Civil Engineering and Development Department

Agreement No. CE 67/2015 (HY)
Cycle Tracks from Tuen Mun
to Sheung Shui – Remaining Works
Design and Construction

Quarterly EM&A Report (Version 1.0)

November 2018 to January 2019

Approved By

(Mr. KS Lee,
Environmental Team Leader)

REMARKS:

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

CINOTECH accepts no responsibility for changes made to this report by third parties.

CINOTECH CONSULTANTS LTD

Room 1710, Technology Park, 18 On Lai Street, Shatin, NT, Hong Kong Tel: (852) 2151 2083 Fax: (852) 3107 1388

Email: info@cinotech.com.hk

Quarterly EM&A Report – November 2018 to January 2019

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EXECUTIVE SUMMARY

Introduction

- 1. This is the 9th Quarterly Environmental Monitoring and Audit (EM&A) Report prepared by Cinotech Consultants Limited for the "Agreement No. CE 67/2015 (HY) Cycle Tracks from Tuen Mun to Sheung Shui - Remaining Works - Design and Construction" (hereinafter called "the Project"). This report documents the findings of EM&A Works conducted between 1st November 2018 and 31st January 2019.
- 2. The construction programme is presented in Appendix A. The construction activities undertaken in the reporting quarter were:

Portion A	-	Construction	of	Cycle	Track,	Installation	of	Bicycle	Parapet,
		Construction	of D	rainage	Pipe				

- Construction of Subway A, Construction of Cycle Track, Parapet Portion B Footing

Portion C - Construction of Retaining Wall RW 11B, 11C, 12, 13 & 14, 15A Resting Station R7

- Construction of Drainage Pipe, Construction of RW 15B, 15C, Portion D 15D,15E, 16A Stream Decking D1, D2 & D3

Portion E - Construction of Retaining Wall RW D3, D4, D17, D18, D19, D20, D21, D22, D23, D24, D25 & D26A,B,C Construction of Drainage Pipe, Construction of Boundary Wall

- Construction of Drainage Pipe, Construction of Retaining wall RW Portion F 43, Soil Treatment for RAP, Construction of Boundary Wall, Construction of Resting Station at Man Tin Cheung park

Construction of Retaining Wall RW 45A, 49, DW1 & DW2 Portion H Construction of Drainage

- Construction of Subway D, Construction of Drainage Pipe Portion I

Portion J - Construction of RW 46, 47, 48,24, 25, 26, Construction of Stream

Decking D8

Portion K - Construction of Road Kerb, paving block, Construction of Cycle

Construction of RW 30A, 30B, Construction of Bridge E Portion M

Shui Fu Road Decontamination of soil

Environmental Monitoring Works

- 3. Environmental monitoring for the Project was performed in accordance with the EM&A Manual and the monitoring results were checked and reviewed. Site Inspections/Audits were conducted once per week. The implementation of the environmental mitigation measures, Event Action Plans and environmental complaint handling procedures were also checked.
- 4. Summary of the non-compliance in the reporting quarter for the Project is tabulated in Table I.

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Parameter	No. of Exc	Action			
Parameter	Action Level	Limit Level	Taken		
November 20	018				
Noise	0	0	N/A		
December 2018					
Noise	0	0	N/A		
January 2019					
Noise	0	0	N/A		

5. No exceedance was recorded at any air quality or noise monitoring station during the reporting period.

Environmental Licenses and Permits

- 6. Licenses/Permits granted to the Project include:
 - Environmental Permits (EP) for the Project,
 - EP-450/2013 issued on 30 May 2013 and EP-450/2013/A issued on 25 August 2015; and
 - EP-501/2015 issued on 2 September 2015
 - Billing Account for Waste Disposal (Acc No.: 7025411)
 - Discharge License
 - WT00028748-2017, WT00027672-2017, WT00027661-2017, WT00027606-2017, WT00027510-2017, WT00027509-2017, WT00027603-2017, WT00027605-2017, WT00027508-2017, WT00027834-2017, WT00028431-2017, WT00027584-2017, WT00027607-2017, WT00028850-2017, WT00030236-2018
 - Chemical Waste Producers
 - No.:WPN5213-524-K3261-01
 - Construction Noise Permit
 - GW-RN0748-18

Key Information in the Reporting Quarter

7. Summary of key information in the reporting quarter is tabulated in **Table II**.

Table II Summary Table for Key Information in the Reporting Quarter

	Event Details				Relation			
Event	Number	Received Date	Nature	Action Taken	to Project	Status	Remark	
		8 th Nov 2018	The complaint is filed against extensive dusty stockpile being placed at the works site of Pok Wai South Road (Portion A), causing dust nuisance and affecting the passer-by and residents.	Cover all the stockpile when stockpiling works was not being conducted; Arrange onsite personnel to wash the wheels of the vehicles immediately before they leave the site area; and Increase the frequency of water spraying on the stockpiles to dampen the dusty surface.	Project related	Closed		
Complaint received	3	20 th Dec 2018	The complaint is filed against extensive dust nuisance at work area near Mai Po San Tsuen (Portion D) by construction activities generated sand and dust, and may have caused the nearby village roads to look dusty and unclean.	Increase the frequency of water spraying on the paved roads to minimize the dust generation Cover the temporary cut slopes by tarpaulin before any excavation works commence	Project related	CIR was submitted in December		
			21 st Dec 2018	The complaint is filed against site effluent being pumped and discharge into the nearby surface channel from work area near Mai Po San Tsuen (Portion D).	Mitigation measures are being implemented	Project related	The investigations details shall be updated in the following reporting quarter.	
Reporting Changes	0			N/A		N/A		
Notifications of any summons & prosecutions received	0			N/A		N/A		

Cycle Tracks from Tuen Mun to Sheung Shui – Remaining Works – Design and Construction Quarterly EM&A Report – November 2018 to January 2019

8. Environmental monitoring works for the Project are considered effective and is generating data to categorically identify the environmental impacts from the works and influencing factors in the vicinity of monitoring stations.

1. INTRODUCTION

Background

- 1.1 "Construction of Cycle Tracks and the Associated Supporting Facilities from Sha Po Tsuen to Shek Sheung River" (the EIA Report) is a Schedule 2 Designated Project (DP) under Environmental Impact Assessment Ordinance (EIAO). The Environmental Impact Assessment (EIA) Report (Registered No.: AEIAR-133/2009) and the associated Environmental Monitoring and Audit (EM&A) Manual was approved on 12 March 2009.
- 1.2 Civil Engineering and Development Department (CEDD) implemented the DP in two stages, i.e. Stage 1 and Stage 2. An Environmental Permit (EP) No. EP-450/2013 has been granted for Stage 1 works on 30 May 2013. Pursuant to Section 13 of the EIAO, the Director of Environmental Protection amends the Environmental Permit (No. EP-450/2013) based on the Application No. VEP-478/2015 and the EP (Permit No. EP-450/2013/A) was issued on 25 August 2015 to CEDD as the Permit Holder.
- 1.3 An Environmental Review (ER) Report of the "Construction of Cycle Tracks and the Associated Supporting Facilities from Sha Po Tsuen to Shek Sheung River Stage 2" had been prepared in July 2015 and the Environmental Monitoring and Audit Manual (EM&A Manual) was also included as part of the ER report in the application (Application No.: AEP-501-2015). An Environmental Permit No. EP-501/2015 was issued on 2 September 2015 for Stage 2 works to CEDD as the Permit Holder.
- 1.4 "Agreement No. CE 67/2015 (HY) Cycle Tracks from Tuen Mun to Sheung Shui Remaining Works Design and Construction" (hereinafter called the "Project") covers the Stage 1 (Part) and Stage 2 works of the DP. This Project was commissioned to Sang Hing Kuly Joint Venture (hereinafter called the "Contractor") for "Contract No.: YL/2015/01 Cycle Tracks from Tuen Mun to Sheung Shui Remaining Works". The site location is shown in **Figure 1a-1h** respectively.
- 1.5 Cinotech Consultants Ltd. was designated as the Environmental Team (ET) to undertake the Environmental Monitoring and Audit (EM&A) works for the Project. The construction commencement of the Project was on 23rd November 2016. This is the 9th Quarterly EM&A Report summarizing the EM&A works for the Project from 1st November 2018 31st January 2019.

Project Organizations

- 1.6 Different parties with different levels of involvement in the project organization include:
 - Project Proponent Civil Engineering and Development Department (CEDD)
 - Supervisor Representative Mannings (Asia) Consultants Limited (Mannings)
 - Environmental Team (ET) Cinotech Consultants Limited (Cinotech)
 - Independent Environmental Checker (IEC) ANewR Consulting Limited (ANewR)
 - Contractor Sang Hing Kuly Joint Venture (SKJV)
- 1.7 The key contacts of the Project are shown in **Table 1.1**.

Table 1.1 Key Project Contacts

Party Role		Contact Person	Phone No.	Fax No.
CEDD	Project Proponent	Mr. Chu Wai Lun, Thomas	2417 6370	2412 0358
Mannings Supervisor Representative		Mr. Simon Ng	3168 2028	3168 2022
Cinatash	Environmental Team	Mr. KS Lee	2151 2091	2107 1200
Cinotech		Ms. Betty Choi	2151 2072	3107 1388
ANewR	Independent Environmental Checker	Mr. Adi Lee	2618 2836	3007 8648
SKJV	Contractor	Mr. Ma Kin Man	9552 1734	2890 8205

2. ENVIRONMENTAL MONITORING AND AUDIT REQUIREMENTS

2.1 The monitoring locations, equipment, period, methodology and QA/QC procedures of the required monitoring parameters designed for the routine impact monitoring were complied with the requirements stipulated under the EM&A Manual.

Monitoring Parameters and Monitoring Locations

2.2 The EM&A Manual designates locations for the ET to monitor environmental impacts in terms of air quality, noise, landscape and visual due to the Project. The Project area and monitoring locations are depicted in **Figures 2a-2c**. **Appendix B** gives details of monitoring requirements.

Monitoring Methodology

2.3 Monitoring works/equipments were conducted/calibrated regularly in accordance with the EM&A Manual. Copies of calibration certificates are attached in the appendices of the Monthly EM&A Reports.

Environmental Quality Performance Limits (Action and Limit Levels)

2.4 Should the environmental quality parameters exceed the Action/Limit Levels, the respective action plans would be implemented. The Action/Limit Levels for each environmental parameter are given in **Appendix C**.

Implementation Status of Environmental Mitigation Measures

2.5 The Contractor has implemented environmental mitigation measures and requirements as stated in the EIA Report, the Environmental Permit and EM&A Manual. The implementation status of environmental mitigation measures (EMIS) is given in **Appendix E**. Status of required submissions under the Environmental Permit (EP) of the reporting period is presented in **Table 2.1**.

Table 2.1 Status of Required Submissions under EP

EP Condition	Submission	Submission Date
	Monthly Environmental Monitoring & Audit Report (November 2018)	14 December 2018
3.5	Monthly Environmental Monitoring & Audit Report (December 2018)	14 January 2019
	Monthly Environmental Monitoring & Audit Report (January 2019)	18 February 2019

Site Audit Summary

2.6 Site audits were carried out on a weekly basis. During site inspections in the reporting period, no non-conformance was identified. The observations and recommendations made during the reporting period are summarized in **Appendix F**.

Status of Waste Management

2.7 The amount of wastes generated by the major site activities of this Project during the reporting month is shown in **Appendix G**.

3. MONITORING RESULTS AND NON-COMPLIANCE (EXCEEDANCES) OF THE ENVIRONMENTAL QUALITY PERFORMANCE LIMITS (ACTION AND LIMIT LEVELS)

3.1 Environmental monitoring works were performed in the reporting period and all monitoring results were checked and reviewed. A summary of exceedances is attached in **Appendix H**.

Weather Conditions

3.2 The detail of weather conditions for each individual monitoring session was presented in monthly EM&A report.

Air Quality

3.3 According to the approved EM&A Manuals for Stage 1 works and Stage 2 works in Year 2015, no air quality monitoring is required for the Project.

Construction Noise

- 3.4 All construction noise monitoring was conducted as scheduled in the reporting period. No Action and Limit Level exceedance was recorded.
- 3.5 The graphical presentations of the noise monitoring results are shown in **Appendix D**.

Landscape and Visual

3.6 Site audits were carried out on a weekly basis to monitor and audit the timely implementation of landscape and visual mitigation measures of this project. No non-compliance of the landscape and visual impact was recorded in the reporting quarter.

Influencing Factors on the Monitoring Results

3.7 During the reporting period, the major noise sources identified at the designated monitoring stations are as follows:

Table 3.1 Major Noise Sources during the Monitoring in the Reporting Period

Monitoring Stations	Locations	Major Noise Source(s)
N1	HKMLC Wong Chan Sook Ying Memorial School	Road traffic noise Noise from daily school activities
N2	Bethel High School	Road traffic noise Noise from daily school activities
N3	No. 159 Mai Po San Tsuen	Road traffic noise
N5	N5 Block 2, Dills Corner Garden	
N6	Home of Loving Faithfulness	Road traffic noise Noise from activities at the premise and workshops near the premise
N7	Village House in Shek Wu Wai	Road traffic noise Noise from activities at workshops near the village house

Comparison of EM&A results with EIA predictions

- 3.8 According to Section 12.5.1 (viii) of the EM&A Manual, the EM&A data are compared with the EIA predictions and summarized in **Annex I**.
- 3.9 When comparing the noise monitoring results to the predicted mitigated construction noise levels in the EIA Report, the results at N1 were slightly higher than the range of predicted mitigated construction noise levels in the EIA Report in November, but within the range in December and January.
- 3.10 The results at N2 were lower than the range of predicted mitigated construction noise levels in the EIA Report in this quarter.
- 3.11 The results at N3 were slightly higher than the range of predicted mitigated construction noise levels in the EIA Report in January, within the range in November but lower than the range in December.
- 3.12 The results at N5 were lower than the range of the predicted mitigated construction noise levels in the EIA Report in this quarter.
- 3.13 The results at N6 were within the range of predicted mitigated construction noise levels in the EIA Report in November and December, but lower than the range in January.

4. COMMENTS, CONCLUSIONS AND RECOMMENDATIONS

Review of the Reasons for and the Implications of Non-compliance

4.1 No Action/Limit Level exceedance was recorded at all noise monitoring stations in the reporting quarter.

Review of Monitoring Methodology and the Practicality and Effectiveness of EM&A Programme

4.2 The EM&A methodology has been effective in monitoring the environmental impacts of the Project and the effectiveness of the mitigation measures. The data collected were useful in determining whether the Project had caused unacceptable impacts on the sensitive receivers. Analysis of all EM&A data collected throughout the baseline and the impact periods demonstrated the environmental acceptability of the Project.

Effectiveness of Mitigation Measures

- 4.3 The mitigation measures recommended in the EIA report are considered effective in minimizing environmental impacts.
- 4.4 The Contractor has implemented the recommended mitigation measures except those mitigation measures not applicable at this stage.
- 4.5 Environmental monitoring works were performed in the reporting quarter and all monitoring results were checked and reviewed. No non-compliance (exceedances) of Action/Limit Level was recorded.
- 4.6 Three environmental complaints were received in the reporting quarter. No environmental prosecution were received in the reporting quarter.
- 4.7 The effectiveness of environmental management is satisfactory given that the recommendations given in the site inspections performed in the reporting period (as shown in **Appendix F**) are met.

Recommendations

4.8 According to the environmental audits performed in the reporting quarter, the following recommendations were made:

Air Quality

- Water spraying should be provided frequently to unpaved and exposed area, and haul roads for dust suppression.
- Proper tarpaulin coverage should be provided to all stockpiles in the Site to prevent dust generation.

Water Quality

- Wheel washing bays in all Portions within the Site should be maintained as far as practicable by means of removing silty water or using cleaner water in order to enhance the effectiveness of wheel washing in every portion within the Site.
- Embankment or dikes should be established at the site boundary to direct any untreated wastewater from the Site to wastewater treatment facility during rain events to perform water treatment before discharge.
- Standing or ponding water within the Site should be cleared as far as practicable.

Waste/Chemical Management

- General refuse should be removed regularly to prevent accumulation on-site. Proper enclosed bin should be provided with maintenance for collection of general refuse from workforce.
- Drip tray should be provided to oil/chemical containers and generator to avoid oil leakage. Any oil stain observed on ground should be properly removed as chemical waste.

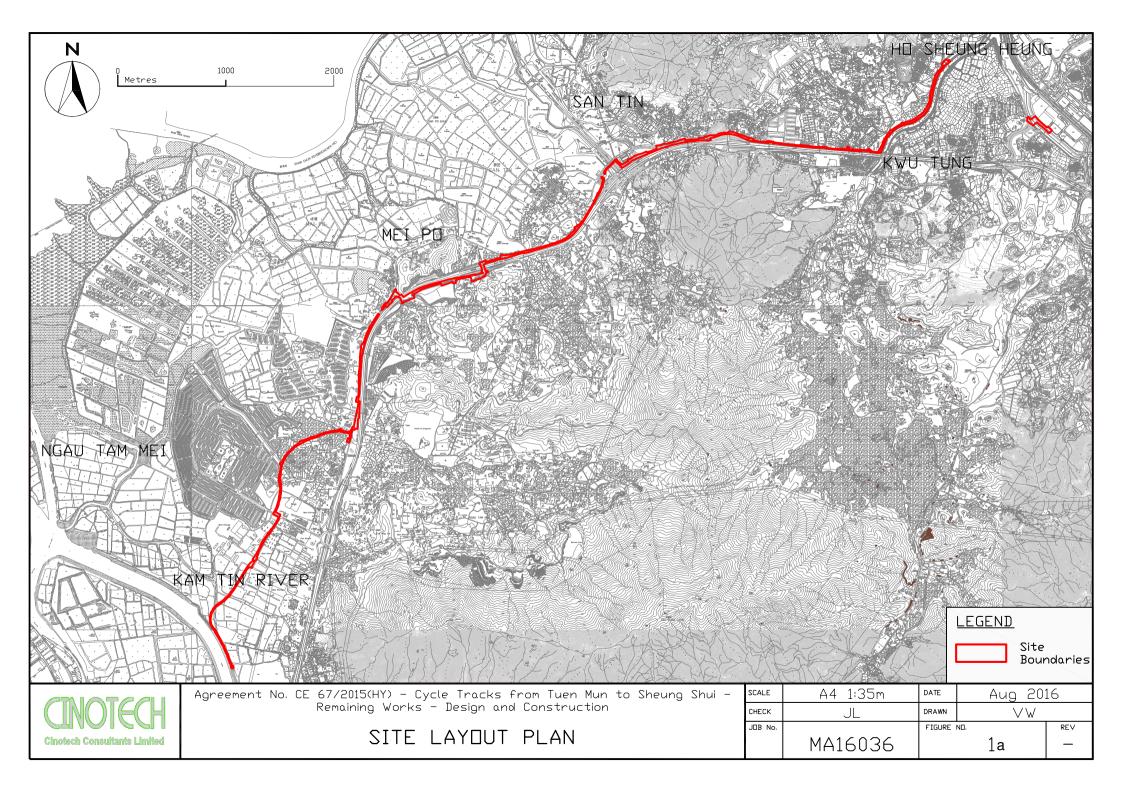
Landscape and Visual

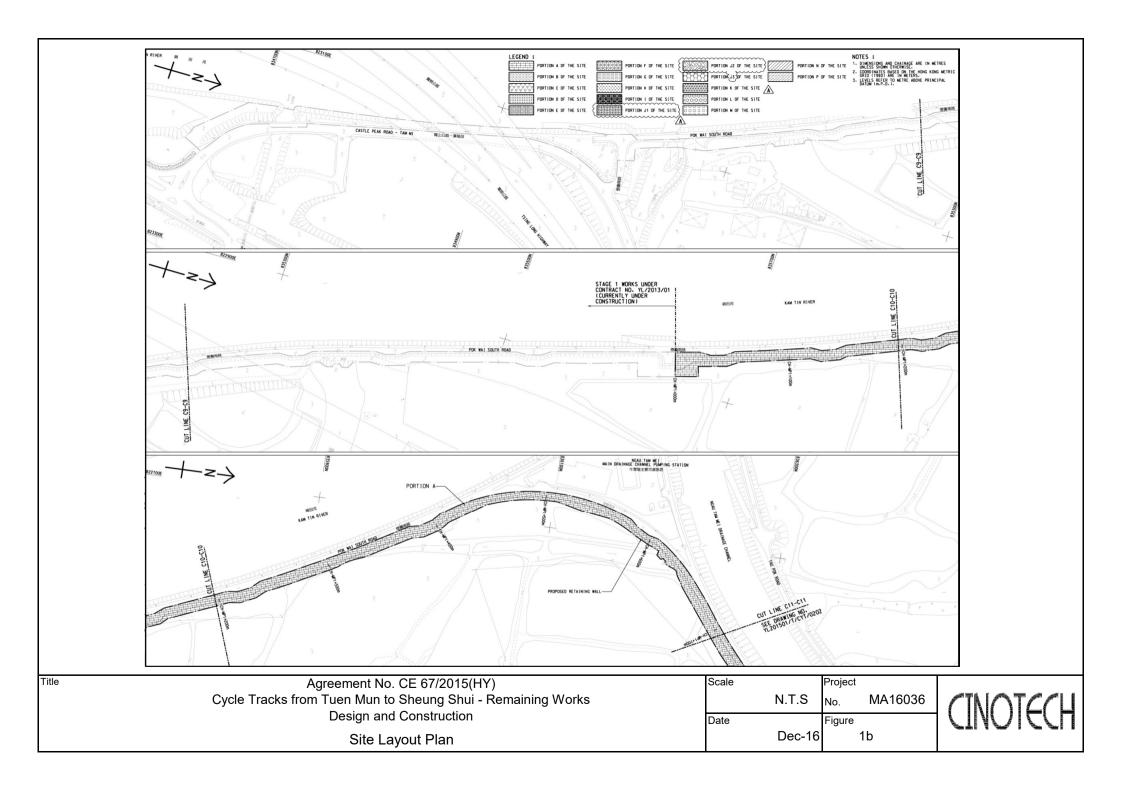
 Adequate tree protection zones should be established to protect retained and existing trees. Conspicuous signs of status of trees should be clearly shown to avoid damage from PMEs or workers.

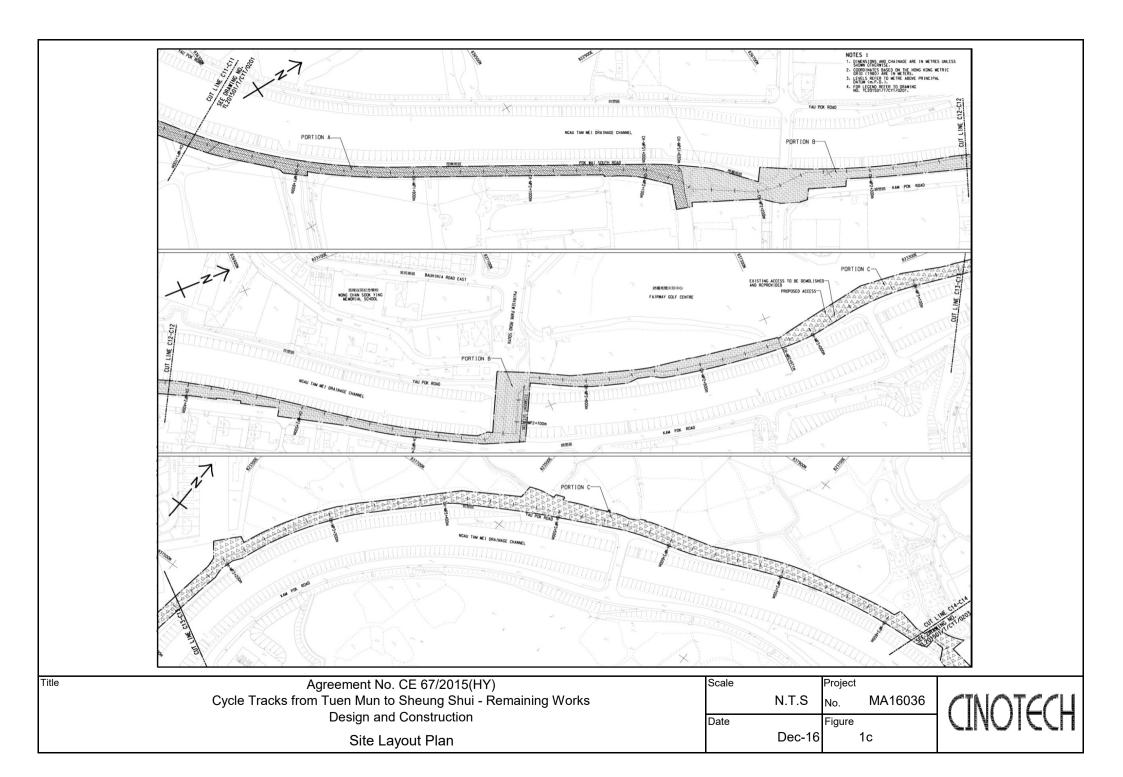
Permits/Licences

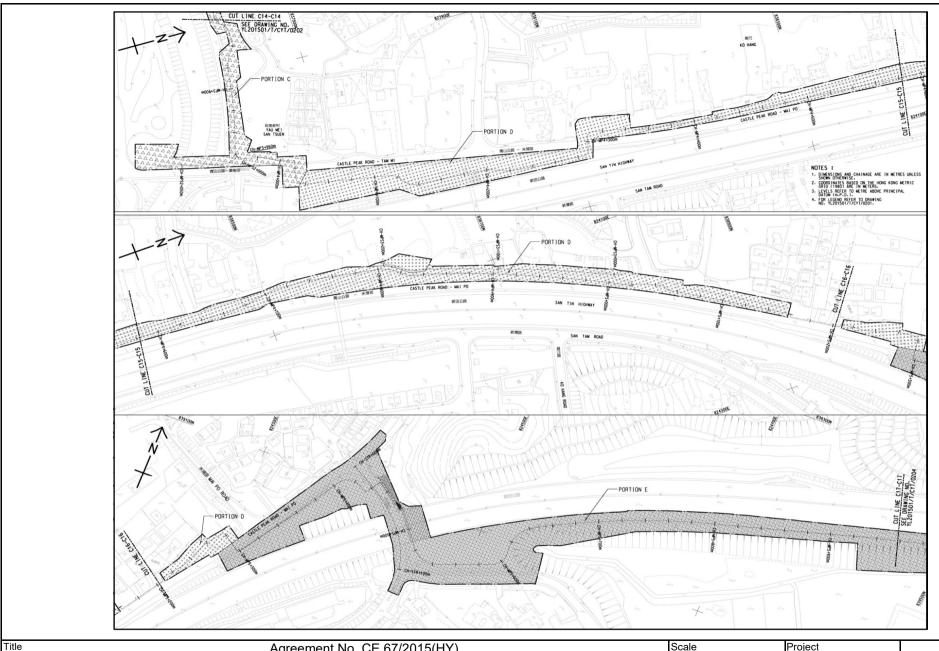
• Environmental licences should be properly displayed at every entrance.

FIGURES

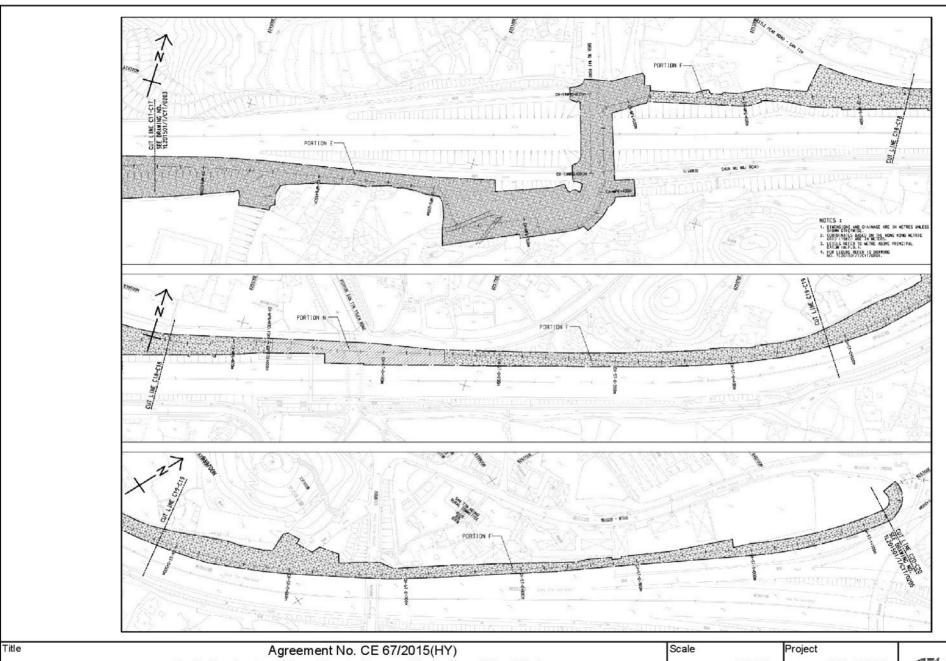




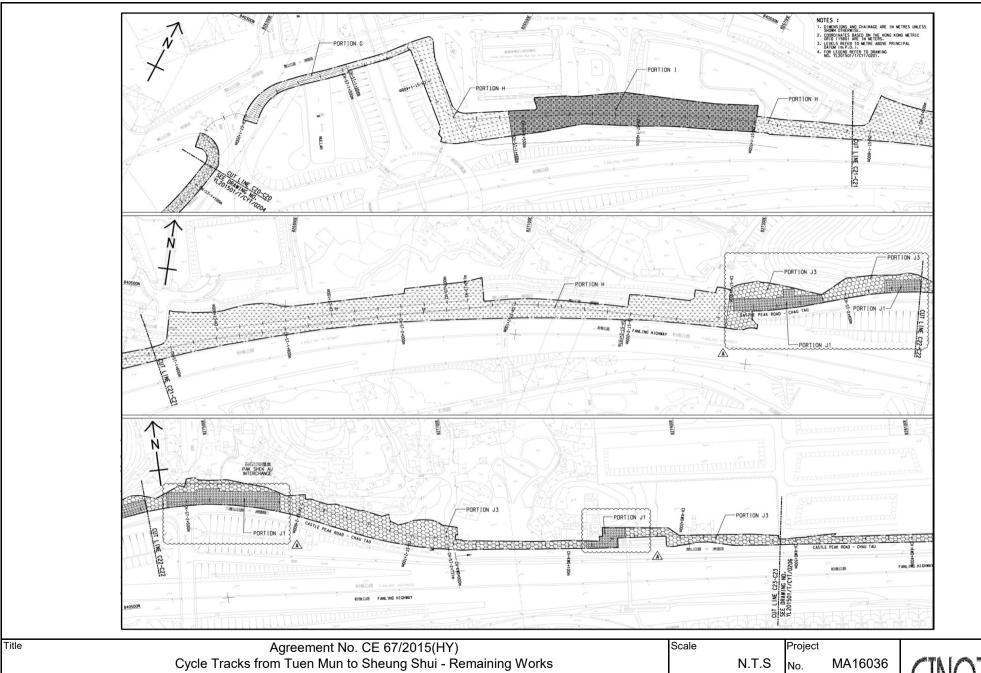




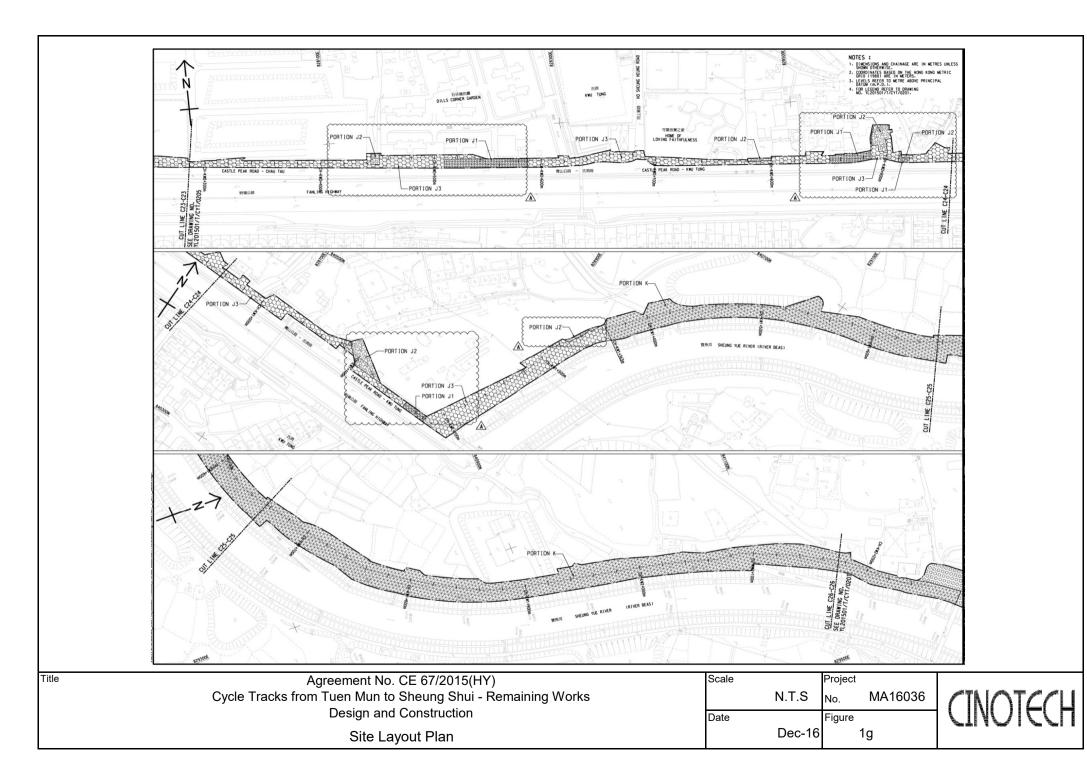
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Cycle Tracks from Tuen Mun to Sheung Shui - Remaining Works
Design and Construction
Site Layout Plan

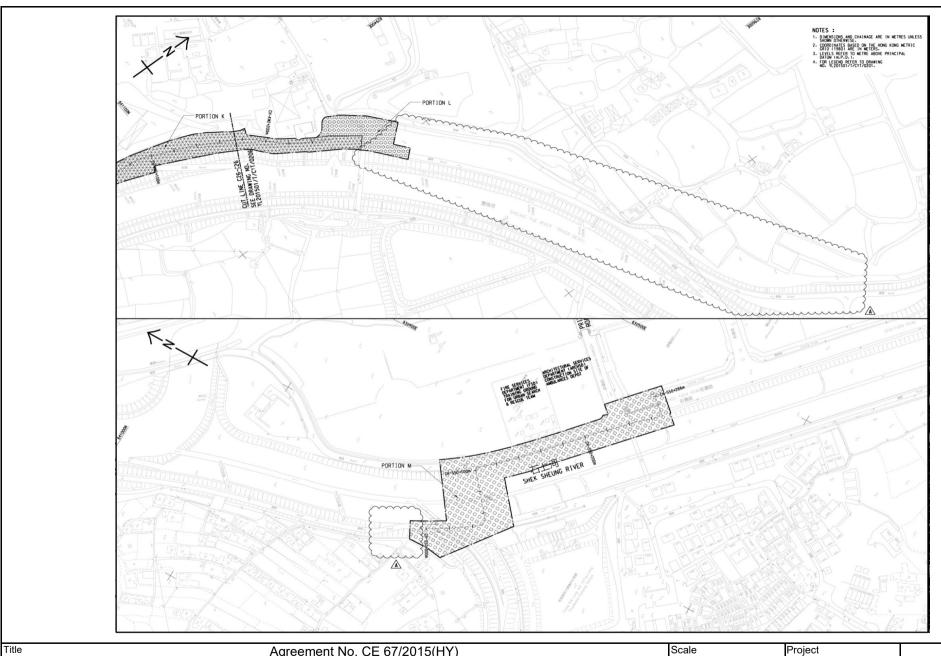


Agreement No. CE 67/2015(HY)
Cycle Tracks from Tuen Mun to Sheung Shui - Remaining Works
Design and Construction
Site Layout Plan



Agreement No. CE 67/2015(HY)
Cycle Tracks from Tuen Mun to Sheung Shui - Remaining Work
Design and Construction
Site Layout Plan

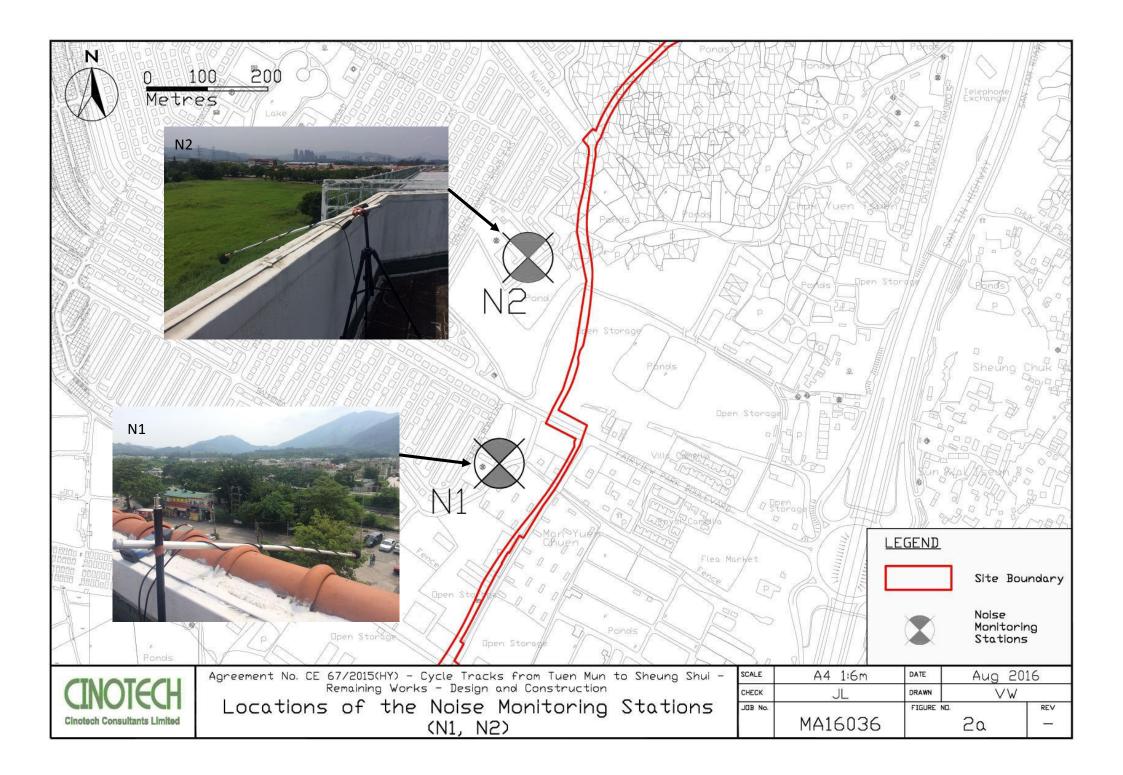


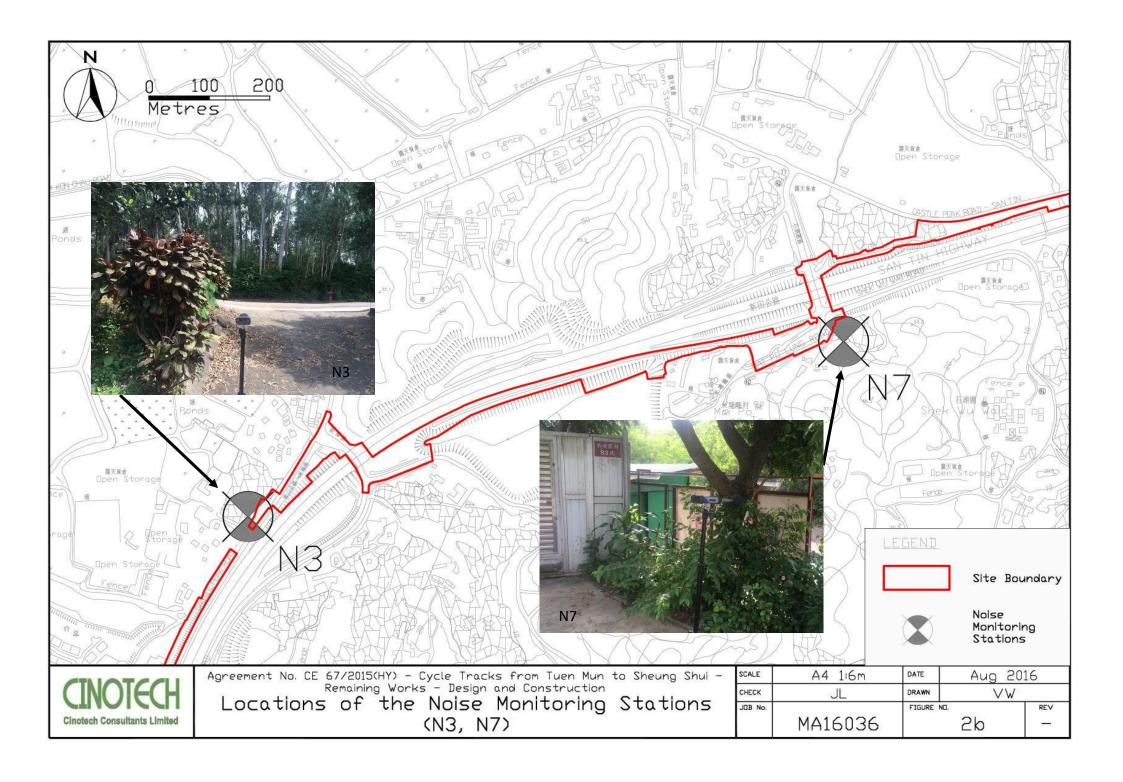


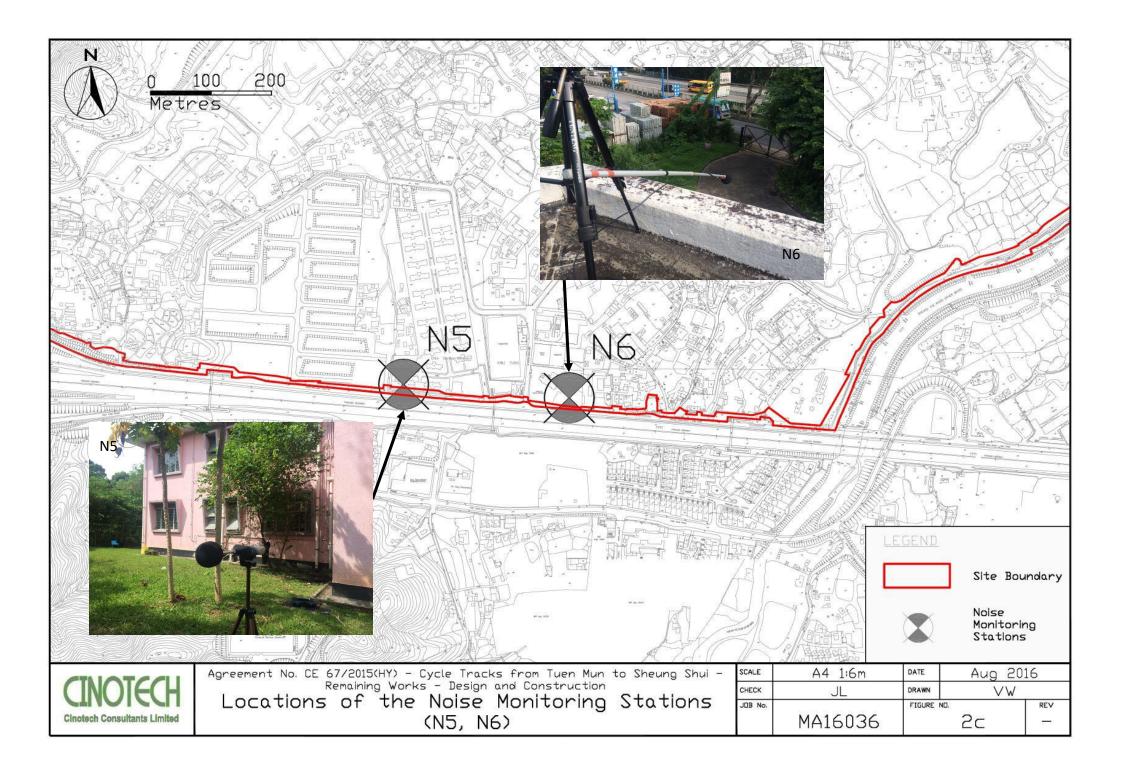
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Cycle Tracks from Tuen Mun to Sheung Shui - Remaining Works
Design and Construction
Site Layout Plan

N.T.S No. MA16036

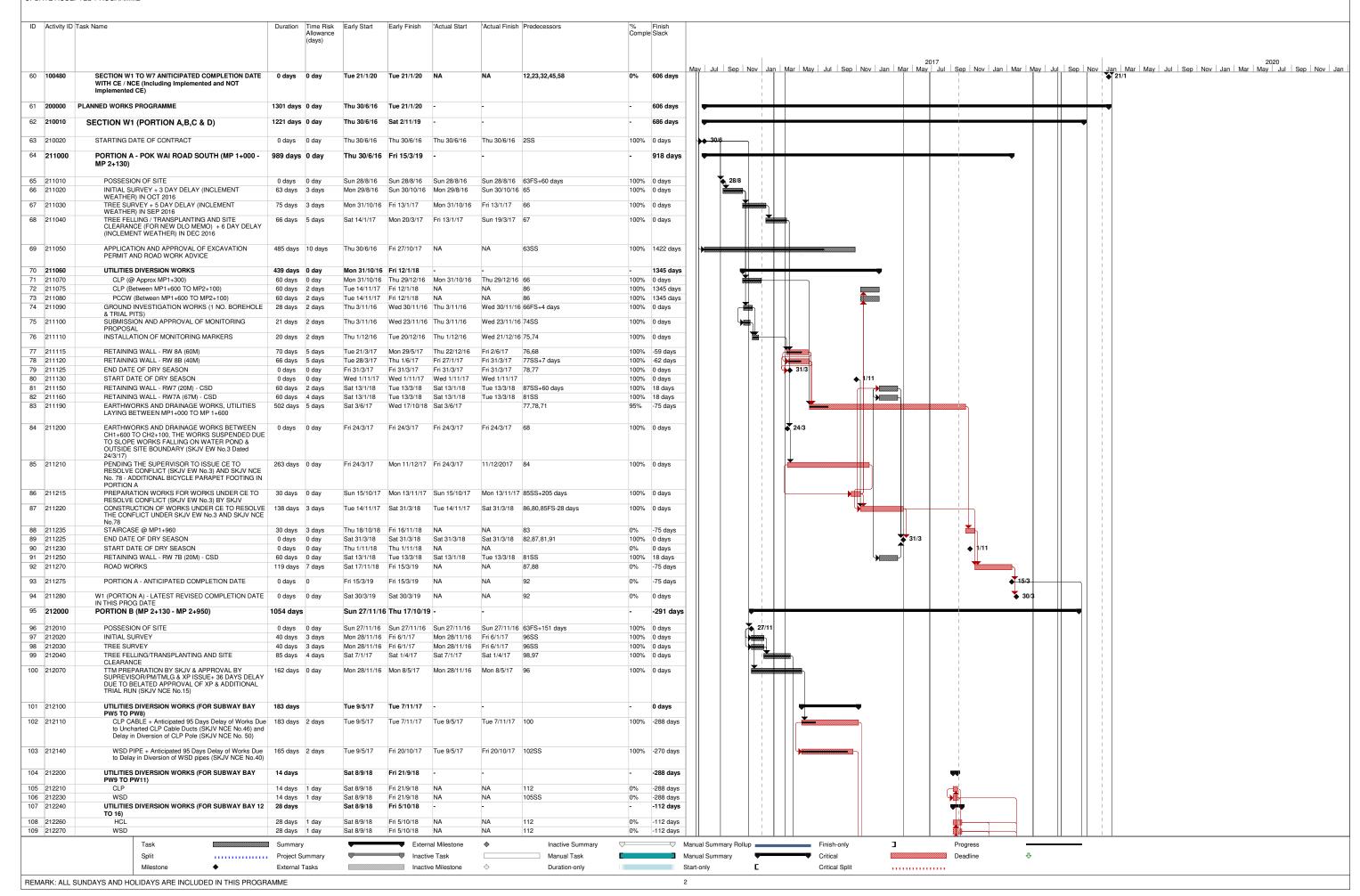
Date Dec-16 Figure 1h

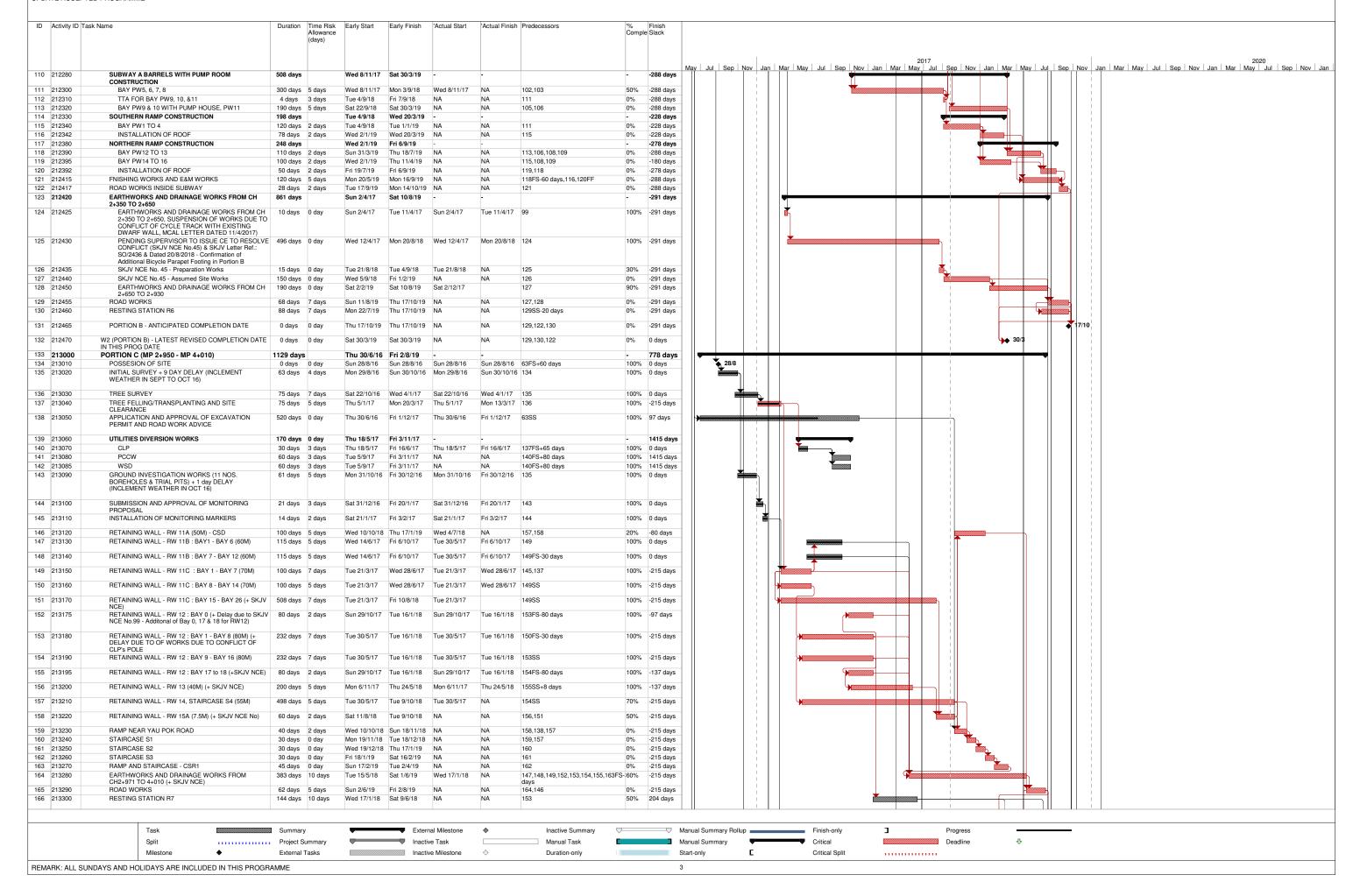


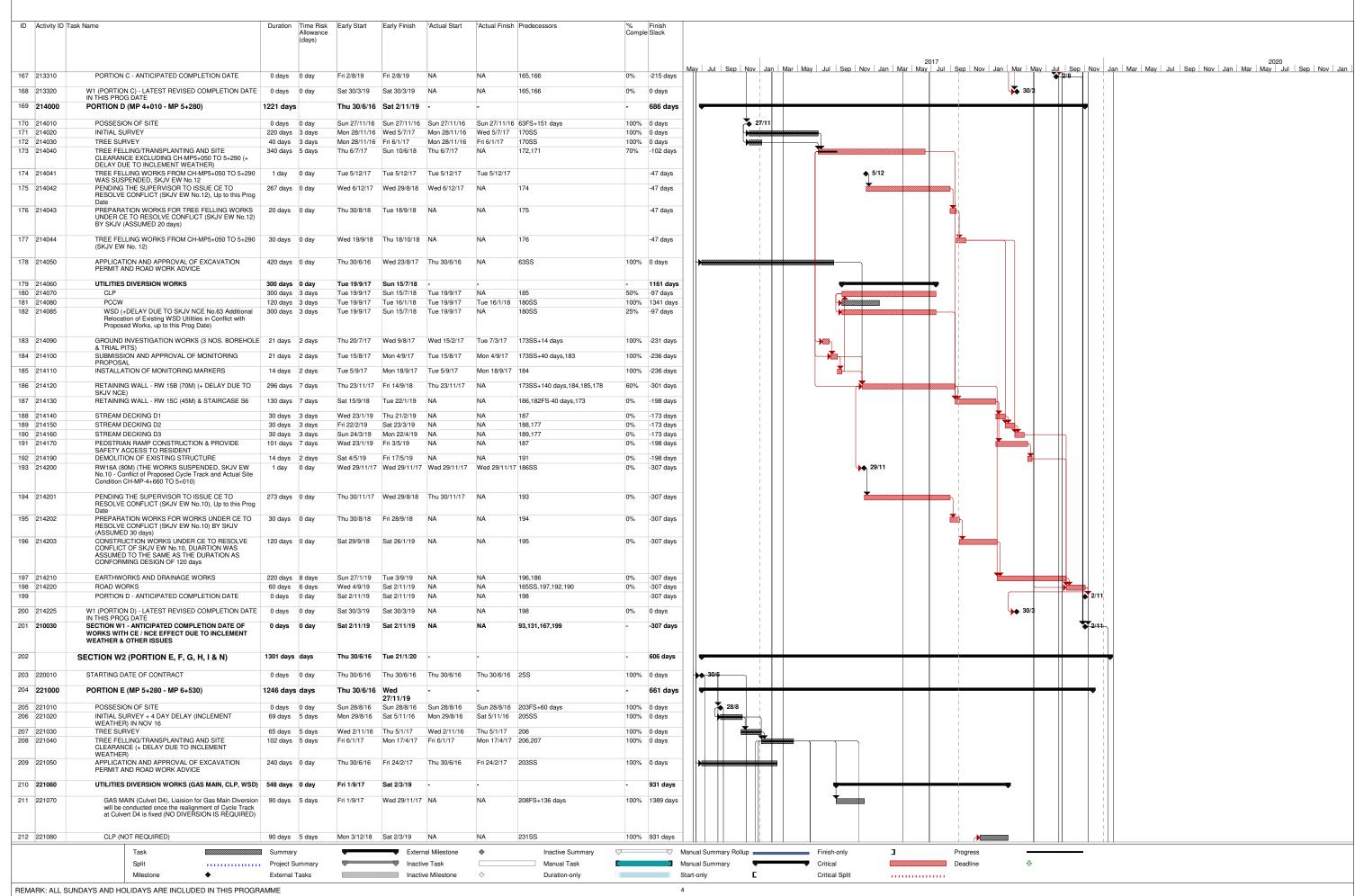


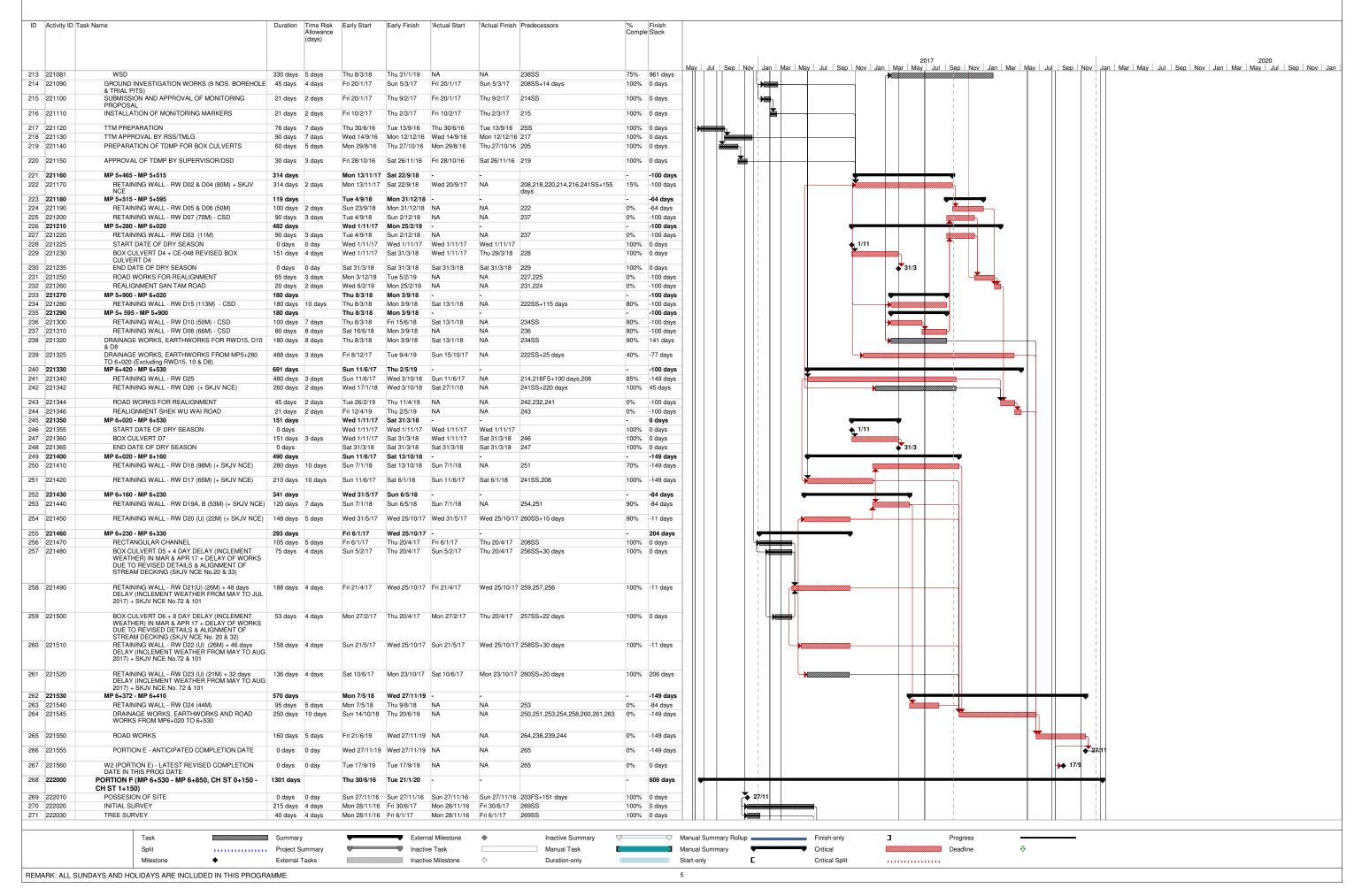


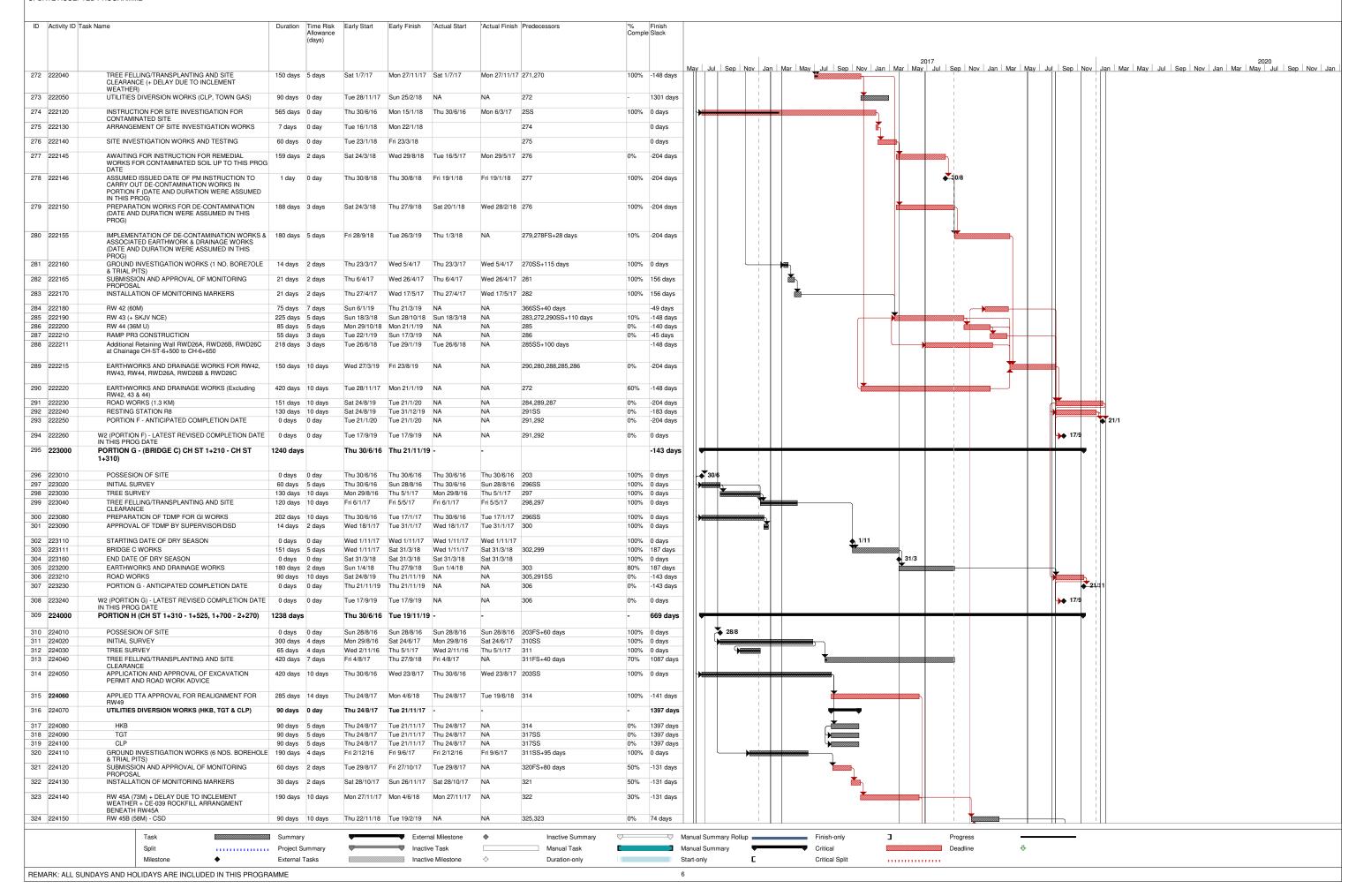
APPENDIX A CONSTRUCTION PROGRAMME

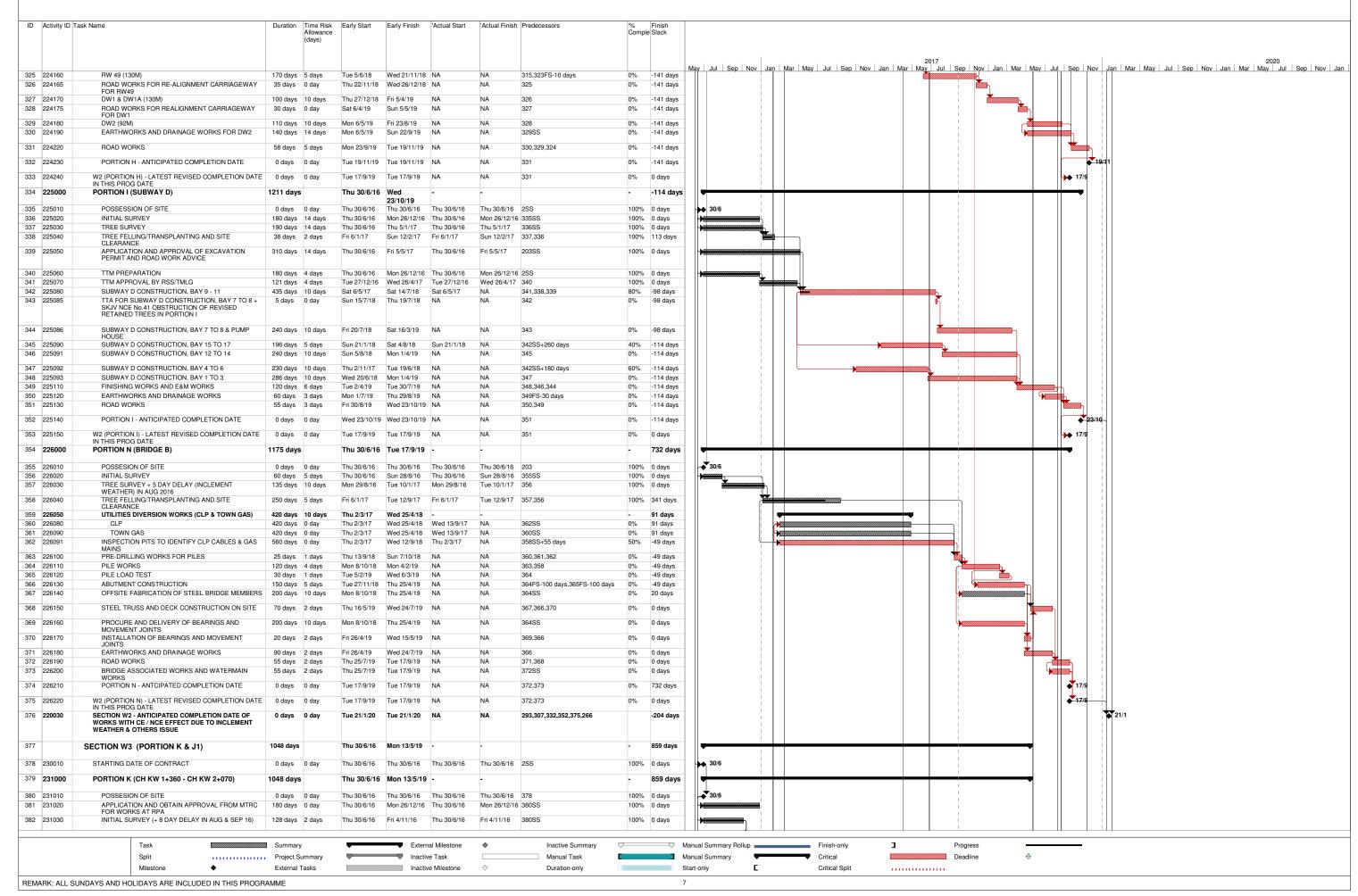


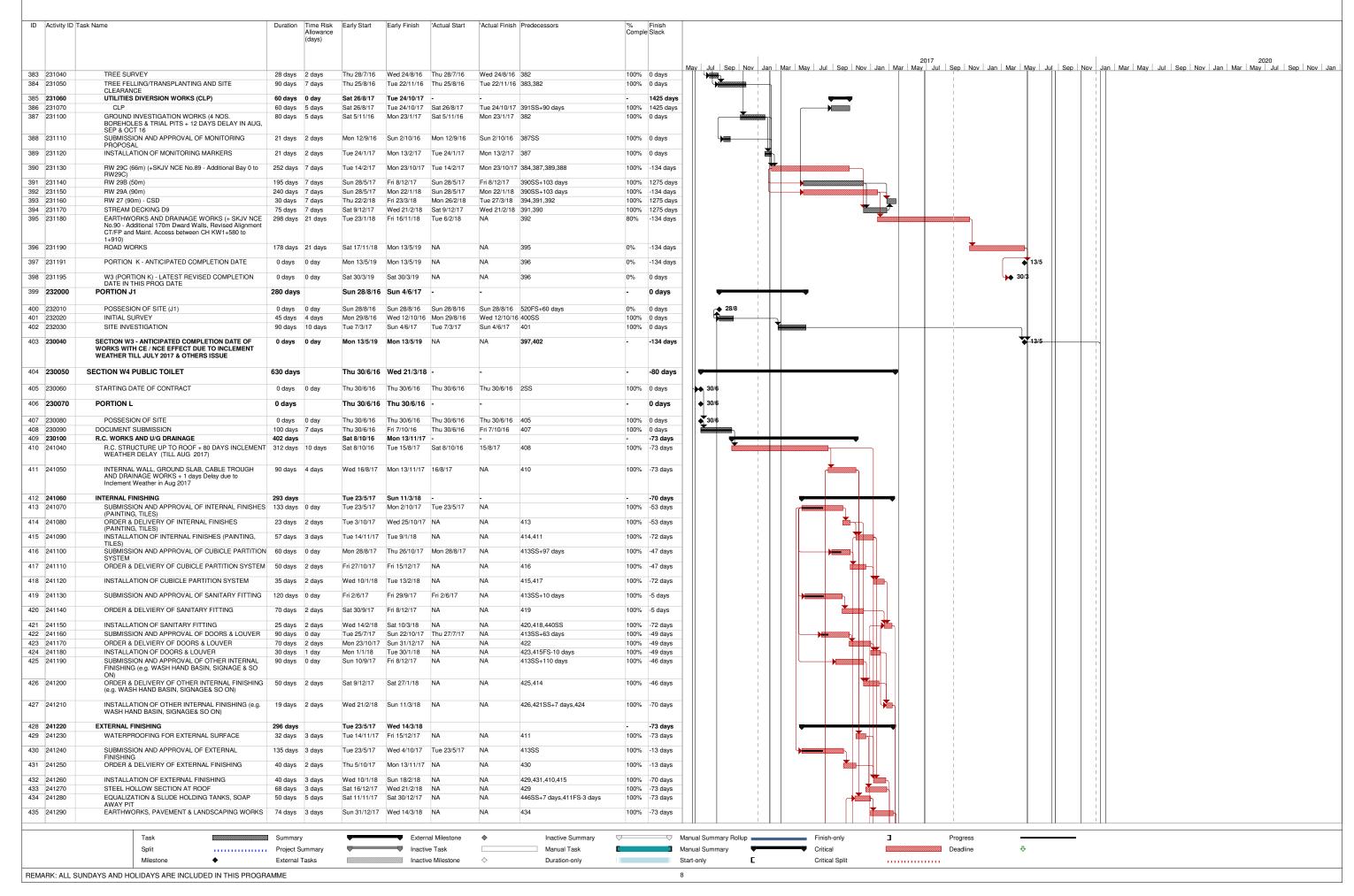


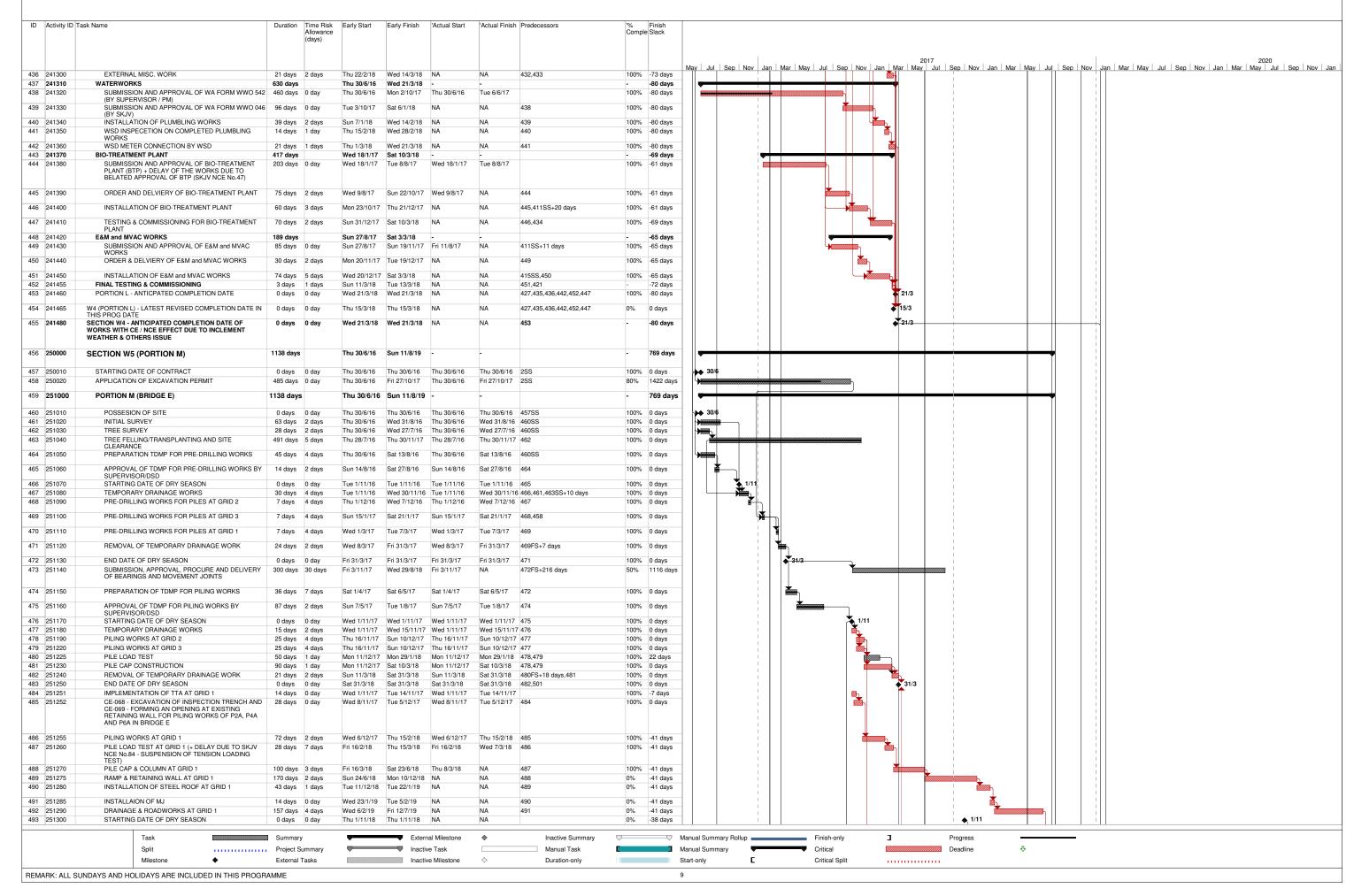


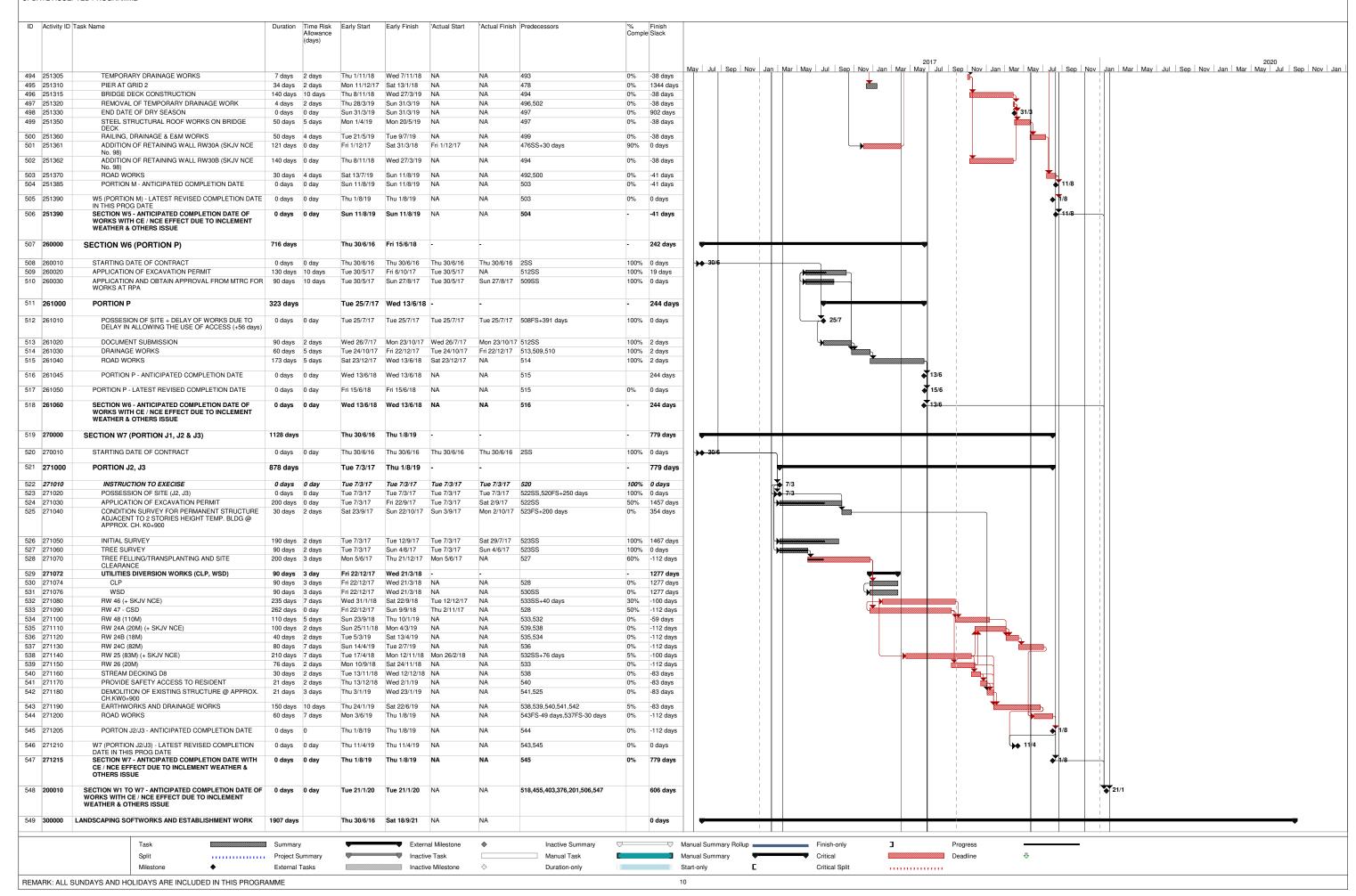


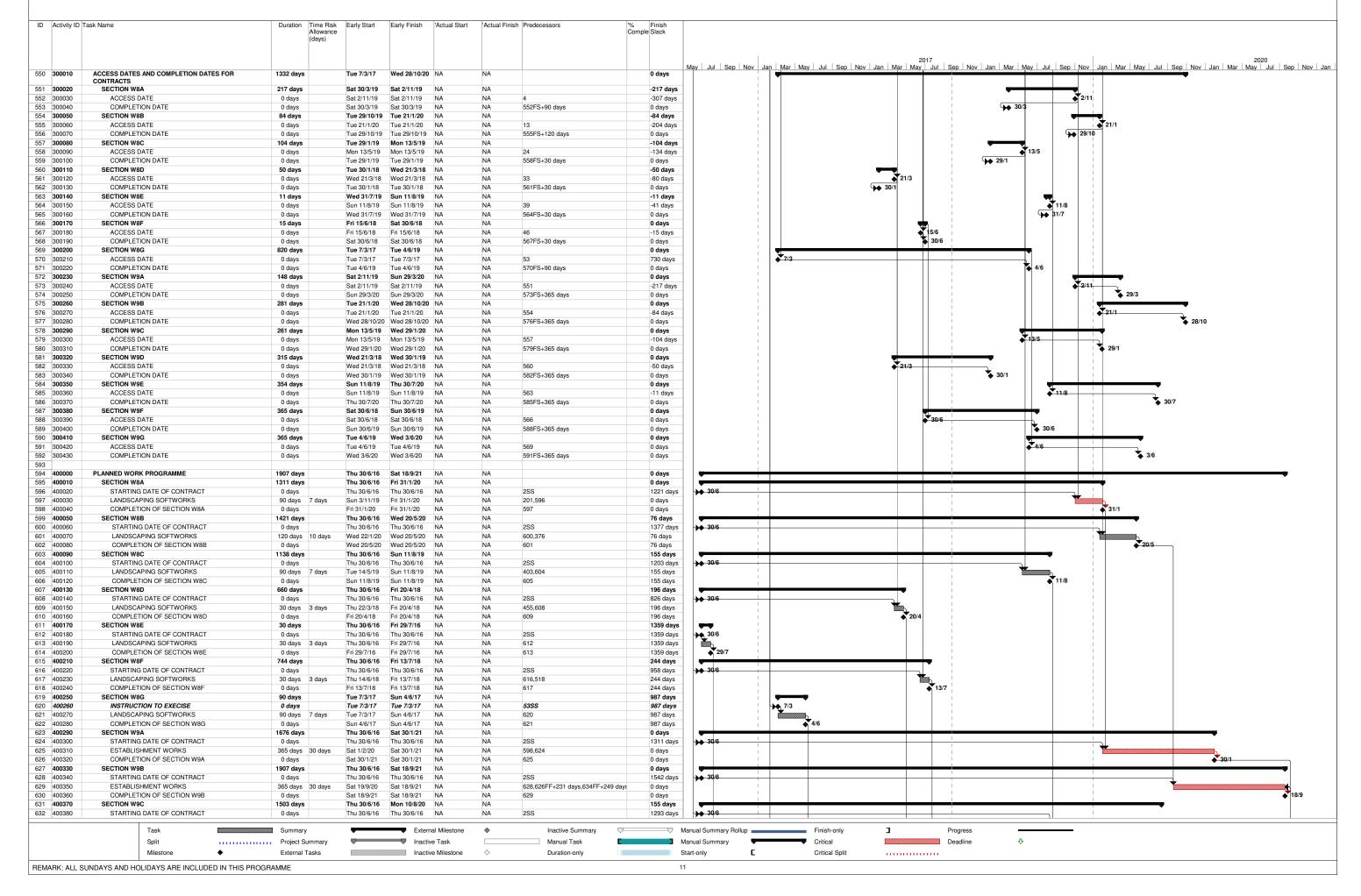












ID Activity ID Ta	ask Name	Duration		Early Start	Early Finish	'Actual Start	'Actual Finish	Predecessors	'% Finish Comple Slack															
			Allowance (davs)						Comple Slack															
			(days)																					
														Nov Jan Ma	2017			1			1		2020	
633 400390	ESTABLISHMENT WORKS	365 days	30 days	Mon 12/8/19	Mon 10/8/20	NΔ	NA	606,632	155 days	May Jul Sep	Nov Ja	an Mar M	ay Jul Sep	Nov Jan Ma	r May Ju	ul Sep Nov	Jan Mar Ma	y Jul Sep	Nov Jan	ı Mar May	ıy Jul Se	p Nov Jan	Mar May Jul	Sep No
634 400400	COMPLETION OF SECTION W9C	0 days	oo aays	Mon 10/8/20				633	155 days		1					1					10/8	1		1
	SECTION W9D							033											1		-10/0			
635 400410		1025 days		Thu 30/6/16			NA		196 days	<u> </u>														
636 400420	STARTING DATE OF CONTRACT	0 days		Thu 30/6/16	Thu 30/6/16	NA	NA	2SS	856 days	30/6		+			고									
637 400430	ESTABLISHMENT WORKS	365 days	30 days	Sat 21/4/18	Sat 20/4/19	NA	NA	610,636	196 days		i								i					
638 400440	COMPLETION OF SECTION W9D	0 days		Sat 20/4/19	Sat 20/4/19	NA	NA	637	196 days		1					1	20	4	-					—
639 400450	SECTION W9E	395 days		Thu 30/6/16	Sat 29/7/17	NA	NA		1359 days	_	_					1			1					
640 400460	STARTING DATE OF CONTRACT	0 days		Thu 30/6/16	Thu 30/6/16	NA	NA	2SS	1389 days	30/6						i I								
641 400470	ESTABLISHMENT WORKS	365 days	30 days	Sat 30/7/16	Sat 29/7/17	NA	NA	614,640	1359 days							i			i					
642 400480	COMPLETION OF SECTION W9E	0 days		Sat 29/7/17	Sat 29/7/17	NA	NA	641	1359 days		1		29/7											
643 400490	SECTION W9F	1109 days		Thu 30/6/16	Sat 13/7/19	NA	NA		244 days	_								_	l I					
644 400500	STARTING DATE OF CONTRACT	0 days		Thu 30/6/16	Thu 30/6/16	NA	NA	2SS	988 days	30/6						i			i					
645 400510	ESTABLISHMENT WORKS	365 days	30 days	Sat 14/7/18	Sat 13/7/19	NA	NA	618,644	244 days		1								1					
646 400520	COMPLETION OF SECTION W9F	0 days		Sat 13/7/19	Sat 13/7/19	NA	NA	645	244 days							1		13/7						—
647 400530	SECTION W9G	455 days		Tue 7/3/17	Mon 4/6/18	NA	NA		987 days		i	_			_	i			i					
648 400540	INSTRUCTION TO EXECISE	0 days		Tue 7/3/17	Tue 7/3/17	NA	NA	53SS	1077 days		1	7/3				1			1					
649 400550	ESTABLISHMENT WORKS	365 days	30 days	Mon 5/6/17	Mon 4/6/18	NA	NA	622,648	987 days			•				1								
650 400560	COMPLETION OF SECTION W8A	0 days		Mon 4/6/18	Mon 4/6/18	NA	NA	649	987 days		i				4/6									

APPENDIX B MONITORING REQUIREMENTS

$\label{lem:appendix B-Environmental Impact Monitoring Requirements} \ \ \,$

Remarks: # The impact monitoring at these locations will only be carried out until existence of the sensitive receiver at the building.

Type of Monitoring	Parameter	Frequency	Location	Measurement Conditions
Construction Noise	L _{eq} , L ₉₀ & L ₁₀ at 30 minute intervals during (0700 to 1900 on normal weekdays)	Once per week	 N1 - HKMLC Wong Chan Sook Ying Memorial School N2 - Bethel High School N3 - No. 159 Mai Po San Tsuen N5 - Block 2, Dills Corner Garden N6 - Home of Loving Faithfulness N7 - Village House in Shek Wu Wai 	 N1 – Façade measurement at Rooftop (about 5/F) area N2 – Façade measurement at Rooftop (about 4/F) area N3 – Free field measurement at G/F area N5 – Free field measurement at G/F area N6 – Façade measurement at Rooftop (about 3/F) area N7 – Free field measurement at G/F area

APPENDIX C ACTION AND LIMIT LEVELS FOR NOISE

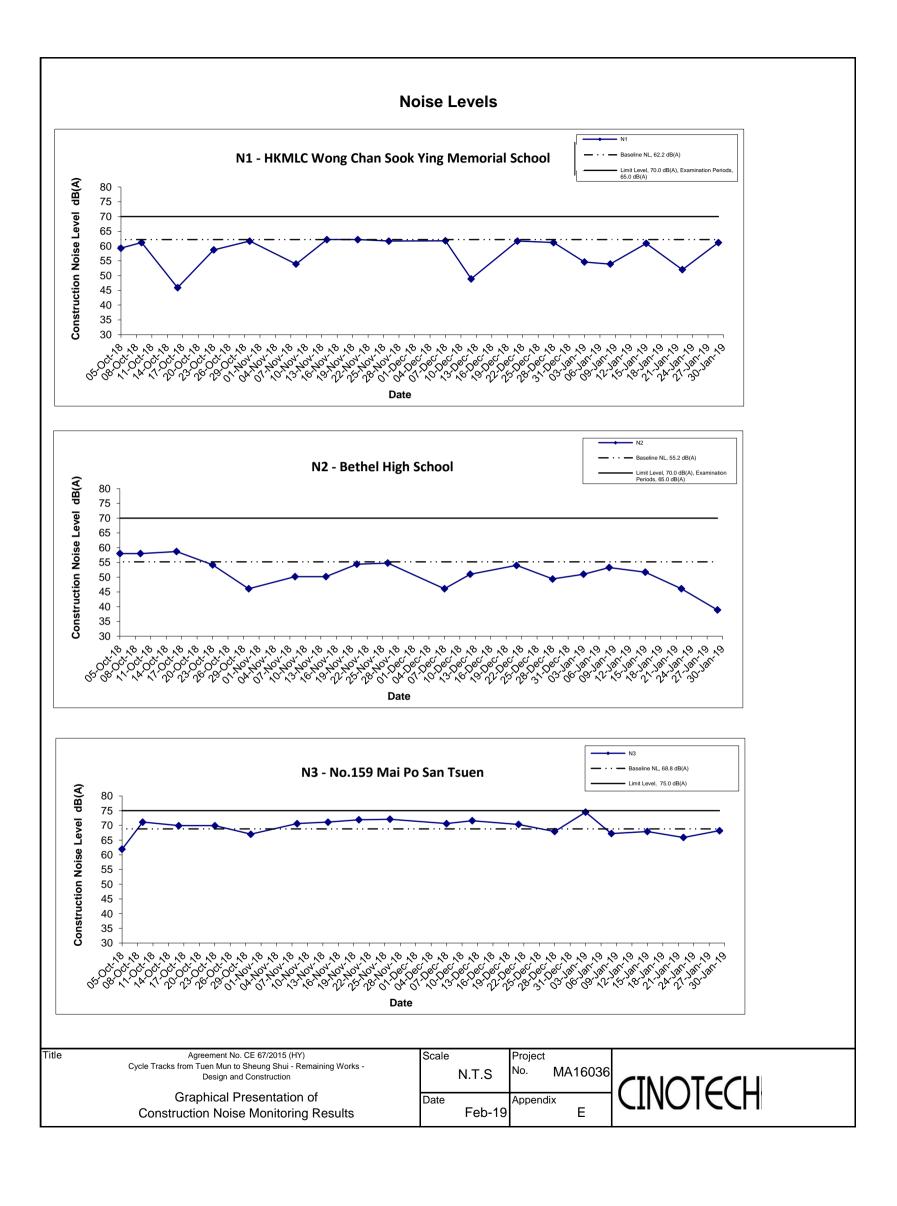
Appendix C - Action and Limit Levels

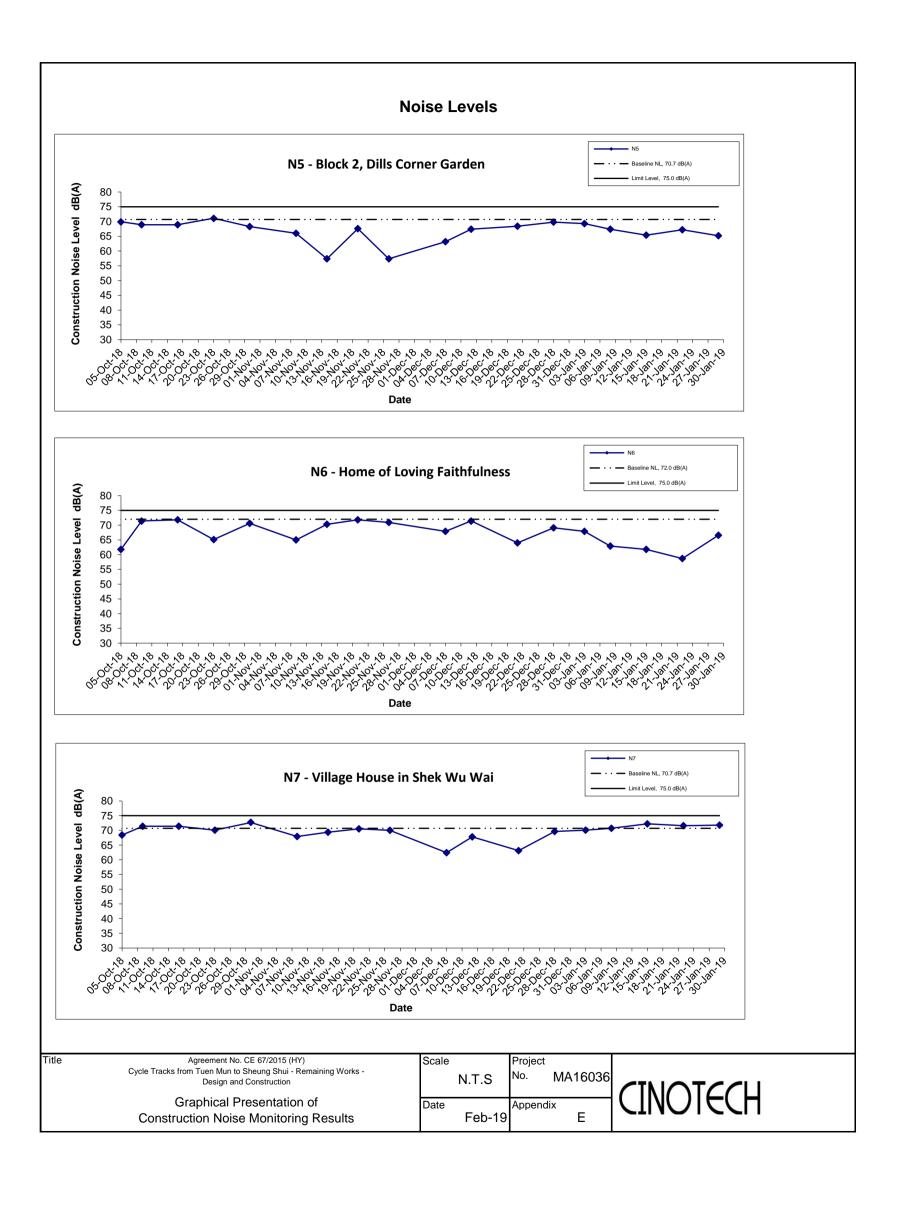
 Table B-1
 Action and Limit Levels for Construction Noise

Time Period	Action Level	Limit Level
0700-1900 hrs on normal weekdays	When one documented complaint is received	75 dB(A) 70dB(A)/65dB(A)*

Remarks: If works are to be carried out during restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority have to be followed. *70dB(A) and 65dB(A) for schools during normal teaching periods and school examination periods, respectively.

APPENDIX D NOISE MONITORING RESULTS AND GRAPHICAL PRESENTATIONS





APPENDIX E ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE (EMIS)

Appendix E - Summary of Implementation Schedule of Mitigation Measures for Construction Phase

EIA Ref.	EM&A Ref.	Mitigation Measures	Status
Construction	Air Quality	·	
S.3.6.2	S.3.2.3	All the dust control measures as recommended in the Air Pollution Control (Construction Dust) Regulation, where applicable, should be implemented. Typical dust control measures include:	٨
S.3.6.2	S.3.2.3	• The works area for site clearance shall be sprayed with water before, during and after the operation so as to maintain the entire surface wet	٨
S.3.6.2	S.3.2.3	• Restricting heights from which materials are to be dropped, as far as practicable to minimize the fugitive dust arising from unloading/ loading	۸
S.3.6.2	S.3.2.3	• Immediately before leaving a construction site, all vehicles shall be washed to remove any dusty materials from the bodies and wheels. However, all spraying of materials and surfaces should avoid excessive water usage	*
S.3.6.2	S.3.2.3	• Where a vehicle leaving a construction site is carrying a load of dusty materials, the load shall be covered entirely by clean impervious sheeting to ensure that the dusty materials will not leak from the vehicle	٨
S.3.6.2	S.3.2.3	• Travelling speeds should be controlled to reduce traffic induced dust dispersion and re-suspension within the site from the operating haul trucks	٨
S.3.6.2	S.3.2.3	• Erection of hoarding of not less than 2.4 m high from ground level along the site boundary, where appropriate	۸
S.3.6.2	S.3.2.3	• Any stockpile of dusty materials shall be covered entirely by impervious sheeting; and/or placed in an area sheltered on the top and 4 sides	#

EIA Ref.	EM&A Ref.	Mitigation Measures	Status
S.3.6.2	S.3.2.3	 All dusty materials shall be sprayed with water or a dust suppression chemical immediately prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet 	^
Construction	Noise Impact		
S5.5.11	S4.2.17 (Stage 1 only)	In order to prevent potential cumulative construction noise impacts to NSRs at Mai Po San Tsuen and Palm Springs, the works at the cycle track section (near CH-MP5+100m) are recommended to be scheduled to avoid works at the areas near Castle Peak Road of the Proposed Comprehensive Development at Wo Shang Wai (CDWSW) project if the works site of the CDWSW project is less than 300 m away from Castle Peak Road.	N/A
S.5.5.14	S.4.2.2 (Stage 1 only)	The contractor shall liaise with the Yuen Long and Kam Tin Sewerage and Sewage Disposal Stage 2 (YLKTSSD2) and North West New Territories Salt Water Supply (NWNTSWS) works contractors so as to avoid undertaking works concurrently with the works when they are in the close proximity as far as practicable. As a conservative approach, works for the cycle track shall be carried out when the works from the other projects are over 300 m away. The requirements shall be included in the works contracts.	N/A
N/A	N/A (Stage 2 only)	The contractor shall liaise with Yuen Long and Kam Tin Sewerage and Sewage Disposal (YLKSSD), Construction of Cycle Tracks and the associated Supporting Facilities at Nam Sang Wai, Yuen Long (NSWCT), Drainage Improvement at Northern NT - Package A – Drainage Improvement Works in San Tin (Remaining Works) - Investigation, North East New Territories New Development Areas Planning and Engineering Study (Investigation) (NENTNDA) and the Proposed Residential cum Passive Recreational Development within "Recreation" ("REC") zone and "Residential (Group C)" Zone at Various Lots in DD 104, Yuen Long, N.T. (RCPRD) contractors so as to avoid undertaking works concurrently with their works (refer to S. 4.2.2 of the EM&A Manual for Stage 2 Works).	^

EIA Ref.	EM&A Ref.	Mitigation Measures	Status
Table 5-7	S.4.2.19	Use of quiet plant (PME):	^
		- mini excavator	
		- mobile crane	
		- dump truck	
		- hand-held electric circular saw	
		- concrete lorry mixer	
		- lorry	
		- vibratory poker	
		- asphalt paver	
		- crane mounted auger	
		- road roller	
		- road ripper, excavator mounted	
S.5.6.2	S.4.2.19	Noise barrier in the form of site hoarding shall be used for the following PMEs	^
Table 5-8		where practicable:	
		- mini excavator	
		- mobile crane	
		- dump truck	
		- hand-held electric circular saw	
		- bar bender	
		- vibrating hammer	
		- generator	
		- concrete lorry mixer	
		- lorry	
		- vibratory poker	
		- asphalt paver	
		- compactor	
		- road roller	
		- crane mounted auger	

EIA Ref.	EM&A Ref.	Mitigation Measures	Status
		- grout mixer	
		- grout pump	
		- drill	
		- road ripper, excavator mounted	
S.5.6.2	S.4.2.19	Noise enclosure shall be used for the following PMEs where practicable:	N/A (1)
		- air compressor	
		- hand-held breaker	
S.5.6.2	S.4.2.19	The barrier / enclosure material's surface mass shall be in excess of 7 kg/m ² .	٨
S.5.6.6	S.4.2.19	Use of alternative quieter plant such as road ripper, excavator mounted instead of	٨
		handheld breaker during levelling/excavation works.	
S.5.6.8	S.4.2.19	The Contractor shall adopt the Code of Practice on Good Management Practice to	٨
		Prevent Violation of the Noise Control Ordinance (Chapter 400) (for Construction	
		Industry) published by EPD	
S.5.6.8	S.4.2.19	The Contractor shall observe and comply with the statutory and non-statutory	٨
		requirements and guidelines	
S.5.6.8	S.4.2.19	Before commencing any work, the Contractor shall submit to the project Engineer	٨
		for approval the method of working, equipment and noise mitigation measures	
		intended to be used at the site	
S.5.6.8	S.4.2.19	The Contractor shall devise and execute working methods to minimize the noise	٨
		impact on the surrounding sensitive uses, and provide experienced personnel with	
		suitable training to ensure that those methods are implemented	
S.5.6.8	S.4.2.19	Noisy equipment and noisy activities should be located as far away from the NSRs as	٨
		is practical	
S.5.6.8	S.4.2.19	Unused equipment should be turned off. PME should be kept to a minimum and the	٨
		parallel use of noisy equipment / machinery should be avoided	
S.5.6.8	S.4.2.19	Regular maintenance of all plant and equipment	٨
S.5.6.8	S.4.2.19	Material stockpiles and other structures should be effectively utilised as noise	N/A
		barriers, where practicable	

EIA Ref.	EM&A Ref.	Mitigation Measures	Status
S.5.6.8	S.4.2.19	The Contractor shall liaise with the schools that are located near the works sites regarding their examination period and schedule the noisy works to avoid the examination period as far as possible	۸
Construction	Water Quality		
S.6.6.1	S.5.2.4	Mitigation measures should be implemented to prevent the uncontrolled discharge of wastewater from the construction site in accordance with Practice Note for Professional Persons ProPECC PN1/94 - Construction Site Drainage	*
S.6.6.1	S.5.2.4	Surface run-off from the construction sites will be directed into storm drains via adequately designed wastewater treatment facilities such as sand traps, silt traps and sediment settling basins. This is important for works immediately along the Kam Tin River, Ngau Tam Mei Main Drainage Channel, River Beas and Shek Sheung River	#
S.6.6.1	S.5.2.4	Channels, earth bunds or sand bag barriers will be provided on-site to properly direct stormwater to the above-mentioned facilities	٨
S.6.6.1	S.5.2.4	Existing silt removal facilities, channels and manholes along roads and pedestrian walkways will be maintained and the deposited silt and grit will be removed regularly, at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times	٨
S.6.6.1	S.5.2.4	Other manholes (including any newly constructed ones) will be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system	^
S.6.6.1	S.5.2.4	Open stockpiles of materials on site will be avoided or where unavoidable covered with tarpaulin or similar fabric during rainstorms. Measures will be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system	۸
S.6.6.1	S.5.2.4	Where possible, works entailing soil excavation will be minimized during the rainy season (i.e. April to September);	٨
S.6.6.1	S.5.2.4	Where applicable, final earthworks surfaces/ slopes will be well compacted and	N/A

EIA Ref.	EM&A Ref.	Mitigation Measures	Status
		hydro-seeded following completion to prevent erosion	
S.6.6.1	S.5.2.4	During construction works, chemical toilets will be provided for the use of site staff.	٨
		These will be provided by a licensed contractor, who will be responsible for	
		appropriate disposal and maintenance of the effluent	
S.6.6.1	S.5.2.4	Works adjacent to the fishponds near Mai Po San Tsuen should be avoided as far as	٨
		possible during the wet season to avoid runoff into the fishponds	
S.6.6.1	S.5.2.4	Wastewater from site facilities (such as toilets) should be discharged to foul sewer,	٨
		where available. Chemical toilets will be considered where there is no foul sewer	
		connection. There is not expected to be a temporary canteen.	
S.6.6.1	S.5.2.4	All site discharges within Water Control Zones must comply with the terms and	^
		conditions of a valid discharge licence issued by EPD	
S.6.6.1	S.5.2.4	Vehicle wheel washing facilities should be provided, where applicable, at the site	*
		exit such that mud, debris, etc. deposited onto the vehicle wheels or body can be	
		washed off before the vehicles are leaving the site area	
S.6.6.1	S.5.2.4	Section of the road between the wheel washing bay and the public road should be	#
		paved with backfill to reduce vehicle tracking of soil and to prevent site run-off from	
		entering public road drains	
S.6.6.1	S.5.2.4	The project may occasionally involve the handling of fuel and generates chemical	^
		wastes. It must be ensured that all fuel tanks and chemical storage are sited on sealed	
		areas and provided with locks	
S.6.6.1	S.5.2.4	The storage areas will be surrounded by bunds with a capacity equal to 110% of the	#
		storage capacity of the largest tank to prevent accidentally spilled oil, fuel or	
		chemicals from reaching the receiving waters	
S.6.6.1	S.5.2.4	Oil and grease removal facilities will be provided where appropriate, for example, in	N/A
		area near plant workshop/ maintenance areas	
S.6.6.1	S.5.2.4	Chemical waste arising from the site should be properly stored, handled, treated and	#
		disposed of in compliance with the requirements stipulated under the Waste Disposal	
		(Chemical Waste) (General) Regulation	

EIA Ref.	EM&A Ref.	Mitigation Measures	Status
-	S.5.2.7 (Stage 1 only)	The construction work of cycle bridge at Shek Sheung River is not recommended to be carried out during wet seasons (April to October), and the dry weather flow will be diverted to avoid entering the works area. In order to further protect the river water quality from disturbance, the construction work especially excavation works, will be surrounded by cofferdams to ensure the works will be carried out in a dry condition to prevent water pollution to the river.	^
N/A	S.5.2.4 (Stage 2 only)	Stream decking is recommended to be carried out during dry weather condition. To prevent disturbance to the river water quality, measures will be taken to ensure the works to be carry out in a dry condition to prevent water pollution to the river, such as sandbag barriers.	^
N/A	S.5.2.6 (Stage 2 only)	Based on the current available information, the tentative programmes of some construction works for the Agreement No. CE 57/2011 (DS) Drainage Improvement at Northern NT - Package A Drainage Improvement Works in San Tin (Remaining Works) - Investigation (DIST) and the Construction of Cycle Tracks and the associated Supporting Facilities at Nam Sang Wai, Yuen Long (NSWCT) projects may overlap with Stage 2 cycle track construction works. It is recommended that the Contractor should liaise with the project contractor(s) of the DIST and the NSWCT projects to schedule the construction works and allow programme phrasing to avoid major concurrent activities to be undertaken simultaneously in the vicinity.	^
Construction	Waste Managem	ent	
S.7.4.1	S.6.2.1 – S.6.2.4	An on-site environmental co-ordinator employed by the Contractor should be identified at the outset of the works. Prior to commencement of Project works, the co-ordinator shall prepare a WMP in accordance with the requirements set out in the ETWB TCW No. 19/2005, Waste Management on Construction Sites, for the ER's approval. The WMP shall include monthly and yearly Waste Flow Tables ("WFT") that indicate the amounts of waste generated, recycled and disposed of (including final disposal site), and which should be regularly updated;	^
S.7.4.1	S.6.2.6	Given the potential for secondary environmental impacts (dust, noise, water quality	٨

EIA Ref.	EM&A Ref.	Mitigation Measures	Status
		and visual impacts), mitigation measures are required to ensure proper handling, storage, transportation and disposal of materials at the outset and throughout the construction phase of the project	
S.7.4.1	S.6.2.6	The reuse/ recycling of all materials on site shall be investigated and exhausted prior to treatment/ disposal off-site	^
S.7.4.1	S.6.2.6	 Good site practices shall be adopted from the commencement of works to avoid the generation of waste, reduce cross contamination of waste and to promote waste minimisation 	*
S.7.4.1	S.6.2.6	• All waste materials shall be sorted on-site into inert and non-inert C&D materials, and where the materials can be recycled or reused, they shall be further segregated. Inert material, or public fill will comprise stone, rock, masonry, brick, concrete and soil which is suitable for land reclamation and site formation whilst non-inert materials include all other wastes generated from the construction process such as plastic packaging and vegetation (from site clearance)	٨
S.7.4.1	S.6.2.6	• The Contractor shall be responsible for identifying what materials can be recycled/ reused, whether on-site or off-site. In the event of the latter, the Contractor shall make arrangements for the collection of the recyclable materials. Any remaining non-inert waste shall be collected and disposed of to the Public Filling Areas whilst any inert C&D materials shall be re-used on site as far as possible. Alternatively, if no use of the inert material can be found onsite, the materials can be delivered to a Public Fill Area or Public Fill Bank after obtaining the appropriate licence	٨
S.7.4.1	S.6.2.6	• In order to monitor the disposal of C&D material and solid wastes at public filling facilities and landfills, and control fly-tipping, a trip-ticket system shall be implemented by the Contractor, in accordance with the contract and the requirements of DEVB Technical Circular (Works) No. 6/2010 "Trip Ticket System for Disposal of Construction and Demolition Material".	٨

EIA Ref.	EM&A Ref.	Mitigation Measures	Status
S.7.4.1	S.6.2.6	• Under the Waste Disposal (Chemical Waste) (General) Regulation, the Contractor shall register as a Chemical Waste Producer if chemical wastes such as spent lubricants and paints are generated on site. Only licensed chemical waste collectors shall be employed to collect any chemical waste generated at site. The handling, storage, transportation and disposal of chemical wastes shall be conducted in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes and A Guide to the Chemical Waste Control Scheme both published by EPD;	#
S.7.4.1	S.6.2.6	• A sufficient number of covered bins shall be provided on site for the containment of general refuse to prevent visual impacts and nuisance to the sensitive surroundings. These bins shall be cleared daily and the collected waste disposed of to the refuse transfer station. Further to the issue of ETWB Technical Circular (Works) No. 8/2010, Enhanced Specification for Site Cleanliness and Tidiness, the Contractor is required to maintain a clean and hygienic site throughout the project works;	*
S.7.4.1	S.6.2.6	• All chemical toilets, if any, shall be regularly cleaned and the night-soil collected and transported by a licensed contractor to a Government Sewage Treatment Works facility for disposal; and	٨
S.7.4.1	S.6.2.6	Toolbox talks should be provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycling.	٨
S.7.4.1	S.6.2.6	• The Contractor shall comply with all relevant statutory requirements and guidelines and their updated versions that may be issued during the course of project construction.	٨
Land Contam	nination		
S.8.7.2 – S.8.7.3	S.7.2.2	Preparation of Contamination Assessment Plan (CAP), which should be submitted to EPD for endorsement, prior to investigation.	٨

EIA Ref.	EM&A Ref.	Mitigation Measures	
		Site investigation and sampling works in accordance with the approved CAP. If	
		contamination is identified, Contamination Assessment Report (CAR) and	
		Remediation Action Plan (RAP) shall be prepared and submitted for EPD's approval.	
S.8.7.5	S.7.3.1	The following control measures should be implemented when handling identified contaminated materials:	N/A
		 General site safety shall be enforced to include basic practices such as the use of 	
		safety boots, hard hats, coveralls, gloves and eye protection;	
		Avoid skin contact, ingestion and inhalation of excavated contaminated soils. Basic	
		personal protective equipment should be used;	
		• Site staff and workers shall be given adequate training and instructions specific to	
		the potential hazards, their health and safety responsibilities and safe working	
		practice including basic personal hygiene;	
		 Measures shall be implemented to prevent non-workers from approaching the 	
		identified works areas in order to avoid exposure to contaminants.	
S.8.7.5	S.7.3.1	Management of Contaminated Soils	N/A
		■ Where appropriate, the use of bulk handling equipment should be maximised to	
		reduce the potential contacts between excavated contaminated materials and	
		associated workers;	
		■ The plants for excavation and transportation of the material shall be cleaned prior to leaving the Site;	
		■ All temporary stockpiles of the materials shall be completely covered with plastic/tarpaulin sheets, particularly during heavy rainstorms. The stockpiling areas should	
		be concrete-paved or lined with its perimeter constructed of a concrete	
		bund where appropriate in order to avoid any leachate from migrating out of the area;	
		Any vehicles transporting the material shall be suitably covered to limit potential	
		dust emissions;	
		■ Surface waters shall be diverted around any contaminated areas or stockpiles to	
		minimize potential runoff into excavations, as runoff might increase the volume of	

EIA Ref.	EM&A Ref.	Mitigation Measures	Status
		contaminated water requiring disposal and suspended solids in the wastewater stream	I.
Ecological &	Fisheries Impact		
S.9.11.4	S.8.2.2	Prior to tree felling, survey inspections should be made for their suitability for roosting bats. Once these trees have been highlighted, then appropriate checks of each tree for bats should be made prior to removal as a precautionary measure.	
S.9.11.7	S.8.2.3 (Stage 1 only)	In situ compensation planting at the Information Kiosk and R9 should occur to provide continuing function of the bamboo and plantation (see Figure 8-1 of EM&A Manual for Stage 1 Works (Year 2015)). It is recommended that the Information Kiosk and Resting Station R9 should be designed sympathetically to the natural surroundings. Compensation planting along the Sheung Yue River and Shek Sheung	
S.9.11.17 – S.9.11.19	S.8.2.4 (Stage 1) S.8.2.3 (Stage 2)	River including at R9 and Information Kiosk could be implemented as appropriate. For the Kam Tin section and the Long Valley section of the Project, construction works shall not be carried out during the wet season (April to October) which is considered to have no significant impact to wildlife and to avoid the breeding season of Greater Painted-snipes at Long Valley. This is also to prevent any site run-off to adjacent water channels and fishponds including those fishponds along San Tin	
S.9.11.23	S.8.2.4 (Stage 2 only)	Tsuen Road. Construction of the section in the vicinity of Mai Po Village SSSI shall be undertaken beyond the recognised breeding seasons for ardeids in Hong Kong to prevent any potential disturbance to the nesting birds, i.e., from September to February.	
-	S.8.2.5 (Stage 1 only)	In order to avoid any adverse impact to the healthiness of the bamboo groove from dust-coating on leave next to the R9 and hence affect the breeding habitat of the very rare Dark Brown Ace, a dust barrier should be installed between the bamboo and the construct site.	
-	S.8.2.6 (Stage 1 only)	For the lower Shek Sheung River, construction works should be scheduled in dry season to minimize the disturbance to the foraging ardeids and the Quiet PME shall	٨

EIA Ref.	EM&A Ref.	Mitigation Measures	Status
		be implemented practicable to minimize the noise disturbance to the foraging ardeids.	
S.10.5.4	S.8.2.7 (Stage 1)	To prevent any negative impact to water quality as a result of site run-off, good site practice must be employed at all times, particularly in the areas close to fishponds.	٨
	S.8.2.5 (Stage 2)	Practice Note for Professional Persons ProPECC PN1/94 – Construction Site	
S.10.5.4	S.8.2.8 (Stage 1) S.8.2.6 (Stage 2)	ong Pok Wai South Road, once the final construction sequencing is known, liaison h local residents and aquaculturists should be implemented in order to minimise apporary road blockages and to identify the best timing for works along this area.	
S.10.5.3	S.8.2.9 (Stage 1) S.8.2.7 (Stage 2)	During wet seasons, surface run-off from the construction sites will need to be directed into storm drains via adequately designed wastewater treatment facilities such as sand traps, silt traps, oil interceptors and sediment settling basins. Works adjacent to the fishponds near NTMDC inside the Wetland Conservation Area (WCA) and Mai Po San Tsuen should be avoided, as far as practicable, during the wet season to avoid runoff into the fishponds.	٨
-	S.8.2.10 (Stage 1 only)	The use of signage at the Resting Stations to indicate that wildlife may be present and that noise levels and activities should be kept to a minimum could be implemented. This may help to reduce any potential disturbance to wildlife from human activity. At Long Valley, to mitigate against potential indirect human disturbance to Greater Painted-snipe, planting could be undertaken as appropriate along the proposed cycle track at meander 8 to act as screening.	N/A
S.9.11.27	S.8.2.11 (Stage 1) S.8.2.9 (Stage 2)	The following good work practices are recommended: Avoid soil storage against trees; Fence off any potentially ecologically sensitive areas; Delineation of works area to prevent encroachment onto adjacent habitats; Reinstatement of habitat after works; No on-site burning of waste;	٨

EIA Ref.	EM&A Ref.	Mitigation Measures	Status
	 Waste and refuse in appropriate receptacles; Staff training/toolbox talks for site work near Long Valley and WCA – important areas for birds therefore staff should reduce amount of noise whilst working and during breaks where possible; Regular ecological checks; and 		
Caltana I II and	40.00 Toom 0.04	■ Silt/ Sediment/ Oil traps for drainage to prevent site run-off	
Cultural Heri			_
S.11.5.1	S.9.2.1	Care should be taken during the construction stage to report any signs of possible discovery of artefacts.	N/A
Landscape an	d Visual		
Detailed Desig	gn Phase		
Table 12-11	CP1	A detailed tree survey to be carried out by the IDC Consultant during the detailed design stage. The recommendations of the preliminary tree survey shall be reviewed and confirmed during the detailed survey. Should tree felling be required, tree felling application is required in accordance with DEVB Technical Circular (Works) No. 10/2013 Tree Preservation	
S.12.9.3			٨
S.12.10.1	OP1	The Design Concept Drawings and Conceptual Landscape Master Plan of cycle track and associated facilities demonstrate landscape and visual mitigation strategies and design measures including integrated design approach, amenity and compensatory	^

EIA Ref.	EM&A Ref.	Mitigation Measures	Status
		planting proposals and treatment of retaining structure and slopes have been recommended in the EIA. More detailed landscape and compensatory planting proposals shall be developed by IDC consultants at later stage during detailed design	
		and construction phase of this project following the completion of the detailed Tree Survey Report and approval from relevant departments at that stage	
Construction I	Phase		•
Table 12-11	CP1.1	To retain trees, which have high amenity or ecology value and contribute most to the landscape and visual amenity of the site and its immediate environs.	٨
	CP1.2	Creation of precautionary area around trees to be retained equal to half of the trees canopy diameter. Precautionary area to be fenced.	#
	CP1.3	Prohibition of the storage of materials including fuel, the movement of construction vehicles, and the refuelling and washing of equipment including concrete mixers within the precautionary area.	#
	CP1.4	Phased segmental root pruning for trees to be retained and transplanted over a suitable period (determined by species and size) prior to lifting or site formation works which affect the existing rootball of trees identified for retention. The extent of the pruning will be based on the size and the species of the tree in each case.	۸
	CP1.5	Pruning of the branches of existing trees identified for transplantation and retention to be based on the principle of crown thinning maintaining their form and amenity value.	۸
	CP1.6	The watering of existing vegetation particularly during periods of excavation when the water table beneath the existing vegetation is lowered.	^
	CP1.7	The rectification and repair of damaged vegetation following the construction phase to its original condition prior to the commencement of the works or replacement using specimens of the same species, size and form where appropriate to the design intention of the area affected	N/A
	CP1.8	All works affecting the trees identified for retention and transplantation will be carefully monitored. This includes the key stages in the preparation of the trees, the	٨

EIA Ref.	EM&A Ref.	Mitigation Measures	Status
		implementation of protection measures and health monitoring throughout the	
		construction period	
	CP1.9	Detailed landscape and tree preservation proposals will be submitted to the relevant	N/A
		government departments for approval under the lease conditions and in accordance	
		with ETWB TCW No. 2/2004 and WB Technical Circular No. 14/2002.	
	CP2.0	The tree preservation works should be implemented by approved Landscape	^
		Contractors and inspected and approved on site by a qualified Landscape Architect.	
		A tree protection specification would be included within the contract documents.	
	CP2.1	Topsoil disturbed during the construction phase should be tested using a standard soil	٨
		testing methodology and where it is found to be worthy of retention stored for re-use.	
	CP2.2	The soil will be stockpiled to a maximum height of 2m and will be either temporarily	٨
		vegetated with hydroseeded grass during construction or covered with a waterproof	
		covering to prevent erosion.	
CP2.3		The stockpile should be turned over on a regular basis to avoid acidification and the	٨
		degradation of the organic material, and reused after completion. Alternatively, if	
		this is not practicable, it should be considered for use elsewhere, including other	
		projects.	
	CP3.1	Where appropriate to the final design the landscape of these works areas should be	N/A
		restored following the completion of the construction phase.	
	CP3.2	Construction site controls should be enforced including the storage of materials, the	٨
		location and appearance of site accommodation and the careful design of site lighting	
		to prevent light spillage.	
]		Screen the works area during the construction phase through the use of decorative	٨
		hoarding along the site boundary facing adjacent VSRs	
	CP4.1 Replanting of disturbed vegetation should be undertaken at the earliest possible stage		٨
		of the construction phase	
	CP4.2	Use of native plant species predominantly in the planting design for the buffer areas.	٨
	CP4.3	The tree planting works should be implemented by approved Landscape Contractors	٨

EIA Ref.	EM&A Ref.	Mitigation Measures	
	and inspected and approved on site by a qualified Landscape Architect. A tree		
		planting specification would be included within the contract documents	
	CP5.1	The tree transplanting works should be implemented by approved Landscape	
		Contractors and inspected and approved on site by a qualified Landscape Architect.	
		A tree protection / transplanting specification would be included within the contract	
		documents.	
	CP5.2 The implementation program should reserve enough time for advance tree		٨
		transplanting preparation.	

Remarks:	EM&A Manual for Stage 1 Works under EP-450/2013/A (App No.: VEP-478/2015)		
	EM&A Manual for Stage 2 Works under EP-501/2015 (App No.: AEP-501/2015)		
	^ Compliance of mitigation measure; X Non-compliance of mitigation measure;		
	N/A Not Applicable at this stage; N/A(1) Not observed; • Non-compliance but rectified by the contractor;		
	* Recommendation was made during site audit but improved/rectified by the contractor. # Recommendation was made during site audit but not yet improved/rectified by the contractor.		

APPENDIX F SITE AUDIT SUMMARY

Appendix F Summary of Observation and Recommendation Made during Site Inspection Summary of Observations and Recommendations Made during Site Inspections from November 2018 to January 2019

Parameters	Date	Observations and Recommendations	Follow-up
	27 Dec 2018	At Portion E, provide mitigation measures (eg. Watering) for dust suppression on public road and improve condition of wheel washing facility.	The condition was observed to be improved/rectified by the contractor during the audit session on 2 Jan 2019.
Water	13, 18, 27 Dec 2018 2, 8 Jan 2019	To provide adequately designed wastewater treatment facilities for settling runoff/groundwater prior to discharge at Portion D.	The condition was observed to be improved/rectified by the contractor during the audit session on 16 Jan 2019.
Quality	2, 8, 16 Jan 2019	At portion D, the u-channel should be cleaned up and covers should be replaced.	The condition was observed to be improved/rectified by the contractor during the audit session on 22 Jan 2019.
	8, 16, 22, 30 Jan 2019	At Portion E, the wheel washing facility should be cleaned up and covers should be replaced.	Follow up actions will be reported in the next month.
	16, 22, 30 Jan 2019	At Portion B, water should pass through sedimentation tank prior to discharge.	Follow up actions will be reported in the next month.
	31 October, 7 November 2018	To provide NRMM label for the excavator at Portion C.	The condition was observed to be improved/rectified by the contractor during the audit session on 14 November 2018
Air Quality	31 October, 7 November 2018	To keep site entrance clean and free from dust at Portion C.	The condition was observed to be improved/rectified by the contractor during the audit session on 14 November 2018
	7, 14 November 2018	To properly cover the dusty stockpile at near Subway D.	The condition was observed to be improved/rectified by the contractor during the audit session on 20 November 2018
	14, 20, 28 Nov, 5, 13 Dec 2018	To keep site entrance clean and free from dust at Portion B.	The condition was observed to be improved/rectified by the contractor during the audit session on 18 Dec 2018

Parameters	Date	Observations and Recommendations	Follow-up
	14, 20, 28 Nov, 5, 13, 18, 27 Dec 2018, 2 Jan 2019	Provide mitigation measure (e.g. watering) for the haul roads regularly to avoid dust generation at Portion M.	The condition was observed to be improved/rectified by the contractor during the audit session on 8 Jan 2019.
	28 Nov, 5, 13, 18 Dec 2018	To keep site entrance clean and free from dust at Subway A.	The condition was observed to be improved/rectified by the contractor during the audit session on 27 Dec 2018
	20 November 2018	To properly cover the dusty stockpile at Portion B.	The condition was observed to be improved/rectified by the contractor during the audit session on 28 November 2018
	5, 13, 18, 27 Dec 2018 2, 8, 16 Jan 2019	Stockpile of dusty material should be covered by the imperious material for dust suppression at Portion B.	The condition was observed to be improved/rectified by the contractor during the audit session on 22 Jan 2019.
	13 Dec 2018	To display a proper NRMM label for the backhoe at Portion B.	The condition was observed to be improved/rectified by the contractor during the audit session on 18 Dec 2018
	13 Dec 2018	To provide mitigation measure (eg. Watering) for dust suppression at Portion D.	The condition was observed to be improved/rectified by the contractor during the audit session on 18 Dec 2018
	13, 18, 27 Dec 2018, 2, 8, 16, 22 Jan 2019	Properly cover the stockpile of dusty material at Portion E.	The condition was observed to be improved/rectified by the contractor during the audit session on 30 Jan 2019.
	18, 27 Dec 2018, 2 Jan 2019	At Portion M, excavated materials outside the works area should be cleared.	The condition was observed to be improved/rectified by the contractor during the audit session on 8 Jan 2019.
	18, 27 Dec 2018	At Portion D, regular watering should be provided at exposed slope to minimize wind erosion.	The condition was observed to be improved/rectified by the contractor during the audit session on 2 Jan 2019.
	18, 27 Dec 2018, 2 Jan 2019	At Portion J, stockpile should be covered by tarpaulin.	The condition was observed to be improved/rectified by

Parameters	Date	Observations and Recommendations	Follow-up
			the contractor during the audit session on 08 Jan 2019.
	18, 27 Dec 2018, 2, 8, 16 Jan 2019	At Portion B, regular watering should be provided at exposed area to minimize wind erosion.	The condition was observed to be improved/rectified by the contractor during the audit session on 22 Jan 2019.
	18, 27 Dec 2018, 2, 8 Jan 2019	At Portion A, regular watering should be provided at exposed area to minimize wind erosion.	The condition was observed to be improved/rectified by the contractor during the audit session on 16 Jan 2019.
	27 Dec 2018, 2, 8 Jan 2019	Display a proper NRMM label for the excavator at Subway A.	The condition was observed to be improved/rectified by the contractor during the audit session on 16 Jan 2019.
	16, 22, 30 Jan 2019	At Subway A, public road should be cleaned. Mitigation measures such as watering should be implemented.	Follow up actions will be reported in the next month.
	22, 30 Jan 2019	At Portion J, mitigation measure for dust suppressing (e.g. watering) should be implemented at entrance area. Water should be collected and passed through sedimentation tank before discharge.	Follow up actions will be reported in the next month.
	22, 30 Jan 2019	At Portion A, mitigation measure for dust suppressing (e.g. watering) should be implemented at exposed area and public road.	Follow up actions will be reported in the next month.
	30 Jan 2019	At Portion M, the stockpile should be covered by impervious materials or maintained wet.	Follow up actions will be reported in the next month.
Noise	N/A	There was no observation in the reporting period.	N/A
Waste/	26 Jul 2018 – 30 Jan 2019	Clear the oil stains as chemical waste at WA3.	Follow up actions will be reported in the next month.
Chemical Management	15 Aug 2018 – 22 Jan 2019	To provide drip tray for the chemical containers at Portion E.	The condition was observed to be improved/rectified by the contractor during the audit session on 30 Jan 2019.
	7, 14 November 2018	To clear the accumulated construction waste at near Subway A.	The condition was observed to be improved/rectified by the contractor during the

Parameters	Date	Observations and Recommendations	Follow-up
			audit session on 20 November 2018
	2, 8, 16, 22, 30 Jan 2019	At Subway A, rubbish should be removed and site should be kept clean.	Follow up actions will be reported in the next month.
	22, 30 Jan 2019	At Portion D, public drainage should be kept clean and free of oil.	Follow up actions will be reported in the next month.
	22 Jan 2019	At Portion D, water from road washing should not directly discharge to public drain.	The condition was observed to be improved/rectified by the contractor during the audit session on 30 Jan 2019.
	30 Jan 2019	At Portion B, rubbish pile should be removed.	Follow up actions will be reported in the next month
	30 Jan 2019	At Portion D, the side channel should be cleaned regularly to avoid site run-off from entering the drainage system.	Follow up actions will be reported in the next month
Ecology and Fisheries	N/A	There was no observation in the reporting period.	N/A
Landscape	26 Jul 2018 – 30 Jan 2019	To set up a proper tree protection zone at WA3.	Follow up actions will be reported in the next month.
and Visual	5, 13, 18, 27 Dec 2018	A proper tree protection zone should be provided for the retained trees for preservation at Portion D and Subway D.	Follow up actions will be reported in the next month.
Permits/ Licenses	18, 27 Dec 2018	At Portion M, the environmental permit should be displayed.	The condition was observed to be improved/rectified by the contractor during the audit session on 2 Jan 2019.

APPENDIX G MONTHLY SUMMARY WASTE FLOW TABLE

Sang Hing – Kuly Joint Venture Environmental Management Plan for Contract No. YL/2015/01 Cycle Tracks from Tuen Mun to Sheung Shui – Remaining Works

Name of Department: CEDD Contract No.: YL/2015/01

- -

Monthly Summary Waste Flow Table for <u>2016</u> (Year)

	A	ctual Quantities	of Inert C&D	Materials Gene	Actual Quantities of C&D Wastes Generated Monthly						
Month	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill*	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m ³)
Jan	-	-	-	-	-	-	-	-	-	-	-
Feb	_	-	-	-	-	-	-	-	-	-	-
Mar	-	-	-	-	-	-	-	-	-	-	-
Apr	-	-	1	-	1	-	-	1	-	-	-
May	-	-	1	-	1	-	-	-	1	-	-
June	-	-	-	-	-	-	-	-	-	-	-
July	-	-	1	-	1	-	0.01	0.01	0.01	-	0.01
Aug	-	-	1	-	1	-	0.01	0.01	0.01	-	0.01
Sept	0.005	-	1	-	0.005	-	0.01	0.01	0.01	-	0.06
Oct	-	-	1	-	ı	-	0.05	0.05	0.05	-	0.04
Nov	0.35	-	1	-	0.35	-	0.05	0.05	0.05	-	0.05
Dec	0.4	-	1	-	0.4	-	0.05	0.05	0.05	-	0.05
Total	0.755	-	-	_	0.755	-	0.18	0.18	0.18	_	0.22

^{*}Remark: Imported Fill not taken into account of Total Quantity Generated

Name of Department: CEDD Contract No.: YL/2015/01

Monthly Summary Waste Flow Table for <u>2017</u> (Year)

	Α	ctual Quantities	of Inert C&D	Materials Gene	Actual Quantities of C&D Wastes Generated Monthly						
Month	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill*	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m ³)
Jan	0.04	-	-	-	0.04	0.124	0.05	0.05	0.05	-	0.06
Feb	0.02	-	-	-	0.02	-	0.05	0.05	0.05	-	0.01
Mar	1.15	-	-	-	1.15	0.369	0.05	0.05	0.05	-	0.02
Apr	0.65	-	1	-	0.65	-	0.05	0.05	0.05	1	0.02
May	0.79	-	1	-	0.79	-	0.05	0.05	0.05	1	0.01
June	1.63	-	-	-	1.63	-	0.05	0.05	0.05	-	0.02
July	1.25	-	1	-	1.25	-	0.05	0.05	0.05		0.01
Aug	1.49				1.49	-	0.05	0.05	0.05	1	0.01
Sep	1.15	-	-	-	1.14	0.493	0.05	0.05	0.05	-	0.01
Oct	1.19	-	-	-	1.19	-	0.05	0.05	0.05	-	0.01
Nov	0.79	-	-	-	0.76	-	0.05	0.05	0.05	-	0.03
Dec	3.09	-	-	-	3.07	-	0.05	0.05	0.05	-	0.01
Total	13.24				13.18	0.986	0.6	0.6	0.6		0.22

^{*}Remark: Imported Fill not taken into account of Total Quantity Generated

Name of Department: CEDD Contract No.: YL/2015/01

Monthly Summary Waste Flow Table for <u>2018</u> (Year)

	A	ctual Quantities	of Inert C&D	Materials Gene	Actual Quantities of C&D Wastes Generated Monthly						
Month	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill*	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m ³)
Jan	4.37	-	-	-	4.36	-	0.05	0.05	0.05	-	0.01
Feb	1.66	-	-	-	1.64	-	0.05	0.05	0.05	-	0.01
Mar	1.85	-	-	-	1.82	-	0.05	0.05	0.05	-	0.01
Apr	3.35	-	-	-	3.31	-	0.05	0.05	0.05	-	0.01
May	0.84	-	-	-	0.82	-	0.01	0.01	0.01	-	0.01
June	0.04	-	-	-	-	-	0.01	0.01	0.01	-	0.04
July	2.75	-	-	-	2.72	-	0.01	0.01	0.01	-	0.03
Aug	1.34	-	-	-	1.32	-	0.01	0.01	0.01	-	0.02
Sept	0.69	-	-	-	0.68	-	0.01	0.01	0.01	-	0.01
Oct	2.99	-	-	-	2.97	-	0.01	0.01	0.01	-	0.01
Nov	4.62	-	-	-	4.61	-	0.01	0.01	0.01	-	0.01
Dec	6.49	-	-	-	6.45	-	0.01	0.01	0.01	-	0.05
Total	30.99	-	-	-	30.70	-	0.28	0.28	0.28	-	0.22
•						•	•	•	•	•	•
		•	•			•	•	•	•	•	
Total	44.985	-	-	-	44.635	0.986	1.06	1.06	1.06	-	0.66

^{*}Remark: Imported Fill not taken into account of Total Quantity Generated

Name of Department: CEDD Contract No.: YL/2015/01

Monthly Summary Waste Flow Table for <u>2019</u> (Year)

	A	ctual Quantities	of Inert C&D	Materials Gene	Actual Quantities of C&D Wastes Generated Monthly						
Month	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill*	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m ³)
Jan	1.13	-	-	-	1.08	-	0.05	0.05	0.05	-	0.05
Sub-total	1.13	-	-	-	1.08	-	0.05	0.05	0.05	-	0.05
Feb	_	-	-	-	-	-	-	-	-	-	-
Mar	_	-	-	-	-	-	-	-	-	-	-
Apr	-	-	-	-	-	-	-	-	-	-	-
May	_	-	-	-	-	-	-	-	-	-	-
June	_	-	-	-	-	-	-	-	-	-	-
July	-	-	-	-	-	-	-	-	-	-	-
Aug	_	-	-	-	-	-	-	-	-	-	-
Sept	_	-	-	-	-	-	-	-	-	-	-
Oct	-	-	-	-	-	-	-	-	-	-	-
Nov	_	-	-	-	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-	-	-
•		•	•	•		•	•	•	•	•	•
		•	•	•	•	•	•	•	•	•	•
Total	46.115	-	-	-	45.715	0.986	1.11	1.11	1.11	-	0.71

^{*}Remark: Imported Fill not taken into account of Total Quantity Generated

Sang Hing – Kuly Joint Venture Environmental Management Plan for Contract No. YL/2015/01 Cycle Tracks from Tuen Mun to Sheung Shui – Remaining Works

	Forecast of Total Quantities of C&D Materials to be Generated from the Contract*											
Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse		
(in '000m ³)	(in '000m ³)	$(in '000m^3)$	$(in '000m^3)$	(in '000m ³)	(in '000m ³)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m ³)		
5	2	1	1	1	10	3	3	1	1	3		

*Remark: Figure to be revised if necessary

Notes:

- (1) The performance targets are given in ETWB Technical Circular PS Clause 6(14).
- (2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
- (3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material
- The Contractor shall also submit the latest forecast of the total amount of C&D materials expected to be generated from the Works, together with a breakdown of the nature where the total amount of C&D materials expected to be generated from the Works is equal to or exceeding 50,000 m3. (ETWB Technical Circular PS Clause 5(4)(b) refers). [Delete Note (4) and the table above on the forecast, where inapplicable].

APPENDIX H SUMMARY OF EXCEEDANCES

Agreement No. CE 67/2015 (HY)

Cycle Tracks from Tuen Mun to Sheung Shui – Remaining Works – Design and Construction

Appendix H – Summary of Exceedance

Exceedance Report for Contract No. YL/2015/01 – Cycle Tracks from Tuen Mun to Sheung Shui – Remaining Works

(A) Exceedance Report for Construction Noise (NIL in the reporting period)

ANNEX I COMPARISONS OF EM&A DATA AND EIA PREDICTIONS

Annex I – Comparison of EM&A Data and EIA Predictions

Comparison of Noise Monitoring Data with EIA predictions

Stations	Predicted Mitigated Construction Noise Levels in EIA (2009), dB(A)	Predicted Mitigated Worst Case Construction Noise Levels in ERR for Stage 2 (2015), dB(A)	Reporting Month (November 18), Leq (30min) dB(A)	Reporting Month (December 18), Leq (30min) dB(A)	Reporting Month (January 19), Leq (30min) dB(A)	
N1 - HKMLC Wong	55.62	62 ⁽¹⁾	52.0 (2.2	49.0 61.9	52.0 - 61.2	
Chan Sook Ying Memorial School	55-62	62.7	53.9 – 62.2	48.9 – 61.8	32.0 - 01.2	
N2 – Bethel High School	57-64	64 ⁽¹⁾	50.2 – 54.8	46.1 – 54.0	38.9 - 53.3	
N3 – No. 159 Mai Po San Tsuen	70-73	74 ⁽²⁾	70.6 – 72.1	67.9 – 71.6	65.9 - 74.5	
N5 – Block 2, Dills Corner Garden	73-75	75 ⁽²⁾	57.4 – 67.6	63.2 – 69.8	65.2 – 69.3	
N6 – Home of Loving Faithfulness	64-73	74 ⁽¹⁾	65.0 – 71.8	64.0 – 71.4	58.7 – 67.9	
N7 – Village House in Shek Wu Wai	N/A ⁽³⁾	70 ⁽²⁾	67.9 – 70.5	62.4 – 69.6	70.1 – 72.2	

Remark:

- (1) With adoptions of quiet PMEs, temporary noise barrier and enclosure
- (2) With sub-grouping of construction activities
- (3) No construction noise level was predicted in EIA Report (2009)