Entrusted Portion of Widening of Tolo Highway / Fanling Highway between Island House Interchange and Fanling Stage 2

Annual EM&A Review Report

November 2014 to October 2015

Submitted to

Environmental Protection Department

Prepared By

Meinhardt Infrastructure and Environment Ltd

Meinhardt Infrastructure and Environment Limited

Entrusted Portion of Widening of Tolo Highway / Fanling Highway between Island House Interchange and Fanling Stage 2

Annual EM&A Review Report

(November 2014 to October 2015)

Certified by: Fredrick Leong

Position: Environmental Team Leader

Date: 28 December 2015

Our ref JFP/EC/ST/ro/T329380/22.05/L-0102
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E steven.tang@mottmac.com.hk
Your ref

Mott MacDonald

Hyder-Arup-Black & Veatch Joint Venture
c/o Arcadis
20/F, AXA Tower, Landmark East,
100 How Ming Street,
Kwun Tong, Hong Kong

28 December 2015
By Fax (2805 5028) & Hand

Dear Sir,

Attn: Mr. James Penny

EM&A for Widening of Tolo Highway/Fanling Highway between Island House Interchange and Fanling Stage 2 (between Tai Hang to Wo Hop Shek Interchange) – Entrusted Works
Environmental Permit No. EP-324/2008/D
Annual EM&A Report for November 2014 to October 2015 for the portion of Stage 2 works entrusted to CEDD under Contract No. CV/2012/09

We refer to the Annual EM&A Report for November 2014 to October 2015 for the Project received on 16 November and 28 December 2015 submitted by ET via email. We confirm we have no comment.

Yours faithfully
for MOTT MACDONALD HONG KONG LIMITED

Steven Tang
Independent Environmental Checker

c.c. HyD – Mr. Chung Lok Chin (Fax: 2714 5198)
CEDD/BCP – Mr. Desmond Lam (Fax: 3547 1659)
AECOM – Mr. Alan Lee (Fax: 3922 9797)
Meinhardt Infrastructure and Environment Limited – Mr. Fredrick Leong (Fax: 2540 1580)

Date	Revision	Prepared By	Checked By	Approved By
28 December 2015	1	Ivan TING Cindy KWOK	Fredrick LEONG	Helen COCHRANE

Contents

List of Tables

List of Figures

List of Appendices

Appendix F Environmental Monitoring Data for Air, Noise and Water Quality
Appendix G Statistics on Complaints, Notifications of Summons and Successful Prosecutions

EXECUTIVE SUMMARY

This report documents the findings of EM&A works conducted during the period between November 2014 and October 2015.

The impact stage EM&A programme for the Project includes air quality, noise and water quality monitoring.

The EM&A programme was carried out by the ET in accordance with the EM&A Manual requirements. It is concluded from the environmental monitoring and audit works that adequate environmental mitigation measures have been implemented by the civil works contractors where appropriate in the reporting period.

In the reporting period, only 1 exceedance event was recorded and the exceedance was concluded not related to the Project. No necessary remedial actions have been taken.

No environmental non-compliance was noted. One environmental complaint, which was concluded as unlikely due to the construction works of this Project after investigations, was received. No environmental related prosecution or notification of summons was received in the reporting period.

The box culvert works have been partially completed by the end of March 2014 except the last construction activity, i.e. installation of a base slab at Box Culvert ID4. Due to the loading requirement of a fresh water main under the box culvert, installation of the base slab at Box Culvert ID4 has to be scheduled in November 2015 after the utilities diversions were completed, and therefore the construction works were temporary suspended. The 4-week post construction water quality monitoring will be conducted after the installation of the base slab finishes, hence the completion of the box culvert works. As such, impact monitoring for water quality is anticipated to be resumed in November 2015 during the course of remaining box culvert works.

1 INTRODUCTION AND PROJECT INFORMATION

1.1 Background

1.1.1 The Project is a Designated Project under the Environmental Impact Assessment Ordinance (EIAO) (Cap. 499). An Environmental Impact Assessment (EIA) Report together with an Environmental Monitoring and Audit (EM&A) Manual were approved on 14 July 2000 (Register Number: EIA-043/2000). The Project is governed by an Environmental Permit (EP) (EP-324/2008) which was granted on 23 December 2008. A variation of EP (VEP) was applied and the VEP (EP-324/2008/A) was subsequently granted on 31 January 2012. An additional VEP has been applied on 24 February 2014 and the VEP (EP-324/2008/B) was subsequently granted on 17 March 2014. Furthermore, an additional VEP has been applied on 9 March 2015 and the VEP (EP-324/2008/C) was subsequently granted on 27 March 2015. The current VEP (EP-324/2008/D) was granted on 27 August 2015.

1.1.2 Chun Wo Construction & Engineering Co Ltd (Chun Wo) was commissioned by the Civil Engineering and Development Department (CEDD) as the Civil Contractor for the Entrusted Portion of Widening of Tolo Highway/Fanling Highway between Island House Interchange and Fanling Stage 2. Meinhardt Infrastructure & Environment Ltd (MIEL) has been appointed by Chun Wo as the Environmental Team (ET) to fulfill the corresponding EM&A requirements pursuant to Environmental Permit No. EP-324/2008/D in accordance with the Updated EM&A Manual (dated October 2013) for Widening of Tolo Highway/Fanling Highway between Island House Interchange and Fanling Stage 2. The EM&A programme commenced in 5 November 2013.

1.1.3 **Figure 1** shows the works areas for the Entrusted Portion of Widening of Tolo Highway/Fanling Highway between Island House Interchange and Fanling Stage 2.

1.2 Construction Programme and Activities

1.2.1 The master construction programme for the entire construction period is presented in **Appendix A**. The major construction activities undertaken in the reporting period are summarized below:

- Tree felling works;
- Abutment construction for Bridge E;
- Erection of temporary support at DSD nullah;
- Piling works;
- Piling works for Bridge E;
- Utilities duct laying;
- Socket H-pile installation;
- Road works at Fanling Highway;
- Traffic diversion for Fanling Highway;
- Retaining structure construction;

- Construction of valve control Telemetry House;
- Pre-drilling works;
- Pile cap works;
- Pier / Pier table construction;
- Noise barrier construction;
- Sewer pipes laying;
- Water pipes laying;
- Storm drains laying;
- Lagging wall and capping beam for bored pile wall;
- Filling Works at Tong Hang East;
- Catch fence erection;
- Cable detection and trial trenches;
- Pile cap construction for Bridge E;
- ADMS installation;
- E & M work for new valve control & Telemetry House;
- Demolition of central divider at Fanling Highway;
- Viaduct segment erection;
- Socket H-pile load test;
- Sewer works at TWSRW;
- Diversion of DN600;
- Erection of temporary support at DSD nullah for Bridge E;
- Box culvert inlet structure;
- Portal beam construction;
- Decking construction for Bridge E;
- Construction of temporary steel ramp for Kiu Tau Footbridge; and
- Slope Works.

1.3 Project Organisation

1.3.1 The project organization structure is shown in **Appendix B**. The key personnel contact names and numbers for the Project, together with the general enquiry hotline, are summarised in **Table 1.1**.

Table 1.1 Contact Information of Key Personnel

Party	Role	Position	Name	Tele-phone	Fax
AECOM	Engineer's Representative	Senior Resident Engineer	Mr. Alan Lee	2171 3303	2171 3498
		Resident Engineer (Environmental)	Mr. Perry Yam	2171 3350	
Mott MacDonald	Independent Environmental Checker (IEC)	IEC	Mr. Steven Tang	2828 5920	2827 1823
Chun Wo	Contractor	Site Agent	Mr. Daniel Ho	2638 6144	2638 7077
		Environmental Officer	Mr. Victor Huang	2638 6181	
Meinhardt	Environmental Team (ET)	ET Leader	Mr. Fredrick Leong	2859 1739	2540 1580
Enquiry Hotline	General Enquiry	--	Ms Helena Mak	6355 1731	--

1.4 Purpose of the Report

1.4.1 This is the Annual EM&A Review Report which summaries the impact monitoring results and audit findings for the Project during the reporting period between November 2014 and October 2015.

2 SUMMARY OF EM&A REQUIREMENTS

2.1 Environmental Impact Hypothesis under Monitoring

2.1.1 The EIA Report concluded that with proper mitigation measures implemented, fugitive dust emission during construction phase would be controlled and will not exceed the acceptable criteria.

2.1.2 For construction noise, exceedances were predicted only at 2 schools (SR41 Wong Shiu Chi Middle School and SR45 HK Teacher's Association Secondary School) but they are out of the scope of this EM&A Programme. Hence the EIA did not anticipate any noise exceedances during construction phase within the scope of this EM&A Programme.

2.1.3 For water quality, it is also anticipated that with proper protection measures being implemented, the water quality during construction phase would be locally confined and controllable.

2.1.4 The above criteria have been tested under this EM&A Programme during the reporting period.

2.2 Monitoring Requirements

2.2.1 In accordance with the Updated EM&A Manual, environmental parameters including air quality, noise and water quality have been monitored. The specific parameters, monitoring frequency and the respective Action and Limit Levels are given in **Table 2.1** and the location of the monitoring station is shown in the **Figure 2**.

Table 2.1 Monitoring Parameter

Parameter	Unit	Action Level	Limit Level	Frequency
Air Quality				
1-hour TSP	$\mu g/m^3$	292.7	500	Three times every 6 days
24-hour TSP	$\mu g/m^3$	170.3	260	Once every 6 days
Construction Noise				
Leq 30min	dB(A)	When one documented valid complaint is received	75	Once every Week
Water Quality				
Depth		--	--	Three occasions per week
Temperature	℃	--	--	Three occasions per week
Salinity	ppt	--	--	Three occasions per week
pH	--	--	--	Three occasions per week
DO	mg/L	6.7	4mg/L or 40% saturation at 15 degree Celsius	Three occasions per week
DO Saturation	%	--	--	Three occasions per week
Turbidity	NTU	81.9NTU or 120% of upstream control station's Tby of the same day	91.9NTU or 130% of upstream control station's Tby of the same day	Three occasions per week
SS	mg/L	42.6 mg/L or 120% of upstream control station's SS of the same day	46.8 mg/L or 130% of upstream station's SS of the same day and specific sensitive receiver water quality requirements	Three occasions per week

2.2.2 The Event and Action Plan for the occurrence of non-compliance of the criteria of the monitoring parameters is annexed in Appendix C.

Temporary Suspension of Box Culvert Works and Water Quality Monitoring

2.2.3 The box culvert works have been partially completed by the end of March 2014 except the last construction activity, which is the installation of a base slab at Box Culvert ID4. Due to the loading requirement of a fresh water main under the box culvert, installation of the base slab at Box Culvert ID4 has to be scheduled in November 2015 after the utilities diversions were completed, and therefore the construction works are temporarily suspended. The 4-week post construction water quality monitoring will be conducted after the installation of the base slab finishes, hence the completion of the

box culvert works. As such, impact monitoring for water quality is anticipated to be resumed in November 2015 during the course of remaining box culvert works.

2.3 Environmental Mitigation Measures

2.3.1 Environmental mitigation measures have been recommended in the EM&A Manual and is given in **Appendix D**. The implementation status for the reporting period is also given in the Appendix.

3 SUMMARY OF EM&A MONITORING DATA

3.1 Monitoring Data

3.1.1 Monitoring has been conducted in accordance with the specification in the EM&A Manual in the reporting period. Meteorological data for the reporting period have been extracted from Hong Kong Observatory and are given in **Appendix E**. Monitoring data with graphical presentation for the reporting period have been given in **Appendix F**. A summary on the monitoring results has also been given in **Table 3.1**.

Table 3.1 Summary of Monitoring Data in the Reporting Period

Monitoring Location	Minimum	Maximum	Average
Air Quality			
1-hour Total Suspended Particulate			
SR77	40.4μg/m^3	211.2μg/m^3	119.7μg/m^3
24-hour Total Suspended Particulate			
SR77	42.1μg/m^3	148.3μg/m^3	89.8μg/m^3
Construction Noise			
SR77	62.0dB(A)	76.5dB(A)	69.2dB(A)

3.2 Summary of Monitoring Exceedances

3.2.1 The number of exceedance events recorded in the reporting period is summarized in **Table 3.2**.

3.2.2 Investigation for the exceedance event in the reporting period has been completed and the exceedance was concluded not related to the Project. No necessary remedial actions have been taken. The respective investigation report has been presented in the respective Monthly EM&A Report.

Table 3.2 Summary of Exceedance Events in the Reporting Period

Parameter		Number of Exceedance Events	Number of Project Related Exceedance Events
Air Quality			
1-hour Total Suspended Particulates	Action Level	0	0
	Limit Level	0	0
24-hour Total Suspended Particulates	Action Level	0	0
	Limit Level	0	0
Construction Noise			
Leq 30min	Action Level	0	0
	Limit Level	1	0

3.2.3 The Contractor has been reminded to strengthen the mitigation measures including:

- Water spraying or covering of tarpaulin should be properly implemented whenever necessary for the unpaved roads, access roads construction areas;
- All vehicles should be washed to remove any dusty materials before leaving the construction site;
- Wheel washing facilities should be properly maintained to ensure proper functioning;
- All types of wastes, both on land floating in the river stream, should be collected sorted properly, also be disposed timely properly. Refuse collection bins should be labelled properly;
- Provide proper chemical storage and chemical waste management;
- Water treatment facilities should be properly maintained avoid untreated water entering storm drain;
- Secondary containment should be provided for all powered mechanical equipment within the construction site;
- A spill response procedure shall be in place absorption material available for minor spillages;
- Good housekeeping should be maintained general refuse should be removed regularly;
- Plant equipment should be properly maintained to avoid emitting black smoke;
- Proper drainage channels/bunds should be provided at the site boundaries to collect/intercept the surface run-off from works areas
- Vessels and equipment operating should be checked regularly properly maintained;
- Secondary containment, like drip trays/or bundings, should be provided for all chemical containers to retain any oil/chemical waste leakage within the construction site; and
- Chemical waste should be stored, handled disposed of properly.

4 ENVIRONMENTAL NON-CONFORMANCE

4.1 Summary of Environmental Non-Compliance

4.1.1 No environmental non-compliance was recorded in the reporting period.

4.2 Summary of Environmental Complaints

4.2.1 One (1) environmental complaint was received in the reporting period regarding water quality of Ng Tung River. Investigation has been conducted and the complaint was considered unlikely due to the construction works of this Project.

4.3 Summary of Environmental Summon and Successful Prosecutions

4.3.1 No environmental related prosecution or notification of summons was received in the reporting period. The cumulative statistics are provided in is provided in **Appendix G**.

5 REVIEW OF THE VALIDITY OF EIA PREDICTIONS

5.1.1 The EIA report predicted that with proper implementation of the mitigation measures for air, noise and water quality, environmental impact would be locally confined and controllable. During the reporting period, only 1 exceedances was recorded and the exceedance was concluded not related to the Project. Hence, it is considered that the EIA predictions is valid for the reporting period.

6 REVIEW OF EM&A PROGRAMME

6.1.1 The EM&A programme was considered successfully and adequately conducted during the course of the reporting period.

6.1.2 The box culvert works have been partially completed by the end of March 2014 except the last construction activity, which is the installation of a base slab at Box Culvert ID4. Due to the loading requirement of a fresh water main under the box culvert, installation of the base slab at Box Culvert ID4 has to be scheduled in November 2015 after the utilities diversions were completed, and therefore the construction works were temporarily suspended. The 4-week post construction water quality monitoring will be conducted after the installation of the base slab finishes, hence the completion of the box culvert works. As such, impact monitoring for water quality is anticipated to be resumed in November 2015 during the course of remaining box culvert works.

7 CONCLUSIONS

7.1.1 The EM&A programme was carried out by the ET in accordance with the EM&A Manual requirements. It is concluded from the environmental monitoring and audit works that adequate environmental mitigation measures have been implemented by the civil works contractors where appropriate in the reporting period.

7.1.2 In the reporting period, 1 exceedance event has been recorded and the exceedance was concluded not related to the Project. No necessary remedial actions have been taken.

7.1.3 No environmental non-compliances were noted. One environmental complaint, which was concluded as unlikely due to the construction works of this Project after investigations, was received. No environmental related prosecution or notification of summons were received in the reporting period.

7.1.4 The box culvert works have been partially completed by the end of March 2014 except the last construction activity, i.e. installation of a base slab at Box Culvert ID4. Due to the loading requirement of a fresh water main under the box culvert, installation of the base slab at Box Culvert ID4 has to be scheduled in November 2015 after the utilities diversions were completed, and therefore the construction works are temporarily suspended. The 4-week post construction water quality monitoring will be conducted after the installation of the base slab finishes, hence the completion of the box culvert works. As such, impact monitoring for water quality was not necessary in the reporting

period due to temporary suspension of the construction works and is anticipated to be resumed in November 2015 during the course of remaining box culvert works.

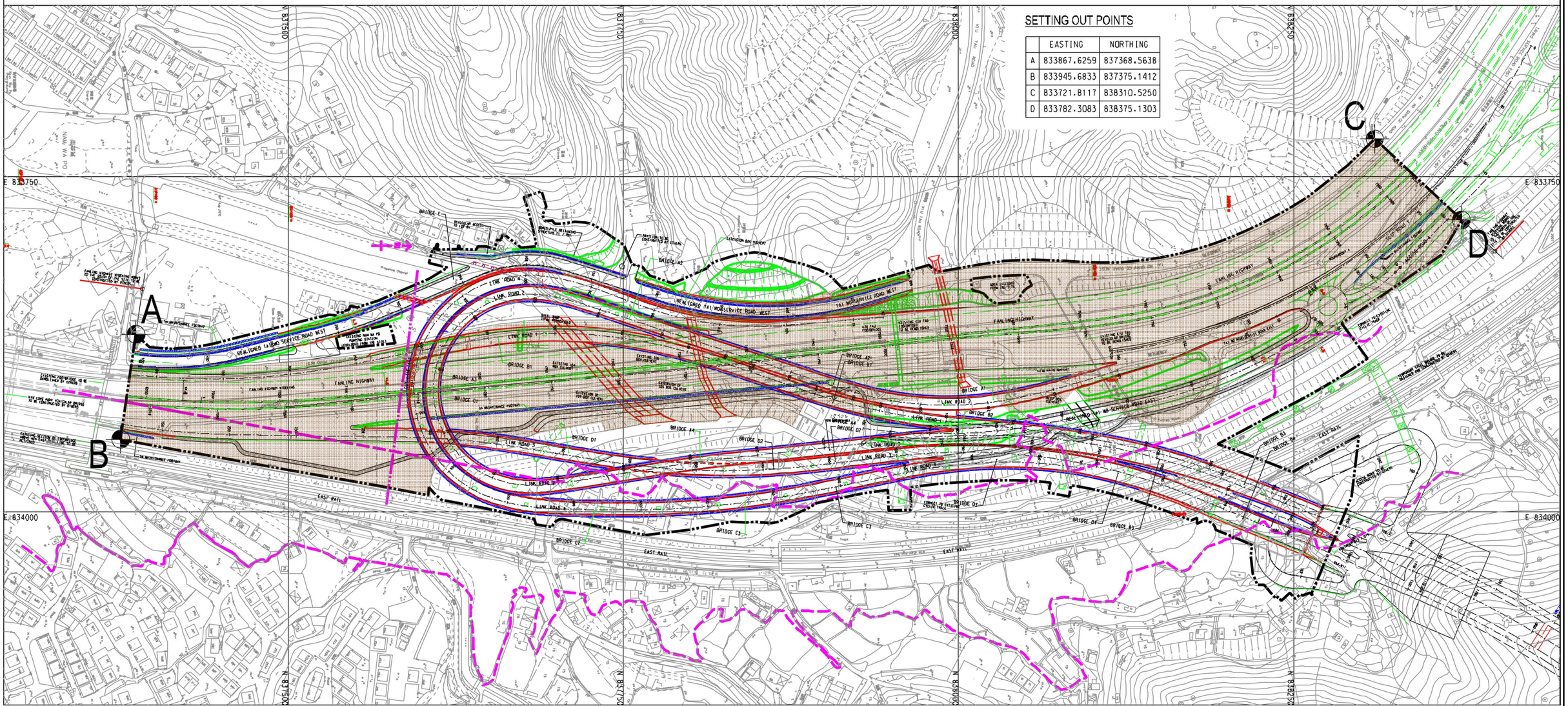
Figure

Contract No. CV/2012/09
Liantang / Heung Yuen Wai Boundary Control Point
Site Formation and Infrastructure Works - Contract 3

俊和建築工程有限公司
CHUN WO CONSTRUCTION & ENGINEERING CO., LTD.

SETTING OUT POINTS

	EASTING	NORTHING
A	833867.6259	837368.5638
B	833945.6833	837375.1412
C	833721.8117	838310.5250
D	833782.3083	838375.1303



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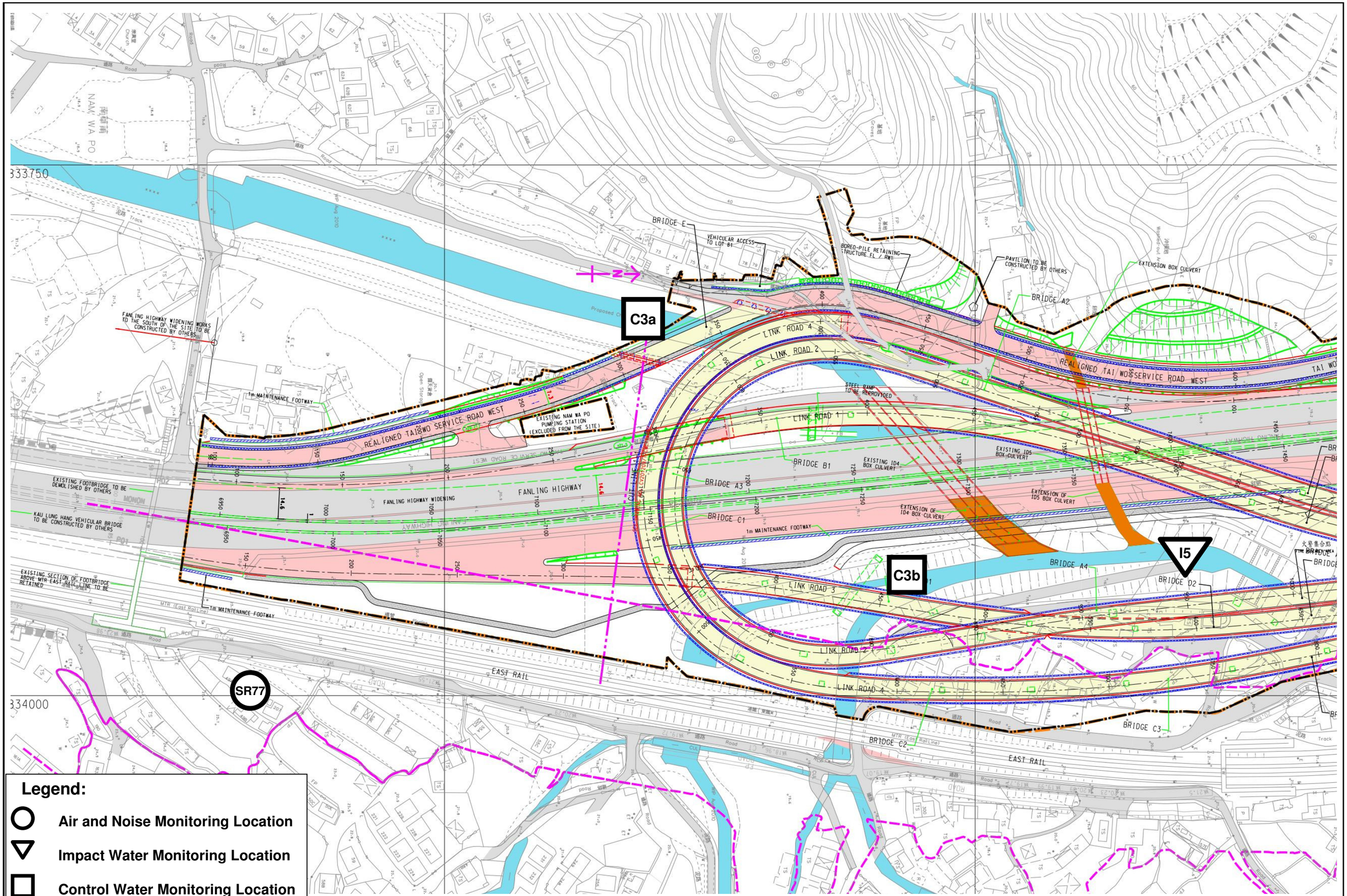
Legend:

Works Area for Entrusted Portion

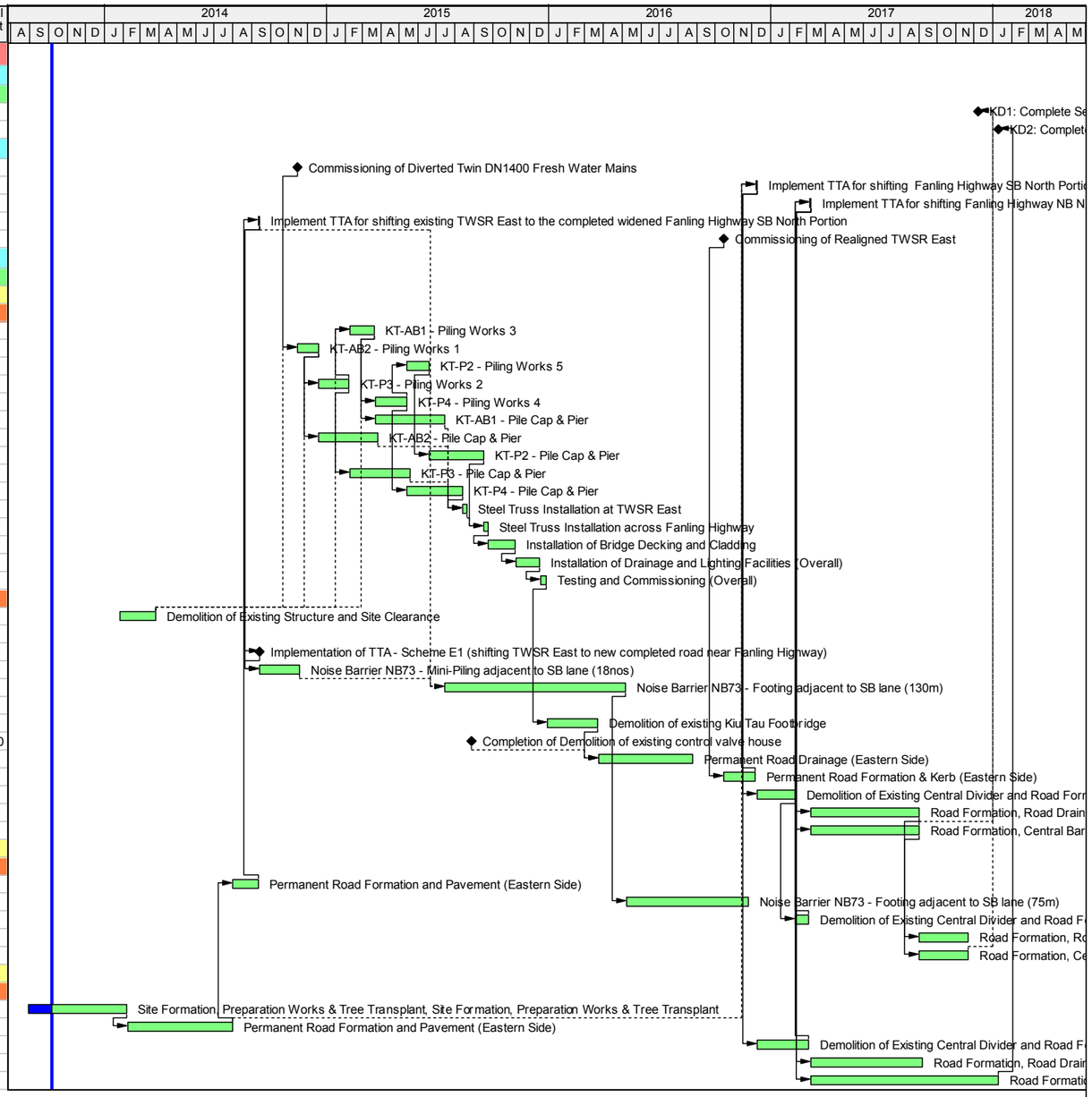
MEINHARDT	**Entrusted Portion of Widening of Tolo Highway / Fanling Highway between Island House Interchange and Fanling Stage 2**	**Figure 1: Demarcation of Entrusted Portion of Widening of Tolo Highway / Fanling Highway between Island House Interchange and Fanling – Stage 2**



MEINHARDT	Entrusted Portion of Widening of Tolo Highway / Fanling Highway between Island House Interchange and Fanling Stage 2	**Figure 2: Environmental Monitoring Locations**

Appendix A
Construction Programme

Activity ID	Activity Name	OD	Start	Finish	Total Float
CWP - Under Development (Postpone Pipe Jacking)					
Key Dates (Forecast)					
Major Works					
KD-0105	KD1: Complete Section 1A - all HyD's entrustment works in Zone3 and SBZ2 except for landscaping works	0		07-Dec-17	53
KD-0205	KD2: Complete Section 1B - all HyD's entrustment works in NBZ1 except for landscaping works	0		09-Jan-18	234
Major Milestones and Events					
MS-0220	Commissioning of Diverted Twin DN1400 Fresh Water Mains	0		14-Nov-14	132
MS-1000A	Implement TTA for shifting Fanling Highway SB North Portion (CH7470-7925) eastward to the completed road near TWSI	2	07-Dec-16	08-Dec-16	3
MS-1000B	Implement TTA for shifting Fanling Highway NB North Portion (CH7470-7925) eastward to the designed alignment	2	06-Mar-17	07-Mar-17	3
MS-3000	Implement TTA for shifting existing TWSR East to the completed widened Fanling Highway SB North Portion	2	11-Sep-14	12-Sep-14	7
MS-3010	Commissioning of Realigned TWSR East	0	15-Oct-16		3
Section IA & IB - Fanling Highway Widening (KD-1 & KD-2)					
Fanling Highway North Portion between CH7470 and CH7925					
Fanling Highway Zone 6 between CH7470 and CH7600 (Provision of Kiu Tau Footbridge)					
Kiu Tau Footbridge Reprovision (East)					
FHW-5000A	KT-AB1 - Piling Works 3	30	09-Feb-15	21-Mar-15	612
FHW-5000B	KT-AB2 - Piling Works 1	30	15-Nov-14	19-Dec-14	132
FHW-5000C	KT-P2 - Piling Works 5	30	14-May-15	18-Jun-15	612
FHW-5000D	KT-P3 - Piling Works 2	40	20-Dec-14	07-Feb-15	612
FHW-5000E	KT-P4 - Piling Works 4	40	23-Mar-15	13-May-15	612
FHW-5010A	KT-AB1 - Pile Cap & Pier	90	23-Mar-15	14-Jul-15	660
FHW-5010B	KT-AB2 - Pile Cap & Pier	75	20-Dec-14	27-Mar-15	745
FHW-5010C	KT-P2 - Pile Cap & Pier	75	19-Jun-15	16-Sep-15	612
FHW-5010D	KT-P3 - Pile Cap & Pier	75	09-Feb-15	19-May-15	705
FHW-5010E	KT-P4 - Pile Cap & Pier	75	14-May-15	12-Aug-15	635
FHW-5020	Steel Truss Installation at TWSR East	7	13-Aug-15	20-Aug-15	635
FHW-5030	Steel Truss Installation across Fanling Highway	7	17-Sep-15	24-Sep-15	612
FHW-5040	Installation of Bridge Decking and Cladding	35	25-Sep-15	07-Nov-15	612
FHW-5050	Installation of Drainage and Lighting Facilities (Overall)	35	09-Nov-15	18-Dec-15	612
FHW-5060	Testing and Commissioning (Overall)	7	19-Dec-15	29-Dec-15	612
At-Grade Road Works (130m)					
FHW-5100	Demolition of Existing Structure and Site Clearance	45	27-Jan-14	26-Mar-14	135
FHW-5110*	Pipe Laying & Connection - Twin DN1400 Watermains (CHE & CHG) adjacent to existing TWSRE (90m, 9m depth)	186	31-Mar-14	14-Nov-14	132
FHW-5120	Implementation of TTA - Scheme E1 (shifting TWSR East to new completed road near Fanling Highway)	0	13-Sep-14		573
FHW-5130	Noise Barrier NB73 - Mini-Piling adjacent to SB lane (18nos)	54	13-Sep-14	17-Nov-14	573
FHW-5140	Noise Barrier NB73 - Footing adjacent to SB lane (130m)	240	14-Jul-15	07-May-16	332
FHW-5150*	Pipe Laying - DN1200 &DN600 Watermains (CHB & CHC) along existing TWSRE (120m long, 3m depth)	240	04-Sep-15	02-Jul-16	373
FHW-5160	Demolition of existing Kiu Tau Footbridge	65	30-Dec-15	22-Mar-16	885
FHW-5170	Completion of Demolition of existing control valve house	0		28-Aug-15	1050
FHW-5180	Permanent Road Drainage (Eastern Side)	125	23-Mar-16	24-Aug-16	885
FHW-5190	Permanent Road Formation & Kerb (Eastern Side)	45	15-Oct-16	06-Dec-16	3
FHW-5200	Demolition of Existing Central Divider and Road Formation (Middle Part, Pavement Only)	45	09-Dec-16	09-Feb-17	3
FHW-5300	Road Formation, Road Drainage, Kerb, Noise Barrier (Western Side)	145	08-Mar-17	01-Sep-17	520
FHW-5400	Road Formation, Central Barrier (Remaining Works at Middle Part)	145	08-Mar-17	01-Sep-17	57
Fanling Highway Zone 7 between CH7600 and CH7660 (Existing Vehicular Bridge)					
At-Grade Roadworks (60m)					
FHW-6100	Permanent Road Formation and Pavement (Eastern Side)	35	31-Jul-14	10-Sep-14	7
FHW-6110	Noise Barrier NB73 - Footing adjacent to SB lane (75m)	166	09-May-16	24-Nov-16	332
FHW-6200	Demolition of Existing Central Divider and Road Formation (Middle Part, Pavement Only)	20	10-Feb-17	04-Mar-17	3
FHW-6300	Road Formation, Road Drainage, Kerb (Western Side)	65	02-Sep-17	20-Nov-17	520
FHW-6400	Road Formation, Central Barrier (Remaining Works at Middle Part)	65	02-Sep-17	20-Nov-17	57
Fanling Highway Zone 8 between CH7660 and CH7925					
At-Grade Roadworks (265m)					
FHW-7100	Site Formation, Preparation Works & Tree Transplant	127	30-Aug-13 A	07-Feb-14	7
FHW-7110	Permanent Road Formation and Pavement (Eastern Side)	140	08-Feb-14	30-Jul-14	7
FHW-7200	Demolition of Existing Central Divider and Road Formation (Middle Part, Pavement Only)	65	09-Dec-16	04-Mar-17	3
FHW-7300	Road Formation, Road Drainage, Kerb (Western Side)	150	08-Mar-17	07-Sep-17	3
FHW-7400	Road Formation, Central Barrier (Remaining Works at Middle Part)	250	08-Mar-17	09-Jan-18	187



俊和建築工程有限公司
CHUN WO CONSTRUCTION & ENGINEERING CO., LTD.

Actual Work
Remaining Work
Critical Remaining Work
Milestone

CEDD Contract No. CV/2012/09

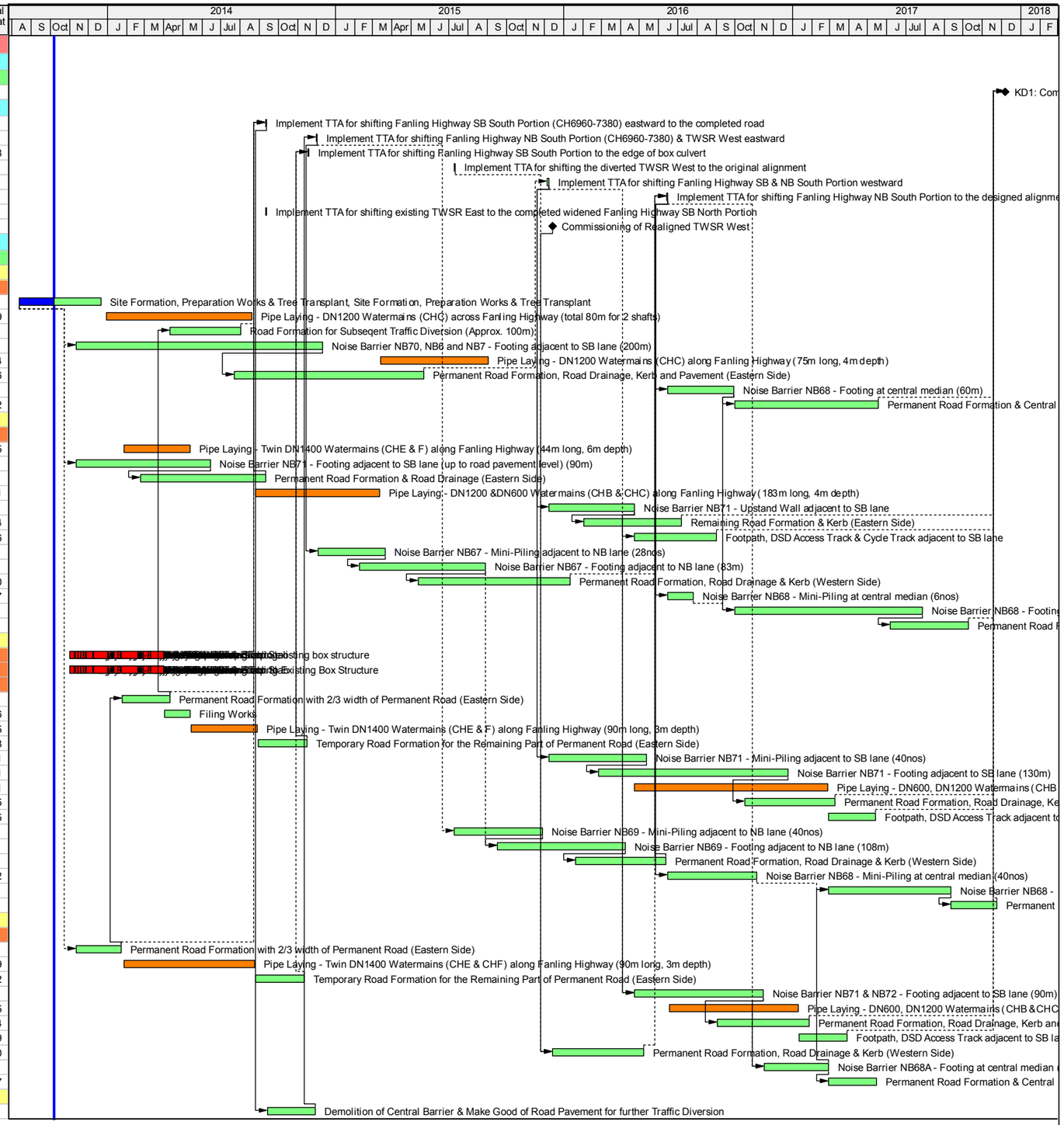
Liantang / Heung Yuen Wai BCP - Site Formation & Infrastructure Works, Contract 3

Works Sequence for Fanling Highway North Portion

CWP004-1 Page 1 of 1 11-Oct-13

Date	Revision	Checked	Approved
11-Oct-13		SL	

Activity ID	Activity Name	OD	Start	Finish	Total Float
CWP - Under Development (Postpone Pipe Jacking)					
Key Dates (Forecast)					
Major Works					
KD-0105	KD1: Complete Section 1A - all HyD's entrustment works in Zone3 and SBZ2 except for landscaping works	0		07-Dec-17	53
Major Milestones and Events					
MS-2010	Implement TTA for shifting Fanling Highway SB South Portion (CH6960-7380) eastward to the completed ro	2	11-Sep-14	12-Sep-14	58
MS-2020	Implement TTA for shifting Fanling Highway NB South Portion (CH6960-7380) & TWSR West eastward	2	01-Dec-14	02-Dec-14	58
MS-2030	Implement TTA for shifting Fanling Highway SB South Portion to the edge of box culvert	2	17-Nov-14	18-Nov-14	238
MS-2040	Implement TTA for shifting the diverted TWSR West to the original alignment	2	09-Jul-15	10-Jul-15	54
MS-2050	Implement TTA for shifting Fanling Highway SB & NB South Portion westward	2	05-Dec-15	07-Dec-15	54
MS-2060	Implement TTA for shifting Fanling Highway NB South Portion to the designed alignment	2	13-Jun-16	14-Jun-16	92
MS-3000	Implement TTA for shifting existing TWSR East to the completed widened Fanling Highway SB North Portion	2	11-Sep-14	12-Sep-14	7
MS-3020	Commissioning of Realigned TWSR West	0	14-Dec-15		42
Section IA & IB - Fanling Highway Widening (KD-1 & KD-2)					
Fanling Highway South Portion between CH6935 and CH7470					
Fanling Highway Zone 1 between CH6935 and CH7130 (within SBZ2)					
At-Grade Roadworks (195m)					
FHW-1100	Site Formation, Preparation Works & Tree Transplant	65	12-Aug-13 A	21-Dec-13	32
FHW-1110*	Pipe Laying - DN1200 Watermains (CHC) across Fanling Highway (total 80m for 2 shafts)	185	30-Dec-13	19-Aug-14	999
FHW-1130	Road Formation for Subseqent Traffic Diversion (Approx. 100m)	90	11-Apr-14	01-Aug-14	91
FHW-1140	Noise Barrier NB70, NB6 and NB7 - Footing adjacent to SB lane (200m)	320	11-Nov-13	11-Dec-14	32
FHW-1150*	Pipe Laying - DN1200 Watermains (CHC) along Fanling Highway (75m long, 4m depth)	140	13-Mar-15	01-Sep-15	644
FHW-1160	Permanent Road Formation, Road Drainage, Kerb and Pavement (Eastern Side)	245	22-Jul-14	22-May-15	216
FHW-1300	Noise Barrier NB68 - Footing at central median (60m)	90	15-Jun-16	29-Sep-16	92
FHW-1310	Permanent Road Formation & Central Barrier (Middle Part)	180	30-Sep-16	17-May-17	212
Fanling Highway Zone 2 between CH7130 and CH7290					
At-Grade Roadworks (160m)					
FHW-2100*	Pipe Laying - Twin DN1400 Watermains (CHE & F) along Fanling Highway (44m long, 6m depth)	80	27-Jan-14	13-May-14	145
FHW-2110	Noise Barrier NB71 - Footing adjacent to SB lane (up to road pavement level) (90m)	170	11-Nov-13	14-Jun-14	58
FHW-2120	Permanent Road Formation & Road Drainage (Eastern Side)	163	22-Feb-14	10-Sep-14	58
FHW-2130*	Pipe Laying - DN1200 &DN600 Watermains (CHB & CHC) along Fanling Highway (183m long, 4m depth)	160	25-Aug-14	12-Mar-15	741
FHW-2140	Noise Barrier NB71 - Upstand Wall adjacent to SB lane	105	08-Dec-15	22-Apr-16	54
FHW-2150	Remaining Road Formation & Kerb (Eastern Side)	120	02-Feb-16	06-Jul-16	464
FHW-2190	Footpath, DSD Access Track & Cycle Track adjacent to SB lane	108	23-Apr-16	31-Aug-16	416
FHW-2200	Noise Barrier NB67 - Mini-Piling adjacent to NB lane (28nos)	84	03-Dec-14	20-Mar-15	70
FHW-2210	Noise Barrier NB67 - Footing adjacent to NB lane (83m)	160	07-Feb-15	28-Aug-15	70
FHW-2220	Permanent Road Formation, Road Drainage & Kerb (Western Side)	200	13-May-15	11-Jan-16	210
FHW-2300	Noise Barrier NB68 - Mini-Piling at central median (6nos)	35	15-Jun-16	26-Jul-16	147
FHW-2310	Noise Barrier NB68 - Footing at central median (157m)	240	30-Sep-16	28-Jul-17	92
FHW-2320	Permanent Road Formation & Central Barrier (Middle Part)	105	06-Jun-17	09-Oct-17	92
Fanling Highway Zone 3 between CH7290 and CH7380					
Box Culvert Extension - ID4					
Box Culvert Extension - ID5					
At-Grade Roadworks (90m)					
FHW-3100	Permanent Road Formation with 2/3 width of Permanent Road (Eastern Side)	60	23-Jan-14	10-Apr-14	91
FHW-3110	Filing Works	30	01-Apr-14	12-May-14	146
FHW-3120*	Pipe Laying - Twin DN1400 Watermains (CHE & F) along Fanling Highway (90m long, 3m depth)	90	14-May-14	28-Aug-14	145
FHW-3120B	Temporary Road Formation for the Remaining Part of Permanent Road (Eastern Side)	65	29-Aug-14	15-Nov-14	238
FHW-3130	Noise Barrier NB71 - Mini-Piling adjacent to SB lane (40nos)	120	08-Dec-15	11-May-16	181
FHW-3140	Noise Barrier NB71 - Footing adjacent to SB lane (130m)	249	26-Feb-16	24-Dec-16	181
FHW-3150*	Pipe Laying - DN600, DN1200 Watermains (CHB &CHC) along Fanling Highway (90m long, 3m depth)	249	23-Apr-16	25-Feb-17	181
FHW-3160	Permanent Road Formation, Road Drainage, Kerb and Pavement (Eastern Side)	115	17-Oct-16	09-Mar-17	265
FHW-3190	Footpath, DSD Access Track adjacent to SB lane	60	27-Feb-17	13-May-17	215
FHW-3200	Noise Barrier NB69 - Mini-Piling adjacent to NB lane (40nos)	120	09-Jul-15	28-Nov-15	54
FHW-3210	Noise Barrier NB69 - Footing adjacent to NB lane (108m)	160	17-Sep-15	08-Apr-16	54
FHW-3220	Permanent Road Formation, Road Drainage & Kerb (Western Side)	112	19-Jan-16	11-Jun-16	92
FHW-3300	Noise Barrier NB68 - Mini-Piling at central median (40nos)	120	15-Jun-16	05-Nov-16	142
FHW-3310	Noise Barrier NB68 - Footing at central median (98m)	160	28-Feb-17	11-Sep-17	54
FHW-3320	Permanent Road Formation & Central Barrier (Middle Part)	60	12-Sep-17	23-Nov-17	54
Fanling Highway Zone 4 between CH7380 and CH7470					
At-Grade Roadworks (90m)					
FHW-4100	Permanent Road Formation with 2/3 width of Permanent Road (Eastern Side)	60	11-Nov-13	22-Jan-14	91
FHW-4110*	Pipe Laying - Twin DN1400 Watermains (CHE & CHF) along Fanling Highway (90m long, 3m depth)	166	27-Jan-14	23-Aug-14	149
FHW-4120	Temporary Road Formation for the Remaining Part of Permanent Road (Eastern Side)	65	25-Aug-14	11-Nov-14	242
FHW-4130	Noise Barrier NB71 & NB72 - Footing adjacent to SB lane (90m)	170	23-Apr-16	15-Nov-16	54
FHW-4140*	Pipe Laying - DN600, DN1200 Watermains (CHB &CHC) along Fanling Highway (90m long, 3m depth)	170	18-Jun-16	10-Jan-17	215
FHW-4150	Permanent Road Formation, Road Drainage, Kerb and Pavement (Eastern Side)	120	03-Sep-16	27-Jan-17	294
FHW-4160	Footpath, DSD Access Track adjacent to SB lane	60	11-Jan-17	28-Mar-17	249
FHW-4200	Permanent Road Formation, Road Drainage & Kerb (Western Side)	112	14-Dec-15	07-May-16	120
FHW-4210	Noise Barrier NB68A - Footing at central median (40m)	80	16-Nov-16	27-Feb-17	54
FHW-4300	Permanent Road Formation & Central Barrier (Middle Part)	60	28-Feb-17	15-May-17	677
Miscellaneous Works for Facilitating Traffic Diversion of Fanling Highway					
FHW-M-1000	Demolition of Central Barrier & Make Good of Road Pavement for further Traffic Diversion	65	13-Sep-14	29-Nov-14	58



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CHUN WO CONSTRUCTION & ENGINEERING CO., LTD.

Actual Work
Remaining Work
Summary Bar
Critical Remaining Work
Milestone

CEDD Contract No. CV/2012/09

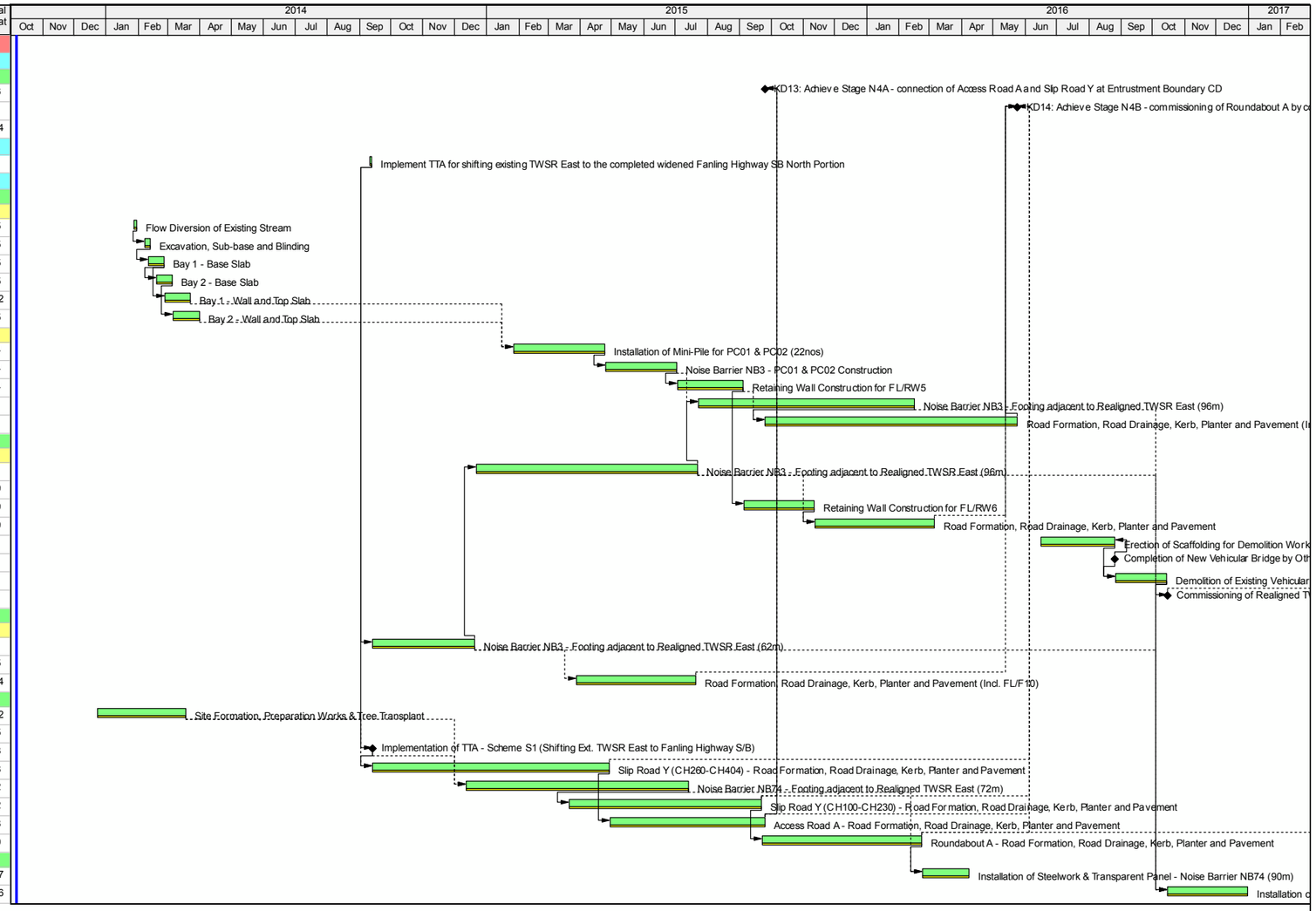
Liantang / Heung Yuen Wai BCP - Site Formation & Infrastructure Works, Contract 3

Works Sequence for Fanling Highway South Portion

CWP004-1 Page 1 of 1 11-Oct-13

Date	Revision	Checked	Approved
11-Oct-13		SL	

Activity ID	Activity Name	OD	Start	Finish	Total Float
CWP - Under Development (Postpone Pipe Jacking)					
Key Dates (Forecast)					
Major Works					
KD-0905	KD13: Achieve Stage N4A - connection of Access Road A and Slip Road Y at Entrustment Boundary CD	0		25-Sep-15	36
KD-1005	KD14: Achieve Stage N4B - commissioning of Roundabout A by connecting to Slip Rd Y, Access Rd A & th	0		24-May-16	8
KD-0205	KD2: Complete Section 1B - all HyD's entrustment works in NBZ1 except for landscaping works	0		09-Jan-18	234
Major Milestones and Events					
MS-3000	Implement TTA for shifting existing TWSR East to the completed widened Fanling Highway SB North Porti	2	11-Sep-14	12-Sep-14	7
Stage N4A & N4B - Realignment of Tai Wo Service Road East (KD-13 & KD-14)					
TWSRE Zone 1 between CH100 and CH270					
Box Culvert Extension - BC02					
TWSRE-1000	Flow Diversion of Existing Stream	4	27-Jan-14	30-Jan-14	95
TWSRE-1010	Excavation, Sub-base and Blinding	5	07-Feb-14	12-Feb-14	95
TWSRE-1020	Bay 1 - Base Slab	14	10-Feb-14	25-Feb-14	95
TWSRE-1030	Bay 2 - Base Slab	14	18-Feb-14	05-Mar-14	95
TWSRE-1040	Bay 1 - Wall and Top Slab	22	26-Feb-14	22-Mar-14	102
TWSRE-1050	Bay 2 - Wall and Top Slab	22	06-Mar-14	31-Mar-14	95
At-Grade Roadworks					
TWSRE-1100	Installation of Mini-Pile for PC01 & PC02 (22nos)	66	27-Jan-15	24-Apr-15	24
TWSRE-1110	Noise Barrier NB3 - PC01 & PC02 Construction	55	25-Apr-15	02-Jul-15	24
TWSRE-1130	Retaining Wall Construction for FL/RW5	55	03-Jul-15	04-Sep-15	24
TWSRE-1120	Noise Barrier NB3 - Footing adjacent to Realigned TWSR East (96m)	166	23-Jul-15	15-Feb-16	7
TWSRE-1160	Road Formation, Road Drainage, Kerb, Planter and Pavement (Incl. FL/F8A, FL/F9)	190	25-Sep-15	24-May-16	7
TWSRE Zone 2 between CH270 and CH380					
At-Grade Roadworks					
TWSRE-2010	Noise Barrier NB3 - Footing adjacent to Realigned TWSR East (96m)	166	22-Dec-14	22-Jul-15	7
TWSRE-2020*	Pipe laying - DN600, DN1400 & DN1200 Watermains (CHB, CHK & CHC) along Realigned TWSR East	172	20-Mar-15	17-Oct-15	89
TWSRE-2020	Retaining Wall Construction for FL/RW6	55	05-Sep-15	11-Nov-15	69
TWSRE-2030	Road Formation, Road Drainage, Kerb, Planter and Pavement	90	12-Nov-15	05-Mar-16	69
TWSRE-2050	Erection of Scaffolding for Demolition Works	60	16-Jun-16	25-Aug-16	3
TWSRE-2040	Completion of New Vehicular Bridge by Other Contractor	0		25-Aug-16	3
TWSRE-2060	Demolition of Existing Vehicular Bridge	40	26-Aug-16	14-Oct-16	3
TWSRE-2070	Commissioning of Realigned TWSR East	0	15-Oct-16		3
TWSRE Zone 3 between CH380 and CH456					
At-Grade Roadworks					
TWSRE-3010	Noise Barrier NB3 - Footing adjacent to Realigned TWSR East (62m)	83	13-Sep-14	20-Dec-14	7
TWSRE-3020*	Pipe Laying - DN600 & DN1200 Watermains (CHB & CHC) along Realigned TWSR East	53	19-Jan-15	27-Mar-15	75
TWSRE-3030	Road Formation, Road Drainage, Kerb, Planter and Pavement (Incl. FL/F10)	90	28-Mar-15	20-Jul-15	254
Roundabout A, Slip Road and Access Road					
TWSRE-4000	Site Formation, Preparation Works & Tree Transplant	65	23-Dec-13	18-Mar-14	172
TWSRE-4050*	Pipe laying - DN600, DN1200 & DN2300 Watermains (CHB, CHC & CHJ) along Access Road A & Round	111	13-Sep-14	26-Jan-15	75
TWSRE-4010	Implementation of TTA - Scheme S1 (Shifting Ext. TWSR East to Fanling Highway S/B)	0	13-Sep-14		28
TWSRE-4020	Slip Road Y (CH260-CH404) - Road Formation, Road Drainage, Kerb, Planter and Pavement	180	13-Sep-14	28-Apr-15	28
TWSRE-4030	Noise Barrier NB74 - Footing adjacent to Realigned TWSR East (72m)	166	12-Dec-14	13-Jul-15	32
TWSRE-4040	Slip Road Y (CH100-CH230) - Road Formation, Road Drainage, Kerb, Planter and Pavement	150	21-Mar-15	21-Sep-15	32
TWSRE-4060	Access Road A - Road Formation, Road Drainage, Kerb, Planter and Pavement	125	29-Apr-15	25-Sep-15	28
TWSRE-4070	Roundabout A - Road Formation, Road Drainage, Kerb, Planter and Pavement	120	22-Sep-15	22-Feb-16	80
Remaining Works for Noise Barrier along realigned TWSR East					
TWSRE-NB-110	Installation of Steelwork & Transparent Panel - Noise Barrier NB74 (90m)	35	23-Feb-16	07-Apr-16	537
TWSRE-NB-120	Installation of Steelwork & Transparent Panel - Noise Barrier NB3 (254m)	65	15-Oct-16	31-Dec-16	316



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CHUN WO CONSTRUCTION & ENGINEERING CO., LTD.

Actual Work
Remaining Work
Critical Remaining Work
Milestone
Project Baseline Bar

CEDD Contract No. CV/2012/09

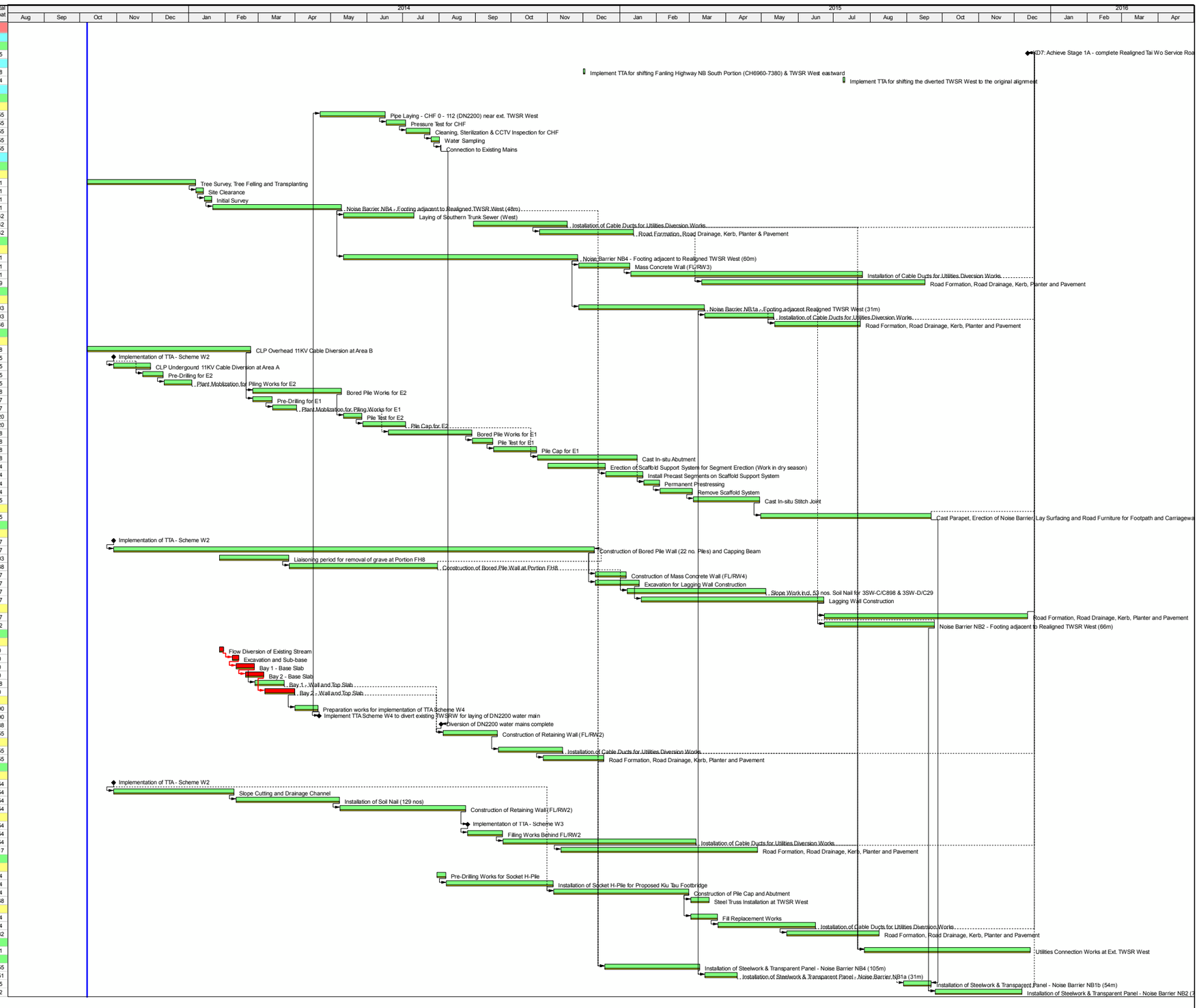
Liantang / Heung Yuen Wai BCP - Site Formation & Infrastructure Works, Contract 3

Works Sequence for TWSRE

CWP004-1 Page 1 of 1 11-Oct-13

Date	Revision	Checked	Approved
11-Oct-13		SL	

Activity ID	Activity Name	OD	Start	Finish	Total Float
CWP - Under Development (Postpone Pipe Jacking)					
Key Dates (Forecast)					
Major Works					
KD-0505	KD7: Achieve Stage 1A - complete Realigned Tai Wo Service Road West	0		12-Dec-15	35
Major Milestones and Events					
MS-2020	Implement TTA for shifting Fanling Highway NB South Portion (CH6960-7380) & TWSR West eastward	2	01-Dec-14	02-Dec-14	58
MS-2040	Implement TTA for shifting the diverted TWSR West to the original alignment	2	09-Jul-15	10-Jul-15	54
Section II - Remainder of the Works (KD-3)					
WSD Works					
DN2200 Water Mains (CHF)					
WF-1000	Pipe Laying - CHF 0 - 112 (DN2200) near ext. TWSR West	45	22-Apr-14	16-Jun-14	155
WF-2000	Pressure Test for CHF	14	17-Jun-14	03-Jul-14	155
WF-2010	Cleaning, Sterilization & CCTV Inspection for CHF	18	04-Jul-14	24-Jul-14	155
WF-2020	Water Sampling	7	25-Jul-14	01-Aug-14	155
WF-2030	Connection to Existing Mains	1	02-Aug-14	02-Aug-14	155
Stage 1A - Realignment of Tai Wo Service Road West (KD-7)					
TWSRW Zone 1 betweeen CH100 and CH155					
At-Grade Roadworks					
TWSRW-1100	Tree Survey, Tree Felling and Transplanting	75	07-Oct-13	06-Jan-14	41
TWSRW-1110	Site Clearance	6	07-Jan-14	13-Jan-14	41
TWSRW-1120	Initial Survey	6	14-Jan-14	20-Jan-14	41
TWSRW-1130	Noise Barrier NB4 - Footing adjacent to Realigned TWSR West (48m)	83	21-Jan-14	10-May-14	41
TWSRW-1140	Laying of Southern Trunk Sewer (West)	50	12-May-14	10-Jul-14	142
TWSRW-1150	Installation of Cable Ducts for Utilities Diversion Works	65	30-Aug-14	17-Nov-14	142
TWSRW-1160	Road Formation, Road Drainage, Kerb, Planter & Pavement	65	25-Oct-14	12-Jan-15	142
TWSRW Zone 2 betweeen CH155 and CH280					
At-Grade Roadworks					
TWSRW-2100	Noise Barrier NB4 - Footing adjacent to Realigned TWSR West (60m)	166	12-May-14	26-Nov-14	41
TWSRW-2110	Mass Concrete Wall (FL/RW3)	35	27-Nov-14	09-Jan-15	41
TWSRW-2120	Installation of Cable Ducts for Utilities Diversion Works	155	10-Jan-15	25-Jul-15	41
TWSRW-2130	Road Formation, Road Drainage, Kerb, Planter and Pavement	155	11-Mar-15	16-Sep-15	99
TWSRW Zone 3 between CH280 and CH315					
At-Grade Roadworks					
TWSRW-3100	Noise Barrier NB1a - Footing adjacent Realigned TWSR West (31m)	83	27-Nov-14	13-Mar-15	103
TWSRW-3110	Installation of Cable Ducts for Utilities Diversion Works	45	14-Mar-15	11-May-15	103
TWSRW-3120	Road Formation, Road Drainage, Kerb, Planter and Pavement	60	12-May-15	23-Jul-15	146
TWSRW Zone 4 between CH315 and CH376					
Construction of Bridge E					
TWSRW-4000A	CLP Overhead 11KV Cable Diversion at Area B	110	07-Oct-13	22-Feb-14	28
TWSRW-4000	Implementation of TTA - Scheme W2	0	29-Oct-13		65
TWSRW-4000A	CLP Undergound 11KV Cable Diversion at Area A	28	29-Oct-13	29-Nov-13	65
TWSRW-4010B	Pre-Drilling for E2	15	23-Nov-13	10-Dec-13	65
TWSRW-4020B	Plant Mobilization for Piling Works for E2	18	11-Dec-13	03-Jan-14	65
TWSRW-4030B	Bored Pile Works for E2	60	24-Feb-14	10-May-14	28
TWSRW-4010A	Pre-Drilling for E1	15	24-Feb-14	12-Mar-14	87
TWSRW-4020A	Plant Mobilization for Piling Works for E1	18	13-Mar-14	02-Apr-14	87
TWSRW-4040B	Pile Test for E2	14	12-May-14	27-May-14	120
TWSRW-4050B	Pile Cap for E2	30	28-May-14	03-Jul-14	120
TWSRW-4030A	Bored Pile Works for E1	60	19-Jun-14	28-Aug-14	28
TWSRW-4040A	Pile Test for E1	14	29-Aug-14	15-Sep-14	28
TWSRW-4050A	Pile Cap for E1	30	16-Sep-14	22-Oct-14	28
TWSRW-4070B	Cast In-situ Abutment	70	23-Oct-14	15-Jan-15	28
TWSRW-4060	Erection of Scaffold Support System for Segment Erection (Work in dry season)	42	01-Nov-14	19-Dec-14	24
TWSRW-4070A	Install Precast Segments on Scaffold Support System	24	20-Dec-14	20-Jan-15	24
TWSRW-4080	Permanent Prestressing	12	21-Jan-15	03-Feb-15	24
TWSRW-4090A	Remove Scaffold System	18	04-Feb-15	03-Mar-15	24
TWSRW-4090B	Cast In-situ Stitch Joint	45	04-Mar-15	29-Apr-15	35
At-Grade Roadworks					
TWSRW-4100	Cast Parapet, Erection of Noise Barrier, Lay Surfacing and Road Furniture for Footpath and Carriageway	120	30-Apr-15	21-Sep-15	35
TWSRW Zone 5 between CH376 and CH520					
Construction of Retaining Structures					
TWSRW-5000	Implementation of TTA - Scheme W2	0	29-Oct-13		27
TWSRW-5010	Construction of Bored Pile Wall (22 no. Piles) and Capping Beam	330	29-Oct-13	10-Dec-14	27
TWSRW-5020	Liaisoning period for removal of grave at Portion FH8	45	27-Jan-14	26-Mar-14	103
TWSRW-5030	Construction of Bored Pile Wall at Portion FH8	100	27-Mar-14	30-Jul-14	138
TWSRW-5040	Construction of Mass Concrete Wall (FL/RW4)	20	11-Dec-14	06-Jan-15	67
TWSRW-5060	Excavation for Lagging Wall Construction	30	11-Dec-14	17-Jan-15	27
TWSRW-5050	Slope Work incl. 53 nos. Soil Nail for 3SW-C/C898 & 3SW-D/C29	90	07-Jan-15	04-May-15	67
TWSRW-5070	Lagging Wall Construction	120	19-Jan-15	22-Jun-15	27
At-Grade Roadworks					
TWSRW-5110	Road Formation, Road Drainage, Kerb, Planter and Pavement	145	23-Jun-15	12-Dec-15	27
TWSRW-5100	Noise Barrier NB2 - Footing adjacent to Realigned TWSR West (66m)	80	23-Jun-15	24-Sep-15	32
TWSRW Zone 6 betweeen CH520 and CH530					
Box Culvert Extension - BC01					
TWSRW-6000	Flow Diversion of Existing Stream	4	27-Jan-14	30-Jan-14	0
TWSRW-6010	Excavation and Sub-base	5	07-Feb-14	12-Feb-14	0
TWSRW-6020	Bay 1 - Base Slab	14	10-Feb-14	25-Feb-14	0
TWSRW-6030	Bay 2 - Base Slab	14	18-Feb-14	05-Mar-14	0
TWSRW-6040	Bay 1 - Wall and Top Slab	22	26-Feb-14	22-Mar-14	88
TWSRW-6050	Bay 2 - Wall and Top Slab	22	06-Mar-14	31-Mar-14	0
Construction of Retaining Structures					
TWSRW-6057	Preparation works for implementation of TTA Scheme W4	20	01-Apr-14	20-Apr-14	190
TWSRW-6059	Implement TTA Scheme W4 to divert existing TWSRW for laying of DN2200 water main	0	21-Apr-14		190
TWSRW-6055	Diversion of DN2200 water mains complete	0		02-Aug-14	188
TWSRW-6060	Construction of Retaining Wall (FL/RW2)	40	04-Aug-14	19-Sep-14	155
At-Grade Roadworks					
TWSRW-6100	Installation of Cable Ducts for Utilities Diversion Works	45	20-Sep-14	13-Nov-14	155
TWSRW-6110	Road Formation, Road Drainage, Kerb, Planter and Pavement	45	28-Oct-14	18-Dec-14	155
TWSRW Zone 7 between CH530 and CH640					
Construction of Retaining Structures					
TWSRW-7000	Implementation of TTA - Scheme W2	0	29-Oct-13		154
TWSRW-7010	Slope Cutting and Drainage Channel	80	29-Oct-13	08-Feb-14	154
TWSRW-7020	Installation of Soil Nail (129 nos)	70	10-Feb-14	08-May-14	154
TWSRW-7030	Construction of Retaining Wall (FL/RW2)	90	09-May-14	23-Aug-14	154
At-Grade Roadworks					
TWSRW-7100	Implementation of TTA - Scheme W3	0	25-Aug-14		154
TWSRW-7110	Filling Works Behind FL/RW2	25	25-Aug-14	23-Sep-14	154
TWSRW-7120	Installation of Cable Ducts for Utilities Diversion Works	130	24-Sep-14	06-Mar-15	154
TWSRW-7140	Road Formation, Road Drainage, Kerb, Planter and Pavement	130	12-Nov-14	27-Apr-15	217
TWSRW Zone 8 between CH640 and CH695					
Kiu Tau Footbridge Reprovision (West)					
TWSRW-8000	Pre-Drilling Works for Socket H-Pile	7	30-Jul-14	06-Aug-14	74
TWSRW-8010	Installation of Socket H-Pile for Proposed Kiu Tau Footbridge	75	07-Aug-14	05-Nov-14	74
TWSRW-8020	Construction of Pile Cap and Abutment	90	06-Nov-14	28-Feb-15	74
TWSRW-8030	Steel Truss Installation at TWSR West	14	02-Mar-15	17-Mar-15	768
At-Grade Roadworks					
TWSRW-8100	Fill Replacement Works	20	02-Mar-15	24-Mar-15	74
TWSRW-8110	Installation of Cable Ducts for Utilities Diversion Works	65	25-Mar-15	15-Jun-15	74
TWSRW-8120	Road Formation, Road Drainage, Kerb, Planter and Pavement	65	22-May-15	08-Aug-15	132
Remainder of the Works					
TWSRW-9000	Utilities Connection Works at Ext. TWSR West	118	27-Jul-15	14-Dec-15	41
Remaining Works for Noise Barrier along realigned TWSR West					
TWSRW-NB-110	Installation of Steelwork & Transparent Panel - Noise Barrier NB4 (105m)	60	19-Dec-14	09-Mar-15	155
TWSRW-NB-120	Installation of Steelwork & Transparent Panel - Noise Barrier NB1a (31m)	20	14-Mar-15	10-Apr-15	151
TWSRW-NB-130	Installation of Steelwork & Transparent Panel - Noise Barrier NB1b (54m)	20	29-Aug-15	21-Sep-15	35
TWSRW-NB-140	Installation of Steelwork & Transparent Panel - Noise Barrier NB2 (77m)	60	25-Sep-15	07-Dec-15	32



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CHUN WO CONSTRUCTION & ENGINEERING CO., LTD.

Actual Work
Remaining Work
Critical Remaining Work
Milestone
Project Baseline Bar

CEDD Contract No. CV/2012/09

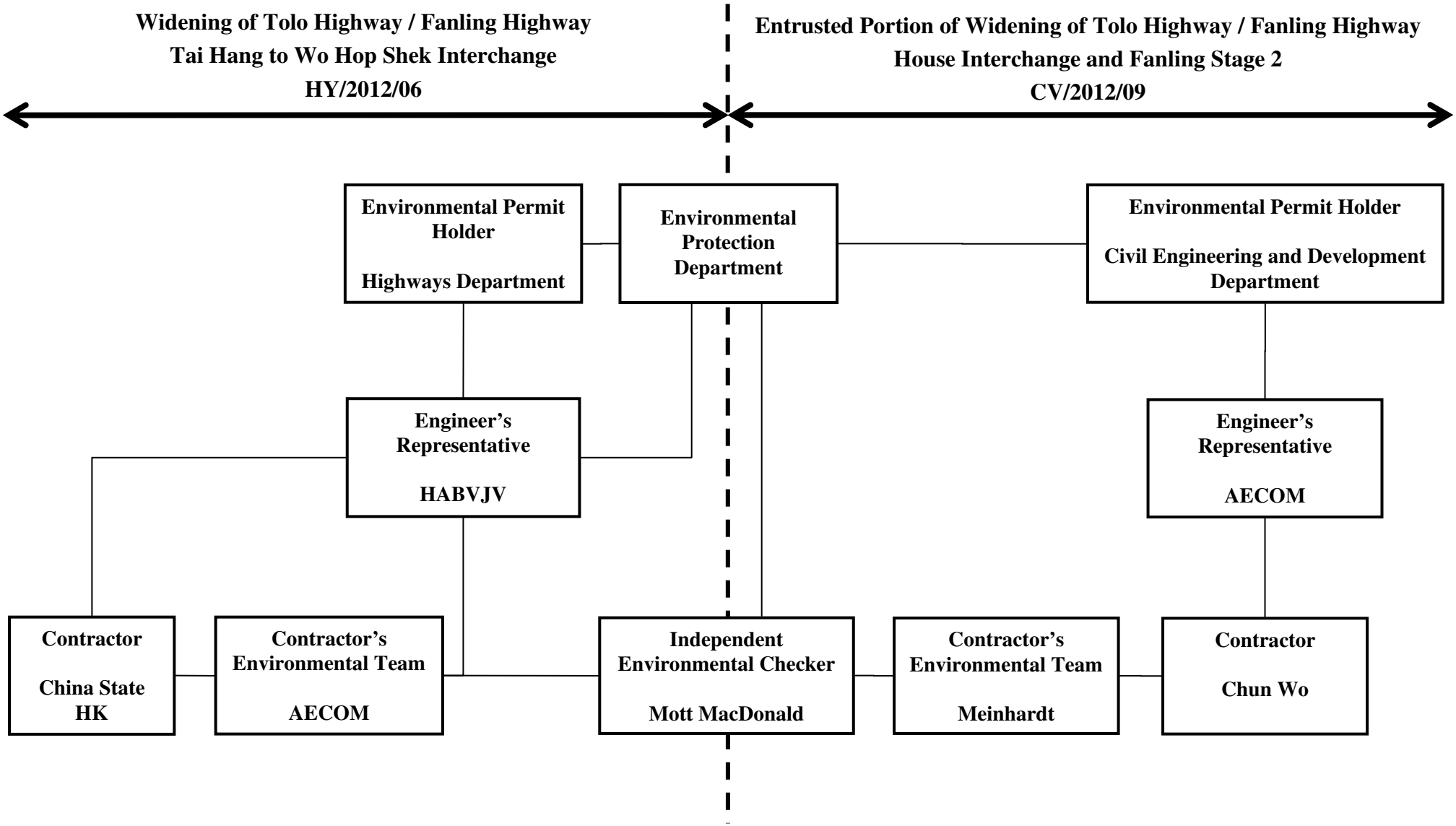
Liantang / Heung Yuen Wai BCP - Site Formation & Infrastructure Works, Contract 3

Works Sequence for TWSRW

CWP004-1 Page 1 of 1 12-Oct-13

Date	Revision	Checked	Approved
11-Sep-13		SL	

Appendix B
Project Organization Structure


Widening of Tolo Highway / Fanling Highway
Tai Hang to Wo Hop Shek Interchange
HY/2012/06
Entrusted Portion of Widening of Tolo Highway / Fanling Highway
House Interchange and Fanling Stage 2
CV/2012/09
Environmental Permit Holder
Highways Department
Environmental Protection Department
Environmental Permit Holder
Civil Engineering and Development Department
Engineer's Representative
HABVJV
Engineer's Representative
AECOM
Contractor
China State HK
Contractor's Environmental Team
AECOM
Independent Environmental Checker
Mott MacDonald
Contractor's Environmental Team
Meinhardt
Contractor
Chun Wo

Appendix C
Summary of Event and Action Plan

Event and Action Plan for Air Quality

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

Event	Action			
	ET Leader	**IEC**	**ER**	**Contractor**
Limit level being exceeded by one sampling day	1. Identify source; 2. Inform IEC, ER, Contractor and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise ER on the effectiveness of the proposed remedial measures; 5. Supervise implementation of remedial measures.	1. Confirm receipt of notification of exceedance in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Amend proposal if appropriate.
Limit level being exceeded by two or more consecutive sampling days	1. Notify IEC, ER, Contractor, and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase frequency to daily; 5. Analyse Contractor's working procedures to determine possible mitigation to be; 6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	1. Discus amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise ER accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of exceedance in writing; 2. Notify Contractor; 3. In consultation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by ER until the exceedance is abated.

Event and Action Plan for Noise Quality

Event	Action			
	ET Leader	**IEC**	**ER**	**Contractor**
Action Level	1. Notify IEC and the Contractor. 2. Carry out investigation. 3. Report the results of investigation to IEC and the Contractor. 4. Discuss with the Contractor and formulate remedial measures. 5. Increase monitoring frequency to check mitigation effectiveness.	1. Review with analysed results submitted by ET. 2. Review the proposed remedial measures by the Contractor and advise ER accordingly. 3. Supervise the implement of remedial measures.	1. Confirm receipt of notification of failure in writing. 2. Notify the Contractor. 3. Require the Contractor to propose remedial measures for the analysed noise problem. 4. Ensure remedial measures are properly implemented.	1. Submit noise mitigation proposals to IEC. 2. Implement noise mitigation proposals.
Limit Level	1. Notify IEC, ER, EPD and the Contractor. 2. Identify the source. 3. Repeat measurement to confirm findings. 4. Increase monitoring frequency. 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented. 6. Inform IEC, ER, and EPD the causes & actions taken for the exceedances. 7. Assess effectiveness of the Contractor's remedial actions and keep IEC, EPD and ER informed of the results. 8. If exceedance stops, cease additional monitoring.	1. Discuss amongst ER, ET Leader and the Contractor on the potential remedial actions. 2. Review the Contractor's remedial actions whenever necessary to assure their effectiveness and advise ER accordingly. 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing. 2. Notify the Contractor. 3. Require the Contractor to propose remedial measures for the analysed noise problem. 4. Ensure remedial measures are properly implemented. 5. If exceedance continues, consider what activity of the work is responsible and instruct the Contractor to stop that activity of work until the exceedance is abated.	1. Take immediate action to avoid further exceedance. 2. Submit proposals for remedial actions to IEC within 3 working days of notification. 3. Implement the agreed proposals. 4. Resubmit proposals if problem still not under control. 5. Stop the relevant activity of works as determined by the ER until the exceedance is abated.

Event and Action Plan for Water Quality

Event	Action			
	ET Leader	**IEC**	**ER**	**Contractor**
Action level being exceeded by one sampling day	1. Repeat in-situ measurement on next day of exceedance to confirm findings; 2. Identify source(s) of impact; 3. Inform IEC, Contractor & ER; 4. Check monitoring data, all plant, equipment & contractor's working methods;	1. Check monitoring data submitted by ET & Contractor's working methods;	1. Confirm receipt of notification of failure in writing; Notify, Contractor	1. Inform the ER & confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Amend working methods if appropriate.
Action level being exceeded by two or more consecutive sampling days	1. Repeat measurement on next day of exceedance to confirm findings; 2. Identify source(s) of impact; 3. Inform IEC, Contractor, ER & EPD; 4. Check monitoring data, all plant, equipment & Contractor's working methods; 5. Discuss mitigation measures with IEC, ER & Contractor; 6. Ensure mitigation measures are implemented; 7. Increase monitoring to daily until no exceedance of Action level.	1. Checking monitoring data submitted by ET & Contractor's working method; 2. Discuss with ET & Contractor on possible remedial actions; 3. Review the proposed mitigation measures submitted by Contractor & advise the ER accordingly; 4. Supervise the implementation of mitigation measures.	1. Discuss with IEC on the proposed mitigation measures; 2. Ensure mitigation measures properly implemented; 3. Assess the effectiveness of the implemented mitigation measures.	1. Inform the Engineer & confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant & equipment & consider changes of working methods; 4. Submit proposal of mitigation measures to ER within 3 working days of notification & discuss with ET, IEC & ER; 5. Implement the agreed mitigation measures.

Event	Action			
	ET Leader	**IEC**	**ER**	**Contractor**
Limit level being exceeded by one sampling day	1. Repeat measurement on next day of exceedance to confirm findings; 2. Identify source(s) of impact; 3. Inform IEC, contractor, ER & EPD; 4. Check monitoring data, all plant, equipment & contractor's working methods; 5. Discuss mitigation measures with IEC, Contractor & ER.	1. Checking monitoring data submitted by ET & Contractor's working method; 2. Discuss with ET & Contractor on the possible mitigation measures; 3. Review the proposed mitigation measures submitted by Contractor & advise the ER accordingly.	1. Confirm receipt of notification of failure in writing; 2. Discuss with IEC, ET & Contractor on the proposed mitigation measures; 3. Request Contractor to review the working methods.	1. Inform the ER & confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant & equipment & consider changes of working methods; 4. Submit proposal of mitigation measures to ER within 3 working days of notification & discuss with ET, IEC & ER.
Limit level being exceeded by two or more consecutive sampling days	1. Repeat measurement on the next day of exceedance to confirm findings; 2. Identify source(s) of impact; 3. Inform IEC, Contractor, ER & EPD; 4. Check monitoring data, all plant, equipment & Contractor's working methods; 5. Discuss mitigation measures within IEC, Contractor & ER; 6. Ensure mitigation measures are implemented; 7. Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days.	1. Checking monitoring data submitted by ET & Contractor's working method; 2. Discuss with ET & Contractor on potential remedial actions; 3. Review Contractor's mitigation measures whenever necessary to assure their effectiveness & advise the ER accordingly; 4. Supervise the implementation of mitigation measures.	1. Discuss with IEC, ET & Contractor on the proposed mitigation measures; 2. Request Contractor to critically review the working methods; 3. Make agreement on the mitigation measures to be implemented; 4. Ensure mitigation measures are properly implemented; 5. Consider & instruct, if necessary, the Contractor to slow down or to stop all or part of the construction activities until no exceedance of Limit level.	1. Take immediate action to avoid further exceedance; 2. Submit proposal of mitigation measures to ER within 3 working days of notification & discuss with ET, IEC & ER; 3. Implement the agreed mitigation measures; 4. Resubmit proposals of mitigation measures if problem still not under control; 5. As directed by the Engineer, to slow down or to stop all or part of the construction activities until no exceedance of Limit level.

Appendix D
Implementation Schedule of Environmental Mitigation Measures (EMIS)

Impact	Environmental Protection Measures	Timing	Responsibility	Implementation Status #
Air Quality				
Air Quality during Construction	• Restricting heights from which materials are dropped, as far as practicable to minimize the fugitive dust arising from unloading/loading. • All stockpiles of excavated materials or spoil of more than 50m^3 shall be enclosed, covered or dampened during dry or windy conditions. • Effective water sprays shall be used to control potential dust emission sources such as unpaved haul roads and active construction areas. • All spraying of materials and surfaces shall avoid excessive water usage. • Vehicles that have the potential to create dust while transporting materials shall be covered, with the cover properly secured and extended over the edges of the side and tail boards. • Materials shall be dampened, if necessary, before transportation. • Travelling speeds shall be controlled to reduce traffic induced dust dispersion and re-suspension within the site from the operating haul trucks. • Vehicle washing facilities shall be provided to minimise the quantity of material deposited on public roads.	During Construction	Contractor	✓ Rem Rem ✓ ✓ ✓ ✓ Rem and Obs
Air Quality during Operation	Not required	N/A	N/A	N/A
Noise				
Noise during Construction	• Use of silenced plant or plant equipped with mufflers or dampers in substitute of ordinary plant. • Reduce the number of equipment and their percentage on-time.	During Construction	Contractor	✓ ✓
Noise during Operation	Not required	N/A	N/A	N/A
Water Quality				
Water Quality during Construction	<u>Road Widening Works, Earthworks and Culvert Extension Works</u> • Wastewater generated from any concrete batching washdown of equipment or similar activities should be discharged into foul sewers, after the removal of settable solids, and pH adjustment as necessary. All sewage discharges from the study area should meet the TM standards and approval from EPD through the licensing process is required.	During Construction	Contractor	Rem & Obs
	• Sand traps, oil interceptors and other pollution prevention installations should be provided, properly cleaned and maintained.			Rem

Notes (#): ✓ – Compliance; Rem – Reminder; Obs – Observation; N/C – Non Compliance; N/A – Not Applicable;

	• Runoff from exposed working areas, unfinished slopes and from unlined temporary channels should be directed to stilling basins and/or silt traps before discharging to the drainage outfalls.			Rem and Obs
	• Regular inspections of stilling basins and/or silt traps is required to ensure that sediment is not conveyed into the existing drainage system.			✓
	• Open stockpiles should be covered with a tarpaulin cover.			✓
	• During the wet season, any exposed top soils should be covered with a tarpaulin, shotcreted or hydroseeded.			✓
	• Sand and silt from wash-water from vehicle washing should be settled out before discharging into storm drains.			✓
	• Fuels should be stored in bunded areas such that spillage can be easily collected.			Rem and Obs
Water Quality during Operation	Not required	N/A	N/A	N/A
Waste Management				
Waste Management during Construction	<u>General Waste</u>	During Construction	Contractor	✓
	• Transport of wastes off site as soon as possible.			
	• Maintenance of accurate waste records.			✓
	• Minimisation of waste generation for disposal (via reduction/recycling/re-use).			✓
	• No on-site burning will be permitted.			✓
	• Use of re-useable metal hoardings/signboards.			✓
	<u>Vegetation from site clearance</u>	During Construction	Contractor	✓
	• Segregation of materials to facilitate disposal.			
	• Mulching to reduce bulk and where possible review opportunities for the possible beneficial use within landscaping areas.			✓
	<u>Demolition Wastes</u>	During Construction	Contractor	✓
	• Segregation of materials to facilitate disposal.			
	• Appropriate stockpile management.			✓

Notes (#): ✓ – Compliance; Rem – Reminder; Obs – Observation; N/C – Non Compliance; N/A – Not Applicable;

	Excavated Materials	During Construction	Contractor	✓
	• Segregation of materials to facilitate disposal / reuse.			
	• Appropriate stockpile management.			✓
	• Re-use of excavated material on or off site (where possible).			✓
	• Special handling and disposal procedures in the event that contaminated materials are excavated.			N/A
	Construction Wastes	During Construction	Contractor	Obs
	• Segregation of materials to facilitate recycling/reuse (within designated area in appropriate containers/stockpiles).			
	• Appropriate stockpile management.			Obs
	• Planning to reduce over ordering and waste generation.			✓
	• Recycling and re-use of materials where possible (e.g. metal, wood from formwork)			✓
	• For material which cannot be re-used/recycled, collection should be carried out by an approved waste contractor for landfill disposal.			✓
	Bentonite Slurries	During Construction	Contractor	N/A
	• Bentonite slurries should be reused as far as possible.			
	• Disposal in accordance with Practice Note For Professional Persons ProPECC PN 1/94.			N/A
	Chemical Wastes	During Construction	Contractor	Rem and Obs
	• Storage within locked, covered and bunded area.			
	• The storage area shall not be located adjacent to sensitive receivers e.g. drains.			✓
	• Minimise waste production and recycle oils/solvents where possible.			✓
	• A spill response procedure shall be in place and absorption material available for minor spillages.			Obs
	• Use appropriate and labelled containers.			Rem
	• Educate site workers on site cleanliness/waste management procedures.			Rem

Notes (#): ✓ – Compliance; Rem – Reminder; Obs – Observation; N/C – Non Compliance; N/A – Not Applicable;

	• If chemical wastes are to be generated, the contractor must register with EPD as a chemical waste producer. • The chemical wastes shall be collected by a licensed chemical waste collector. <u>Municipal Wastes</u> • Waste shall be stored within a temporary refuse collection facility, in appropriate containers prior to collection and disposal. • Regular, daily collections are required by an approved waste collector.	During Construction	Contractor	✓ ✓ ✓ ✓
Waste Management during Operation	Not required.	N/A	N/A	N/A
Ecology				
Ecology during Construction	<u>Accurate Delineation of Works Area</u> • Boundaries of proposed works areas shall be clearly identified and separated from external areas by a physical barrier to prevent encroachment of adjacent habitats. • Individual trees which fall within the works areas but which work plans show do not require removal are to be retained and fenced off to maximise protection. <u>Dust generation</u> There are a number of measures which shall be taken as specified in the Air Pollution Control (Construction Dust) Regulation on 'Dust Control Requirements, including the following key measures to be applied during construction: • vehicle washing facilities to be provided at every discernible or designated vehicle exit point;	During Construction During Construction	Contractor Contractor	✓ ✓ ✓
	• all temporary site access roads shall be sprayed with water to suppress dust as necessary; • all dusty materials should be sprayed with water immediately prior to any handling; and • all debris should be covered entirely by impervious sheeting or stored in a sheltered debris collection area.			✓ ✓ ✓

Notes (#): ✓ – Compliance; Rem – Reminder; Obs – Observation; N/C – Non Compliance; N/A – Not Applicable;

	Surface Run-off In general, mitigation measures shall be in accordance with ProPECC PN1/94 on 'Construction Site Drainage'. Key measures include: • Bund and cover stockpiles to avoid run-off; • Channel any run-off through a system of oil, grease and sediment / silt traps and reuse water on site where ever practical; • All vehicle maintenance to be undertaken within a bunded area; and • Maximise vegetation retention on-site to maximise absorption (minimise transport).	During Construction	Contractor ✓	✓ ✓ ✓ ✓
Ecology during Operation	• To conduct compensatory ecological planting as specified in the latest landscape plans approved by EPD (Clause 2.6 of the Environmental Permit refers).	During Construction and operation	Contractor (during construction) / LCSD* (during operation) (Note: * The division of vegetation planting and maintenance responsibilities shall follow the guidelines stipulated in ETWB TCW No. 2/2004.)	N/A
Landscape and Visual				
Landscape and Visual during Construction	Preservation of Existing Vegetation • Trees identified for retention within the project limit would be protected during the works • The tree transplanting and planting works shall be implemented by approved Landscape Contractors	During Construction	Contractor	✓ ✓
	Temporary Works Areas • Where feasible the works areas would be screened using hoarding and existing vegetation would be retained where possible to reduce the landscape and visual impacts arising from the construction activity. The landscape of these works areas would be restored following the completion of the construction phase.	During Construction	Contractor	✓

Notes (#): ✓ – Compliance; Rem – Reminder; Obs – Observation; N/C – Non Compliance; N/A – Not Applicable;

	Hoarding • A hoarding would be erected where practicable in the most visually sensitive locations to screen the temporary construction works from the local VSRs.	During Construction	Contractor	✓
	Top Soils • The works will result in disturbance to extensive areas of topsoil. Topsoil worthy of retention should be stockpiled for use following completion of the civil engineering works. It should either be temporarily vegetated with hydroseeded grass or turned over on a regular basis.	During Construction	Contractor	N/A
	Protection of Important Landscape Features • Important features such as temples, Island House and kilns within the study area, although remote from the proposed works retained and adequately protected.	During Construction	Contractor	N/A
Landscape and Visual during Operation	Not required.	N/A	N/A	N/A

Notes (#): ✓ – Compliance; Rem – Reminder; Obs – Observation; N/C – Non Compliance; N/A – Not Applicable;

Appendix E
Meteorological Data Extracted from Hong Kong Observatory

Meteorological Data Extracted From The Hong Kong Observatory

November 2014

The weather of November 2014 was overall cloudier yet warmer than usual. The mean temperature for the month was 22.6 degrees, 0.8 degrees above the normal figure of 21.8 degrees. Despite more clouds and less sunshine, the total rainfall of 31.1 millimetres recorded in the month was about 17 percent below the normal figure of 37.6 millimetres. The accumulated rainfall since 1 January was 2593.6 millimetres, about 9 percent above the normal of 2371.7 millimetres for the same period.

The month started off with mainly fine and warm weather in Hong Kong. A cold front formed over the northern part of southern China and crossed the coast of Guangdong on 2 November. The northeast monsoon behind the cold front brought cloudy and cooler weather as well as light rain patches to Hong Kong in the next couple of days. With further replenishments of the northeast monsoon, the weather remained generally cloudy with a few rain patches until 14 November.

After some early morning rain on 15 November, the arrival of a dry easterly airstream finally cleared the clouds during the day. Under the influence of the dry continental air mass, the weather remained generally fine till 25 November. A replenishment of the northeast monsoon brought the temperatures at the Hong Kong Observatory down to a minimum of 18.1 degrees on the morning of 18 November, the lowest of the month.

As a weakening cold front approached the south China coast, cloudy weather returned on 26 November with the strengthening of easterly winds. The weather also became slightly cooler with a few rain patches on 27 November. Under the influence of a moist easterly airstream, it remained generally cloudy with a few light rain patches till the end of the month.

December 2014

Affected by frequent replenishments of the winter monsoon, the weather of December 2014 was cooler than normal, with spells of cloudy and rainy weather. The mean temperature for the month was 16.3 degrees, 1.6 degrees below the normal figure of 17.9 degrees. The total duration of bright sunshine in the month was 115.3 hours, 33 percent below the normal figure of 172.2 hours. The monthly total rainfall was 44.7 millimetres, about 67 percent above the normal figure of 26.8 millimetres. The annual rainfall of 2014 was 2638.3 millimetres, about 10 percent above the normal of 2398.5 millimetres.

After the passage of a cold front early on 1 December, an intense winter monsoon swept through the coastal areas of Guangdong and brought appreciably cooler weather to Hong Kong in the early part of the month. Cloudy conditions prevailed with some rain patches before the weather turned sunnier following the dissipation of clouds on 8 and 9 December.

As Tropical Storm Hagupit made its way across the South China Sea, a broad band of clouds extended over the coastal waters of Guangdong and cloudy skies returned on 10 - 12 December with a few rain patches. Coupled with the arrival of a surge of the winter monsoon, the weather turned colder as temperatures fell progressively. As a dry continental air mass reached the south China coastal areas, the weather became sunny on 13 and 14 December. Despite a cloudy day on 15 December, further replenishments of the winter monsoon in the next few days

brought even colder and drier air to Hong Kong. The relative humidity plunged below 30 percent on 17 December and temperatures fell to a minimum of 10.7 degrees, the lowest of the month, before midnight on 19 December as another cloud band moved in from the northern part of the South China Sea and brought significant rain to the territory.

The ebb and flow between dry and moist air masses across the south China coast continued in the latter part of the month. Following three days of fine and dry weather on 20 - 22 December, the return of moist and milder air mass brought the clouds and rain patches back in the next five days. The rain patches lasted till the morning of 28 December before the arrival of a surge of the winter monsoon later that day brought drier conditions to Hong Kong. Following a cold morning on 29 December, the weather remained generally fine, dry and cool towards the end of the month.

January 2015

With the northeast monsoon bringing dry continental air mass to the south China coast during the month, the weather of January 2015 was sunnier than usual. The total duration of sunshine in the month was 198.8 hours, 39 percent above the normal figure of 143.0 hours. The monthly mean amount of cloud was 45 percent, against a normal figure of 61 percent. As a result of the rain on 12 and 13 January, the monthly total rainfall of 41.7 millimetres was 69 percent above the January normal of 24.7 millimetres. Overall, the mean temperature of the month was 16.4 degrees, only 0.1 degree above normal.

Under the influence of a dry winter monsoon, Hong Kong started off with cool and dry conditions on the first four days of the month. Affected by a mild and humid maritime airstream, it turned cloudy with mist and coastal fog on 5 January. With the clouds thinning out, the weather became generally fine and warm on the afternoon of 6 January. Temperatures at the Observatory rose to a maximum of 23.9 degrees that day, the highest of the month.

Following some morning fog early on 7 January, temperatures fell during the day by 4 to 5 degrees compared with the previous day as a cold front crossed the coast of Guangdong in the morning. Affected by a dry continental air mass behind the cold front, mainly fine weather prevailed for the next three days.

A broad band of clouds covered southern China and brought a few rain patches to Hong Kong on 11 January. The weather became cold and rainy on 12 and 13 January as an intense winter monsoon reached the south China coastal areas. Most of the rain in the month, about 40 millimeters in total, fell during the two-day period. As the broad rainband moved eastward away from the Pearl River Estuary, the rain eased off and the weather became fine on the night of 13 January. Under clear night skies, it remained cold in the morning over the next two days. Temperatures at the Observatory fell to a minimum of 10.3 degrees early on 14 January, the lowest of the month. Dominated by a dry winter monsoon, local weather remained generally fine and dry up to 23 January. Relative humidity at the Observatory dropped below 40 percent on 19 and 22 January.

Affected by a humid easterly airstream, the weather turned mainly cloudy with light rain and mist patches on 24-25 January. After a fine and relatively mild day on 26 January, a strengthening of the easterly winds brought windy and slightly cooler weather to the territory over the next three days. The weather turned cloudier again as a cold front approached the south China coast on 30 January, and temperatures dropped further the next day with some light rain patches.

February 2015

February 2015 was a month of two halves : mostly fine and dry in the first half, and generally cloudy and humid in the second half. Overall, it was warmer than usual with a monthly mean temperature of 17.5 degrees compared to the normal figure of 16.8 degrees. The monthly rainfall was 32.0 millimetres, less than 60 percent of the normal figure of 54.4 millimetres. The accumulated rainfall of 73.7 millimetres in the first two months of the year was about 7 percent below the normal figure of 78.9 millimetres for the same period.

Under the influence of the northeast monsoon, the weather in Hong Kong was cool and cloudy with light rain patches on the first day of the month. Apart from some haze, it turned mainly fine in the next couple of days. A replenishment of the northeast monsoon reached the coast of Guangdong and brought generally cloudy condition to the territory on 4 February. Local weather became cold with light rain patches over the next two days, with temperatures at the Hong Kong Observatory falling to a minimum of 11.0 degrees on the morning of 6 February, the lowest of the month.

With the moderation of the winter monsoon, local temperatures rose by a couple of degrees on 7 February along with the return of sunny periods and some haze. Dominated by a dry continental air mass, the weather became generally fine and dry for the ensuing seven days. Relative humidity at the Hong Kong Observatory fell below 40 percent on 12 and 13 February. A maritime airstream set in over the coast of Guangdong on 15 February and the proximity of a moist air mass led to the formation of low clouds and fog patches that lingered over the coastal areas in the latter half of the month.

A fresh to strong easterly airstream brought windy weather with light rain patches on 18-20 February as the city celebrated the Chinese New Year. Rain got heavier on 21-23 February as rainbands associated with a trough of low pressure affected the territory. A warm day on 26 February finally allowed some sunshine to break through the clouds and fog. Temperatures at the Hong Kong Observatory rose to a maximum of 23.7 degrees that day, the highest of the month. Easterly winds strengthened again the next day and brought windy and cooler weather to the territory towards the end of the month.

March 2015

With a maritime airstream dominating over the coast of Guangdong during the latter half of the month, the weather of Hong Kong in March 2015 was warmer than usual. The monthly mean temperature was 19.9 degrees, 0.8 degrees higher than the normal figure of 19.1 degrees. The total rainfall in the month was 28.4 millimetres, only about 35 percent of the normal figure of 82.2 millimetres. The accumulated rainfall of 102.1 millimetres since 1 January was about 37 percent below the normal figure of 161.3 millimetres for the same period.

A cold front over southern China moved across the coastal areas of Guangdong on the first day of the month and the strengthening of an easterly airstream brought cooler weather the next day. Another replenishment of the northeast monsoon on 4 and 5 March brought windy and even cooler conditions to Hong Kong, and the weather remained cloudy with light rain and mist patches till 8 March.

Following a lull in the northeast monsoon that brought a warm and sunny day on 9 March,

easterly winds strengthened again the next day as another replenishment of the northeast monsoon reached the coast of Guangdong. The weather became significantly cooler with light rain patches on 10-13 March. Temperatures at the Observatory fell to a minimum of 14.8 degrees on 12 March, the lowest of the month.

As the northeast monsoon subsided, it was gradually replaced by a warmer maritime airstream on 14 and 15 March. Local weather turned increasingly humid with lingering clouds, mist and fog. As temperatures continued to rise, clouds finally dispersed during the day for some sunshine to break through on 19 March. Fine weather then prevailed in the next couple of days and temperatures at the Observatory climbed to a maximum of 28.3 degrees on 20 March, the highest of the month.

With easterly winds strengthening and the northeast monsoon returning to the coast of Guangdong, the weather turned generally cloudy and windy with light rain patches from 22 to 26 March. After a rainy morning on 27 March, sunny intervals appeared in the afternoon as warm maritime air set in over the coast of Guangdong. Despite some coastal mist, clouds thinned out during the day with sunny periods coming through towards the end of the month.

April 2015

April 2015 was characterized by sunny, warm and relative dry weather, in particular during the second half of the month. Overall, the total duration of sunshine in April 2015 was 159.2 hours, 57.5 hours above the normal figure of 101.7 hours. The mean temperature of the month was 23.6 degrees, 1.0 degree higher than the normal figure of 22.6 degrees. The monthly mean relative humidity was 77 percent, the third lowest for April since 1961.

The monthly rainfall was also less than usual with a deficit of about 63 percent compared to the normal figure of 174.7 millimetres. The accumulated rainfall of 166.6 millimetres since 1 January was only about one-half of the normal figure of 336.1 millimetres for the same period.

Under the influence of a maritime airstream, the weather in Hong Kong was mainly cloudy and humid with coastal fog for the first four days in the month. With the clouds thinning out, it turned fine on 5 - 6 April with fog patches in the morning and hot conditions during the day.

Meanwhile, a cold front crossed the coastal areas of Guangdong on 7 April and local weather turned cloudy that night with rain patches in the following days. The northeast monsoon behind the cold front brought significantly cooler weather to Hong Kong and temperatures at the Observatory fell to a minimum of 15.9 degrees on 9 April, the lowest of the month. Affected by an upper-air disturbance, the weather was overcast and rainy on 11 April with more than 30 millimetres of rainfall generally recorded over the territory. The passage of the disturbance also helped to clear the clouds that had been lingering over Guangdong, as a dry continental airstream advanced southwards to reach the south China coast on 12 April. Daytime relative humidity at the Observatory fell below 40 percent in the next three days, and sunny and dry conditions persisted till 17 April.

The return of a maritime airstream brought cloudy and more humid weather to Hong Kong on 18 - 20 April along with a few showers. Meanwhile, a weak cold front crossed the coastal areas of southern China on the night of 20 April and the northeast monsoon brought slightly cooler weather to Hong Kong in the next three days. With the moderation of the northeast

monsoon, the weather turned fine on 24 April. Generally fine weather persisted towards the end of the month and daytime conditions became hot under the influence of a warm southerly airstream, with temperatures at the Observatory reaching a maximum of 31.9 degrees on 30 April, the highest of the month.

May 2015

May 2015 was the fourth hottest May since records began in 1884. Its monthly mean temperature of 27.5 degrees was 1.6 degrees higher than the normal figure of 25.9 degrees. Affected by active troughs of low pressure in the second half of the month, May 2015 was actually cloudier than usual and rather rainy as well. Bright sunshine during the month amounted to 93.5 hours only, about 33 percent below the normal figure of 140.4 hours, the seventh lowest for May on record. The monthly total rainfall was 513.0 millimetres, a surplus of 68 percent against the normal figure of 304.7 millimetres. The accumulated rainfall of 679.6 millimetres since 1 January was about 6 percent above the normal figure of 640.8 millimetres for the same period.

Under the influence of a southerly airstream, the weather in Hong Kong was hot with sunny periods on the first four days of the month. A trough of low pressure brought generally cloudy weather with a few showers to the territory on 5-7 May. After a cloudy but relatively rain-free day on 8 May, another trough of low pressure brought heavier showers and thunderstorms to Hong Kong on 9-10 May.

A cold front over southern China moved across the coast of Guangdong on 11 May. A squall line associated with the cold front brought heavy showers and squally thunderstorms to the territory later that day. A maximum gust of over 100 kilometres per hour was recorded at Lau Fau Shan during the passage of the squall line. Affected by a continental airstream, local weather became relatively cool and dry the next day. Temperature at the Observatory fell to 22.6 degrees on 12 May, the lowest of the month. As winds veered to southerly gradually, the weather became mainly fine and hot on 14-15 May. Temperature at the Observatory rose to 32.6 degrees on 15 May, the highest of the month.

With a trough of low pressure lingering over the coastal areas of Guangdong, local weather remained unsettled with occasional heavy showers and squally thunderstorms over the next twelve days. Two 'Red' rainstorm episodes on 20 and 23 May brought more than 150 millimetres of rain to most parts of the territory. Flooding was reported in Sha Tin, Ma On Shan and Tuen Mun on 20 May, and also at the low-lying areas in Sheung Shui and Yuen Long on 23 May. Meanwhile, a fresh to strong easterly airstream also brought windy and cooler conditions to the territory on 21-22 May. Another rapidly developed rainstorm brought more than 70 millimetres of rain to the urban areas and more than 100 millimetres to Sha Tin, Tsuen Wan, Sai Kung and Ma On Shan on 26 May, necessitating the first issuance of Black Rainstorm Warning of the year. Flooding was reported in Ho Man Tin, Sha Tin and Sai Kung.

With the weakening of the trough, the weather improved gradually with sunny periods on 28-30 May. However, the weather turned cloudy again with isolated showers and thunderstorms on 31 May as another trough of low pressure from southern China moved towards the coastal areas.

June 2015

June 2015 was the hottest June in Hong Kong since records began in 1884. The monthly mean temperature of 29.7 degrees was 1.8 degrees above the normal figure of 27.9 degrees and broke the previous record of 29.0 degrees set in 2014 by a wide margin of 0.7 degree. Both the monthly mean minimum temperature of 27.7 degrees and the monthly mean maximum temperature of 32.3 degrees ranked the highest for June. The extremely hot weather in June 2015 in Hong Kong was partly attributed to the westward extension of the subtropical ridge of high pressure from the western North Pacific to southern China during the month. The prevailing southerly flow and the above-normal sea surface temperature over the northern part of the South China Sea also contributed to the sweltering weather.

Under the dominance of the subtropical ridge, the month was also sunnier and drier than usual. The total duration of sunshine in June 2015 was 192.8 hours, 46.7 hours above the normal figure of 146.1 hours. The total rainfall of the month was 291.0 millimetres, about 36 percent below the normal figure of 456.1 millimetres. The accumulated rainfall since 1 January of 970.6 millimetres was about 12 percent below the normal figure of 1096.9 millimetres for the same period.

Under the influence of a trough of low pressure, the weather in Hong Kong was cloudy with a few showers and thunderstorms on the first day of the month. With the subtropical ridge extending westward towards the northern part of the South China Sea, local weather improved with sunny periods on 2 June and became generally fine and hot on 3-4 June.

Another trough of low pressure brought the clouds and showers back to Hong Kong on 5 and 6 June. Under the influence of the southwest monsoon, a mixture of sunshine and showers persisted till 11 June.

As a trough of low pressure reached the south China coast on 12 June, heavy showers and squally thunderstorms affected Hong Kong that morning, with more than 100 millimetres of rain falling over the urban areas. The southwest monsoon continued to bring hot and showery weather to the territory over the next three days.

With showery activities easing off, Hong Kong experienced a spell of generally fine and very hot weather from 16 to 20 June. Daily maximum temperatures on 18 and 19 June soared to 34.2 degrees, the highest of the month. The sizzling hot conditions persisted into 20 June with a maximum temperature of 34.1 degrees that day making it the hottest Tuen Ng Festival on record.

Meanwhile, a low pressure area over the central part of the South China Sea developed into a tropical depression on 20 June. It moved generally northward towards Hainan Island and intensified into a tropical storm named Kujira the next day. Kujira made landfall over the east coast of Hainan Island on the evening of 22 June and moved across Beibu Wan over the next couple of days. The outer rainbands of Kujira brought scattered showers and squally thunderstorms to Hong Kong from 21 to 25 June.

With the remnant rainbands of Kujira dissipating, showers eased off on 26 June, and the weather became sunny and very hot in Hong Kong towards the end of the month.

July 2015

July 2015 was warmer and cloudier than usual. The mean temperature in the month was 29.1 degrees, 0.3 degrees above the normal figure of 28.8 degrees. The monthly mean cloud amount of 75 percent was 6 percent above the normal figure of 69 percent. With the increase in

cloudiness, the total sunshine duration recorded in July 2015 was only 164.9 hours, about 22 percent below normal. The month was also wetter than usual with a monthly total rainfall of 406.2 millimetres, 8 percent above the normal figure of 376.5 millimetres. The accumulated rainfall of 1376.8 millimetres since 1 January was about 7 percent below the normal figure of 1473.3 millimetres for the same period.

The weather in Hong Kong was mainly fine and very hot for the first five days of the month. A weakening trough of low pressure from Guangdong approached the coastal areas, bringing clouds and a few showers to the territory on 6 July. In the mean time, a slow-moving tropical cyclone Linfa hovered over the northeastern part of the South China Sea. Dominated by its circulation, a northerly airstream of continental origin brought mainly fine and relatively dry conditions to the coastal region on 7 and 8 July.

Meanwhile, Linfa intensified into a typhoon and made landfall over the coast of eastern Guangdong on 9 July. Local winds strengthened gradually in the afternoon with occasional gales on high ground. Tracking generally westwards along the coastal strip of Guangdong, Linfa weakened rapidly during the night. After some morning rain on 10 July, the weather rapidly improved during the day and a spell of very hot weather persisted over the following nine days. The maximum temperature at the Observatory reached 34.4 degrees on 13 July, the highest for the month. However, the weather also became increasingly unsettled with less sunshine and more showers. The showers were thundery at times and heavy in places, particularly over the western part of the territory on 17 July when more than 200 millimetres of rainfall were recorded near Chek Lap Kok in Lantau Island.

With an area of low pressure lingering over the coast of Guangdong and the development of an embedded trough, the weather deteriorated further on 20 July. Following the dissipation of the trough, rainbands and thunderstorms from the northern part of the South China Sea continued to move in to affect the territory from time to time under the influence of a moist southerly airstream. A waterspout was reported near Kau Yi Chau on the morning of 22 July, and the rain was especially heavy over the urban areas that day and over the northern part of the New Territories on 24 July. Despite the rain easing off and some sunny periods emerging on 27 July, showery conditions continued to affect Hong Kong before the weather turned fine on the last day of the month.

August 2015

August 2015 was hotter and drier than usual. The mean temperature in the month was 29.3 degrees, 0.7 degree above the normal figure of 28.6 degrees and the seventh highest for August on record. The monthly total rainfall recorded in August 2015 was 143.3 millimetres, only about one-third of the normal figure of 432.2 millimetres. The accumulated rainfall of 1520.1 millimetres since 1 January was about 20 percent below the normal figure of 1905.5 millimetres for the same period.

With a ridge of high pressure strengthening and extending westward from the western North Pacific to southern China, August 2015 started with a spell of fine weather. With plenty of sunshine, conditions became very hot during the day with maximum temperatures exceeding 33 degrees on 3 - 7 August. As Severe Typhoon Soudelor moved across Taiwan and made landfall over Fujian, the summer heat grew even more intense on 8 - 9 August under the subsidence effect ahead of Soudelor. With northwesterly winds bringing haze and a relatively dry air mass

to Hong Kong, temperatures at the Observatory soared to a maximum of 36.3 degrees on the afternoon of 8 August, an all-time high since records began in 1884.

While it remained mostly fine and very hot during the day on 9 August, local weather also became more unsettled that night under the influence of a southwesterly airstream, with squally thunderstorms and showers bringing more than 30 millimetres of rain to many places of the territory, especially over the New Territories. Apart from a generally fine and very hot day on 12 August, showers and thunderstorms continued to affect Hong Kong on 10 - 16 August. Red rainstorm warning was issued on 15 August with more than 100 millimetres of rain recorded over the New Territories.

The weather in Hong Kong turned fine on 17 August and it was mostly a mixture of sunshine and showers with some very hot days in the week that followed. With another typhoon Goni east of Taiwan tracking towards Japan and bringing enhanced subsidence effect and off-land flow over the south China coastal areas, daytime temperatures in Hong Kong again reached 33 degrees and higher on 24 and 25 August.

With a trough of low pressure developing and lingering over the coast of Guangdong, the weather turned cloudier and more showery towards the end of the month.

September 2015

September 2015 was marked by sunny and warm weather with below normal rainfall. The monthly mean temperature of 28.4 degrees was the seventh highest for September on record and 0.7 degrees above the normal figure of 27.7 degrees. With no tropical cyclone affecting Hong Kong and necessitating the issuance of tropical cyclone warning signals in August and September, a record since 1946, the total rainfall in September was only 87.9 millimetres, a deficit of about 73 percent comparing to the normal figure of 327.6 millimetres. The accumulated rainfall of 1608.0 millimetres since 1 January was about 28 percent below the normal figure of 2233.1 millimetres for the same period.

Affected by a trough of low pressure, the weather in Hong Kong was mainly cloudy with showers and isolated squally thunderstorms on the first three days of the month. The rain was heavier in the morning of 2 September with more than 40 millimetres of rainfall recorded over many parts of Hong Kong.

With the trough weakening and a ridge of high pressure setting in over the south China coastal areas, the weather turned sunny and very hot in Hong Kong on 4 September as daytime temperatures soared to a maximum of 32.9 degrees, the highest of the month. Local weather became cloudy again with occasional rain and a few squally thunderstorms on 7 September as another trough of low pressure moved across the coast of Guangdong. However, generally fine conditions soon returned the next day as a relatively dry easterly airstream became established over the coast of southeastern China.

As the northeast monsoon prevailed over southern China, the weather in Hong Kong remained mostly fine apart from some isolated showers in the next four days. With Tropical Storm Vamco moving towards central Vietnam, monsoon winds were enhanced over the south China coastal waters and local weather became rather windy on 13-15 September. As a rainband extended over the coast of Guangdong and the northern part of the South China Sea,

the weather turned mainly cloudy with a few showers on 16 September. Local weather became mainly fine again except for a few morning showers over the next four days as the northeast monsoon was gradually replaced by a maritime airstream from the south.

With a trough of low pressure forming over the inland areas of Guangdong and edging towards the coast, outbreaks of heavy rain and squally thunderstorms affected Hong Kong on 21 September. More than 30 millimetres of rainfall were generally recorded over the territory, with rain particularly heavy over parts of the New Territories where rainfall amount exceeded 100 millimetres.

With the weakening of the trough, the weather was a mixture of sunny periods and showers over the next couple of days before fine and hot conditions set in on 24 September. The weather then deteriorated in the afternoon on 26 September as intense thunderstorms and heavy rain associated with a trough of low pressure brought more than 30 millimetres of rainfall to Hong Kong. The rain was particularly heavy over the eastern part of Kowloon with rainfall exceeding 70 millimetres. The weather remained mainly cloudy and showery on 27 September before a dry continental airstream brought fine and hot conditions towards the end of the month as Super Typhoon Dujuan swept across Taiwan and landed over Fujian.

October 2015

The weather of October 2015 was warmer than usual. The monthly mean temperature of 26.0 degrees was 0.5 degrees above the normal figure of 25.5 degrees. The month was also wetter than usual, mainly as a result of heavy rain brought by tropical cyclone Mujigae during the first week of the month. A total of 168.3 millimetres of rainfall was recorded of the month, about 67 percent above the normal figure of 100.9 millimetres. However, the accumulated rainfall of 1776.3 millimetres since 1 January was still about 24 percent below the normal figure of 2334.0 millimetres for the same period.

The weather in Hong Kong was cloudy with a few showers and isolated thunderstorms on the first day of the month. Under the influence of the northeast monsoon, there were sunny periods and a few showers the next day. Meanwhile, the tropical depression near the Philippines intensified into a tropical storm and named Mujigae while moving into the South China Sea on the morning of 2 October. Moving west-northwestwards steadily, it edged closer to western Guangdong and continued to intensify in the next two days. Mujigae developed into a severe typhoon in the small hours of 4 October.

Locally, east to northeasterly winds strengthened significantly and the weather also deteriorated with heavy squally showers and isolated thunderstorms in the afternoon on 3 October. With Mujigae making landfall near Zhanjiang of Guangdong and weakening gradually on the afternoon of 4 October, local winds started to subside gradually. Under the influence of the outer rainbands of Mujigae, there were occasional heavy squally showers and thunderstorms in Hong Kong on 4 and 5 October. In particular, more than 40 millimeters of rainfall were recorded over most parts of the territory and rainfall over western part of Lantau Island even exceeded 100 millimeters on 4 October.

Affected by the cloud bands associated with the northeast monsoon, it remained cloudy and showery on 6-7 October. There was also a localized heavy downpour in the eastern part of the New Territories with more than 150 millimetres of rain falling over Sai Kung on the morning of

7 October. Under the influence of a continental airstream, the clouds thinned out with sunny periods in Hong Kong on 8 and 9 October. With the strengthening of the northeast monsoon, it became windy with a few rain patches on 10 October. The weather became appreciably cooler on the morning of 11 October with temperatures at the Observatory falling to a minimum of 18.5 degrees, the lowest of the month. The weather remained cloudy on the next day.

Dominated by a relatively dry northeast monsoon, the weather in Hong Kong became fine on 13 October and remained generally fine and dry for the ensuing eleven days. Affected by an easterly airstream, local weather turned mainly cloudy with a few light rain patches on 25 and 26 October. As the band of clouds covering the coast of Guangdong thinned out, weather remained generally fine on 27-30 October. A cold front moved across the coastal areas of Guangdong on the morning of 31 October and brought cloudier weather with a few rain patches to the territory.

Appendix F
Environmental Monitoring Data for Air, Noise and Water Quality

Appendix F
Air Quality Monitoring Results and their Graphical Presentation

24-Hour TSP Monitoring Result at Station: SR77

Sampling Date	Weather Condition	Paper No.	Wt. of paper (g)			Elapse Time			Flow Rate (CFM)			Flow Rate (m^3/min)			Total Volume (m^3)	TSP Concentration ($\mu g/m^3$)	Action Level (µg/m3)	Limit Level (µg/m3)	Wind speed m/s	Wind direction
			Initial Wt.	Final Wt.	Wt. of Dust	Initial	Final	Sampling Hour	Initial	Final	Avg Flow Rate	Initial	Final	Avg Flow Rate						
4-Nov-14	Fine	102	2.7809	3.0010	0.2201	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	105.8	170.3	260.0	<5	N
10-Nov-14	Cloudy	122	2.7744	2.8781	0.1037	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	49.9	170.3	260.0	<5	N
15-Nov-14	Fine	121	2.7538	2.9686	0.2148	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	103.3	170.3	260.0	<5	N
21-Nov-14	Fine	114	2.7122	2.9394	0.2272	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	109.3	170.3	260.0	<5	N
27-Nov-14	Cloudy	A15	2.8003	2.9564	0.1561	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	75.1	170.3	260.0	<5	N
3-Dec-14	Cloudy	A13	2.7920	2.9671	0.1751	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	84.2	170.3	260.0	<5	N
9-Dec-14	Fine	A16	2.7614	2.9531	0.1917	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	92.2	170.3	260.0	<5	N
15-Dec-14	Fine	114	2.7845	3.0580	0.2735	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	131.5	170.3	260.0	<5	N
20-Dec-14	Fine	A12	2.7752	3.0414	0.2662	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	128.0	170.3	260.0	<5	N
24-Dec-14	Fine	B4	2.8108	2.9710	0.1602	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	77.0	170.3	260.0	<5	N
30-Dec-14	Fine	B3	2.8015	2.9420	0.1405	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	67.6	170.3	260.0	<5	N
5-Jan-15	Fine	B15	2.8047	2.9814	0.1767	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	85.0	170.3	260.0	<5	N
10-Jan-15	Fine	B13	2.8025	2.9544	0.1519	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	73.0	170.3	260.0	<5	N
16-Jan-15	Fine	B11	2.8099	2.9833	0.1734	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	83.4	170.3	260.0	<5	N
22-Jan-15	Fine	B8	2.7922	2.9423	0.1501	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	72.2	170.3	260.0	<5	N
28-Jan-15	Fine	B7	2.7973	2.9697	0.1724	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	82.9	170.3	260.0	<5	N
3-Feb-15	Fine	B31	2.7855	3.0177	0.2322	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	111.7	170.3	260.0	<5	N
9-Feb-15	Fine	B32	2.7691	3.0114	0.2423	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	116.5	170.3	260.0	<5	N
14-Feb-15	Fine	B18	2.8089	3.0760	0.2671	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	128.4	170.3	260.0	<5	N
17-Feb-15	Cloudy	B19	2.8076	2.9909	0.1833	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	88.1	170.3	260.0	<5	N
24-Feb-15	Cloudy	B35	2.8219	3.0347	0.2128	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	102.3	170.3	260.0	<5	N
2-Mar-15	Cloudy	B34	2.8219	2.9347	0.1128	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	54.2	170.3	260.0	<5	N
7-Mar-15	Cloudy	B37	2.8120	2.9511	0.1391	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	66.9	170.3	260.0	<5	N
13-Mar-15	Fine	B39	2.7991	3.0880	0.2889	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	138.9	170.3	260.0	<5	N
19-Mar-15	Fine	B41	2.8002	3.0637	0.2635	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	126.7	170.3	260.0	<5	N
25-Mar-15	Cloudy	B43	2.7841	2.9911	0.2070	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	99.5	170.3	260.0	<5	N
31-Mar-15	Sunny	B65	2.8170	2.9321	0.1151	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	55.3	170.3	260.0	<5	N
8-Apr-15	Rainy	B67	2.8111	3.0118	0.2007	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	96.5	170.3	260.0	<5	N
14-Apr-15	Fine	B59	2.8093	2.9508	0.1415	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	68.0	170.3	260.0	<5	N
20-Apr-15	Cloudy	B60	2.8015	2.9910	0.1895	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	91.1	170.3	260.0	<5	N
25-Apr-15	Fine	B62	2.8018	3.0129	0.2111	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	101.5	170.3	260.0	<5	N
30-Apr-15	Fine	B64	2.7936	3.0513	0.2577	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	123.9	170.3	260.0	<5	N
6-May-15	Fine	B82	2.8026	3.0111	0.2085	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	100.3	170.3	260.0	<5	N
12-May-15	Fine	B84	2.8111	3.1060	0.2949	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	141.8	170.3	260.0	<5	N
18-May-15	Rainy	B86	2.7942	2.9001	0.1059	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	50.9	170.3	260.0	<5	N
23-May-15	Rainy	B88	2.8311	2.9271	0.0960	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	46.2	170.3	260.0	<5	N
29-May-15	Fine	B90	2.8238	2.9894	0.1656	0.00	24.00	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	79.6	170.3	260.0	<5	N
4-Jun-15	Fine	B92	2.8016	3.0071	0.2055	3243.80	3267.80	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	98.8	170.3	260.0	<5	N
10-Jun-15	Fine	B94	2.7811	3.0894	0.3083	3270.80	3294.80	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	148.3	170.3	260.0	<5	N
16-Jun-15	Fine	B96	2.8004	3.0890	0.2886	3297.80	3321.80	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	138.8	170.3	260.0	<5	N
22-Jun-15	Rainy	B98	2.8211	3.0080	0.1869	3324.80	3348.80	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	89.9	170.3	260.0	<5	N
27-Jun-15	Fine	B100	2.8226	3.0061	0.1835	3351.80	3375.80	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	88.2	170.3	260.0	<5	N
3-Jul-15	Fine	B102	2.8212	3.0193	0.1981	3378.80	3402.80	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	95.3	170.3	260.0	<5	N
9-Jul-15	Rainy	B104	2.8164	3.0063	0.1899	3405.80	3429.80	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	91.3	170.3	260.0	<5	N
15-Jul-15	Sunny	B106	2.8206	2.9081	0.0875	3442.67	3466.67	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	42.1	170.3	260.0	<5	N
21-Jul-15	Rainy	B108	2.8131	2.9036	0.0905	3469.67	3493.67	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	43.5	170.3	260.0	<5	N
27-Jul-15	Sunny	C11	2.7974	2.9401	0.1427	3496.67	3520.67	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	68.6	170.3	260.0	<5	N

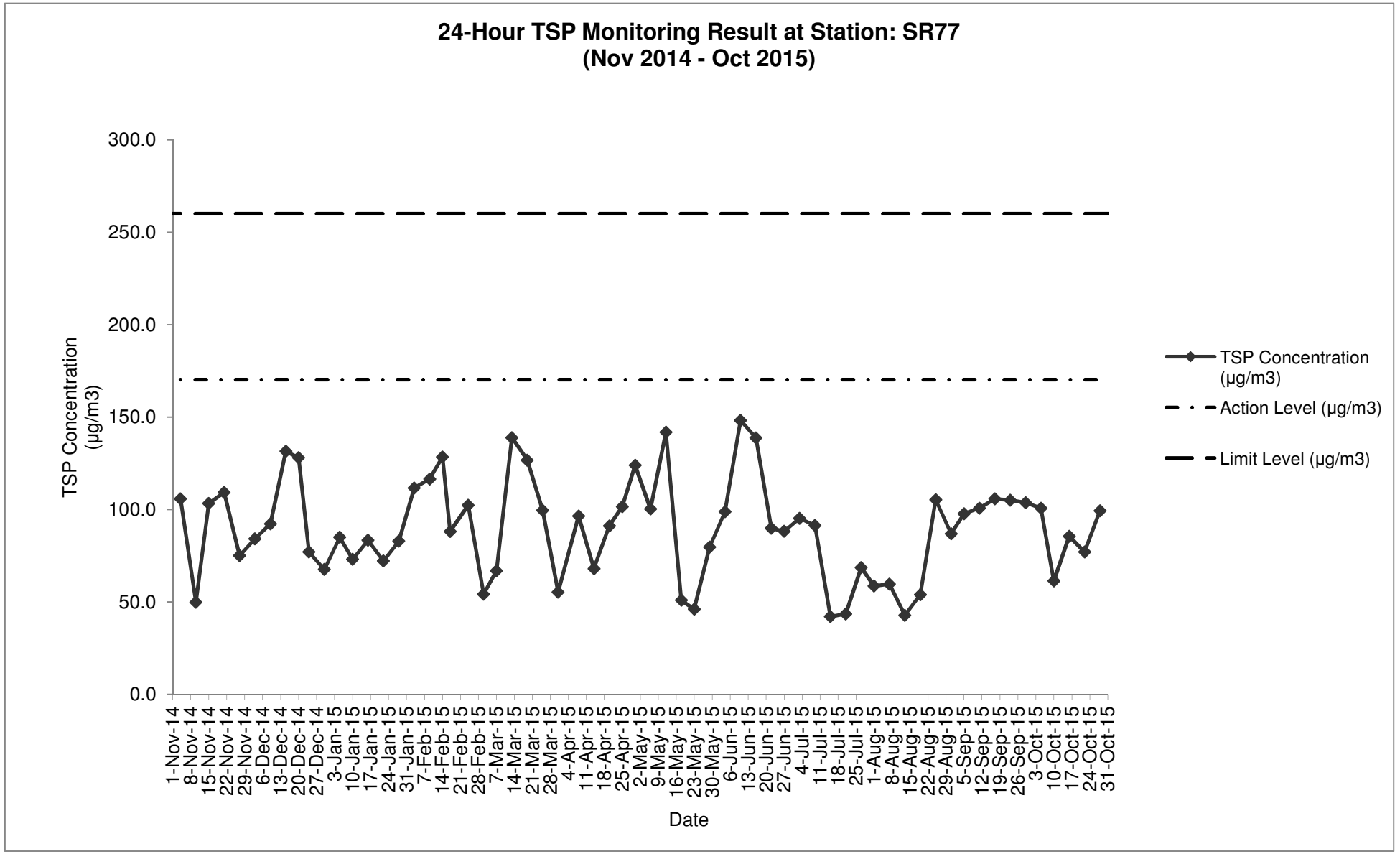
Appendix F
Air Quality Monitoring Results and their Graphical Presentation

24-Hour TSP Monitoring Result at Station: SR77

Sampling Date	Weather Condition	Paper No.	Wt. of paper (g)			Elapse Time			Flow Rate (CFM)			Flow Rate (m^3/min)			Total Volume (m^3)	TSP Concentration ($\mu g/m^3$)	Action Level ($\mu g/m3$)	Limit Level ($\mu g/m3$)	Wind speed m/s	Wind direction
			Initial Wt.	Final Wt.	Wt. of Dust	Initial	Final	Sampling Hour	Initial	Final	Avg Flow Rate	Initial	Final	Avg Flow Rate						
1-Aug-15	Sunny	C13	2.7791	2.9010	0.1219	3523.67	3547.67	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	58.6	170.3	260.0	<5	N
7-Aug-15	Sunny	C15	2.7864	2.9105	0.1241	3550.67	3574.67	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	59.7	170.3	260.0	<5	N
13-Aug-15	Cloudy	C17	2.7866	2.8756	0.0890	3577.67	3601.67	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	42.8	170.3	260.0	<5	N
19-Aug-15	Sunny	C19	2.8097	2.9219	0.1122	3604.67	3628.67	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	54.0	170.3	260.0	<5	N
25-Aug-15	Sunny	C21	2.7797	2.9987	0.2190	3631.67	3655.67	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	105.3	170.3	260.0	<5	N
31-Aug-15	Cloudy	C23	2.9073	3.0880	0.1807	3658.67	3682.67	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	86.9	170.3	260.0	<5	N
5-Sep-15	Sunny	C25	2.8059	3.0090	0.2031	3685.67	3709.67	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	97.7	170.3	260.0	<5	N
11-Sep-15	Sunny	C27	2.8112	3.0207	0.2095	3712.67	3736.67	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	100.7	170.3	260.0	<5	N
17-Sep-15	Sunny	C29	2.7911	3.0111	0.2200	3739.67	3763.67	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	105.8	170.3	260.0	<5	N
23-Sep-15	Sunny	C31	2.8004	3.0189	0.2185	3766.67	3790.67	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	105.1	170.3	260.0	<5	N
29-Sep-15	Sunny	C33	2.8055	3.0212	0.2157	3793.67	3817.67	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	103.7	170.3	260.0	<5	N
5-Oct-15	Rainy	C35	2.7998	3.0091	0.2093	3820.67	3844.67	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	100.6	170.3	260.0	<5	N
10-Oct-15	Sunny	C37	2.8525	2.9801	0.1276	3847.67	3871.67	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	61.4	170.3	260.0	<5	N
16-Oct-15	Sunny	C39	2.9101	3.0880	0.1779	3874.67	3898.67	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	85.5	170.3	260.0	<5	N
22-Oct-15	Sunny	C41	2.9102	3.0704	0.1602	3901.67	3925.67	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	77.0	170.3	260.0	<5	N
28-Oct-15	Sunny	C43	2.8786	3.0851	0.2065	3928.67	3952.67	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	99.3	170.3	260.0	<5	N

Summary For the Reporting Period (Nov 2014 - Oct 2015)	
Average	89.8
Minimum	42.1
Maximum	148.3

Note: No major dust source observed during the monitoring period
Data in **Bold** denotes exceedanece of respective Action Level
Data in **Bold Underline** denotes exceedance of respective Limit Level


24-Hour TSP Monitoring Result at Station: SR77
(Nov 2014 - Oct 2015)
TSP Concentration (µg/m3)
300.0
250.0
200.0
150.0
100.0
50.0
0.0
1-Nov-14
8-Nov-14
15-Nov-14
22-Nov-14
29-Nov-14
6-Dec-14
13-Dec-14
20-Dec-14
27-Dec-14
3-Jan-15
10-Jan-15
17-Jan-15
24-Jan-15
31-Jan-15
7-Feb-15
14-Feb-15
21-Feb-15
28-Feb-15
7-Mar-15
14-Mar-15
21-Mar-15
28-Mar-15
4-Apr-15
11-Apr-15
18-Apr-15
25-Apr-15
2-May-15
9-May-15
16-May-15
23-May-15
30-May-15
6-Jun-15
13-Jun-15
20-Jun-15
27-Jun-15
4-Jul-15
11-Jul-15
18-Jul-15
25-Jul-15
1-Aug-15
8-Aug-15
15-Aug-15
22-Aug-15
29-Aug-15
5-Sep-15
12-Sep-15
19-Sep-15
26-Sep-15
3-Oct-15
10-Oct-15
17-Oct-15
24-Oct-15
31-Oct-15
Date
TSP Concentration (µg/m3)
Action Level (µg/m3)
Limit Level (µg/m3)

Appendix F
Air Quality Monitoring Results and their Graphical Presentation

1-Hour TSP Monitoring Result at Station: SR77

Date	Weather Condition	Time			Conc.(μg/m^3)			Action Level (μg/m3)	Limit Level (μg/m3)
					1st Hour	2nd Hour	3rd Hour		
4-Nov-14	Fine	09:00	-	12:00	90.0	91.2	94.6	292.7	500.0
10-Nov-14	Cloudy	09:00	-	12:00	46.2	49.6	40.4	292.7	500.0
15-Nov-14	Fine	09:00	-	12:00	94.6	110.8	113.1	292.7	500.0
21-Nov-14	Fine	09:00	-	12:00	101.6	103.9	98.1	292.7	500.0
27-Nov-14	Cloudy	09:00	-	12:00	95.8	92.3	90.7	292.7	500.0
3-Dec-14	Cloudy	09:00	-	12:00	85.4	84.2	88.9	292.7	500.0
9-Dec-14	Fine	09:00	-	12:00	98.1	93.5	95.8	292.7	500.0
15-Dec-14	Fine	09:00	-	12:00	130.4	129.3	122.3	292.7	500.0
20-Dec-14	Fine	09:00	-	12:00	121.2	118.9	116.6	292.7	500.0
24-Dec-14	Fine	09:00	-	12:00	68.1	69.2	71.6	292.7	500.0
30-Dec-14	Fine	09:00	-	12:00	49.6	50.8	55.4	292.7	500.0
5-Jan-15	Fine	09:00	-	12:00	73.9	76.2	70.4	292.7	500.0
10-Jan-15	Fine	09:00	-	12:00	107.3	103.9	100.4	292.7	500.0
16-Jan-15	Fine	09:00	-	12:00	78.5	77.3	75.0	292.7	500.0
22-Jan-15	Fine	09:00	-	12:00	71.6	69.2	80.8	292.7	500.0
28-Jan-15	Fine	09:00	-	12:00	101.6	106.2	102.7	292.7	500.0
3-Feb-15	Fine	09:00	-	12:00	120.0	118.9	114.3	292.7	500.0
9-Feb-15	Fine	09:00	-	12:00	120.0	111.9	116.6	292.7	500.0
14-Feb-15	Fine	09:00	-	12:00	135.0	113.1	126.9	292.7	500.0
17-Feb-15	Cloudy	09:00	-	12:00	101.6	94.6	92.3	292.7	500.0
24-Feb-15	Cloudy	09:00	-	12:00	129.3	122.3	124.6	292.7	500.0
2-Mar-15	Cloudy	09:00	-	12:00	122.3	125.8	123.5	292.7	500.0
7-Mar-15	Cloudy	09:00	-	12:00	70.4	69.2	75.0	292.7	500.0
13-Mar-15	Fine	09:00	-	12:00	114.3	105.0	103.9	292.7	500.0
19-Mar-15	Fine	09:00	-	12:00	107.3	101.6	113.1	292.7	500.0
25-Mar-15	Cloudy	09:00	-	12:00	81.9	79.6	85.4	292.7	500.0
31-Mar-15	Sunny	09:00	-	12:00	138.5	137.3	145.4	292.7	500.0
8-Apr-15	Rainy	09:00	-	12:00	92.3	88.9	95.8	292.7	500.0
14-Apr-15	Fine	09:00	-	12:00	151.2	161.6	153.5	292.7	500.0
20-Apr-15	Cloudy	09:00	-	12:00	109.6	121.2	115.4	292.7	500.0
25-Apr-15	Fine	09:00	-	12:00	103.9	105.0	110.8	292.7	500.0
30-Apr-15	Fine	09:00	-	12:00	120.0	108.5	117.7	292.7	500.0
6-May-15	Fine	09:00	-	12:00	154.6	148.9	150.0	292.7	500.0
12-May-15	Fine	09:00	-	12:00	138.5	140.8	144.3	292.7	500.0
18-May-15	Rainy	09:00	-	12:00	142.0	136.2	148.9	292.7	500.0
23-May-15	Rainy	09:00	-	12:00	123.5	116.6	109.6	292.7	500.0
29-May-15	Fine	09:00	-	12:00	211.2	208.9	200.8	292.7	500.0
4-Jun-15	Fine	09:00	-	12:06	188.1	184.7	182.3	292.7	500.0
10-Jun-15	Fine	09:00	-	12:09	162.7	166.2	165.0	292.7	500.0
16-Jun-15	Fine	09:00	-	12:06	135.0	129.3	132.7	292.7	500.0
22-Jun-15	Rainy	09:00	-	12:07	94.6	92.3	96.9	292.7	500.0
27-Jun-15	Fine	09:00	-	12:07	169.6	160.4	157.0	292.7	500.0
3-Jul-15	Fine	09:00	-	12:06	120.0	125.8	126.9	292.7	500.0
9-Jul-15	Rainy	09:00	-	12:09	173.1	168.5	159.3	292.7	500.0
15-Jul-15	Sunny	09:00	-	12:06	211.2	203.1	200.8	292.7	500.0
21-Jul-15	Rainy	09:00	-	12:06	180.0	187.0	184.7	292.7	500.0
27-Jul-15	Sunny	09:00	-	12:09	66.9	69.2	71.6	292.7	500.0
1-Aug-15	Sunny	09:00	-	12:06	108.5	101.6	103.9	292.7	500.0
7-Aug-15	Sunny	09:00	-	12:06	118.9	115.4	109.6	292.7	500.0
13-Aug-15	Cloudy	09:00	-	12:06	136.2	133.9	136.2	292.7	500.0
25-Aug-15	Sunny	09:00	-	12:06	110.8	115.4	118.9	292.7	500.0
31-Aug-15	Cloudy	09:00	-	12:07	105.0	109.6	107.3	292.7	500.0
5-Sep-15	Sunny	09:00	-	12:07	161.6	169.6	165.0	292.7	500.0
11-Sep-15	Sunny	09:00	-	12:06	150.0	142.0	144.3	292.7	500.0
17-Sep-15	Sunny	09:00	-	12:07	150.0	144.3	154.6	292.7	500.0
23-Sep-15	Sunny	09:00	-	12:07	155.8	148.9	146.6	292.7	500.0
29-Sep-15	Sunny	09:00	-	12:06	140.8	132.7	137.3	292.7	500.0

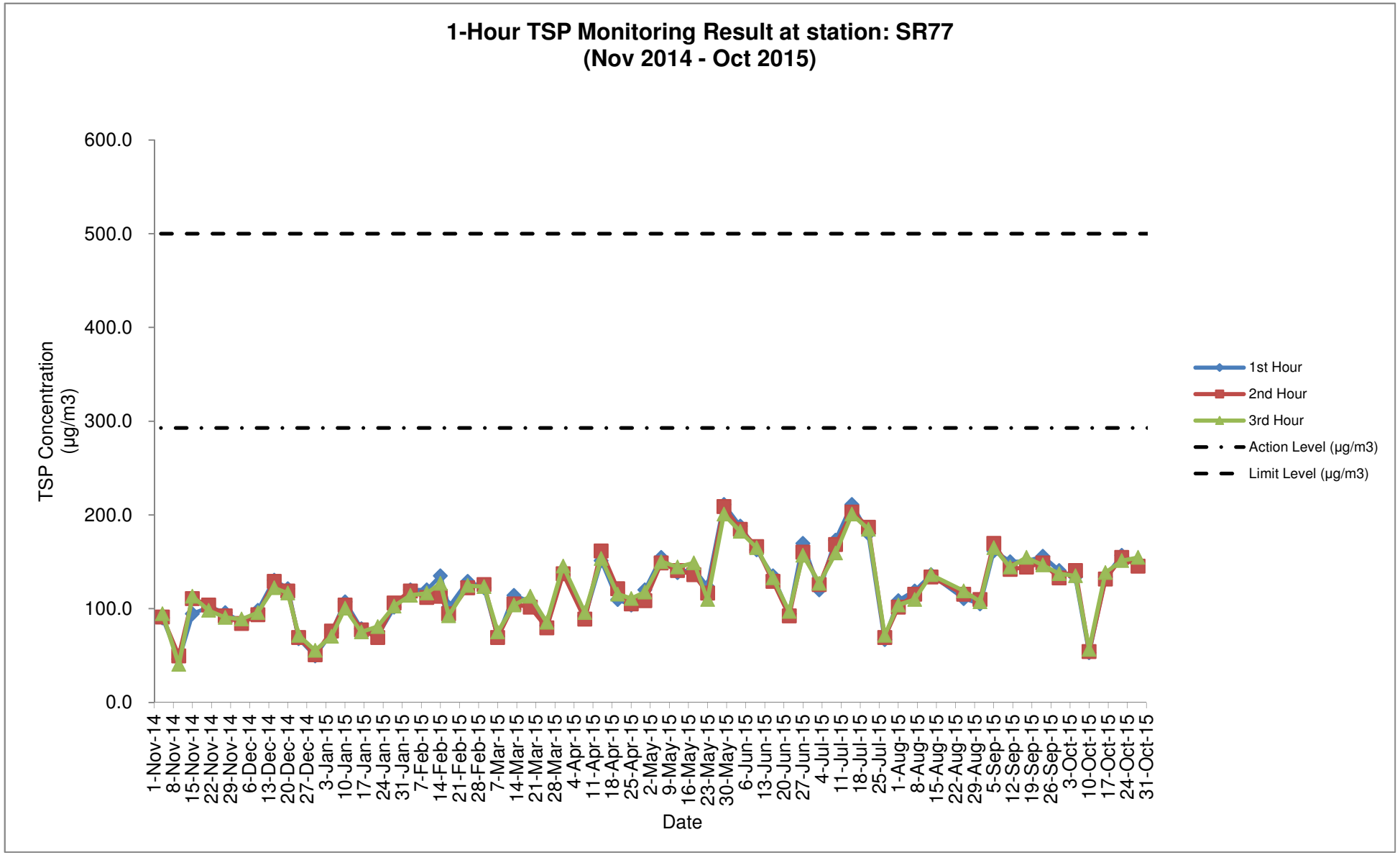
Appendix F
Air Quality Monitoring Results and their Graphical Presentation

1-Hour TSP Monitoring Result at Station: SR77

Date	Weather Condition	Time			Conc.(µg/m^3)			Action Level (µg/m3)	Limit Level (µg/m3)
					1st Hour	2nd Hour	3rd Hour		
5-Oct-15	Rainy	09:00	-	12:07	133.9	140.8	135.0	292.7	500.0
10-Oct-15	Sunny	09:00	-	12:06	53.1	54.2	56.5	292.7	500.0
16-Oct-15	Sunny	09:00	-	12:06	133.9	131.6	138.5	292.7	500.0
22-Oct-15	Sunny	09:00	-	12:07	157.0	154.6	151.2	292.7	500.0
28-Oct-15	Sunny	09:00	-	12:06	147.7	145.4	154.6	292.7	500.0

Summary For the Reporting Period (Nov 2014 - Oct 2015)	
Average	119.7
Minimum	40.4
Maximum	211.2

Note: No major dust source observed during the monitoring period


1-Hour TSP Monitoring Result at station: SR77
(Nov 2014 - Oct 2015)
TSP Concentration (µg/m3)
600.0
500.0
400.0
300.0
200.0
100.0
0.0
1-Nov-14
8-Nov-14
15-Nov-14
22-Nov-14
29-Nov-14
6-Dec-14
13-Dec-14
20-Dec-14
27-Dec-14
3-Jan-15
10-Jan-15
17-Jan-15
24-Jan-15
31-Jan-15
7-Feb-15
14-Feb-15
21-Feb-15
28-Feb-15
7-Mar-15
14-Mar-15
21-Mar-15
28-Mar-15
4-Apr-15
11-Apr-15
18-Apr-15
25-Apr-15
2-May-15
9-May-15
16-May-15
23-May-15
30-May-15
6-Jun-15
13-Jun-15
20-Jun-15
27-Jun-15
4-Jul-15
11-Jul-15
18-Jul-15
25-Jul-15
1-Aug-15
8-Aug-15
15-Aug-15
22-Aug-15
29-Aug-15
5-Sep-15
12-Sep-15
19-Sep-15
26-Sep-15
3-Oct-15
10-Oct-15
17-Oct-15
24-Oct-15
31-Oct-15
Date
1st Hour
2nd Hour
3rd Hour
Action Level (µg/m3)
Limit Level (µg/m3)

Appendix F
Noise Monitoring Results and their Graphical Presentation

Noise Monitoring Result at SR77

Date	Weather Condition	Start Time	End Time	Measured Noise Level (dB(A))*			Baseline Corrected Level, dB(A)**	Baseline Noise Level (dB(A)), Leq(30min)	Limit Level dB(A)	Exceedance (Y / N)
				L10(30min)	L90(30min)	Leq(30min)				
2014/11/04	Fine	10:30	11:00	78.0	63.5	70.5	-	67.8	75.0	N
2014/11/10	Cloudy	15:00	15:30	77.0	64.0	71.0	-	67.8	75.0	N
2014/11/21	Fine	14:00	14:30	77.5	64.5	71.5	-	67.8	75.0	N
2014/11/27	Cloudy	14:30	15:00	78.5	58.5	66.5	-	67.8	75.0	N
2014/12/03	Cloudy	15:00	15:30	72.5	60.5	63.0	-	67.8	75.0	N
2014/12/09	Fine	10:20	10:50	74.0	61.5	70.5	-	67.8	75.0	N
2014/12/15	Fine	14:00	14:30	76.0	63.0	66.0	-	67.8	75.0	N
2014/12/24	Fine	11:00	11:30	74.5	60.0	71.0	-	67.8	75.0	N
2014/12/30	Fine	16:00	16:30	78.5	64.0	74.0	-	67.8	75.0	N
2015/01/05	Fine	15:30	16:00	76.5	62.0	71.0	-	67.8	75.0	N
2015/01/16	Fine	14:00	14:30	75.0	65.0	72.0	-	67.8	75.0	N
2015/01/22	Fine	14:30	15:00	76.5	62.5	72.5	-	67.8	75.0	N
2015/01/28	Fine	14:00	14:30	78.5	63.5	72.0	-	67.8	75.0	N
2015/02/03	Fine	14:00	14:30	76.9	69.1	74.6	-	67.8	75.0	N
2015/02/09	Fine	14:30	15:00	76.0	68.5	72.5	-	67.8	75.0	N
2015/02/17	Fine	14:00	14:30	76.0	59.5	71.5	-	67.8	75.0	N
2015/02/24	Cloudy	15:30	16:00	75.5	61.5	70.5	-	67.8	75.0	N
2015/03/02	Cloudy	16:00	16:30	76.5	61.0	69.5	-	67.8	75.0	N
2015/03/13	Fine	14:00	14:30	75.0	60.5	68.5	-	67.8	75.0	N
2015/03/19	Fine	14:30	15:00	75.5	58.5	68.0	-	67.8	75.0	N
2015/03/25	Cloudy	16:00	16:30	77.0	60.0	69.0	-	67.8	75.0	N
2015/03/31	Sunny	11:00	11:30	78.0	61.0	72.8	-	67.8	75.0	N
2015/04/08	Rainy	16:30	17:00	76.0	60.5	70.5	-	67.8	75.0	N
2015/04/14	Fine	15:30	16:00	77.0	62.0	71.0	-	67.8	75.0	N
2015/04/20	Cloudy	11:00	11:30	77.5	65.0	72.0	-	67.8	75.0	N
2015/04/30	Fine	14:45	15:15	77.5	62.5	**76.5**	75.9	67.8	75.0	Y
2015/05/06	Fine	15:30	16:00	73.0	60.0	69.1	-	67.8	75.0	N
2015/05/07	Fine	14:30	15:00	73.5	62.5	71.4	-	67.8	75.0	N
2015/05/12	Fine	14:45	15:15	72.0	57.0	67.6	-	67.8	75.0	N
2015/05/19	Rainy	14:00	14:30	76.0	63.5	72.0	-	67.8	75.0	N
2015/05/29	Fine	14:30	15:00	76.5	64.0	71.0	-	67.8	75.0	N
2015/06/04	Fine	13:30	14:00	75.5	59.5	71.5	-	67.8	75.0	N
2015/06/10	Fine	14:00	14:30	80.0	58.5	71.0	-	67.8	75.0	N
2015/06/16	Fine	14:00	14:30	78.0	57.0	71.0	-	67.8	75.0	N
2015/06/22	Rainy	14:00	14:30	80.5	61.0	70.5	-	67.8	75.0	N
2015/07/03	Fine	17:00	17:30	89.0	56.5	70.0	-	67.8	75.0	N
2015/07/09	Fine	11:30	12:00	81.0	64.0	71.0	-	67.8	75.0	N
2015/07/15	Sunny	15:00	15:30	85.0	54.0	68.5	-	67.8	75.0	N
2015/07/21	Cloudy	15:30	16:00	85.0	58.5	68.0	-	67.8	75.0	N
2015/07/27	Sunny	14:00	14:30	90.0	57.0	68.5	-	67.8	75.0	N
2015/08/07	Sunny	13:30	14:00	85.0	54.5	67.0	-	67.8	75.0	N
2015/08/13	Cloudy	14:00	14:30	86.0	53.5	66.0	-	67.8	75.0	N
2015/08/19	Sunny	14:00	14:30	83.0	54.0	65.0	-	67.8	75.0	N
2015/08/25	Sunny	14:00	14:30	82.0	54.0	64.5	-	67.8	75.0	N
2015/08/31	Cloudy	13:30	14:00	84.0	55.5	65.5	-	67.8	75.0	N
2015/09/11	Sunny	11:30	12:00	84.0	55.0	64.5	-	67.8	75.0	N
2015/09/17	Sunny	11:30	12:00	86.0	50.0	62.0	-	67.8	75.0	N
2015/09/23	Sunny	15:00	15:30	76.5	61.5	67.5	-	67.8	75.0	N
2015/09/29	Sunny	14:00	14:30	78.0	61.0	66.0	-	67.8	75.0	N
2015/10/07	Cloudy	14:00	14:30	88.0	52.0	66.0	-	67.8	75.0	N
2015/10/16	Fine	14:30	15:00	90.0	51.0	66.5	-	67.8	75.0	N
2015/10/22	Fine	14:30	15:00	75.0	55.0	63.5	-	67.8	75.0	N
2015/10/28	Fine	14:00	14:30	91.0	55.0	66.0	-	67.8	75.0	N

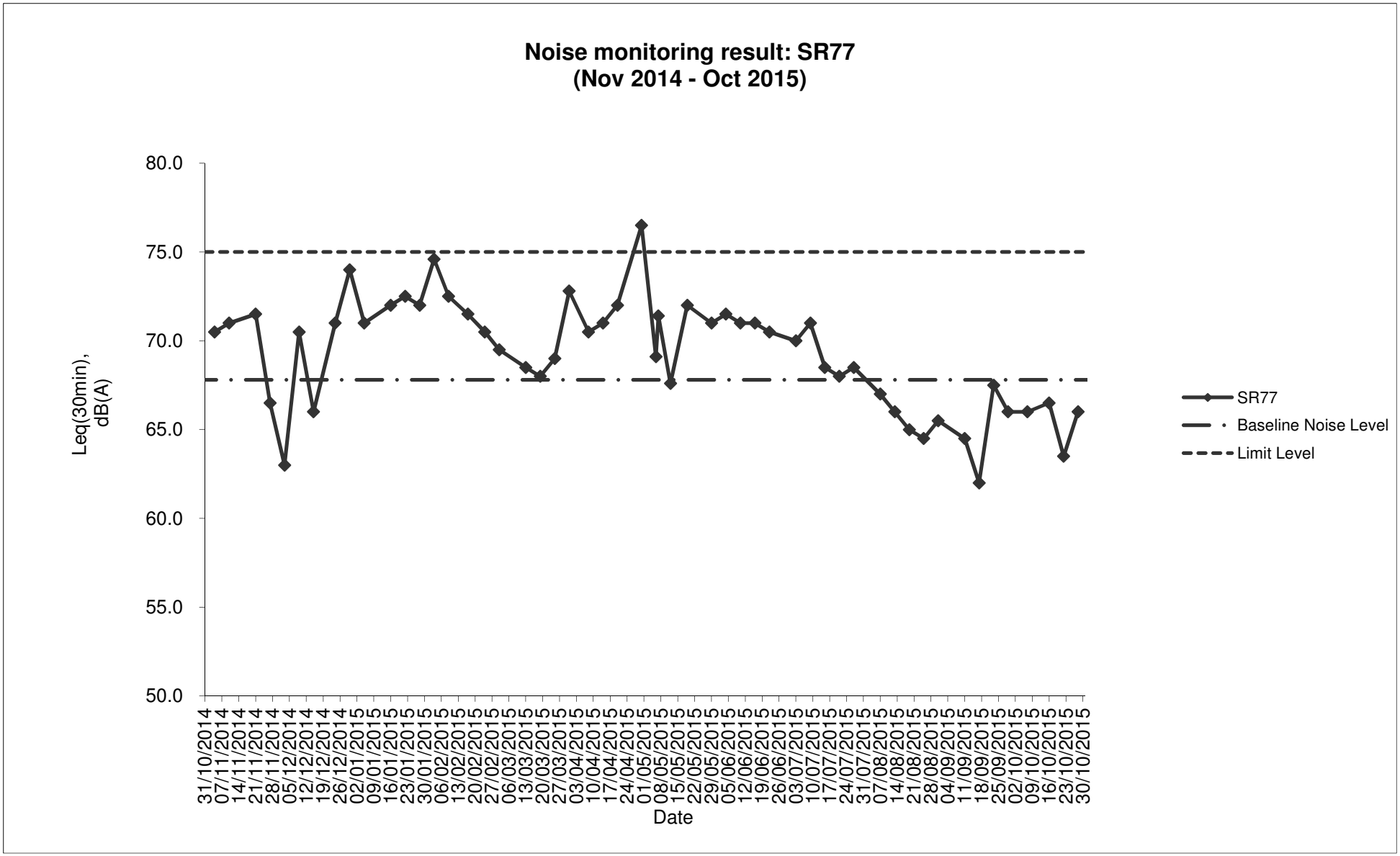
Summary For the Reporting Period (Nov 2014 - Oct 2015)	
Average	69.2
Minimum	62.0
Maximum	76.5

Remarks

* +3dB(A) Façade effect correction included

** Baseline corrected level is only calculated when measured noise level (Leq) > limit level.

*** Data in **Bold Underline** denotes exceedance of respective Limit Level


Noise monitoring result: SR77
(Nov 2014 - Oct 2015)
Leq(30min), dB(A)
80.0
75.0
70.0
65.0
60.0
55.0
50.0
31/10/2014
07/11/2014
14/11/2014
21/11/2014
28/11/2014
05/12/2014
12/12/2014
19/12/2014
26/12/2014
02/01/2015
09/01/2015
16/01/2015
23/01/2015
30/01/2015
06/02/2015
13/02/2015
20/02/2015
27/02/2015
06/03/2015
13/03/2015
20/03/2015
27/03/2015
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03/07/2015
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07/08/2015
14/08/2015
21/08/2015
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11/09/2015
18/09/2015
25/09/2015
02/10/2015
09/10/2015
16/10/2015
23/10/2015
30/10/2015
Date
SR77
Baseline Noise Level
Limit Level

Appendix G
Statistics on Complaints, Notifications of Summons and Successful Prosecutions

Cumulative Complaint Log

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
C131126	26, November, 2013	Mr. Tony Hung from WWF	Mat Wat River (works sites for box culvert extension)	Suspected unauthorised discharge of water from a construction site to Ma Wat River, Tai Wo Service Road East, Tai Po	It was found that the water leaving the end of the steel pipes was the diverted water from the upstream of the existing box culverts, instead of being discharged from the construction works sites. An EM&A Programme is being undertaken to monitoring the environmental performance of the construction works, and the Contractor has also implemented appropriate mitigation measures to avoid silt-laden runoff discharging from the works sites into the river. The complaint is considered an invalid complaint under this Project.	Completed

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
C141120	20 November, 2014	EPD	Ng Tung River and Ma Wat River nearby the site of the Liantang/ Heung Yuen Wai BCP Project (Contract Number CV/2012/09)	At Bridge NF426 in Fanling, the whole Ng Tung River showed milky and suspected illegal discharge by nearby factory has undertaken. (粉嶺近天橋編號 NF426 梧桐河整條河河水呈奶白色懷疑附近有工廠非法排放污水)	Water Supplies Department (WSD) conducted a washout procedure on 20 November 2014 at about 9:30am to flush the newly installed water pipe of diameter of 1400mm which has recently finished disinfection. It is understood that the procedure has lasted for about 1 hour and large amount of freshwater has been discharged into the Ma Wat River through a washout port. Although water was observed seeping from the gantry switch and flew into the works sites, the area is a sump pit and the water was unlikely to run off and entered the river directly. As such, it is anticipated that only freshwater has been discharged into Ma Wat River through the washout port. Both site inspections conducted by the ET before the complaint (19 November 2014), and after the complaint (24 November 2014) did not identify any deficiencies on environmental mitigation measures. Also, there were no rains during the period and the risk of construction site run-off is considered minimal.	Completed

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
					The water from the Ma Wat Channel adjoins the Ng Tung River before passing through the complaint location, so other pollution sources may also occur at upstream of Ng Tung River The complaint is considered unlikely due to the construction works of this project.	

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