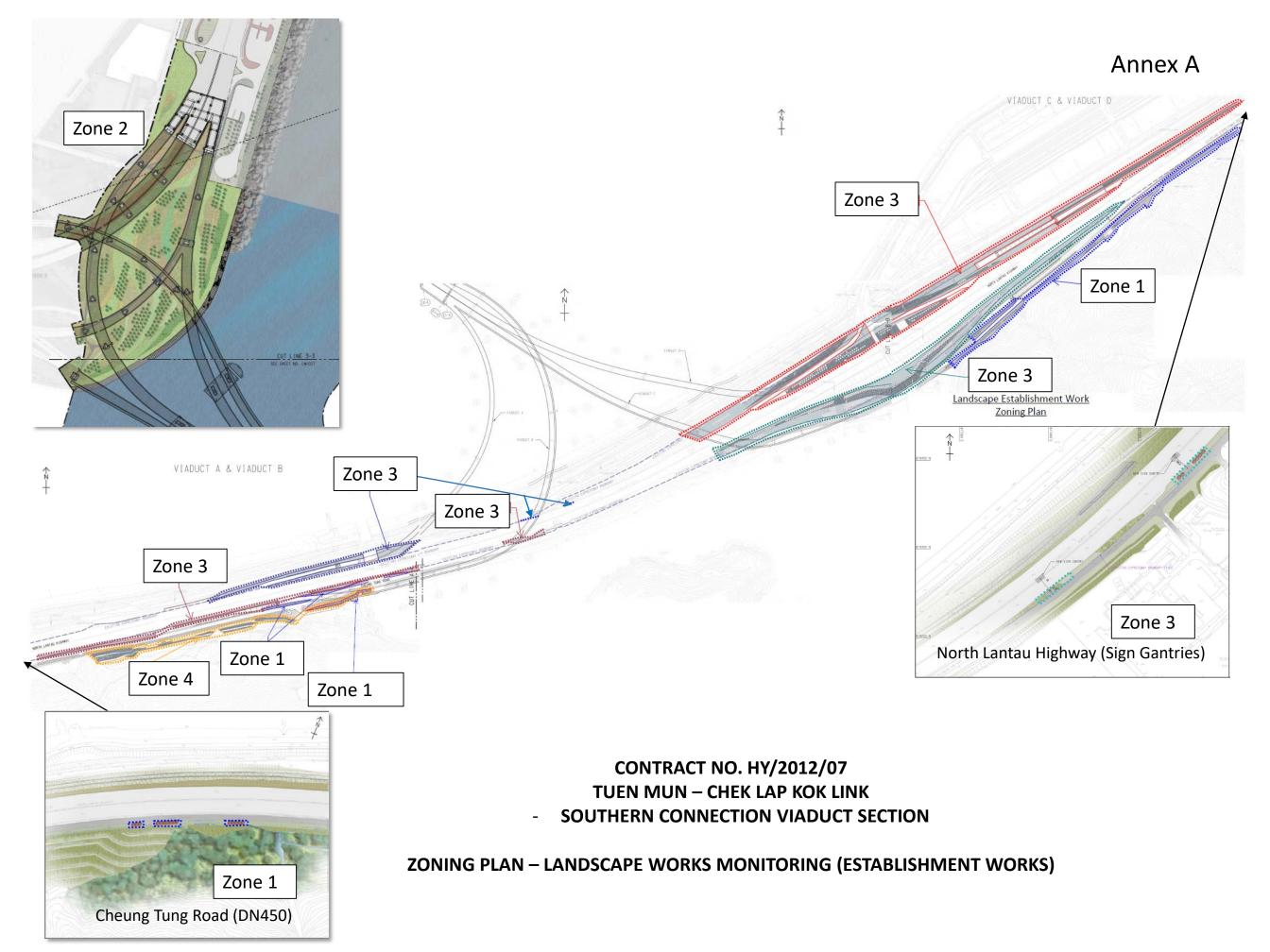
Establishment Inspection Checklist

Location	Photo	Information
Zone 3 (10NW-C/F13)		Date: 8 October 2020 Follow-up action 1 (Observation 1): The tree on slope (10NW-C/F13) (i.e. the collapsed tree as identified during the previous landscape monitoring conducted on 22 June 2020) was put in upright position but in wilting. The tree health condition in terms of irrigation should be closely monitored and reviewed. Species: <i>Bauhinia variegata</i>
Zone 3 (10NW-C/F15)		Date: 8 October 2020 Follow-up action 2: The tree on slope (10NW-C/F15) (i.e. the tree with dead leaves as identified during the previous landscape monitoring conducted on 22 June 2020) was vigorous. Species: <i>Bauhinia variegata</i>
Zone 3 (10NW-C/F3)		Date: 8 October 2020 Follow-up action 3: General refuse was removed from the slope (10NW-C/F3). Species: <i>Hymenocallis littoralis, Ficus microcarpa</i> 'Golden leaf', <i>Gardenia jasminoides, Pittosporum tobira, Rhodomyrtus tomentosa</i> and <i>Schefflera arboricola</i>

Contract No. HY/2012/07 – Tuen Mun – Chek Lap Kok Link – Southern Connection Viaduct Section

Establishment Inspection Checklist

Location	Photo	Establishment Inspection Checklist
Zone 3 (10NW-C/F15)		Date: 8 October 2020 Observation 2: The trees on slope (10NW-C/F15) became bent (left) and wilted (right). It should be supported in upright position with appropriate staking or guying materials, and the tree health condition in terms of irrigation should be closely monitored and reviewed. Species: <i>Bridelia tomentosa</i>
Zone 4 (9SE-B/F85)		Date: 8 October 2020 Observation 3: A portion of the landscape planting area on slope (9SE-B/F85) was trenched by a powered mechanical equipment working for drainage works (NOT under Contract No. HY/2012/07) in the vicinity of Cheung Tung Road. The disturbed landscape planting area shall be reinstated to the original condition with the proposed shrub species re-planted in order to maintain the required total compensatory planting area for Contract No. HY/2012/07. Species: <i>Gordonia axillaris, Melastoma candidum, Melastoma sanguineum, Psychotria asiatica</i> and <i>Rhodomyrtus</i> <i>tomentosa</i>



Slope Planting

CODE	BOTANCIAL NAME	CHINESE NAME	SIZE (mm) HEIGHT (H) x SPREAD (S)	SPACING (mm)
		NAME	HEIGHT (H) X SPREAD (S)	(mm)
WHIP				
BRI.TOM.	Bridelia tomentosa *	土蜜樹	WHIP	1500-2000
GOR.AXI.	Gordonia axillaris *	大頭茶	WHIP	1500-2000
LIT.GLU.	Litsea glutinosa *	漏槁樹	WHIP	1500-2000
PHY.EMS.	Phyllanthus emblica *	餘甘子	WHIP	1500-2000
REE.THY.	Reevesia thyrsoidea *	梭羅樹	WHIP	1500-2000
TREE		LANE IN		
BAU.VAR.(A)	Bauhinia variegata	宮粉羊蹄甲	LIGHT STANDARD TREE	4000
BAU.VAR.(B)	Bauhinia variegata	宮粉羊蹄甲	STANDARD TREE	4000
BOM.CEI.	Bombax ceiba	木棉	LIGHT STANDARD TREE	4000-5000
BRI.TOM.	Bridelia tomentosa *	土蜜樹	LIGHT STANDARD TREE	3000
CIN.BUR.(A)	Cinnamomum burmannii *	陰香	LIGHT STANDARD TREE	4000
MEL.AZE.(A)	Melia azedarach	苦楝	LIGHT STANDARD TREE	4000
PLU.RUB.	Plumeria rubra	雞蛋花	2000 (H) X 2000 (S)	3500-4000
PALM		AE MAILU		
CAR.MIT.	Caryota mitis	短穗魚尾葵	2500(H) x 1500(S)	2500
LIV.CHI.	Livistona chinensis	蒲葵	1500-2500(H) X 1500(S)	3500-4000
PHO.ROE.	Phoenix roebelenii	日本募	2000(H) x 1500(S)	2000
WAS, ROB.	Washingtonia robusta	華盛頓葵	1500 - 2500(H) X 1500(S)	3500-400
SHRUB	n asningtonia robusta	中血病天	1000 2000(1)/11000(0)	0000 100
CAL.HAE.	Calliandra haematocephala	紅絨球	300(H) X 300(S)	1000
FIC.MIC.'GOL'	Ficus microcarpa 'Golden Leaf'	黄榕	300(H) X 300(S)	500
GAR.JAS.	Gardenia jasminoides *	白蟬	300(H) x 300(S)	500
GOR.AXI.	Gordonia axillaris *	大頭茶	500(H) X 500(S)	500
HIB.ROS.	Hibiscus rosa-sinensis	大紅花	300(H) x 300(S)	1000
LIG.SIN.	Ligustrum sinense *	山指甲	300(H) x 300(S)	500
MEL.CAN.	Melastoma candidum *	野牡丹	300(H) X 300(S)	500
MEL.SAN.	Melastoma sanguineum *	毛茶	300(H) X 300(S)	500
NER.OLE.	Nerium oleander		300(H) X 300(S)	1000
PIT.TOB.	Pittosporum tobira *	海桐花	300(H) x 300(S)	500
PSY. ASI.	Psychotria asiatica *	九節	300(H) x 300(S)	500
RHO.SIM.	Rhododendron simsii *			500
RHO.SIM.	Rhodomyrtus tomentosa *	紅杜鵑	300(H) x 300(S)	500
SCH.ARB.	Schefflera arboricola	桃金娘 八葉	300(H) X 300(S)	500
GROUNDCOVE		八朱	300(H) x 300(S)	500
GROUNDCOVE	ĸ			
HYM.LIT.	Hymenocallis littoralis	蜘蛛蘭	300(H) X 300(S)	300
CLIMBER				
EPI.AUR.	Epipremnum aureum	綠蘿	MIN. 4 SHOOTS PER PLANT,	500
			300mm LONG MIN. 3 SHOOTS PER PLANT, 300-	
FIC.PUM.	Ficus pumila *	薜荔	1000mm LONG	300
LON.JAP.	Lonicera japonica *	金銀花	MIN. 4 SHOOTS PER PLANT, 600mm LONG	500
PAR.DAL.	Parthenocissus dalzielii	爬牆虎	MIN. 3 SHOOTS PER PLANT, 600- 1000mm LONG	300/500
HYDROSEEDIN	IG / GRASS	•		
-	HYDROSEEDING	噴草	-	-

CODE	BOTANCIAL NAME	CHINESE	SIZE (mm) HEIGHT (H) x SPREAD (S)	SPACING (mm)
TREE		MAPLE	inclosed (i) x SI KEAD (S)	()
BAU.VAR.(A)	Bauhinia variegata	宮粉羊蹄甲	LIGHT STANDARD TREE	4000
BAU.VAR.(B)	Bauhinia variegata	宮粉羊蹄甲	STANDARD TREE	5000
BAU.VAR.(H)	Bauhinia variegata	宮粉羊蹄甲	HEAVY STANDARD TREE	4000-5000
GAR.SUB.	Garcinia subelliptica	菲島福木	LIGHT STANDARD TREE	4000-5000
GRE.ROB.(H)	Grevillea robusta	銀樺	HEAVY STANDARD TREE	5000
ILE.ROT.	Ilex rotunda	鐵冬青	HEAVY STANDARD TREE	5000
LAG.SPE.	Lagerstroemia speciosa	大花紫薇	HEAVY STANDARD TREE	4000-4500
	Dager Str Central Spectrosa	ZNTGZRUK	2000 (H) X 2000 (S)	
PLU.RUB.	Plumeria rubra	雜蛋花		4000-5000
		ALC AN I G	2500 (H) X 2500 (S)	
TAB.IMP	Tabebuia impetiginosa	風鈴木	HEAVY STANDARD TREE	5000
PALM		bendler die 1		
LIV.CHI.	Livistona chinensis	蒲葵	2500(H) X 1500(S)	4000
PHO.SYL.	Phoenix sylvestris	銀海棗	2000(H) X 1500(S)	4000
SHRUB		2007 P.005		
ALL.CAT.	Allamanda cathartica	軟枝黃蟬	300(H) X 300(S)	300/350
DUR.REP.	Duranta repens	假蓮翹	300(H) x 250(S)	400
FIC.MIC.'GOL'	Ficus microcarpa 'Golden Leaf'	黄榕	300(H) X 300(S)	350/500
GAR.JAS.	Gardenia jasminoides *	白蟬	300(H) x 300(S)	500
GOR.AXI.	Gordonia axillaris *	大頭茶	300(H) X 300(S)	350
IXO.CHI.	Ixora chinensis *	龍船花	300(H) x 300(S)	300
LIG.SIN.	Liaustrum sinense *	山指甲	300(H) x 250(S)	400
MEL.CAN.	Melastoma candidum *	野牡丹	300(H) X 300(S)	350
MEL.SAN.	Melastoma sanguineum *	毛菍	300(H) X 300(S)	350
			400(H) x 250(S) /	
NER.OLE.	Nerium oleander	夾竹桃	300(H) X 300(S)	400/500
PIT.TOB.	Pittosporum tobira *	海桐花	300(H) x 300(S)	500
RHA.IND.	Rhaphiolepis indica *	車輪梅	300(H) x 300(S)	300
RHO.TOM.	Rhodomyrtus tomentosa *	桃金娘	300(H) X 300(S)	350/500
SCH.ARB.	Schefflera arboricola	八葉	300(H) x 300(S)	350/500
GROUNDCOVE	R			
ARA.DUR.	Arachis duranensis	金花生	100(H) X 200(S)	250
EPI.AUR.	Epipremnum aureum	綠蘿	200(H) x 300(S)	300
HYM.LIT.	Hymenocallis littoralis	蜘蛛蘭	300(H) X 300(S)	300
TRA.SPA.	Tradescantia spathacea	蚌花	150-200(H) x 150-300(S)	250
WED.TRI.	Wedelia trilobata	蟛蜞菊	200(H) X 150(S)	300
CLIMBER				
EPI.AUR.	Epipremnum aureum	綠蘿	MIN. 4 SHOOTS PER PLANT, 300mm LONG	500
FIC.PUM.	Ficus pumila *	薜荔	MIN. 3 SHOOTS PER PLANT, 300- 1000mm LONG	300
PAR.DAL.	Parthenocissus dalzielii	爬牆虎	MIN. 3 SHOOTS PER PLANT, 600- 1000mm LONG	300
HYDROSEEDIN	NG / GRASS			
-	HYDROSEEDING	噴草	-	-
АХО.СОМ.	Axonopus compressus	地毯草(大葉草)	Whole piece turf 300(L)x300(W)x50(H)	-
L	+			

NOTE:

Roadside Planting

1. ALL PROPOSED PLANT SPECIES AND SPECIFICATIONS ARE SUBJECT TO CHANGE DURING CONSTRUCTION TO SUIT THE SITE CONDITIONS. 2. SHRUB / GROUNDCOVER SHOULD BE PLANTED IN A STAGGERED PATTERN.

3. GRASS SEED AS CEDD GENERAL SPECIFICATION 3.26(3).

4.* SPECIES NATIVE TO HONG KONG ACCORDING TO THE HONG KONG HERBARIUM WEBSITE.

5. PLANTING FOR SOUTHERN LANDFALL REFER TO FIGURE 6.4.

Status: Planting Schedule is a consolidated list of plant species based on the planting plans as commented/ approved by the relevant Government departments, i.e. LCSD or HyD/Landscape Division.

AECOM	lmagine it. Delivered.
-------	---------------------------

Agreement No. CE 7/2011(HY) Tuen Mun – Chek Lap Kok Link – Design and Construction Planting Schedule (Contract 1 – HY/2012/07)

Drawing Title: Figure 6.1

Planting Schedule - HY/2012/07 (Contract I) for Southern Landfall

CODE	BOTANCIAL NAME	CHINESE NAME	SIZE (mm) HEIGHT (H) x SPREAD (S)	SPACING (mm)
TREE				
GRE.ROB.	Grevillea robusta	銀樺	HEAVY STANDARD TREE	4000-5000
PLU.RUB.	Plumeria rubra	雞蛋花(紅)	HEAVY STANDARD TREE	4000-5000
SHRUB	•			
RUS.EQU.	Russelia equisetiformis	爆仗竹	300(H) x 300(S)	250
GROUNDCOV	ER	•	•	
IPO.PES.	Ipomoea pes-caprae *	海灘牽牛	200(H) x 200(S)	200
LAN.MON.	Lantana montevidensis	鋪地臭金鳳	200(H) x 200(S)	250
OPH.JAP.	Ophiopogon japonicus *	麥冬	150(H) x 200(S)	200
SYN.POD.	Syngonium podophyllum	白蝴蝶	100(H) x 200(S)	200
TRA.SPA.	Tradescantia spathacea	蚌花	200(H) x 300(S)	250
ZEP.ROS.	Zephyranthes rosea	玫瑰蔥蓮	100(H) x 200(S)	150
CLIMBER	•			
MON.DEL.	Monstera deliciosa	龜貴竹	MIN. 5 SHOOTS PER PLANT, 300mm LONG	500
HYDROSEEDIN	NG / GRASS			
-	HYDROSEEDING	噴草		-
ZOY.JAP.	Zoysia japonica	朝鮮草	300(L)x300(W)x50(H)	-

NOTE:

1. ALL PROPOSED PLANT SPECIES AND SPECIFICATIONS ARE SUBJECT TO CHANGE DURING CONSTRUCTION TO SUIT THE SITE CONDITIONS.

2. SHRUB / GROUNDCOVER SHOULD BE PLANTED IN A STAGGERED PATTERN.

3. GRASS SEED AS CEDD GENERAL SPECIFICATION 3.26(3).

4. * SPECIES NATIVE TO HONG KONG ACCORDING TO THE HONG KONG HERBARIUM WEBSITE.

5. THE PLANT SPECIES ALLOWED FOR PLANTING IN EACH ZONE STATED IN THE HONG KONG INTERNATIONAL AIRPORT (HKIA) APPROVED PLANT SPECIES LIST (Revision. 4.0.1: October 2015).

Status: Planting Schedule is a consolidated list of plant species based on the planting plans as commented/ approved by the relevant Government departments, i.e. LCSD or HyD/Landscape Division.

AECOM Imagine it. Delivered.

Agreement No. CE 7/2011(HY) Tuen Mun – Chek Lap Kok Link – Design and Construction Planting Schedule (Contract 1 – HY/2012/07)

Drawing Title: Figure 6.4



Photo 1: *Ilex rotunda* along Cheung Tung Road within Zone 1 (Taken on: 8 October 2020)



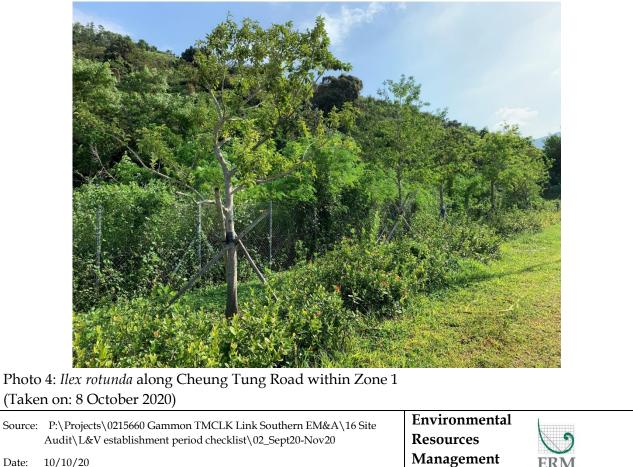
Source	P:\Projects\0215660 Gammon TMCLK Link Southern EM&A\16 Site Audit\L&V establishment period checklist\02_Sept20-Nov20	Environmental Resources	9
Date:	10/10/20	Management	ERM



Photo 3: Ilex rotunda along Cheung Tung Road within Zone 1 (Taken on: 8 October 2020)

10/10/20

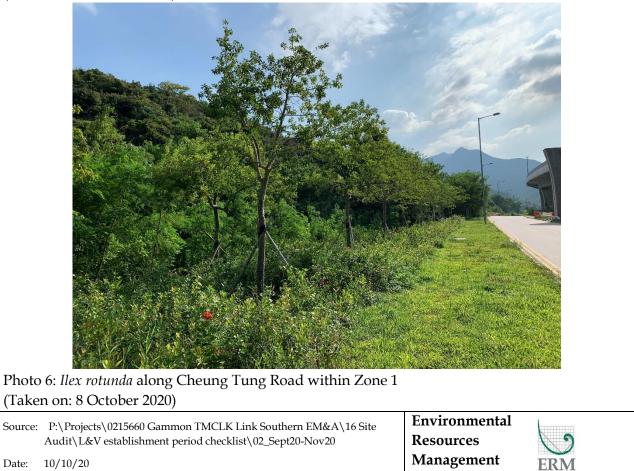
Date:



ERM



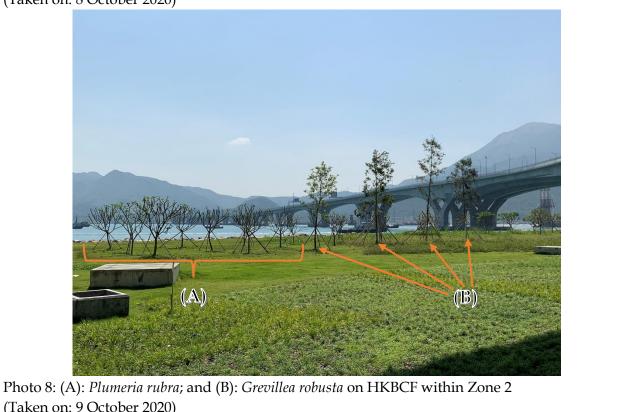
Photo 5: (A): Ilex rotunda; and (B): Tabebuia impetiginosa along Cheung Tung Road within Zone 1 (Taken on: 8 October 2020)



Date:



Photo 7: *Garcinia subelliptica* along Cheung Tung Road within Zone 1 (Taken on: 8 October 2020)



(таке	en on: 9 October 2020)		
Source:	P:\Projects\0215660 Gammon TMCLK Link Southern EM&A\16 Site	Environmental	
	Audit\L&V establishment period checklist\02_Sept20-Nov20	Resources	$\mathbf{\mathbf{N}}$
Date:	10/10/20	Management	ERM

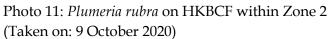


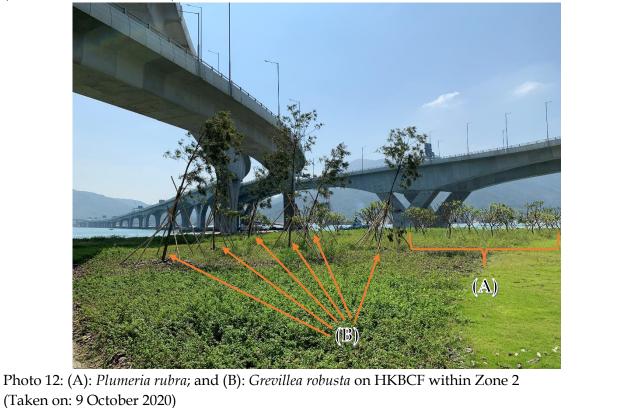
Photo 9: (A): *Plumeria rubra*; and (B): *Grevillea robusta* on HKBCF within Zone 2 (Taken on: 9 October 2020)



Sou	e: P:\Projects\0215660 Gammon TMCLK Link Southern EM&A\16 Site	Environmental	
	Audit\L&V establishment period checklist\02_Sept20-Nov20	Resources	9
Dat	21/10/20	Management	ERM







`			
Source:	P:\Projects\0215660 Gammon TMCLK Link Southern EM&A\16 Site	Environmental	
	Audit\L&V establishment period checklist\02_Sept20-Nov20	Resources	
Date:	21/10/20	Management ERM	

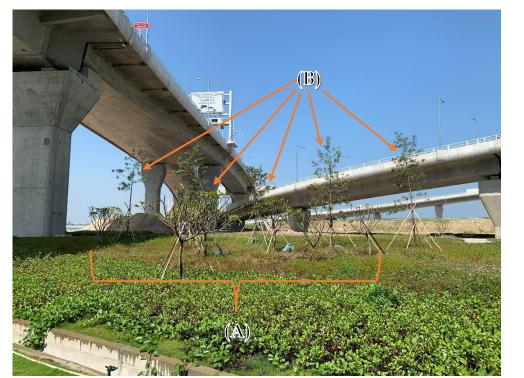


Photo 13: (A): *Plumeria rubra*; and (B): *Grevillea robusta* on HKBCF within Zone 2 (Taken on: 9 October 2020)

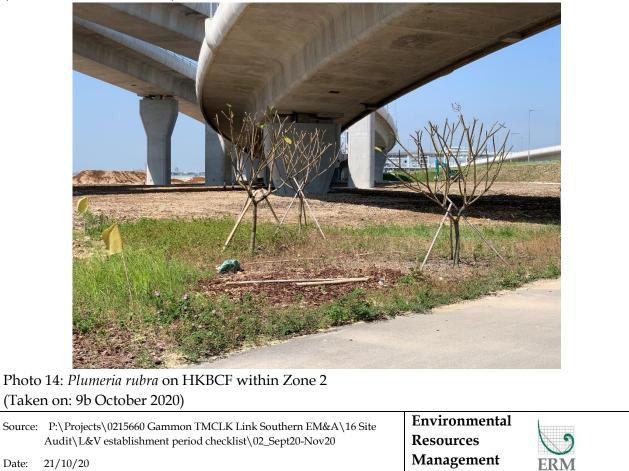




Photo 15: *Plumeria rubra* on HKBCF within Zone 2 (Taken on: 9 October 2020)



(Taken on: 9 October 2020)

Source:	P:\Projects\0215660 Gammon TMCLK Link Southern EM&A\16 Site Audit\L&V establishment period checklist\02_Sept20-Nov20	Environmental Resources	5
Date:	21/10/20	Management	ERM

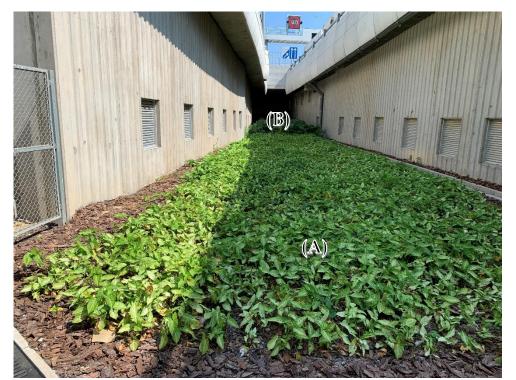
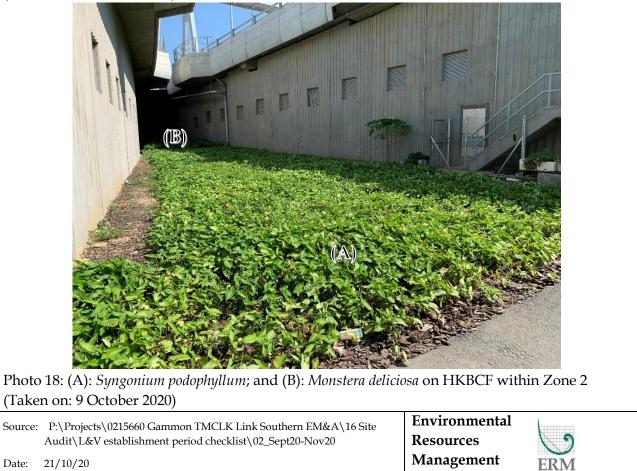


Photo 17: (A): *Syngonium podophyllum;* and (B): *Monstera deliciosa* on HKBCF within Zone 2 (Taken on: 9 October 2020)



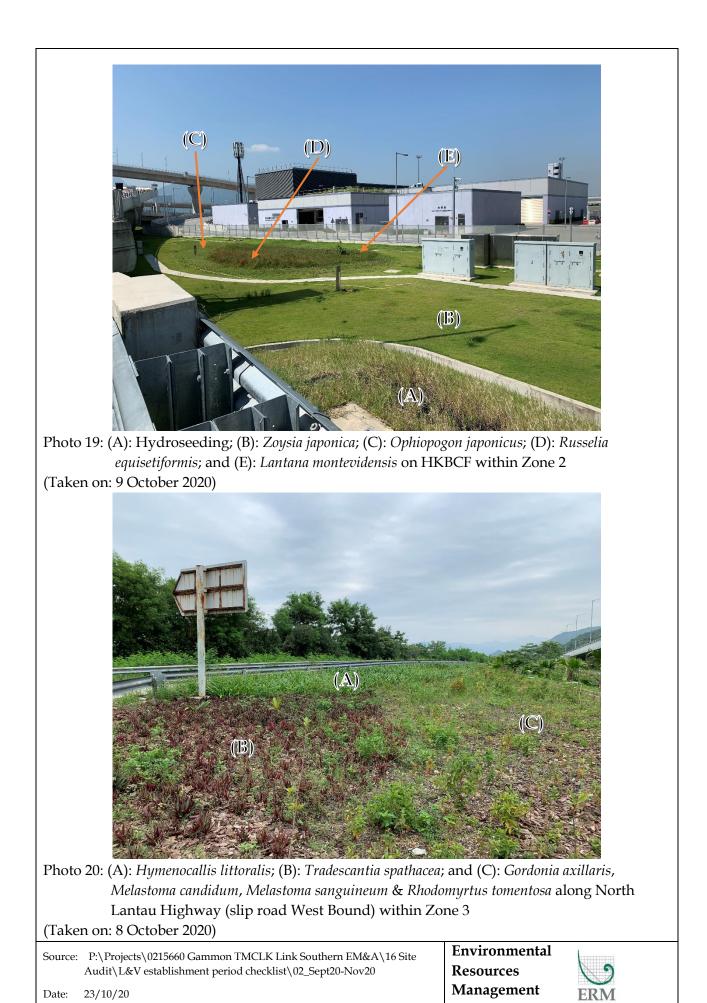




Photo 21: *Plumeria rubra* opposite to Bridge Column C19 within Zone 3 (Taken on: 8 October 2020)

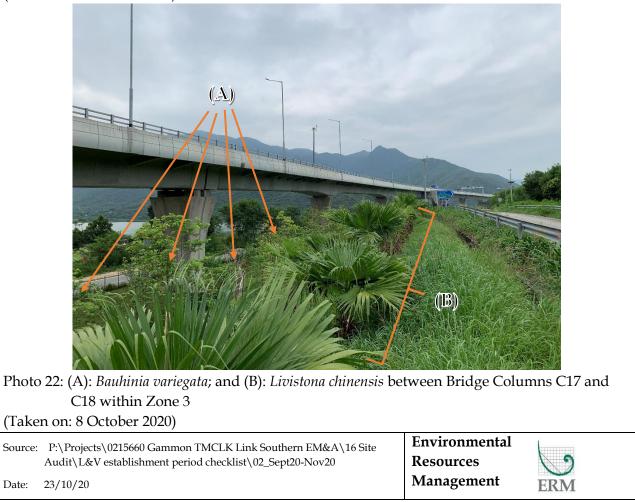
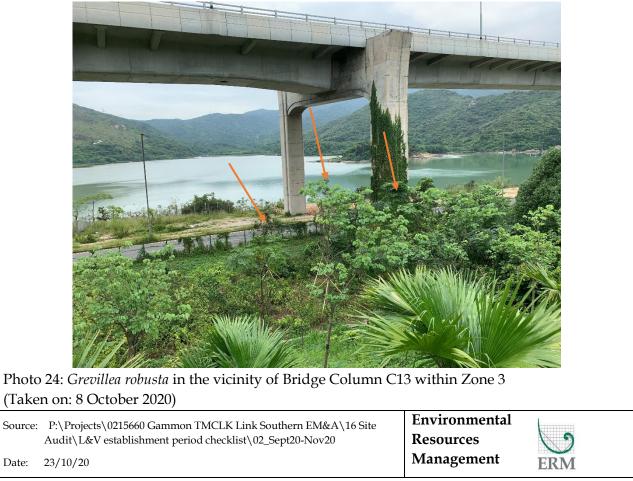
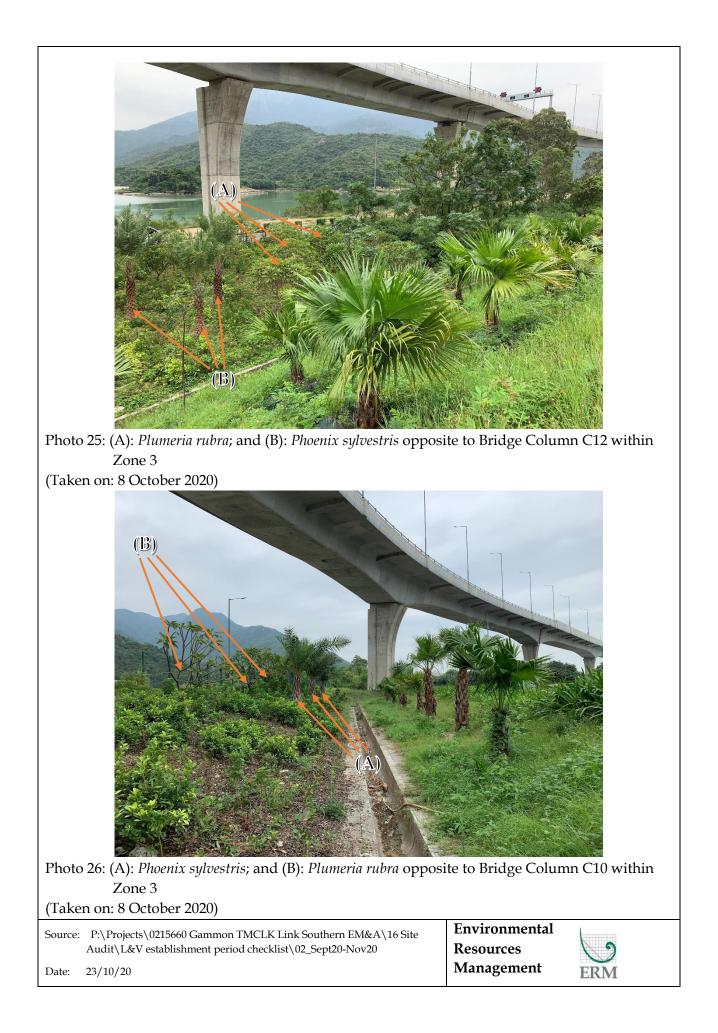




Photo 23: *Plumeria rubra* between Bridge Columns C13 and C14 within Zone 3 (Taken on: 8 October 2020)





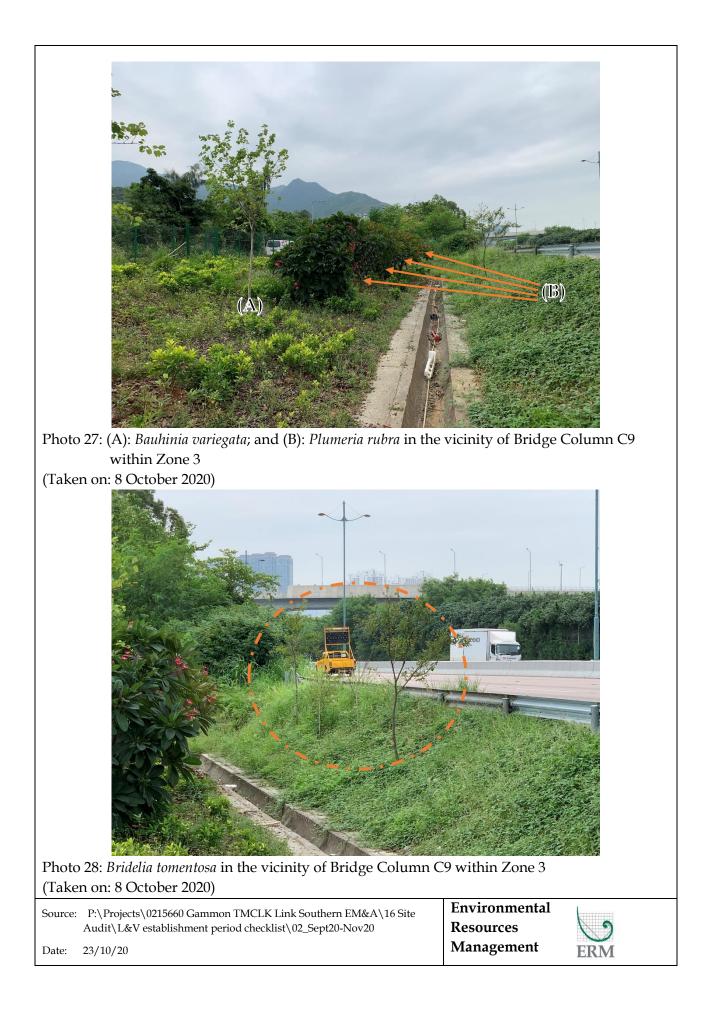




Photo 29: *Livistona chinensis* on Slope 10NW-C/F15 within Zone 3 (Taken on: 8 October 2020)



Source:	P:\Projects\0215660 Gammon TMCLK Link Southern EM&A\16 Site Audit\L&V establishment period checklist\02 Sept20-Nov20	Environmental Resources	
Date:	23/10/20	Management	ERM



Photo 31: *Livistona chinensis* on Slope 10NW-C/F14 within Zone 3 (Taken on: 8 October 2020)





Photo 33: (A): *Livistona chinensis*; and (B): *Melia azedarach* on Slope 10NW-C/F13 within Zone 3 (Taken on: 8 October 2020)

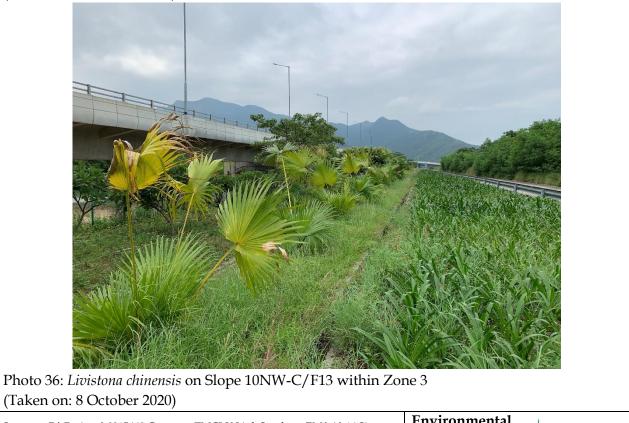


ERM

Date: 23/10/20



Photo 35: *Phoenix roebelenii* on Slope 10NW-C/F13 within Zone 3 (Taken on: 8 October 2020)



	Source:	P:\Projects\0215660 Gammon TMCLK Link Southern EM&A\16 Site	Environmental	L
		Audit\L&V establishment period checklist\02_Sept20-Nov20	Resources	9
1	Date:	23/10/20	Management	ERM



Photo 37: Hymenocallis littoralis on Slope 10NW-C/F52 within Zone 3 (Taken on: 8 October 2020)

23/10/20

Date:



ERM



Photo 39: Bauhinia variegata adjacent to North Lantau Highway (East Bound) within Zone 3 (Taken on: 8 October 2020)



Date:



Photo 41: *Bauhinia variegata* in the vicinity of Slope 10NW-C/F10 within Zone 3 (Taken on: 8 October 2020)



Source:	P:\Projects\0215660 Gammon TMCLK Link Southern EM&A\16 Site	Environmental	
oource.	Audit/L&V establishment period checklist/02_Sept20-Nov20	Resources	0
Date:	23/10/20	Management	ERM





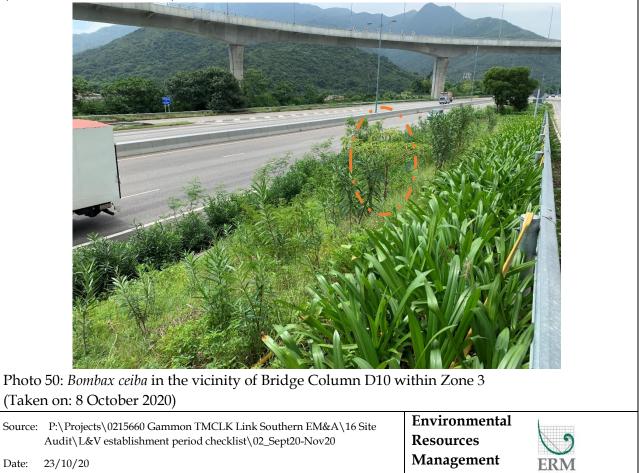


Photo 47: *Hymenocallis littoralis* in the vicinity of Slope 10NW-C/F9 within Zone 3 (Taken on: 8 October 2020)

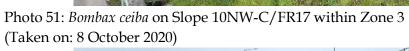




Photo 49: *Bauhinia variegata* in the vicinity of Bridge Column C8 within Zone 3 (Taken on: 8 October 2020)









Source	: P:\Projects\0215660 Gammon TMCLK Link Southern EM&A\16 Site	Environmental	
	Audit\L&V establishment period checklist\02_Sept20-Nov20	Resources	
Date:	23/10/20	Management	ERM



Photo 53: *Bombax ceiba* on Slope 10NW-C/F11 within Zone 3 (Taken on: 8 October 2020)



Source	: P:\Projects\0215660 Gammon TMCLK Link Southern EM&A\16 Site	Environmental	
	Audit/L&V establishment period checklist/02_Sept20-Nov20	Resources	9
Date:	23/10/20	Management	ERM



Photo 55: *Bauhinia variegata* in the vicinity of sign gantry near North Lantau Highway (West Bound) within Zone 3

(Taken on: 8 October 2020)



Photo 56: Existing vegetation on Slope 9SE-B/C112 within Zone 4 (Taken on: 8 October 2020)

s	ource:	P:\Projects\0215660 Gammon TMCLK Link Southern EM&A\16 Site	Environmental	
		Audit\L&V establishment period checklist\02_Sept20-Nov20	Resources	0
E	ate:	23/10/20	Management	ERM



Photo 57: (A): *Plumeria rubra*; and (B): *Bauhinia variegata* on Slope 9SE-B/F85 within Zone 4 (Taken on: 8 October 2020)

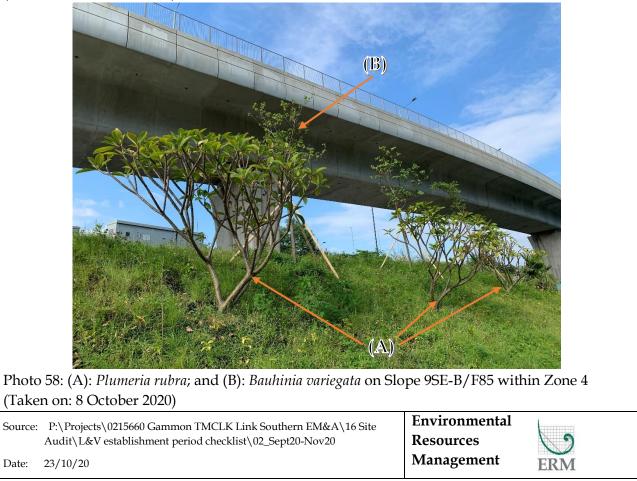




Photo 59: *Washingtonia robusta* on Slope 9SE-B/F85 within Zone 4 (Taken on: 8 October 2020)

23/10/20

Date:



Management



Photo 61: (A): *Phoenix roebelenii*; and (B): *Caryota mitis* on Slope 9SE-B/F85 within Zone 4 (Taken on: 8 October 2020)

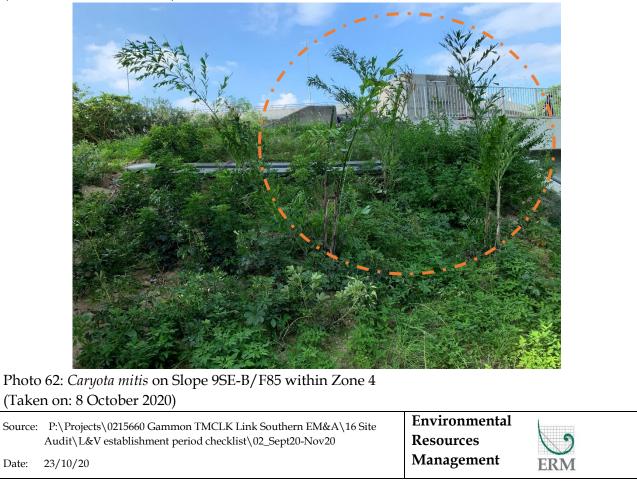




Photo 63: Bauhinia variegata along North Lantau Highway (East Bound) within Zone 3 (Taken on: 8 October 2020)

23/10/20

Date:

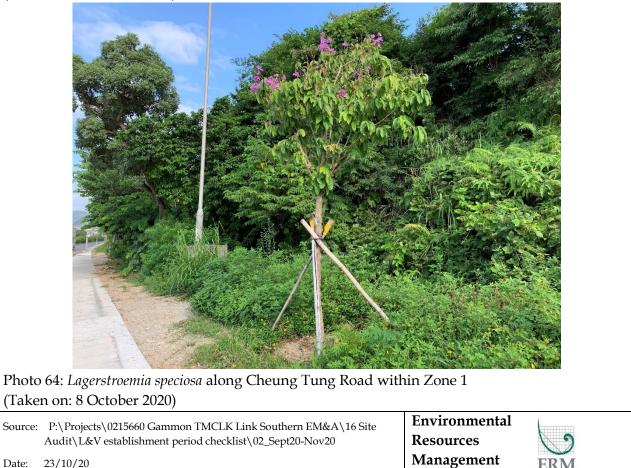




Photo 65: *Lagerstroemia speciosa* along Cheung Tung Road within Zone 1 (Taken on: 8 October 2020)

Date:

23/10/20



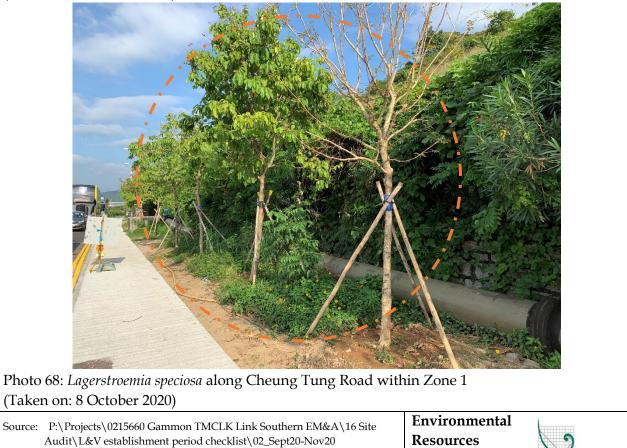
Management



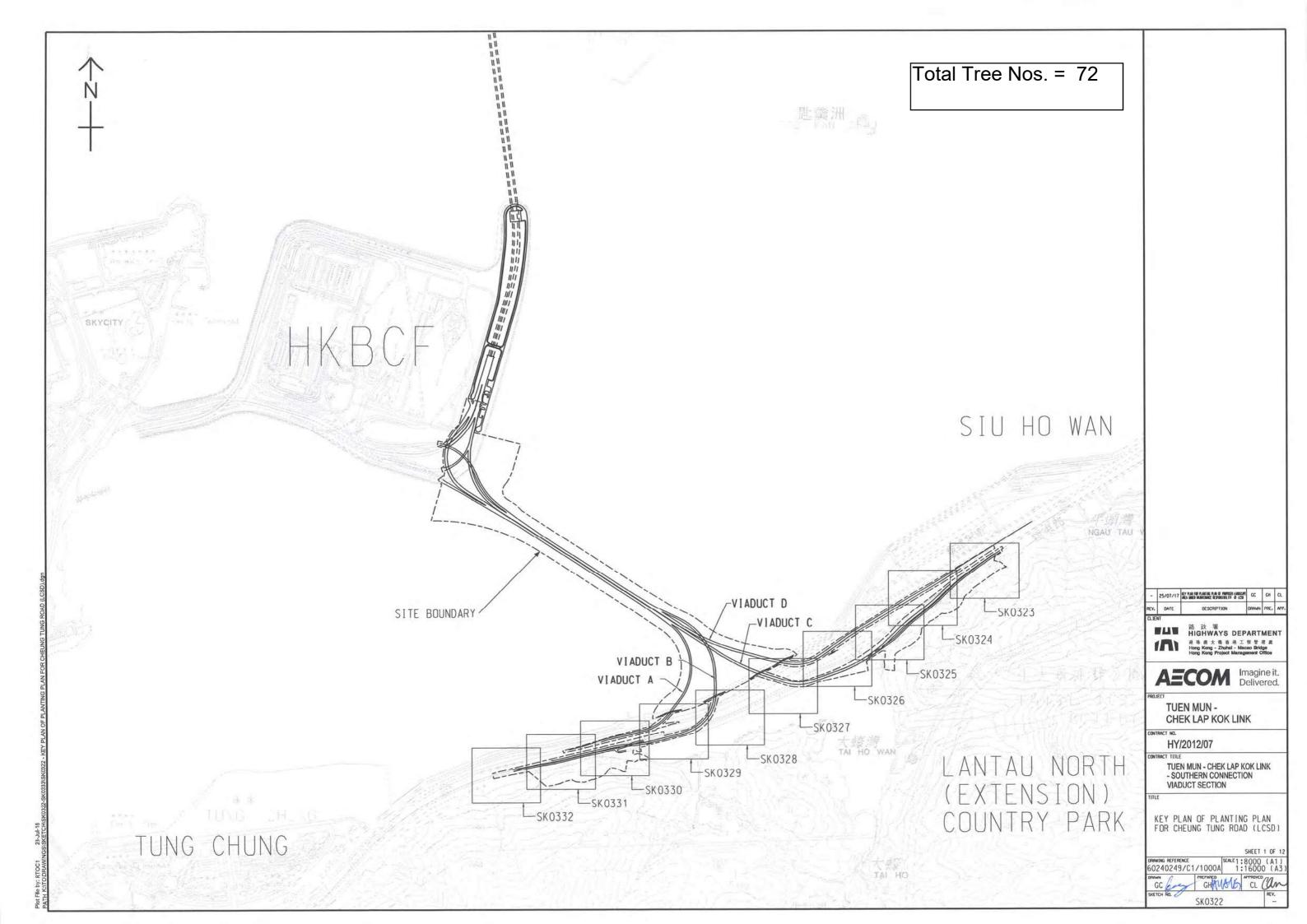
Photo 67: *Lagerstroemia speciosa* along Cheung Tung Road within Zone 1 (Taken on: 8 October 2020)

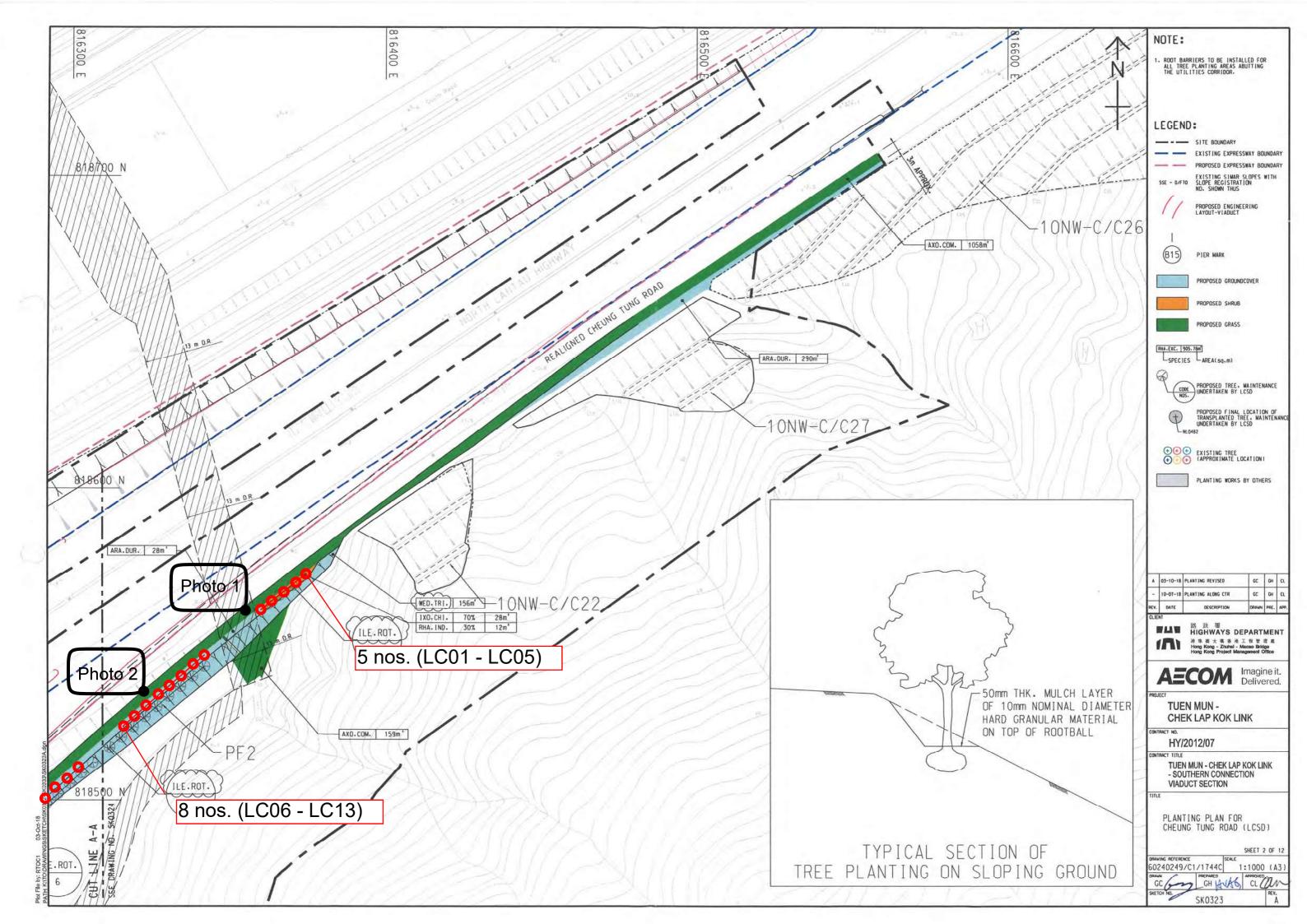
Date:

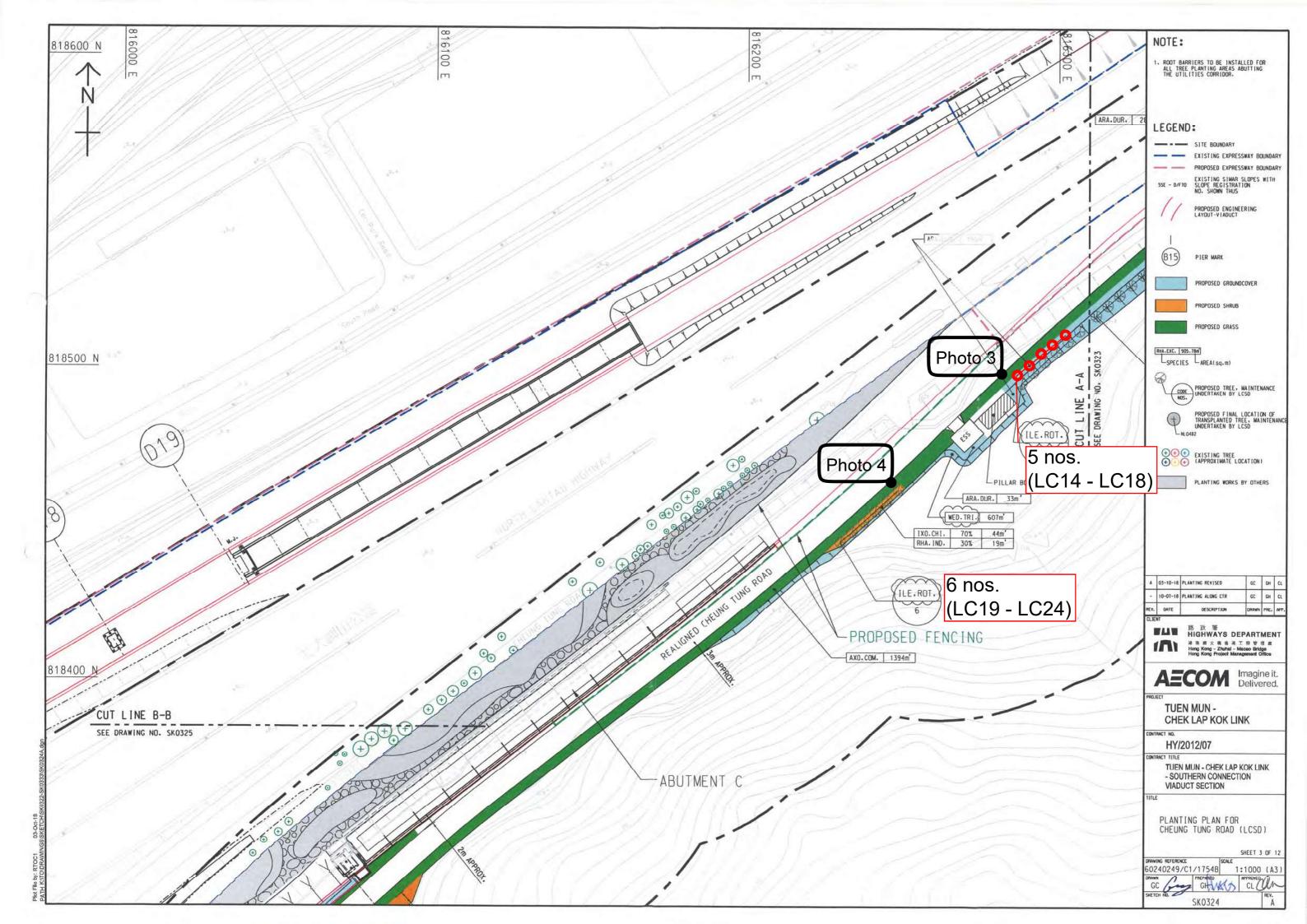
23/10/20

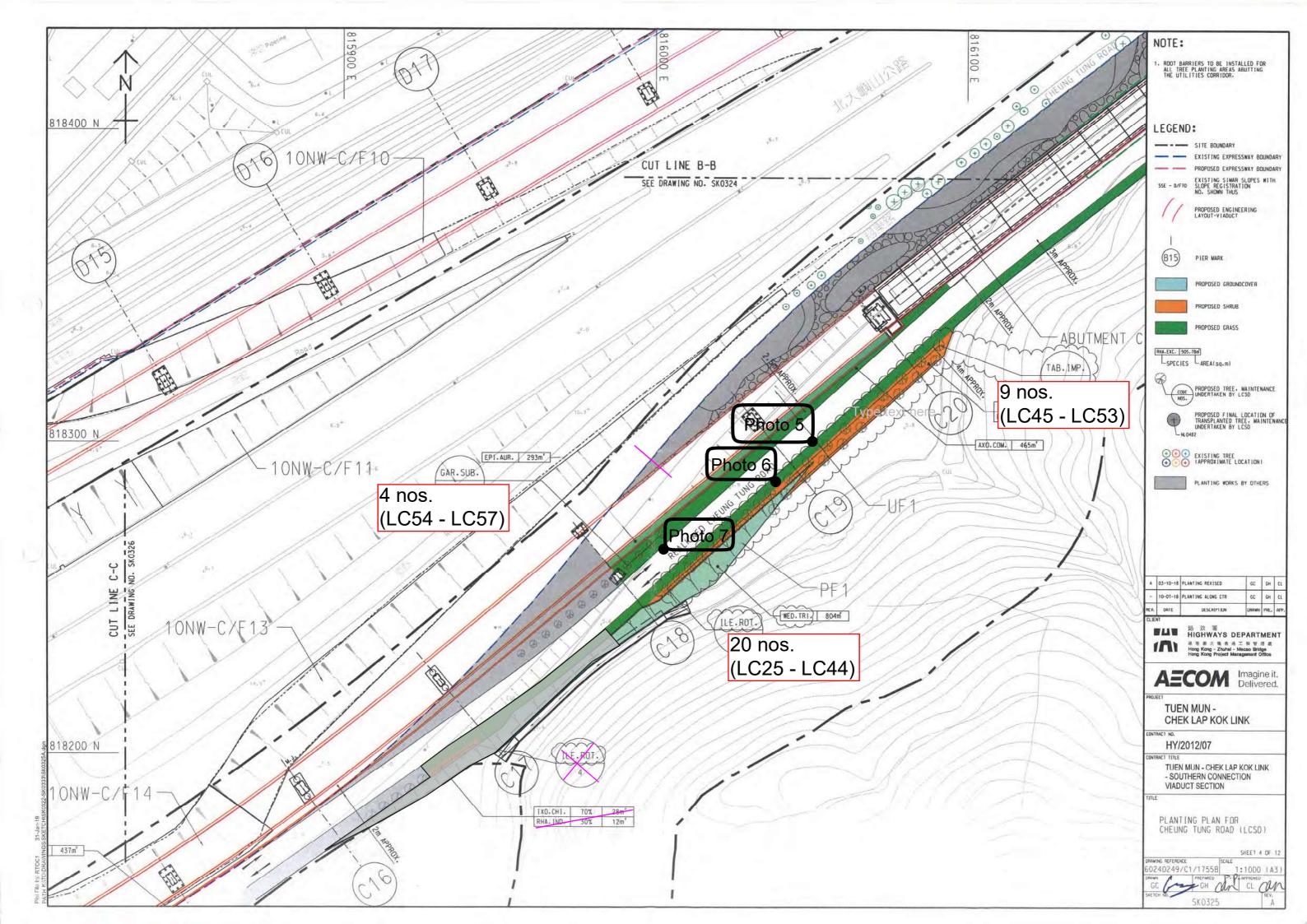


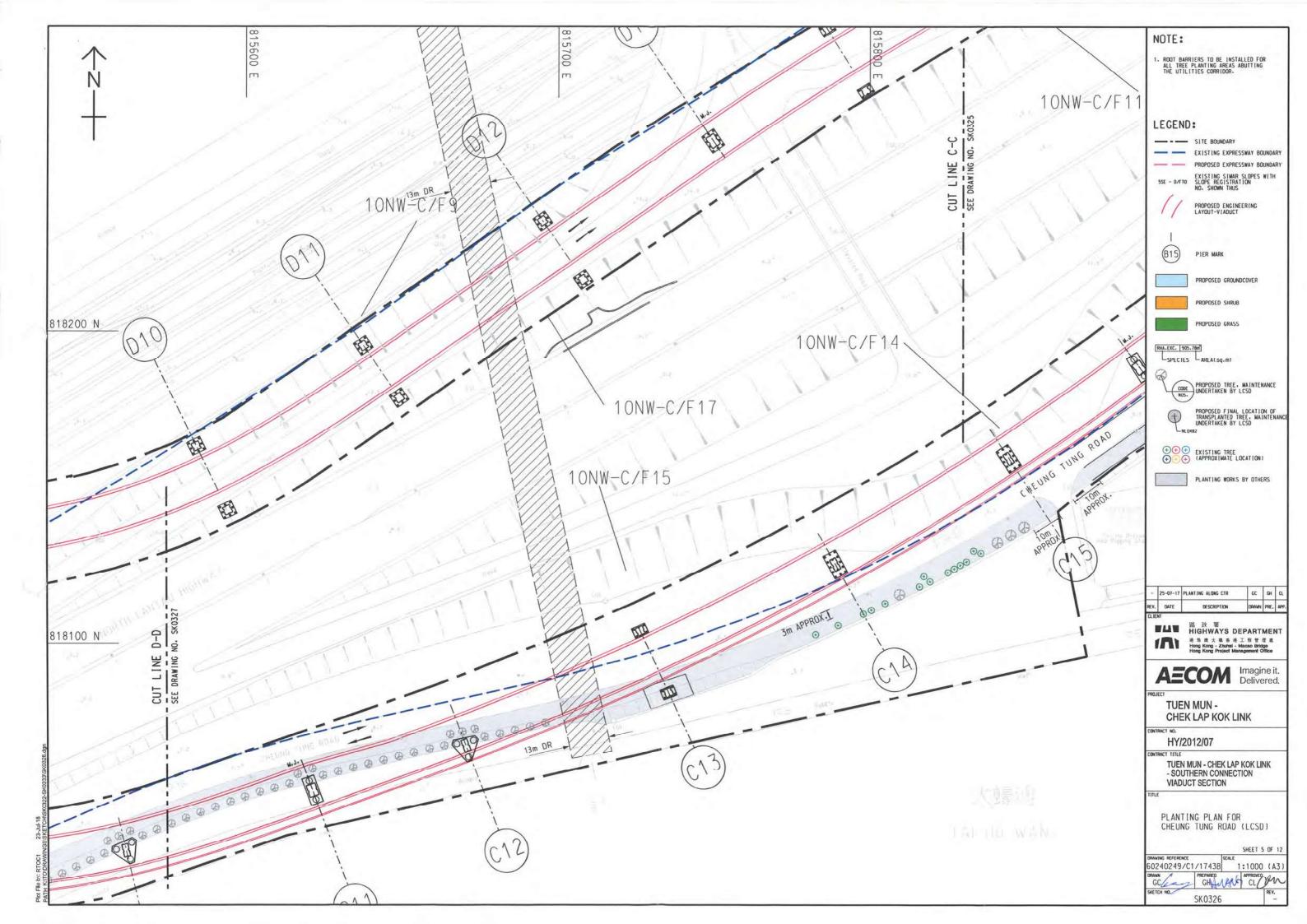
Management

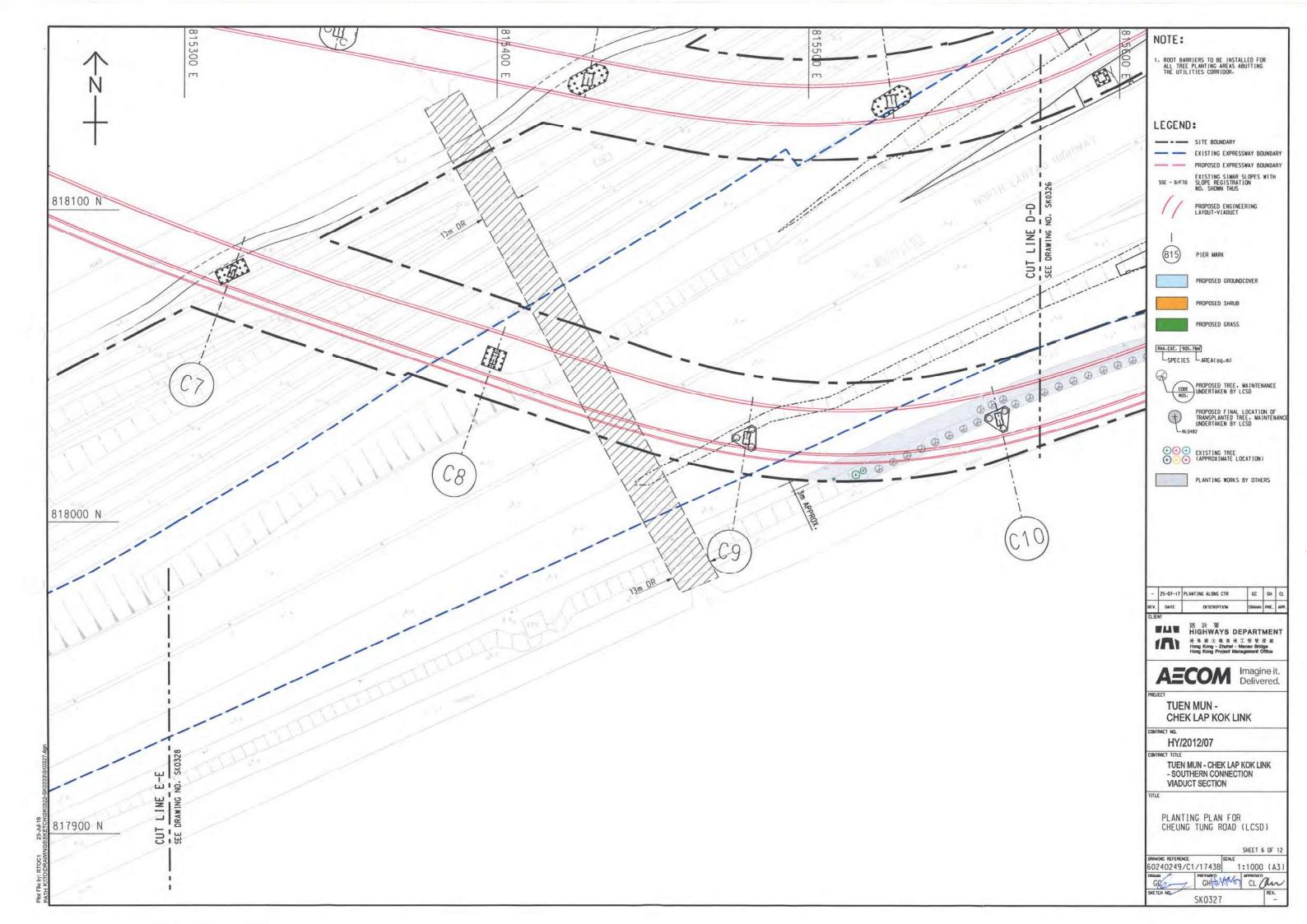


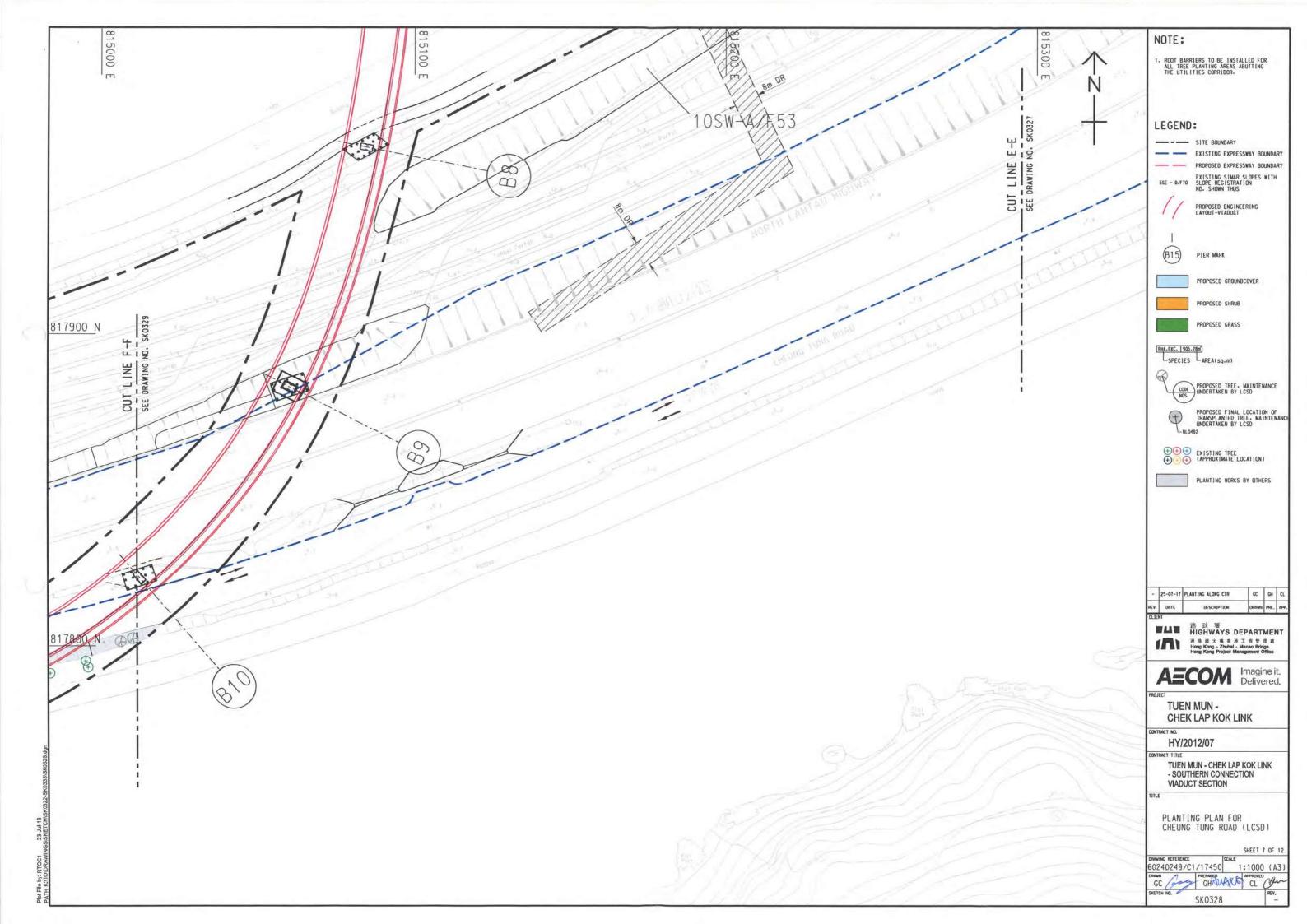


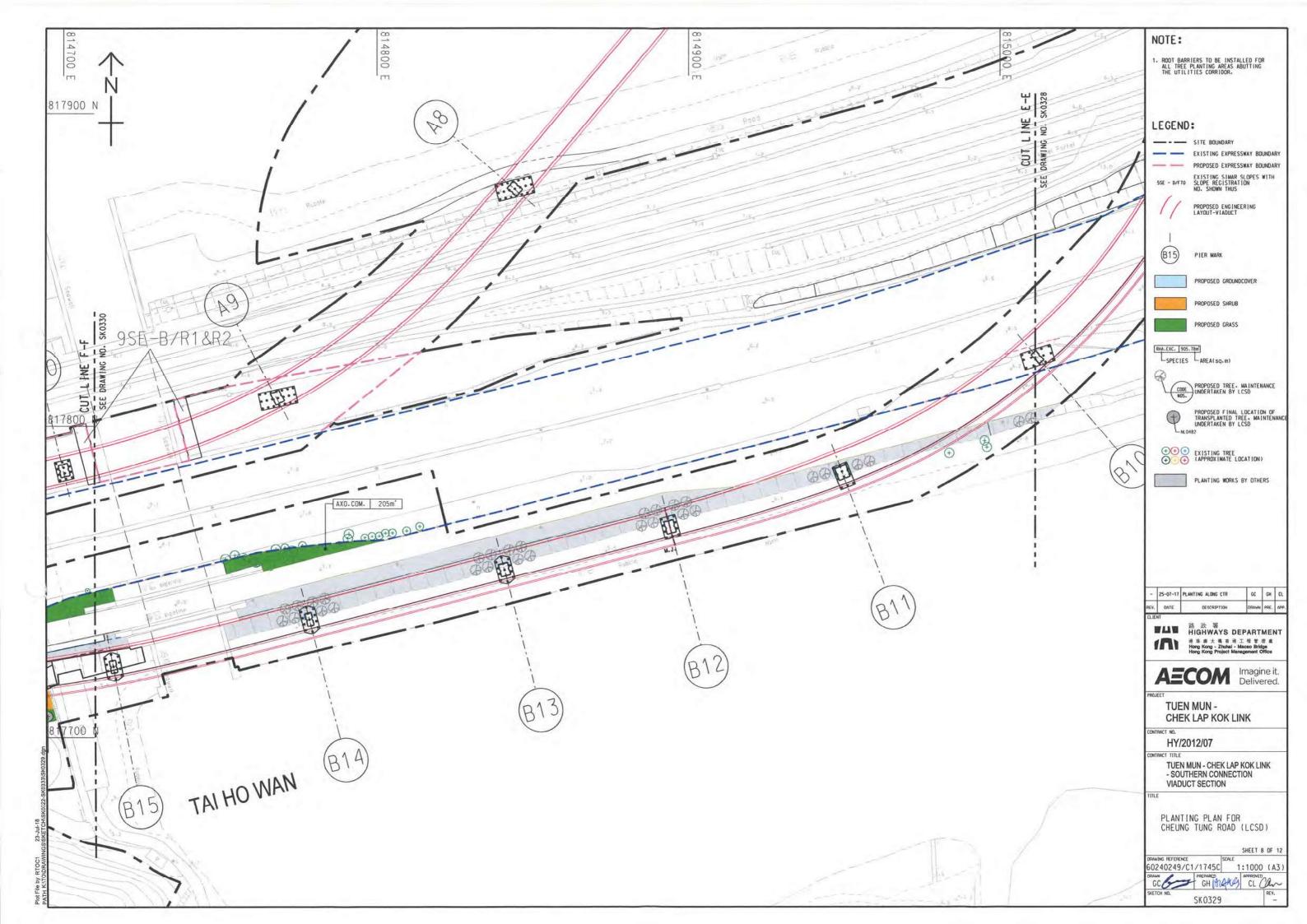


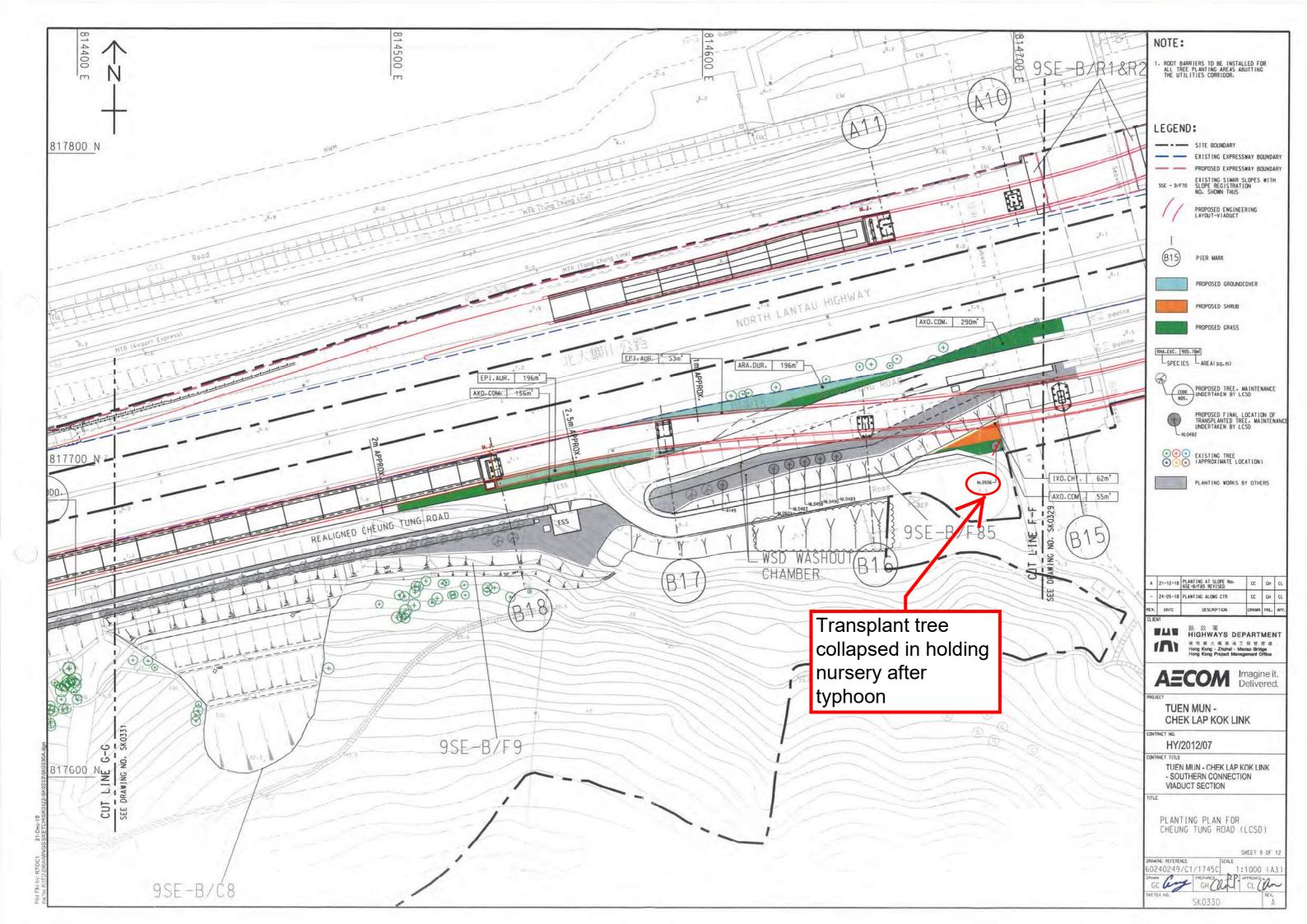


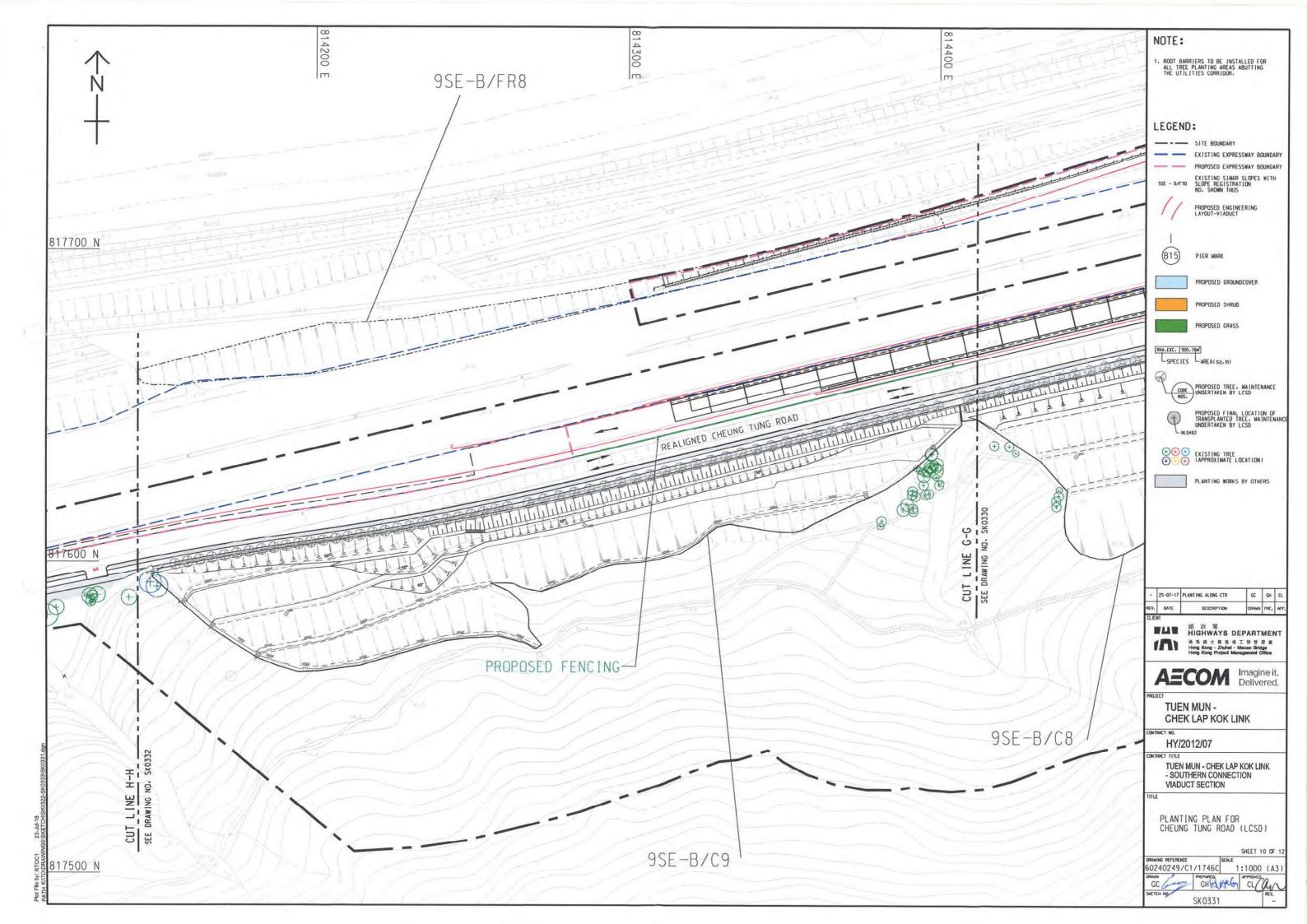


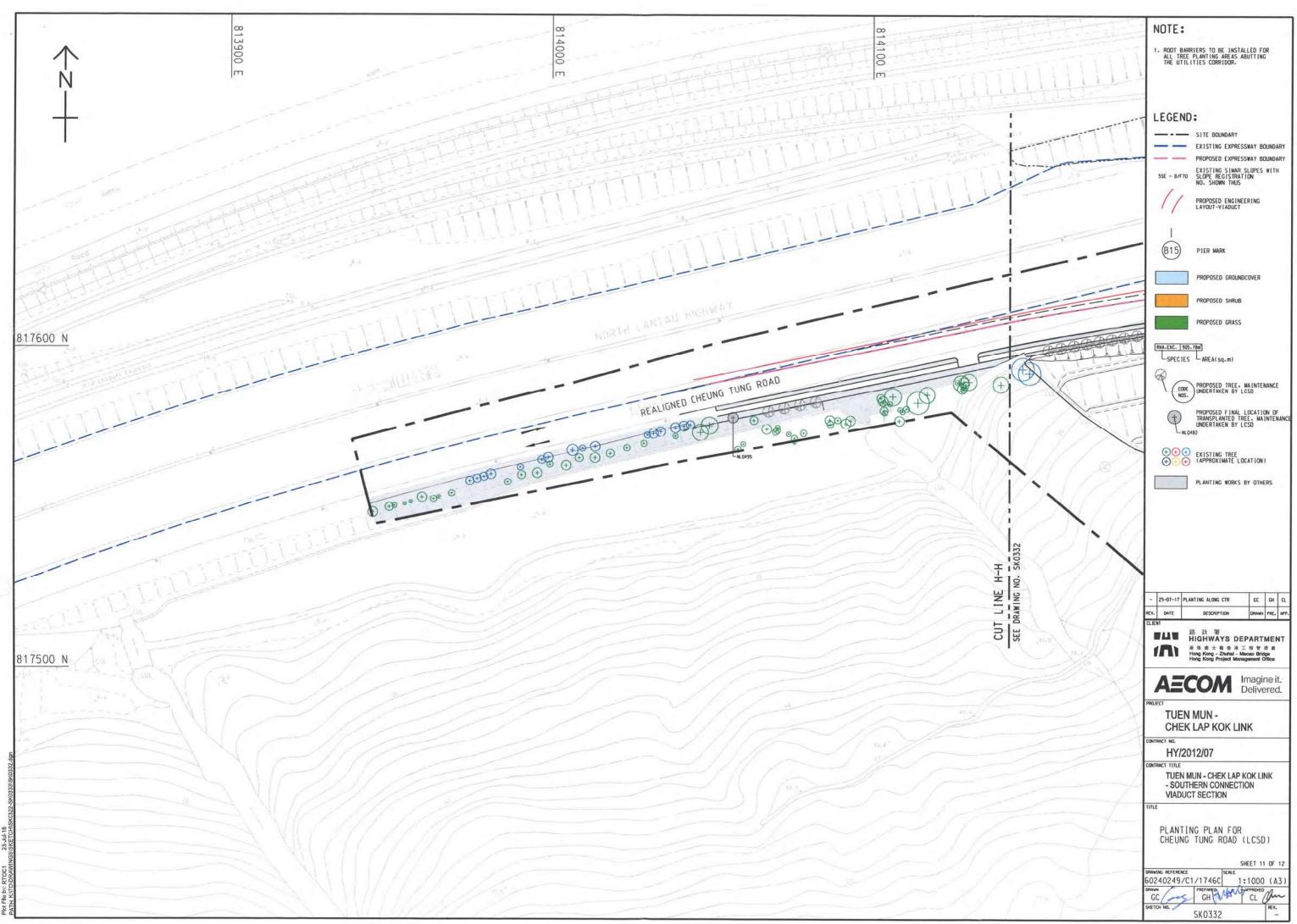




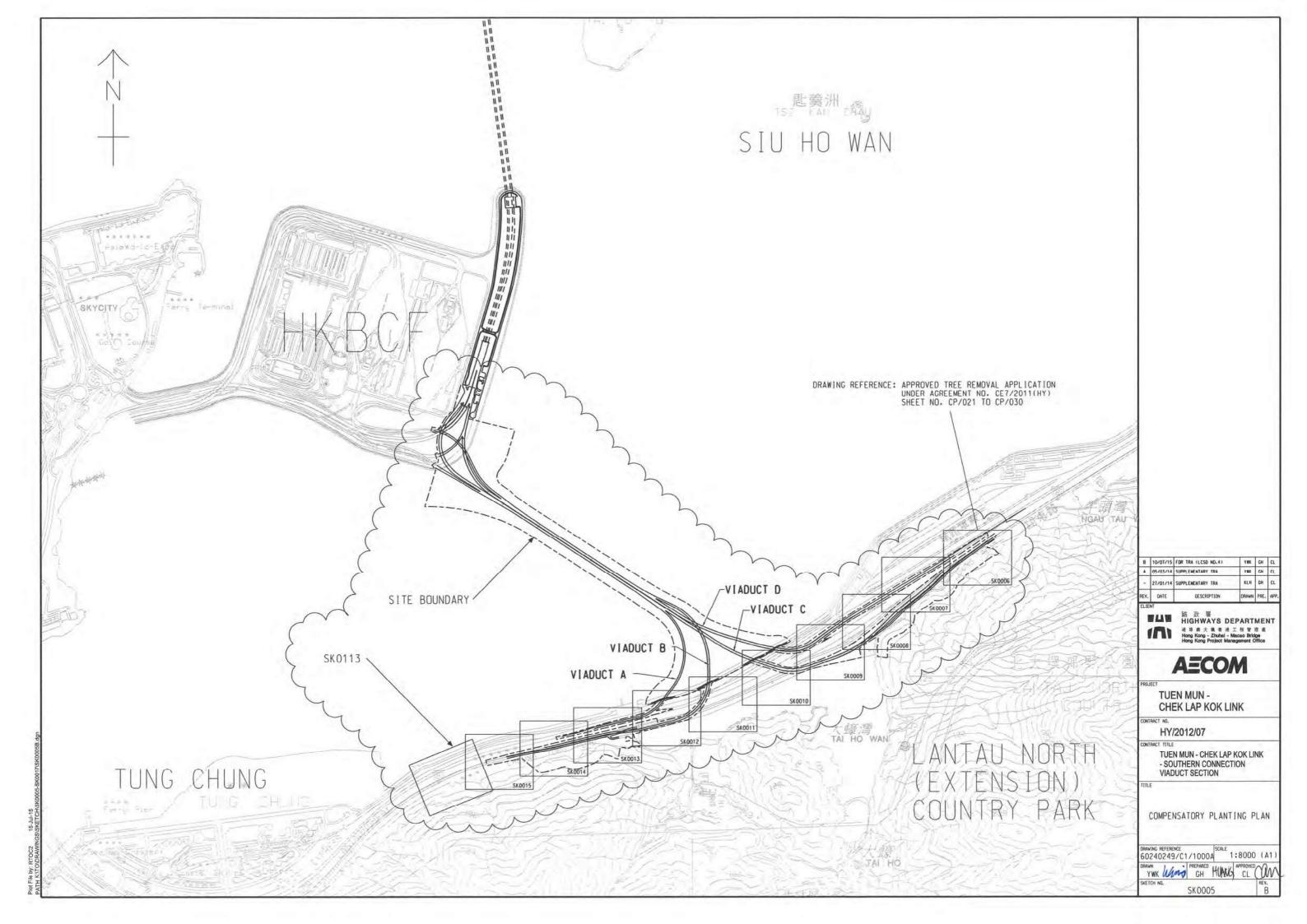








-lie



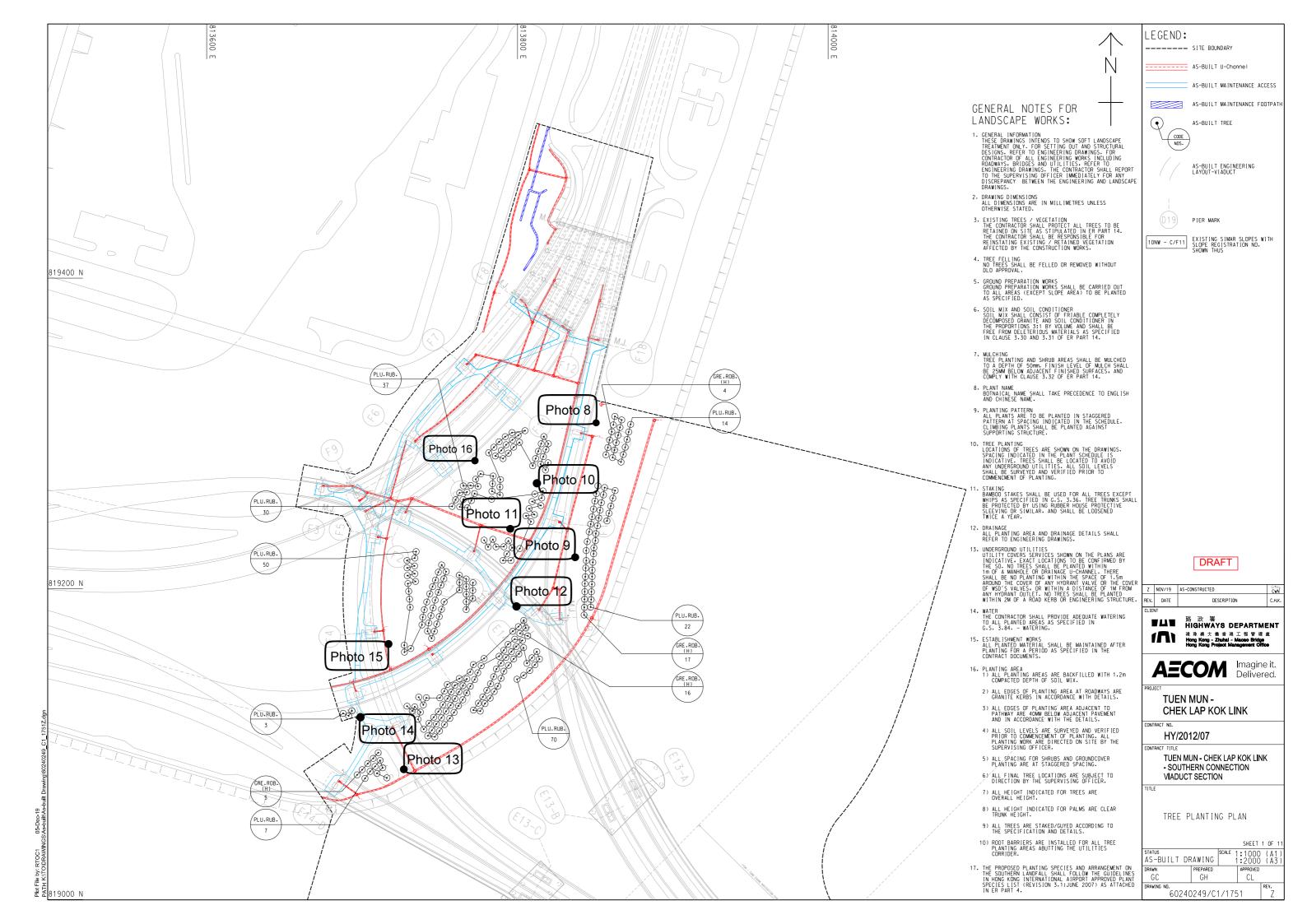
	LEGEND: MOS. OF COMPENSATORY TREE MAINTERMACE UNDERTAKEN BY LCSD USUBJECT TO DETAILED DESIGN) DN450 PROPOSED WATERMAIN (DN450)
Photos 67 & 68 Photos 67 & 68	
Image: Control form Image: Control form 6 nos. 4 nos. (LC67 - LC72) (LC63 - LC66) DSD VENT AND VENT STACK MOBILE NETWORK BASE STATION	- 10/01/15 TRA FOR LCSD ND.4 YWK CH CL EV. DATE DESCRIPTION DRAWN PRE, APP. LIENT 路政署 HIGHWAYS DEPARTMENT 来来たる希達工写安直金 Horg Kong Project Management Office
	ROJECT TUEN MUN - CHEK LAP KOK LINK CONTRACT VIO. HY/2012/07 CONTRACT TITLE TUEN MUN - CHEK LAP KOK LINK - SOUTHERN CONNECTION VIADUCT SECTION

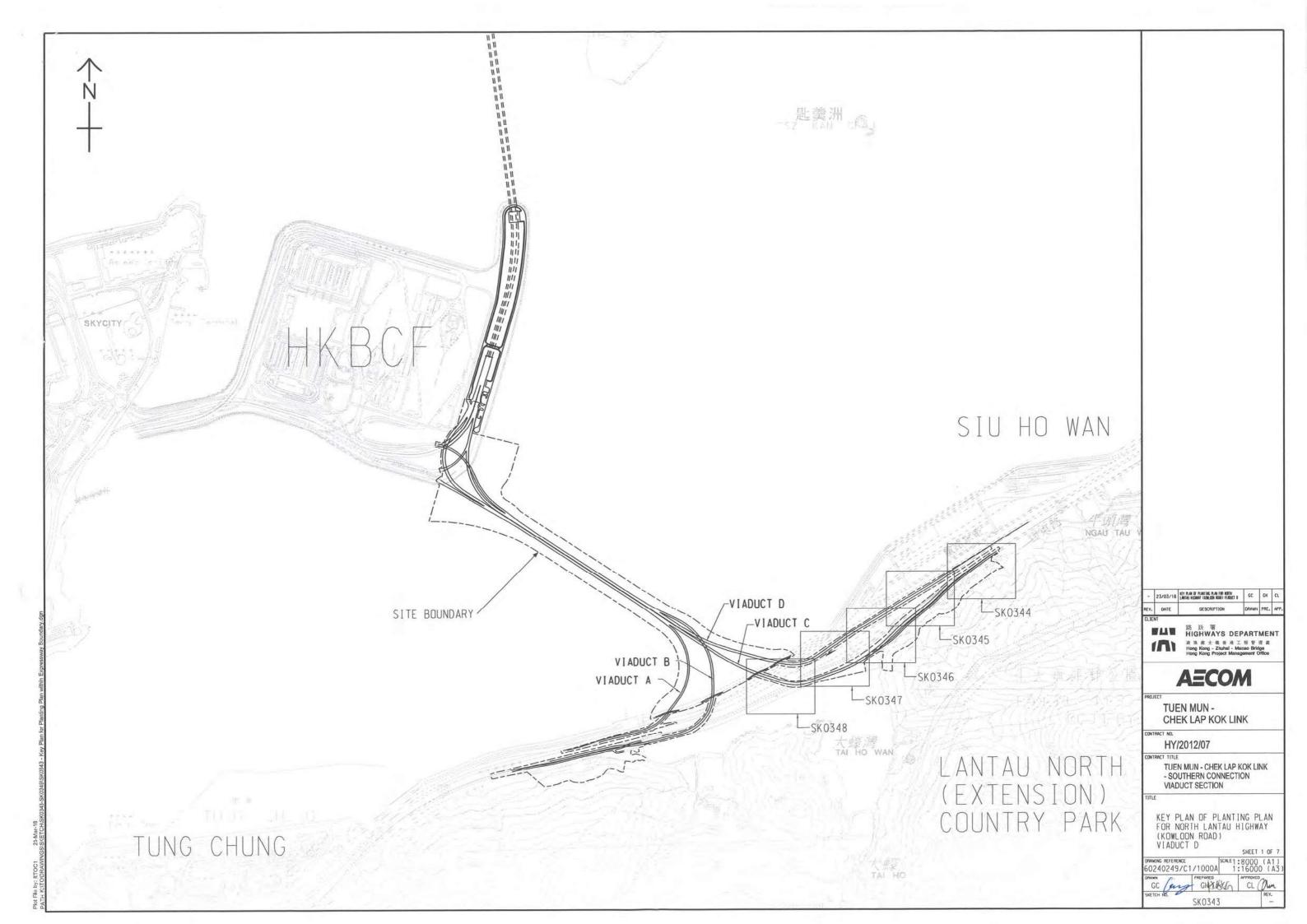
Plot File by:

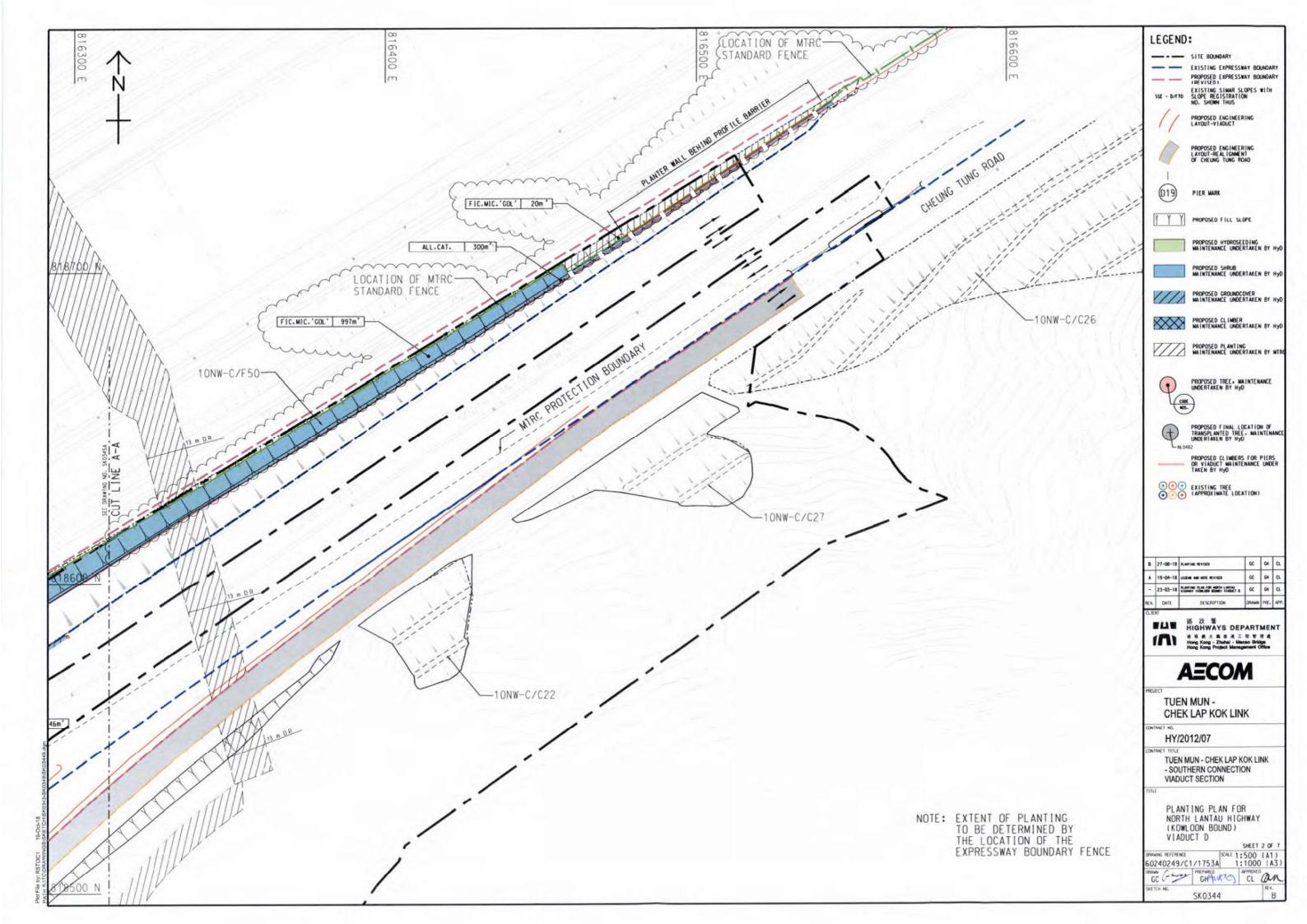


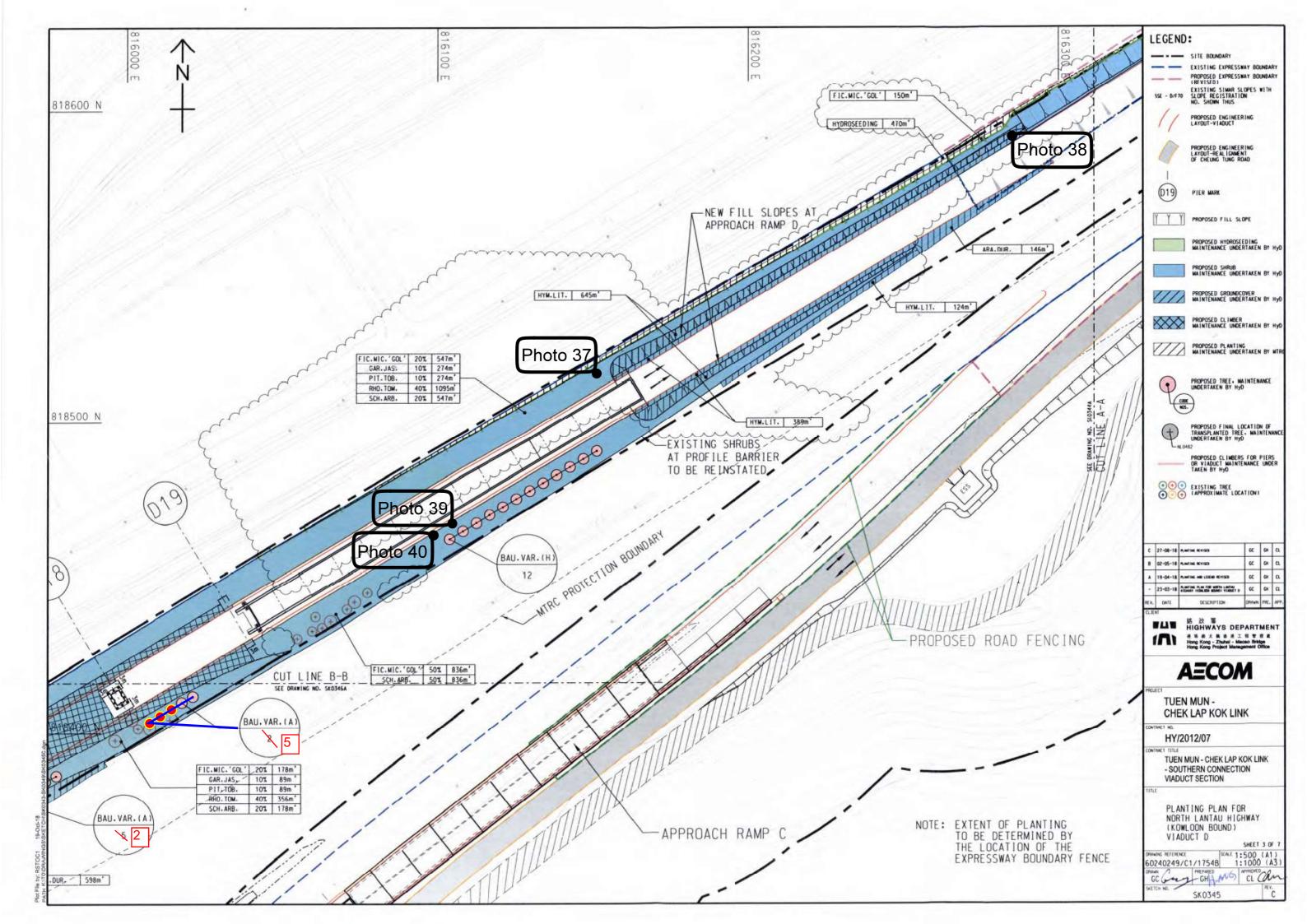
File

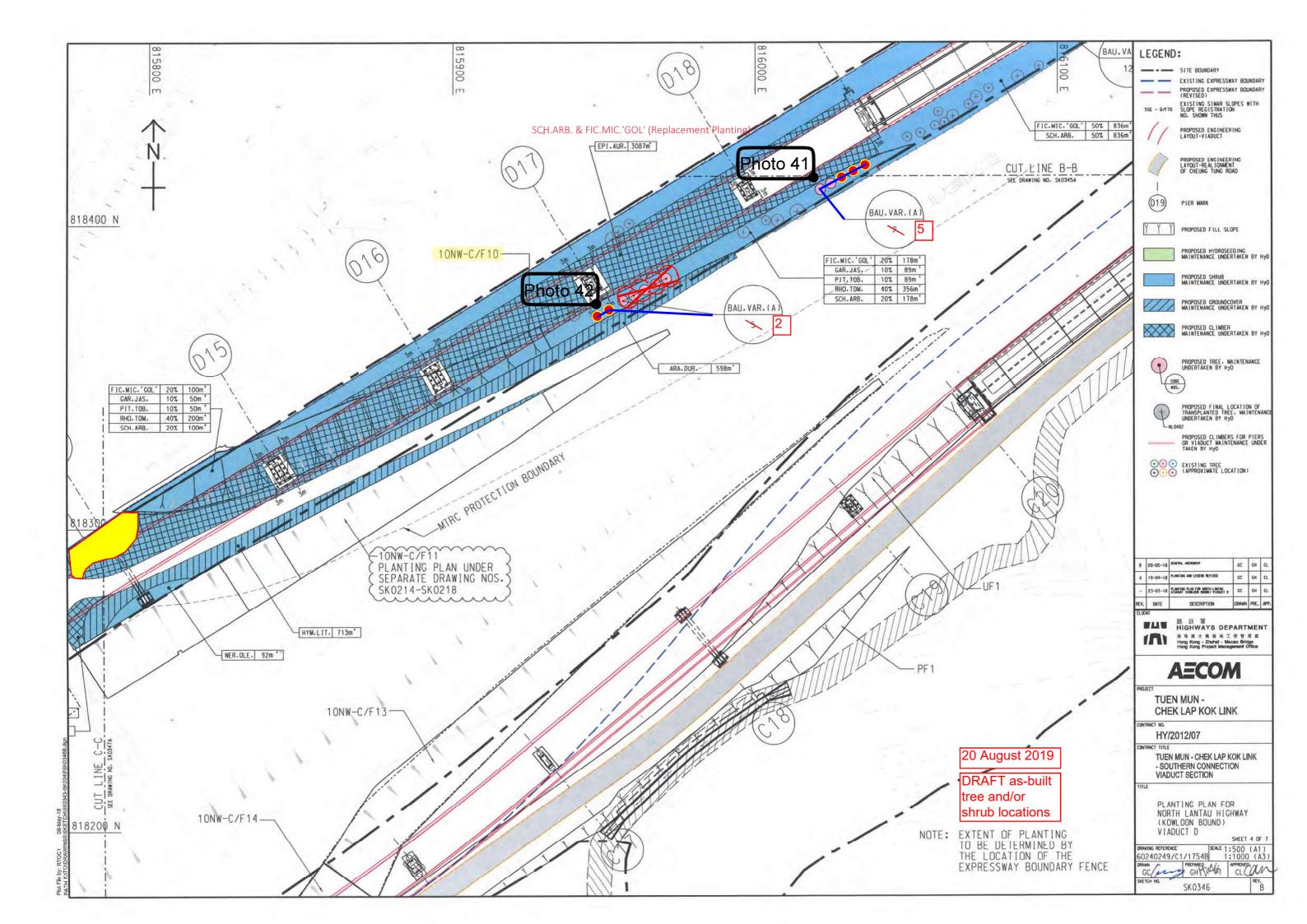
 \wedge NOTES: THE PROPOSED PLANTING SPECIES AND ARRANGEMENT ON THE SOUTHERN LANDFALL SHALL FOLLOW THE GUIDELINES IN HONG KONG INTERNATIONAL AIRPORT APPROVED PLANT SPECIES LIST (REVISION 3.1:JUNE 2007). AS ATTACHED IN ER AREA 4. Ν • THE DRAWING SHALL BE READ IN CONJUNCTION WITH SHEET NOS. 60240249/C1/1741 TO 1746 AND 1771. EGEND: ---- SITE BOUNDARY AS-BUILT U-Channel AS-BUILT MAINTENANCE ACCESS AS-BUILT MAINTENANCE FOOTPATH AS-BUILT SHRUB PLANTING AS-BUILT ENGINEERING LAYOUT-VIADUCT PIER MARK RHA.EXC. 905.78 m² SPECIES AREA(sq.m) 10NW - C/F11 SLOPE REGISTRATION NO. DRAFT Z NOV/19 AS-CONSTRUCTED CWN EV. DATE DESCRIPTION с.н.к. 路政署 HIGHWAYS DEPARTMENT 地球集大教会通工保管理点 Hong Kong - Zhuhai - Macao Bridge Hong Kong Project Management Office **AECOM** Imagine it. Delivered. TUEN MUN -CHEK LAP KOK LINK TRACT NO HY/2012/07 RACT TITLE TUEN MUN - CHEK LAP KOK LINK - SOUTHERN CONNECTION VIADUCT SECTION SHRUB PLANTING PLAN SHEET 1 OF SCALE 1:1000 (A1) 1:2000 (A3) TATUS AS-BUILT DRAWING PREPARED RAWN PPROVE GC GH CL RAWING NO.

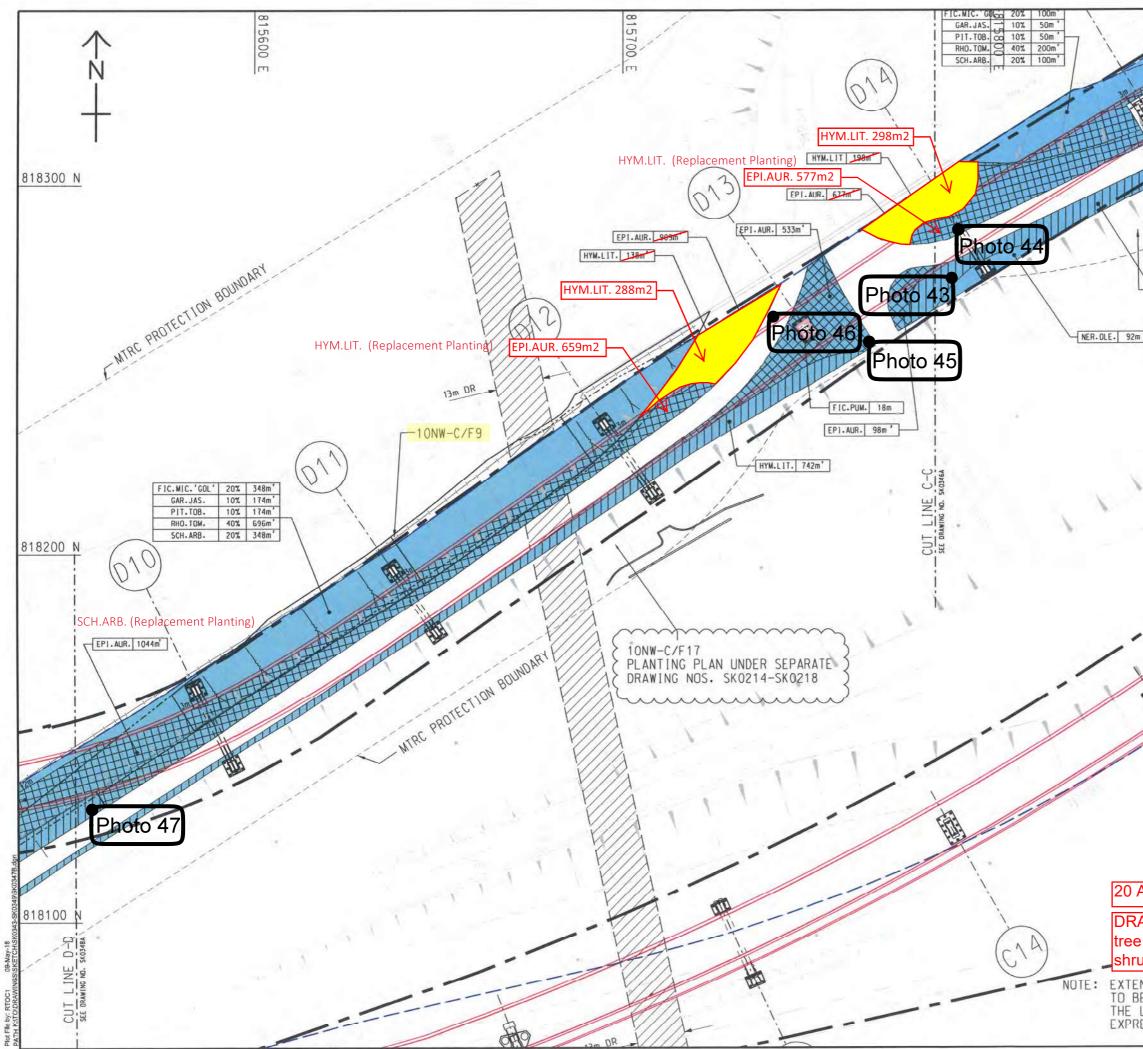




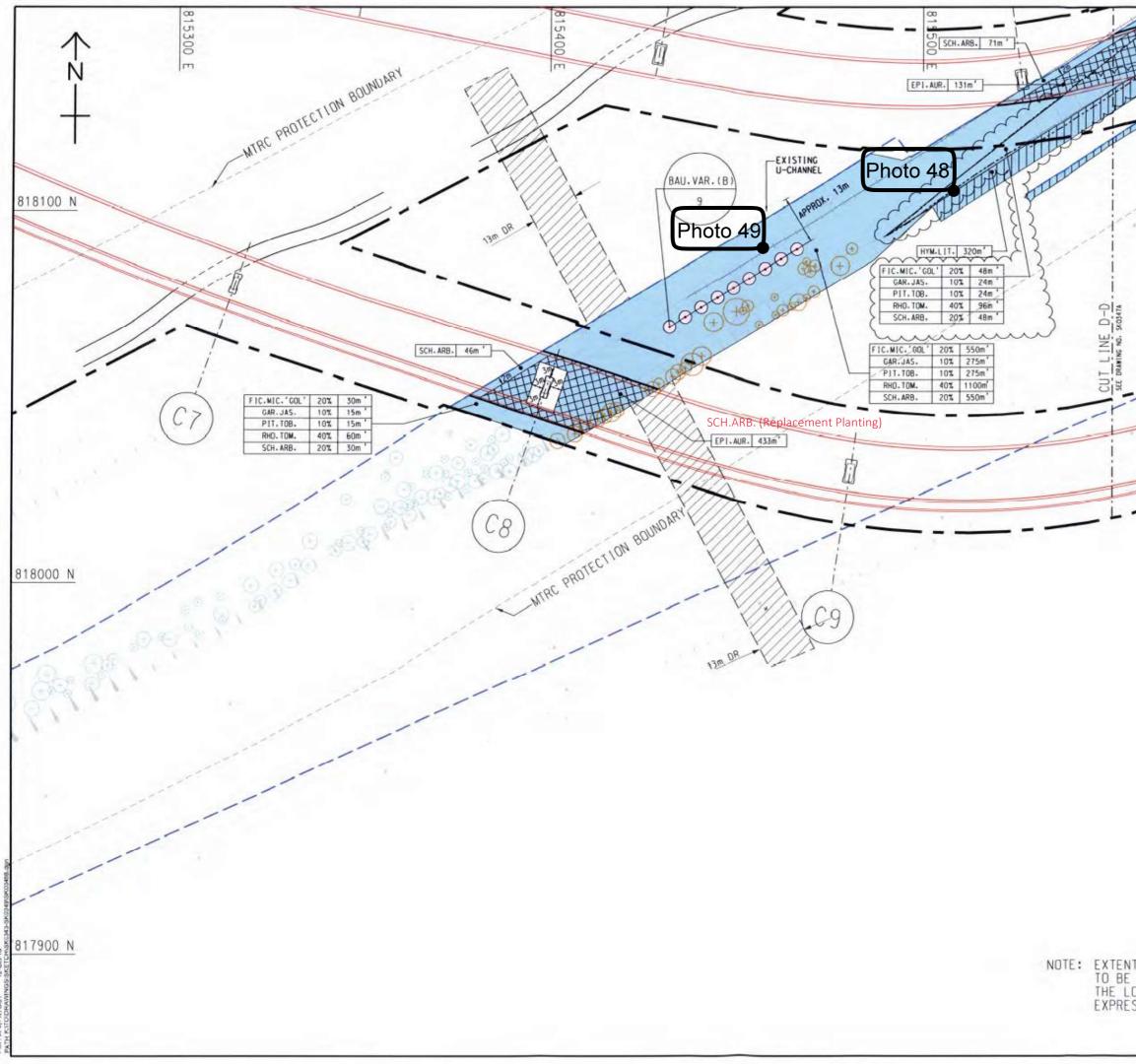




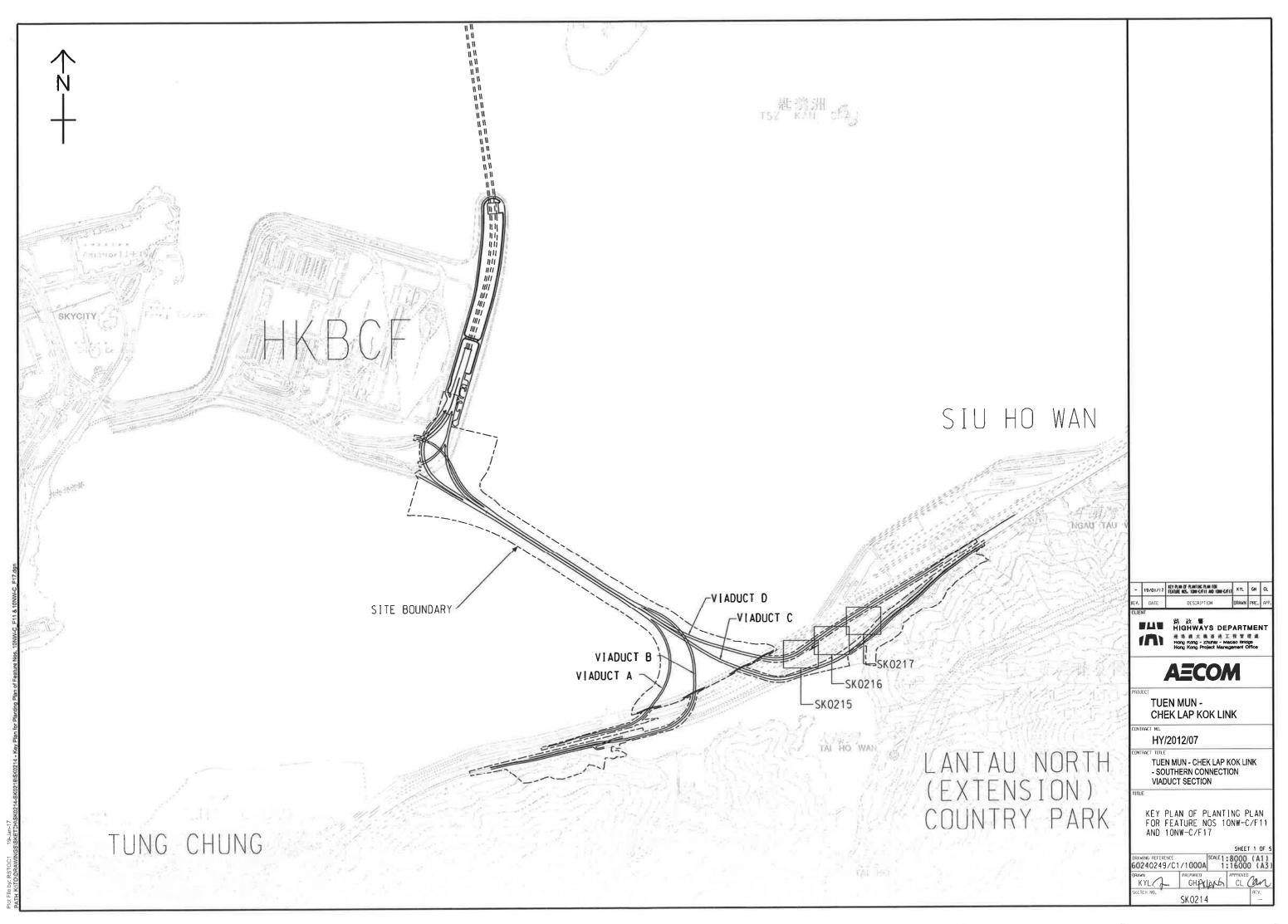


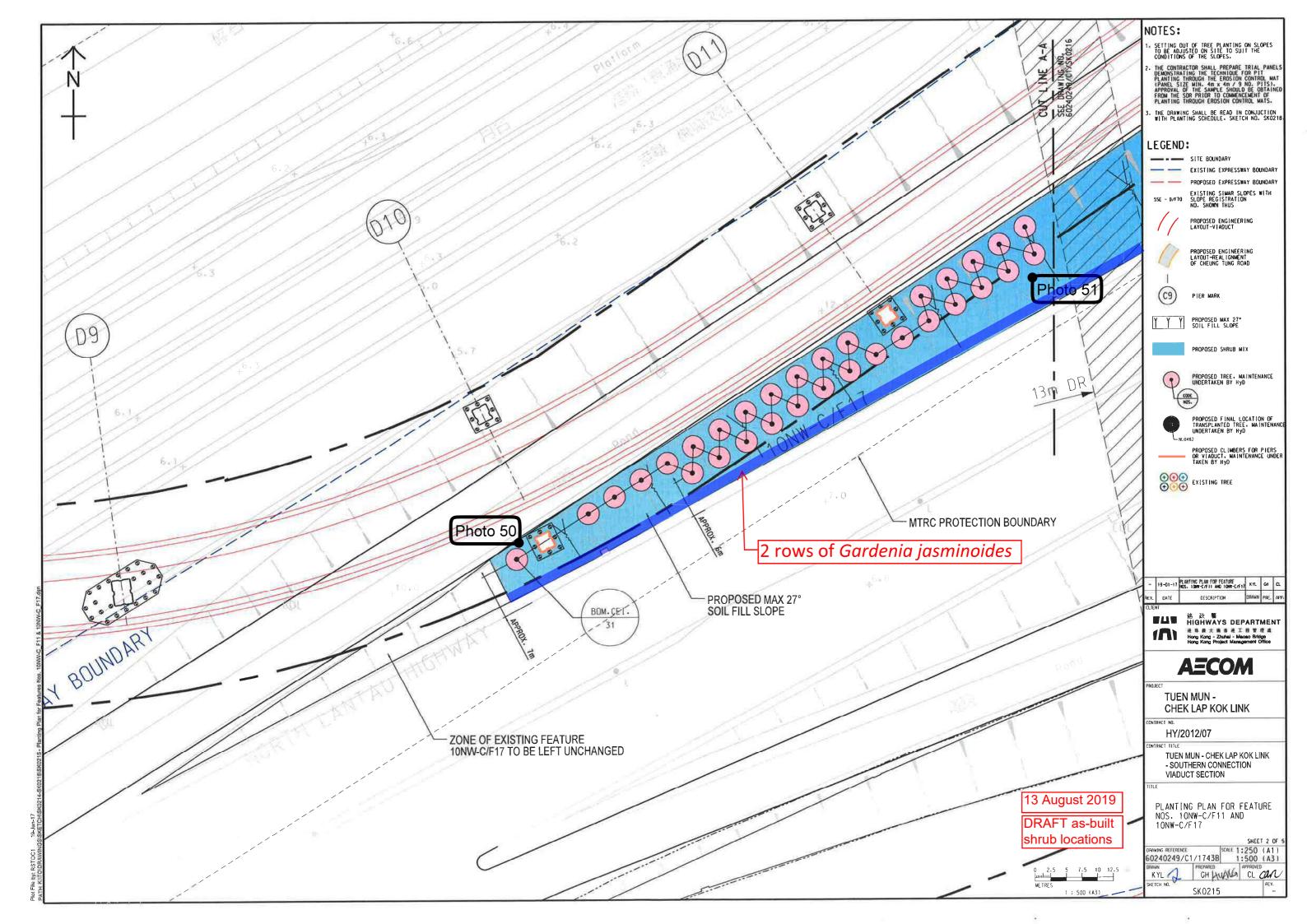


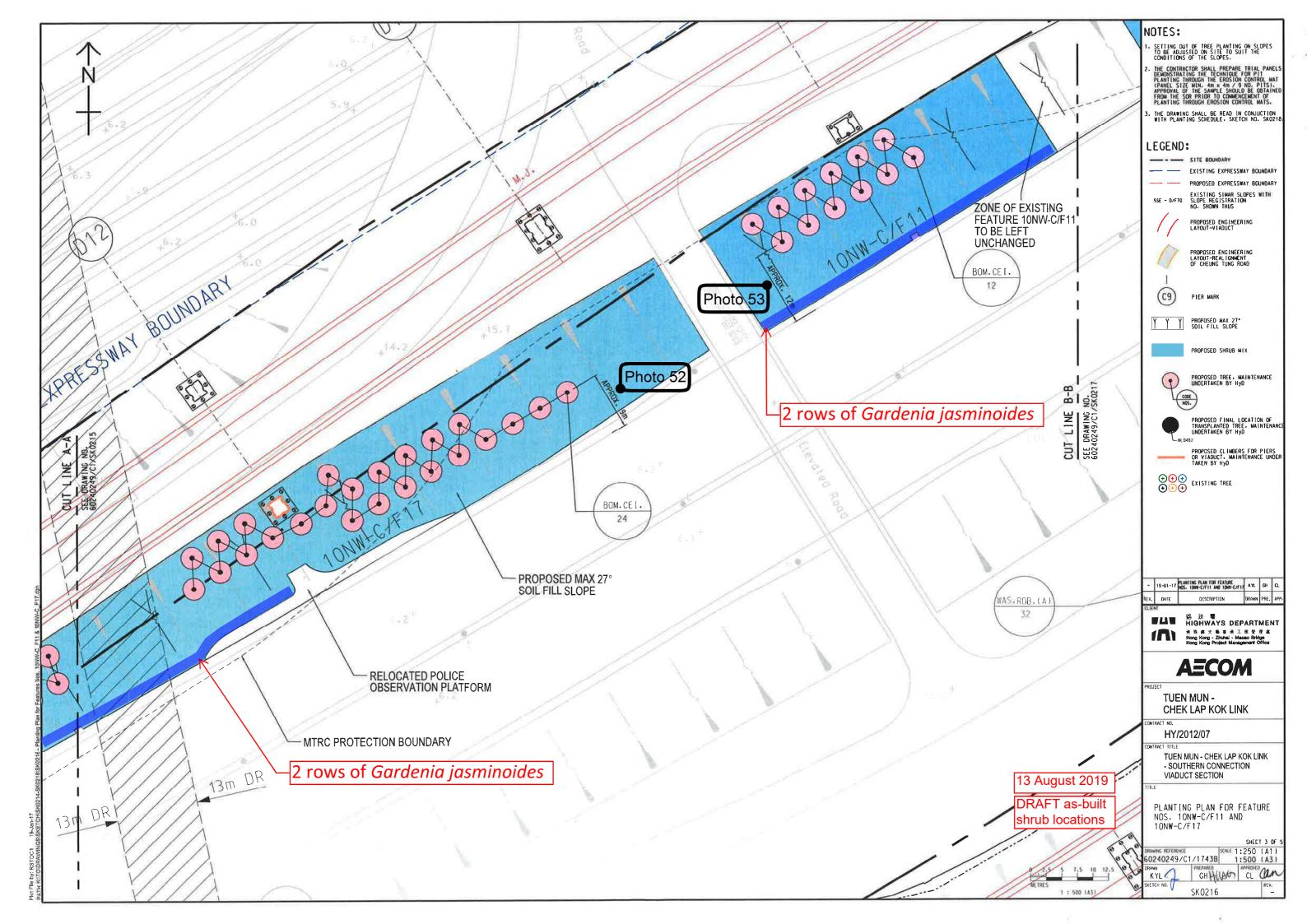
	LEGEND:
	SITE BOUNDARY EXISTING EXPRESSWAY BOUNDARY PROPOSED EXPRESSWAY BOUNDARY
	(REVISED) EXISTING SIMAR SLOPES WITH SSE - D/F10 SLOPE REGISTRATION NO. SHOWN THUS
	PROPOSED ENGINEERING LAYOUT-VIADUCT
	PROPOSED ENCINEERING LAYOUT-REALIGNMENT OF CHEUNG TUNG ROAD
	D19 PIER MARK
	Y Y PROPOSED FILL SLOPE
	PROPOSED HYDROSEEDING MAINTENANCE UNDERTAKEN BY HYD
10NW-C/F11 [HYM.LIT.] 713m']	PROPOSED SHRUB MAINTENANCE UNDERTAKEN BY HyD
1	PROPOSED GROUNDCOVER MAINTENANCE UNDERTAKEN BY HYD
~	PROPOSED CLINBER MAINTENANCE UNDERTAKEN BY HyD
1	PROPOSED TREE. MAINTENANCE UNDERTAKEN BY HyD
· ·	PROPOSED FINAL LOCATION OF TRANSPLANTED TREE, MAINTENANC UNDERTAKEN BY HyD
	PROPOSED CLIMBERS FOR PIERS OR VIADUCT MAINTENANCE UNDER
1	
	В 09-05-18 слядла, межмент СС СН СL а 19-04-18 гл.мг.тас.мо. Ltc2ko летизер СС СН СL
	- 23-03-18 PLATTIK PLAN TON NOTIFILIARIAN - 23-03-18 PLANTIK PLAN TON NOTIFILIARIAN HOMAN HOMAN HOMAN HOMAN HIGH AND AND HIGH HIGH AND
	CLENT CLENT ■山町 路政署 HIGHWAYS DEPARTMENT
	花珠良大桃香港工程管理業 Hong Kong - Zhuhai - Macao Bridge Hong Kong Project Managament Office
	AECOM
(1)5)	TUEN MUN - CHEK LAP KOK LINK
Y	сантялст но. НҮ/2012/07
ugust 2019	TUEN MUN - CHEK LAP KOK LINK - SOUTHERN CONNECTION VIADUCT SECTION
FT as-built and/or b locations	TITLE PLANTING PLAN FOR NORTH LANTAU HIGHWAY (KOWLOON BOUND) VIADUCT D SHEET 5 OF 7
IT OF PLANTING DETERMINED BY OCATION OF THE SSWAY BOUNDARY FENCE	DRAWING REFERENCE SCALE 1:500 (A1) 60240249/C1/1755B 1:1000 (A3) DRAWING PREPARED GC GH SETION NO. IREV.
	SK0347 B

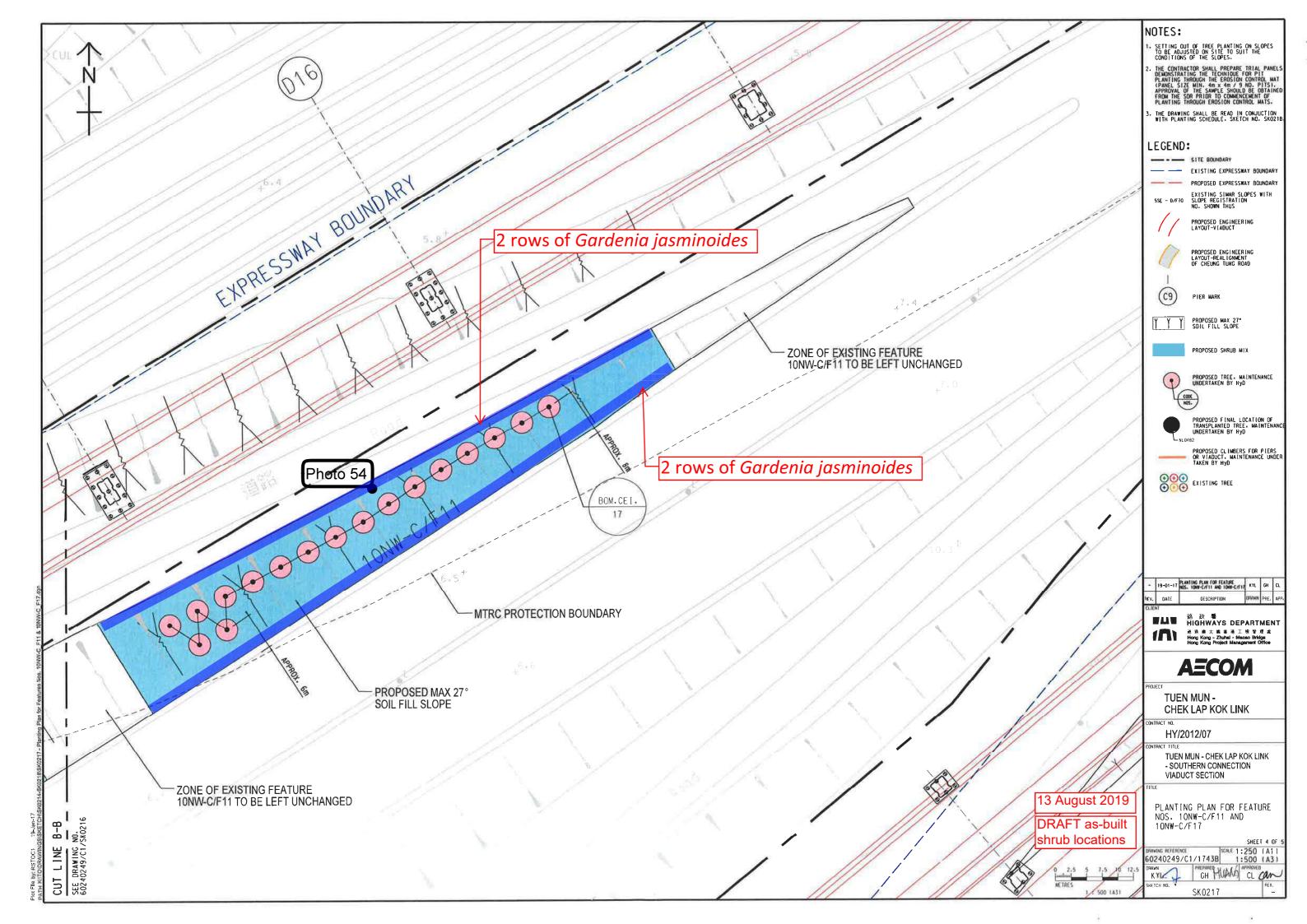


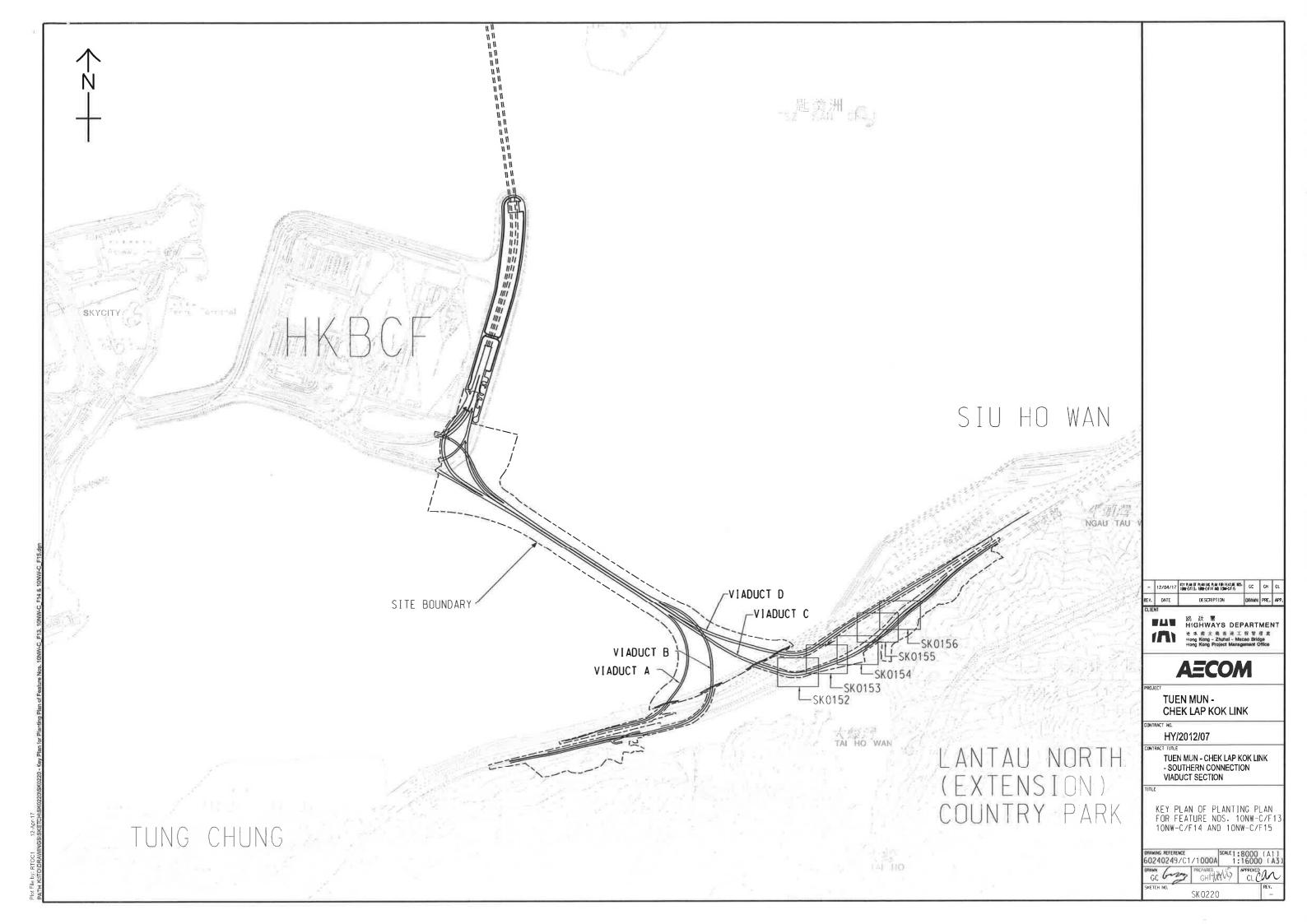
Xint	THEFT	8	EGEND		
	-10NW-C/F	5600E	55E - 0/F10	SITE BOUNDARY EXISTING EXPRESSN PROPOSED EXPRESSN (REVISED) EXISTING SIMAR SL SLOPE REGISTRATIO NO. SHOWN THUS PROPOSED ENGINEER LAYOUT-VIADUCT PROPOSED ENGINEER LAYOUT-REALIGNMEN OF CHELING TUNG RO	AY BOUNDARY OPES WITH ING
				PROPOSED FINAL LO TRANSPLANTED TREE UNDERTAKEN BY HYD	DING TAKEN BY HyD TAKEN BY HyD YER TAKEN BY HyD TAKEN BY HyD INTENANCE A MAINTENANCE FOR PIERS NANCE UNDER
T OF PLA DETERMI OCATION SSWAY BO	NED BY			INE ME LEARD RETIXE AT INALISE ADDATION AT INALISE ADDATION AT INFORMATION AT INFORMATION	A C C C C C C C C C C C C C

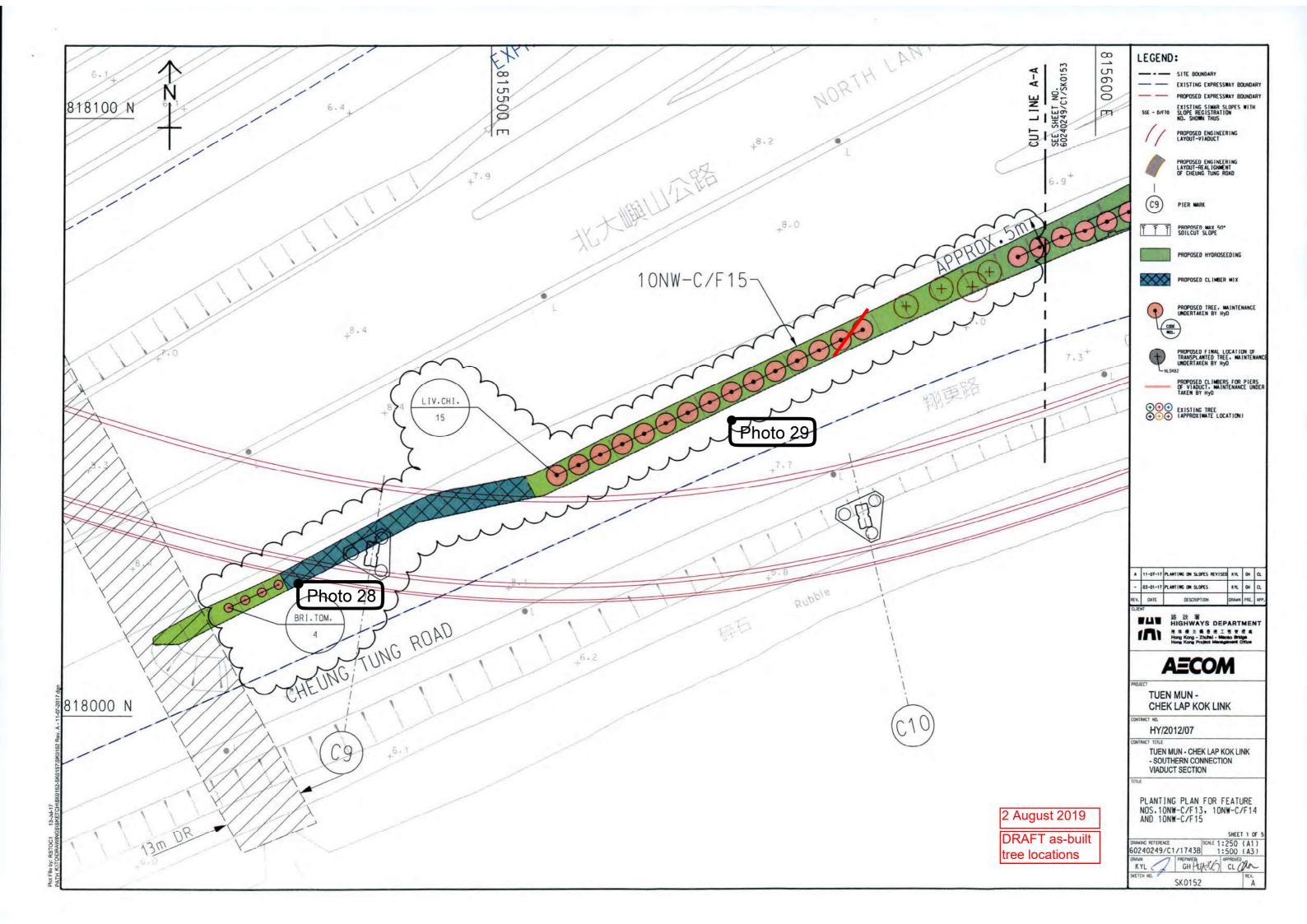


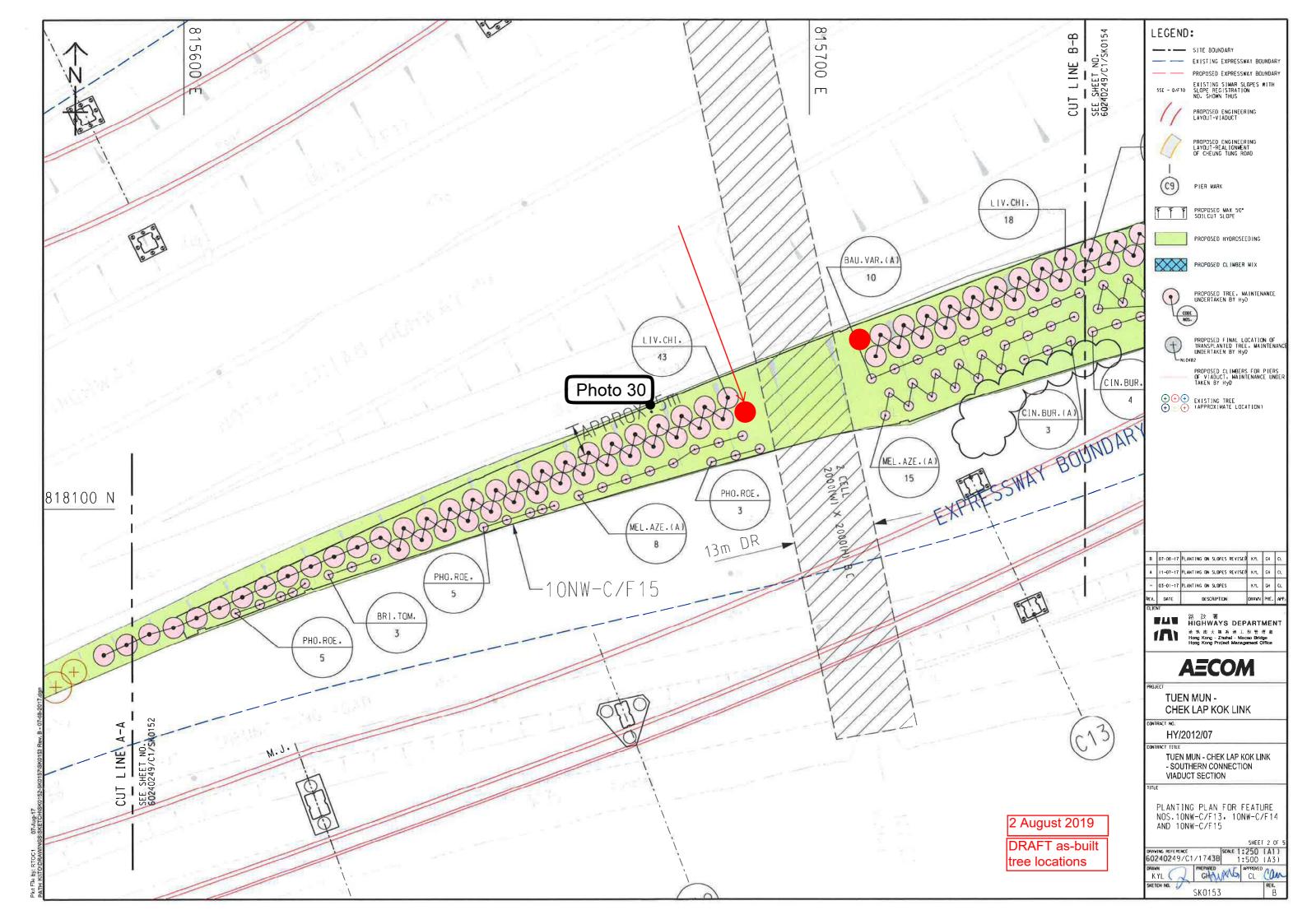


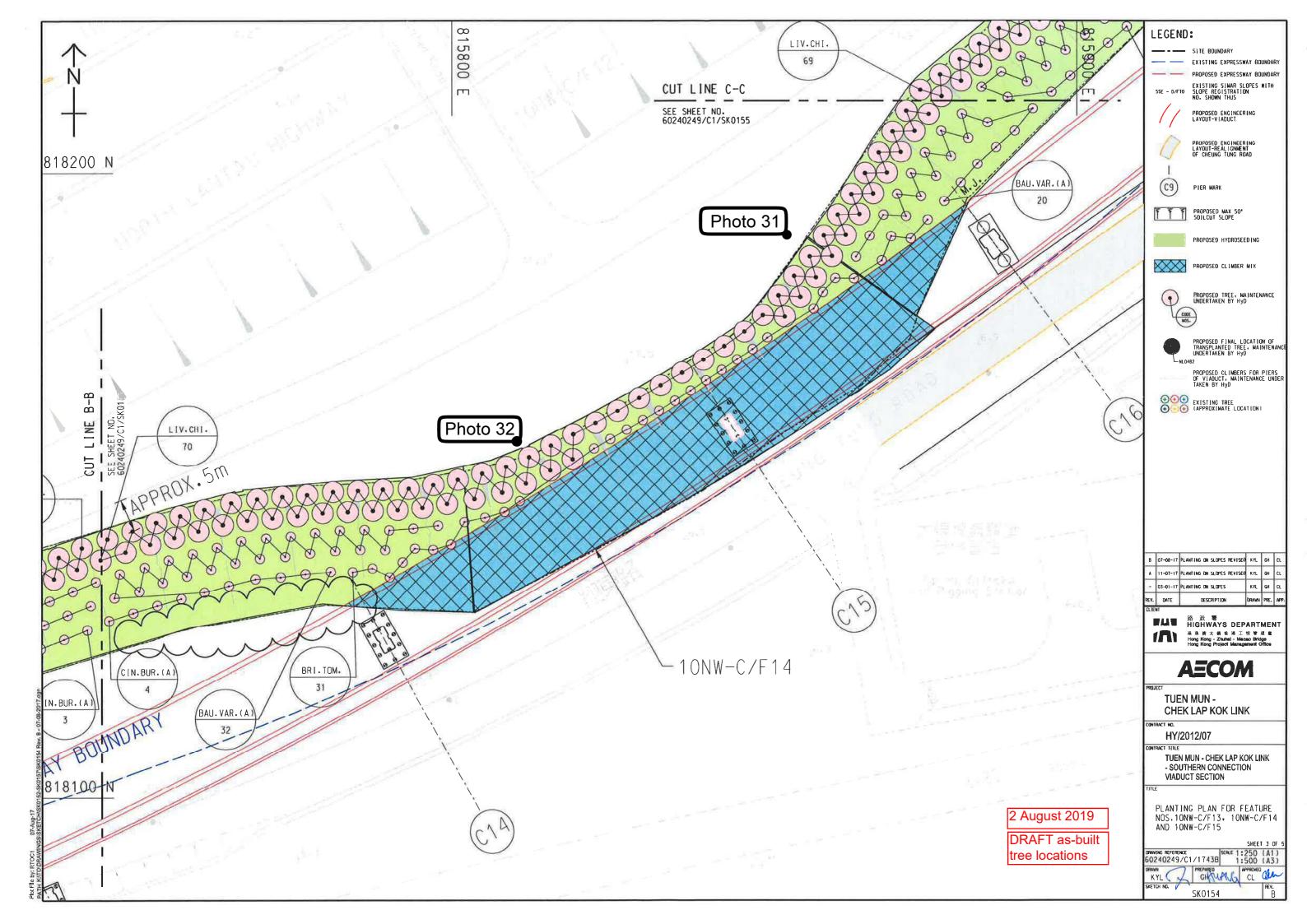


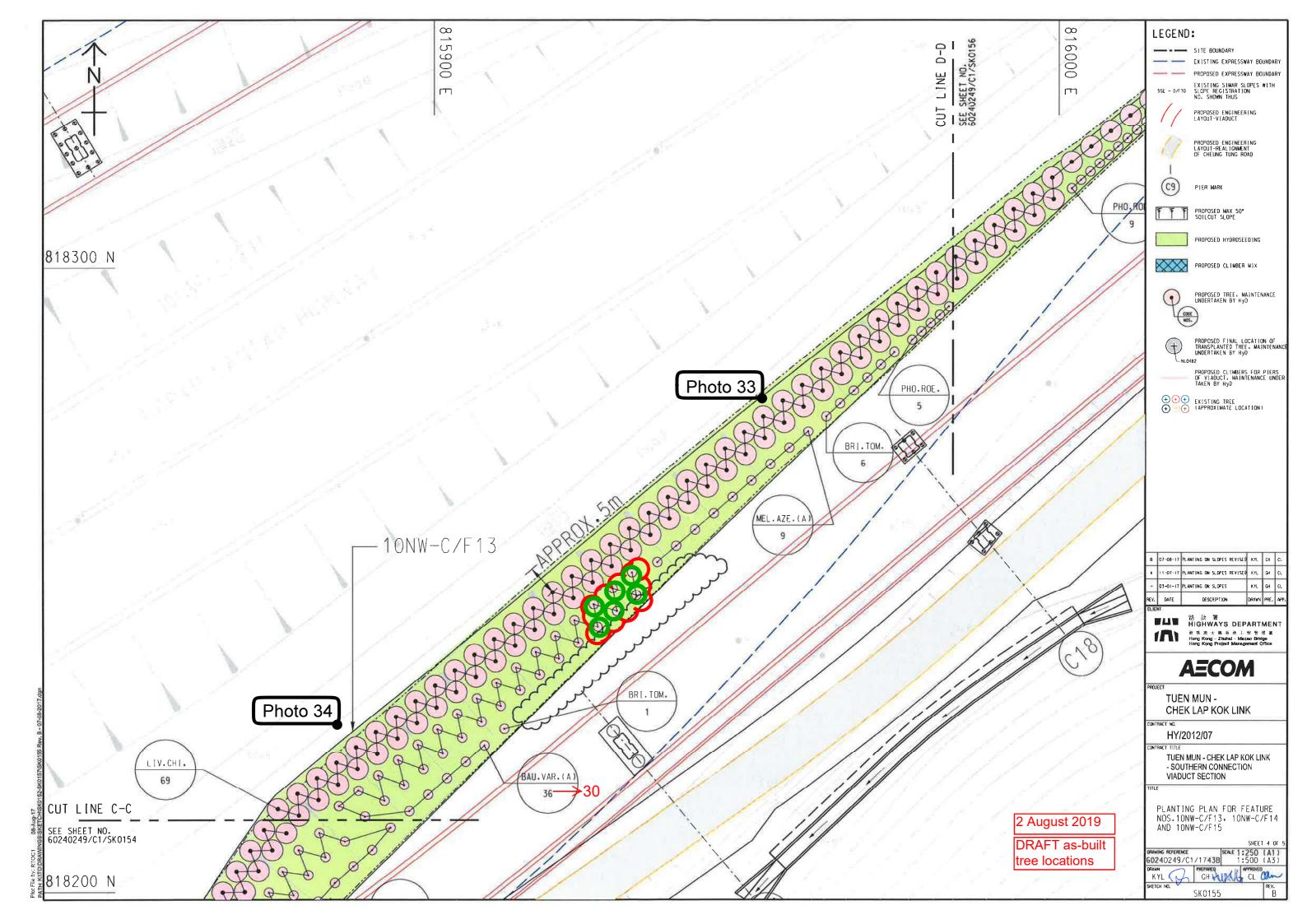


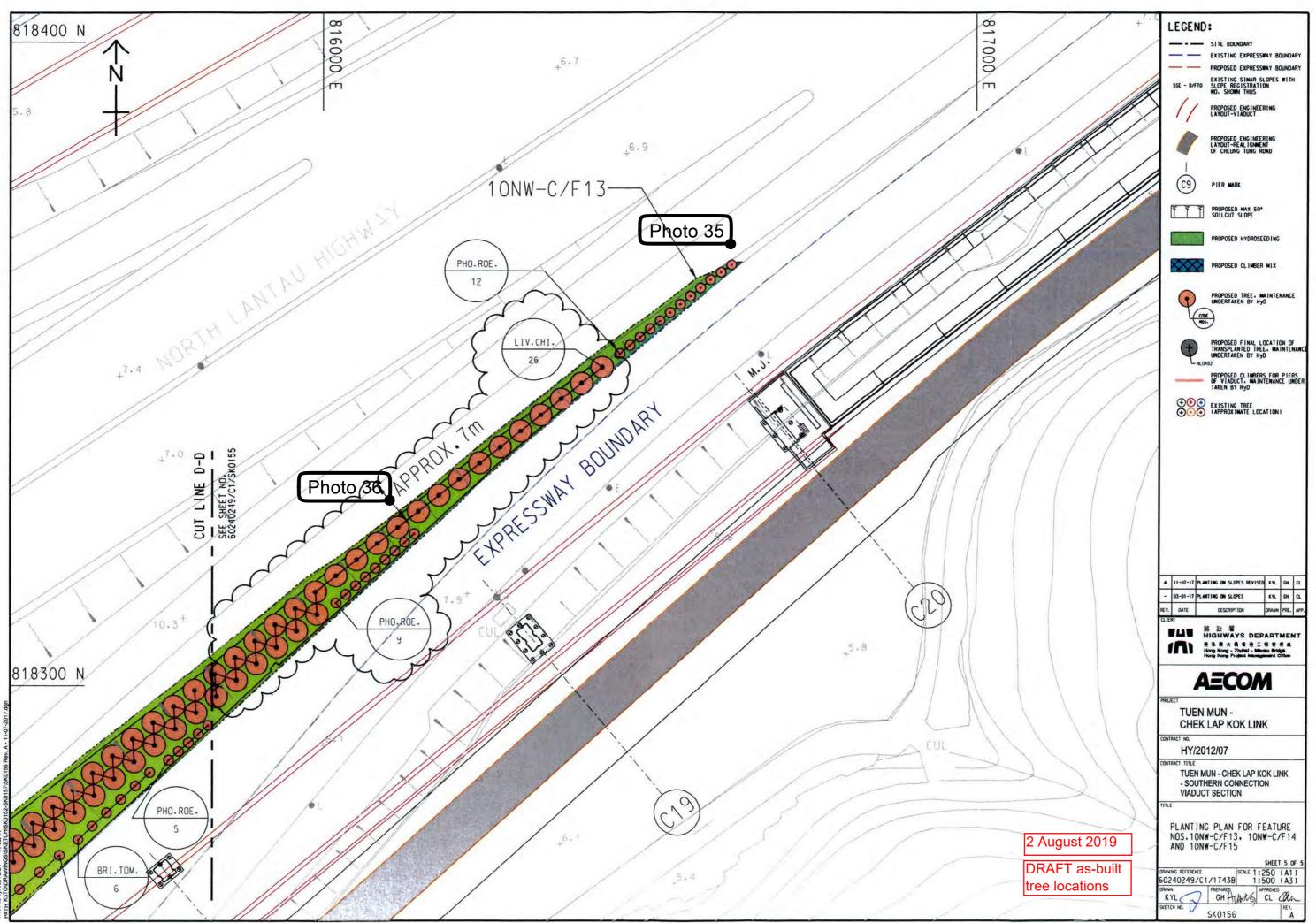


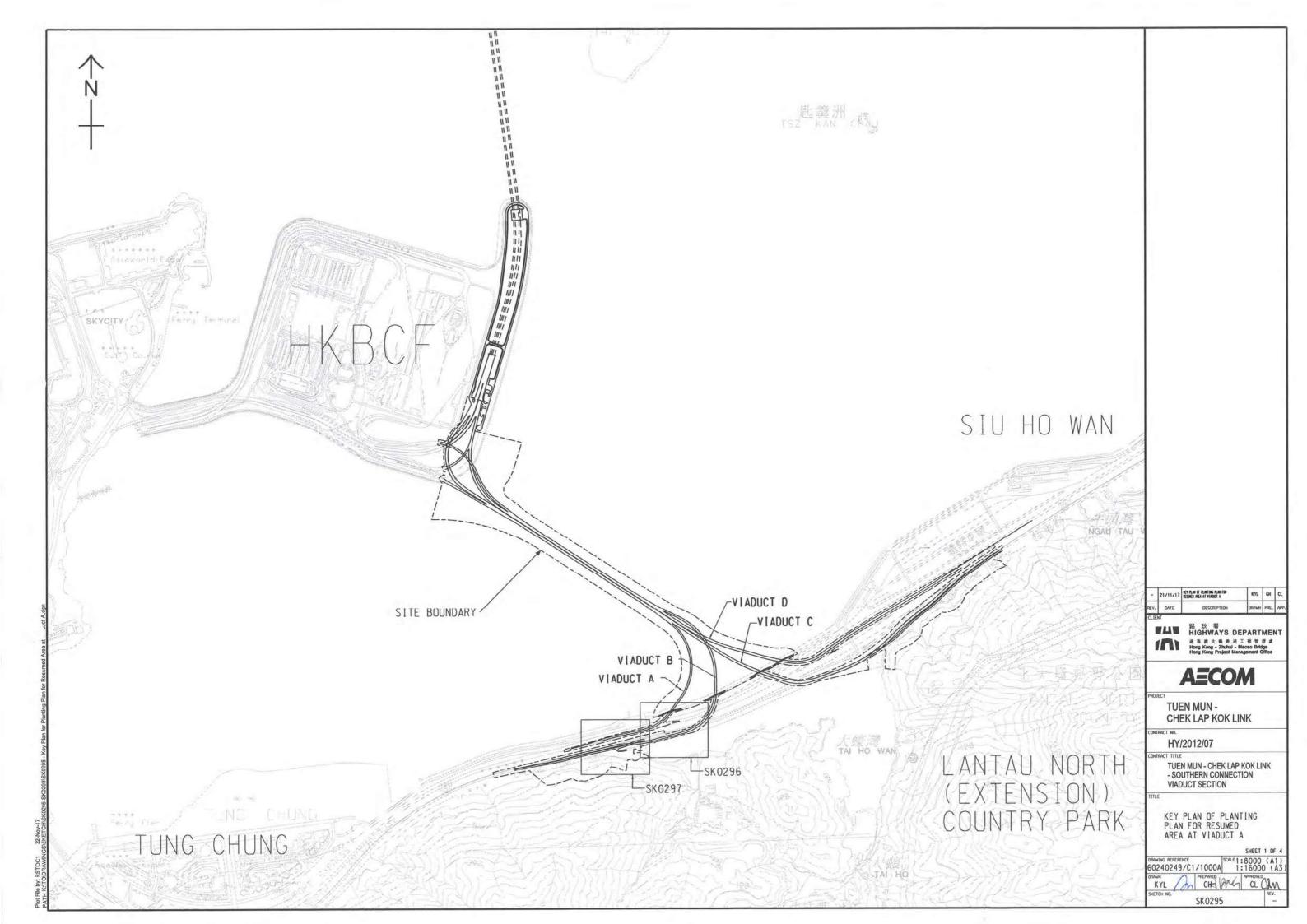


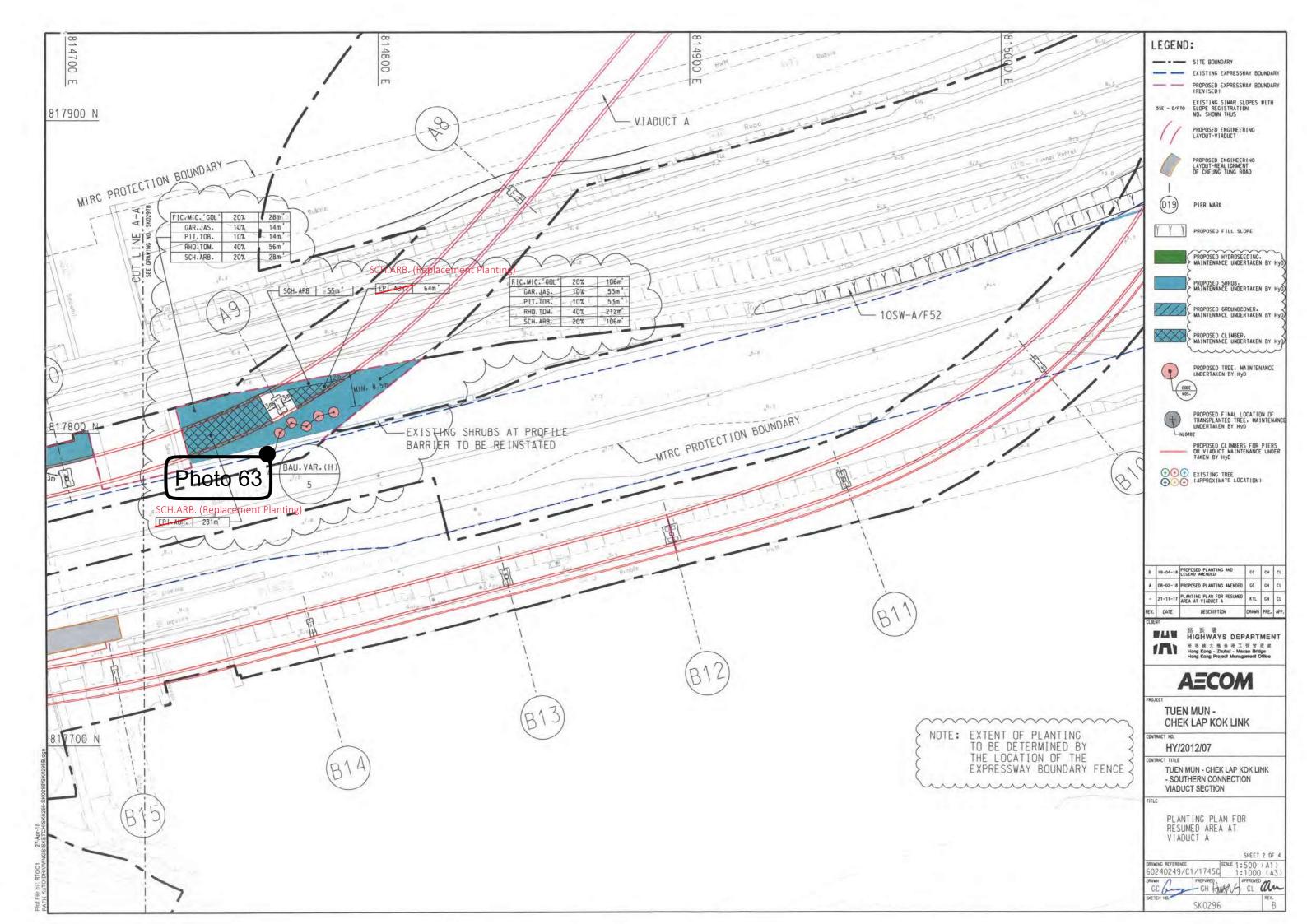


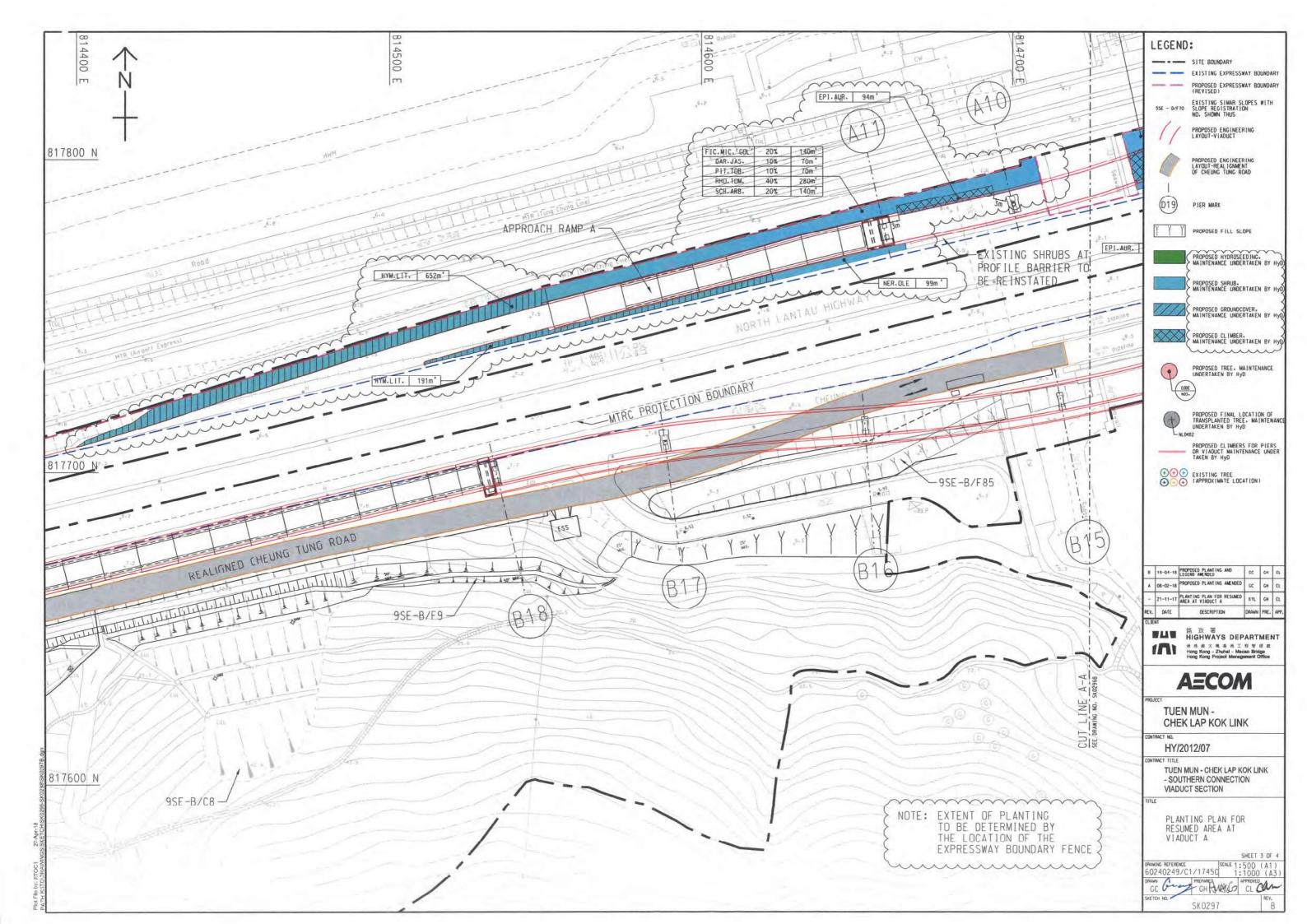


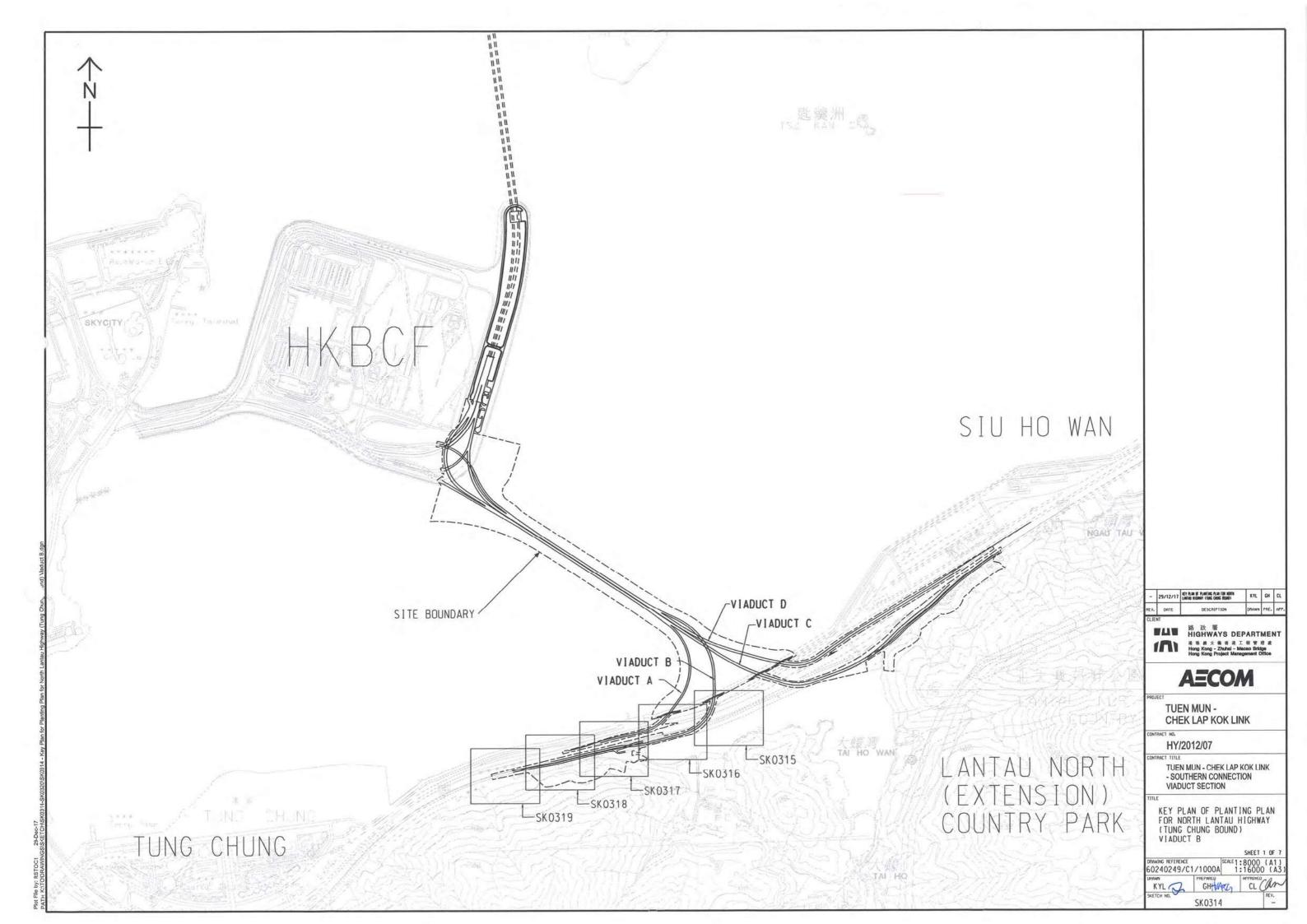


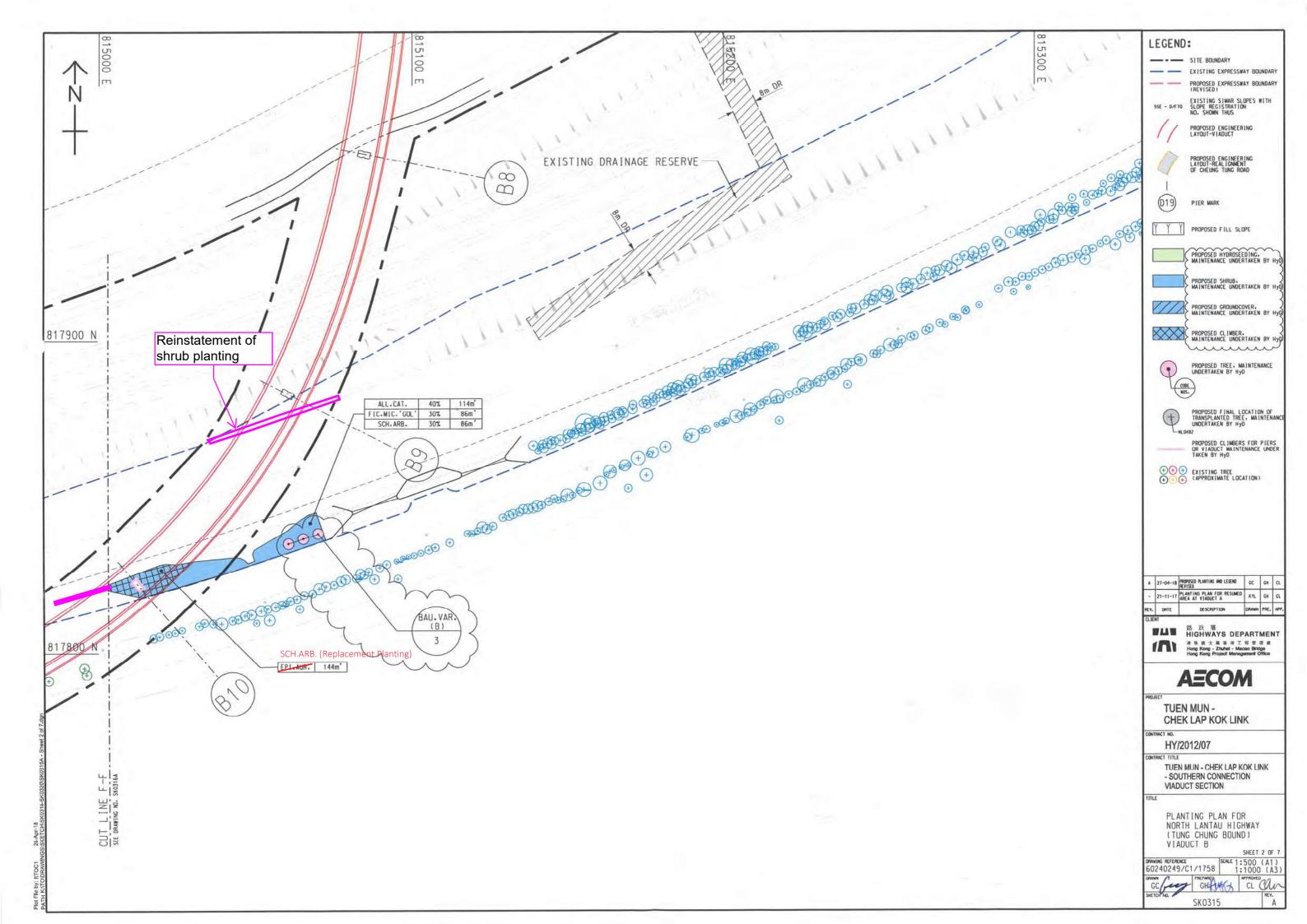


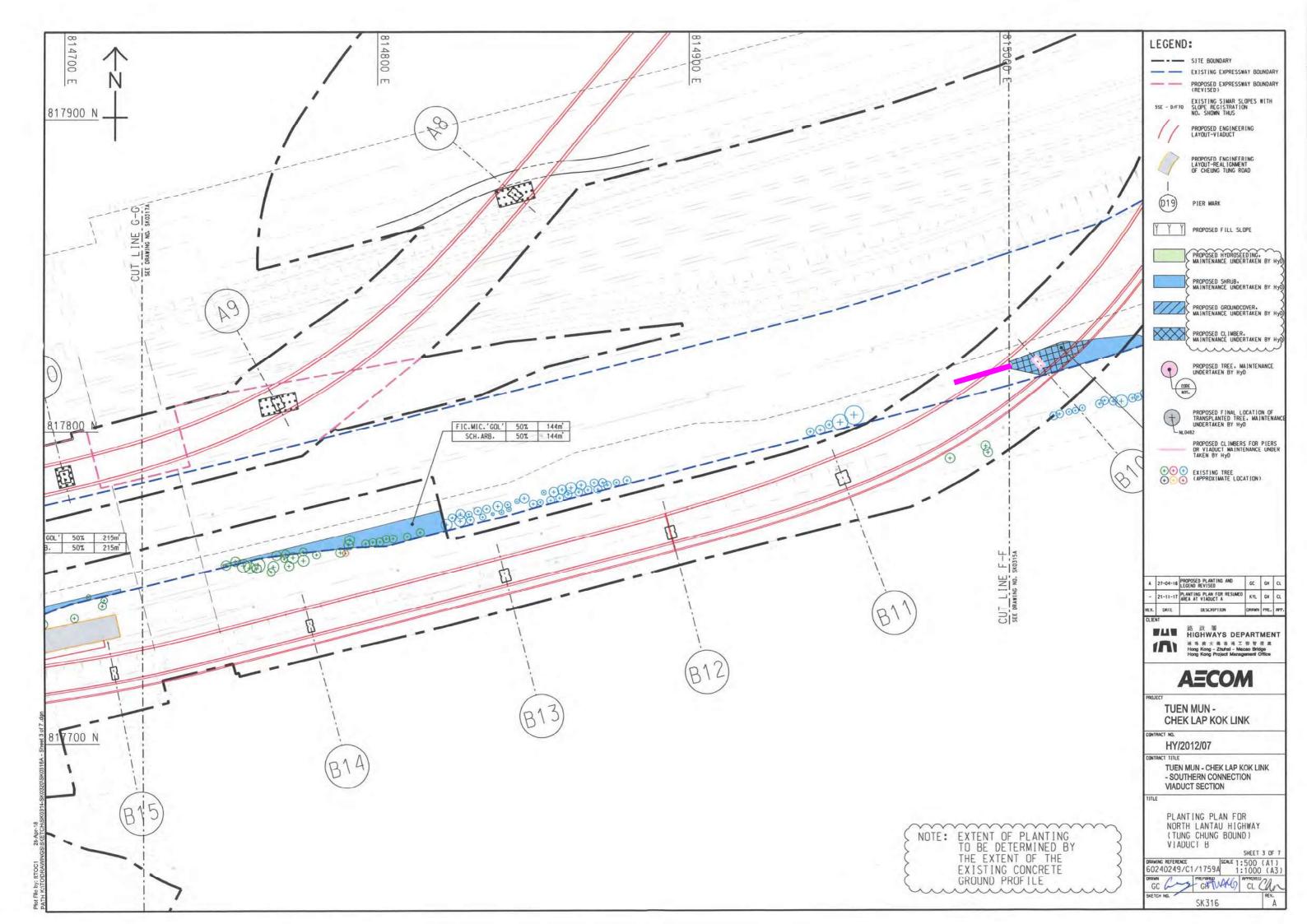


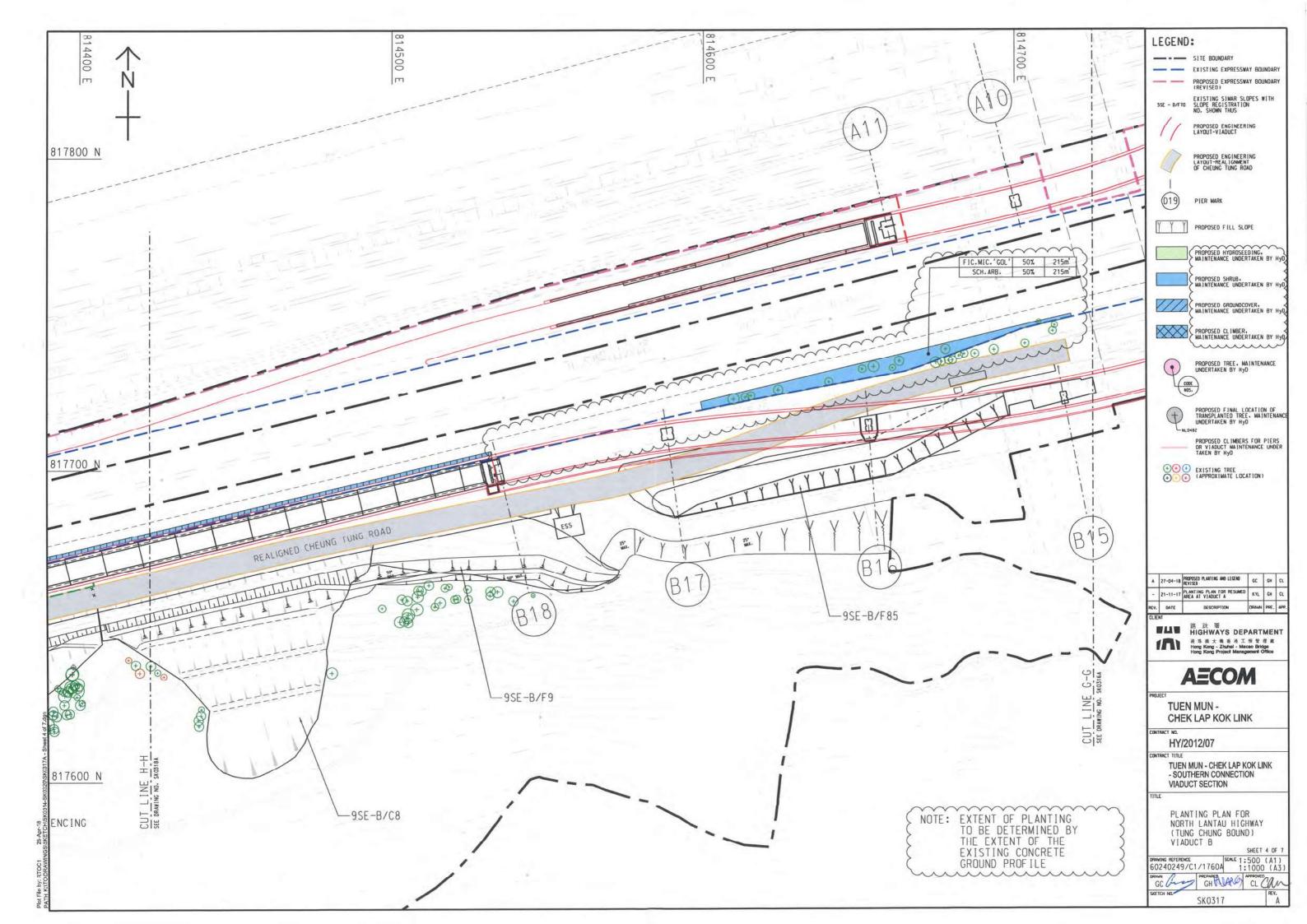


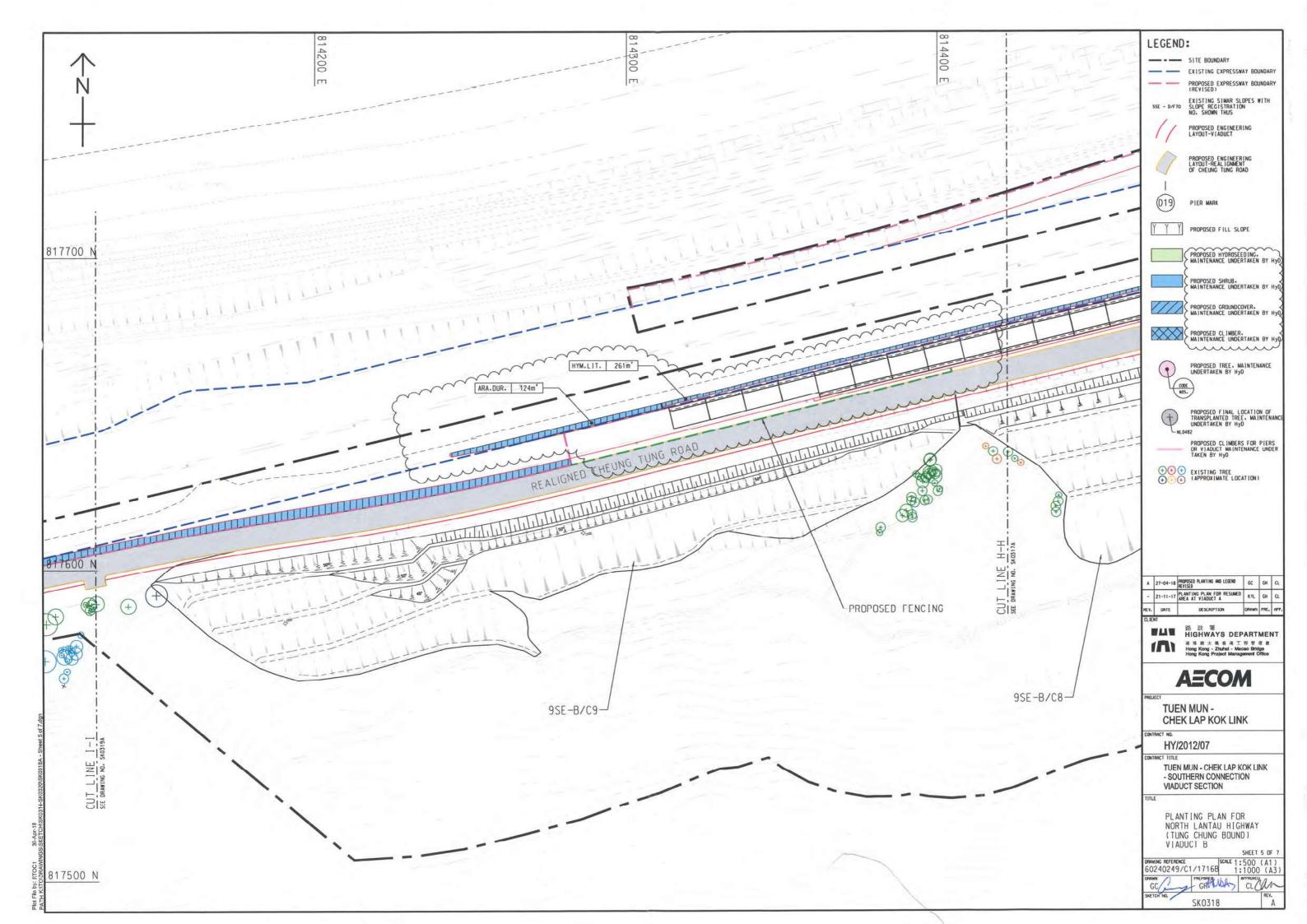


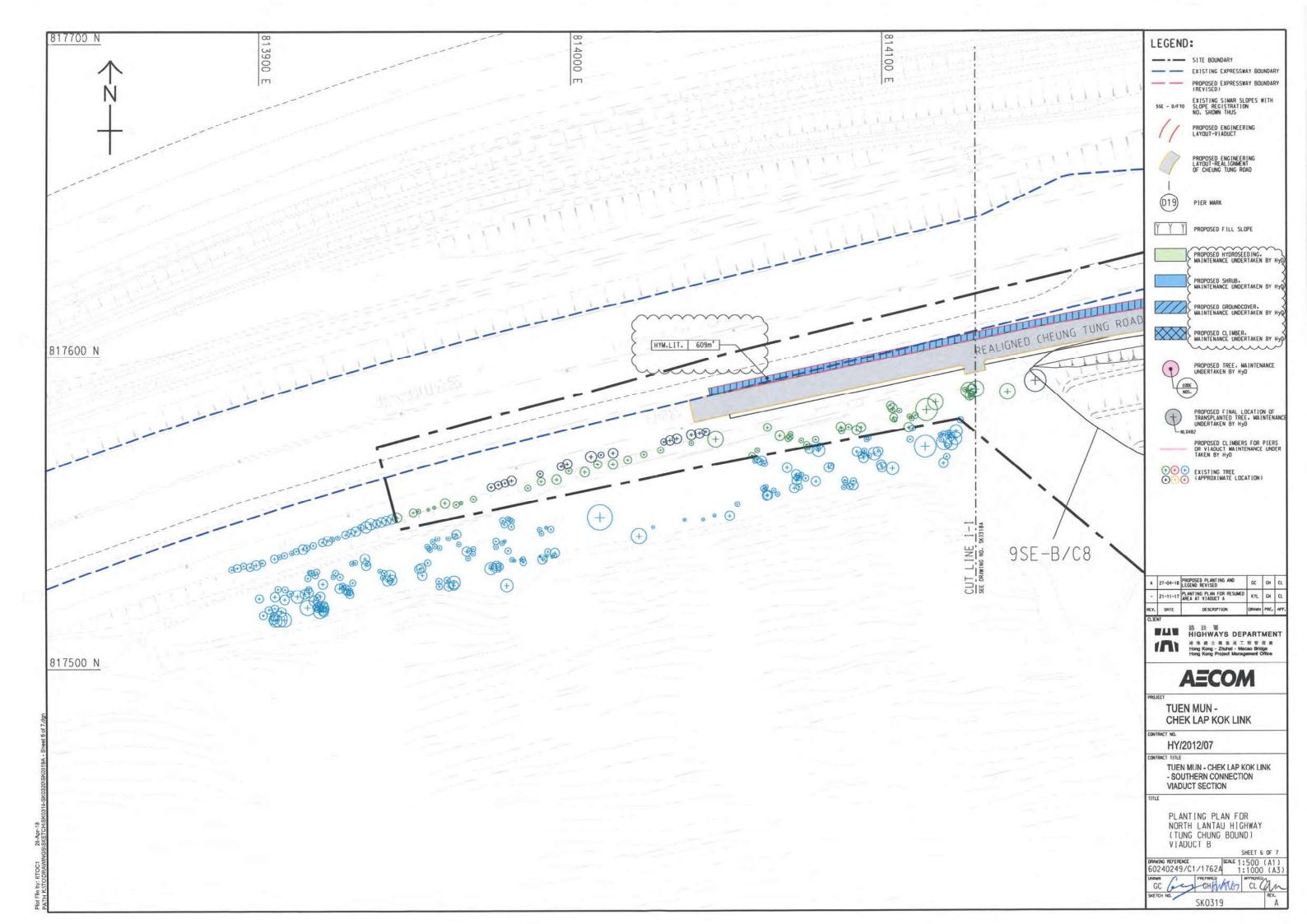


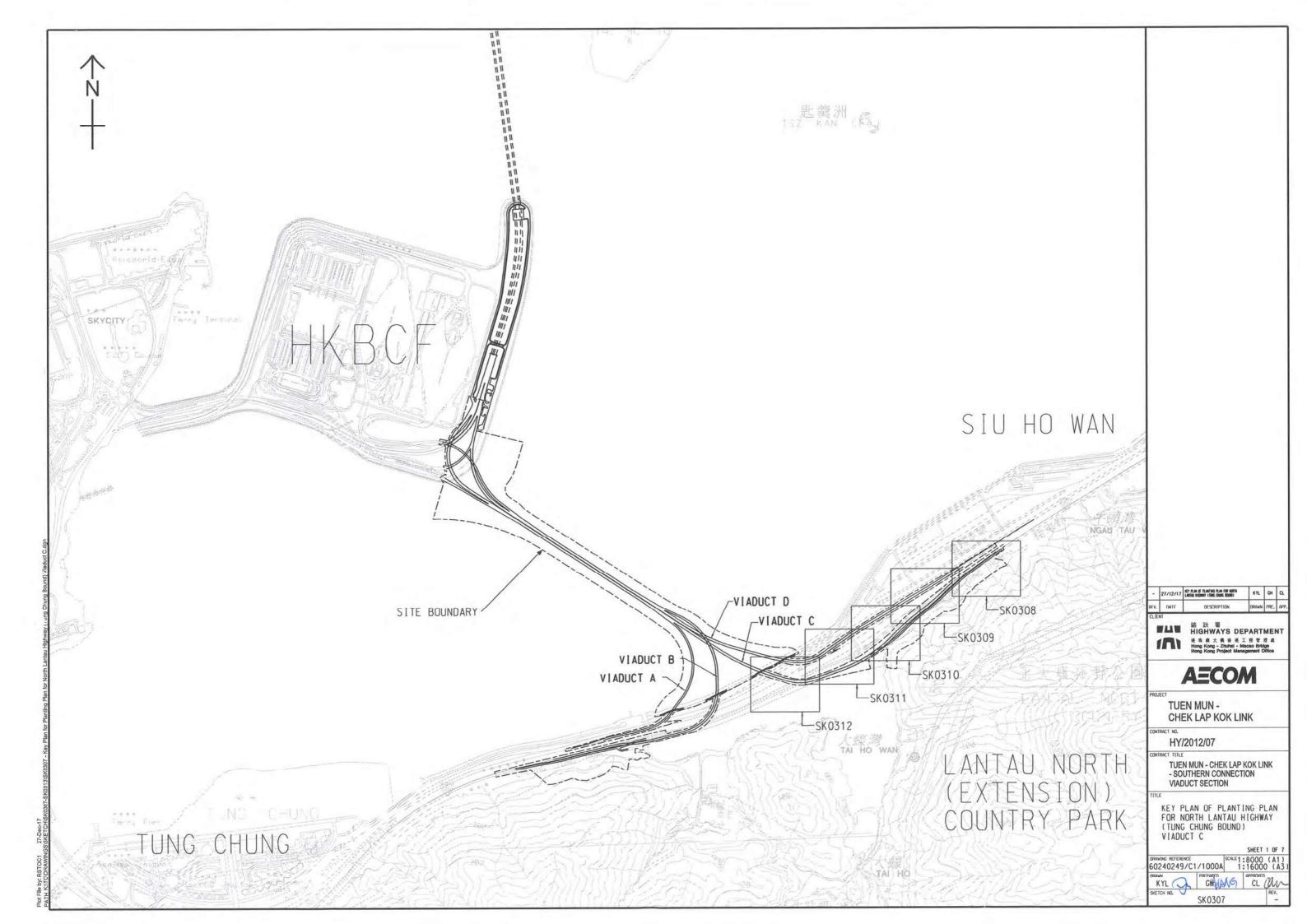


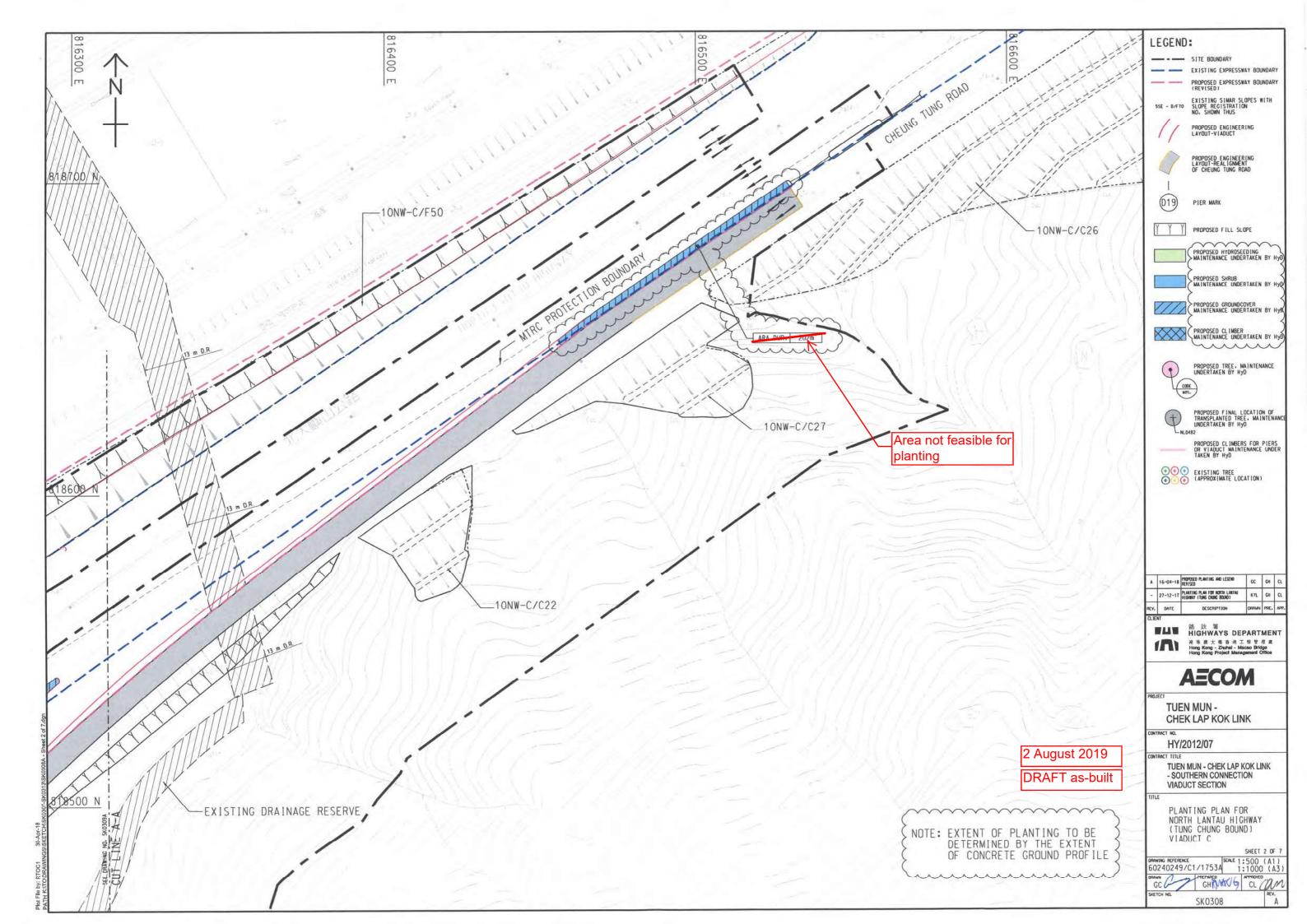


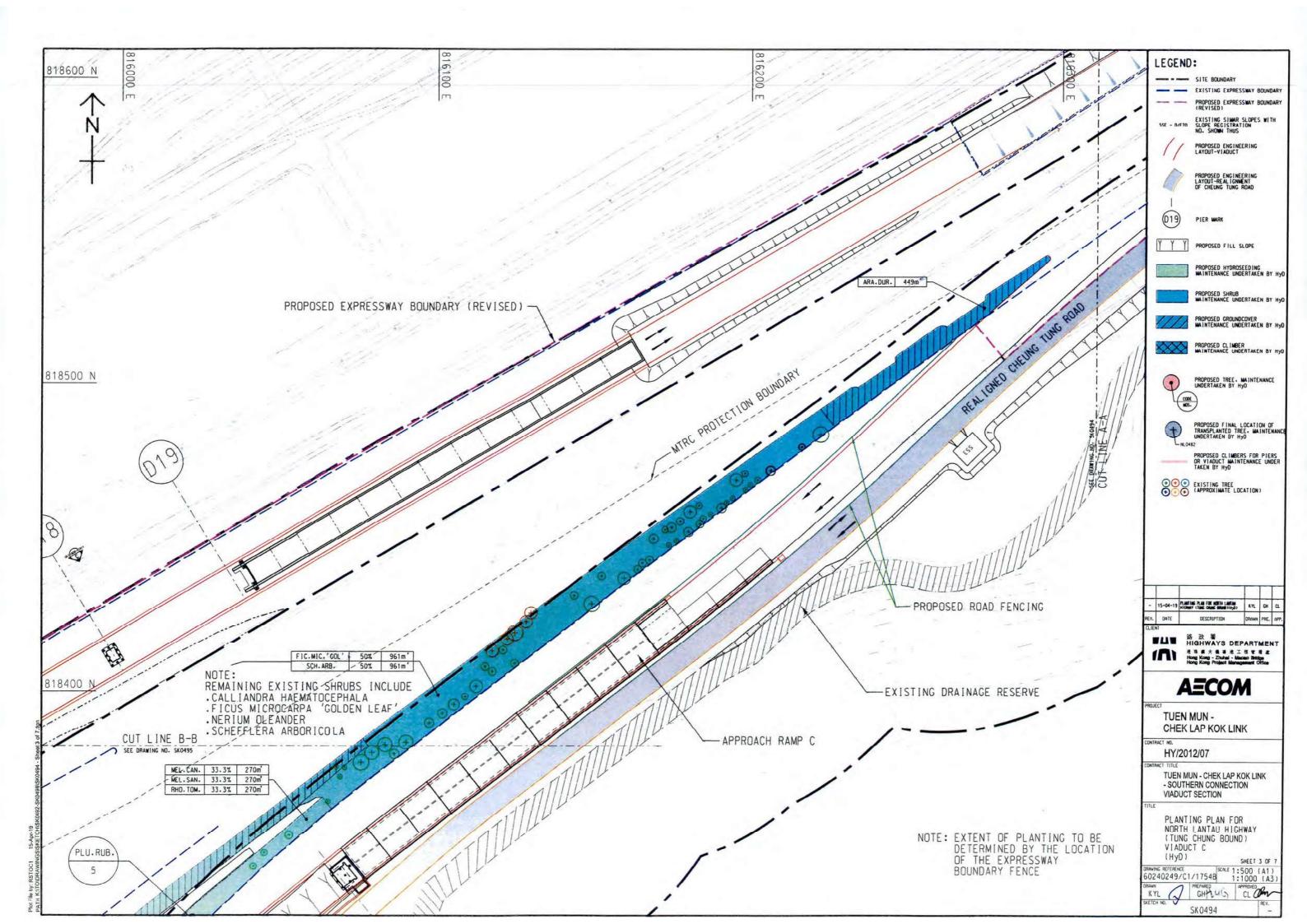


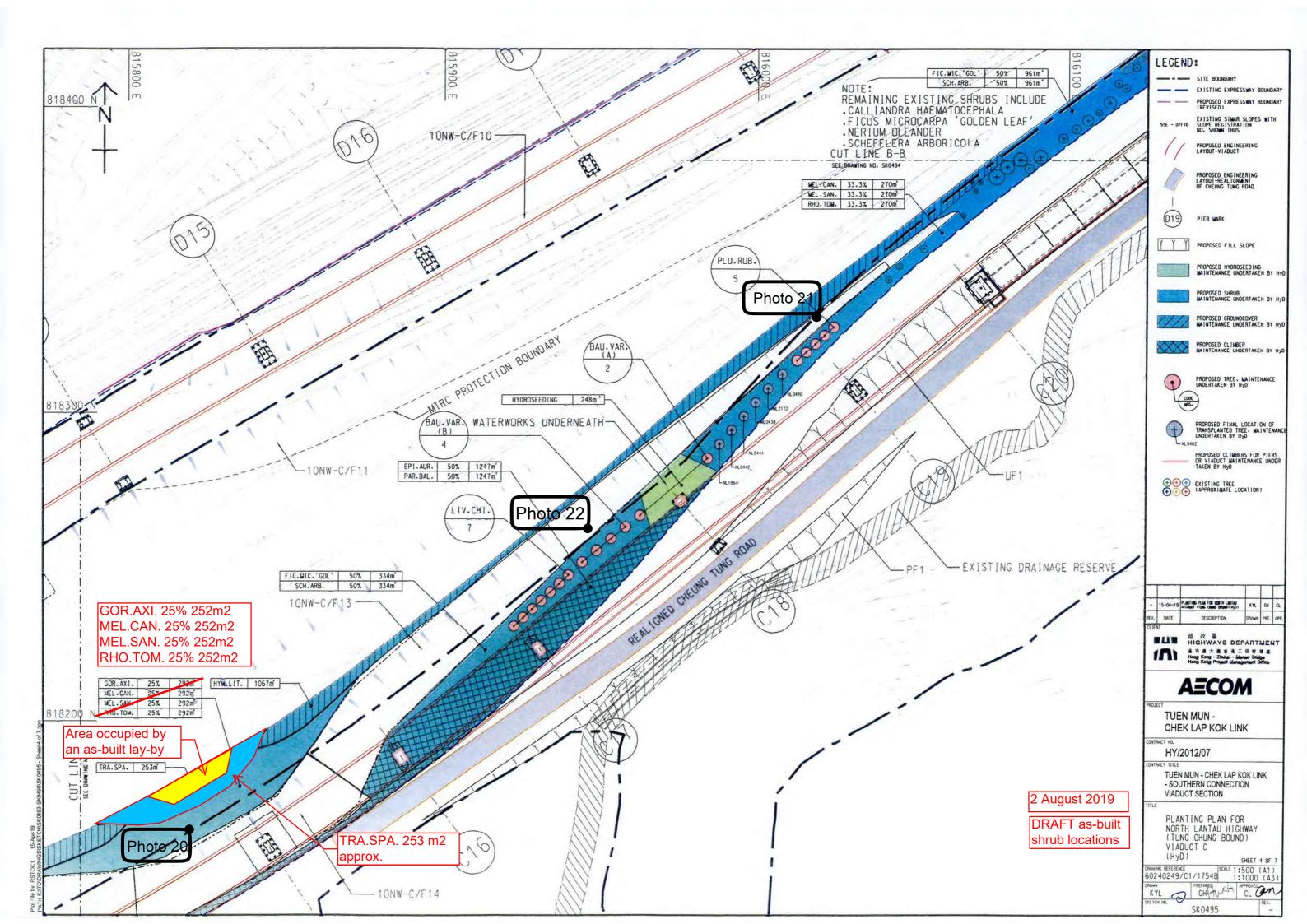


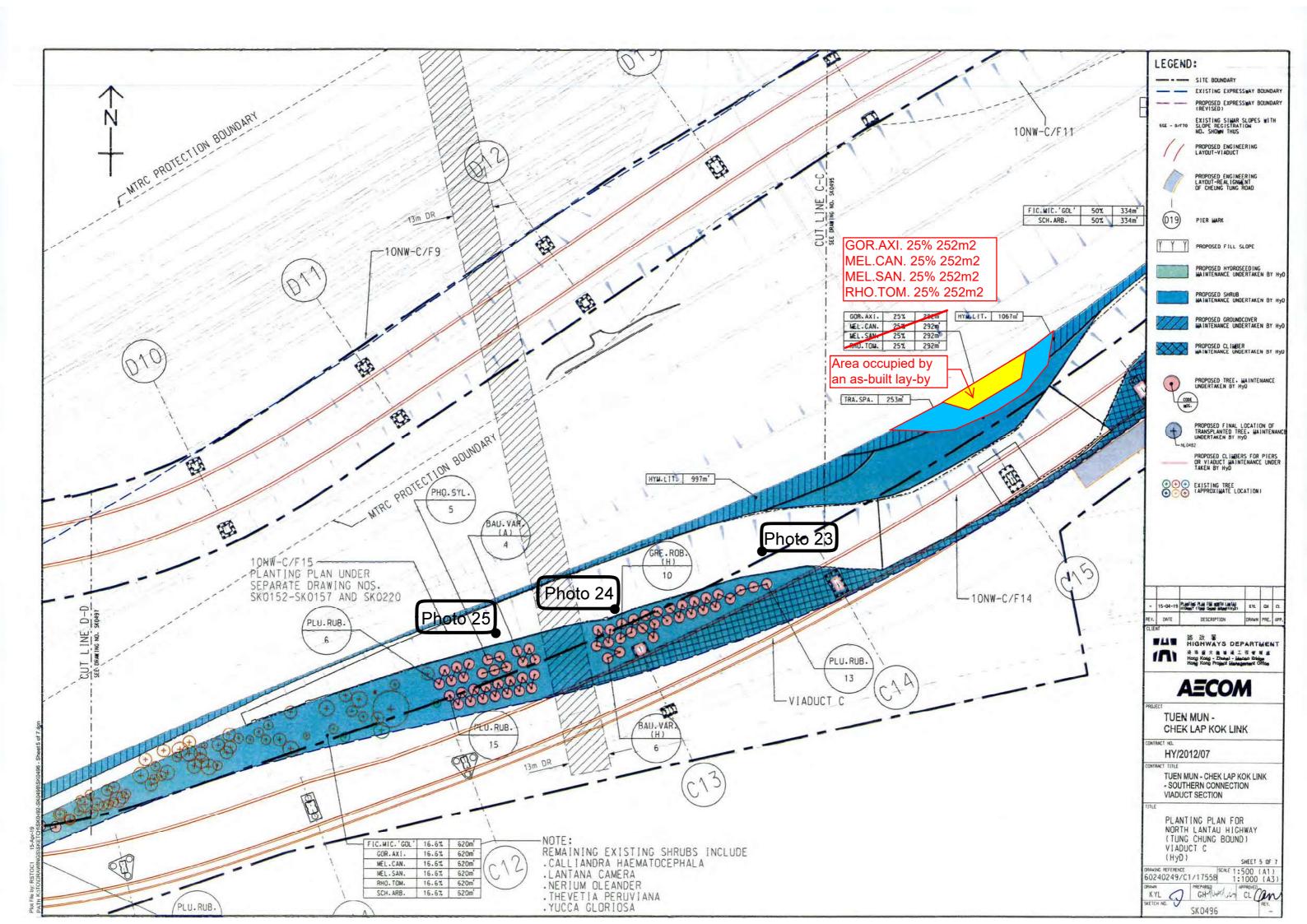


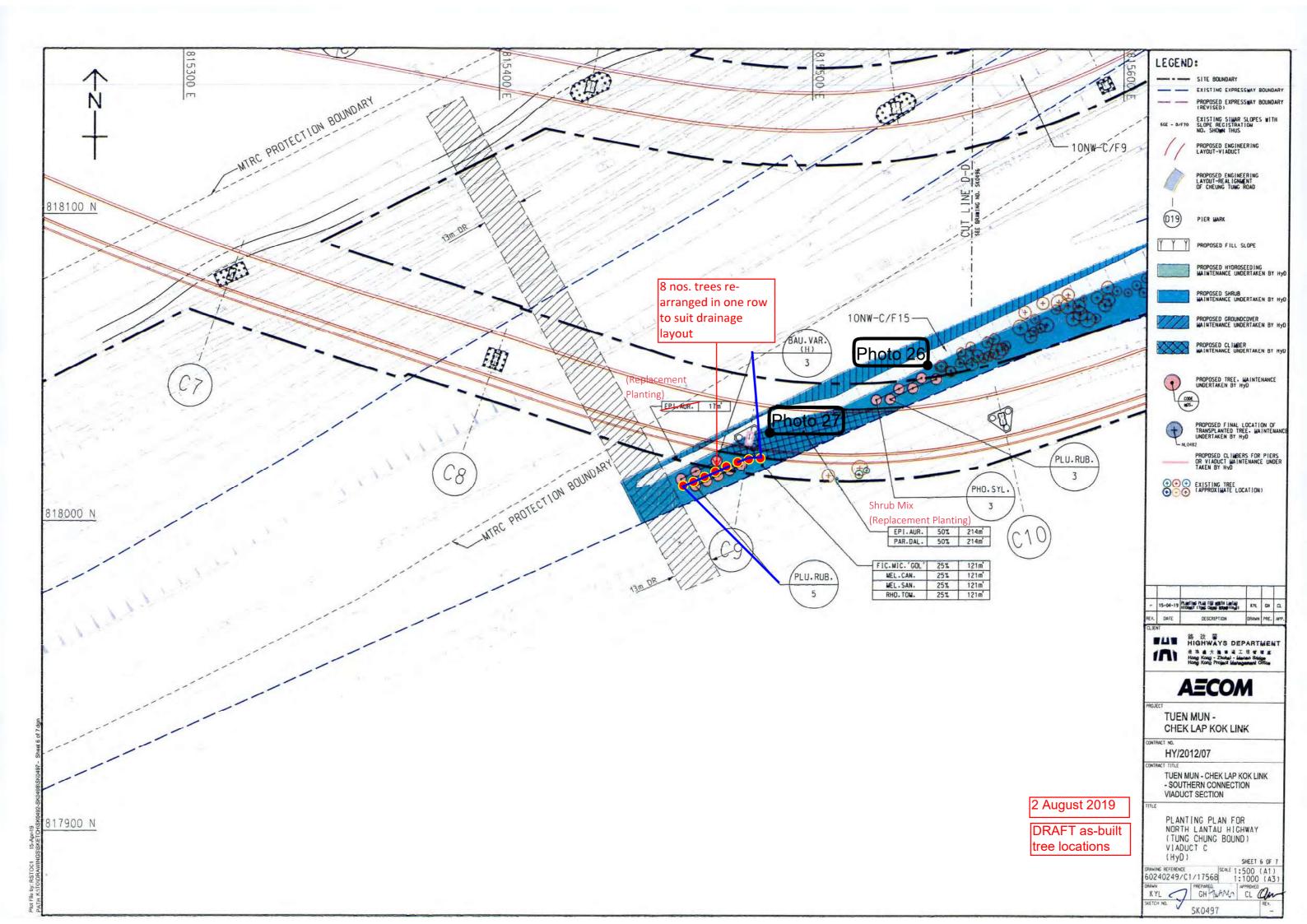


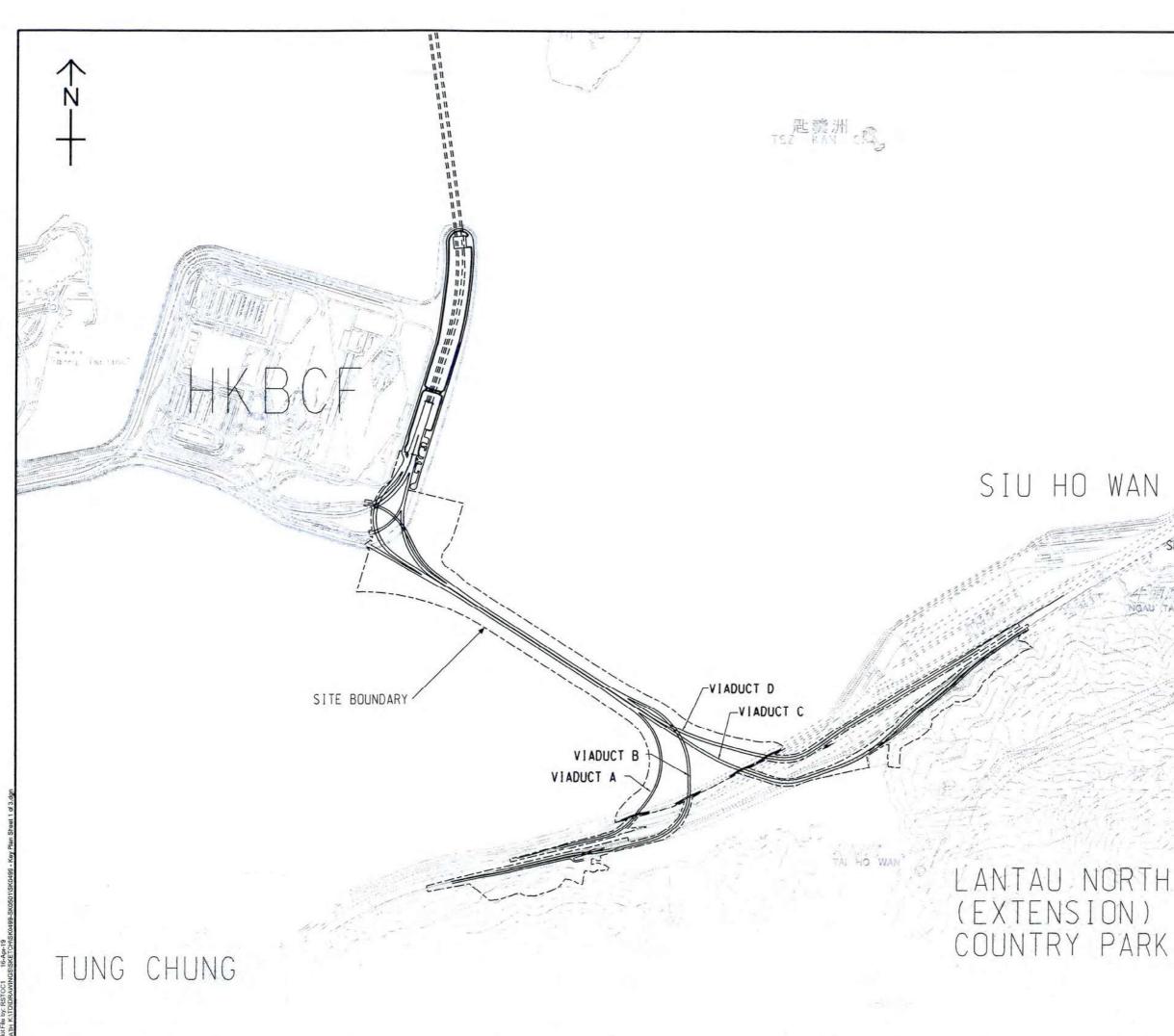




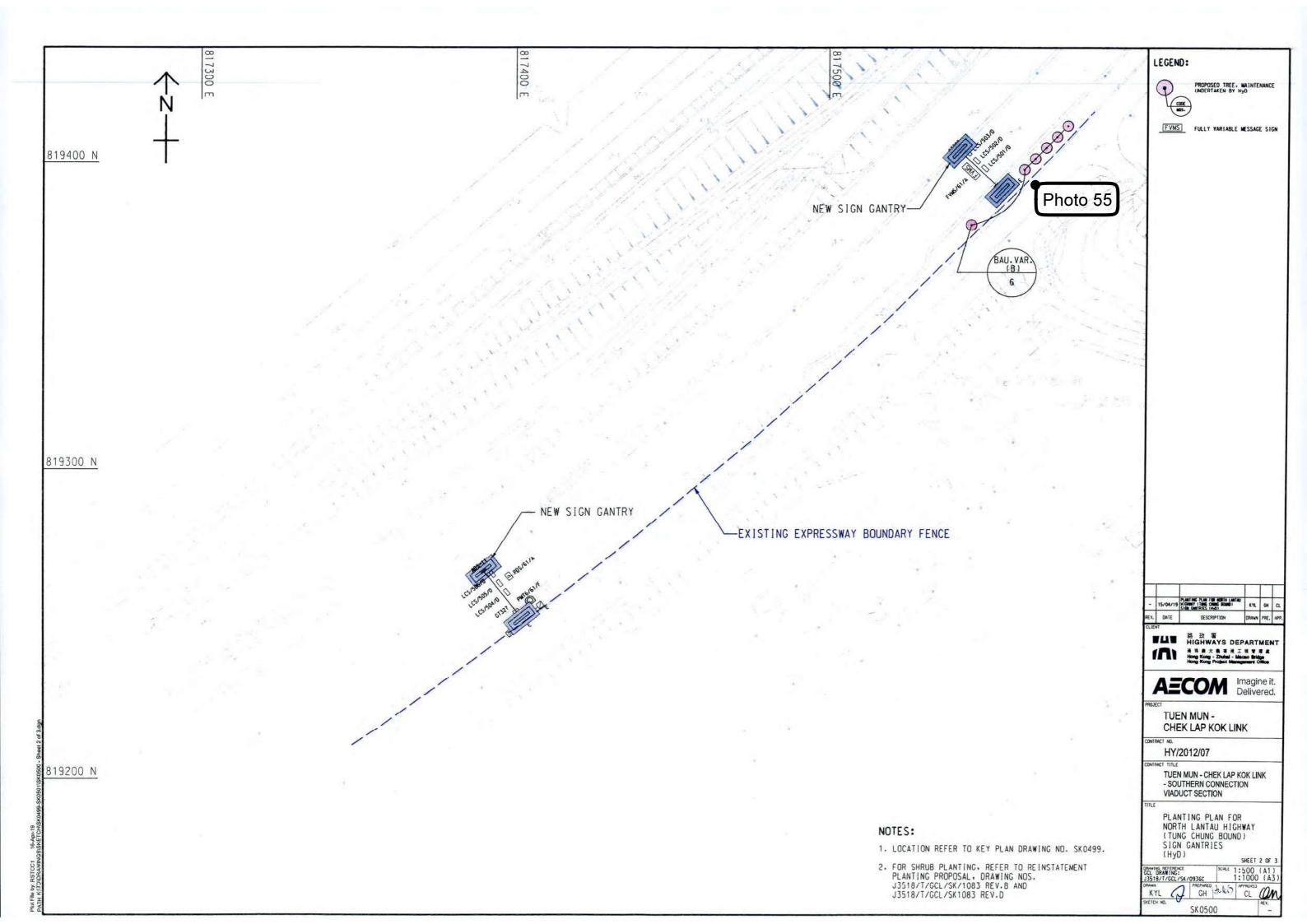


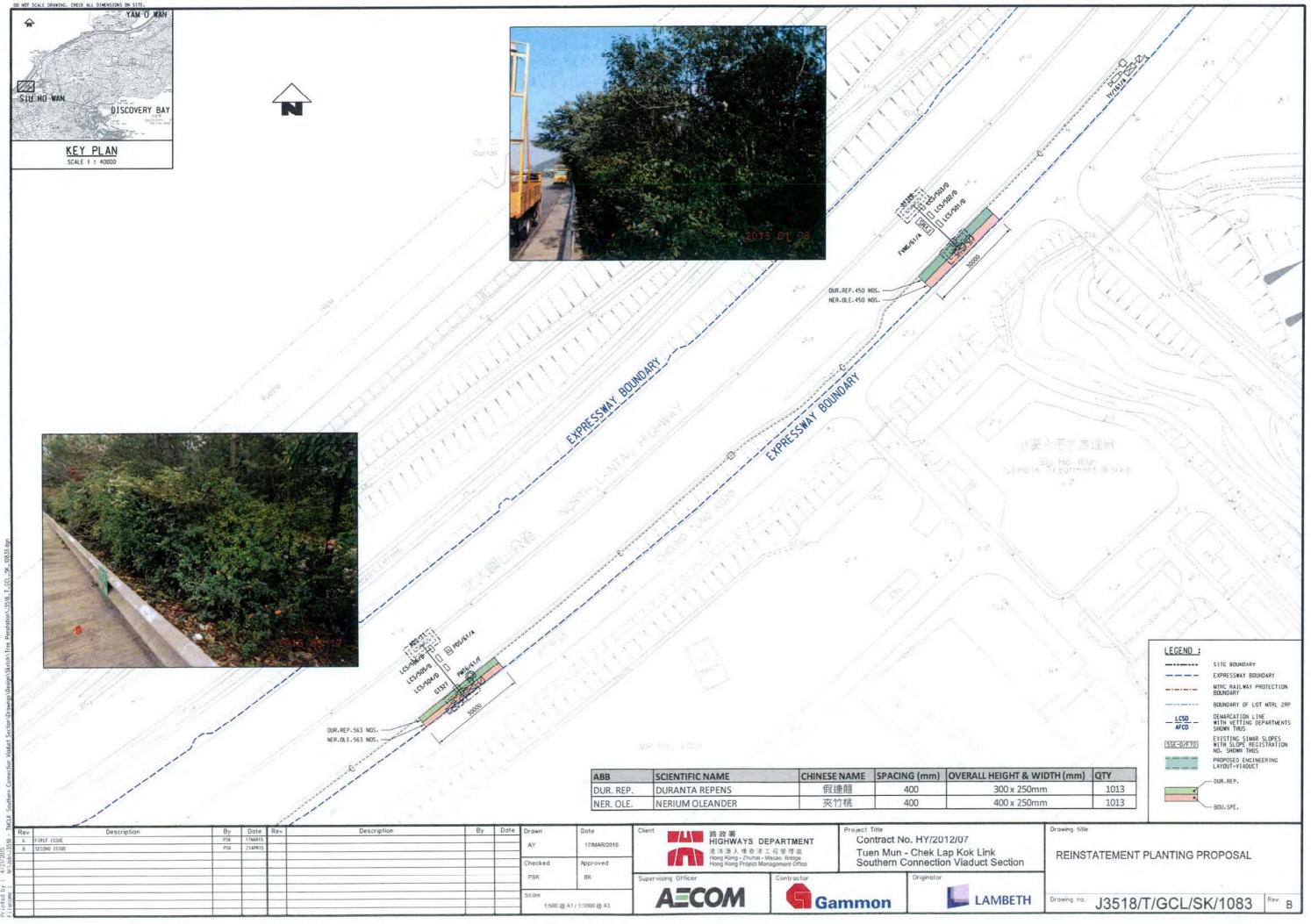




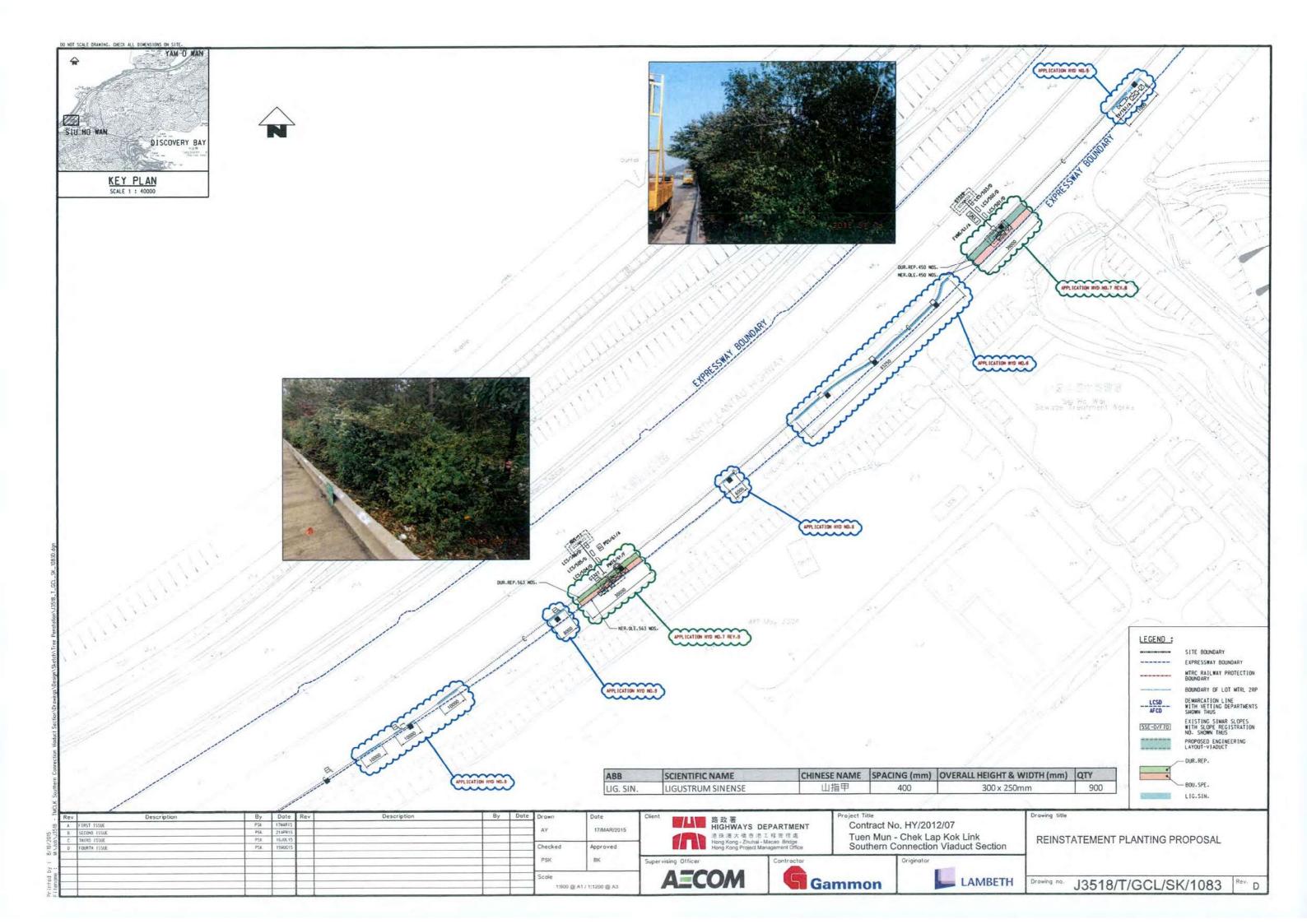


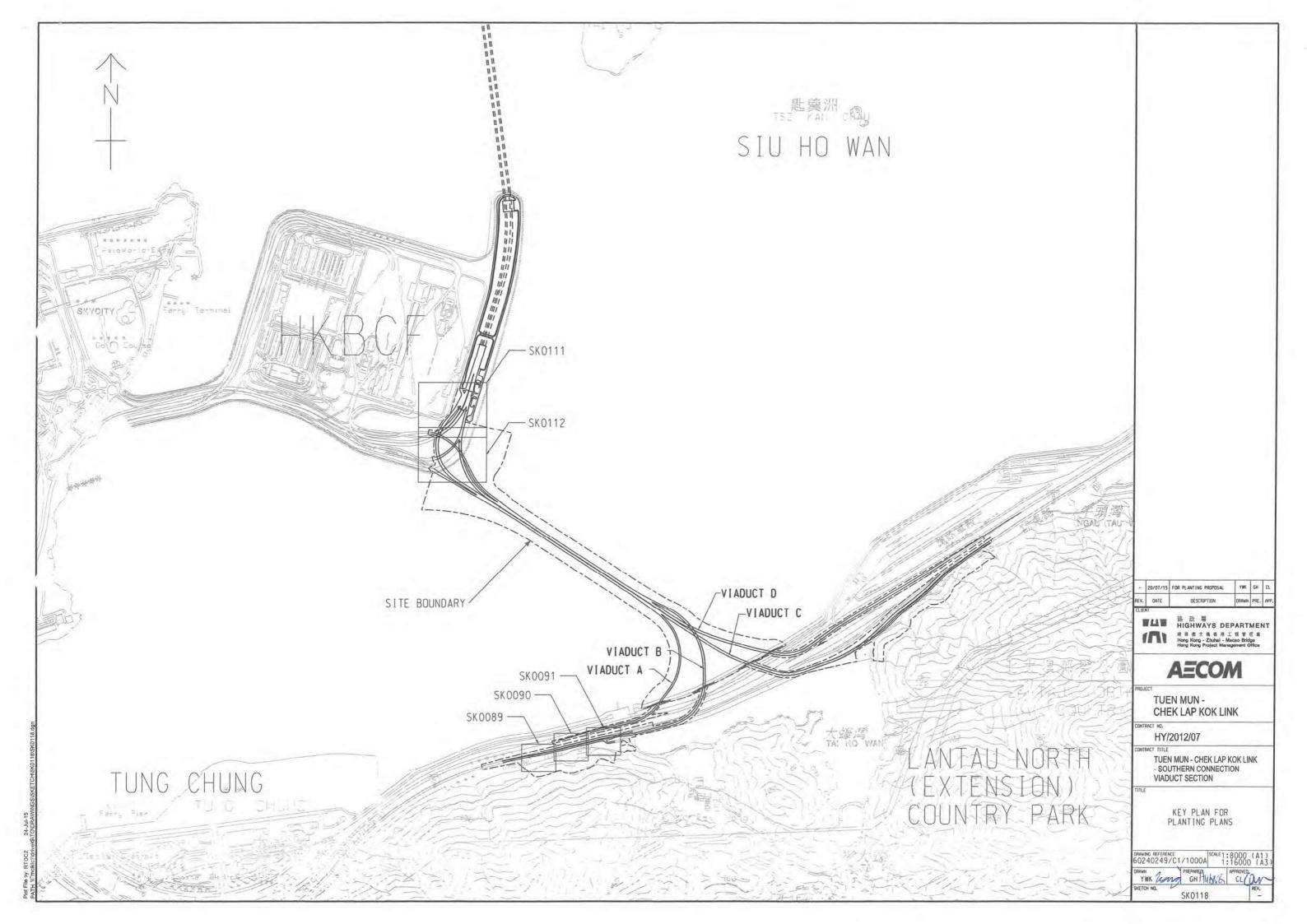
派7 5h21 SK0500 VGAU' TAU WAN 15/04/19 Little of Austing Pue ID atta DATE DESCRIPTIO 第改署 HIGHWAYS DEPARTMENT 代入 社会は大きまた工作でまま Hong Kong - Zhuhai - Manako Bridgo Hong Kong - Zhuhai - Manako Bridgo Hong Kong Project Management Office AECOM Imagine it. Delivered. TUEN MUN -CHEK LAP KOK LINK TRACT NO. HY/2012/07 TUEN MUN - CHEK LAP KOK LINK - SOUTHERN CONNECTION VIADUCT SECTION KEY PLAN OF PLANTING PLAN FOR NORTH LANTAU HIGHWAY (TUNG CHUNG BOUND) SIGN GANTRIES (HyD) SHEET 1 OF 3 SHEET 1 OF DRAWING REFERENCE SCALE 1:8000 (A1 60240249/C1/1000A 1:16000 (A3 KYL CHANG CL an SK0499

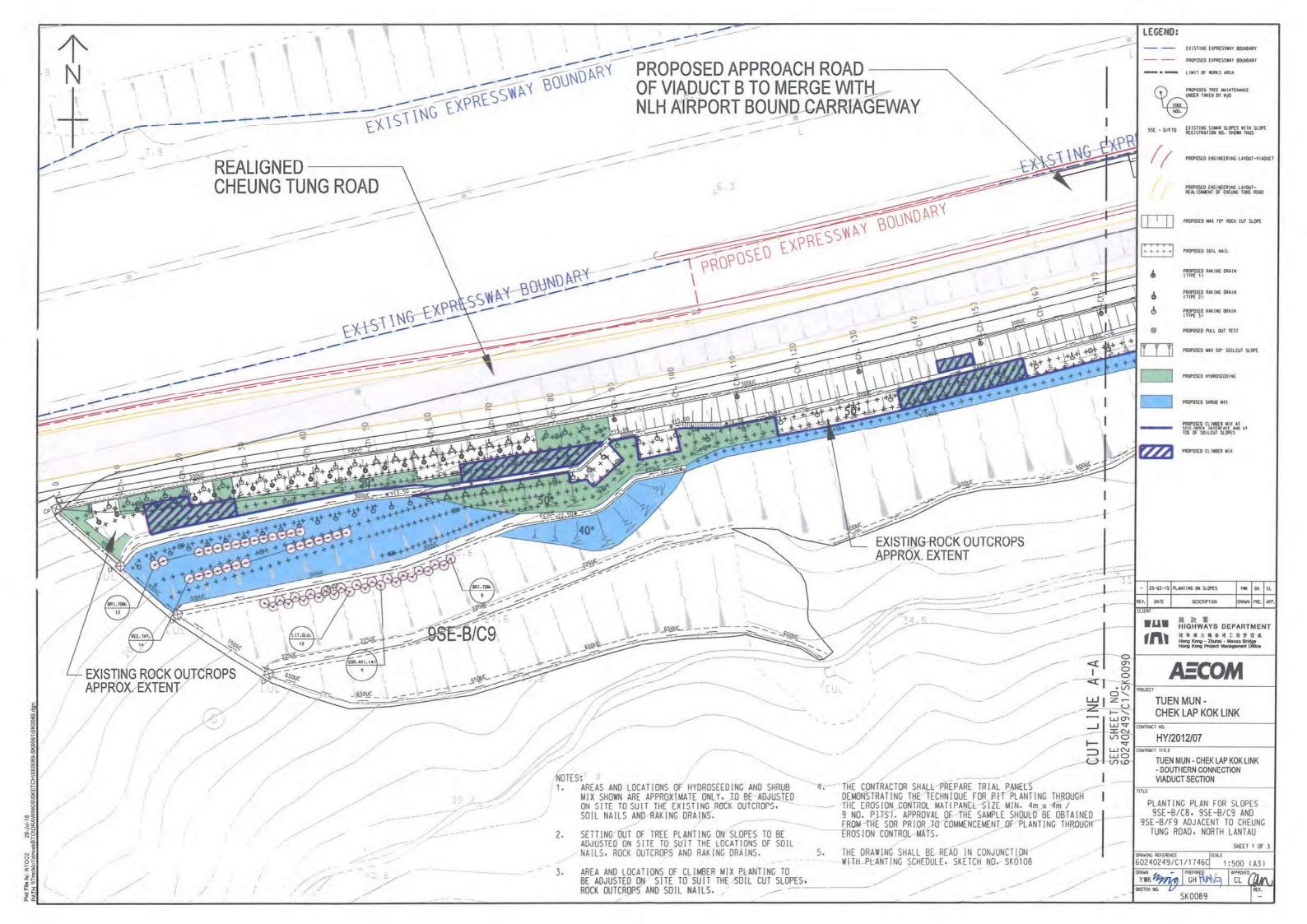


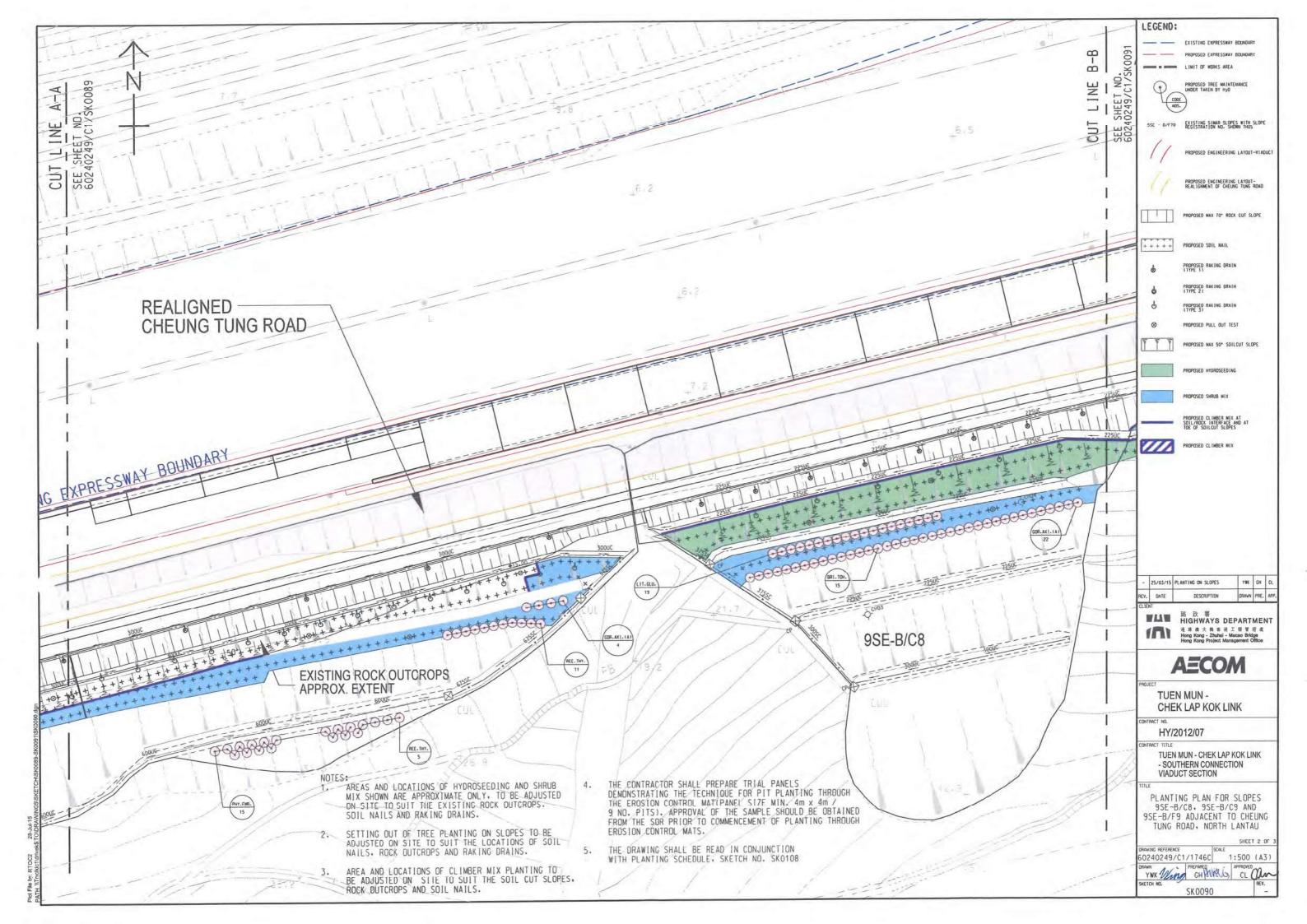


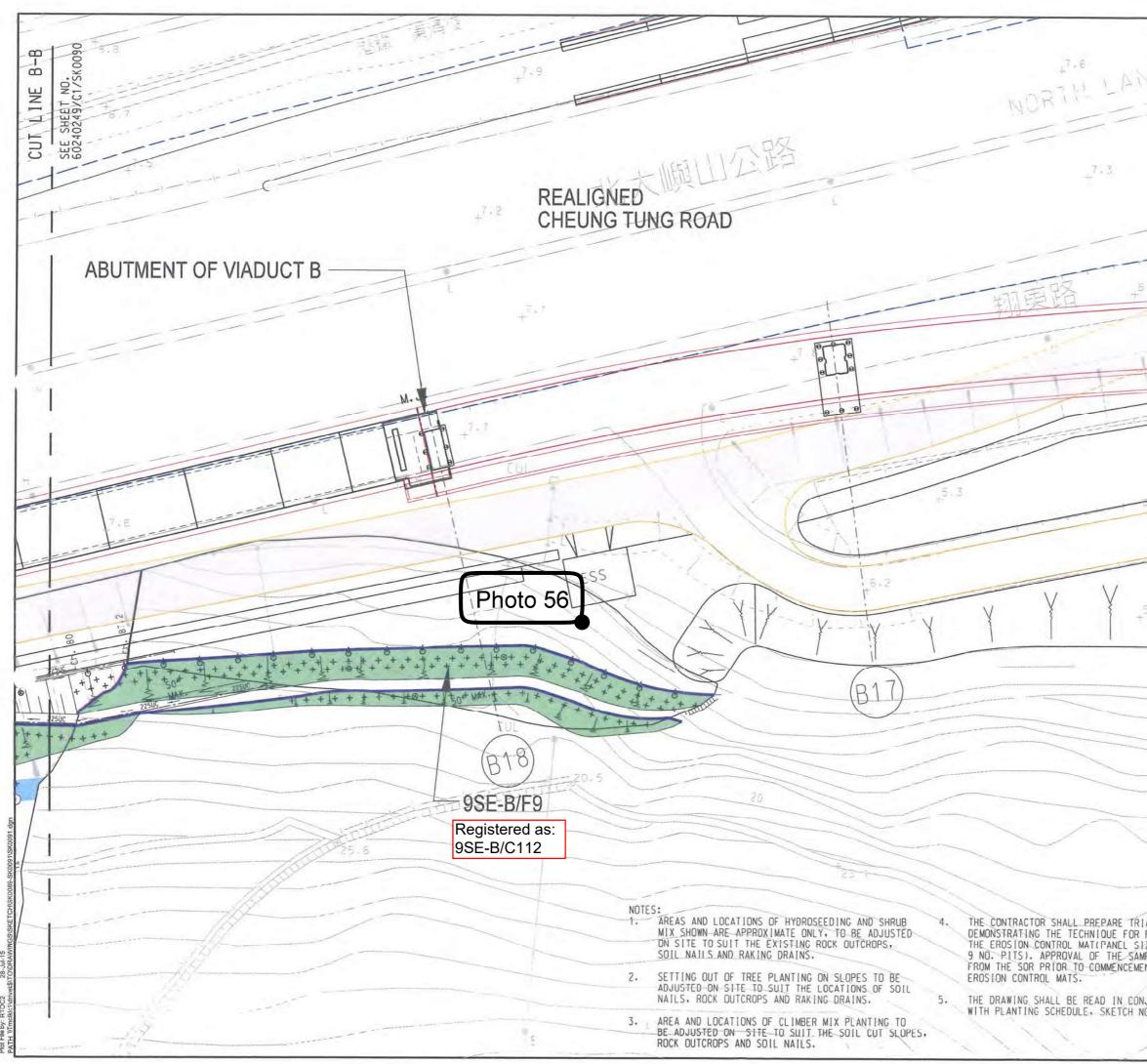
121 : 4/21



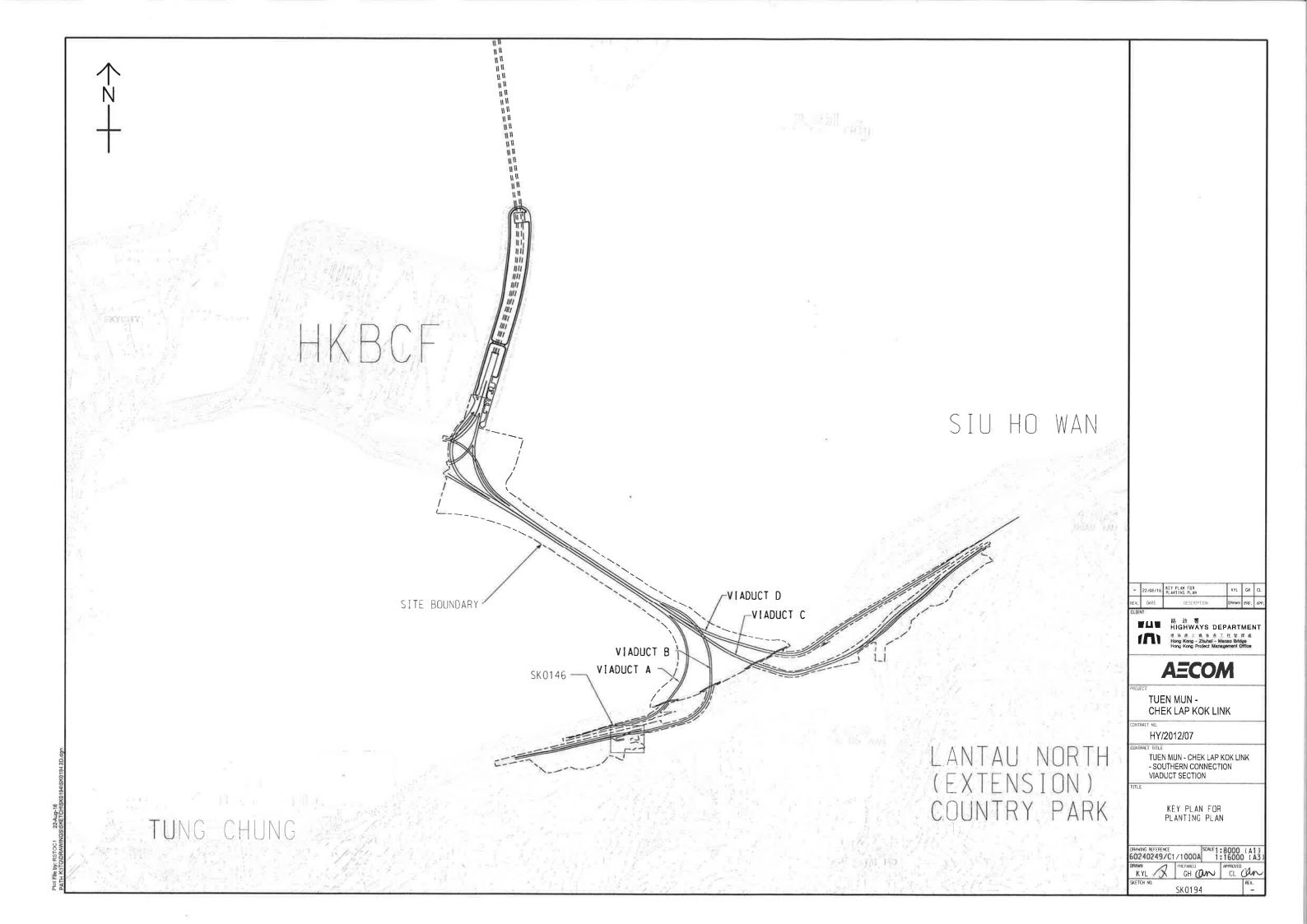


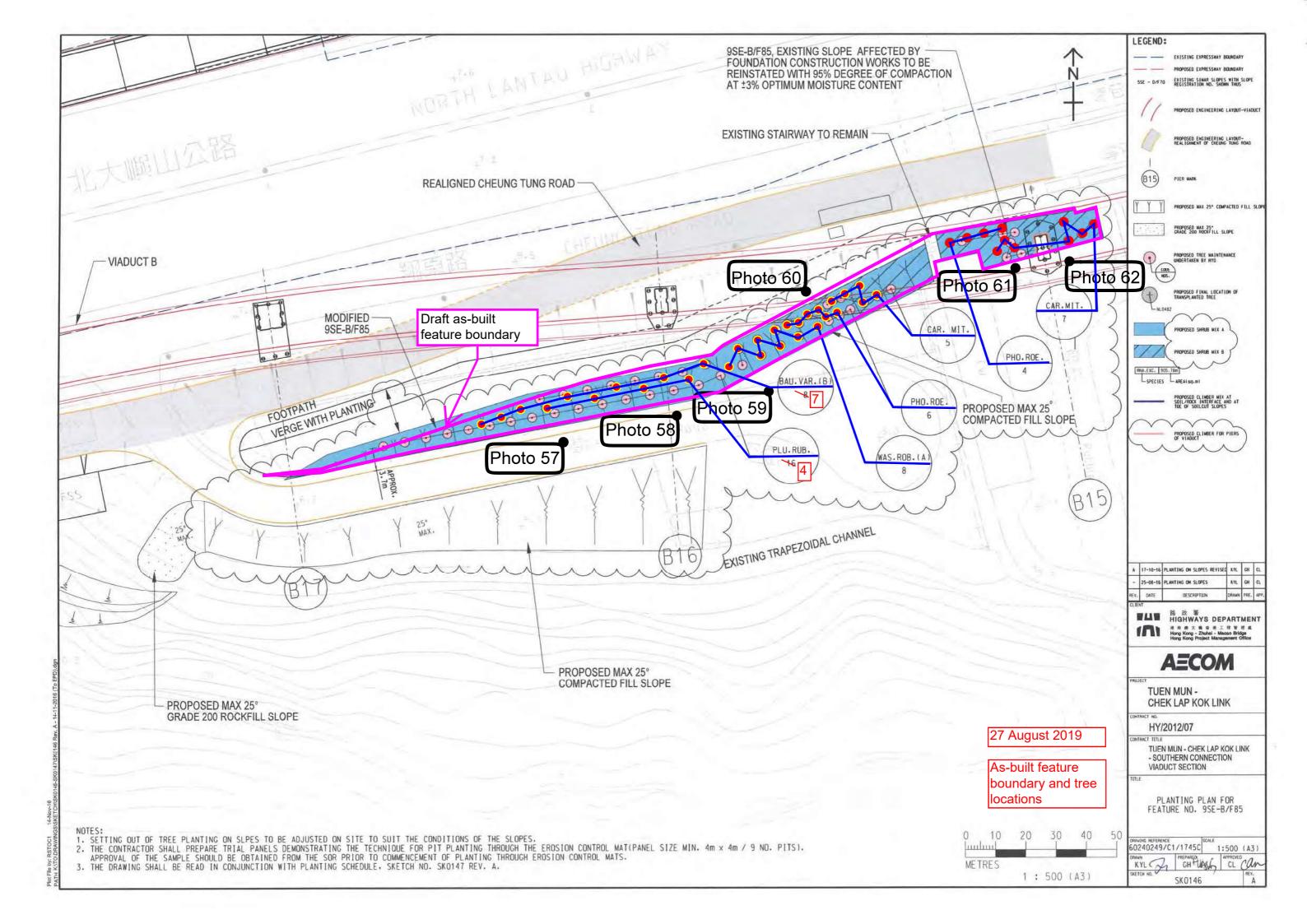






N.	LEGEND:		
NTAU HIGHWA	EXISTING EXPRESSWAY BOUNDARY		
VIAU	LIMIT DF WORKS AREA		
	PROPOSED TREE MAINTENANCE		
	SSE - D/F7D EXISTING SIMAR SLOPES WITH SLOPE REGISTRATION NO. SHOWN THUS		
	PROPOSED ENCINEERING LAYOUT-VIADUCT		
	PROPOSED ENCINEERING LAYOUT- REAL IGNMENT OF CHEUNG TUNG ROAD		
CHELING	PROPOSED MAX 70" ROCK CUT SLOPE		
5 CHEQUE	PROPOSED SOIL NAIL		
	PROPOSED RAKING DRAIN		
e e	PROPOSED RAKING DRAIN		
	PROPOSED RAKING DRAIN		
	PROPOSED PULL OUT TEST		
	PROPOSED MAX 50° SOILCUT SLOPE		
	PROPOSED HYDROSEEDING		
	PROPOSED SHRUB MIX		
	PROPOSED CLIMBER MIX AT SOLL/ROCK INTERFACE AND AT TOE OF SOLLCUT SLOPES		
	PROPOSED CLIMBER HIX		
5.3			
	- 25-03-15 PLANTING ON SLOPES YNK CH CL		
	REV. DATE DESCRIPTION DRAWN PRE. APP.		
	路 放 署 HIGHWAYS DEPARTMENT 後年度大県委達工作者安全 Horog Korg Project Management Office		
	AECOM		
	TUEN MUN - CHEK LAP KOK LINK CONTRACT NO. HY/2012/07		
	TUEN MUN - CHEK LAP KOK LINK - SOUTHERN CONNECTION VIADUCT SECTION		
AL PANELS PIT-PLANTING THROUGH	TITLE		
ZE MIN. 4m x 4m / PEE SHOULD BE OBTAINED NT OF PLANTING THROUGH	PLANTINC PLAN FOR SLOPES 9SE-B/C8, 9SE-B/C9 AND 9SE-B/F9 ADJACENT TO CHEUNG TUNG ROAD, NORTH LANTAU		
IJUNCTION ID, SK0108	SHEET 3 OF 3		
	60240249/C1/1746C 1:500 (A3)		
1	YWK Win PREPARED GH TUANG CL CM		





Contract No. HY/2012/07 (C1) Landscape Area Checking for EP Condition 2.9

Area Code	Location	Plan Area (sq.m.) Approx.	Average Slope Angle	Plane Area (sq.m.) Approx.	
N1	CTR	1575	0	1575	
N2	CTR	264	0	264	
N3	NLH	34	0	34	
N4	NLH	1824	0	1824	
N5	CTR	725	0	725	
N6	CTR	14273	0	14273	
N7	NLH	9095	0	9095	
N8	NLH	918	0	918	
N9	NLH	1302	0	1302	
N10	NLH	6413	0	6413	
N11	NLH	29	0	29	
N12	NLH	489	0	489	
N13	CTR and NLH	447	0	447	
N14	CTR and NLH	983	0	983	
N15	CTR	359	0	359	
N16	CTR	130	0	130	
N17	NLH	963	0	963	
N18	NLH	454	0	454	
N19	NLH	1028	0	1028	
N20	NLH	464	0	464	
N21	NLH	370	0	370	
S1	CTR - PF2	607	27	681	
S2	CTR - PF1	230	27	258	
S3	10NW-C/F13, C/F14, C/F15	8483	26	9438	
S4	10NW-C/F50(de-registered)	968	20	1030	
S5	10NW-C/F52	619	27	695	
S6	NLH - RD1	317	27	356	
S7	10NW-C/F10	2515	27	2823	
S8	10NW-C/F11	2893	27	3247	
S9	10NW-C/F17	3138	27	3522	
S10	10NW-C/F9	3052	26	3396	
S11	9SE-B/F85	714	25	788	
S12	9SE-B/C112	450	50	700	
S13	9SE-B/C8	2832	40	3697	
S14	9SE-B/C9	7361	45		
-	Southern Landfall	47120	0	47120	
Sub-total (A)	•			130300	
DSD Project: DC/2016/01 Entrusted Landscape Works	CTR	13834	0	13834	
along Cheung Tung Road					
Sub-total (B) 13					
Γotal (A) + (B) 1441					

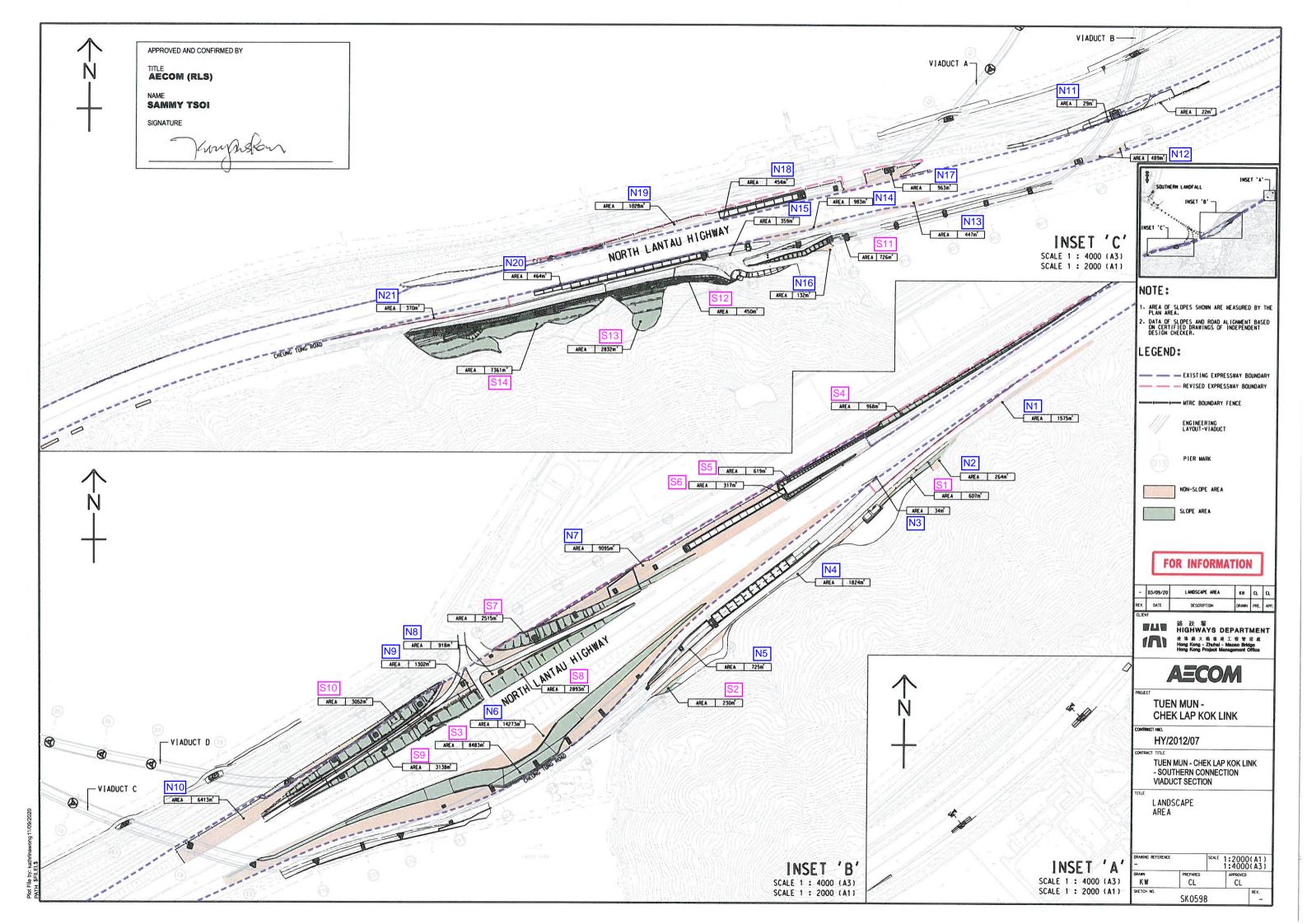
ABBREVIATIONS CTR

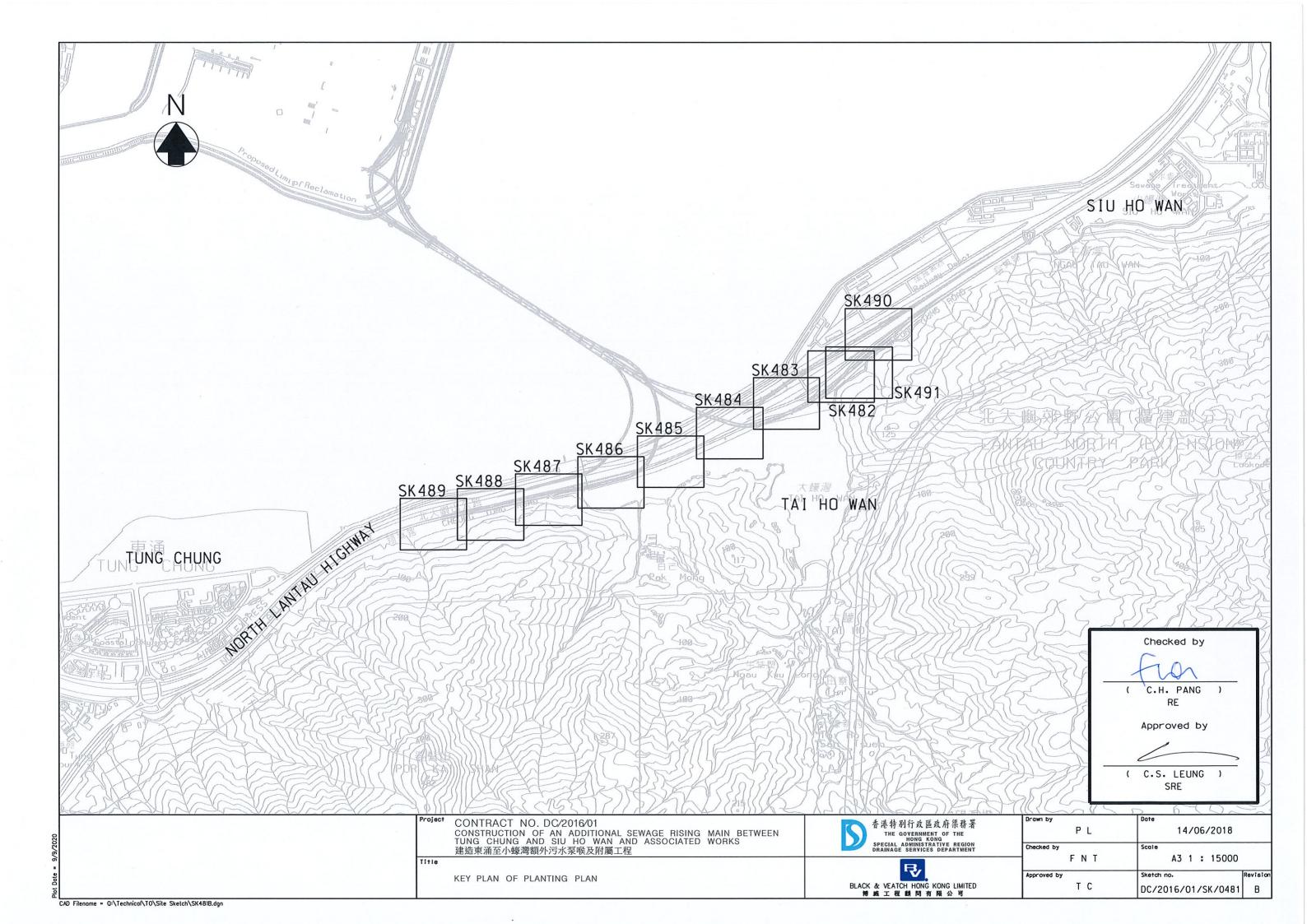
NLH

Cheung Tung Road North Lantau Highway

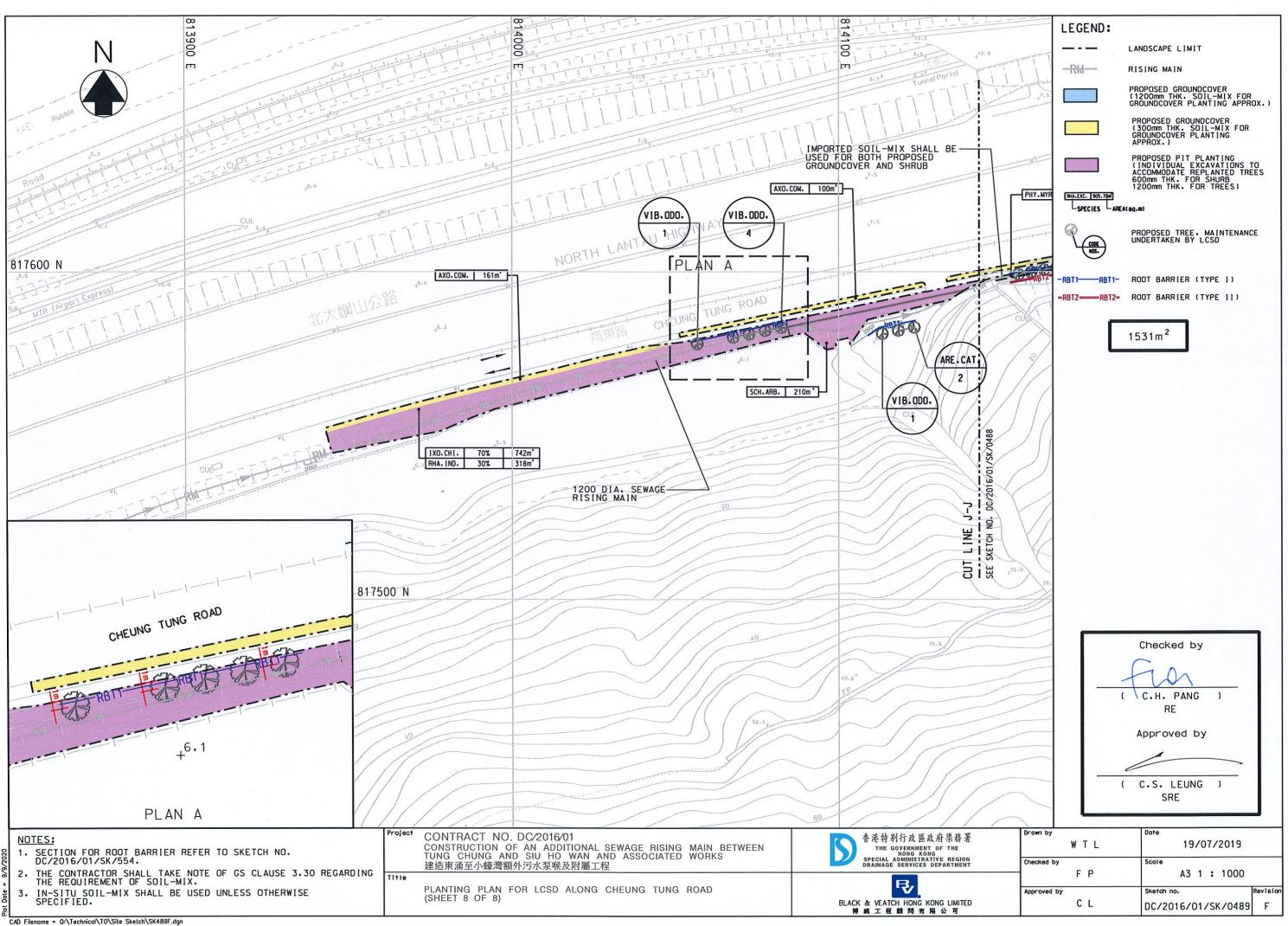


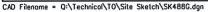
LEGEND: \uparrow SITE BOUNDARY N AS-BUILT U-Chonnel AS-BUILT MAINTENANCE ACCESS AS-BUILT MAINTENANCE FOOTPAT AS-BUILT PLANTING ENGINEERING LAYOUT-VIADUCT PIER MARK AREA BOUNDARY APPROVED AND CONFIRMED BY AECOM (RLS) NAME SAMMY TSOI SIGNATUR ampastar FOR INFORMATION EV. DATE DESCRIPTION DRAWN PRE. APP, ALAN 路 政業 HIGHWAYS DEPARTMENT 指GHWAYS DEPARTMENT そネルスキャスキャントロット そネルスキャントロット HIGH Kong - Zhuhai - Messes Bridge Hing Kong Project Management Office AECOM Imagine it. Delivered. TUEN MUN -CHEK LAP KOK LINK RACT NO. HY/2012/07 CT TITLE TUEN MUN - CHEK LAP KOK LINK - SOUTHERN CONNECTION VIADUCT SECTION LANDSCAPE AREA (SOUTHERN LANDFALL) DRAWING REFERENCE NEW DRAWING SCALE 1:1000 (A1) 1:2000 (A3) drawn KW PREPARED CL CL KETCH NO REV. SK-0600

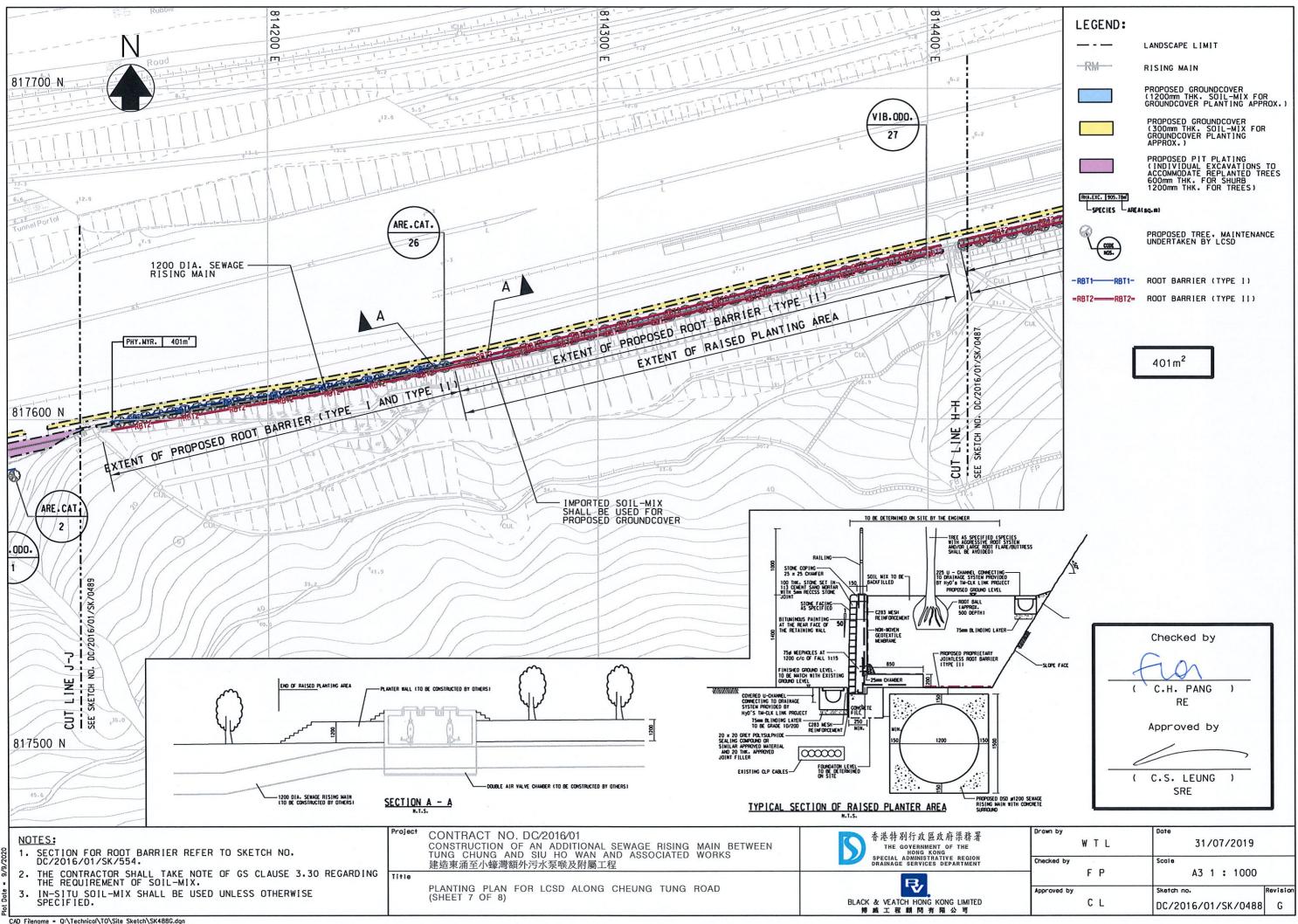


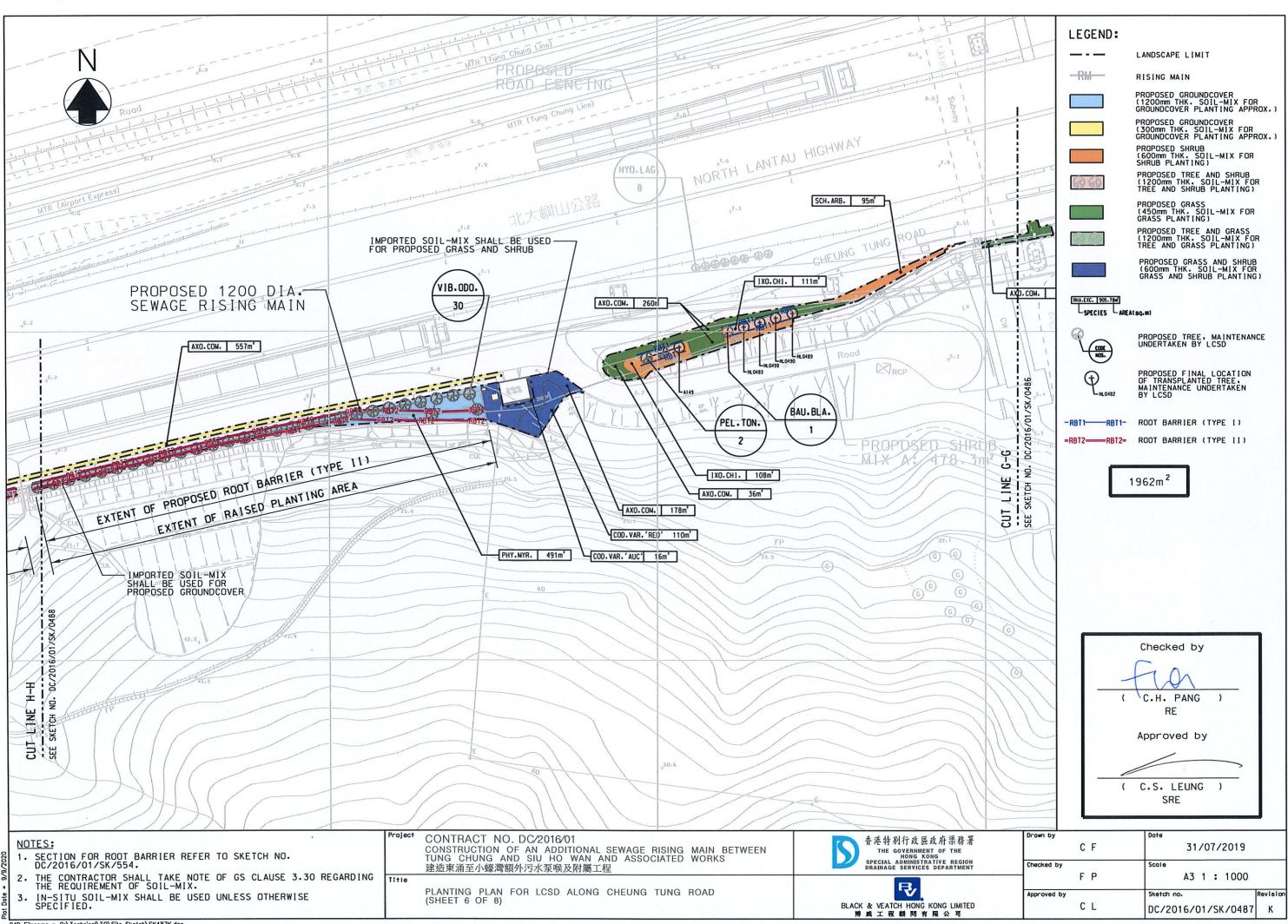




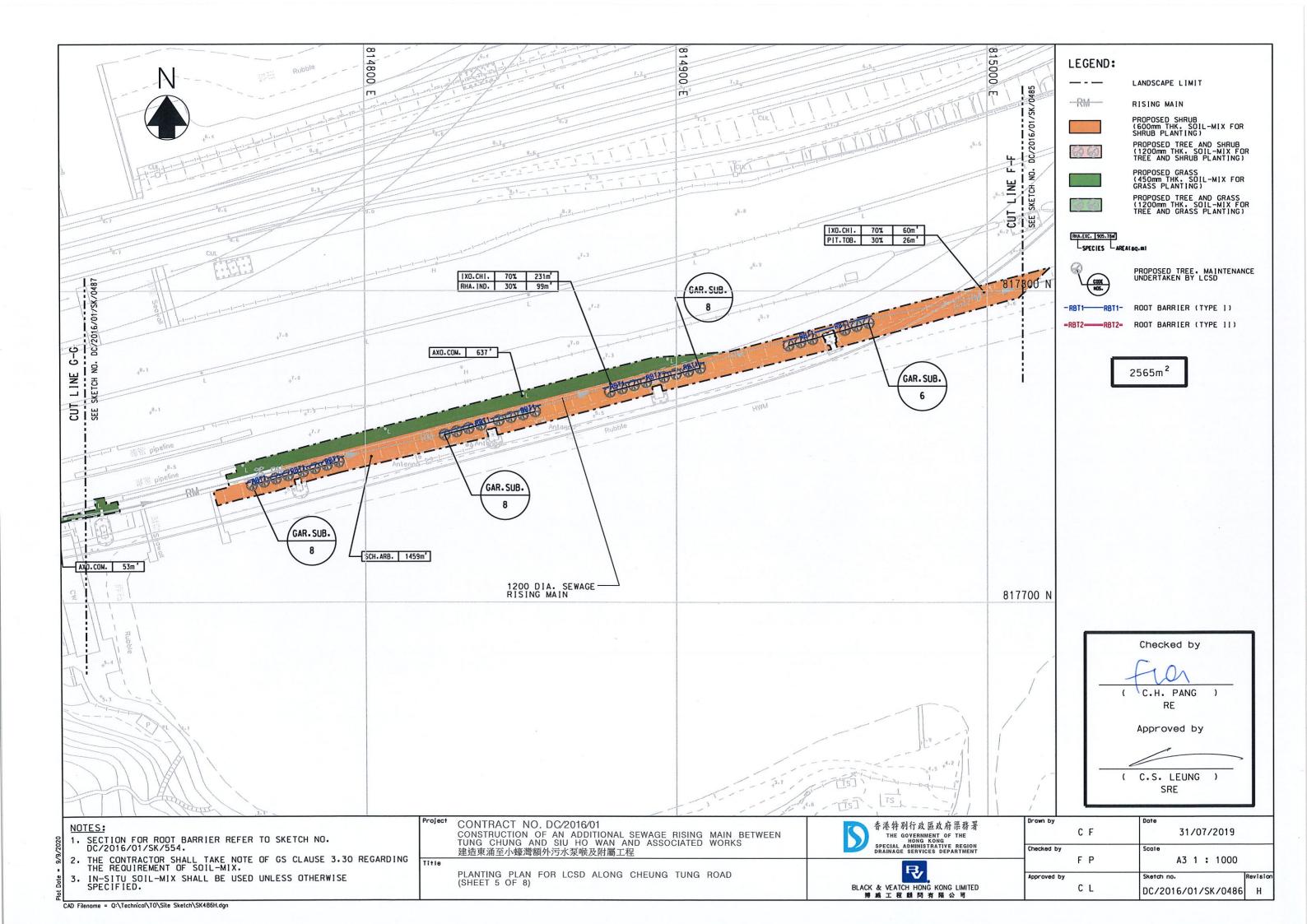


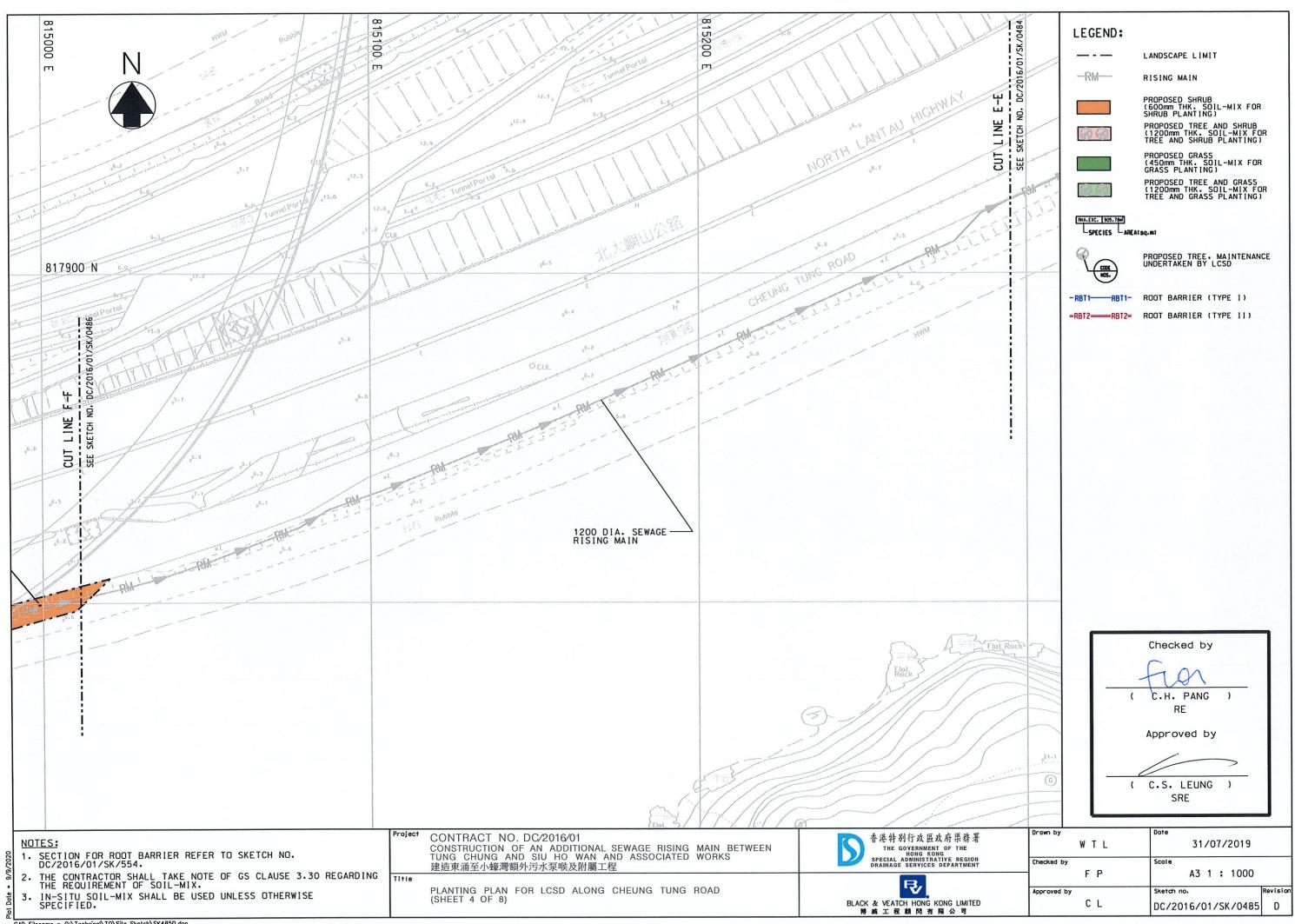




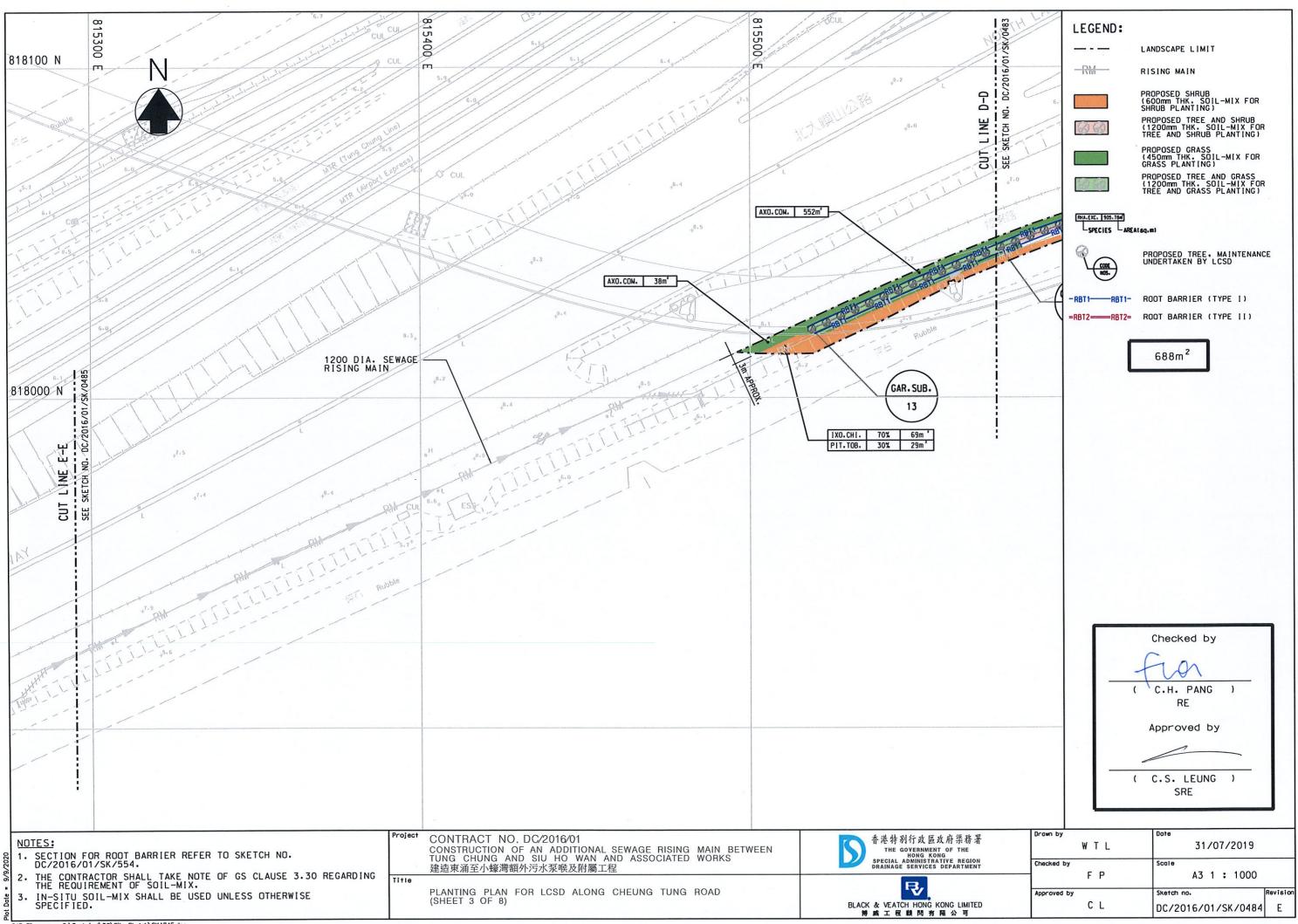


CAD Filenome = Q:\Technicol\TO\Site Sketch\SK487K.dgn

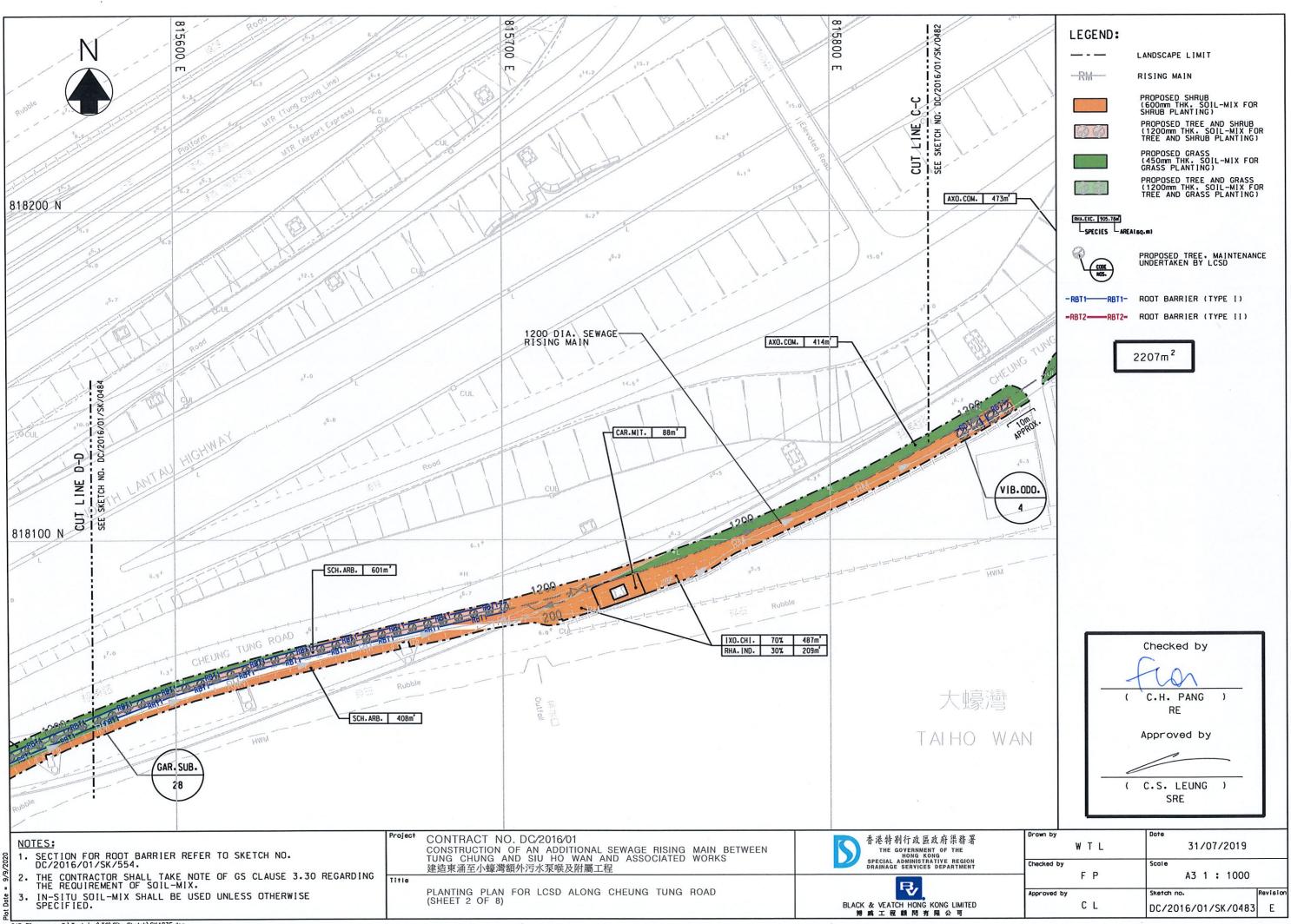




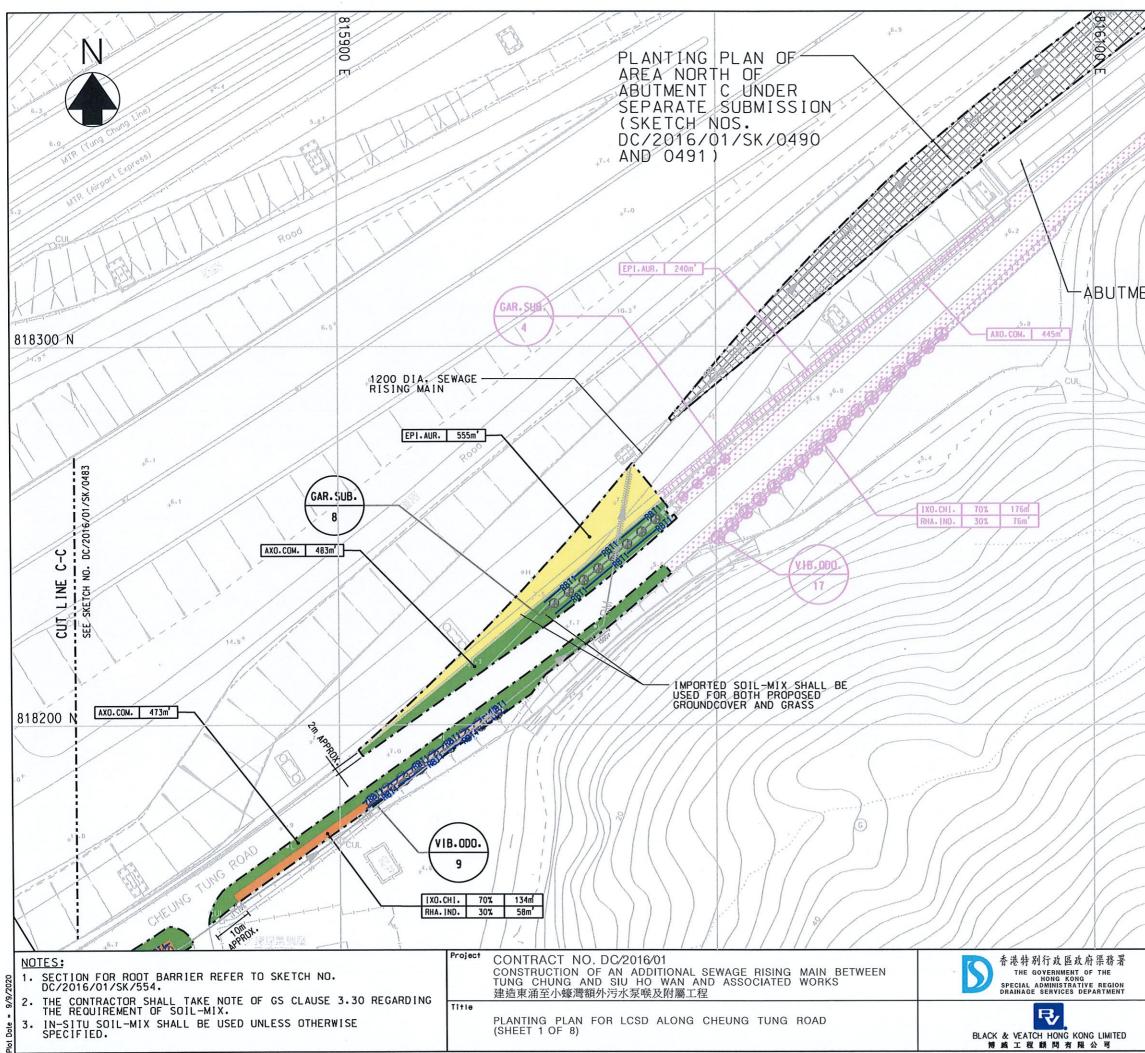
CAD Filenome = Q:\Technicol\TO\Site Sketch\SK485D.dgn



CAD Filenome = Q:\Technicol\TO\Site Sketch\SK484E.dgn

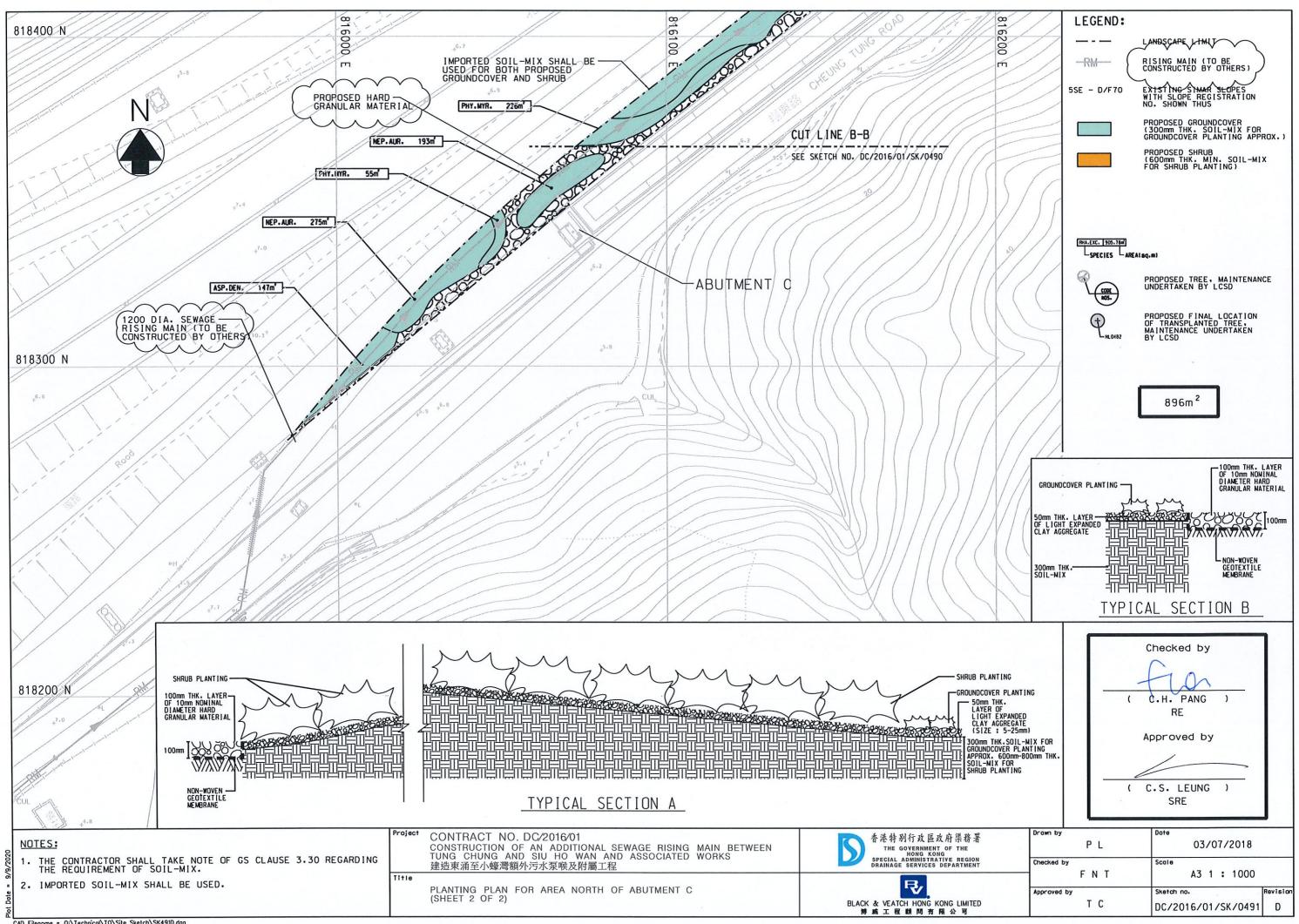


CAD Filenome = Q:\Technicol\TO\Site Sketch\SK483E.dgn

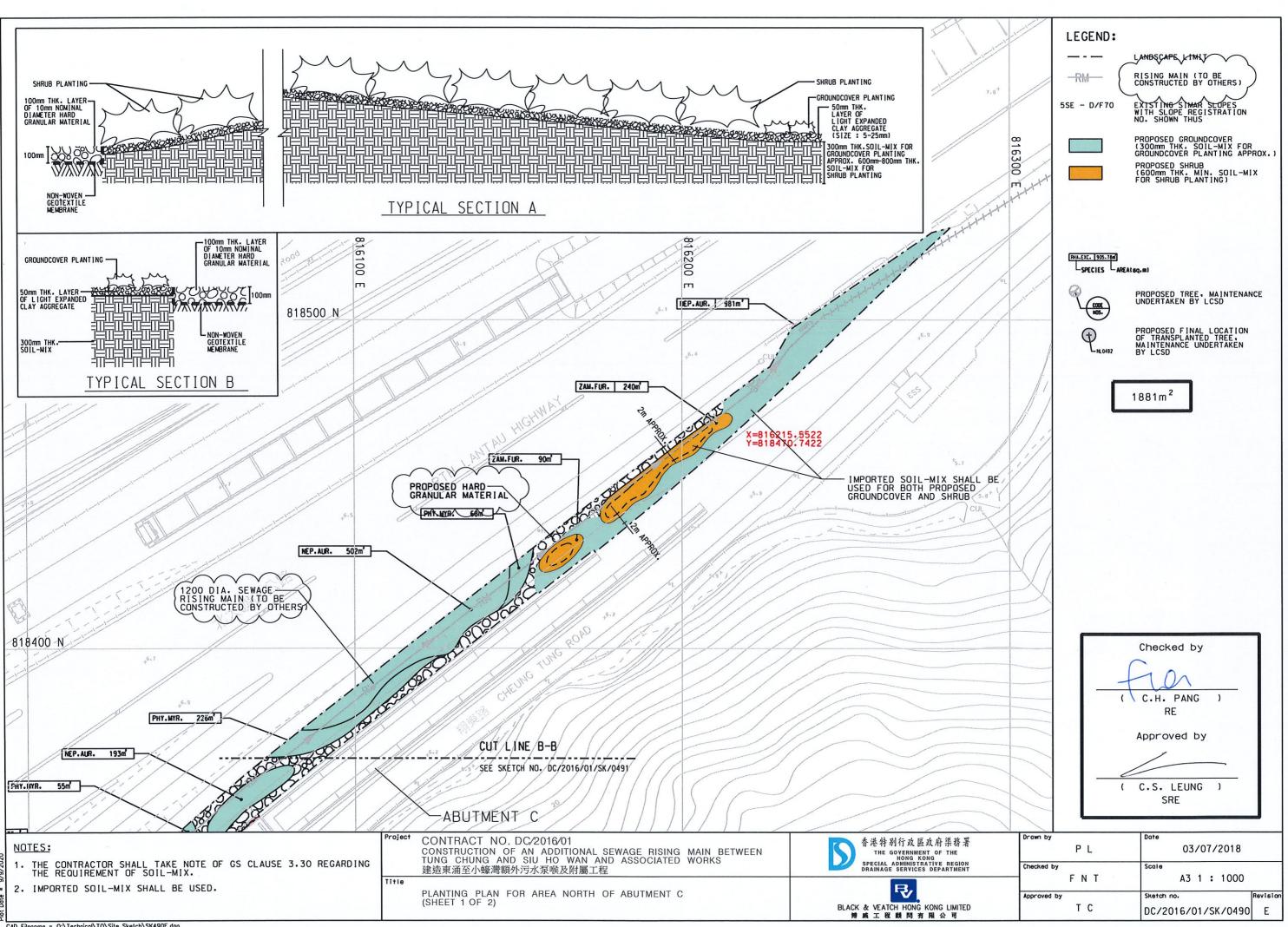


CAD Filenome = Q:\Technicol\TO\Site Sketch\SK482K.dgn

	LEGEND:	
//// 3		LANDSCAPE LIMIT
+6.2		PROPOSED DN1200 RISING MAIN
1001/1	-RBT1-RBT1-	ROOT BARRIER (TYPE 1)
1/1/	=RBT2==RBT2=	ROOT BARRIER (TYPE 11)
	P. N. O482	PROPOSED FINAL LOCATION OF TRANSPLANTED TREE, MAINTENANCE UNDERTAKEN BY LCSD
	HANDOVER B	Y DC/2016/01
		PROPOSED GROUNDCOVER (450mm THK, SOIL-MIX FOR GROUNDCOVER PLANTING APPROX.)
	69	PROPOSED TREE AND SHRUB (1200mm THK, SOIL-MIX FOR TREE AND SHRUB PLANTING)
ENTC		PROPOSED SHRUB (600mm THK. SOIL-MIX FOR SHRUB PLANTING)
	20 60	PROPOSED TREE AND GRASS (1200mm THK, SOIL-MIX FOR TREE AND GRASS PLANTING)
		TREE AND GRASS PLANTING) PROPOSED GRASS (450mm THK. SOIL-MIX FOR GRASS PLANTING)
27//	BULEIC, 1905.784	
2		PROPOSED TREE, MAINTENANCE UNDERTAKEN BY LCSD
		1703m ²
	HANDOVER B	Y HY/2012/07
		PROPOSED GROUNDCOVER
		PROPOSED SHRUB
		PROPOSED GRASS
	(RUA.EXC. 1905.70m) LSPECIES LARE	ti 6q. m)
		PROPOSED TREE, MAINTENANCE UNDERTAKEN BY LCSD (HANDOVER BY HY/2012/07)
		Checked by
		Fin
		C.H. PANG)
	· ·	RE
		Approved by
	(C.S. LEUNG)
		SRE
Drawn by		Date
	WTL	31/07/2019
Checked	_{Бу} FP	Scale A3 1 : 1000
Approved	by	Sketch no. Revision
	CL	DC/2016/01/SK/0482 K



CAD Filenome = Q:\Technical\TO\Site Sketch\SK491D.dgn



		P	LANTING SCHEDULE FOR CHEUNG	TUNG ROAD (UNDER	MAINTENANCE	OF LCSD)	
CODE	BOTANICAL NAME	CHINESE NAME	SIZE (mm) HEIGHT (H) x SPREAD (S)	SPACING (mm)	NO./m²	%MIX.	QUANT (APPROX
			TR	EE PLANTING			
GAR.SUB.	Garcinia subelliptica	非洲福木	Light Standard	4000-5000	-	-	79
BAU.BLA	Bauhinia x blakeana	洋紫荊	Heavy Standard	5000	-	-	1
PEL.TON.	Peltophorum tonkinense	銀珠	Heavy Standard	5000	-	-	2
VIB.ODO.	Viburnum odoratissimum	珊瑚樹	Heavy Standard	5000	-	-	76
			PALM P	LANTING - EXOTIC			
ARE.CAT	Areca catechu	檳榔	4000(H)	4000	-	-	28
			GROUNE	COVER PLANTING			
EPI.AUR.	Epipremnum aureum	綠蘿	200(H) x 300(S)	300	12.54	-	6264
			SHF	RUB PLANTING			
IXO.CHI.	Ixora chinensis	龍船花	300(H) x 300(S)	300	12.54	-	1948
PHY.MYR.	Phyllanthus myrtifolius	錫蘭葉下珠	300(H) x 300(S)	300	12.54	-	894
CAR.MIT.	Caryota mitis	短穗魚尾葵	2500(H),min 4 clumps pre plant	750	1.95	-	137
SCH.ARB.	Schefflera arboricola	八葉	300(H) x 300(S)	300	12.54	-	2781
COD.VAR.'AUC'	Codiaeum variegatum 'aucubaefolium'	灑金榕	300(H) x 300(S)	300	12.54	-	161
COD.VAR.'RED'	Codiaeum variegatum 'red'	灑金榕 (紅色)	300(H) x 300(S)	300	12.54	-	1104
PIT.TOB.	Pittosporum tobira	海桐花	300(H) x 300(S)	300	12.54	-	552
RHA.IND.	Rhaphlolepis indica	車輪梅	300(H) x 300(S)	300	12.54	-	686
				ASS PLANTING			
AXO.COM.	Axonopus compressus	地毯草(大葉草)	WHOLE PIECE TURF 300(L) x 300(W) x 50(H)	-	m²	-	354

NOTES:

1. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH DRAWING NOS. DC/2016/01/SK/0482 TO DC/2016/01/SK/0489.

Project	CONTRACT NO. DC/2016/01 CONSTRUCTION OF AN ADDITIONAL SEWAGE RISING MAIN BETWEEN TUNG CHUNG AND SIU HO WAN AND ASSOCIATED WORKS 建造東涌至小蠔灣額外污水泵喉及附屬工程	香港特别行政區政府渠務署 THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION DRAINAGE SERVICES DEPARTMENT
Title	PLANTING SCHEDULE FOR CHEUNG TUNG ROAD (LCSD)	民ACK & VEATCH HONG KONG LIMITED 地成工程前間有限公司

ΓITY	DE	MARK
. NOS.		
		-
		-
		-
<u> </u>		
		-
		-
4		-
32		
9		
	-	
	_	
9		L SPECIES IN
	STAGGER	ED PATTERN.
1		
<u>.</u>	-	
	-	
2		
	25mm HIGH S	WORD AND 25mm
8		SE OF TURF
		hecked by
	t	101
	((C.H. PANG)
		RE
	Ap	oproved by
		1
	(C	.S. LEUNG)
		SRE
	Drawn by	Date
	WTL	28/11/2019
	Checked by F P	Scale SCHEDULE
H	Approved by	Sketch no. Revi
	CL	DC/2016/01/SK/0343

		PLANT	ING SCHEDULE FOR AREA NORTH	OF ABUTMENT C (UND	DER MAINTEN	ANCE OF LCS	SD)	
CODE	BOTANICAL NAME	CHINESE NAME	SIZE (mm) HEIGHT (H) x SPREAD (S)	SPACING (mm)	NO./m²	%MIX.	QUANTITY (APPROX. NOS.)	REMARK
			SHF	RUB PLANTING				
ZAM.FUR.	Zamia furfuracea	牙買加蘇鐵	400(H) x 500 (S)	500	4.6	-	1366	
PHY.MYR.	Phyllanthus myrtifolius	錫蘭葉下珠	300(H) x 300 (S)	300	12.54	-	3939	PLANT IN STAGGERED PATTERN.
			GROUNI	DCOVER PLANTING		1		
ASP.DEN.	Asparagus densiflorus	非洲天門冬	200(H) x 300 (S)	200	29	-	3837	PLANT ALL SPECIES IN
NEP.AUR.	Nephrolepis auriculate	腎蕨	250(H) x 250 (S)	150	51.59	-	90587	STAGGERED PATTERN.

NOTES:

1. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH DRAWING NOS. DC/2016/01/SK/0490 TO DC/2016/01/SK/0491.

/9/2020				Project	CONTRACT NO. DC/2016/01 CONSTRUCTION OF AN ADDITIONAL SEWAGE RISING MAIN BETWEEN TUNG CHUNG AND SIU HO WAN AND ASSOCIATED WORKS 建造東涌至小蠔灣額外污水泵喉及附屬工程	香港特别行政區政府渠務署 THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION DRAINAGE SERVICES DEPARTMENT
6 =	в	з	QUANTITY REVISED	Title		₽,
Date	A	Δ	NOTE REVISED]	PLANTING SCHEDULE FOR AREA NORTH OF ABUTMENT C (LCSD)	BLACK & VEATCH HONG KONG LIMITED
in the second	RE	EV	DESCRIPTION			博威工程 帧 問 有 限 公 可



.

Drown by	Date					
WTL	28/11/2019					
Checked by	Scale					
 F P	SCHEDULE					
Approved by	Sketch no.	Revision				
CL	DC/2016/01/SK/0347	В				

Inspection Date:	30 November 2020	Inspected By:	AUES
Time:	10:00 – 12:30	Weather Condition:	Sunny

Participants: AECOM (RSS), Ramboll (IEC) & AUES (ET) Rep.

1	Zone: Area along Lung Mun Road and Lung Fu Road	N/A or not observed	Yes	No	Remarks / Photo
1.1	Is watering provided to plants to ensure satisfactory growth and health (manual and automatic irrigation)?		Ø		
.2	Are tree stakes, guys and ties provided properly for safety and avoid chaffing of bark?		$\mathbf{\overline{A}}$		
.3	Are trees or limb overhanging branches pruned?	$\mathbf{\nabla}$			
.4	Are pest and disease observed?			\square	
5	Are litter and debris removed?		\mathbf{N}		
6	Are plants/ grasses overgrown?			\square	
.7	After inclement weather conditions, are proper action implemented to replace dead plants, repair damaged plants, bed in all plants that have blown over, firm up all other plants and immediately thereafter, remove dead plants and plant debris from the site?		Ŋ		
8	Are planting locations and tree spacing matched with the approved planting plans?		V		
9	Are the planting species on site matched with the approved planting schedules (Annex B)?		V		
		Good	Fair	Poor	
10	Overall health condition of the plants?	Ø			
	Zone: Area along cycling track near Butterfly Bay Beach and Raised	N/A or not	Yes	No	Remarks /
	Planter at Abutment Sides of Bridge H1 and G1	observed			Photo
1	Is watering provided to plants to ensure satisfactory growth and health (manual and automatic irrigation)?		Ą		
2	Are tree stakes, guys and ties provided properly for safety and avoid chaffing of bark?		V		
3	Are trees or limb overhanging branches pruned?			\mathbf{N}	
4	Are pest and disease observed?			$\mathbf{\nabla}$	
4 5	Are pest and disease observed? Are litter and debris removed?		N	Ø	
5 6	Are litter and debris removed?		V		
5	Are litter and debris removed? Are plants/ grasses overgrown? After inclement weather conditions, are proper action implemented to replace dead plants, repair damaged plants, bed in all plants that have blown over, firm up all other plants and immediately thereafter, remove		Ø	Ø	
5 6 7	Are litter and debris removed? Are plants/ grasses overgrown? After inclement weather conditions, are proper action implemented to replace dead plants, repair damaged plants, bed in all plants that have blown over, firm up all other plants and immediately thereafter, remove dead plants and plant debris from the site? Are planting locations and tree spacing matched with the approved		2 2 2		

2.10 Overall health condition of the plants?

	Г	٦
	_	

 \checkmark

;	Zone: Area on Toll Plaza	N/A or not observed	Yes	No	Remarks / Photo
5.1	Is watering provided to plants to ensure satisfactory growth and health (manual and automatic irrigation)?		V		
5.2	Are tree stakes, guys and ties provided properly for safety and avoid chaffing of bark?		V		
.3	Are trees or limb overhanging branches pruned?	\square			
8.4	Are pest and disease observed?			\mathbf{N}	
.5	Are litter and debris removed?		\mathbf{N}		
.6	Are plants/ grasses overgrown?			\mathbf{N}	
7	After inclement weather conditions, are proper action implemented to replace dead plants, repair damaged plants, bed in all plants that have blown over, firm up all other plants and immediately thereafter, remove dead plants and plant debris from the site?		Ø		
8	Are planting locations and tree spacing matched with the approved planting plans?		\mathbf{N}		
9	Are the planting species on site matched with the approved planting schedules (Annex B)?		Ø		
		Good	Fair	Poor	
10	Overall health condition of the plants?	\square			

	Zone: Slopes on Toll Plaza near the East and West Portals	N/A or not observed	Yes	No	Remarks / Photo
.1	Is watering provided to plants to ensure satisfactory growth and health (manual and automatic irrigation)?		V		
2	Are tree stakes, guys and ties provided properly for safety and avoid chaffing of bark?		V		
3	Are trees or limb overhanging branches pruned?	$\mathbf{\nabla}$			
4	Are pest and disease observed?			M	
5	Are litter and debris removed?		\mathbf{N}		
6	Are plants/ grasses overgrown?			\mathbf{N}	
7	After inclement weather conditions, are proper action implemented to replace dead plants, repair damaged plants, bed in all plants that have blown over, firm up all other plants and immediately thereafter, remove dead plants and plant debris from the site?		Ŋ		
8	Are planting locations and tree spacing matched with the approved planting plans?		V		
9	Are the planting species on site matched with the approved planting schedules (Annex B)?		V		
		Good	Fair	Poor	
10	Overall health condition of the plants?		$\mathbf{\nabla}$		

Establishment Inspection Checklist

5	Zone: Slopes along Lung Mun Road and Lung Fu Road	N/A or not observed	Yes	No	Remarks / Photo
5.1	Is watering provided to plants to ensure satisfactory growth and health (manual and automatic irrigation)?		V		
5.2	Are tree stakes, guys and ties provided properly for safety and avoid chaffing of bark?		V		
5.3	Are trees or limb overhanging branches pruned?	$\mathbf{\overline{A}}$			
5.4	Are pest and disease observed?			\square	
5.5	Are litter and debris removed?		$\mathbf{\nabla}$		
5.6	Are plants/ grasses overgrown?			\square	
5.7	After inclement weather conditions, are proper action implemented to replace dead plants, repair damaged plants, bed in all plants that have blown over, firm up all other plants and immediately thereafter, remove dead plants and plant debris from the site?		V		
5.8	Are planting locations and tree spacing matched with the approved planting plans?		V		
5.9	Are the planting species on site matched with the approved planting				Please refer to
	schedules (Annex B)?			\square	the attached
					comment
		Good	Fair	Poor	
5.10	Overall health condition of the plants?		M		
6	General Document	N/A or not observed	Yes	No	Remarks / Photo
6.1	Are the records of watering, fertilizing, weeding, pruning and mowing kept for checking?		Ø		

Establishment, Inspection, Checklist

Follow up actions for previous Site Audit:

NA

Observations:

Refer to the attachment

Corrective Actions (if any):

1. Incorrect species of tree should be replaced according to the approved planting plan in zone 5

2. Some missing or poor health condition planting should be replaced ASAP

3. Some fallen tree should be fixed properly

General Conclusion:

The establishment planting for the contract is generally in fair and good condition. Regularly watering, fertilizing, weeding, pruning and mowing had been provided by Contractor. Some tree planting species are different from the approved tree planting plan should be rectified.

Inspected by (ET's Representative):	Ben Tam	Title:	Environmental Consultant
Signature:	30	Date:	30 November 2020
Reviewed by (RSS Landscape Representative):	Candy Lau		Senior Resident Landscape Architect
Signature:	Candy	Date:	1 December 2020
- Contractor's Representative:	Tomy in	Title:	purironent office.
Signature:	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Date:	7 Dec 2020
Checked by (IEC's Representative):	Manson Yeung	Title:	Independent Environmental Checker
Signature:	h	Date:	7 December 2020

Zone 1

Lung Mun Road/Lung Fu Road Roundabout area

One missing heavy standard *Tabebuia impetiginosa* inspected at last quarter was replaced.



Lung Mun Road

Two missing light standard *Garcinia subelliptica* inspected at last quarter was replaced.





Lung Mun Road



Zone 3

Toe planter at Slope TP A and TP B



Toe planter and toll plaza

Some leaning *Tabebuia chrysantha* were re-staked.

One missing Melaleuca cajuputi subsp. Cumingiana (T2820) was replaced.





Zone 4

Slope TP A and TP B

One missing light standard *Sterculia lanceolata* was replaced. Some trees that in poor health condition was replaced. Some dead whips were replaced. Weed covered on whips had been removed.



replaced.

Slope TP D

Some dead whips (Gordonia axillaris) were replaced. Weed covered on whips had been removed.



Zone 5

5SE-D/C170

Four light standard *Bauhinia variegata* was missing. Accom said the trees were fallen and removed and there will be a replacement.

Fifteen *Schima superba* have been changed to *Sterculia lanceolata*, please review the planting plan and schedule.

Some trees were in poor health condition and dead and Aecom said there will be a replacement.

Some dead whips (Sapium discolor) were replaced.



General View

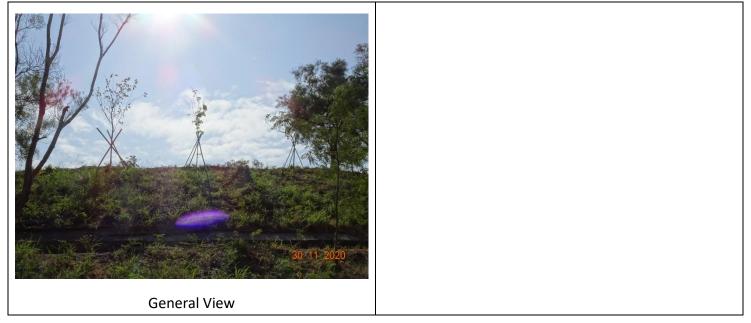
General View







<u>55E-D/C171</u>



<u>55E-D/C21</u>



5SE-D/C215



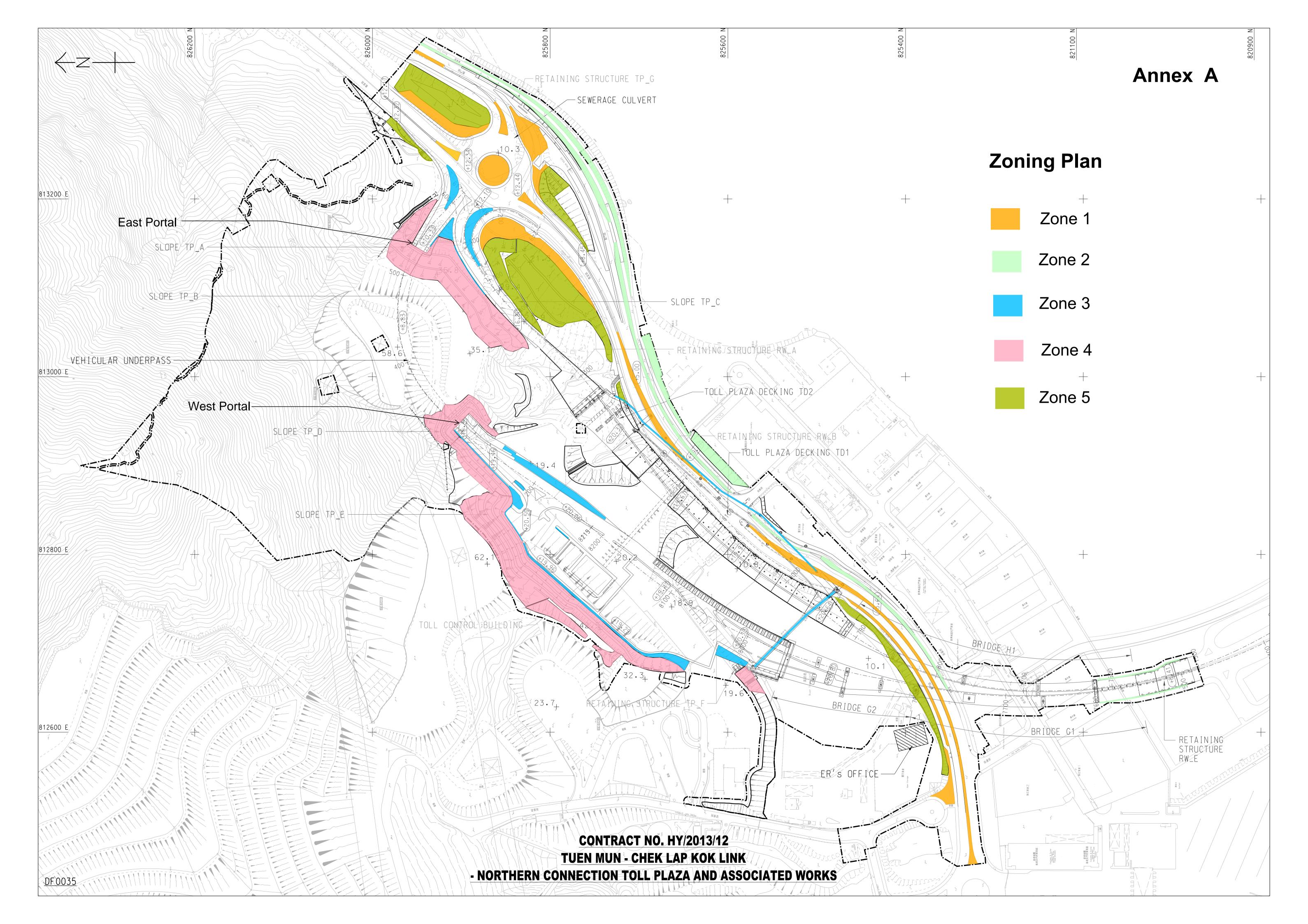
<u>55E-D/C16</u>



55E-D/C18



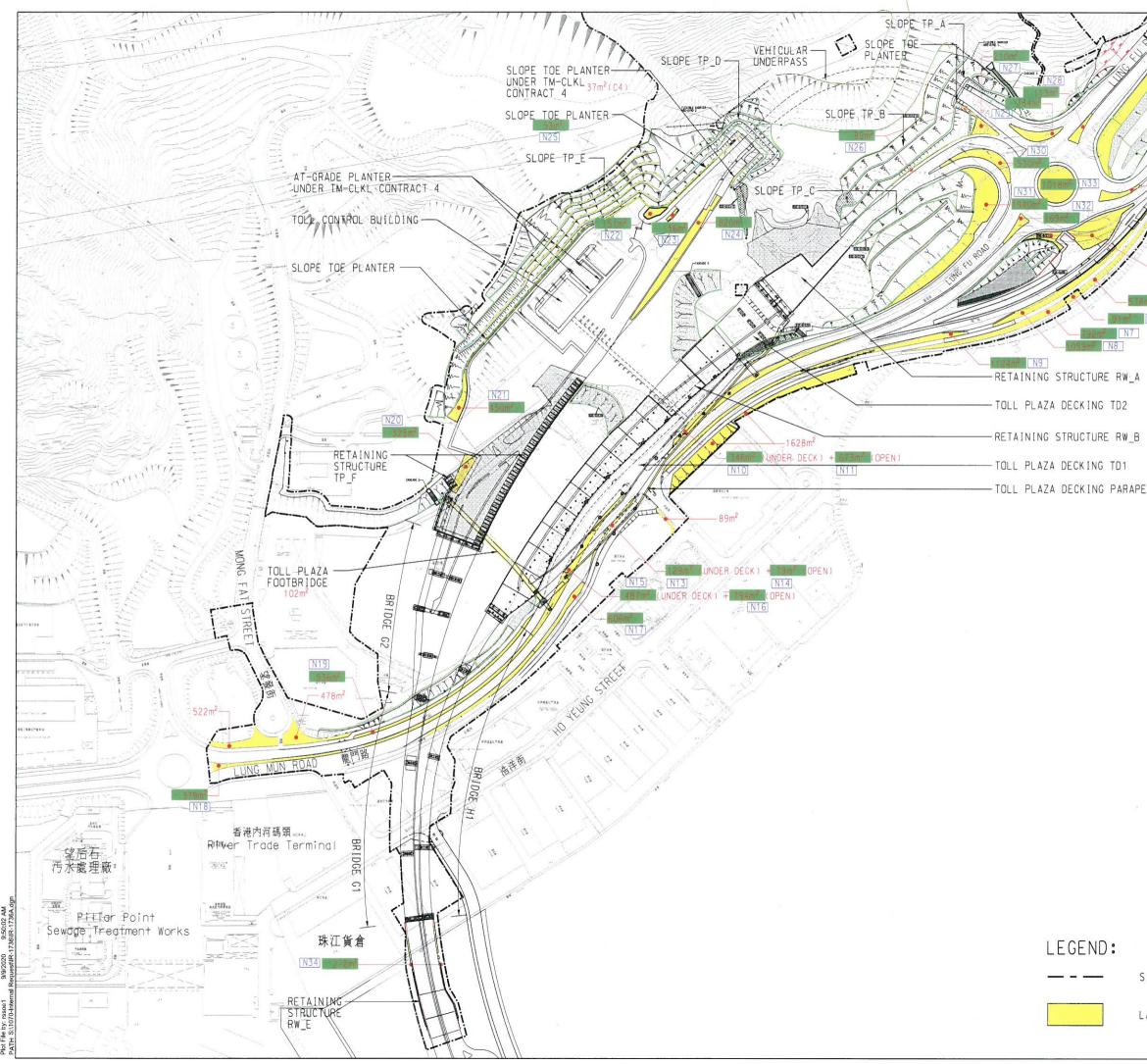
Appendix A Zoning Plan for Contract No. HY/2013/12



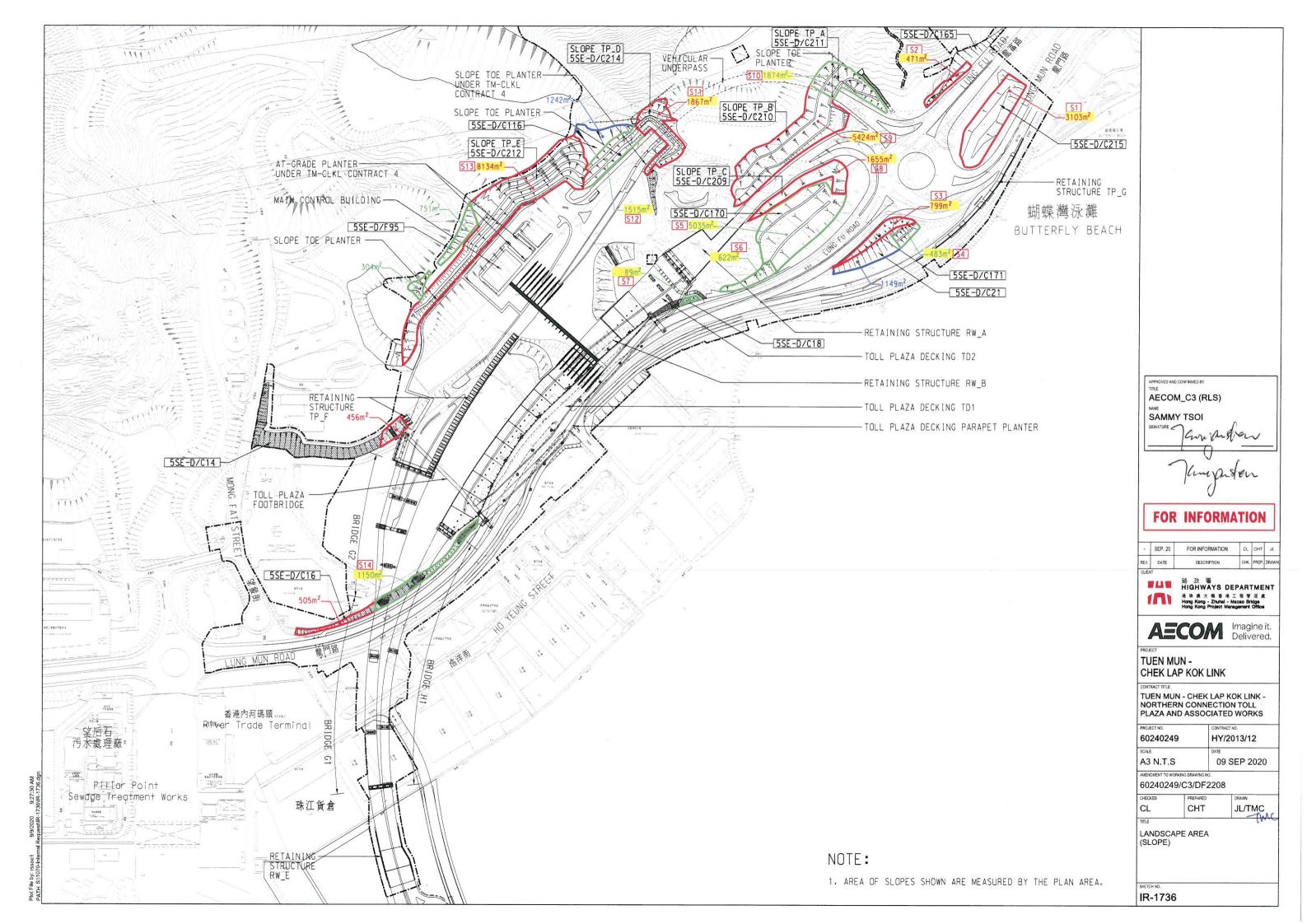
Appendix B Summary of Compensatory Planting Area for Contract No. HY/2013/12

Contract No. HY/2013/12 (C3) Landscape Area	Summary for EP Condition 2.9

Area Code	Location	Plan Area (sq.m.) Approx.	Average Slope Angle	Plane Area (sq.m.) Approx.	
N1	Lung Fu Road	1276	0		
N2	Lung Mun Road	126	0	126	
N3	Lung Mun Road	221	0		
N4	Lung Mun Road	1416	0		
N5	Lung Mun Road - cycle track	578	0	578	
N6	Lung Mun Road - cycle track	91	0	91	
N7	Lung Mun Road - cycle track	792	0	792	
N8	Lung Mun Road	1059	0	1059	
N9	Lung Mun Road/ Lung Fu Road	1124	0	1124	
N10	Lung Mun Road - under deck	346	0	346	
N11	Lung Mun Road	673	0	673	
N12	Deck - Parapet Planter	300	0	300	
N13	Lung Mun Road - under deck	129	0	129	
N14	Lung Mun Road	79	0		
N15	Lung Mun Road - under deck	487	0		
N16	Lung Mun Road	794	0		
N17	Lung Mun Road - cycle track	606			
N18	Lung Mun Road	379	0		
N19	Lung Mun Road	536			
N20	Near Footbridge	325	0		
	Toe of Slope TP E	450	0		
N21	Toe of Slope TP_E (PDA)	-281	0		
N22	Toe of Slope TP E	151	0		
N23	Toll Plaza - roadside	36	-	Î	
N24	Toll Plaza - roadside	820	0		
N25	Toe of 5SE-D/C116	53	0		
N26	Toe of Slope TP_A & Slope TP_B	89	0		
N27	Toe of Slope TP_B	210	0		
N28	Lung Fu Road	113	0		
N29	Island near Roundabout	334	0		
N30	Island near Roundabout	530			
N31	Toe of 5SE-D/C170	1940	0		
N32	Lung Fu Road	1940	0		
N33	Roundabout	105			
N34	Retaining Structure RW E	272	0		
S1	5SE-D/C215	3103	14		
S2	5SE-D/C215	471	30		
S2 S3	5SE-D/C105	799			
S4	5SE-D/C1/1	483			
S5	5SE-D/C21 5SE-D/C170 (PART 1)	5035			
<u>S6</u>	5SE-D/C170 (PART 1)	622	28		
<u>S7</u>	5SE-D/C170 (FART 2)	89			
S8	5SE-D/C18 5SE-D/C209 (Slope TP_C)	1655			
<u>58</u> S9		5424			
S10	5SE-D/C210 (Slope TP_B) 5SE-D/C211 (Slope TP_A)	1874		2347	
		1874	50		
<u>S11</u>	5SE-D/C214 (Slope TP_D)				
S12	5SE-D/C116	1515			
S13	5SE-D/C212 (Slope TP_E)	8134			
C14	5SE-D/C212 (Slope TP_E) (PDA)	-4132			
S14 Sub-Total	5SE-D/C16 (Non-PDA)	1150	32	1356 53613	



	2
J Trees	~
Baata A State	
221 ml N3	
RETAINING STRUCTURE TP_G	
蝴蝶灣泳灘	
BUTTERFLY BEACH	
NE	
N6	
	2
	APPROVED AND CONFIRMED BY
	AECOM_C3 (RLS)
T PLANTER 300m	SAMMY TSOI
[<u>N12</u>]	- ayphelien
	Tayachen Noupustern
	liveraster
	FOR INFORMATION
	- SEP. 20 FOR INFORMATION CL CHT JL
	REV. DATE DESCRIPTION CHK. PREP. DRAWN
	路政署 HIGHWAYS DEPARTMENT 德珠典大概香港工图管理或
	港京廣大橋香港工 医 管 浸点 Hong Kong - Zhuhai - Macao Bridge Hong Kong Project Management Office
	AECOM Imagine it. Delivered.
	PROJECT TUEN MUN - CHEK LAP KOK LINK
	CONTRACT TITLE TUEN MUN - CHEK LAP KOK LINK -
	NORTHERN CONNECTION TOLL PLAZA AND ASSOCIATED WORKS
	PROJECT NO. CONTRACT NO. 60240249 HY/2013/12
	A3 N.T.S DATE 09 SEP 2020
	AMENDMENT TO WORKING DRAWING NO. 60240249/C3/DF2210
	CHECKED PREPARED DRAWN CL CHT JL/TMC
ITE BOUNDARY	INDSCAPE AREA (NON-SLOPE)
ANDSCAPE AREA (NON-SLOPE)	
	SKETCH NO. IR-1736A
	IN-1730A



Appendix C Approved Planting Schedule for Contract No. HY/2013/12

Slope Planting

CODE	BOTANCIAL NAME	CHINESE NAME	SIZE (mm) HEIGHT (H) x SPREAD (S)	SPACING (mm)	
WHIP					
BAU.VAR.	Bauhinia variegata	宮粉羊蹄甲	WHIP	1000	
BRI.TOM.	Bridelia tomentosa *	土密樹	WHIP	1000	
GOR.AXI.	Gordonia axillaris *	大頭茶	WHIP	1000	
LIT.GLU.	Litsea glutinosa *	潺槁樹	WHIP	1000	
MAL.PAN.	Mallotus paniculatus *	白楸	WHIP	1000	
PHY.EMB.	Phyllanthus emblica *	餘甘子	WHIP	1000	
SAP.DIS.	Sapium discolor *	山鳥桕	WHIP	1000	
TREE					
BAU.VAR.(L)	Bauhinia variegata	宫粉羊蹄甲	LIGHT STANDARD	3000	
BAU.VAR.(H)	Bauhinia variegata	宮粉羊蹄甲	HEAVY STANDARD	4000-450	
BRI.TOM.	Bridelia tomentosa *	土密樹	LIGHT STANDARD	3000	
BOM.CEI.(L)	Bombax ceiba	木棉	LIGHT STANDARD	3000	
BOM.CEI.(H)	Bombax ceiba	木棉	HEAVY STANDARD	4500-500	
CIN.BUR.	Cinnamomum burmannii *	陰香	LIGHT STANDARD	3000	
CIN.BUR.	Cinnamomum burmannii *	陰香	HEAVY STANDARD	4500-50	
LIQ.FOR.	Liquidambar formosana *	楓香	LIGHT STANDARD	3000	
LIT.GLU.(L)	Litsea glutinosa *	漏槁木	LIGHT STANDARD	3000	
MAC.CHE.	Machilus chekiangensis *	浙江澗楠	LIGHT STANDARD	3000	
REE.THY.	Reevesia thyrsoidea *	梭羅樹	LIGHT STANDARD	3000	
SCH.SUP.	Schima superba *	夜維団 木荷 (荷樹)	LIGHT STANDARD	3000	
STE.LAN.	Sterculia lanceolata *		LIGHT STANDARD	3000	
STE.LAN.	Sterculia lanceolata *	假 頻婆 (根) 一般 頻婆 (根) 一般 頻婆 (根) 一般 頻婆 (根) 一般	HEAVY STANDARD	4500-50	
	Viburnum odoratissimum *			3000	
VIB.ODO.	VIDUrnum odoratissimum *	珊瑚樹	LIGHT STANDARD	3000	
SHRUB		inter a second			
DES. CHI.	Desmos chinensis *	假鷹爪	300(H) X 300(S)	500	
ILE.ASP.	llex asprella *	梅葉冬青	300(H) X 300(S)	500	
ILE.PUB.	Ilex pubescens *	毛冬青	300(H) X 300(S)	500	
LIG.SIN.	Ligustrum sinense	山指甲	300(H) X 300(S)	350-50	
MEL.CAN.	Melastoma candidum *	野牡丹	300(H) X 300(S)	500	
MEL.SAN.	Melastoma sanguineum *	毛菍	300(H) X 300(S)	350-50	
NER.OLE.	Nerium oleander	夾竹桃	300(H) X 300(S)	350	
PSY.ASI.	Psychotria asiatica *	九節	300(H) X 300(S)	500	
RHA.IND.	Rhaphiolepis indica *	車輪梅	300(H) X 300(S)	350-50	
RHO.PUL.	Rhododendron pulchrum	紫杜鵑	300(H) X 300(S)	500	
RHO.SIM.	Rhododendron simsii *	紅杜鵑	300(H) X 300(S)	500	
SCH.ARB.	Schefflera arboricola	八葉木	300(H) X 300(S)	500	
SCH.VAR.	Schefflera arboricola 'variegata'	花葉八葉木	300(H) X 300(S)	500	
GROUNDCOVER					
NEP.AUR.	Nephrolepis auriculata *	腎蕨	300(H) X 300(S)	100-30	
NEP.HIR.	Nephrolepis hirsutula *	毛葉腎蕨	300(H) X 300(S)	100-30	
CLIMBER					
BAU.COR.	Bauhinia corymbosa	首冠藤	MIN. 5 SHOOTS PER PLANT, 600mm LONG	300-100	
BOU.SPE.	Bougainvillea spectabilis	簕杜鵑	MIN. 5 SHOOTS PER PLANT, 600mm LONG	300-50	
FIC.PUM.	Ficus pumila *	薜荔	MIN. 3 SHOOTS PER PLANT, 1000mm LONG	300	
LON.JAP.	Lonicera japonica *	忍冬(金銀花)	MIN. 5 SHOOTS PER PLANT, 600mm LONG	300-100	
PAR.DAL.	Parthenocissus dalzielii	爬墙虎	MIN. 3 SHOOTS PER PLANT, 1000mm LONG	300-100	
WED. T RI.	Wedelia trilobata	蟛蜞菊	MIN. 5 SHOOTS PER PLANT, 600mm LONG	300	

Roadside Planting

CODE	BOTANCIAL NAME	CHINESE NAME	SIZE (mm)	SPACING	
			HEIGHT (H) x SPREAD (S)	(mm)	
TREE	Design of the second se	6-4-95-7-56-2057	UP AIR/ CTANDADD	4500 5000	
BRA.ACE.	Brachychiton acerifolius	<u> </u>	HEAVY STANDARD	4500-5000	
DEL.REG.	Delonix regia	鳳凰木	HEAVY STANDARD	N/A	
GAR.SUB.	Garcinia subelliptica	福木	LIGHT STANDARD	3000	
MEL.CUM.	Melaleuca cajuputi subsp. cumingiana	白千層	HEAVY STANDARD	4000	
STE.LAN.	Sterculia lanceolata *	假蘋婆	HEAVY STANDARD	5000	
TAB.CHR.	Tabebuia chrysantha	黃花風鈴木	HEAVY STANDARD	5000	
TAB.IMP.	Tabebuia impetiginosa	風鈴木	HEAVY STANDARD	5000	
TER.MAN.	Terminalia mantaly	小葉欖仁	HEAVY STANDARD	5000	
PALM					
ARC.ALE.	Archontophoenix alexandrae	假檳榔	3500(H) x 1500(S)	4000	
CHR.LHT.	Chrysalidocarpus lutescens	散尾葵	1500(H)	2000	
LIV.CHI.	Livistona chinensis	蒲葵	2000(H) x 1500(S)	2500	
PHO.ROE.	Phoenix roebelenii	日本葵	2000(H) x 1500(S)	2500-3000	
WOD.BIF.	Wodyetia bifurcata	狐尾椰子	2500(H) x 1500(S)	3500	
SHRUB					
DUR.GOL.	Duranta repens 'goldern'	金連翹	300(H) X 300(S)	300	
IXO.CHI.	Ixora chinensis *	龍船花	300(H) X 300(S)	300	
IXO.COC.	Ixora coccinea	橙紅龍船花	300(H) X 300(S)	300	
IXO.LUT.	Ixora coccinea 'lutea'	黃花龍船花	300(H) X 300(S)	300	
RHA.IND.	Rhaphiolepis indica *	車輪梅	300(H) X 300(S)	300	
RHO.PUL.	Rhododendron pulchrum	紫杜鵑	300(H) X 300(S)	300	
RHO.SIM.	Rhododendron simsii *	紅杜鵑	300(H) X 300(S)	300	
SCH.ARB.	Schefflera arboricola	八葉木	300(H) X 300(S)	300	
SCH.VAR.	Schefflera arboricola 'variegata'	花葉八葉木	300(H) X 300(S)	300	
GROUNDCOVI	ER				
ASP.DEN.	Asparagus densiflorus 'myersii'	狐尾天冬	300(H) X 300(S)	250	
ARA.DUR.	Arachis duranensis	金花生	100(H) X 200(S)	200	
ASP.SPR.	Asparagus densiflorus 'sprengeri'	天冬	100(H) X 200(S)	200	
CUP.HYS.	Cuphea hyssopifolia	細葉雪茄花	250(H) X 300(S)	250-300	
DIA.VAR.	Dianella tasmanica 'variegata'	花葉山菅蘭	250(H) X 250(S)	250	
LAN.FLA.	Lantana camara 'flava'	黃花馬纓丹	200(H) X 200(S)	200	
LAN.MON.	Lantana montevidensis	小葉馬纓丹 (紫花)	200(H) X 200(S)	200	
NEP.AUR.	Nephrolepis auriculata *	腎蕨	300(H) X 300(S)	150-250	
OPH.JAP.	Ophiopogon japonicus *	沿階草	200(H) X 200(S)	200	

NOTE:

1. ALL PROPOSED PLANT SPECIES AND SPECIFICATIONS ARE SUBJECT TO CHANGE DURING CONSTRUCTION

TO SUIT THE SITE CONDITIONS.

2. SHRUB / GROUNDCOVER SHOULD BE PLANTED IN A STAGGERED PATTERN.

3. GRASS SEED AS CEDD GENERAL SPECIFICATION 3.26(3).

4.* SPECIES NATIVE TO HONG KONG ACCORDING TO THE HONG KONG HERBARIUM WEBSITE.

Status: Planting Schedule is a consolidated list of plant species based on the planting plans as commented/ approved by the relevant Government departments, i.e. LCSD or HyD/ Landscape Division.

AECOM Imagine it. Delivered.

Agreement No. CE 7/2011(HY) Tuen Mun – Chek Lap Kok Link – Design and Construction Planting Schedule (Contract 3 – HY/2013/12)

Drawing Title: Figure 6.2

Appendix D Summary of tree Quantity for Contract No. HY/2013/12

							ng Plan Informat			St Quarter Site Checking						
	Tr	rees		Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Total quantity to be planted as required in contract	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Total quantity observed on site	Remarks
CODE	BOTANCIAL NAME	CHINESE NAME	SIZE (mm) HEIGHT (H) x SPREAD (S)						-							
Whip Tree	1															
BAU.VAR.(L)	Bauhinia variegata	宮粉羊蹄甲	WHIP	-	-	-	-	52	52	-	-	-	-	52	52	
BRI.TOM.	Bridelia tomentosa	土密樹	WHIP	-	-	-	68	25	93	-	-	-	68	25	93	
GOR.AXI	Gordonia axillaris	大頭茶	WHIP	-	-	-	88	52	140	-	-	-	88	52	140	
LIT.GLU.	Litsea glutinosa	漏槁樹	WHIP	-	-	-	-	38	38	-	-	-	-	38	38	
MAL.PAN.	Mallotus paniculatus	白楸	WHIP	-	-	-	-	38	38	-	-	-	-	38	38	
PHY.EMB.	Phyllanthus emblica	餘甘子	WHIP	-	-	-	-	38	38	-	-	-	-	38	38	
SAP.DIS.	Sapium discolor	山烏桕	WHIP	-	-	-	-	12	12	-	-	-	-	12	12	
Tree (Light	t Standard,	Heavy Stan	dard)													
BAU.VAR.(L)	Bauhinia variegata	宮粉羊蹄甲	LIGHT STANDARD	-	-	-	34	191	225	-	-	-	34	187	221	4 missing in zone 5
BOM.CEI.(L)		木棉	LIGHT STANDARD	-	-	-	-	32	32	-	-	-	-	32	32	
BRI.TOM.	Bridelia tomentosa	土密樹	LIGHT	-	-	-	15	66	81	_	-	-	15	66	81	
CIN.BUR.	Cinnamomum	除香	LIGHT		-	-	-	51	51	-	-	-	-	51	51	
GAR.SUB	Garcinia	福木	STANDARD LIGHT	16	4	10	-	-	30	16	4	10	-	-	30	
LIQ.FOR.	Liquidambar	楓香	STANDARD LIGHT	-	-	-	-	32	32	-	-	-	-	32	32	
LIT.GLU.(L)	lomosana		STANDARD LIGHT			-	19	-	19	-		-	19	-	19	
	Litsea glutinosa Machilus		STANDARD LIGHT													
MAC.CHE.	chekiangensis	浙江潤楠	STANDARD LIGHT	-	-	-	17	44	61	-	-	-	17	44	61	
REE.THY.	thyrsoidea	梭羅樹	STANDARD	-	-	-	7	29	36	-	-	-	7	29	36	
SCH.SUP.	Schima superba	木荷 (荷樹)	STANDARD	-	-	-	-	32	32	-	-	-	-	17	17	15 missing
STE.LAN.	lanceolata	假蘈婆	LIGHT STANDARD	-	-	-	6	47	53	-	-	-	6	62	68	15 additional in zone 5
VIB.ODO.	Viburnum odoratissimum	珊瑚樹	LIGHT STANDARD	-	-	-	16	58	74	-	-	-	16	58	74	
BAU.VAR.(L)	Bauhinia variegata	宮粉羊蹄甲	HEAVY STANDARD	-	-	-	-	41	41	-	-	-	-	41	41	
BOM.CEI.(L)	Bombax ceiba	木棉	HEAVY STANDARD	-	-	-	-	16	16	-	-	-	-	16	16	
BRA. ACE	Brachychiton acerifolius	槭葉蘋婆	HEAVY	-	-	18	-	-	18	-	-	18	-	-	18	
CIN.BUR.	0.	陰香	HEAVY STANDARD	-	-	-	-	23	23	-	-	-	-	23	23	
STE.LAN.	Sterculia	假蘋婆	HEAVY	-	-	3	-	10	13	-	-	3	-	10	13	
DEL.REG	lanceolata Delonix regia	鳳凰木	STANDARD HEAVY	1	-	-	-	-	1	1	-	-	-	-	1	
MEL.CUM	Melaleuca	白千層	STANDARD HEAVY	35	16	-	-		51	35	16	-	-		51	
TAB.CHR	Tabebuia	日十層 黃花風鈴木	STANDARD HEAVY	-	-	- 4	-		4	-	-	- 4	-		4	
	chrysantha		STANDARD HEAVY													
TAB.IMP	impetiginosa Terminalia	風鈴木	STANDARD HEAVY	66	-	3	-	-	69	66	-	3	-	-	69	
TER.MAN	mantaly	小葉欖仁	STANDARD	-	8	-	-	-	8	-	8	-	-	-	8	
Palm	Archontophoeni	1	3500(H) x													
ARC.ALE	x alexandrae	假檳榔	1500(H) x 2000(H) x	-	58	-	-	-	58	-	58	-	-	-	58	
LIV.CHI	chinensis	蒲葵	1500(S) 2000(H) x	24	-	-	-	-	24	24	-	-	-	-	24	
PHO.ROE	roebelenii	日本葵	1500(S) 2500(H) x	50	-	4	-	-	54	50	-	4	-	-	54	
WOD.BIF	bifurcata	狐尾椰子	1500(S)	-	-	26	-	-	26	-	-	26	-	-	26	
				192	86	68	270	927	1543	192	86	68	270	923	1539	

Summary of tree Quantity for Contract No. HY/2013/12