JOB NO.: TCS00694/13

AGREEMENT NO. CE 45/2008 (CE)
LIANTANG/HEUNG YUEN WAI
BOUNDARY CONTROL POINT AND ASSOCIATED WORKS

MONTHLY ENVIRONMENTAL MONITORING AND AUDIT REPORT (NO.31) – FEBRUARY 2016

PREPARED FOR
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT (CEDD)

Date	Reference No.	Prepared By	Certified By
10 March 2016	TCS00694/13/600/R0151v2		
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Version	Date	Remarks
1	8 March 2016	First Submission
2	10 March 2016	Amended according to the IEC's comments on 9 March 2016

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11 March 2016 Our ref: 7076192/ L20138/AB/AW/FL/rw

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By Email & Post

Attention: Mr Simon LEUNG

Dear Sirs

Agreement No. CE 45/2008 (CE)
Liantang/Heung Yuen Wai Boundary Control Point and Associated Works
Independent Environmental Checker – Investigation
Monthly EM&A Report (No. 31) – February 2016

With reference to the Monthly EM&A Report No. 31 for February 2016 (Version 2) certified by the ET Leader, please be noted that we have no adverse comments on the captioned submission. We herewith verify the captioned submission in accordance with Condition 5.4 of the Environmental Permit No. EP-404/2011/C.

Thank you for your attention and please do not hesitate to contact the undersigned on tel. 3995-8120 or by email to antony.wong@smec.com; or our Mr Francis LEE on tel. 3995 8144 or by email to francis.lee@smec.com.

Yours faithfully
for and on behalf of
SMEC Asia Limited

Antony WONG
Independent Environmental Checker

cc	CEDD/BCP	-	Mr Desmond LAM	by fax: 3547 1659
	ArchSD	-	Mr William WL CHENG	by fax: 2804 6805
	AECOM	-	Mr Pat LAM / Mr Perry YAM	by email
	Ronald Lu	-	Mr Peter YAM / Mr Justin CHEUNG	by email
	SRJV	-	Mr Edwin AU	by email
	CW	-	Mr Daniel HO	by email
	DHK	-	Mr Edmond WONG	by email
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	Leighton	-	Mr Jon KITCHING	by email
	AUES	-	Mr TW TAM	by email

ISO 9001:2008 Registered Firm
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EXECUTIVE SUMMARY

ES01 This is the **31st** monthly EM&A report presenting the monitoring results and inspection findings for the reporting period from **1 to 29 February 2016** (hereinafter 'the Reporting Period').

ENVIRONMENTAL MONITORING AND AUDIT ACTIVITIES

ES02 To facilitate the project management and implementation, Liantang/Heung Yuen Wai Boundary Control Point and Associated Works of the Project is divided to six CEDD contracts including Contract 2 (CV/2012/08), Contract 3 (CV/2012/09), Contract 4 (TCSS), Contract 5 (CV/2013/03), Contract 6 (CV/2013/08) and Contract 7 (NE/2014/03) and an ArshSD contract (Contract SS C505).

ES03 In the Reporting Period, the construction works under Liantang/Heung Yuen Wai Boundary Control Point and Associated Works of the Project currently included Contract 2, Contract 3, Contract 5, Contract 6 and Contract SS C505. In addition, construction work for Contract 7 has been commenced on 15 February 2016. Environmental monitoring activities under the EM&A programme in the Reporting Period are summarized in the following table.

Environmental Aspect	Environmental Monitoring Parameters / Inspection	Reporting Period	
		Number of Monitoring Locations to undertake	Total Occasions
Air Quality	1-hour TSP	9	150
	24-hour TSP	9	51
Construction Noise	$L_{eq(30min)}$ Daytime	10	55
Water Quality	Water in-situ measurement and/or sampling	WM1 & WM1-C,	12(*)
		WM2A & WM2A-C	12(*)
		WM2B & WM2B-C	16(*)
		WM3 &WM3-C	12(*)
		WM4, WM4-CA &WM4-CB	13(*)
Joint Site Inspection / Audit	IEC, ET, the Contractor and RE joint site Environmental Inspection and Auditing	Contract 2	4
		Contract 3	4
		Contract 5	4
		Contract 6	4
		Contract 7	2
		Contract SS C505	4

(*) *Monitoring day*

BREACH OF ACTION AND LIMIT (A/L) LEVELS

ES04 In the Reporting Period, no air quality exceedance was registered for the Project. For construction noise, one (1) noise complaint was received by 1823 for Contract 3 on 18 February 2016 which triggered the Action Level (AL). For water quality monitoring, a total of eleven (11) Limit Level (LL)exceedances were recorded, namely six (6) LL exceedance of turbidity and five (5) LL exceedance of Suspended Solids for the Project. The summary of exceedance in the Reporting Period is shown below.

Environmental Aspect	Monitoring Parameters	Action Level	Limit Level	Event & Action		
				NOE Issued	Investigation Result	Corrective Actions
Air Quality	1-hour TSP	0	0	0	--	--
	24-hour TSP	0	0	0	--	--
Construction Noise	$L_{eq(30min)}$ Daytime	**1**	0	**1**	The noise complaint was not project related.	NA
Water Quality	DO	0	0	0	--	--

Environmental Aspect	Monitoring Parameters	Action Level	Limit Level	Event & Action		
				NOE Issued	Investigation Result	Corrective Actions
	Turbidity	0	**6**	**6**	- one LL exceedance of turbidity and one LL exceedance of SS on were related to C3 - two LL exceedance of turbidity and two LL exceedance of SS on were related to C6 whereas three LL exceedance of turbidity and two LL exceedance of SS on were not project related	- The construction activity causing the turbid water at C3 was completed. - Improvement works were undertaken by the Contractor C6
	SS	0	**5**	**5**		

ENVIRONMENTAL COMPLAINT

ES05 In this Reporting Period, three (3) documented environmental complaints were received for the Project. Specifically, two (2) complaints were related to Contracts 6 regarding turbid water and soil/ debris brought by the dump trucks water on 22 and 23 February 2016 respectively. Besides, one (1) complaint was received for Contract 3 regarding construction noise issues on 18 February 2016. Follow up actions have been undertaking by the Contractor to resolve the deficiencies. Investigation report for complaints had conducted by ET and submitted to relevant parties.

NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

ES06 No environmental summons or successful prosecutions were recorded in the Reporting Period.

REPORTING CHANGE

ES07 No reporting changes were made in the Reporting Period.

SITE INSPECTION

ES08 In this Reporting Period, joint site inspection to evaluate the site environmental performance at ***Contract 2*** has been carried out by the RE, IEC, ET and the Contractor on **5, 12, 19 and 26 February 2016**. No non-compliance was noted.

ES09 In the Reporting Period, joint site inspection to evaluate the site environmental performance at ***Contract 3*** has been carried out by the RE, IEC, ET and the Contractor on **1, 11, 17, 22 and 29 February 2016**. No non-compliance was noted.

ES10 In the Reporting Period, joint site inspection to evaluate the site environmental performance at ***Contract 5*** has been carried out by the RE, IEC, ET and the Contractor on **2, 11, 16 and 23 February 2016.** No non-compliance was noted.

ES11 In the Reporting Period, joint site inspection to evaluate the site environmental performance at ***Contract 6*** has been carried out by the RE, IEC, ET and the Contractor on **4, 12, 18 and 25 February 2016.** No non-compliance was noted.

ES12 In the Reporting Period, joint site inspection to evaluate the site environmental performance at ***Contract SS C505*** has been carried out by the RE, IEC, ET and the Contractor on **3, 11, 17 and 24 February 2016**. No non-compliance was noted.

ES13 In the Reporting Period, joint site inspection to evaluate the site environmental performance at ***Contract 7*** has been carried out by the RE, IEC, ET and the Contractor on **16 and 23 February 2016**. No non-compliance was noted.

FUTURE KEY ISSUES

ES14 In upcoming wet season, preventive measures for muddy water or other water pollutants from site surface flow to local stream such as Kong Yiu Channel, Ma Wat Channel, Ping Yuen River or public area would be the key issue. The Contractors should paid special attention on water quality mitigation measures and fully implement according ISEMM of the EM&A Manual, in particular for Contract 6.

ES15 Construction noise would be a key environmental issue during construction work of the Project. Noise mitigation measures such as using quiet plants should be implemented in accordance with the EM&A requirement.

ES16 Since most of construction sites under the Project are located adjacent to villages, the Contractors should fully implement air quality mitigation measures to reduce construction dust emission.

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1 INTRODUCTION

1.1 PROJECT BACKGROUND

1.1.1 Civil Engineering and Development Department is the Project Proponent and the Permit Holder of *Agreement No. CE 45/2008 (CE) Liantang / Heung Yuen Wai Boundary Control Point and Associated Works*, which is a Designated Project to be implemented under Environmental Permit number EP-404/2011/C granted on 12 March 2015.

1.1.2 The Project consists of two main components: Construction of a Boundary Control Point (hereinafter referred as "BCP"); and Construction of a connecting road alignment. Layout plan of the Project is shown in ***Appendix A***.

1.1.3 The proposed BCP is located at the boundary with Shenzhen near the existing Chuk Yuen Village, comprising a main passenger building with passenger and cargo processing facilities and the associated customs, transport and ancillary facilities. The connecting road alignment consists of six main sections:

1) Lin Ma Hang to Frontier Closed Area (FCA) Boundary – this section comprises at-grade and viaducts and includes the improvement works at Lin Ma Hang Road;
2) Ping Yeung to Wo Keng Shan – this section stretches from the Frontier Closed Area Boundary to the tunnel portal at Cheung Shan and comprises at-grade and viaducts including an interchange at Ping Yeung;
3) North Tunnel – this section comprises the tunnel segment at Cheung Shan and includes a ventilation building at the portals on either end of the tunnel;
4) Sha Tau Kok Road – this section stretches from the tunnel portal at Wo Keng Shan to the tunnel portal south of Loi Tung and comprises at-grade and viaducts including an interchange at Sha Tau Kok and an administration building;
5) South Tunnel – this section comprises a tunnel segment that stretches from Loi Tung to Fanling and includes a ventilation building at the portals on either end of the tunnel as well as a ventilation building in the middle of the tunnel near Lau Shui Heung;
6) Fanling – this section comprises the at-grade, viaducts and interchange connection to the existing Fanling Highway.

1.1.4 Action-United Environmental Services & Consulting has been commissioned as an Independent ET to implement the relevant EM&A program in accordance with the approved EM&A Manual, as well as the associated duties. As part of the EM&A program, the baseline monitoring has carried out between **13 June 2013** and **12 July 2013** for all parameters including air quality, noise and water quality before construction work commencement. The Baseline Monitoring Report summarized the key findings and the rationale behind determining a set of Action and Limit Levels (A/L Levels) from the baseline data. Also, the Project baseline monitoring report which verified by the IEC has been submitted to EPD on **16 July 2013** for endorsement. The major construction works of the Project was commenced on **16 August 2013** in accordance with the EP Section 5.3 stipulation.

1.1.5 This is **31st** monthly EM&A report presenting the monitoring results and inspection findings for reporting period from **1** to **29 February 2016**.

1.2 REPORT STRUCTURE

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

Section 1 *Introduction*
Section 2 *Project Organization and Construction Progress*
Section 3 *Summary of Impact Monitoring Requirements*
Section 4 *Air Quality Monitoring*
Section 5 *Construction Noise Monitoring*
Section 6 *Water Quality Monitoring*
Section 7 *Waste Management*

2 PROJECT ORGANIZATION AND CONSTRUCTION PROGRESS

2.1 CONSTRUCTION CONTRACT PACKAGING

2.1.1 To facilitate the project management and implementation, the Project would be divided by the following contracts:

- Contract 2 (CV/2012/08)
- Contract 3 (CV/2012/09)
- Contract 4 (NE/2014/02)
- Contract 5 (CV/2013/03)
- Contract 6 (CV/2013/08)
- Contract 7 (NE/2014/03)
- ArchSD Contract No. SS C505

2.1.2 The details of each contracts is summarized below and the delineation of each contracts is shown in ***Appendix A***.

Contract 2 (CV/2012/08)

2.1.3 Contract 2 has awarded in December 2013 and construction work was commenced on 19 May 2014. Major Scope of Work of the Contract 2 is listed below:

- construction of an approximately 5.2km long dual two-lane connecting road (with about 0.4km of at-grade road and 4.8km of tunnel) connecting the Fanling Interchange with the proposed Sha Tau Kok Interchange;
- construction of a ventilation adit tunnel and the mid-ventilation building;
- construction of the north and south portal buildings of the Lung Shan Tunnel and their associated slope works;
- provision and installation of ventilation system, E&M works and building services works for Lung Shan tunnel and Cheung Shan tunnel and their portal buildings;
- construction of Tunnel Administration Building adjacent to Wo Keng Shan Road and the associated E&M and building services works; and
- construction of associated footpath, slopes, retaining structures, drainage, sewerage, waterworks, landscaping works and other ancillary works.

Contract 3 (CV/2012/09)

2.1.4 Contract 3 was awarded in July 2013 and construction work was commenced on 5 November 2013. Major Scope of Work of the Contract 3 is listed below:

- construction of four link roads connecting the existing Fanling Highway and the south portal of the Lung Shan Tunnel;
- realignment of the existing Tai Wo Service Road West and Tai Wo Service Road East;
- widening of the existing Fanling Highway (HyD's entrustment works);
- demolishing existing Kiu Tau vehicular bridge and Kiu Tau footbridge and reconstruction of the existing Kiu Tau Footbridge (HyD's entrustment works); and
- construction of associated footpath, slopes, retaining structures, drainage, sewerage, waterworks, landscaping works and other ancillary works.

Contract 4 (NE/2014/02)

2.1.5 Contract 4 has not yet been awarded. The work of the Contract 4 includes provision and installation of Traffic Control and Surveillance System and the associated electrical and mechanical works for the Project.

Contract 5 (CV/2013/03)

2.1.6 Contract 5 has awarded in April 2013 and construction work was commenced in August 2013. Major Scope of Work of the Contract 5 is listed below:

- site formation of about 23 hectares of land for the development of the BCP;

- construction of an approximately 1.6 km long perimeter road at the BCP including a 175m long depressed road;
- associated diversion/modification works at existing local roads and junctions including Lin Ma Hang Road;
- construction of pedestrian subway linking the BCP to Lin Ma Hang Road;
- provision of resite area with supporting infrastructure for reprovisioning of the affected village houses; and
- construction of associated footpath, slopes, retaining structures, drainage, sewerage, waterworks, landscaping works and other ancillary works.

Contract 6 (CV/2013/08)

2.1.7 Contract 6 has awarded in June 2015 and construction work was commenced on 23 October 2015. Major Scope of Work of the Contract 6 would be included below:

- construction of an approximately 4.6km long dual two-lane connecting road (with about 0.6km of at-grade road, 3.3km of viaduct and 0.7km of tunnel) connecting the BCP with the proposed Sha Tau Kok Road Interchange and the associated ventilation buildings;
- associated diversion/modification works at access roads to the resite of Chuk Yuen Village;
- provision of sewage collection, treatment and disposal facilities for the BCP and the resite of Chuk Yuen Village;
- construction of a pedestrian subway linking the BCP to Lin Ma Hang Road;
- provisioning of the affected facilities including Wo Keng Shan Road garden; and
- construction of associated footpath, slopes, retaining structures, drainage, sewerage, waterworks, landscaping works and other ancillary works.

Contract 7 (NE/2014/03)

2.1.8 Contract 7 has awarded in December 2015 and the construction works of Contract 7 was commenced on 15 February 2016. Major Scope of Work of the Contract 7 would be included below:

- construction of the Hong Kong Special Administrative Region (HKSAR) portion of four vehicular bridge
- construction of one pedestrian bridge crossing Shenzhen (SZ) River (cross boundary bridges)

ArchSD Contract No. SS C505

2.1.9 SS C505 has awarded in July 2015 and construction work was commenced on 1 September 2015. Major Scope of Work of the SS C505 would be included below:

- passenger-related facilities including processing kiosks and examination facilities for private cars and coaches, passenger clearance building and halls, the interior fitting works for the pedestrian bridge crossing Shenzhen River, etc.;
- cargo processing facilities including kiosks for clearance of goods vehicles, customs inspection platforms, X-ray building, etc.;
- accommodation for the facilities inside of the Government departments providing services in connection with the BCP;
- transport-related facilities inside the BCP including road networks, public transport interchange, transport drop-off and pick-up areas, vehicle holding areas and associated road furniture etc;
- a public carpark; and
- other ancillary facilities such as sewerage and drainage, building services provisions and electronic systems, associated environmental mitigation measure and landscape works.

2.2 PROJECT ORGANIZATION

2.2.1 The project organization is shown in ***Appendix B***. The responsibilities of respective parties are:

Civil Engineering and Development Department (CEDD)

2.2.2 CEDD is the Project Proponent and the Permit Holder of the EP of the development of the Project and will assume overall responsibility for the project. An Independent Environmental Checker (IEC) shall be employed by CEDD to audit the results of the EM&A works carried out by the ET.

Architectural Services Department (ArchSD)

2.2.3 ArchSD acts as the works agent for Development Bureau (DEVB), for Contract SS C505 Liantang/ Heung Yuen Wai Boundary Control Point (BCP) – BCP Buildings and Associated Facilities.

Environmental Protection Department (EPD)

2.2.4 EPD is the statutory enforcement body for environmental protection matters in Hong Kong.

Ronald Lu & Partners (Hong Kong) Ltd (The Architect)

2.2.5 Ronald Lu & Partners (Hong Kong) Ltd is appointed by ArchSD as an Architect for Contract SS C505 Liantang/ Heung Yuen Wai Boundary Control Point (BCP) – BCP Buildings and Associated Facilities. It responsible for overseeing the construction works of Contract SS C505 and for ensuring that the works are undertaken by the Contractor in accordance with the specification and contract requirements. The duties and responsibilities of the Architect with respect to EM&A are:

- Monitor the Contractors' compliance with contract specifications, including the implementation and operation of the environmental mitigation measures and their effectiveness
- Monitor Contractors' and ET's compliance with the requirements in the Environmental Permit (EP) and EM&A Manual
- Facilitate ET's implementation of the EM&A programme
- Participate in joint site inspection by the ET and IEC
- Oversee the implementation of the agreed Event / Action Plan in the event of any exceedance
- Adhere to the procedures for carrying out complaint investigation
- Liaison with DSD, Engineer/Engineer's Representative, ET, IEC and the Contractor of the "Construction of the DSD's Regulation of Shenzhen River Stage 4 (RSR 4)" Project discussing regarding the cumulative impact issues.

Engineer or Engineers Representative (ER)

2.2.6 The ER is responsible for overseeing the construction works and for ensuring that the works are undertaken by the Contractor in accordance with the specification and contract requirements. The duties and responsibilities of the ER with respect to EM&A are:

- Monitor the Contractors' compliance with contract specifications, including the implementation and operation of the environmental mitigation measures and their effectiveness
- Monitor Contractors's, ET's and IEC's compliance with the requirements in the Environmental Permit (EP) and EM&A Manual
- Facilitate ET's implementation of the EM&A programme
- Participate in joint site inspection by the ET and IEC
- Oversee the implementation of the agreed Event / Action Plan in the event of any exceedance
- Adhere to the procedures for carrying out complaint investigation
- Liaison with DSD, Engineer/Engineer's Representative, ET, IEC and the Contractor of the "Construction of the DSD's Regulaiton of Shenzhen River Stage 4 (RSR 4)" Project discussing regarding the cumulative impact issues.

The Contractor(s)

2.2.7 There will be one contractor for each individual works contract. Once the contractors are appointed, EPD, ET and IEC will be notified the details of the contractor.

2.2.8 The Contractor for Contracts under CEDD should report to the ER. For ArchSD Contract, the Contractor should report to the Architect or Architect's Representative (AR). The duties and responsibilities of the Contractor are:

- Comply with the relevant contract conditions and specifications on environmental protection
- Employ an Environmental Team (ET) to undertake monitoring, laboratory analysis and reporting of EM &A Facilitate ET's monitoring and site inspection activities
- Participate in the site inspections by the ET and IEC, and undertake any corrective actions
- Provide information / advice to the ET regarding works programme and activities which may contribute to the generation of adverse environmental impacts
- Submit proposals on mitigation measures in case of exceedances of Action and Limit levels in accordance with the Event / Action Plans
- Implement measures to reduce impact where Action and Limit levels are exceeded
- Adhere to the procedures for carrying out complaint investigation

Environmental Team (ET)

2.2.9 Once the ET is appointed, the EPD, CEDD, ER, Architect and IEC will be notified the details of the ET.

2.2.10 The ET shall not be in any way an associated body of the Contractor(s), and shall be employed by the Project Proponent/Contractor to conduct the EM&A programme. The ET should be managed by the ET Leader. The ET Leader shall be a person who has at least 7 years' experience in EM&A and has relevant professional qualifications. Suitably qualified staff should be included in the ET, and resources for the implementation of the EM&A programme should be allocated in time under the Contract(s), to enable fulfillment of the Project's EM&A requirements as specified in the EM&A Manual during construction of the Project. The ET shall report to the Project Proponent and the duties shall include:

- Monitor and audit various environmental parameters as required in this EM&A Manual
- Analyse the environmental monitoring and audit data, review the success of EM&A programme and the adequacy of mitigation measures implemented, confirm the validity of the EIA predictions and identify any adverse environmental impacts arising
- Carry out regular site inspection to investigate and audit the Contractors' site practice, equipment/plant and work methodologies with respect to pollution control and environmental mitigation, and effect proactive action to pre-empt problems
- Monitor compliance with conditions in the EP, environmental protection, pollution prevention and control regulations and contract specifications
- Audit environmental conditions on site
- Report on the environmental monitoring and audit results to EPD, the ER, the Architect, the lEC and Contractor or their delegated representatives
- Recommend suitable mitigation measures to the Contractor in the case of exceedance of Action and Limit levels in accordance with the Event and Action Plans
- Liaise with the IEC on all environmental performance matters and timely submit all relevant EM&A proforma for approval by IEC
- Advise the Contractor(s) on environmental improvement, awareness, enhancement measures etc., on site
- Adhere to the procedures for carrying out complaint investigation
- Liaison with the client departments, Engineer/Engineer's Representative, ET, lEC and the Contractor(s) of the concurrent projects as listed under Section 2.3 below regarding the cumulative impact issues.

Independent Environmental Checker (IEC)

2.2.11 One IEC will be employed for this Project. Once the IEC is appointed, EPD, ER, the Architect and ET will be notified the details of the IEC.

2.2.12 The Independent Environmental Checker (IEC) should not be in any way an associated body of the Contractor or the ET for the Project. The IEC should be employed by the Permit Holder (i.e., CEDD) prior to the commencement of the construction of the Project. The IEC should have at least 10 years' experience in EM&A and have relevant professional qualifications. The appointment of IEC should be subject to the approval of EPD. The IEC should:

- Provide proactive advice to the ER and the Project Proponent on EM&A matters related to the project, independent from the management of construction works, but empowered to audit the environmental performance of construction
- Review and audit all aspects of the EM&A programme implemented by the ET
- Review and verify the monitoring data and all submissions in connection with the EP and EM&A Manual submitted by the ET
- Arrange and conduct regular, at least monthly site inspections of the works during construction phase, and ad hoc inspections if significant environmental problems are identified
- Check compliance with the agreed Event / Action Plan in the event of any exceedance
- Check compliance with the procedures for carrying out complaint investigation
- Check the effectiveness of corrective measures
- Feedback audit results to ET by signing off relevant EM&A proforma
- Check that the mitigation measures are effectively implemented
- Verify the log-book(s) mentioned in Condition 2.2 of the EP, notify the Director by fax, within one working day of receipt of notification from the ET Leader of each and every occurrence, change of circumstances or non-compliance with the EIA Report and/or the EP, which might affect the monitoring or control of adverse environmental impacts from the Project
- Report the works conducted, the findings, recommendation and improvement of the site inspections, after reviewing ET's and Contractor's works, and advices to the ER and Project Proponent on a monthly basis
- Liaison with the client departments, Engineer/Engineer's Representative, the Architect, ET, lEC and the Contractor of the concurrent projects as listed under Section 2.3 below regarding the cumulative impact issues.

2.3 CONCURRENT PROJECTS

2.3.1 The concurrent construction works that may be carried out include, but not limited to, the following:

(a) Regulation of Shenzhen River Stage IV;
(b) Widening of Fanling Highway – Tai Hang to Wo Hop Shek Interchange – Contract No. HY/2012/06;
(c) Construction of BCP facilities in Shenzhen.

2.4 CONSTRUCTION PROGRESS

2.4.1 In the Reporting Period, the major construction activity conducted under the Project is located in Contracts 2, 3, 5, 6 and SS C505 and they are summarized in below. Moreover, the 3-month rolling construction program of the Contracts 2, 3, 5, 6 and SS C505 is enclosed in ***Appendix C***. For Contract 7, construction activities were scheduled to commence in February 2016 and therefore no construction activities was undertaken in the Reporting Period.

Contract 2 (CV/2012/08)

2.4.2 The contract commenced in May 2014. In this Reporting Period, construction activities conducted are listed below:

Mid-Vent	•	Installation of blast curtain
Portal	•	Tube excavation (NB + SB)
	•	Adit invert slab
	•	Building works foundation
North Portal	•	Slope stablilization and retaining wall

	• Northbound top heading excavation and tunnel enlargement
	• Tunnel Boring Machine (TBM) excavation
South Portal	• Southbound and Northbound Drill and Blast (D&B) excavation
	• Building works foundation and substructure
Admin Building	• Building works foundation

Contract 3 (CV/2012/09)

2.4.3 The Contract commenced in November 2013. In this Reporting Period, construction activities conducted are listed below:

- Cable detection and trial trenches
- Decking construction for Bridge E
- E&M work for new valve control & Telemetry House
- Filling works at Tong Hang East
- FRP Lining on existing water main
- Storm drain laying
- Noise barrier construction
- Pier / pier table construction
- Pile cap works
- Portal beam construction
- Pre-drilling
- Retaining Wall construction
- Road works at Fanling Highway
- Sewer works
- Tree felling works
- Utilities duct laying
- Viaduct segment erection
- Slope works
- Waterworks

Contract 4 (Contract number to be assigned)

2.4.4 The contract has not yet been awarded.

Contract 5 (CV/2013/03)

2.4.5 The Contract awarded in April 2013 and commenced on August 2013. In this Reporting Period, construction activities conducted are listed below:

- Construction of rising main (VO61) at existing Lin Ma Hang (LMH) Road
- Drainage works of Depressed Road at BCP3
- Additional works (Access Works) for Village House at RS4
- Drainage works at existing LMH Road
- Brick laying at footpath of proposed LMH road
- Preparation works for planting at proposed LMH road
- Installation of Underground Utility (UU) at proposed and existing LMH road
- Irrigation at proposed LMH Road
- Water works at existing LMH Road
- Bituminous laying at L15 road existing & proposed LMH road

Contract 6 (CV/2013/08)

2.4.6 Contract 6 has awarded in June 2015 and construction work was commenced on 23 October 2015. In this Reporting Period, construction activities conducted are listed below:

- Site Clearance
- Slope Works
- Site Accesses Construction
- Ground Investigation (GI) Works

- Soil nail
- Bored piling
- Pile cap construction

Contract 7 (NE/2014/03)

2.4.7 Contract 7 has awarded in December 2015 and construction work was commenced on 15 February 2015. In this Reporting Period, construction activities conducted are listed below:

- Erection of Engineer's Site Office
- Ground Investigation Works for Bridge A-E
- Piling Works for Bridge B-D

Contract SS C505

2.4.8 Contract SS C505 has awarded in July 2015 and construction work was commenced on 1 September 2015. In this Reporting Period, construction activities conducted are listed below:

- General Site Setup
- Building no. 5 and 9 construction
- Assembly of Crawler Crane / Driling Rig / Pre-boring Rig
- H-pile works
- Tower crane construction
- Erection of Welfare Shelter
- Underground drainage works
- Column works
- Weighbridge works
- Prototype "A" Construction works
- Project Signboard works
- Mock Up Curtain Wall works
- Pile Cap construction
- Bored Pile works

2.5 SUMMARY OF ENVIRONMENTAL SUBMISSIONS

2.5.1 In according to the EP, the required documents have submitted to EPD which listed in below:

- Project Layout Plans of Contracts 2, 3, 5, 6, 7 and SS C505
- Landscape Plan
- Topsoil Management Plan
- Environmental Monitoring and Audit Programme
- Baseline Monitoring Report (*TCS00690/13/600/R0030v3*) for the Project
- Waste Management Plan of the Contracts 2, 3, 5, 6 and SS C505
- Contamination Assessment Plan (CAP) for Po Kat Tsai, Loi Tung and the workshops in Fanling
- Contamination Assessment Report (CAR) for Po Kat Tsai, Loi Tung and the workshops in Fanling
- Vegetation Survey Report
- Woodland Compensation Plan
- Habitat Creation Management Plan
- Wetland Compensation Plan

2.5.2 Summary of the relevant permits, licenses, and/or notifications on environmental protection for the Project of each contracts are presented in ***Table 2-1***.

Table 2-1 Status of Environmental Licenses and Permits of the Contracts

Item	Description	License/Permit Status		
		Ref. no.	Effective Date	Expiry Date
Contract 2				
1	Air pollution Control (Construction Dust) Regulation	Ref No.: 368864	31 Dec 2013	Till Contract ends

Item	Description	License/Permit Status		
		Ref. no.	Effective Date	Expiry Date
2	Chemical Waste Producer Registration	***North Portal*** Waste Producers Number: No.5213-652-D2523-01	25 Mar 2014	Till Contract ends
		Mid-Vent Portal Waste Producers Number: No.5213-634-D2524-01	25 Mar 2014	Till Contract ends
		South Portal Waste Producers Number: No.5213-634-D2526-01	9 Apr 2014	Till Contract ends
3	Water Pollution Control Ordinance - Discharge License	No.WT00018374-2014	3 Mar 2014	28 Feb 2019
		No.: W5/1I389	28 Mar 2014	31 Mar 2019
		No.: W5/1I390	19 June 2014	31 Mar 2019
		No. WT00023063-2015	18 Dec 2015	31 Mar 2019.
		No.: W5/1I392	28 Mar 2014	31 Mar 2019
4	Waste Disposal Regulation - Billing Account for Disposal of Construction Waste	Account No. 7019105	8 Jan 2014	Till Contract ends
5	Construction Noise Permit	GW-RN0738-15	18 Nov 2015	8 May 2016
		GW-RN0760-15	26 Nov 2015	27 Feb 2016
		GW-RN0761-15	28 Nov 2015	27 Feb 2016
		GW-RN0795-15	7 Dec 2015	6 Jun 2016
		GW-RN0838-15	24-Dec-2015	23-Feb-2016
		GW-RN0875-15	24-Dec-2015	23-Feb-2016
		GW-RN0893-15	01-Jan-2016	27-Jun-2016
		GW-RN0057-16	28-Feb-2016	27-May-2016
		GW-RN0059-16	24-Feb-2016	23-Apr-2016
		GW-RN0067-16	28-Feb-2016	27-May-2016
		GW-RN0068-16	23-Feb-2016	22-Apr-2016
		GW-RN0071-16	02-Feb-16	31-Jul-2016
		GW-RN0077-16	07-Feb-2016	06-Aug-2016
Contract 3				
1	Air pollution Control (Construction Dust) Regulation	Ref. No: 362101	17 Jul 2013	Till Contract ends
2	Chemical Waste Producer Registration	Waste Producers Number: No.:5113-634-C3817-01	7 Oct 2013	Till Contract ends
3	Water Pollution Control Ordinance - Discharge License	No.:WT00016832 – 2013	28 Aug 13	31 Aug 2018
4	Waste Disposal Regulation - Billing Account for Disposal of Construction Waste	Account No. 7017914	2 Aug 13	Till Contract ends
5	Construction Noise Permit	GW-RN0495-15	12 Aug 2015	11 Feb 2016
		GW-RN0497-15	14 Aug 2015	13 Feb 2016
		GW-RN0525-15	29 Aug 2015	13 Feb 2016

Item	Description	License/Permit Status		
		Ref. no.	Effective Date	Expiry Date
		GW-RN0542-15	1 Sep 2015	25 Feb 2016
		GW-RN0608-15	28 Sep 2015	29 Feb 2016
		GW-RN0633-15	15 Oct 2015	29 Feb 2016
		GW-RN0655-15	1 Dec 2015	29 Feb 2016
		GW-RN0677-15	26 Oct 2015	29 Feb 2016
		GW-RN0699-15	10 Nov 2015	27 Feb 2016
		GW-RN0695-15	29 Nov 2015	28 Feb 2016
		GW-RN0712-15	16 Nov 2015	29 Feb 2016
		GW-RN0736-15	24 Nov 2015	29 Feb 2016
		GW-RN0765-15	1 Dec 2015	27 Feb 2016
		GW-RN0812-15	20 Dec 2015	29 Feb 2016
		GW-RN0837-15	23 Dec 2015	29 Feb 2016
		GW-RN0892-15	9 Jan 2016	8 July 2016
		GW-RN0894-15	5 Jan 2016	27 Feb 2016
		GW-RN0001-16	8 Jan 2016	27 Feb 2016
		GW-RN0049-16	26 Jan 2016	29 Feb 2016
		GW-RN0056-16	2 Feb 2016	18 Mar 2016
		GW-RN0060-16	1 Feb 2016	30 Jun 2016
		GW-RN0064-16	16 Feb 2016	13 Aug 2016
		GW-RN0086-16	16 Feb 2016	7 May 2016
		GW-RN0094-16	6 Mar 2016	22 May 2016
		GW-RN0096-16	6 Mar 2016	12 Jun 2016
		GW-RN0097-16	1 Mar 2016	17 Jun 2016
		GW-RN0098-16	1 Mar 2016	4 Sep 2016
		GW-RN0111-16	1 Mar 2016	30 Apr 2016
		GW-RN0113-16	25 Feb 2016	24 Aug 2016
		GW-RN0115-16	1 Mar 2016	7 May 2016
		GW-RN0139-16	2 Mar 2016	24 Aug 2016
		GW-RN0140-16	2 Mar 2016	24 Aug 2016
Contract 5				
1	Air pollution Control (Construction Dust) Regulation	Ref. No: 359338	13 May 2013	Till the end of Contract
2	Chemical Waste Producer Registration	Waste Producers Number No.: 5213-642-S3735-01	8 Jun 2013	Till the end of Contract
3	Water Pollution Control Ordinance - Discharge License	No.: W5/1G44/1	8 Jun 13	30 Jun 2018
4	Waste Disposal Regulation - Billing Account for Disposal of Construction Waste	Account No. 7017351	29 Apr 13	Till the end of Contract
Contract 6				
1	Air pollution Control (Construction Dust)	Ref. No: 390614	29 Jun 2015	Till the end of Contract

Item	Description	License/Permit Status		
		Ref. no.	Effective Date	Expiry Date
	Regulation			
2	Chemical Waste Producer Registration	Waste Producers Number No.: 5213-652-C3969-01	31 Aug 2015	Till the end of Contract
3	Waste Disposal Regulation - Billing Account for Disposal of Construction Waste	Account No. 7022707	9 Jul 2015	Till the end of Contract
4	Water Pollution Control Ordinance - Discharge License	Application is processing by EPD		
5	Construction Noise Permit	GW-RN0681-15	26 Oct 2015	25 Apr 2016
6	Construction Noise Permit	GW-RN0683-15	26 Oct 2015	25 Apr 2016
Contract SS C505				
1	Air pollution Control (Construction Dust) Regulation	Ref. No: 390974	13 Jul 2015	Till the end of Contract
2	Chemical Waste Producer Registration	Waste Producer No.: 5213-642-L1048-07	16 Sep 2015	Till the end of Contract
3	Water Pollution Control Ordinance - Discharge License	No.: WT00022774-2015	17 Nov 2015	30 Nov 2020
4	Waste Disposal Regulation - Billing Account for Disposal of Construction Waste	Account No. 7022831	23 Jul 2015	Till the end of Contract
5	Construction Noise Permit	PP-RN0027-15	5 Oct 2015	2 Apr 2016
		PP-RN0002-16	23 Jan 2016	22 Mar 2016
		GW-RN0023-16	23 Jan 2016	22 Mar 2016
Contract 7				
1	Air pollution Control (Construction Dust) Regulation	Ref. No: 397015	21 Dec 2015	Till the end of Contract
2	Chemical Waste Producer Registration	Application is processing by EPD		
3	Water Pollution Control Ordinance - Discharge License	Application is processing by EPD		
4	Waste Disposal Regulation - Billing Account for Disposal of Construction Waste	Account No. 7024129	21 Jan 2016	Till the end of Contract

3 SUMMARY OF IMPACT MONITORING REQUIREMENTS

3.1 GENERAL

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

3.1.2 A summary of construction phase EM&A requirements are presented in the sub-sections below.

3.2 MONITORING PARAMETERS

3.2.1 The EM&A program of construction phase monitoring shall cover the following environmental issues:

- Air quality;
- Construction noise; and
- Water quality

3.2.2 A summary of the monitoring parameters is presented in ***Table 3-1.***

Table 3-1 Summary of EM&A Requirements

Environmental Issue	Parameters
Air Quality	• 1-hour TSP by Real-Time Portable Dust Meter; and • 24-hour TSP by High Volume Air Sampler.
Noise	• $L_{eq(30min)}$ in normal working days (Monday to Saturday) 07:00-19:00 except public holiday; and • 3 sets of consecutive $L_{eq(5min)}$ on restricted hours i.e. 19:00 to 07:00 next day, and whole day of public holiday or Sunday • Supplementary information for data auditing, statistical results such as L_{10} and L_{90} shall also be obtained for reference.
Water Quality	**In-situ Measurements** • Dissolved Oxygen Concentration (mg/L); • Dissolved Oxygen Saturation (%); • Turbidity (NTU); • pH unit; • Water depth (m); and • Temperature (℃).
	Laboratory Analysis • Suspended Solids (mg/L)

3.3 MONITORING LOCATIONS

3.3.1 The designated monitoring locations as recommended in the *EM&A Manual* are shown in ***Appendix D***. As the access to some of the designated monitoring locations was questionable due to safety reason or denied by the landlords, alternative locations therefore have had proposed. The proposed alternative monitoring locations has updated in the revised EM&A Programme which verified by IEC and certified by ET Leader prior submitted to EPD on 10 July 2013. ***Table 3-2***, ***Table 3-3*** and ***Table 3-4*** are respectively listed the air quality, construction noise and water quality monitoring locations for the Project and a map showing these monitoring stations is presented in ***Appendix E***.

Table 3-2 Impact Monitoring Stations - Air Quality

Station ID	Description	Works Area	Related to the Work Contract
AM1b^	Open area at Tsung Yuen Ha Village	BCP	SS C505 Contract 5 Contract 7
AM2	Village House near Lin Ma Hang Road	LMH to Frontier Closed Area	Contract 5 Contract 6
AM3	Ta Kwu Ling Fire Service Station of Ta	LMH to Frontier	Contract 5

Station ID	Description	Works Area	Related to the Work Contract
	Kwu Ling Village.	Closed Area	Contract 6
AM4b^	House no. 10B1 Nga Yiu Ha Village	LMH to Frontier Closed Area	Contract 6
AM5a^	Ping Yeung Village House	Ping Yeung to Wo Keng Shan	Contract 6
AM6	Wo Keng Shan Village House	Ping Yeung to Wo Keng Shan	Contract 6
AM7b@	Loi Tung Village House	Sha Tau Kok Road	Contract 2 Contract 6
AM8	Po Kat Tsai Village No. 4	Po Kat Tsai	Contract 2
AM9b#	Nam Wa Po Village House No. 80	Fanling	Contract 3

 # Proposal for the change of air quality monitoring location from AM9a to AM9b was submitted to EPD on 4 Nov 2013 after verified by the IEC and it was approved by EPD (EPD's ref.: (15) in EP 2/N7/A/52 Pt.10 dated 8 Nov 2013).
** Proposal for the change of air quality monitoring location from AM1to AM1a was submitted to EPD on 24 March 2014 after verified by the IEC. It was approved by EPD (EPD's ref.: (6) in EP 2/N7/A/52 Pt.12 dated 9 Jun 2014).*
@ Proposal for the change of air quality monitoring location from AM7a to AM7b was submitted to EPD on 4 June 2014 after verified by the IEC. It was approved by EPD (EPD's ref.: (7) in EP 2/N7/A/52 Pt.12 dated 9 Jun 2014).
^ proposal for change of monitoring location are subject to approve by EPD.

Table 3-3 Impact Monitoring Stations - Construction Noise

Station ID	Description	Works Area	Related to the Work Contract
NM1	Tsung Yuen Ha Village House No. 63	BCP	SS C505 Contract 5 Contract 7
NM2	Village House near Lin Ma Hang Road	Lin Ma Hang to Frontier Closed Area	Contract 5, Contract 6
NM3	Ping Yeung Village House (facade facing northeast)	Ping Yeung to Wo Keng Shan	Contract 6
NM4	Wo Keng Shan Village House	Ping Yeung to Wo Keng Shan	Contract 6
NM5	Village House, Loi Tung	Sha Tau Kok Road	Contract 2, Contract 6
NM6	Tai Tong Wu Village House 2	Sha Tau Kok Road	Contract 2, Contract 6
NM7	Po Kat Tsai Village	Po Kat Tsai	Contract 2
NM8	Village House, Tong Hang	Fanling	Contract 2 Contract 3
NM9	Village House, Kiu Tau Village	Fanling	Contract 3
NM10	Nam Wa Po Village House No. 80	Fanling	Contract 3

Table 3-4 Impact Monitoring Stations - Water Quality

Station ID	Description	Coordinates of Designated / Alternative Location		Nature of the location	Related to the Work Contract
WM1	Downstream of Kong Yiu Channel	833 679	845 421	Alternative location located at upstream 51m of the designated location	SS C505 Contract 5 Contract 6
WM1-Control	Upstream of Kong Yiu Channel	834 185	845 917	NA	SS C505 Contract 5 Contract 6
WM2A	Downstream	834 204	844 471	Alternative location located	Contract 6

Station ID	Description	Coordinates of Designated / Alternative Location		Nature of the location	Related to the Work Contract
	of River Ganges			at downstream 81m of the designated location	
WM2A-Control	Upstream of River Ganges	835 270	844 243	Alternative location located at upstream 78m of the designated location	Contract 6
WM2B	Downstream of River Ganges	835 433	843 397	NA	Contract 6
WM2B-Control	Upstream of River Ganges	835 835	843 351	Alternative location located at downstream 31m of the designated location	Contract 6
WM3	Downstream of River Indus	836 324	842 407	NA	Contract 2 Contract 6
WM3-Control	Upstream of River Indus	836 763	842 400	Alternative location located at downstream 26m of the designated location	Contract 2 Contract 6
WM4	Downstream of Ma Wat Channel	833 850	838 338	Alternative location located at upstream 11m of the designated location	Contract 2 Contract 3
WM4–Control A	Kau Lung Hang Stream	834 028	837 695	Alternative location located at downstream 28m of the designated location	Contract 2 Contract 3
WM4–Control B	Upstream of Ma Wat Channel	833760	837395	Alternative location located at upstream 15m of the designated location	Contract 2 Contract 3

3.4 MONITORING FREQUENCY AND PERIOD

The requirements of impact monitoring are stipulated in *Sections 2.1.6, 3.1.5* and *4.1.6* of the approved *EM&A Manual* and presented as follows.

Air Quality Monitoring

3.4.1 Frequency of impact air quality monitoring is as follows:

- 1-hour TSP 3 times every six days during course of works
- 24-hour TSP Once every 6 days during course of works.

Noise Monitoring

3.4.2 One set of $L_{eq(30min)}$ as 6 consecutive $L_{eq(5min)}$ between 0700-1900 hours on normal weekdays and once every week during course of works. If construction work necessary to carry out at other time periods, i.e. restricted time period (19:00 to 07:00 the next morning and whole day on public holidays) (hereinafter referred as "the restricted hours"), 3 consecutive $L_{eq(5min)}$ measurement will depended CNP requirements to undertake. Supplementary information for data auditing, statistical results such as L_{10} and L_{90} shall also be obtained for reference.

Water Quality Monitoring

3.4.3 The water quality monitoring frequency shall be 3 days per week during course of works. The interval between two sets of monitoring shall not be less than 36 hours.

3.5 MONITORING EQUIPMENT

Air Quality Monitoring

3.5.1 The 24-hour and 1-hour TSP levels shall be measured by following the standard high volume sampling method as set out in the *Title 40 of the Code of Federal Regulations, Chapter 1 (Part 50), Appendix B*. If the ET proposes to use a direct reading dust meter to measure 1-hour TSP

levels, it shall submit sufficient information to the IEC to approve.

3.5.2 The filter paper of 24-hour TSP measurement shall be determined by HOKLAS accredited laboratory.

3.5.3 All equipment to be used for air quality monitoring is listed in ***Table 3-5***.

Table 3-5 Air Quality Monitoring Equipment

Equipment	Model
24-Hr TSP	
High Volume Air Sampler	TISCH High Volume Air Sampler, HVS Model TE-5170*
Calibration Kit	TISCH Model TE-5025A*
1-Hour TSP	
Portable Dust Meter	Sibata LD-3B Laser Dust monitor Particle Mass Profiler & Counter*

** Instrument was used in the Reporting Period and the calibration certificate could be referred in Appendix F.*

Wind Data Monitoring Equipment

3.5.4 According to the approved EM&A Manual, wind data monitoring equipment shall also be provided and set up for logging wind speed and wind direction near the dust monitoring locations. The equipment installation location shall be proposed by the ET and agreed with the IEC. For installation and operation of wind data monitoring equipment, the following points shall be observed:

1) The wind sensors should be installed 10 m above ground so that they are clear of obstructions or turbulence caused by buildings.
2) The wind data should be captured by a data logger. The data shall be downloaded for analysis at least once a month.
3) The wind data monitoring equipment should be re-calibrated at least once every six months.
4) Wind direction should be divided into 16 sectors of 22.5 degrees each.

3.5.5 ET has liaised with the landlords of the successful granted HVS installation premises. However, the owners rejected to provide premises for wind data monitoring equipment installation.

3.5.6 Under this situation, the ET proposed alternative methods to obtain representative wind data. Meteorological information as extracted from "the Hong Kong Observatory Ta Kwu Ling Station" is alternative method to obtain representative wind data. For Ta Kwu Ling Station, it is located nearby the Project site. Moreover, this station is located at 15m above mean sea level while its anemometer is located at 13m above the existing ground which in compliance with the general setting up requirement. Furthermore, this station also can be to provide the humidity, rainfall, and air pressure and temperature etc. meteorological information. In Hong Kong of a lot development projects, weather information extracted from Hong Kong Observatory is common alternative method if weather station installation not allowed.

Noise Monitoring

3.5.7 Sound level meter in compliance with the International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications shall be used for carrying out the noise monitoring. The sound level meter shall be checked using an acoustic calibrator. The wind speed shall be checked with a portable wind speed meter capable of measuring the wind speed in m/s.

3.5.8 Noise monitoring equipment to be used for monitoring is listed in ***Table 3-6***.

Table 3-6 Construction Noise Monitoring Equipment

Equipment	Model
Integrating Sound Level Meter	B&K Type 2238* or Rion NL-31 or Rion NL-52*
Calibrator	B&K Type 4231* or Cesva CB-5* or Rion NC-74*
Portable Wind Speed Indicator	Testo Anemometer

** Instrument was used in the Reporting Period and the calibration certificate could be referred in Appendix F.*

3.5.9 Sound level meters listed above comply with the *International Electrotechnical Commission Publications 651: 1979 (Type 1)* and *804: 1985 (Type 1)* specifications, as recommended in TM issued under the NCO. The acoustic calibrator and sound level meter to be used in the impact monitoring will be calibrated yearly.

Water Quality Monitoring

3.5.10 DO and water temperature should be measured in-situ by a DO/temperature meter. The instrument should be portable and weatherproof using a DC power source. It should have a membrane electrode with automatic temperature compensation complete with a cable. The equipment should be capable of measuring:

- a DO level in the range of 0-20 mg/l and 0-200% saturation; and
- a temperature of between 0 and 45 degree Celsius.

3.5.11 A portable pH meter capable of measuring a range between 0.0 and 14.0 should be provided to measure pH under the specified conditions accordingly to the APHA Standard Methods.

3.5.12 The instrument should be portable and weatherproof using a DC power source. It should have a photoelectric sensor capable of measuring turbidity between 0-1000 NTU.

3.5.13 A portable, battery-operated echo sounder or tape measure will be used for the determination of water depth at each designated monitoring station as appropriate.

3.5.14 A water sampler e.g. Kahlsico Water Sampler, which is a transparent PVC cylinder with capacity not less than 2 litres, will be used for water sampling if water depth over than 0.5m. For sampling from very shallow water depths e.g. <0.5 m, water sample collection will be directly from water surface below 100mm use sampling plastic bottle to avoid inclusion of bottom sediment or humus. Moreover, Teflon/stainless steel bailer or self-made sampling buckets maybe used for water sampling. The equipment used for sampling will be depended the sampling location and depth situations.

3.5.15 Water samples for laboratory measurement of SS will be collected in high density polythene bottles, packed in ice (cooled to 4 ºC without being frozen), and delivered to the laboratory in the same day as the samples were collected.

3.5.16 Analysis of suspended solids should be carried out in a HOKLAS or other accredited laboratory. Water samples of about 1L should be collected at the monitoring stations for carrying out the laboratory suspended solids determination. The SS determination work should start within 24 hours after collection of the water samples. The SS analyses should follow the *APHA Standard Methods 2540D* with Limit of Reporting of 2 mg/L.

3.5.17 Water quality monitoring equipment used in the impact monitoring is listed in ***Table 3-7***. Suspended solids (SS) analysis is carried out by a local HOKLAS-accredited laboratory, namely *ALS Technichem (HK) Pty Ltd*.

Table 3-7 Water Quality Monitoring Equipment

Equipment	Model
Water Depth Detector	Eagle Sonar or tape measures
Water Sampler	A 2-litre transparent PVC cylinder with latex cups at both ends or teflon/stainless steel bailer or self-made sampling bucket

Equipment	Model
Thermometer & DO meter	YSI Professional Plus /YSI PRO20 Handheld Dissolved Oxygen Instrument* / YSI 550A Multifunctional Meter/ YSI Professional DSS*
pH meter	YSI Professional Plus / AZ8685 pH pen-style meter*/ YSI 6820/ 650MDS/ YSI Professional DSS*
Turbidimeter	Hach 2100Q*/ YSI 6820/ 650MDS/ YSI Professional DSS*
Sample Container	High density polythene bottles (provided by laboratory)
Storage Container	'Willow' 33-liter plastic cool box with Ice pad

** Instrument was used in the Reporting Period and the calibration certificate could be referred in Appendix F.*

3.6 MONITORING METHODOLOGY

1-hour TSP Monitoring

3.6.1 The 1-hour TSP monitor was a brand named "Sibata LD-3B Laser Dust monitor Particle Mass Profiler & Counter" which is a portable, battery-operated laser photometer. The 1-hour TSP meter provides a real time 1-hour TSP measurement based on 90^{o} light scattering. The 1-hour TSP monitor consists of the following:

(a.) A pump to draw sample aerosol through the optic chamber where TSP is measured;

(b.) A sheath air system to isolate the aerosol in the chamber to keep the optics clean for maximum reliability; and

(c.) A built-in data logger compatible with Windows based program to facilitate data collection, analysis and reporting.

3.6.2 The 1-hour TSP meter is used within the valid period as follow manufacturer's Operation and Service Manual.

24-hour TSP Monitoring

3.6.3 The equipment used for 24-hour TSP measurement is Tisch Environmental, Inc. Model TE-5170 TSP high volume air sampling system, which complied with *EPA Code of Federal Regulation, Appendix B to Part 50*. The High Volume Air Sampler (HVS) consists of the following:

(a.) An anodized aluminum shelter;

(b.) A 8"x10" stainless steel filter holder;

(c.) A blower motor assembly;

(d.) A continuous flow/pressure recorder;

(e.) A motor speed-voltage control/elapsed time indicator;

(f.) A 7-day mechanical timer, and

(g.) A power supply of 220v/50 Hz

3.6.4 The HVS is operated and calibrated on a regular basis in accordance with the manufacturer's instruction using Tisch Calibration Kit Model TE-5025A. Calibration would carry out in two month interval.

3.6.5 24-hour TSP is collected by the ET on filters of HVS and quantified by a local HOKLAS accredited laboratory, ALS Technichem (HK) Pty Ltd (ALS), upon receipt of the samples. The ET keep all the sampled 24-hour TSP filters in normal air conditioned room conditions, i.e. 70% RH (Relative Humidity) and 25^{o}C, for six months prior to disposal.

Noise Monitoring

3.6.6 Noise measurements were taken in terms of the A-weighted equivalent sound pressure level (L_{eq}) measured in decibels dB(A). Supplementary statistical results (L_{10} and L_{90}) were also obtained for reference.

3.6.7 During the monitoring, all noise measurements would be performed with the meter set to FAST response and on the A-weighted equivalent continuous sound pressure level (L_{eq}). $Leq_{(30min)}$ in

six consecutive $Leq_{(5min)}$ measurements will use as the monitoring parameter for the time period between 0700-1900 hours on weekdays; and also $Leq_{(15min)}$ in three consecutive $Leq_{(5min)}$ measurements would be used as monitoring parameter for other time periods (e.g. during restricted hours), if necessary.

3.6.8 Prior of noise measurement, the accuracy of the sound level meter is checked using an acoustic calibrator generating a known sound pressure level at a known frequency. The checking is performed before and after the noise measurement.

Water Quality

3.6.9 Water quality monitoring is conducted at the designated locations. The sampling procedures with the in-situ monitoring are presented as below:

Sampling Procedure

3.6.10 A Digital Global Positioning System (GPS) is used to identify the designated monitoring stations prior to water sampling. A portable, battery-operated echo sounder or tape measurement is used for the determination of water depth at each station. At each station, water sample would be collected from 0.1m below water surface or the water surface to prevent the river bed sediment for stirring.

3.6.11 The sample container will be rinsed with a portion of the water sample. The water sample then will be transferred to the high-density polythene bottles as provided by the laboratory, labeled with a unique sample number and sealed with a screw cap.

3.6.12 Before sampling, general information such as the date and time of sampling, weather condition as well as the personnel responsible for the monitoring would be recorded on the field data sheet.

3.6.13 A 'Willow' 33-liter plastic cool box packed with ice will be used to preserve the water samples prior to arrival at the laboratory for chemical determination. The water temperature of the cool box is maintained at a temperature as close to 4^0C as possible without being frozen. Samples collected are delivered to the laboratory upon collection.

In-situ Measurement

3.6.14 YSI PRO20 Handheld Dissolved Oxygen Instrument or YSI Professional DSS is used for water in-situ measures, which automates the measurements and data logging of temperature, dissolved oxygen and dissolved oxygen saturation.

3.6.15 A portable AZ Model 8685 pH pen-style meter or YSI Professional DSS is used for in-situ pH measurement. The pH meter is capable of measuring pH in the range of 0 – 14 and readable to 0.1.

3.6.16 A portable Hach 2100Q Turbidimeter or YSI Professional DSS is used for in-situ turbidity measurement. The turbidity meter is capable of measuring turbidity in the range of 0 – 1000 NTU.

3.6.17 All in-situ measurement equipment are calibrated by HOKLAS accredited laboratory of three month interval.

Laboratory Analysis

3.6.18 All water samples analyzed Suspended Solids (SS) will be carried out by a local HOKLAS-accredited testing laboratory (ALS Technichem (HK) Pty Ltd HOKLAS registration no. 66). SS determination using *APHA Standard Methods 2540D* as specified in the *EM&A Manual* will start within 48 hours of water sample receipt.

3.7 EQUIPMENT CALIBRATION

3.7.1 Calibration of the HVS is performed upon installation and thereafter at bimonthly intervals in

accordance with the manufacturer's instruction using the certified standard calibrator (TISCH Model TE-5025A). Moreover, the Calibration Kit would be calibrated annually. The calibration data are properly documented and the records are maintained by ET for future reference.

3.7.2 The 1-hour TSP meter was calibrated by the supplier prior to purchase. Zero response of the equipment would be checked before and after each monitoring event. Annually calibration with the High Volume Sampler (HVS) in same condition would be undertaken by the Laboratory.

3.7.3 The sound level meter and calibrator are calibrated and certified by a laboratory accredited under HOKLAS or any other international accreditation scheme at yearly basis.

3.7.4 All water quality monitoring equipment would be calibrated by HOKLAS accredited laboratory of three month intervals.

3.7.5 The calibration certificates of all monitoring equipment used for the impact monitoring program in the Reporting Period and the HOKLAS accredited certificate of laboratory are attached in ***Appendix F***.

3.8 DERIVATION OF ACTION/LIMIT (A/L) LEVELS

3.8.1 The baseline results form the basis for determining the environmental acceptance criteria for the impact monitoring. According to the approved Environmental Monitoring and Audit Manual, the air quality, construction noise and water quality criteria were set up, namely Action and Limit levels are listed in ***Tables 3-8, 3-9*** and ***3-10***.

Table 3-8 Action and Limit Levels for Air Quality Monitoring

Monitoring Station	Action Level (μg /m^3)		Limit Level (μg/m^3)	
	1-hour TSP	24-hour TSP	1-hour TSP	24-hour TSP
AM1b	265	143	500	260
AM2	268	149		
AM3	269	145		
AM4b	267	148		
AM5a	268	143		
AM6	269	148		
AM7b	275	156		
AM8	269	144		
AM9b	271	151		

Table 3-9 Action and Limit Levels for Construction Noise

Monitoring Location	Action Level	Limit Level in dB(A)
	Time Period: 0700-1900 hours on normal weekdays	
NM1, NM2, NM3, NM4, NM5, NM6, NM7, NM8, NM9, NM10	When one or more documented complaints are received	75 dB(A)[Note 1 & Note 2]

Note 1: Acceptable Noise Levels for school should be reduced to 70 dB(A) and65 dB(A) during examination period
Note 2: If works are to be carried out during restricted hours, the conditions stipulated in the construction noise permit issued by the NCA have to be followed.

Table 3-10 Action and Limit Levels for Water Quality

Parameter	Performance criteria	Monitoring Location				
		WM1	WM2A	WM2B	WM3	WM4
DO (mg/L)	Action Level	(*)4.23	(**)4.00	(*)4.74	(**)4.00	(*)4.14
	Limit Level	(#)4.19	(**)4.00	(#)4.60	(**)4.00	(#)4.08
Turbidity (NTU)	Action Level	51.3	24.9	11.4	13.4	35.2
		AND 120% of upstream control station of the same day				
	Limit Level	67.6	33.8	12.3	14.0	38.4
		AND 130% of upstream control station of the same day				

Parameter	Performance criteria	Monitoring Location				
		WM1	WM2A	WM2B	WM3	WM4
SS (mg/L)	Action Level	54.5	14.6	11.8	12.6	39.4
		AND	120% of upstream control station of the same day			
	Limit Level	64.9	17.3	12.4	12.9	45.5
		AND	130% of upstream control station of the same day			

Remarks:
(*) *The Proposed **Action Level** of Dissolved Oxygen is adopted to be used 5%-ile of baseline data*
(**) *The Proposed **Action & Limit Level** of Dissolved Oxygen is used 4mg/L*
(#) *The Proposed **Limit Level** of Dissolved Oxygen is adopted to be used 1%-ile of baseline data*

3.8.2 Should non-compliance of the environmental quality criteria occurs, remedial actions will be triggered according to the Event and Action Plan which presented in ***Appendix G.***

3.9 DATA MANAGEMENT AND DATA QA/QC CONTROL

3.9.1 All monitoring data will be handled by the ET's in-house data recording and management system. The monitoring data recorded in the equipment will be downloaded directly from the equipment at the end of each monitoring day. The downloaded monitoring data will input into a computerized database maintained by the ET. The laboratory results will be input directly into the computerized database and checked by personnel other than those who input the data.

3.9.2 For monitoring parameters that require laboratory analysis, the local laboratory shall follow the QA/QC requirements as set out under the HOKLAS scheme for the relevant laboratory tests.

4 AIR QUALITY MONITORING

4.1 GENERAL

4.1.1 In the Reporting Period, construction works under the project have been commenced in Contracts 2, 3, 5, 6, 7 and Contract SS C505 and air quality monitoring was performed at all designated locations.

4.1.2 The air quality monitoring schedule is presented in ***Appendix H*** and the monitoring results are summarized in the following sub-sections.

4.2 AIR QUALITY MONITORING RESULTS IN REPORTING MONTH

4.2.1 In the Reporting Period, a total of ***150*** events of 1-hour TSP and ***51*** events 24-hours TSP monitoring were carried out and the monitoring results are summarized in ***Tables 4-1 to 4-9***. The detailed 24-hour TSP monitoring data are presented in ***Appendix I*** and the relevant graphical plots are shown in ***Appendix J***.

Table 4-1 Summary of 24-hour and 1-hour TSP Monitoring Results – AM1b

Date	24-hour TSP (μg/m³)	1-hour TSP (μg/m³)				
		Date	Start Time	1st reading	2nd reading	3rd reading
3-Feb-16#	33	3-Feb-16	10:02	64	49	52
5-Feb-16	54	6-Feb-16	9:00	89	96	110
11-Feb-16	42	12-Feb-16	10:06	62	52	47
17-Feb-16	46	18-Feb-16	11:00	137	141	123
23-Feb-16	29	24-Feb-16	10:12	88	93	74
29-Feb-16	71					
Average (Range)	**46 (29 – 71)**	Average (Range)		**85 (47 – 141)**		

 # Power failure of HVS on 2 Feb 2016 and the monitoring was rescheduled to 3 Feb 2016.

Table 4-2 Summary of 24-hour and 1-hour TSP Monitoring Results – AM2

Date	24-hour TSP (μg/m³)	1-hour TSP (μg/m³)				
		Date	Start Time	1st reading	2nd reading	3rd reading
2-Feb-16	21	3-Feb-16	9:52	84	56	50
5-Feb-16	63	6-Feb-16	9:42	113	117	132
11-Feb-16	58	12-Feb-16	9:53	89	85	97
17-Feb-16	62	18-Feb-16	11:04	128	132	114
23-Feb-16	58	24-Feb-16	10:07	66	71	52
29-Feb-16	66					
Average (Range)	**55 (21 – 66)**	Average (Range)		**92 (50 – 132)**		

Table 4-3 Summary of 24-hour and 1-hour TSP Monitoring Results – AM3

Date	24-hour TSP (μg/m³)	1-hour TSP (μg/m³)				
		Date	Start Time	1st reading	2nd reading	3rd reading
2-Feb-16	57	3-Feb-16	9:43	89	64	56
5-Feb-16	140	6-Feb-16	13:19	91	88	95
11-Feb-16	77	12-Feb-16	9:42	67	86	82
17-Feb-16	123	18-Feb-16	11:12	121	126	107
23-Feb-16	69	24-Feb-16	10:02	99	104	85
29-Feb-16	132					
Average (Range)	**100 (69 – 140)**	Average (Range)		**91 (56 – 126)**		

Table 4-4 Summary of 24-hour and 1-hour TSP Monitoring Results – AM4b

Date	24-hour TSP ($\mu g/m^3$)	1-hour TSP ($\mu g/m^3$)				
		Date	Start Time	1st reading	2nd reading	3rd reading
5-Feb-16	49	1-Feb-16	10:11	89	65	59
11-Feb-16	80	6-Feb-16	9:26	81	63	41
16-Feb-16	56	12-Feb-16	10:01	64	56	39
22-Feb-16	131	17-Feb-16	9:58	66	76	85
27-Feb-16	47	23-Feb-16	10:37	132	137	118
		29-Feb-16	10:30	82	86	68
Average (Range)	**73 (49 – 131)**	Average (Range)		**78 (39 – 137)**		

Table 4-5 Summary of 24-hour and 1-hour TSP Monitoring Results – AM5a

Date	24-hour TSP ($\mu g/m^3$)	1-hour TSP ($\mu g/m^3$)				
		Date	Start Time	1st reading	2nd reading	3rd reading
5-Feb-16	55	1-Feb-16	10:07	80	56	50
11-Feb-16	78	6-Feb-16	9:19	73	54	33
16-Feb-16	56	12-Feb-16	9:00	64	52	45
22-Feb-16	79	17-Feb-16	9:51	73	82	91
27-Feb-16	82	23-Feb-16	10:30	121	126	107
		29-Feb-16	10:13	58	62	44
Average (Range)	**70 (55 – 782)**	Average (Range)		**71 (33 – 126)**		

Table 4-6 Summary of 24-hour and 1-hour TSP Monitoring Results – AM6

Date	24-hour TSP ($\mu g/m^3$)	1-hour TSP ($\mu g/m^3$)				
		Date	Start Time	1st reading	2nd reading	3rd reading
5-Feb-16	88	1-Feb-16	9:58	84	54	43
11-Feb-16	96	6-Feb-16	9:07	68	50	41
16-Feb-16	69	12-Feb-16	9:32	51	54	64
22-Feb-16	109	17-Feb-16	9:40	73	82	91
27-Feb-16	111	23-Feb-16	10:21	110	115	96
		29-Feb-16	10:35	65	69	50
Average (Range)	**75 (88 – 111)**	Average (Range)		**70 (41 – 115)**		

Table 4-7 Summary of 24-hour and 1-hour TSP Monitoring Results – AM7b

Date	24-hour TSP ($\mu g/m^3$)	1-hour TSP ($\mu g/m^3$)				
		Date	Start Time	1st reading	2nd reading	3rd reading
2-Feb-16	26	1-Feb-16	9:12	27	22	20
5-Feb-16	70	6-Feb-16	9:11	135	127	97
11-Feb-16	50	12-Feb-16	9:20	159	97	64
17-Feb-16	47	17-Feb-16	9:23	97	92	108
23-Feb-16	26	23-Feb-16	9:19	53	28	46
29-Feb-16	124	29-Feb-16	9:22	138	163	169
Average (Range)	**57 (26 – 124)**	Average (Range)		**91 (20 – 169)**		

Table 4-8 Summary of 24-hour and 1-hour TSP Monitoring Results – AM8

Date	24-hour TSP (μg/m³)	1-hour TSP (μg/m³)				
		Date	Start Time	1st reading	2nd reading	3rd reading
2-Feb-16	22	1-Feb-16	13:06	27	22	19
5-Feb-16	28	6-Feb-16	13:30	118	85	79
11-Feb-16	24	12-Feb-16	13:08	165	144	159
17-Feb-16	36	17-Feb-16	13:13	79	90	72
23-Feb-16	28	24-Feb-16	9:03	36	31	37
29-Feb-16	68	29-Feb-16	13:06	134	117	129
Average (Range)	**34 (22 – 68)**	Average (Range)		**89 (19 – 165)**		

Table 4-9 Summary of 24-hour and 1-hour TSP Monitoring Results – AM9b

Date	24-hour TSP (μg/m³)	1-hour TSP (μg/m³)				
		Date	Start Time	1st reading	2nd reading	3rd reading
2-Feb-16	28	3-Feb-16	9:02	48	59	75
5-Feb-16	48	5-Feb-16	14:31	103	84	87
11-Feb-16	90	12-Feb-16	9:21	68	49	46
17-Feb-16	74	18-Feb-16	9:20	153	145	145
23-Feb-16	30	23-Feb-16	13:06	48	55	45
29-Feb-16	71					
Average (Range)	**57 (28 – 90)**	Average (Range)		**81 (45 – 153)**		

4.2.2 As shown in ***Tables 4-1 to 4-9***, all the 1-hour TSP and 24-hour TSP monitoring results were below the Action/Limit Levels. No Notification of Exceedance (NOE) was issued in this Reporting Period.

4.2.3 The meteorological data during the impact monitoring days are summarized in ***Appendix K***.

5 CONSTRUCTION NOISE MONITORING

5.1 GENERAL

5.1.1 In the Reporting Period, construction works under the project have been commenced in Contracts 2, 3, 5, 6, 7 and Contract SS C505 and noise monitoring was performed at all designated locations.

5.1.2 The noise monitoring schedule is presented in ***Appendix H*** and the monitoring results are summarized in the following sub-sections.

5.2 NOISE MONITORING RESULTS IN REPORTING MONTH

5.2.1 In the Reporting Period, a total of **55** event noise measurements were carried out at the designated locations. The sound level meter was set in 1m from the exterior of the building façade including noise monitoring locations NM1, NM2, NM3, NM4, NM5, NM6, NM7, NM8 and NM9. Therefore, no façade correction (+3 dB(A)) is added according to acoustical principles and EPD guidelines. However, free-field status was performed at NM10 and façade correction (+3 dB(A)) has added according to the requirement in this month. The noise monitoring results at the designated locations are summarized in ***Tables 5-1 and 5-2.*** The detailed noise monitoring data are presented in ***Appendix I*** and the relevant graphical plots are shown in ***Appendix J***.

Table 5-1 Summary of Construction Noise Monitoring Results

Construction Noise Level ($L_{eq30min}$), dB(A)					
Date	**NM1**	**NM2**	**NM8**	**NM9**	**NM10(*)**
3-Feb-16	69	67	63	59	64
6-Feb-16	57	62	52	55	52
12-Feb-16	52	53	58	62	63
18-Feb-16	57	56	59	64	68
24-Feb-16	67	71	58	65	68
Limit Level	**75 dB(A)**				

Remarks

(*) façade correction (+3 dB(A) is added according to acoustical principles and EPD guidelines

i bold and underlined indicated Limit Level exceedance.

Table 5-2 Summary of Construction Noise Monitoring Results

Construction Noise Level ($L_{eq30min}$), dB(A)					
Date	**NM3**	**NM4**	**NM5**	**NM6**	**NM7**
1-Feb-16	59	67	57	56	62
6-Feb-16	59	63	57	63	64
12-Feb-16	53	61	51	54	61
17-Feb-16	56	67	58	57	60
23-Feb-16	60	66	62	55	65
29-Feb-16	58	68	59	58	62
Limit Level	**75 dB(A)**				

5.2.1 As shown in ***Tables 5-1 and 5-2***, the noise level measured at all designated monitoring locations were below 75dB(A). However, one (1) noise complaint was received by 1823 for Contract 3 on 18 February 2016 which triggered the Action Level (AL). Investigation report for the complaint was conducted by ET and the result revealed that the complaint was not related to the works under Contract 3.

6 WATER QUALITY MONITORING

6.1 GENERAL

6.1.1 In the Reporting Period, construction works under the project has been commenced in Contracts 2, 3, 5, 6, 7 and Contract SS C505 and water quality monitoring was performed at all designated locations. The water quality monitoring schedule is presented in ***Appendix H***. The monitoring results are summarized in the following sub-sections.

6.2 RESULTS OF WATER QUALITY MONITORING

6.2.1 In the Reporting Period, a total of twelve (12) sampling days water quality was scheduled to carry out for all designated locations with their control stations. Since water quality exceedance were recorded at WM2B and WM4, four (4) and one (1) extra days water quality monitoring were conducted at WM2B and WM4 respectively and their control stations in accordance with "*Event and Action Plan*".

6.2.2 The key monitoring parameters including Dissolved Oxygen, Turbidity and Suspended Solids are summarized in ***Tables 6-1 to 6-5***. Breaches of water quality monitoring criteria are shown in ***Table 6-6***. Detailed monitoring database including in-situ measurements and laboratory analysis data are shown in ***Appendix I*** and the relevant graphical plot are shown in ***Appendix J***.

Table 6-1 Water Quality Monitoring Results Associated of Contracts 2 and 3

Date	Dissolved Oxygen (mg/L)			Turbidity (NTU)			Suspended Solids (mg/L)		
	WM4	WM4-CA	WM4-CB	WM4	WM4-CA	WM4-CB	WM4	WM4-CA	WM4-CB
1-Feb-16	11.1	11.6	10.4	30.7	18.3	16.5	17.0	12.0	15.0
3-Feb-16	10.9	13.6	11.6	25.0	12.3	15.9	18.0	9.5	10.5
5-Feb-16	14.6	12.6	10.3	7.8	6.0	15.6	6.0	5.0	24.0
11-Feb-16	11.4	11.6	11.1	8.2	5.1	8.4	9.5	4.5	8.0
13-Feb-16	10.7	11.9	10.8	7.8	3.4	5.6	10.5	<2	8.5
16-Feb-16	13.7	14.9	13.7	10.6	5.7	20.3	9.5	3.0	31.5
18-Feb-16	7.3	7.7	6.2	21.1	6.0	30.1	17.0	<2	45.0
20-Feb-16	8.8	9.4	7.3	14.0	6.4	3.1	11.5	2.0	19.0
22-Feb-16	7.8	8.8	7.1	20.0	6.4	16.8	30.0	4.0	18.5
24-Feb-16	9.1	9.3	9.0	7.2	4.5	9.1	14.0	3.0	18.0
26-Feb-16	8.7	9.4	8.7	**149.5**	5.3	7.7	**138.0**	4.5	9.5
27-Feb-16#	--	--	--	12.3	16.6	11.3	22.0	10.0	15.0
29-Feb-16	8.8	9.2	6.1	8.6	5.1	7.5	11.5	2.5	10.0

Remarks: *(i) bold with underline indicated Limit Level exceedance*
 # Additional water quality monitoring at the exceeded location(s) due to two consecutive *monitoring days indicated Limit Level exceedance.*

Table 6-2 Water Quality Monitoring Results Associated of Contracts 5, 6 and SS C505

Date	Dissolved Oxygen (mg/L)		Turbidity (NTU)		Suspended Solids (mg/L)	
	WM1	WM1-Control	WM1	WM1-Control	WM1	WM1-Control
1-Feb-16	12.3	11.8	40.7	30.4	28.5	25.0
3-Feb-16	11.7	12.7	37.6	13.8	41.5	15.5
5-Feb-16	11.5	16.1	18.7	21.6	35.0	11.0
11-Feb-16	11.9	11.1	46.9	5.0	40.0	2.0
13-Feb-16	12.0	12.0	41.0	8.1	44.5	6.0
16-Feb-16	11.8	12.7	19.4	20.3	19.0	47.0
18-Feb-16	8.4	8.3	42.2	7.8	39.0	11.5
20-Feb-16	9.4	9.9	18.3	14.2	50.0	30.5
22-Feb-16	9.1	9.3	32.3	7.8	35.0	5.5
24-Feb-16	9.2	9.1	49.6	8.4	41.0	12.0
26-Feb-16	9.5	10.4	17.0	7.3	15.0	6.0
29-Feb-16	9.3	10.5	49.9	10.2	51.5	11.0

Table 6-3 Water Quality Monitoring Results Associated only Contract 6

Date	Dissolved Oxygen (mg/L)				Turbidity (NTU)				Suspended Solids (mg/L)			
	WM2A	WM2A-C	WM2B	WM2B-C	WM2A	WM2A-C	WM2B	WM2B-C	WM2A	WM2A-C	WM2B	WM2B-C
1-Feb-16#	--	--	--	--	--	--	**89.7**	9.5	--	--	**64.0**	12.0
2-Feb-16	12.0	13.3	12.8	11.1	19.8	5.3	**233.0**	3.5	11.5	<2	**269.5**	2.0
3-Feb-16#	--	--	--	--	--	--	10.2	8.7	--	--	7.0	6.0
4-Feb-16	9.2	9.2	9.9	9.3	17.9	42.0	10.8	5.1	14.5	21.5	11.5	11.0
6-Feb-16	14.5	15.2	13.4	10.9	6.0	7.2	5.2	3.2	3.0	3.0	3.0	<2
11-Feb-16	11.9	11.6	11.9	10.7	5.5	5.0	3.8	4.1	4.5	2.0	2.0	5.0
13-Feb-16	12.2	12.1	11.4	12.4	6.0	7.1	3.6	9.6	7.5	4.0	2.5	11.5
15-Feb-16	11.8	11.2	12.0	10.8	5.9	6.7	4.5	3.3	7.5	4.0	4.5	3.0
17-Feb-16	9.0	8.9	7.5	7.3	4.8	5.7	4.2	3.2	3.0	2.0	2.0	<2
19-Feb-16	9.4	9.1	9.7	8.3	23.0	12.7	10.4	12.2	14.5	10.0	9.0	37.0
23-Feb-16	7.9	8.7	10.1	9.5	8.6	7.3	**25.7**	5.9	4.5	3.0	11.0	9.5
24-Feb-16#	--	--	--	--	--	--	10.5	4.9	--	--	7.0	<2
25-Feb-16	9.9	9.8	10.2	8.2	13.5	7.4	**95.5**	2.5	8.0	2.0	**80.5**	<2
26-Feb-16#	--	--	--	--	--	--	2.9	6.2	--	--	6.0	6.0
27-Feb-16	10.2	9.3	10.7	9.8	22.2	6.4	10.7	4.1	12.0	<2	9.0	<2
29-Feb-16	9.6	9.5	9.3	8.3	10.4	7.6	**47.4**	5.9	11.5	3.5	**39.0**	3.5

Remarks: *(ii) bold with underline indicated Limit Level exceedance*
 # Additional water quality monitoring at the exceeded location(s) due to two consecutive *monitoring days indicated Limit Level exceedance.*

Table 6-4 Water Quality Monitoring Results Associated Contracts 2 and 6

Date	Dissolved Oxygen (mg/L)		Turbidity (NTU)		Suspended Solids (mg/L)	
	WM3	WM3-Control	WM3	WM3-Control	WM3	WM3-Control
2-Feb-16	11.8	12.1	11.2	14.7	6.0	31.0
4-Feb-16	10.2	11.7	16.2	22.6	14.0	21.5
6-Feb-16	11.6	10.3	8.0	15.5	10.0	14.0
11-Feb-16	10.7	11.1	4.2	5.0	5.5	10.5
13-Feb-16	11.8	12.8	8.2	22.6	<2	19.5
15-Feb-16	11.0	10.2	10.3	12.3	7.5	22.5
17-Feb-16	7.3	7.5	5.1	10.5	10.0	41.5
19-Feb-16	9.6	9.3	25.0	28.0	20.0	43.5
23-Feb-16	8.6	9.0	13.9	34.0	12.5	26.0
25-Feb-16	9.6	9.8	46.5	334.0	34.5	197.0
27-Feb-16	10.8	9.5	9.0	17.4	7.0	25.5
29-Feb-16	9.0	8.9	16.0	17.2	16.5	33.0

Table 6-5 Breaches of Water Quality Monitoring Criteria in Reporting Period

Location	Dissolved Oxygen		Turbidity		Suspended Solids		Total Exceedance	
	Action	Limit	Action	Limit	Action	Limit	Action	Limit
WM1	0	0	0	0	0	0	0	0
WM2A	0	0	0	0	0	0	0	0
WM2B	0	0	0	**5**	0	**4**	0	**9**
WM3	0	0	0	0	0	0	0	0
WM4	0	0	0	**1**	0	**1**	0	**2**
No of Exceedance	0	0	0	**6**	0	**5**	0	**11**

6.2.3 In this Reporting Period, a total of eleven (11) Limit Levels (LL) exceedances, namely six (6) LL exceedances of turbidity and five (5) LL exceedances of Suspended Solids were recorded for the Project. Specifically, there were five (5) LL of Turbidity and four (4) LL Level of Suspended

Solids recorded at WM2B and one (1) LL of Turbidity and one (1) LL of Suspended Solids recorded at WM4.

6.2.4 NOE was issued to relevant parties upon confirmation of the monitoring result. The cause of exceedance is summarized in ***Table 6-6*** accordance to investigation findings and the detailed investigation reports for the exceedances are attached in ***Appendix N***.

Table 6-6 Summary of Water Quality Exceedance in the Reporting Period

Exceedance Day	Location	Exceeded Parameter	Cause of Water Quality Exceedance
1-Feb-16	WM2B	NTU & SS	Soil erosion and generation of run-off from the excavation area at North Portal was happened on 1 and 2 February 2016 during rainstorm. **The exceedances were related to Contract 6**. The Contractor had enhanced the mitigation measures such as covering the open slope as far as practicable to minimize muddy runoff and construction of sump pit to collect the site runoff. The construction of 2 new sump pits under the slopes and covering of open slopes were completed on 5 February 2016.
2-Feb-16	WM2B	NTU & SS	
23-Feb-16	WM2B	NTU	The exceedances were due to the shallow water and the disturbance of sediment at river bed and ***unlikely related to the works under Contract 6***.
25-Feb-16	WM2B	NTU & SS	The exceedances were related to the external turbid water emerged from the outlet pipe and ***unlikely due to the works under Contract 6.***
26-Feb-16	WM4	NTU & SS	The Contractor of Contract 3 was conducted the removal work of the supporting of Bridge E on 26 February 2016. The removal of broken concrete by an excavator stirred up the river bed. **The exceedances were related to Contract 3.** The Contractor explained that in order to reinstate the river, this process is unavoidable. Since the river is fairly shallow in the dry season and working in the river inevitably disturbed the river bed, very few could be done to get rid of the impact. As to minimize the impact, the Contractor was managed to remove broken concrete in 3 days (25 to 27 February 2016). The construction activities carried out by Contract 2 was away from the river course and no discharge was made on 26 February 2016, it is considered that the **exceedances were not related to Contract 2**.
29-Feb-16	WM2B	NTU & SS	The exceedances were due to the shallow water and the disturbance of sediment at river bed and ***unlikely related to the works under Contract 6***.

7 WASTE MANAGEMENT

7.1 GENERAL WASTE MANAGEMENT

7.1.1 Waste management was carried out in accordance with the Waste Management Plan (WMP) for each contract.

7.2 RECORDS OF WASTE QUANTITIES

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

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

7.2.2 The quantities of waste for disposal in this Reporting Period are summarized in ***Tables 7-1*** and ***7-2*** and the Monthly Summary Waste Flow Table is shown in ***Appendix L***. Whenever possible, materials were reused on-site as far as practicable.

Table 7-1 Summary of Quantities of Inert C&D Materials for the Project

Type of Waste	Contract 2		Contract 3		Contract 5		Contract 6		Contract 7		Contract SS C505		Total Quantity
	Qty.	Disposal location	Qty.	Disposal location	Qty.	Disposal location	Qty.	Disposal location	Qty.	Disposal location	Qty.	Disposal location	
C&D Materials (Inert) (in '000m^3)	**55.6715**	--	**1.225**	--	0	--	**74.418**	--	**0.16**	--	**0.858**	--	**132.3325**
Reused in this Contract (Inert) (in '000 m^3)	**1.0145**	--	**0.020**	--	0	--	**8.785**	--	0	--	0	--	**9.8195**
Reused in other Contracts/ Projects (Inert) (in '000 m^3)	**38.3484**	C6/ NENT# & other projects approved by the ER	0	--	0	--	**39.85**	C5 & other projects approved by the ER	0	--	0	--	**78.1984**
Disposal as Public Fill (Inert) (in '000 m^3)	**16.3085**	Tuen Mun 38	**1.205**	Tuen Mun 38	0	--	**25.783**	Tuen Mun 38	**0.16**	Tuen Mun 38	**0.858**	TKO 137	**44.3145**

Remark #: The C&D materials were delivered to NENT for reuse by laying cover of the landfilling area.

Table 7-2 Summary of Quantities of C&D Wastes for the Project

Type of Waste	Contract 2		Contract 3		Contract 5		Contract 6		Contract 7		Contract SS C505		Total Quantity
	Qty.	Disposal location	Qty.	Disposal location	Qty.	Disposal location	Qty.	Disposal location	Qty.	Disposal location	Qty.	Disposal location	
Recycled Metal ('000kg) #	0	-	0	-	0	--	0	--	0	--	**0.0004**	Licensed collector	**0.0004**
Recycled Paper / Cardboard Packing ('000kg) #	0	-	0	-	0	--	**0.097**	Licensed collector	0	--	**0.0186**	Licensed collector	**0.1156**
Recycled Plastic ('000kg) #	0	--	0	-	0	--	0	--	0	--	0	--	**0**
Chemical Wastes ('000kg) #	**0.8800**	Licensed collector	0	-	0	--	0	--	0	--	0	--	**0.88**
General Refuses ('000m^3)	**0.1089**	NENT	**0.110**	NENT	**0.045**	NENT	**0.339**	NENT	0	--	**0.21**	NENT	**0.8129**

Remark #: Unit of recycled metal, recycled paper/ cardboard packing, recycled plastic and chemical waste for Contract 3 was in ('000m^3).

8 SITE INSPECTION

8.1 REQUIREMENTS

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

8.2 FINDINGS / DEFICIENCIES DURING THE REPORTING MONTH

Contract 2

8.2.1 In the Reporting Period, joint site inspection for Contract 2 to evaluate the site environmental performance has been carried out by the RE, IEC, ET and the Contractor on **5, 12, 19 and 26 February 2016**. No non-compliance was noted.

8.2.2 The findings / deficiencies of ***Contract 2*** that observed during the weekly site inspection are listed in ***Table 8-1***.

Table 8-1 Site Observations for Contract 2

Date	Findings / Deficiencies	Follow-Up Status
5 February 2016	• Water spraying should be provided for breaking and loading activities to reduce dust generation. (South Portal) • Stagnant water cumulated inside the waste skip was observed. The contractor should remove the ponding water to prevent mosquito breeding. (Mid-Vent)	• Water spraying provided to dusty operations, including breaking. • Frequency of removal of stagnant water and rubbish increased.
12 February 2016	• The Contractor was reminded to provide water spraying or relevant measures for waste storage tank to prevent fugitive dust. (Mid-Vent)	• Not required for reminder.
19 February 2016	• Anti mosquito inspection checklist should be updated correctly every week. (South Portal)	• Not required for reminder.
26 February 2016	• No adverse environmental were observed.	NA

Contract 3

8.2.3 In the Reporting Period, joint site inspection for Contract 3 to evaluate the site environmental performance has been carried out by the RE, IEC, ET and the Contractor on **1, 11, 17, 22 and 29 February 2016**. No non-compliance was noted.

8.2.4 The findings / deficiencies of ***Contract 3*** that observed during the weekly site inspection are listed in ***Table 8-2***.

Table 8-2 Site Observations for Contract 3

Date	Findings / Deficiencies	Follow-Up Status
1 February 2016	• White smoke emission was observed from the generator at SA7, the Contractor should carry out mainenance for the generator. • The Contractor should provide the Environmental Permit of the project at site exit SA 12 for public inspection.	• The generator was removed from site for maintenance. • Environmental permit was provided for easy public inspection.

Date	Findings / Deficiencies	Follow-Up Status
	• Muddy runoff on site (Pier AA2) overflow into nearby channel was observed. The Contractor should take measures to aviod the muddy runoff disharge into the channel. • The Contractor should ensure the site exit SA18 and public access road free to soil and muddy water.	• No muddy runoff from site was observed. • The site exit SA 18 and public access road was free of soil and muddy water.
11 February 2016	• No adverse environmental were observed.	• NA
17 February 2016	• Plug for the drip tray is missing. The contractor should plug the drip tray to prevent waste oil inside drip tray spilt out. (Bridge J) • The contractor was reminded to provide regular checking or maintenance for the plant using on site to prevent dark / heavy smoke emission. (Bridge J) • Mitigation measures should be provided for the stagnant water cumulated on site to prevent mosquito breeding. (General)	• The drip tray under the generator at Bridge J was plugged • Not required for reminder. • Not required for reminder.
22 February 2016	• No adverse environmental were observed.	• NA
29 February 2016	• Smoke emission from a generator was observed at Bridge J, the Contractor should replace it or provide maintenance. • The Contractor should ensure that the discharge water quality fulfill the requirment of discharge license and the discharge of turbid water should be avoided. • In general, the Contractor was reminded to pay attention on the dust mitigation measures.	• No dark smoke emission from the generator was observed. • Not required for reminder. • Not required for reminder.

Contract 5

8.2.5 In the Reporting Period, joint site inspection for Contract 5 to evaluate the site environmental performance has been carried out by the RE, IEC, ET and the Contractor on **2, 11, 16 and 23 February 2016**. No non-compliance was noted.

8.2.6 The findings / deficiencies of ***Contract 5*** that observed during the weekly site inspection are listed in ***Table 8-3***.

Table 8-3 Site Observations for Contract 5

Date	Findings / Deficiencies	Follow-Up Status
2 February 2016	• No adverse environmental were observed.	• NA
11 February 2016	• The Contractor should carry out dust mitigation for the stockpile at 1500 pipe to reduce dust generation.	• Water spraying is provided to the stockpile at 1500 pipe.
16 February 2016	• No adverse environmental were observed.	• NA

Date	Findings / Deficiencies	Follow-Up Status
23 February 2016	• A tree without fencing was observed at BCP, it is reminded that tree protection zone should be provided.	• Not required for reminder.

Contract 6

8.2.7 In the Reporting Period, joint site inspection for Contract 6 to evaluate the site environmental performance has been carried out by the RE, IEC, ET and the Contractor on **4, 12, 18 and 25 February 2016**. No non-compliance was noted.

8.2.8 The findings / deficiencies of ***Contract 6*** that observed during the weekly site inspection are listed in ***Table 8-4***.

Table 8-4 Site Observations for Contract 6

Date	Findings / Deficiencies	Follow-Up Status
4 February 2016	• Trees without proper protective measures were observed at North Portal, the Contractor should fence off the retained trees. • Muddy trails at the site exit in SKT road were observed, the Contractor should modify the vehicle washing procedure and system. And the Contractor should ensure that all vehicles are washed the mud off before leaving the site. • Excavation works were observed at North Portal, the Contractor was reminded to cover the exposed slope and provide temporary drainage system. It is agreed that there measures should be provided by the CNY holiday.	• Plastic net has been erected to fence off the tree from works area. • Additional drainage trap has been constructed. Volume of pit has been increased. Water pump, sedimentation tank and sand bag bund have been provided as to collect water run-off. • Not required for reminder.
12 February 2016	• No adverse environmental were observed.	NA
18 February 2016	• The Contractor should erect the orange plastic net fencing and maintain the tree protection zone properly at Bridge D • At Bridge D, stagnant water accumulated in drip tray was observed, the Contractor should drain away the stagnant water. • Smoke emission from an excavator at Bridge D was observed, the Contractor should provide plant maintenance to prevent smoke emission. • Proper fencing has already been provided for the trees at Ng Chau Road, however warning sign is recommended to be provided to prevent damage from construction plant movement and works. • The Contractor was reminded to provide temporary drainage for the works area with exposed surface at Ng Chau Road.	• Plastic net has been erected to separate trees from works area. • Stagnant water in drip tray has been removed. • Plant maintenance has been carried out. • Not required for reminder. • Not required for reminder.

Date	Findings / Deficiencies	Follow-Up Status
25 February 2016	• Muddy water accumulated at public access road at STK road was observed, the Contractor should ensure that no vehicle washing water run-off could occur and prevent muddy water entering public drain. • The Contractor should maintain and improve the cleanliness of the public footpath at WKS Road. • The Contractor was reminded to provide high water jet for the vehicle washing system. (Location: Site entrance/exit at WKS Road).	• No muddy water accumulated at public access road at STK road was observed. • The condition of the public footpath at the site entrance has been improved. • Not required for reminder.

Contract SS C505

8.2.9 In the Reporting Period, joint site inspection for Contract SS C505 to evaluate the site environmental performance has been carried out by the RE, IEC, ET and the Contractor on **3, 11, 17 and 24 February 2016**. No non-compliance was noted.

8.2.10 The findings / deficiencies of ***Contract SS C505*** that observed during the weekly site inspection are listed in ***Table 8-5***.

Table 8-5 Site Observations for Contract SS C505

Date	Findings / Deficiencies	Follow-Up Status
3 February 2016	• NRMM label was missing for excavator at Portion 2. The Contractor should provide the exemption/approval label for the excavator under the NRMM regulation • Stagnant water stored at lifting eye of concrete blocks at Portion 2 was observed. The Contractor should take measures to avoid stagnant water being stored. • Muddy sediment was observed at drainage channel at Portion 1. The Contractor should clear the sediment and ensure the channel function properly.	• Approval label was provided for the excavator. • No stagnant water stored and the lifting eye was filled by sand. • Removal of muddy sediment at the drainage channel was implemented.
11 February 2016	• No adverse environmental were observed.	NA
17 February 2016	• No adverse environmental were observed.	NA
24 February 2016	• Muddy sediment was observed at the drainage channel near the wastewater discharge point at Portion 1. The Contractor should remove the sediment to maintain the performance of the channel.	• The muddy sediment at the drainage channel was removed.

Contract 7

8.2.11 Although construction activities under ***Contract 7*** have not yet commenced, site preparation work was conducted in the Reporting Period. In the Reporting Period, two occasions of joint site inspection to evaluate the site environmental performance were carried out on **5 and 26 January 2016**. No non-compliance was noted.

8.2.12 The findings / deficiencies of ***Contract 7*** that observed during the weekly site inspection are listed in ***Table 8-6***.

Table 8-6 Site Observations for Contract 7

Date	Findings / Deficiencies	Follow-Up Status
16 February 2016	• The Contractor should display the Environmental Permit (EP) at the site entrance/exit.	• Environmental Permit (EP) is provided at the site entrance/exit
23 February 2016	• Smoke emission from an excavator was observed at Gate 53A. The Contractor should provide maintenance for the construction plant to prevent smoke emission.	• Maintenance of the excavator has been carried out

8.2.13 Overall, general housekeeping such as daily site tidiness and cleaniness should be maintained for all Contracts. Furthermore, the Contractors were reminded to implement Waste Management Plan of the Project.

Other Contracts

8.2.14 Since Contract 4 has not yet commenced, no site inspection were performed.

9 ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

9.1 ENVIRONMENTAL COMPLAINT, SUMMONS AND PROSECUTION

9.1.1 In the Reporting Period, no summons and prosecution under the EM&A Programme was lodged for Contracts 2, 3, 5, 6, 7 and Contract SS C505. However, three (3) documented environmental complaints were received for the Project. Specifically, two (2) complaints were related to Contracts 6 regarding turbid water and soil/ debris brought by the dump trucks water on 22 and 23 February 2016 respectively. Besides, one (1) complaint was received for Contract 3 regarding construction noise issues on 18 February 2016. Follow up actions have been undertaking by the Contractor to resolve the deficiencies. Investigation report for complaint on 18 and 23 February 2016 had conducted by ET whereas 22 February 2016 was underway.

9.1.2 Upon receipt of the complaint, follow up action has been undertaken by both Contractor promptly to resolve the complaints and deficiencies. During the complaint investigation work, the Contractor was co-operated with the ET in providing all the necessary information and assistance for completion of the investigation. Follow up actions have been undertaking by the Contractor to resolve the deficiencies The details of complaint are listed below:-

Investigation Result for the Documented Complaint received via 1823 on 18 February 2016

9.1.3 A complaint was received via 1823 on 18 February 2016 regarding construction noise generated from the construction of flyover near Yuen Leng Village of Kau Lung Hang.

9.1.4 The Contractor of Contract 3 (Chun Wo) was immediate liaised with the complainant on 19 February 2016. The complainant expressed that the construction activities carried out inside the Yuen Leng Village are close to her house which causing noise nuisance. Since there are several concurrent projects undertaking near the complaint location, as further discussed with the complainant, it was figure out that the complained construction works in Yuen Leng Village was not within the scope of Contract 3.

9.1.5 Joint site inspection among the RE, IEC, Contractor and ET was carried out on 22 February 2016 for the complaint investigation. During the inspection, it was observed that the complaint location is located outside the site boundary of Contract 3. There are several concurrent projects undertaking by other contractors, including the construction of flyover and road works which were not within the scope of Contract 3. Therefore, it is considered that the complaint was not related to the works under Contract 3.

9.1.6 As advised by Chun Wo, the complainant was understood that the concerned works were not related to Contract 3 and she will seek for appropriate Authority to follow up.

Investigation Result for the Documented Complaints received by EPD on 22 January 2016

9.1.7 On 22 February 2016, EPD notified CCKJV that a complaint was received with respect to the turbid river water observed in Ng Tung River near Contract 6's site office. Upon receipt of the complaint, EPD requested CCKJV to carry out self-checking of the wastewater treatment facility near Bridge A in order to fulfill the requirement of water discharge quality.

9.1.8 During site inspection by the RE, IEC, Contractor and ET on 25 February 2016, turbid water was observed in Ng Tung River which behind the Contract 6's site office. Inspection was then carried out at the concerned construction site (Bridge A) and it was observed that the AquaSed (SH-06) which adjacent to the wheel washing machine at Bridge A was not functioning properly due to excessive cleaning of dump trucks. CCKJV was repeatedly advised to enhance the environmental performance and make sure all construction related activities are in compliance with the the relevant statutory and non-statutory requirements for environmental protection. In response to this complaint, CCKJV agreed to immediate increase the desludging frequency of the AquaSed from three times per week to daily basis.

9.1.9 Representatives of EPD was carried out site inspection accompanied with the RE and CCKJV on 1 March 2016. The inspected area was in Bridge A and there were several comments raised out

by EPD during the site inspection which are summarized as follows.

(a) EPD expressed their concerns of soil and mud would be accumulated at the site exit of Wo Keng Shan Road by the dump trucks due to the wheel washing machine is far away from the site exit and also the site haul road is found muddy. EPD advised that the entire wheel washing arrangement at Bridge A should be modified so as to improve the performance and prevent soil or mud from leaving on public road by vehicles from site.

(b) Desilting of temporary drainage adjacent to existing wheel washing facility should be performed more frequently.

(c) Desilting of nullah which is connected to Ng Tung River should be performed more frequently.

(d) EPD commented that the wastewater collection at sump pit, diversion and treatment arrangement should be strengthened in order to ensure the wastewater generated from the wheel washing activities treated in a more effective way.

(e) Muddy water should be prevented from entering the drainage ditch at the Wo Keng Shan Park access.

9.1.10 Site inspection was carried out by the RE, IEC, Contractor and ET on 3 March 2016 to follow up the water discharge condition and improvement works conducted by CCKJV. There was no turbid observed at Ng Tung River. The observation of improvement works are presented in below.

(a) A labor was deployed to wash the haul road and site exit of Bridge A, The site exit was kept clear of mud and soil and maintained wetted.

(b) Sand bag barrier was provided to isolate the active construction area and the haul road. The haul road was hard paved and kept clear of mud and soil.

(c) The AquaSed (SH-06) was function properly and the effluent was visually clear after frequent desludging.

(d) Desilting was carried out at the temporary drainage adjacent to existing wheel washing facility and the water quality in the temporary drainage was visually clear.

(e) The water quality in the nullah after the wheel washing facility connected to Ng Tung River was visually clear.

9.1.11 CCKJV advised that muddy water cumulated at the drainage ditch at the Wo Keng Shan access will be cleaned up. As advised by CCKJV, self-checking of the wastewater treatment facility near Bridge A was conducted daily to ensure the discharge water fulfill the requirement of water discharge quality. The result could be retrieved upon requested. Further enhancement of the wheel washing arrangement of Bridge A, such as deploy of new washing bay, additional sedimentation tanks and WetSep and sump pit modification, are planned. Those works are scheduled to be commenced on 10 Mar 2016 and will be completed by the end of March 2016.

9.1.12 During site inspection on 3 March 2016, it is considered that the intermit remedial works carried out by CCKVJ is acceptable. ET will keep monitor the enhancement works throughout March 2016.

Investigation Result for the Documented Complaints received by CEDD on 23 February 2016

9.1.13 On 23 February 2016, a complaint was received by CEDD regarding the soil/ debris brought by the dump trucks from the construction site running along Sha Tau Kok Road. Besides, road cleaning by water bowser carried out by Food and Environmental Hygiene Department was not effectively remove the soil/ debris and the cumulated muddy water was splashed on the vehicle passing by the road.

9.1.14 A joint site inspection among the RE, IEC, Contractor of Contract 6 (CCKJV) and ET was conducted on 25 February 2016 for the complaint investigation. The inspected area included the

concerned section of Sha Tau Kok Road and three (3) construction site exits maintained by CCKJV along Sha Tau Kok Road and Wo Keng Shan Road.

Condition of Sha Tau Kok Road (overview)

9.1.15 During the site inspection, it is observed that road surface of the concerned section of Sha Tau Kok Road was partially wetted after road cleaning by water bowser. The road was kept clear of soil/ debris and no adverse environmental impact especially in road cleanliness was observed. As advised by the CCKJV, road cleaning by water bowser was carried out at least 3 times per day on Monday, Wednesday and Friday.

Condition of Construction Site Exit at Sha Tau Kok Road

9.1.16 During the site inspection, it was observed that manual wheel washing was provided at the site exit. As a mitigation measure, a cut-off ditch was constructed in order to divert the wastewater generated from wheel washing activity to the sump pit to undergo treatment. However, the residual water from manual wheel washing was getting into the adjacent Sha Tau Kok Road. There was a cut-off trench located right before the site exit to incept the residual water from manual wheel washing but the effectiveness is doubted. During site inspection on 3 March 2016, the Contractor has enlarged the cut-off trench in order collect the wastewater as far as possible and the condition of the site exit was improved. Moreover, the Contractor was advised that the manual wheel washing would only carry out within the site boundary to prevent wastewater getting into the public area. As advised by the Contractor, this site exit will be dismantled in mid-March 2016 due to road diversion and ET will closely monitor the condition of the site exit in the subsequent site inspection.

Condition of Construction Site Exit at Wo Keng Shan Road (Works Area: Wo Keng Shan)

9.1.17 During the site inspection, it was observed a wheel washing facilities with associated AquaSed for wastewater treatment was deployed at the site exit. The condition of the site exit of and the connected Wo Keng Shan road was kept clear of soil/ debris and no adverse environmental impact especially in road cleanliness was observed. As advised by the CCKJV, road cleaning by water bowser was carried out at Ko Keng Shan least 3 times per day on Monday, Wednesday and Friday.

Condition of Construction Site Exit at Wo Keng Shan Road (Works Area: South Portal)

9.1.18 During the site inspection, it was observed an automatic wheel washing facilities with associated AquaSed for wastewater treatment was deployed at the site exit. The condition of the site exit of and the connected Wo Keng Shan road was kept clear of soil/ debris and no adverse environmental impact especially in road cleanliness was observed. As advised by the CCKJV, road cleaning by water bowser was carried out at Ko Keng Shan least 3 times per day on Monday, Wednesday and Friday.

9.1.19 Since there are many other dump trucks out of the project running along the Sha Tau Kok Road and no observable oil/debris was brought out by any trucks of LT/HYW, particularly the Site Exit at Sha Tau Kok Road maintained by CCKJV, it is considered that the complaint is unlikely to the Project. Nevertheless, CCKJV was advised to closely monitor the condition of the site exit and further improve the wheel washing facilities if necessary.

9.1.20 The statistical summary table of environmental complaint is presented in ***Tables 9-1, 9-2*** and ***9-3***.

Table 9-1 Statistical Summary of Environmental Complaints

Reporting Period	Contract No	Environmental Complaint Statistics		
		Frequency	Cumulative	Complaint Nature
19 May 2014 – 31 Jan 2016	Contract 2	0	**13**	• **(6) Water Quality** • **(5) Construction Dust** • **(2) Noise**
06 Nov 2013 – 31 Jan 2016	Contract 3	0	**3**	• **(1) Construction Dust** • **(2) Water quality**
16 Aug 2013 – 31 Jan 2016	Contract 5	0	**2**	• **(2) Construction Dust**
16 Aug 2013 – 31 Jan 2016	Contract 6	0	**3**	• **(2) Water Quality** • **(1) Construction Dust**

Reporting Period	Contract No	Environmental Complaint Statistics		
		Frequency	Cumulative	Complaint Nature
16 Aug 2013 – 31 Jan 2016	SS C505	0	**0**	**N/A**
1 – 29 Feb 2016	Contract 2	0	**13**	• **(6) Water Quality** • **(5) Construction Dust** • **(2) Noise**
	Contract 3	**1**	**4**	• **(1) Construction Dust** • **(2) Water quality** • **(1) Construction Noise**
	Contract 5	0	**2**	• **(2) Construction Dust**
	Contract 6	**2**	**7**	• **(6) Water Quality** • **(1) construction Dust**
	Contract 7	0	**0**	**N/A**
	SS C505	0	**0**	**N/A**

Table 9-2 Statistical Summary of Environmental Summons

Reporting Period	Contract No	Environmental Summons Statistics		
		Frequency	Cumulative	Complaint Nature
19 May 2014 – 31 Jan 2016	Contract 2	0	0	NA
06 Nov 2013 – 31 Jan 2016	Contract 3	0	0	NA
16 Aug 2013 – 31 Jan 2016	Contract 5	0	0	NA
16 Aug 2013 – 31 Jan 2016	Contract 6	0	0	NA
16 Aug 2013 – 31 Jan 2016	Contract 7	0	0	NA
1 – 29 Feb 2016	SS C505	0	0	NA
	Contract 2	0	0	NA
	Contract 3	0	0	NA
	Contract 5	0	0	NA
	Contract 6	0	0	NA

Table 9-3 Statistical Summary of Environmental Prosecution

Reporting Period	Contract No	Environmental Prosecution Statistics		
		Frequency	Cumulative	Complaint Nature
19 May 2014 – 31 Jan 2016	Contract 2	0	0	NA
06 Nov 2013 – 31 Jan 2016	Contract 3	0	0	NA
16 Aug 2013 – 31 Jan 2016	Contract 5	0	0	NA
16 Aug 2013 – 31 Jan 2016	Contract 6	0	0	NA
16 Aug 2013 – 31 Jan 2016	Contract 7	0	0	NA
1 – 29 Feb 2016	SS C505	0	0	NA
	Contract 2	0	0	NA
	Contract 3	0	0	NA
	Contract 5	0	0	NA
	Contract 6	0	0	NA

The Other Contracts

9.1.21 Since the construction works at the Contract 4 has not yet commenced, no environmental complaint, summons and prosecution under the EM&A Programme are registered in the Reporting Period.

10 IMPLEMENTATION STATUS OF MITIGATION MEASURES

10.1 GENERAL REQUIREMENTS

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

10.1.2 All contracts under the Project shall be implementing the required environmental mitigation measures according to the approved EM&A Manual as subject to the site condition. Environmental mitigation measures generally implemented by Contracts 2, 3, 5, 6, 7 and Contract SS C505 in this Reporting Period are summarized in ***Table 10-1***.

Table 10-1 Environmental Mitigation Measures

Issues	Environmental Mitigation Measures
Water Quality	• Wastewater to be treated by the wastewater treatment facilities i.e. sedimentation tank or similar facility before discharge.
Air Quality	• Maintain damp / wet surface on access road • Low vehicular speed within the works areas. • All vehicles must use wheel washing facility before off site • Sprayed water during breaking works • A cleaning truck was regularly performed on the public road to prevent fugitive dust emission
Noise	• Restrain operation time of plants from 07:00 to 19:00 on any working day except for Public Holiday and Sunday. • Keep good maintenance of plants • Place noisy plants away from residence or school • Provide noise barriers or hoarding to enclose the noisy plants or works • Shut down the plants when not in used.
Waste and Chemical Management	• On-site sorting prior to disposal • Follow requirements and procedures of the "Trip-ticket System" • Predict required quantity of concrete accurately • Collect the unused fresh concrete at designated locations in the sites for subsequent disposal
General	• The site was generally kept tidy and clean.

10.2 TENTATIVE CONSTRUCTION ACTIVITIES IN THE COMING MONTH

10.2.1 Construction activities as undertaken in the coming month for the Project lists below:

Contract 2

Mid-Vent Portal
- Tube excavation (NB+SB)
- Adit invert slab
- Building works foundation

North Portal
- Retaining walls and slope stabilization
- Northbound top heading excavation and tunnel enlargement
- Southbound tunnel internal works and finishes
- TBM excavation

South Portal
- Southbound and Northbound D&B excavation
- Building works superstructure

Admin Building
- Building works foundation

Contract 3

- Cable detection and trial trenches
- Decking construction for Bridge E
- Filling works at Tong Hang East
- Storm Drains Laying

- Noise barrier construction
- Pier / Pier Table construction
- Pile cap works
- Portal beam erection
- Pre-drilling works and piling works for viaduct
- Retaining Wall construction
- Road works at Fanling Highway
- Slope works
- Socket H-pile installation
- Tree felling works
- Utilities duct laying
- Viaduct segment erection
- Water works
- Sewer works

Contract 5

- Laying of rising main (VO61) at LMH road
- Bituminous laying at L15 road and existing LMH road.
- Brick laying at footpath of proposed LMH road
- Road works (kerb and bituminous laying) at existing LMH road
- Construction drainage works at Depressed Road
- Irrigation system at existing LMH Road
- Installation of underground utilities at existing LMH road
- Planting works at proposed & existing LMH road

Contract 6

- Site Clearance
- Slope Works
- Site Accesses Construction
- Ground Investigation Works
- Soil Nail
- Bored Piling
- Pile cap construction
- Road surface

Contract 7

- Erection of Engineer's Site Office
- Ground Investigation Works for Bridge –E
- Piling Works for Bridge B-D
- Pile cap construction for Bridge C

Contract SS C505

- General Site Setup
- Building no. 5 and 9 construction
- Assembly of Crawler Crane / Driling Rig / Pre-boring Rig
- H-pile works
- Tower crane construction
- Erection of Welfare Shelter
- Underground drainage works
- Column works
- Weighbridge works
- Prototype "A" Construction works
- Project Signboard works
- Mock Up Curtain Wall works
- Pile Cap construction

- Bored Pile works

10.3 KEY ISSUES FOR THE COMING MONTH

10.3.1 Key issues to be considered in the coming month for Contracts 2, 3, 5, 6, 7 and SS C505 include:

- Implementation of control measures for rainstorm;
- Regular clearance of stagnant water during wet season;
- Implementation of dust suppression measures at all times;
- Potential wastewater quality impact due to surface runoff;
- Potential fugitive dust quality impact due from the dry/loose/exposure soil surface/dusty material;
- Disposal of empty engine oil containers within site area;
- Ensure dust suppression measures are implemented properly;
- Sediment catch-pits and silt removal facilities should be regularly maintained;
- Management of chemical wastes;
- Discharge of site effluent to the nearby wetland, stockpiling or disposal of materials, and any dredging or construction area at this area are prohibited;
- Follow-up of improvement on general waste management issues; and
- Implementation of construction noise preventative control measures

10.3.2 Contract 4 has not yet commenced and no environmental issue is presented.

11 CONCLUSIONS AND RECOMMENDATIONS

11.1 CONCLUSIONS

11.1.1 This is the **31st** monthly EM&A report presenting the monitoring results and inspection findings for the Reporting Period from **1** to **29 February 2016**.

11.1.2 For air quality monitoring, no 1-hour and 24-hour TSP monitoring results triggered the Action or Limit Levels were recorded. No NOEs or the associated corrective actions were therefore issued.

11.1.3 In the Reporting Period, no construction noise measurement results that exceeded the Limit Level were recorded. However, one (1) noise complaint was received by 1823 for Contract 3 on 18 February 2016 which triggered the Action Level (AL). Investigation report for the complaint was conducted by ET and the result revealed that the complaint was not related to the works under Contract 3.

11.1.4 For water quality monitoring, a total of eleven (11) Limit Level (LL)exceedances were recorded, namely six (6) LL exceedance of turbidity and five (5) LL exceedance of Suspended Solids for the Project. Specifically, there were five (5) LL of Turbidity and four (4) LL Level of Suspended Solids recorded at WM2B and one (1) LL of Turbidity and one (1) LL of Suspended Solids recorded at WM4. The investigations for the cause of exceedances have been conducted by the ET and the associated investigation reports were submitted to relevant parties

11.1.5 No environmental summons or successful prosecutions were recorded in the Reporting Period.

11.1.6 In this Reporting Period, three (3) documented environmental complaints were received for the Project. Specifically, two (2) complaints were related to Contracts 6 regarding turbid water and soil/ debris brought by the dump trucks water on 22 and 24 February 2016 respectively. Besides, one (1) complaint was related to Contract 3 regarding construction noise issues on 18 February 2016. Follow up actions have been undertaking by the Contractor to resolve the deficiencies. Investigation report for complaint on 18 and 24 February 2016 had conducted by ET whereas 22 February 2016 was underway.

11.1.7 During the Reporting Period, weekly joint site inspection by the RE, IEC, ET with the relevant Main-contractor were carried out for Contracts 2, 3, 5, 6, 7 and SS C505 in accordance with the EM&A Manual stipulation. No non-compliance observed during the site inspection.

11.2 RECOMMENDATIONS

11.2.1 In upcoming wet season, preventive measures for muddy water or other water pollutants from site surface flow to local stream such as Kong Yiu Channel, Ma Wat Channel, Ping Yuen River or public area would be the key issue. The Contractors should paid special attention on water quality mitigation measures and fully implement according ISEMM of the EM&A Manual, in particular for Contract 6.

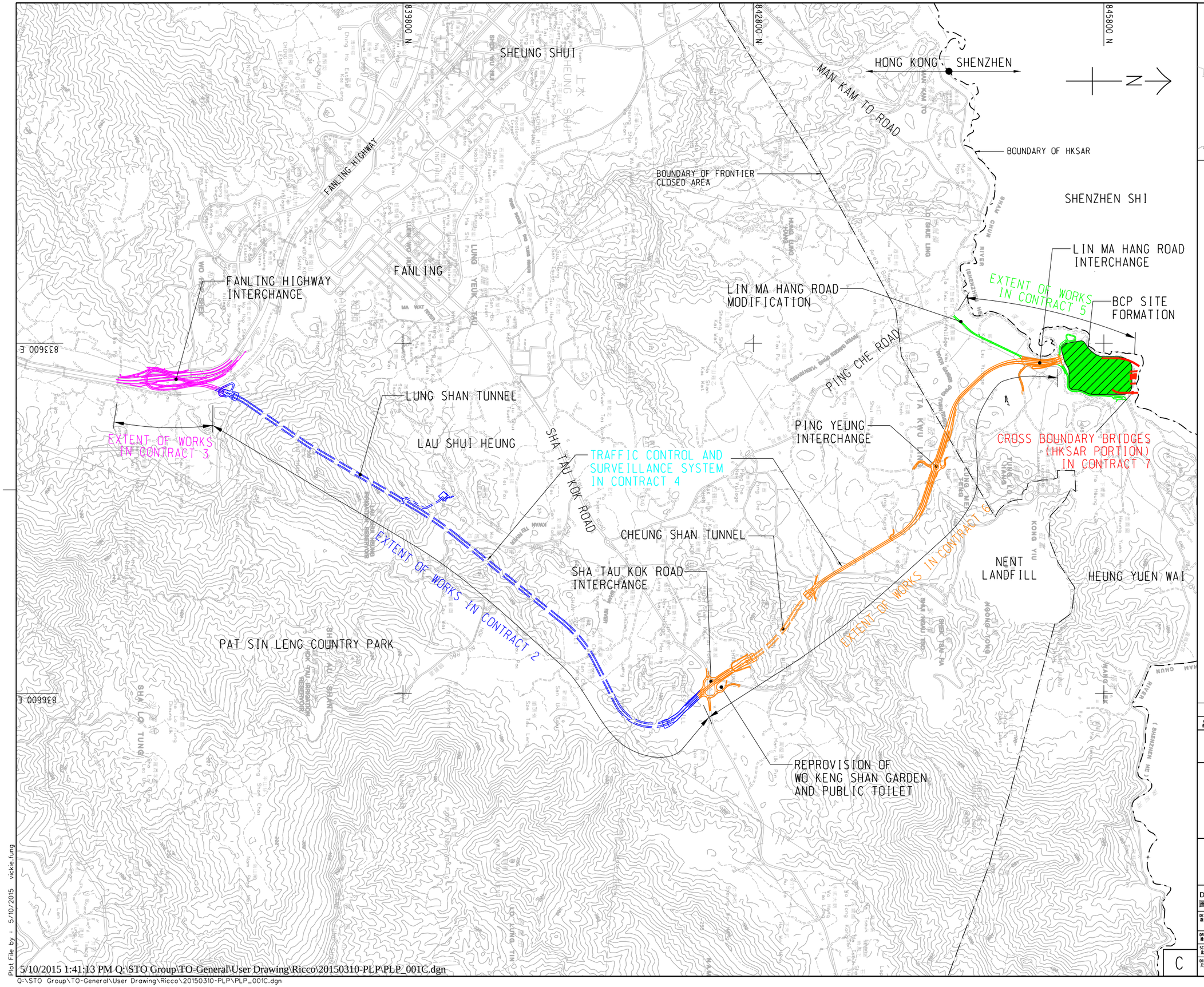
11.2.2 Construction noise would be a key environmental issue during construction work of the Project. Noise mitigation measures such as using quiet plants should be implemented in accordance with the EM&A requirement.

11.2.3 Since most of construction sites under the Project are located adjacent to villages, the Contractors should fully implement air quality mitigation measures to reduce construction dust emission.

11.2.4 Furthermore, daily cleaning and weekly tidiness shall be properly performed and maintained. In addition, mosquito control should be kept to prevent mosquito breeding on site.

Appendix A

Layout plan of the Project



LOCATION PLAN
SCALE 1 : 30000

LEGEND:

UNDERGROUND WORKS

REV. 修訂	DESCRIPTION 內容摘要	D.E. CHECKED 查核	P.E.	DATE 日期

土木工程拓展署
Civil Engineering and Development Department

LIANTANG/HEUNG YUEN WAI BOUNDARY CONTROL POINT AND ASSOCIATED WORKS (SITE FORMATION AND INFRASTRUCTURES) - DESIGN AND CONSTRUCTION

PROJECT LAYOUT PLAN

AECOM

DRG.NO. 圖紙編號 60212563/PLP/001

DESIGNED BY 設計	CONTRACT NO. 合約編號	P. Dir. APPROVED 批准人
–	–	–
DRAWN BY 繪圖 ZJ	STATUS 階段	
SCALE 比例 A1 1 : 15000 A3 1 : 30000		
DIMENSIONS ARE IN 尺寸單位 METRES	© COPYRIGHT RESERVED 版權所有	

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Plot File by : 5/10/2015 vickie.fung

5/10/2015 1:41:13 PM Q:\STO Group\TO-General\User Drawing\Ricco\20150310-PLP\PLP_001C.dgn

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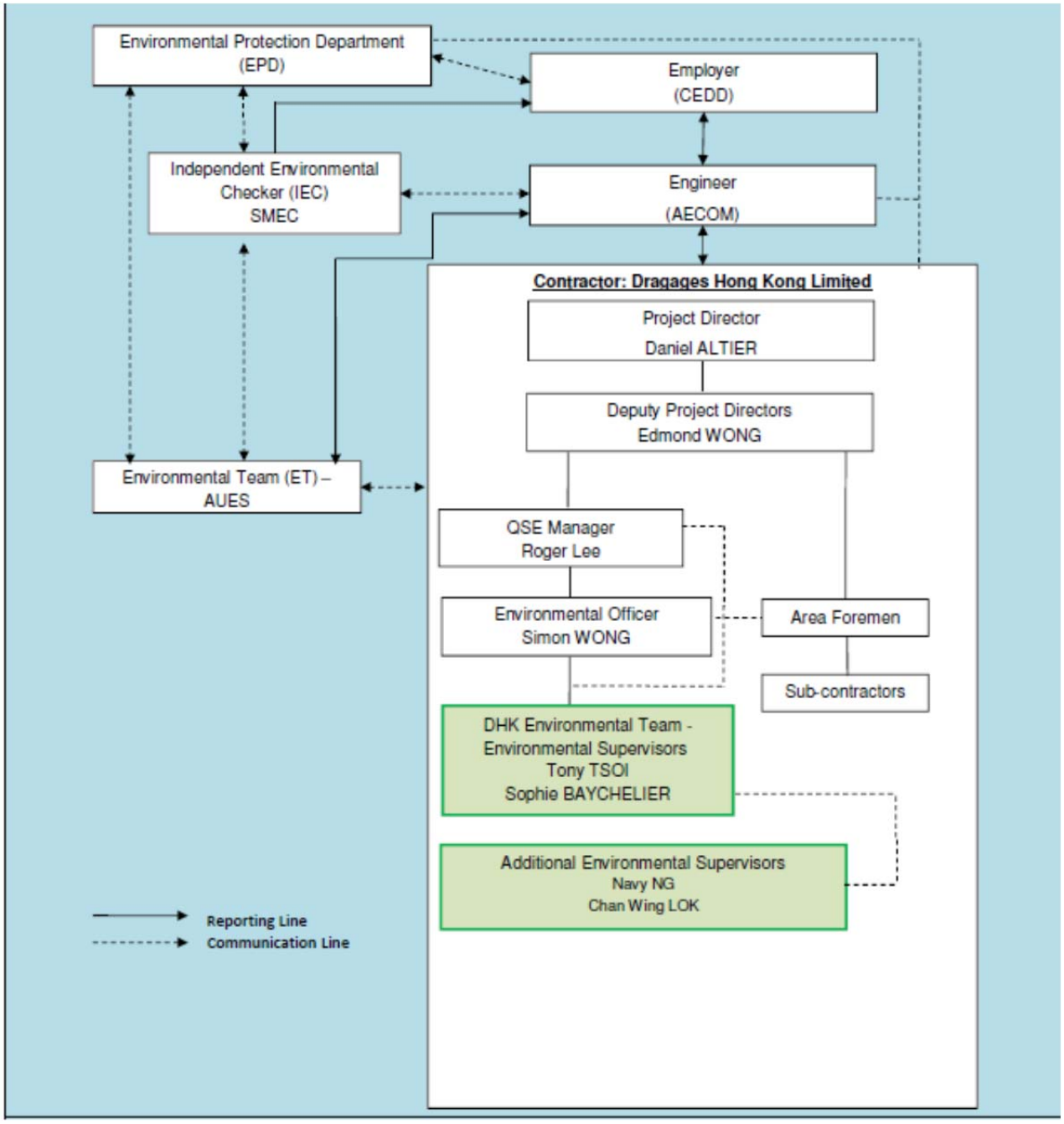
Appendix B

Organization Chart



Environmental Management Organization for Contract 2 - (CV/2012/08)

Contact Details of Key Personnel for Contract 2 - CV/2012/08

Organization	Project Role	Name of Key Staff	Tel No	Fax No.
AECOM	Engineer's Representative	Gregory Lo	2171 3300	2171 3498
SMEC	Independent Environmental Checker	Antony Wong	3995 8120	3995 8101
DHK	Project Director	Daniel Altier	2171 3004	2171 3299
DHK	Deputy Project Manager	Edmond Wong	2171 3004	2171 3299
DHK	QSE Manager	Roger Lee	6293 8726	2171 3299
DHK	Environmental Officer	Simon Wong	2171 3004	2171 3299
DHK	Environmental Supervisor	Sophie Baycheuer	6321 5001	2171 3299
DHK	Environmental Supervisor	Tony Tsoi	6028 5623	2171 3299
AUES	Environmental Team Leader	T. W. Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Nicola Hon	2959 6059	2959 6079
AUES	Environmental Consultant	Ben Tam	2959 6059	2959 6079

Legend:

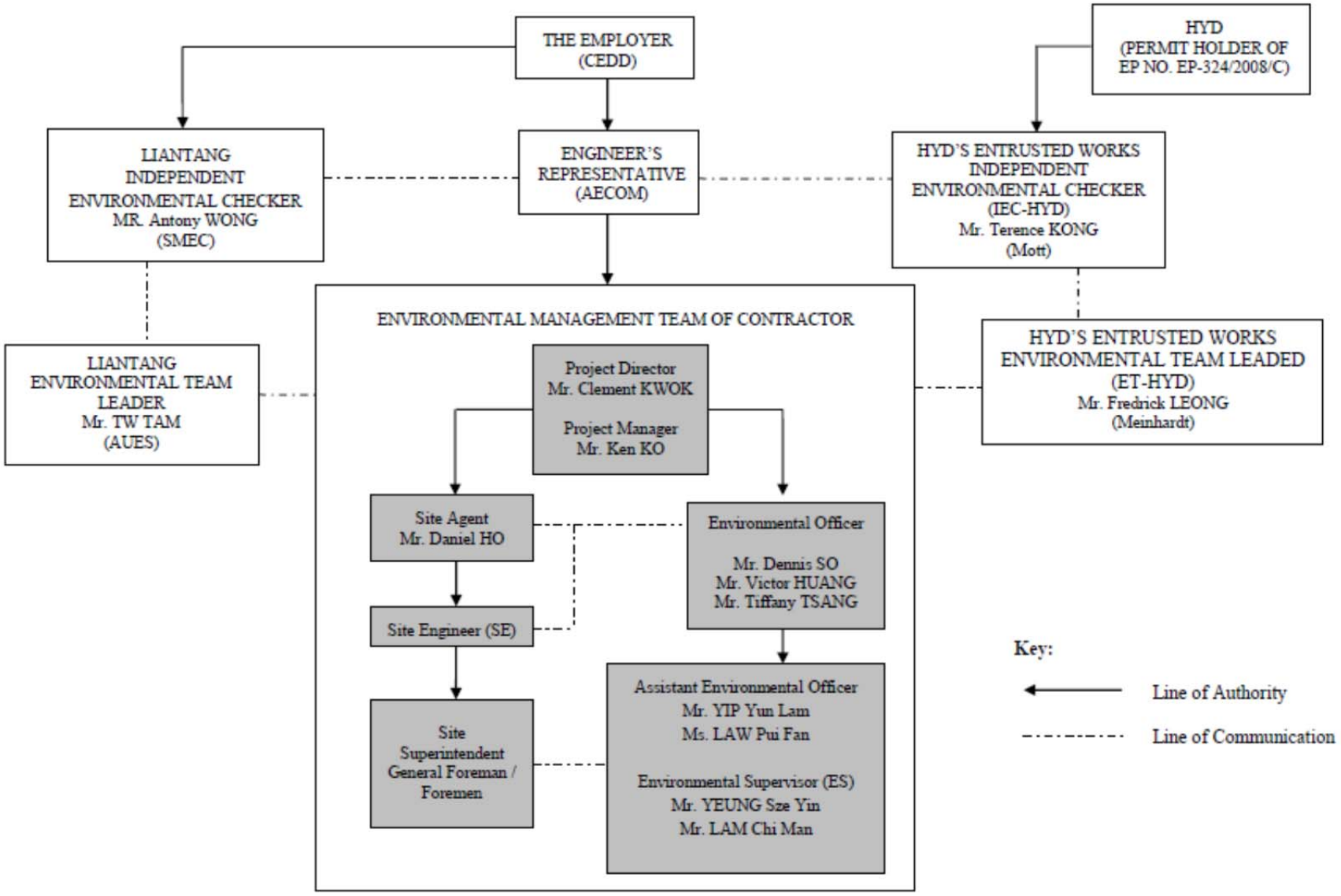
CEDD (Employer) – Civil Engineering and Development Department

AECOM (Engineer) – AECOM Asia Co. Ltd.

DHK(Main Contractor) –Dragages Hong Kong Ltd.

SMEC (IEC) – SMEC Asia Limited

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



Environmental Management Organization for Contract 3 - CV/2012/09

Contact Details of Key Personnel for Contract 3 - CV/2012/09

Organization	Project Role	Name of Key Staff	Tel No	Fax No.
AECOM	Engineer's Representative	Alan Lee	2171 3300	2171 3498
SMEC	Independent Environmental Checker	Antony Wong	3995 8120	3995 8101
Chun Wo	Project Director	Clement Kwok	3758 8735	2638 7077
Chun Wo	Project Manager	Ken Ko	2638 6136	2638 7077
Chun Wo	Site Agent	Daniel Ho	2638 6144	2638 7077
Chun Wo	Environmental Officer	Victor Huang Tiffany Tsang Dennis So	2638 6115	2638 7077
Chun Wo	Assistant Environmental Officer	Yip Yun Lam Law Pui Fan	2638 6125	2638 7077
AUES	Environmental Team Leader	T. W. Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Nicola Hon	2959 6059	2959 6079
AUES	Environmental Consultant	Ben Tam	2959 6059	2959 6079

Legend:

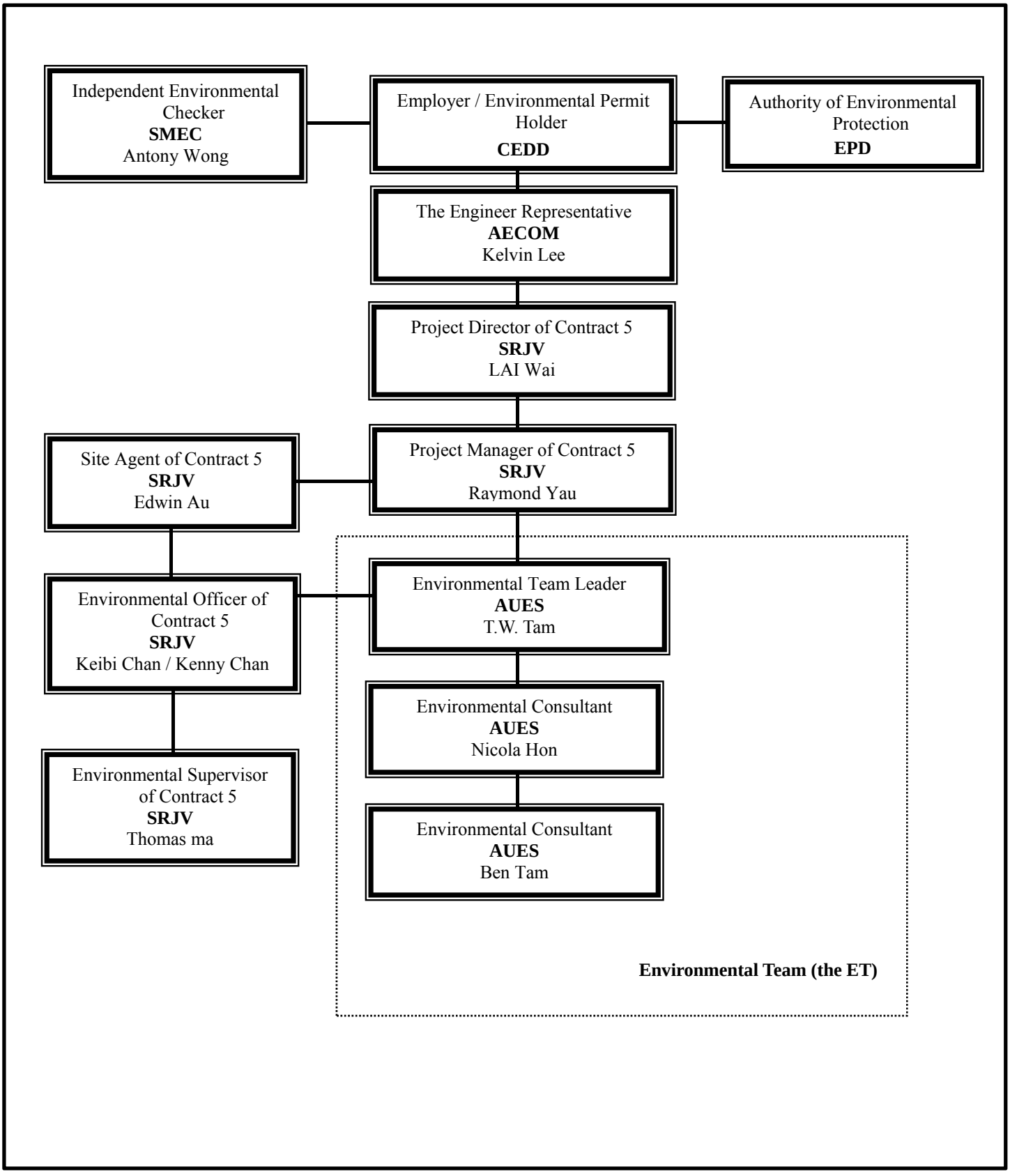
CEDD (Employer) – Civil Engineering and Development Department

AECOM (Engineer) – AECOM Asia Co. Ltd.

Chun Wo (Main Contractor) – Chun Wo Construction Ltd.

SMEC (IEC) – SMEC Asia Limited

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



Environmental Management Organization – CV/2013/03

Contact Details of Key Personnel for Contract 5 - CV/2013/03

Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
AECOM	Engineer's Representative	Kelvin Lee	2674 2273	2674 7732
SMEC	Independent Environmental Checker	Antony Wong	3995 8120	3995 8101
SRJV	Project Director	LAI Wai	--	2403 1162
SRJV	Contract Manager	Raymond Yu	9041 1620	2403 1162
SRJV	Project Manager	Aaron Mak	9464 7095	2403 1162
SRJV	Site Agent	Edwin Au	9208 7329	2403 1162
SRJV	Environmental Officer	Chan Ng jhon-keibi / Kenny Chan	6090 0183	2403 1162
SRJV	Environmental Supervisor	Thomas Ma	-	2403 1162
AUES	Environmental Team Leader	T. W. Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Nicola Hon	2959 6059	2959 6079
AUES	Environmental Consultant	Ben Tam	2959 6059	2959 6079

Legend:

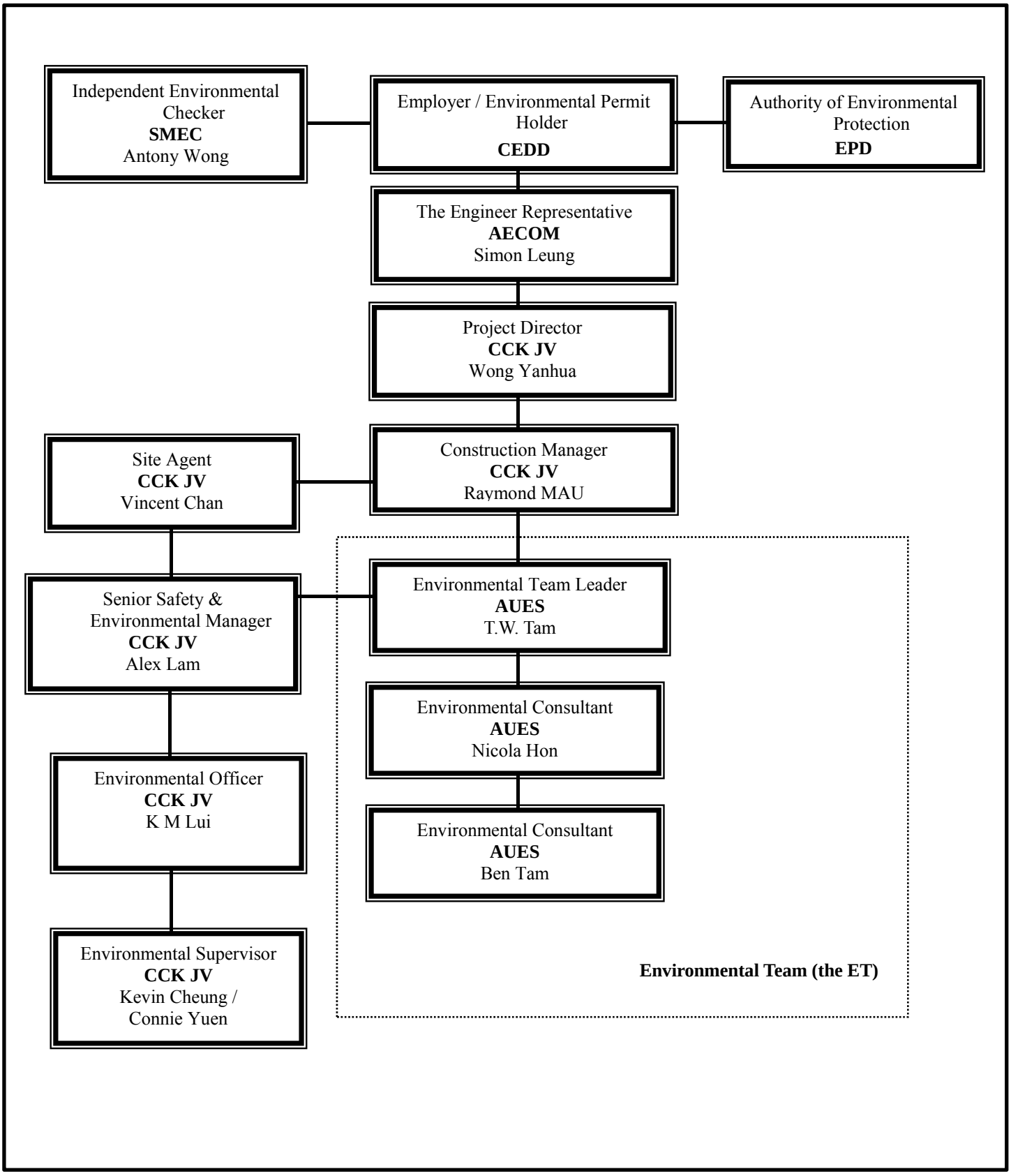
CEDD (Employer) – Civil Engineering and Development Department

AECOM (Engineer) – AECOM Asia Co. Ltd.

SRJV (Main Contractor) – Sang Hing Civil – Richwell Machinery JV

SMEC (IEC) – SMEC Asia Limited

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



Environmental Management Organization – CV/2013/08

Contact Details of Key Personnel for Contract 6 - CV/2013/03

Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
AECOM	Engineer's Representative	Simon Leung	2674 2273	2674 7732
SMEC	Independent Environmental Checker	Antony Wong	3995 8120	3995 8101
CCK JV	Project Director	Wang Yanhua	6190 4212	--
CCK JV	Construction Manager	Raymond Mau Sai-Wai	9011 5340	--
CCK JV	Site Agent	Vincent Chan	9655 9404	--
CCK JV	Senior Safety & Environmental Manager	Alex Lam	5547 0181	--
CCK JV	Environmental Officer	K M Lui	51138223	--
CCK JV	Environmental Supervisor	Kevin Cheung/ Connie Yeun	6316 6931 6117 1344	--
AUES	Environmental Team Leader	TW Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Ben Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Nicola Hon	2959 6059	2959 6079

Legend:

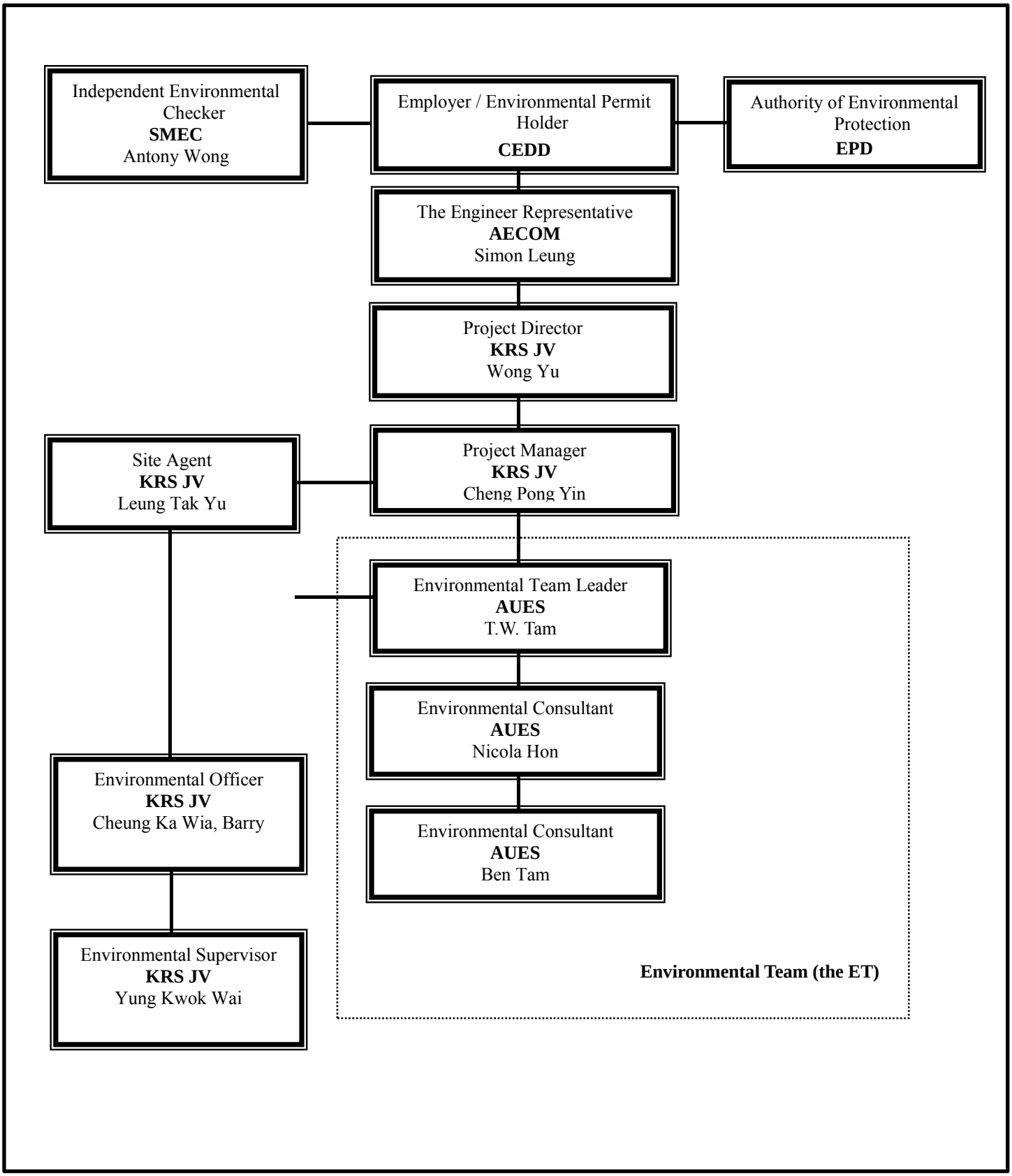
CEDD (Employer) – Civil Engineering and Development Department

AECOM (Engineer) – AECOM Asia Co. Ltd.

CCK JV (Main Contractor) – CRBE-CEC-Kaden Joint Venture

SMEC (IEC) – SMEC Asia Limited

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



Environmental Management Organization –NE/2014/03

Contact Details of Key Personnel for Contract 7 – NE/2014/03

Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
AECOM	Engineer's Representative	Simon Leung	2674 2273	2674 7732
SMEC	Independent Environmental Checker	Antony Wong	3995 8120	3995 8101
CCK JV	Project Director	Wong Yu	2682 6691	2682 2783
CCK JV	Project Manager	Cheng Pong Yin	9023 4821	2682 2783
CCK JV	Site Agent	Leung Tak Yu	9705 7536	2682 2783
CCK JV	Environmental Officer	Cheung Ka Wia, Barry	6117 2339	2682 2783
CCK JV	Environmental Supervisor	Yung Kwok Wai	6592 3084	2682 2783
AUES	Environmental Team Leader	TW Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Ben Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Nicola Hon	2959 6059	2959 6079

Legend:

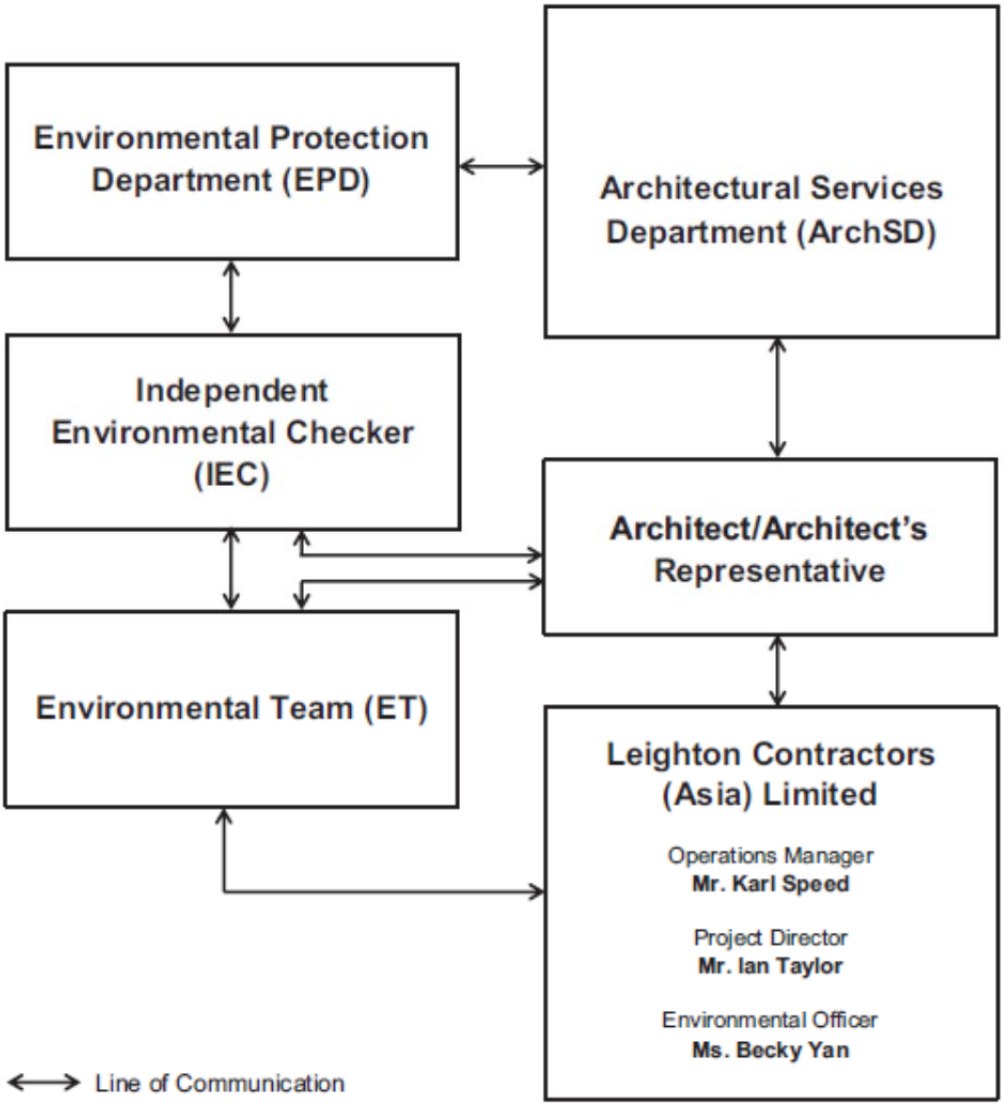
CEDD (Employer) – Civil Engineering and Development Department

AECOM (Engineer) – AECOM Asia Co. Ltd.

KRS JV (Main Contractor) –Kwan On-Richwell-SCG Joint Venture

SMEC (IEC) – SMEC Asia Limited

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



Environmental Management Organigram

Environmental Management Organization for Contract SS C505

Contact Details of Key Personnel for Contract SS C505

Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
ArchSD	Works agent for the Development Bureau (DEVB)	Mr. William Cheng	2867 3904	2804 6805
Ronald Lu & Partners	Architect/ Architect's Representative	Mr. Justin Cheung	3189 9272	2834 5442
SMEC	Independent Environmental Checker	Mr. Antony Wong	3995 8120	3995 8101
Leighton	Operation Manager	Mr. Karl Speed	2823 1433	25298784
Leighton	Project Director	Mr. Ian Taylor	2858 1519	2858 1899
Leighton	Environmental Officer	Ms. Becky Yan	3973 1069	-
Leighton	Assistant Environmental Officer	Ms. Penny Yiu	3973 0818	-
AUES	Environmental Team Leader	Mr. T. W. Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Ms. Nicola Hon	2959 6059	2959 6079
AUES	Environmental Consultant	Mr. Ben Tam	2959 6059	2959 6079

Legend:

ArchSD (Project Proponent) –Architectural Services Department

Ronald Lu & Partners (Architect/ Architect's Representative) –Ronald Lu & Partners (Hong Kong) Ltd

Leighton (Main Contractor) – Leighton Contractors (Asia) Limited

SMEC (IEC) – SMEC Asia Limited

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

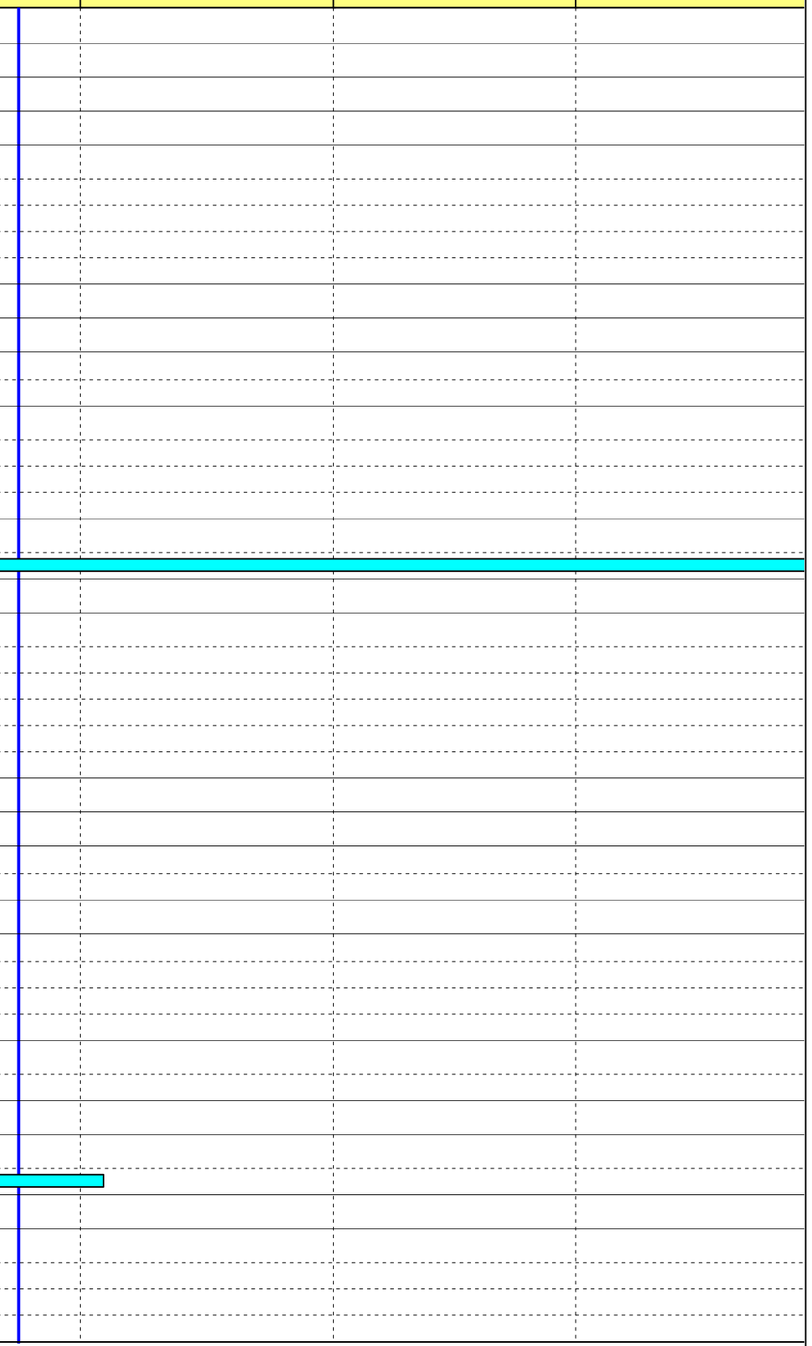
Appendix C

3-month rolling construction program

Contract 2

MPR25-D; HKLTH Works Programme update (Rev D) 20-February-2016; DHK_HKLTH_Works Programme new 3MRP; 26-Feb-16; 17:18

Activity ID	Activity Name	Working Duration	BL Project Start	BL Project Finish
Total		781.0d	27-Oct-14	04-Mar-17
HKLTH Works Programme update (Rev D) 20-February-2016		781.0d	27-Oct-14	04-Mar-17
2 General		781.0d	27-Oct-14	04-Mar-17
Noise Barriers		122.0d	03-Jul-15	01-Dec-15
DDA Submission		122.0d	03-Jul-15	01-Dec-15
CONTDS1090	Preparation of DDA for formal submission to ER/ICE/IP	45.0d	03-Jul-15	28-Aug-15
CONTDS1100	IPs'/ ER's Review	28.0d	29-Aug-15	03-Oct-15
CONTDS1110	Preparation of DDA with ICE Certification for resubmission to ER/ICE/IP	21.0d	05-Oct-15	29-Oct-15
CONTDS1120	ER/IP's Approval	28.0d	30-Oct-15	01-Dec-15
Project Wide E&M		781.0d	27-Oct-14	04-Mar-17
E&M Design & Engineering Works		177.0d	22-Jan-15	29-Aug-15
Shop Drawing & Builder's Drawing Submission		177.0d	22-Jan-15	29-Aug-15
PD.DW.1010	Shop Drawings & Builder's Drawings Submission & Approval	177.0d	22-Jan-15	29-Aug-15
Equipment Selection & Submission		338.0d	27-Oct-14	14-Dec-15
PD.PQ.1080	Electrical Services System Submission and Approval by the Engineer	338.0d	27-Oct-14	14-Dec-15
PD.PQ.1150	Tunnel Ventilation System Submission and Approval by the Engineer	228.0d	07-Nov-14	15-Aug-15
PD.PQ.2010	FS System Submission and Approval by the Engineer	278.0d	01-Nov-14	09-Oct-15
Manufacturing & Delivery of Major Equipment		390.0d	22-Jan-16	04-Mar-17
PD.EC.MD	Manufacturing and Delivery of ECS System	390.0d	22-Jan-16	04-Mar-17
3 South Portal Area		391.0d	06-May-15	14-Mar-16
3.1 South Portal Subcontract & Procurement		343.4d	30-Jun-15	16-Jan-16
SPS&P0080	Subcontract : Ventilation Building Structure Works	60.0d	30-Jun-15	08-Sep-15
SPS&P0090	Subcontract : Tunnel Lining Works	60.0d	13-Jul-15	19-Sep-15
SPS&P0100	Subcontract : Tunnel Lining Formworks (Design, Fabrication, Delivery, & On-Site Assembly)	150.0d	13-Jul-15	09-Jan-16
SPS&P0110	Subcontract : Tunnel Concreting Works	60.0d	24-Aug-15	04-Nov-15
SPS&P0120	Subcontract : Tunnel Finishing Works	60.0d	05-Nov-15	16-Jan-16
3.2 South Portal Design Submission		263.6d	08-Jul-15	27-Dec-15
South Tunnel Internal Structures		28.0d	26-Jul-15	22-Aug-15
DDA Submission		28.0d	26-Jul-15	22-Aug-15
STIS1L1023690	ER/IP's Approval	28.0d	26-Jul-15	22-Aug-15
Cross Passages -Temp Works D&B Tunnel - Rock		55.0d	08-Jul-15	07-Oct-15
DDA Submission		55.0d	08-Jul-15	07-Oct-15
FL326980	IPs'/ ER's Review	28.0d	08-Jul-15	08-Aug-15
FL327000	Preparation for resubmission to ER/ICE/IP with ICE Certification	27.0d	10-Aug-15	09-Sep-15
FL327100	ER/IP's Approval	28.0d	10-Sep-15	07-Oct-15
As-Built Drawings [Contractor's Design/ Contractor's Alternative Design]		60.0d	29-Oct-15	27-Dec-15
SC1650	As-Built Drawings Submission - South Portal Ventilation Bldg Foundation	60.0d	29-Oct-15	27-Dec-15
3.3 South Portal Method Statement Submission		48.0d	05-Jan-16	03-Mar-16
South Portal: Temporary Bridge Dismantling		48.0d	05-Jan-16	03-Mar-16
FL2022077	Prepare Method Statement	48.0d	05-Jan-16	03-Mar-16
3.5 South Portal Works		283.6d	06-May-15	14-Mar-16
South Portal: Foundation & Substructure		109.0d	29-Jun-15	28-Oct-15
SV2180	South Bound Foundation	54.0d	29-Jun-15	04-Sep-15
SV2190	Handover to SB Tunneling	1.0d	04-Sep-15	04-Sep-15
SV2210	N/B Bored Piles 4nos & Pile Test	48.0d	07-Jul-15	04-Sep-15



REV	DESCRIPTION	DATE	PREPARED	CHECKED	APPROVED
A	Monthly Report No.26	18/02/2016	KEC/RAN	RBS/SJO	DAL

MAIN CONTRACTOR: 香寶嘉 Dragages HongKong — A member of the Bouygues Construction group

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

THE ENGINEER: AECOM

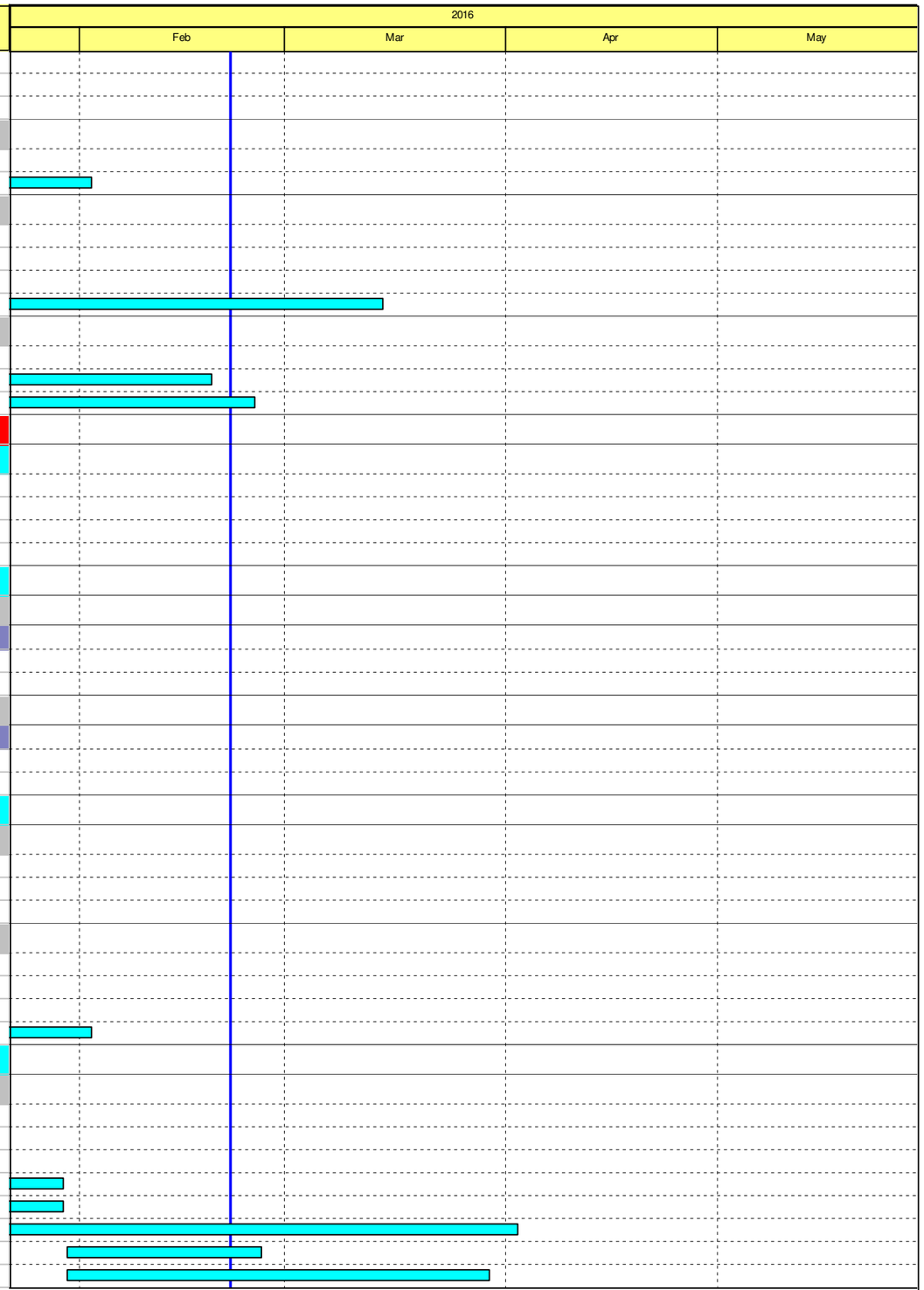
CONTRACTOR'S DESIGNER: ATKINS

PROJECT: Contract No. CV/2012/08 Liantang/Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works Contract 2

TITLE: Monthly Report No.26 3-Months Rolling Programme (Approved Works Programme Rev. D)

DOCUMENT NO.		
LTH/DHK/PGR/PW/PLP/00118/A		
DOC. STATUS	CREATION DATE	REVISION
FOR INFO.	26-Feb-16	A
PAPER SIZE	SCALE	PAGE
A3	N/A	1 of 5

Activity ID	Activity Name	Working Duration	BL Project Start	BL Project Finish
SV2740	N/B Pile Caps & Tie Beams	36.0d	05-Sep-15	20-Oct-15
SV2745	N/B Backfilling	6.0d	22-Oct-15	28-Oct-15
SV2750	Handover to NB Tunneling	1.0d	28-Oct-15	28-Oct-15
South Portal: Superstructure		139.0d	22-Oct-15	02-Feb-16
SV2325	Retaining Walls (LSTSP/ RW3 & LSTSP/ RW4 & S1,S2 & S3)	74.0d	22-Oct-15	19-Jan-16
SV2335	Backfilling to Permanent Slope	60.0d	21-Nov-15	02-Feb-16
South Tunnels: Southbound Tunnel		273.6d	06-May-15	14-Mar-16
DB6300	D&B Setup / Site Installation	101.0d	06-May-15	04-Sep-15
DB6310	Top Heading Excavation (Canopies) (CRP: Ch1,751>Ch1,787) 36m	57.0d	05-Sep-15	11-Nov-15
DB6320	Bottom Bench Excavation (CRP:Ch1,751>Ch1,787) 36m	34.0d	12-Nov-15	21-Dec-15
DB6330cdwp	Full Face D&B Excavation: (CRP: Ch1,787 to Ch2,065) 278m	70.0d	22-Dec-15	14-Mar-16
South Tunnels: Northbound Tunnel		159.2d	30-Oct-15	25-Feb-16
DB6340dwp1	Top Heading Excavation (Canopies) (P20/NB Ch: 139 to 178); 39m; (CRP: Ch1,750>Ch1,789)	67.0d	30-Oct-15	18-Jan-16
DB6340dwp2	Top Heading Excavation (Canopies) (P20/NB Ch: 178 to 200); 22m; (CRP: Ch1,789>Ch1,811)	28.0d	19-Jan-16	19-Feb-16
DB6350	Bottom Bench Excavation (P20/NB - 139>200); 61m; (CRP: Ch1,750>Ch1,811)	62.0d	14-Dec-15	25-Feb-16
4 Middle Portal Area		425.0d	05-Feb-15	02-Apr-16
4.1 Middle Portal Subcontract & Procurement		395.2d	05-Feb-15	04-Dec-15
MPS&P0050	Subcontract : Tunnel Lining Formworks (Design, Fabrication, Delivery, & On-Site Assembly)	150.0d	05-Feb-15	11-Aug-15
MPS&P0080	Subcontract : Ventilation Building ABWF Works	60.0d	15-Jul-15	22-Sep-15
MPS&P0090	Subcontract : Tunnel Concreting Works for Internal Structures	60.0d	31-Aug-15	11-Nov-15
MPS&P0100	Subcontract : External Works and Landscaping Works	60.0d	23-Sep-15	04-Dec-15
4.2 Middle Portal Design Submission		389.0d	20-Jul-15	26-Sep-15
Mid Vent Adit Internal Structure		119.0d	20-Jul-15	25-Sep-15
DDA Submission		119.0d	20-Jul-15	25-Sep-15
DSN29084	Preparation for resubmission to ER/ICE/IP with ICE Certification	35.0d	20-Jul-15	28-Aug-15
DSN29085	ER/IP's Approval	28.0d	29-Aug-15	25-Sep-15
Mid Vent Junction Internal Structure		56.0d	24-Jul-15	26-Sep-15
DDA Submission		56.0d	24-Jul-15	26-Sep-15
DSN29104	Preparation for resubmission to ER/ICE/IP with ICE Certification	32.0d	24-Jul-15	29-Aug-15
DSN29105	ER/IP's Approval	28.0d	30-Aug-15	26-Sep-15
4.3 Middle Portal Method Statement Submission		91.7d	29-Jul-15	02-Feb-16
Cavern Permanent Lining		80.0d	29-Jul-15	02-Nov-15
A25522	Engineer's Comment	28.0d	29-Jul-15	29-Aug-15
A25523	Re-submission Method Statement	24.0d	31-Aug-15	26-Sep-15
A25524	Engineer's Approval	28.0d	29-Sep-15	02-Nov-15
Middle Ventilation Adit Tunnel Concreting Works (Internal Structures)		91.7d	31-Aug-15	02-Feb-16
A25517	Prepare Method Statement	48.0d	31-Aug-15	28-Oct-15
A25518	Engineer's Comment	28.0d	29-Oct-15	30-Nov-15
A25519	Re-submission Method Statement	24.0d	01-Dec-15	30-Dec-15
A25520	Engineer's Approval	28.0d	31-Dec-15	02-Feb-16
4.5 Middle Portal Works		317.8d	18-Jul-15	02-Apr-16
Adit Construction - Mid Portal		317.8d	18-Jul-15	02-Apr-16
MV2530	Cavern Excavation Ch302>Ch371; 69m	70.0d	18-Jul-15	10-Oct-15
MV2710	D&B UT Tunneling Ch3,436 to Ch3,586 (NB) - towards North 150m	70.0d	12-Oct-15	02-Jan-16
MV2720	D&B DT Tunneling Ch3,433 to Ch3,561 (SB) - towards North 128m	60.0d	23-Oct-15	02-Jan-16
MV2730	D&B UT Tunneling Ch3,413 to Ch3,313 (NB) - towards South 100m	23.0d	04-Jan-16	29-Jan-16
MV2740	D&B DT Tunneling Ch3,410 to Ch3,313 (SB) - towards South 97m	23.0d	04-Jan-16	29-Jan-16
MV2749	Ground Treatment for TBm Breakthrough	77.0d	04-Jan-16	02-Apr-16
MV2750	De-mobilization of Tunneling plants & equipment	24.0d	30-Jan-16	26-Feb-16
MV2760a	Adit Lining (up to Ch151)	50.0d	30-Jan-16	29-Mar-16



REV	DESCRIPTION	DATE	PREPARED	CHECKED	APPROVED
A	Monthly Report No.26	18/02/2016	KEC/RAN	RBS/SJO	DAL

MAIN CONTRACTOR: 香寶嘉港 Dragages HongKong — A member of the Bouygues Construction group

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

THE ENGINEER: AECOM

CONTRACTOR'S DESIGNER: ATKINS

PROJECT: Contract No. CV/2012/08 Liantang/Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works Contract 2

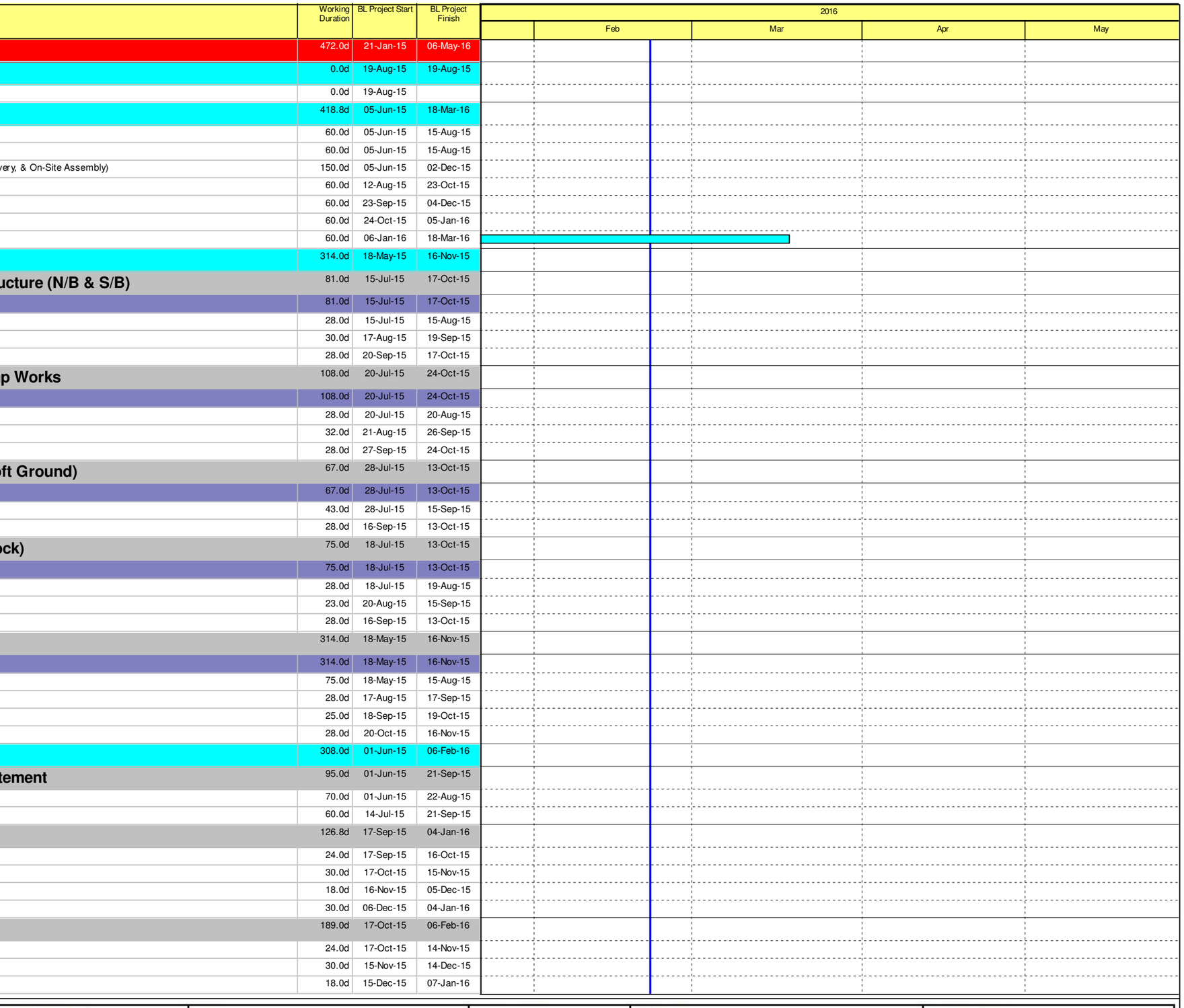
TITLE: Monthly Report No.26 3-Months Rolling Programme (Approved Works Programme Rev. D)

DOCUMENT NO.: LTH/DHK/PGR/PW/PLP/00118/A

DOC. STATUS: FOR INFO. | CREATION DATE: 26-Feb-16 | REVISION: A

PAPER SIZE: A3 | SCALE: N/A | PAGE: 2 of 5

Activity ID	Activity Name	Working Duration	BL Project Start	BL Project Finish
5 North Portal Area		472.0d	21-Jan-15	06-May-16
5.0 North Portal Site Possession Contract Dates		0.0d	19-Aug-15	19-Aug-15
A1920	LS7 (near North Vent Slope)	0.0d	19-Aug-15	
5.1 North Portal Subcontract & Procurement		418.8d	05-Jun-15	18-Mar-16
NPS&P0070	Subcontract : Tunnel Lining Works	60.0d	05-Jun-15	15-Aug-15
NPS&P0080	Subcontract : Tunnel Concreting Works	60.0d	05-Jun-15	15-Aug-15
NPS&P0090	Subcontract : Tunnel Lining Formworks (Design, Fabrication, Delivery, & On-Site Assembly)	150.0d	05-Jun-15	02-Dec-15
NPS&P0110	Subcontract : Ventilation Building Structure Works	60.0d	12-Aug-15	23-Oct-15
NPS&P0120	Subcontract : Ventilation Building Pile Cap Works	60.0d	23-Sep-15	04-Dec-15
NPS&P0130	Subcontract : Ventilation Building ABWF Works	60.0d	24-Oct-15	05-Jan-16
NPS&P0140	Subcontract : External Works and Landscaping Works	60.0d	06-Jan-16	18-Mar-16
5.2 North Portal Design Submission		314.0d	18-May-15	16-Nov-15
Bored Tunnel/ D&B Tunnel Transition - Headwall Structure (N/B & S/B)		81.0d	15-Jul-15	17-Oct-15
DDA Submission		81.0d	15-Jul-15	17-Oct-15
FL2022182	IPs'/ ER's Review	28.0d	15-Jul-15	15-Aug-15
FL2022183	Preparation for resubmission to ER/ICE/IP with ICE Certification	30.0d	17-Aug-15	19-Sep-15
FL2022184	ER/IP's Approval	28.0d	20-Sep-15	17-Oct-15
North Tunnel Curved Section Cross Passages - Temp Works		108.0d	20-Jul-15	24-Oct-15
DDA Submission		108.0d	20-Jul-15	24-Oct-15
FL2022190	IPs'/ ER's Review	28.0d	20-Jul-15	20-Aug-15
FL2022191	Preparation for resubmission to ER/ICE/IP with ICE Certification	32.0d	21-Aug-15	26-Sep-15
FL2022192	ER/IP's Approval	28.0d	27-Sep-15	24-Oct-15
Bored Tunnel Cross Passages Permanent Lining (Soft Ground)		67.0d	28-Jul-15	13-Oct-15
DDA Submission		67.0d	28-Jul-15	13-Oct-15
FL2022211	Preparation for resubmission to ER/ICE/IP with ICE Certification	43.0d	28-Jul-15	15-Sep-15
FL2022212	ER/IP's Approval	28.0d	16-Sep-15	13-Oct-15
Bored Tunnel Cross Passages Permanent Lining (Rock)		75.0d	18-Jul-15	13-Oct-15
DDA Submission		75.0d	18-Jul-15	13-Oct-15
FL2022218	IPs'/ ER's Review	28.0d	18-Jul-15	19-Aug-15
FL2022219	Preparation for resubmission to ER/ICE/IP with ICE Certification	23.0d	20-Aug-15	15-Sep-15
FL2022220	ER/IP's Approval	28.0d	16-Sep-15	13-Oct-15
Bored Tunnel Cross Passages Internal Structures		314.0d	18-May-15	16-Nov-15
DDA Submission		314.0d	18-May-15	16-Nov-15
FL2022225	Preparation for formal submission to ER/ICE/IP	75.0d	18-May-15	15-Aug-15
FL2022226	IPs'/ ER's Review	28.0d	17-Aug-15	17-Sep-15
FL2022227	Preparation for resubmission to ER/ICE/IP with ICE Certification	25.0d	18-Sep-15	19-Oct-15
FL2022228	ER/IP's Approval	28.0d	20-Oct-15	16-Nov-15
5.3 North Portal Method Statement Submission		308.0d	01-Jun-15	06-Feb-16
North Tunnel (Cross Passages) Blasting Method Statement		95.0d	01-Jun-15	21-Sep-15
FL2022111	Preparation and Submission of Blasting Method Statement	70.0d	01-Jun-15	22-Aug-15
FL2022112	Engineer's/IP's Review & Approval	60.0d	14-Jul-15	21-Sep-15
MS for TBM Break-out		126.8d	17-Sep-15	04-Jan-16
FL2022544	Prepare & Submit Method Statement	24.0d	17-Sep-15	16-Oct-15
FL2022554	ER's Comment for Method Statement	30.0d	17-Oct-15	15-Nov-15
FL2022564	Prepare & Re-submit Method Statement	18.0d	16-Nov-15	05-Dec-15
FL2022574	ER's Approval for Method Statement	30.0d	06-Dec-15	04-Jan-16
MS for TBM Turn		189.0d	17-Oct-15	06-Feb-16
FL3875	Prepare & Submit Method Statement	24.0d	17-Oct-15	14-Nov-15
FL3880	ER's Comment for Method Statement	30.0d	15-Nov-15	14-Dec-15
FL3885	Prepare & Re-submit Method Statement	18.0d	15-Dec-15	07-Jan-16



REV	DESCRIPTION	DATE	PREPARED	CHECKED	APPROVED
A	Monthly Report No.26	18/02/2016	KEC/RAN	RBS/SJO	DAL

MAIN CONTRACTOR: 香寶嘉港 Dragages HongKong — A member of the Bouygues Construction group

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

THE ENGINEER: AECOM

CONTRACTOR'S DESIGNER: ATKINS

PROJECT: Contract No. CV/2012/08 Liantang/Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works Contract 2

TITLE: Monthly Report No.26 3-Months Rolling Programme (Approved Works Programme Rev. D)

DOCUMENT NO.: LTH/DHK/PGR/PW/PLP/00118/A

DOC. STATUS	CREATION DATE	REVISION
FOR INFO.	26-Feb-16	A

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Activity ID	Activity Name	Working Duration	BL Project Start	BL Project Finish
FL3890	ER's Approval for Method Statement	30.0d	08-Jan-16	06-Feb-16
MS for Removal of Left-in HDC Drill Rods within N/B TBM Excavation		192.2d	13-Nov-15	30-Jan-16
FL2022584	Prepare & Submit Method Statement	40.0d	13-Nov-15	31-Dec-15
FL2022594	ER's Comment for Method Statement	30.0d	01-Jan-16	30-Jan-16
North Portal: MS for Cross Passage Ground Treatment		43.0d	20-Jul-15	07-Sep-15
FL2022067	Prepare & Re-submit Method Statement	18.0d	20-Jul-15	08-Aug-15
FL2022068	ER's Approval for Method Statement	30.0d	09-Aug-15	07-Sep-15
North Portal: MS for Cross Passage Excavation in Rock		235.0d	12-Sep-15	20-Jan-16
FL2022069	Prepare & Submit Method Statement	40.0d	12-Sep-15	31-Oct-15
FL2022070	ER's Comment for Method Statement	30.0d	01-Nov-15	30-Nov-15
FL2022071	Prepare & Re-submit Method Statement	18.0d	01-Dec-15	21-Dec-15
FL2022072	ER's Approval for Method Statement	30.0d	22-Dec-15	20-Jan-16
North Portal: MS for Cross Passage Excavation in Soft		235.0d	12-Sep-15	20-Jan-16
FL2022073	Prepare & Submit Method Statement	40.0d	12-Sep-15	31-Oct-15
FL2022074	ER's Comment for Method Statement	30.0d	01-Nov-15	30-Nov-15
FL2022075	Prepare & Re-submit Method Statement	18.0d	01-Dec-15	21-Dec-15
FL2022076	ER's Approval for Method Statement	30.0d	22-Dec-15	20-Jan-16
5.5 North Portal Works		472.0d	21-Jan-15	06-May-16
North Portal: Site Formation		238.9d	21-Jan-15	30-Oct-15
N20655	NB: Stage 3 Permanent Slope from +75mPD to +30mPD	192.0d	21-Jan-15	30-Sep-15
N20665	NB: Stage 4 Excavation from +18mPD to +9.5mPD w/4 rows Soil Nail	24.0d	02-Oct-15	30-Oct-15
Southbound Tunnel (Mined Excavation) inc Enlargement		247.0d	23-Jul-15	06-May-16
TD0910	SB - Invert Grouting	60.0d	23-Jul-15	03-Oct-15
TD0920	SB - Gallery	60.0d	21-Aug-15	31-Oct-15
TD0930	SB - Crown Grouting	60.0d	19-Sep-15	28-Nov-15
TD0940a	Top Heading Enlargement (Ch6355>Ch6268); 87m; [P21: 4755 to 4668]	47.0d	09-Nov-15	04-Jan-16
TD0940a1	Top Heading Enlargement (Ch6268>Ch6148); 120m; [P21: 4668 to 4548] - WSD Restriction Zone	104.0d	05-Jan-16	06-May-16
Northbound Tunnel (Mined Excavation)		223.0d	09-Jun-15	31-Mar-16
DB6400a2	Top Heading Canopies (Ch6410>Ch6350); 60m; [P20: 4788 to 4728]	70.0d	09-Jun-15	31-Aug-15
DB6400a3	Top Heading Canopies (Ch6350>Ch6284); 66m; [P20: 4728 to 4662]	76.0d	01-Sep-15	30-Nov-15
DB6400a5	Platform Lowering for Bench Excavation	26.0d	01-Dec-15	31-Dec-15
DB6400a6	Bench Excavation (Ch6446>Ch6284); 162m; [P20: 4824 to 4662]	76.0d	02-Jan-16	31-Mar-16
Southbound Tunnel (TBM Tunneling)		298.0d	10-Jun-15	12-Feb-16
TD1000a	TBM DT (Ch6,355>Ch6,077) 278m	82.0d	10-Jun-15	16-Sep-15
TD1000a20	TBM DT (Ch6,268>Ch6,148) 120m - WSD Restriction Zone	35.0d	11-Jul-15	21-Aug-15
TD1000a30	TBM DT (Ch6,148>Ch6,077) 71m	21.0d	22-Aug-15	16-Sep-15
TD1010a	TBM DT (Ch6,077>Ch5,950) 127m	17.0d	17-Sep-15	07-Oct-15
TD1010b	TBM DT (Ch5,950>Ch5,713) 237m	31.0d	08-Oct-15	12-Nov-15
TD1050	TBM DT (Ch5,713>Ch4,904) 809m	77.0d	13-Nov-15	12-Feb-16
Bored Tunnel (S/B & N/B) Internal Works & Finishes		148.0d	28-Oct-15	20-Apr-16
Southbound Tunnel Internal Works & Finishes		148.0d	28-Oct-15	20-Apr-16
TD1470a	Tunnel Backfilling (Ch5,950 >Ch5,153) 797m- (Stage 1)	85.0d	28-Oct-15	05-Feb-16
TD1480a	Bottom Drilling for Cross Passage (fr.Ch5953)	70.0d	14-Nov-15	05-Feb-16
TD1490a	Tunnel Backfilling (Ch5,950 >Ch5,153) 797m- (Stage 2)	80.0d	19-Nov-15	22-Feb-16
TD1500a	Drilling for Cross Passage (Remaining) (Ch5,950 >Ch5,153) 797m	80.0d	19-Nov-15	22-Feb-16
TD1520a	Corbel (Ch5,950 >Ch5,153) 797m	80.0d	03-Dec-15	07-Mar-16
TD1523a	OHVD Slab & 132kV Cable Trough (Ch5,950 >Ch5,153) 797m	81.0d	15-Dec-15	19-Mar-16
TD1524a	Walkway Construction Ch5,950 >Ch5,153) 797m	81.0d	30-Dec-15	04-Apr-16
TD1528a	Ground Treatment for Cross Passage Ch5,950 >Ch5,153) 797m	82.0d	19-Dec-15	25-Mar-16
TD1725a	E&M Installation for S/B TBM Tunnel [CRP Ch5,950 to Ch5,650] 300m	77.0d	21-Jan-16	20-Apr-16
North Portal: Retaining Wall & Site Formation		102.0d	03-Aug-15	05-Dec-15

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MAIN CONTRACTOR: 香寶嘉 Dragages HongKong — A member of the Bouygues Construction group

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

THE ENGINEER: AECOM

CONTRACTOR'S DESIGNER: ATKINS

PROJECT: Contract No. CV/2012/08 Liantang/Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works Contract 2

TITLE: Monthly Report No.26 3-Months Rolling Programme (Approved Works Programme Rev. D)

DOCUMENT NO.: LTH/DHK/PGR/PW/PLP/00118/A

DOC. STATUS	CREATION DATE	REVISION
FOR INFO.	26-Feb-16	A

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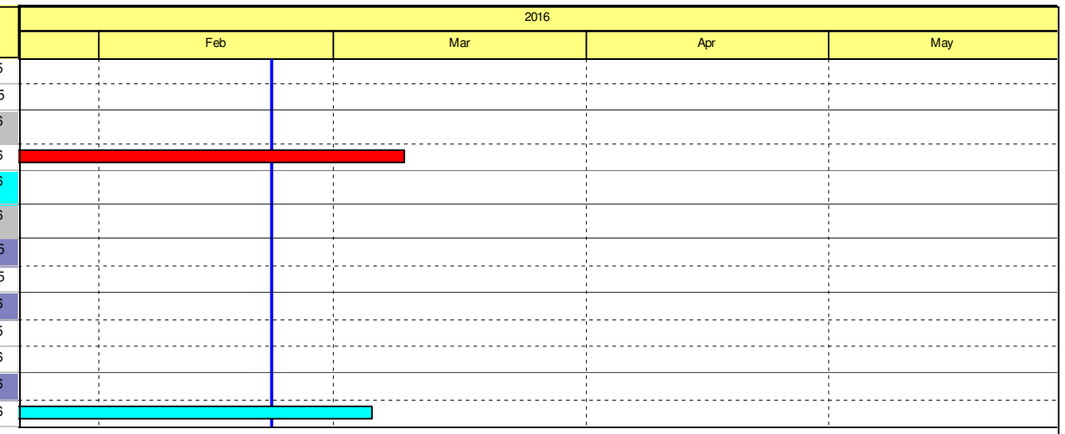
Activity ID	Activity Name	Working Duration	BL Project Start	BL Project Finish
N20930	*Retaining Wall & Site Formation (STK/RW1)	57.0d	03-Aug-15	13-Oct-15
N20940	Retaining Wall & Site Formation (STK/RW3)	45.0d	14-Oct-15	05-Dec-15
North Portal: Noise Barrier (NB5 to NB9)		51.0d	04-Jan-16	09-Mar-16
N20990	Noise Barrier NB 6,8,9	51.0d	04-Jan-16	09-Mar-16
5.6 Administration Building:		153.0d	24-Jul-15	05-Mar-16
5.65 Administration Building: Works		153.0d	24-Jul-15	05-Mar-16
Administration Building:Demolition		18.0d	24-Jul-15	15-Aug-15
SV2945	Demolish Existing Building (AB3 - GLL 36508)	18.0d	24-Jul-15	15-Aug-15
Administration Building: Site Formation		88.0d	17-Aug-15	05-Jan-16
AD2070	Backfilling for Surcharge	66.0d	17-Aug-15	06-Nov-15
AD2080	Surcharge (2 months Consolidation)	60.0d	07-Nov-15	05-Jan-16
Administration Building: Foundation & Substructure		46.0d	06-Jan-16	05-Mar-16
AD2030	Excavation for Footing	46.0d	06-Jan-16	05-Mar-16



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MAIN CONTRACTOR
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A member of the Bouygues Construction group

CLIENT
CEDD 土木工程拓展署 Civil Engineering and Development Department

THE ENGINEER
AECOM

CONTRACTOR'S DESIGNER
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PROJECT
Contract No. CV/2012/08
Liantang/Heung Yuen Wai Boundary Control Point
Site Formation and Infrastructure Works Contract 2

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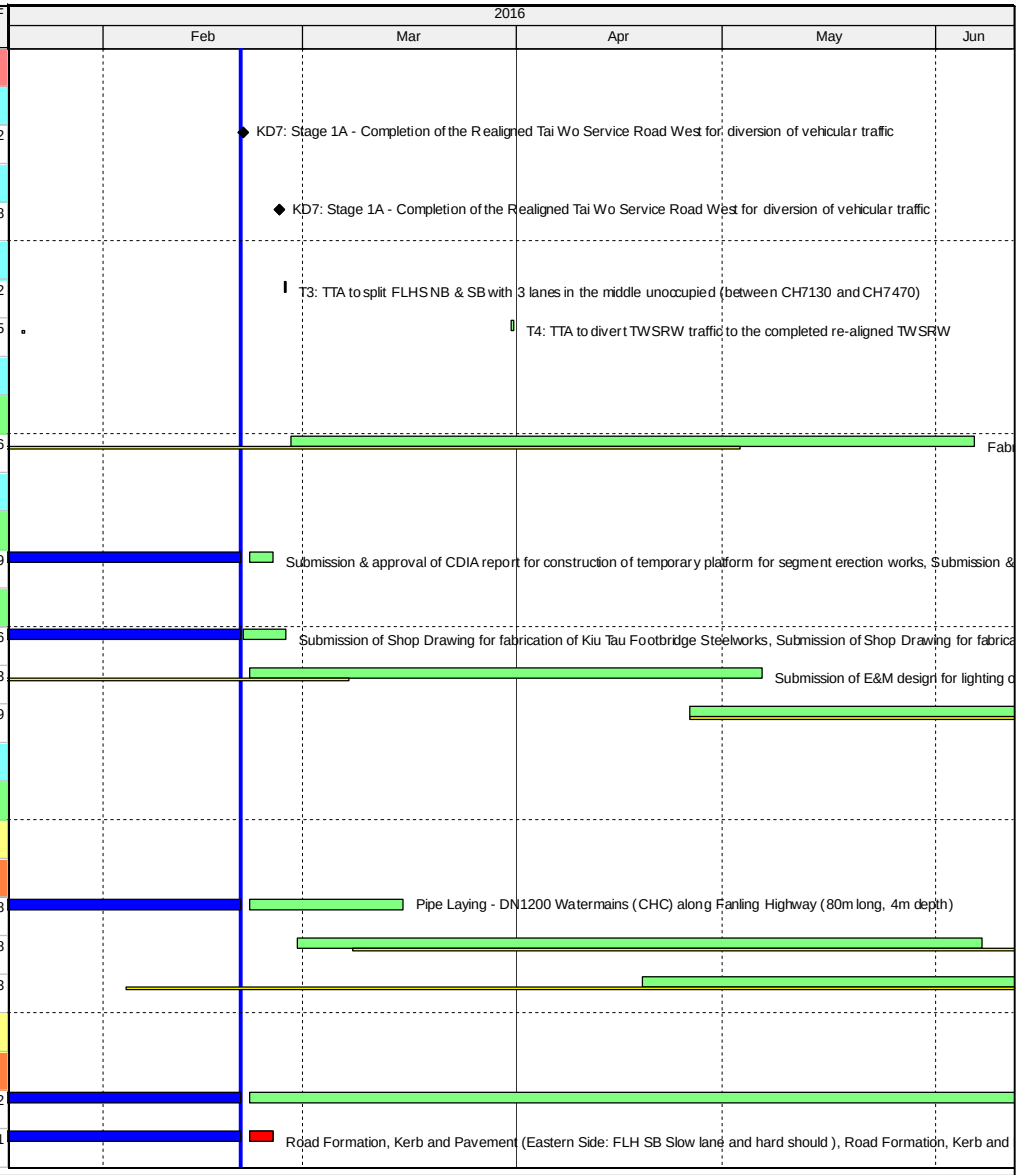
Contract 3

Activity ID	Activity Name	OD	RD	Start	Finish	TF
3-Month Rolling Programme 2016-02-21						
Key Dates (Contractual)						
KD-1100	KD7: Stage 1A - Completion of the Realigned Tai Wo Service Road West for diversion of vehicular traffic	0	0		21-Feb-16*	-32
Key Dates (Forecast)						
KD-1105	KD7: Stage 1A - Completion of the Realigned Tai Wo Service Road West for diversion of vehicular traffic	0	0		26-Feb-16	-38
Major Milestones and Events						
MS-2000C	T3: TTA to split FLHS NB & SB with 3 lanes in the middle unoccupied (between CH7130 and CH7470)	1	1	27-Feb-16*	27-Feb-16	-32
MS-2000D	T4: TTA to divert TWSRW traffic to the completed re-aligned TWSRW	1	1	31-Mar-16	31-Mar-16	5
Major Procurement & Delivery						
Footbridge Steel Truss						
MM-3050	Fabrication of footbridge steel truss (Kiu Tau Footbridge)	100	100	28-Feb-16	06-Jun-16	6
Design and Submissions						
Statutory Approval						
PRE-1050	Submission & approval of CDIA report for construction of temporary platform for segment erection works	185	4	27-Nov-14 A	25-Feb-16	149
Method Statement and Design (Major) Approved by AECOM						
PRE-2050	Submission of Shop Drawing for fabrication of Kiu Tau Footbridge Steelworks	30	7	02-Nov-15 A	27-Feb-16	6
PRE-2030	Submission of E&M design for lighting of Kiu Tau Footbridge	60	60	22-Feb-16	06-May-16	83
PRE-2040	Submission of E&M design for lighting inside viaduct structures of Bridge A, B, C & D	60	60	26-Apr-16	08-Jul-16	69
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-1130*	Pipe Laying - DN1200 Watermains (CHC) along Fanling Highway (80m long, 4m depth)	182	20	20-Feb-14 A	15-Mar-16	48
FHW-1300	Noise Barrier NB68 - Mini-Piling at central median (CSD: 24 nos)	80	80	29-Feb-16	07-Jun-16	18
FHW-1140	Noise Barrier NB70 - Footing adjacent to SB lane (15m)	115	115	19-Apr-16	03-Sep-16	23
Fanling Highway Zone 2 between CH7130 and CH7290						
At-Grade Roadworks (160m)						
FHW-2130*	Pipe Laying - DN1200 & DN600 Watermains (CHB & CHC) along Fanling Highway (183m long, 4m depth)	144	326	12-Oct-15 A	30-Mar-17	212
FHW-2140	Road Formation, Kerb and Pavement (Eastern Side: FLH SB Slow lane and hard should)	61	4	14-Oct-15 A	25-Feb-16	-21



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

- Actual Work
- Remaining Work
- Summary Bar
- Critical Remaining Work
- Milestone
- Actual Level of Effort
- Project Baseline Bar

CEDD Contract No. CV/2012/09

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

3-Month Rolling Programme

Programme ID: 3MPR031 (Data Date: 21-Feb-16)

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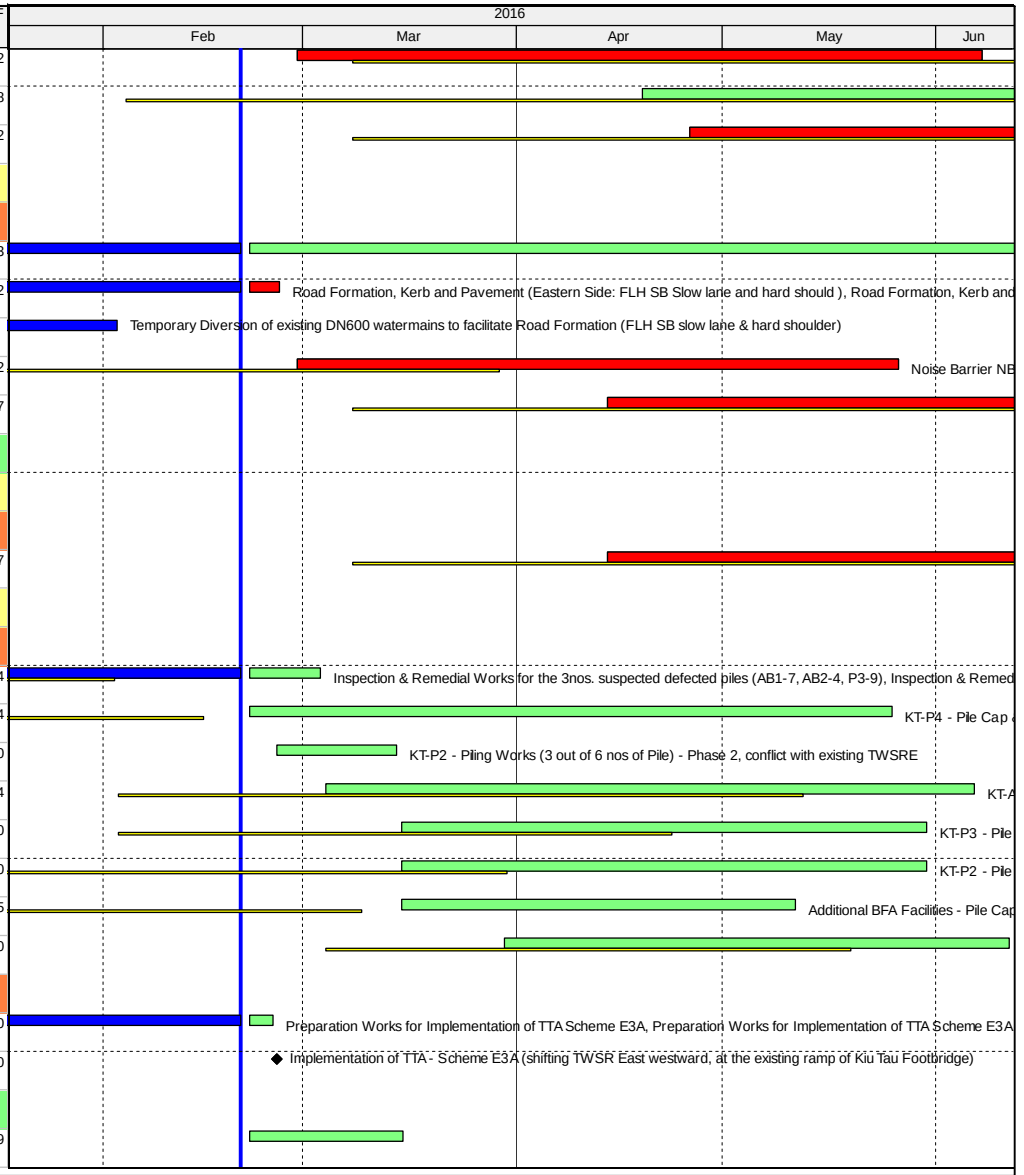
3-Month Rolling Programme updated to 2016-02-20

Date	Revision	Checked	Approved
20-Feb-16	Rev.0	SL	

Activity ID	Activity Name	OD	RD	Start	Finish	TF
FHW-2300	Noise Barrier NB68 - Mini-Piling at central median (CSD: 22 nos)	80	80	29-Feb-16	07-Jun-16	-22
FHW-2190	Footpath & DSD Access Track adjacent to SB lane	108	108	19-Apr-16	26-Aug-16	118
FHW-2310	Noise Barrier NB68A - Footing at central median (157m)	130	130	26-Apr-16	29-Sep-16	-22
Fanling Highway Zone 3 between CH7290 and CH7380						
At-Grade Roadworks (130m)						
FHW-3150*	Pipe Laying - DN600, DN1200 Watermains (CHB &CHC) along Fanling Highway (90m long, 3m depth)	150	326	07-Jun-14 A	30-Mar-17	53
FHW-3160	Road Formation, Kerb and Pavement (Eastern Side: FLH SB Slow lane and hard should)	63	5	05-Oct-15 A	26-Feb-16	-22
FHW-3160A	Temporary Diversion of existing DN600 watermains to facilitate Road Formation (FLH SB slow lane & hard shoulder)	12	0	28-Dec-15 A	03-Feb-16 A	
FHW-3300	Noise Barrier NB68A - Mini-Piling at central median (CSD: 20 nos)	70	70	29-Feb-16	26-May-16	-22
FHW-3310	Noise Barrier NB68A - Footing at central median (98m)	90	90	14-Apr-16	01-Aug-16	-17
Fanling Highway North Portion between CH7470 and CH7925						
Fanling Highway Zone 4 between CH7380 and CH7470						
At-Grade Roadworks (90m)						
FHW-4210	Noise Barrier NB68A - Footing at central median (40m)	90	90	14-Apr-16	01-Aug-16	-17
Fanling Highway Zone 5 between CH7470 and CH7600 (Provision of Kiu Tau Footbridge)						
Kiu Tau Footbridge Reprovision (East)						
FHW-5110	Inspection & Remedial Works for the 3nos. suspected defected piles (AB1-7, AB2-4, P3-9)	35	10	20-Nov-15 A	03-Mar-16	4
FHW-5010E	KT-P4 - Pile Cap & Pier	75	75	22-Feb-16	25-May-16	14
FHW-5000C2	KT-P2 - Piling Works (3 out of 6 nos of Pile) - Phase 2, conflict with existing TWSRE	15	15	26-Feb-16	14-Mar-16	0
FHW-5010A	KT-AB1 - Pile Cap & Abutment	75	75	04-Mar-16	06-Jun-16	4
FHW-5010D	KT-P3 - Pile Cap & Pier	60	60	15-Mar-16	30-May-16	0
FHW-5010C	KT-P2 - Pile Cap & Pier	60	60	15-Mar-16	30-May-16	0
FHW-5090	Additional BFA Facilities - Pile Cap & Sump Pit, to be covered by VO	45	45	15-Mar-16	11-May-16	25
FHW-5010B	KT-AB2 - Pile Cap & Abutment	60	60	30-Mar-16	11-Jun-16	0
At-Grade Road Works (130m)						
FHW-5120C	Preparation Works for Implementation of TTA Scheme E3A	30	4	07-Nov-15 A	25-Feb-16	0
FHW-5120D	Implementation of TTA - Scheme E3A (shifting TWSR East westward, at the existing ramp of Kiu Tau Footbridge)	0	0	26-Feb-16		0
Remaining Works for Noise Barrier along widened Fanling Highway						
FHW-NB-120	Noise Barrier Steelworks & Panel for NB6 (123m), adjacent to Fanling Highway SB lanes at Zone 1	20	20	22-Feb-16*	15-Mar-16	499



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

Actual Work
Remaining Work
Summary Bar
Critical Remaining Work
Milestone
Actual Level of Effort
Project Baseline Bar

CEDD Contract No. CV/2012/09
Liantang / Heung Yuen Wai BCP - Site Formation & Infrastructure Works, Contract 3
3-Month Rolling Programme
Programme ID: 3MPR031 (Data Date: 21-Feb-16)
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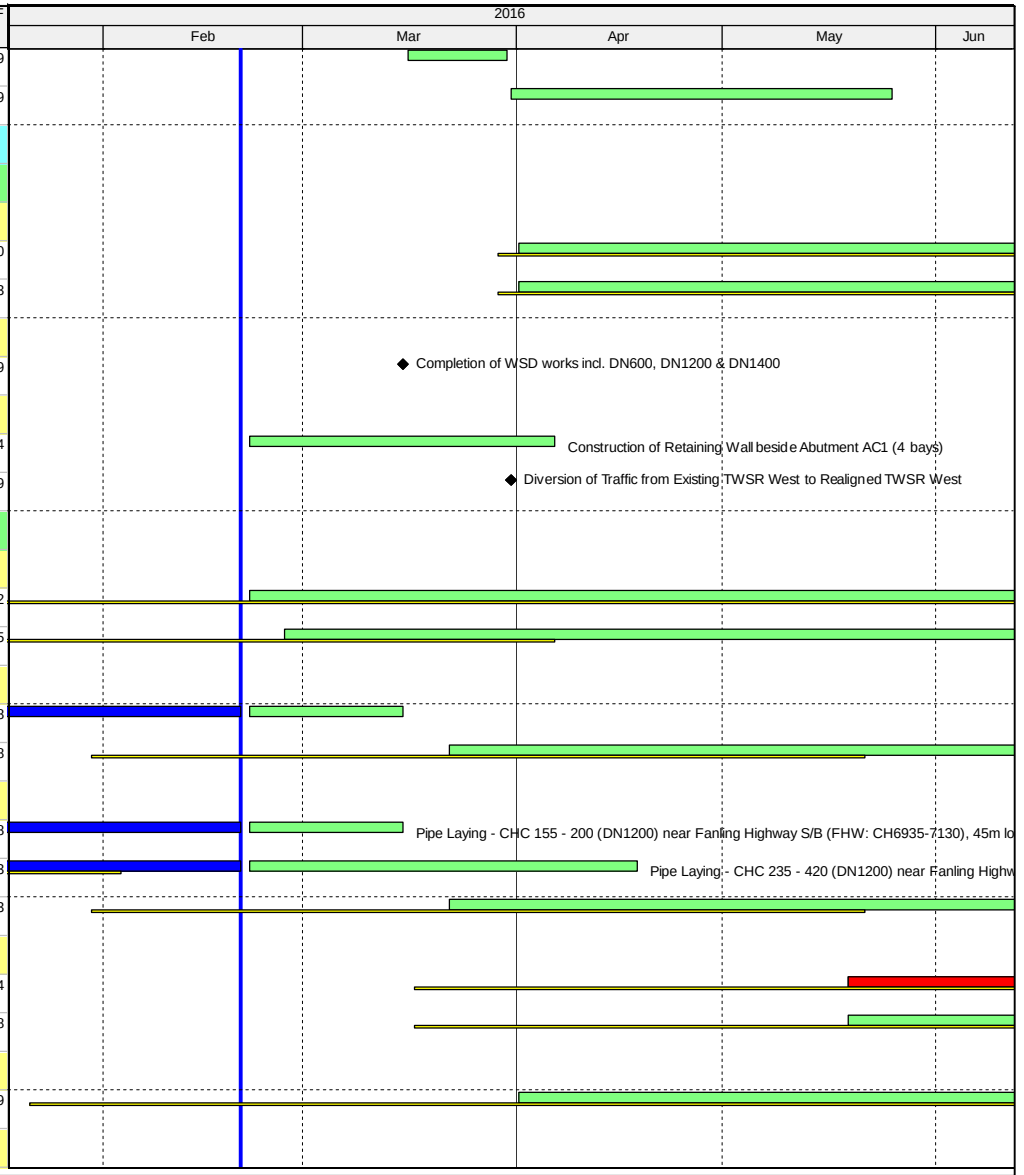
3-Month Rolling Programme updated to 2016-02-20

Date	Revision	Checked	Approved
20-Feb-16	Rev.0	SL	

Activity ID	Activity Name	OD	RD	Start	Finish	TF
FHW-NB-130	Noise Barrier Steelworks & Panel for NB7 (60m), adjacent to Fanling Highway SB lanes at Zone 1	10	10	16-Mar-16	30-Mar-16	499
FHW-NB-140	Noise Barrier Steelworks & Panel for NB71 (254m), adjacent to Fanling Highway SB lanes at Zones 2,3 & 4	45	45	31-Mar-16	25-May-16	499
Section II - Remainder of the Works (KD-3)						
At Grade Link Road at Fanling Highway Interchange						
Link Road 1 (near Abutment AB1)						
FHI-LR1-1005	Noise Barrier NB66 - Footing adjacent NB lane (75m)	95	95	01-Apr-16	26-Jul-16	10
FHI-LR1-1010	Noise Barrier NB67 - Mini-Piling (42nos) (Assume 2 sets of plant)	160	160	01-Apr-16	13-Oct-16	3
Link Road 3 (near Abutment AD1)						
FHI-LR3-3000	Completion of WSD works incl. DN600, DN1200 & DN1400	0	0		15-Mar-16	419
Link Road 4 (near Abutment AC1)						
FHI-LR4-4030	Construction of Retaining Wall beside Abutment AC1 (4 bays)	35	35	22-Feb-16	06-Apr-16	404
FHI-LR4-4000	Diversion of Traffic from Existing TWSR West to Realigned TWSR West	0	0	31-Mar-16		409
WSD Works						
DN450 Fire Mains (CHA)						
WA-1090	Pipe Laying - CHA 800 - 960 (DN450) near Ext. TWSR West (No Roadworks), 160m long & 3m depth	148	148	22-Feb-16*	20-Aug-16	42
WA-1060	Pipe Laying - CHA 450 - 575 (DN450) near Realigned TWSR West (Re-TWSRW: CH640 - 695), 125m long & 2m depth	95	95	27-Feb-16	24-Jun-16	195
DN600 Water Mains (CHB)						
WB-1060	Pipe Laying - CHB 538 - 635 (DN600) near Realigned TWSR East (TWSRE: CH270-380), 97m long & GL	40	20	17-Jul-15 A	15-Mar-16	518
WB-1030C	Pipe Laying - CHB 350 - 450 (DN600) from Portal AB7/AD9/AC12 to Portal AB8	85	85	22-Mar-16	07-Jul-16	428
DN1200 Water Mains (CHC)						
WC-1050A	Pipe Laying - CHC 155 - 200 (DN1200) near Fanling Highway S/B (FHW: CH6935-7130), 45m long, 4m depth	120	20	15-Oct-14 A	15-Mar-16	48
WC-1060	Pipe Laying - CHC 235 - 420 (DN1200) near Fanling Highway S/B (FHW: CH7130-7290), 185m long (common trench with NB)	95	45	12-Oct-15 A	18-Apr-16	23
WC-1090C	Pipe Laying - CHC 615 - 720 (DN1200) from Portal AB7/AD9/AC12 to Portal AB8	85	85	22-Mar-16	07-Jul-16	113
Twin DN1400 Water Mains (CHE & CHG)						
WE-1060	Pipe Laying - CHE & CHG (Twins DN1400) from Portal AB8 to new connection point	110	110	19-May-16	27-Sep-16	-14
WE-1050	Pipe Laying - CHE & CHG (Twins DN1400) from Portal AB7/AD9/AC12 to Portal AB8	85	85	19-May-16	27-Aug-16	18
DN2200 Water Mains (CHF)						
WF-1000A	Pipe Laying - CHF 80 - 112 (DN2200) near ext. TWSR West underneath Box Culvert BC01	210	210	01-Apr-16	10-Dec-16	89
DN2300 Water Mains and Leakage Collection System (CHJ & CHKA/CHK)						



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

3-Month Rolling Programme

Programme ID: 3MPR031 (Data Date: 21-Feb-16)

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3-Month Rolling Programme updated to 2016-02-20

Date	Revision	Checked	Approved
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Activity ID	Activity Name	OD	RD	Start	Finish	TF
WJ-1020A	Pipe Laying - CHK 0 - 80 (DN1400) near Realigned TWSR East, 80m long & 4m depth	55	23	05-Oct-15 A	18-Mar-16	110
WJ-1100	DN300 Washout at around CHJ 268	65	65	22-Feb-16	12-May-16*	168
WJ-1110	DN300 Washout at CHJ 155	65	65	22-Feb-16	12-May-16*	168
WJ-1020B	Pipe Laying - CHKA 0 - 73 (DN1400) near Realigned TWSR East, 73m long & 4m depth	90	90	19-Mar-16	11-Jul-16	110
Kau Lung Hang Valve Control & Telemetry House Reprovision						
VCTH-1020c	Testing and Commissioning (Valve operation for DN1400 watermains)	30	12	10-Oct-15 A	05-Mar-16	140
VCTH-1030	Demolition of Existing KLH Valve Control & Telemetry House	90	90	05-Apr-16*	22-Jul-16	119
Existing Nam Wa Po Trunk Sewage Pumping Station (PST3)						
PS-1000	Demolition of Existing Boundary Wall of Pumping Station (PST3)	50	50	22-Feb-16*	23-Apr-16	434
PS-1010	Construction of New Boundary Wall for Pumping Station (PST3)	90	90	25-Apr-16	11-Aug-16	434
Stage 1A - Realignment of Tai Wo Service Road West (KD-7)						
TWSRW Zone 1 between CH100 and CH155						
At-Grade Roadworks						
TWSRW-1160	Road Formation, Road Drainage, DN150 watermain, Kerb, Planter & Pavement	286	2	15-Nov-14 A	23-Feb-16	31
TWSRW Zone 2 between CH155 and CH280						
At-Grade Roadworks						
TWSRW-2120	Road Formation, Road Drainage, DN150 watermain, Kerb, Planter & Pavement	165	13	16-Oct-14 A	30-Mar-16	3
TWSRW-2130	Noise Barrier NB1a - Footing adjacent Realigned TWSR West (Covered by VO 103) (Approx. 60.2m)	85	3	14-Sep-15 A	24-Feb-16	24
TWSRW-2140	Rectification Works for Southern Trunk Sewer	48	20	30-Oct-15 A	15-Mar-16	3
TWSRW-2120A	Temporary Road Formation for connecting Existing TWSRW to Realigned TWSR West	18	2	22-Jan-16 A	23-Feb-16	-24
TWSRW Zone 3 between CH280 and CH315						
At-Grade Roadworks						
TWSRW-3120	Road Formation, Road Drainage, Kerb, Planter and Pavement	181	5	22-Jun-15 A	26-Feb-16	-27
TWSRW Zone 4 between CH315 and CH376						
Construction of Bridge E						
TWSRW-4100	Remove Scaffold System and Temporary Work together with Slope Reinstatement	75	6	21-Dec-15 A	27-Feb-16*	25
At-Grade Roadworks						
TWSRW-4200	Cast Parapet, Lay Surfacing and Road Furniture for Footpath and Carriageway	35	5	12-Dec-15 A	26-Feb-16	-27
TWSRW Zone 5 between CH376 and CH520						

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Activity ID	Activity Name	OD	RD	Start	Finish	TF
	At-Grade Roadworks					
TWSRW-5100	Retaining Wall RW7- adjacent to Realigned TWSR West (66m) (covered by VO No.100)	70	10	29-Oct-15 A	03-Mar-16	38
TWSRW-5110	Retaining Wall RW9 (to be covered by VO)	45	12	05-Jan-16 A	05-Mar-16	21
TWSRW-5110A	Road Formation, DN150 watermain, Kerb, Planter and Pavement	19	3	21-Jan-16 A	26-Feb-16	-27
TWSRW-5100B	Filling and Compaction Works along TWSRW adjacent to Retaining Wall RW7 & Abutment AE2	12	0	21-Jan-16 A	19-Feb-16 A	
TWSRW-5100A	Retaining Wall RW8 - adjacent to Realigned TWSR West (66m) (covered by VO No.100)	50	38	29-Jan-16 A	09-Apr-16	111
TWSRW-5140	Remaining Road Formation, DN150 watermain, Kerb, Planter and Pavement (incl. Zone 5)	24	24	22-Feb-16	19-Mar-16	9
TWSRW-5130	Installation of Stone Facing Finish	45	45	04-Mar-16	29-Apr-16	288
TWSRW-5120	Permanent Vehicular Access to Lot 81	125	125	11-Apr-16	07-Sep-16	111
	TWSRW Zone 6 betweeen CH520 and CH530					
	At-Grade Roadworks					
TWSRW-6110	Slope Upgrading Works for unregistered feature beside Slope 3SW-D/C80 (Covered by VO. 68)	65	9	22-May-15 A	02-Mar-16	24
TWSRW-6100	Preparation Works for Implementation of TTA (shifting TWSRW traffic towards the edge of extended box culvert	21	5	24-Dec-15 A	26-Feb-16	-21
	TWSRW Zone 7 betweeen CH530 and CH640					
	At-Grade Roadworks					
TWSRW-7100	Preparation Works for Implementation of TTA (shifting TWSRW traffic towards the cut-slope)	21	5	22-Dec-15 A	26-Feb-16	-21
TWSRW-7110	Implementation of TTA - Scheme W3A	0	0	27-Feb-16		-21
TWSRW-7150	Remaining Road Drainage, Road Formation, DN150 watermain, Kerb, Planter and Pavement (incl. Zone 6 & Zone 7)	49	49	27-Feb-16	28-Apr-16	-21
	TWSRW Zone 8 betweeen CH640 and CH695					
	Kiu Tau Footbridge Reprovision (West)					
TWSRW-8020	Construction of Pile Cap and Abutment	50	22	17-Nov-15 A	17-Mar-16	79
	At-Grade Roadworks					
TWSRW-8120	Road Formation, Road Drainage, Kerb and Pavement	22	2	21-Dec-15 A	23-Feb-16	-24
TWSRW-8110*	Pipe Laying - DN450 Watermains (CHA)	95	95	27-Feb-16	24-Jun-16	195
	Remainder of the Works					
TWSRW-9030	Utilities Diversion in Area 3 (along existing TWSRW, Approx. 150m) (by utilities undertakers)	106	106	01-Apr-16	15-Jul-16	180
	Remaining Works for Noise Barrier along realigned TWSR West					
TWSRW-NB-110	Noise Barrier Steelworks & Panel for NB4 at Zones 1 & 2	20	20	22-Feb-16*	15-Mar-16	18
TWSRW-NB-130	Noise Barrier Steelworks & Panel for NB1b at Zone 4	10	10	16-Mar-16	30-Mar-16	18

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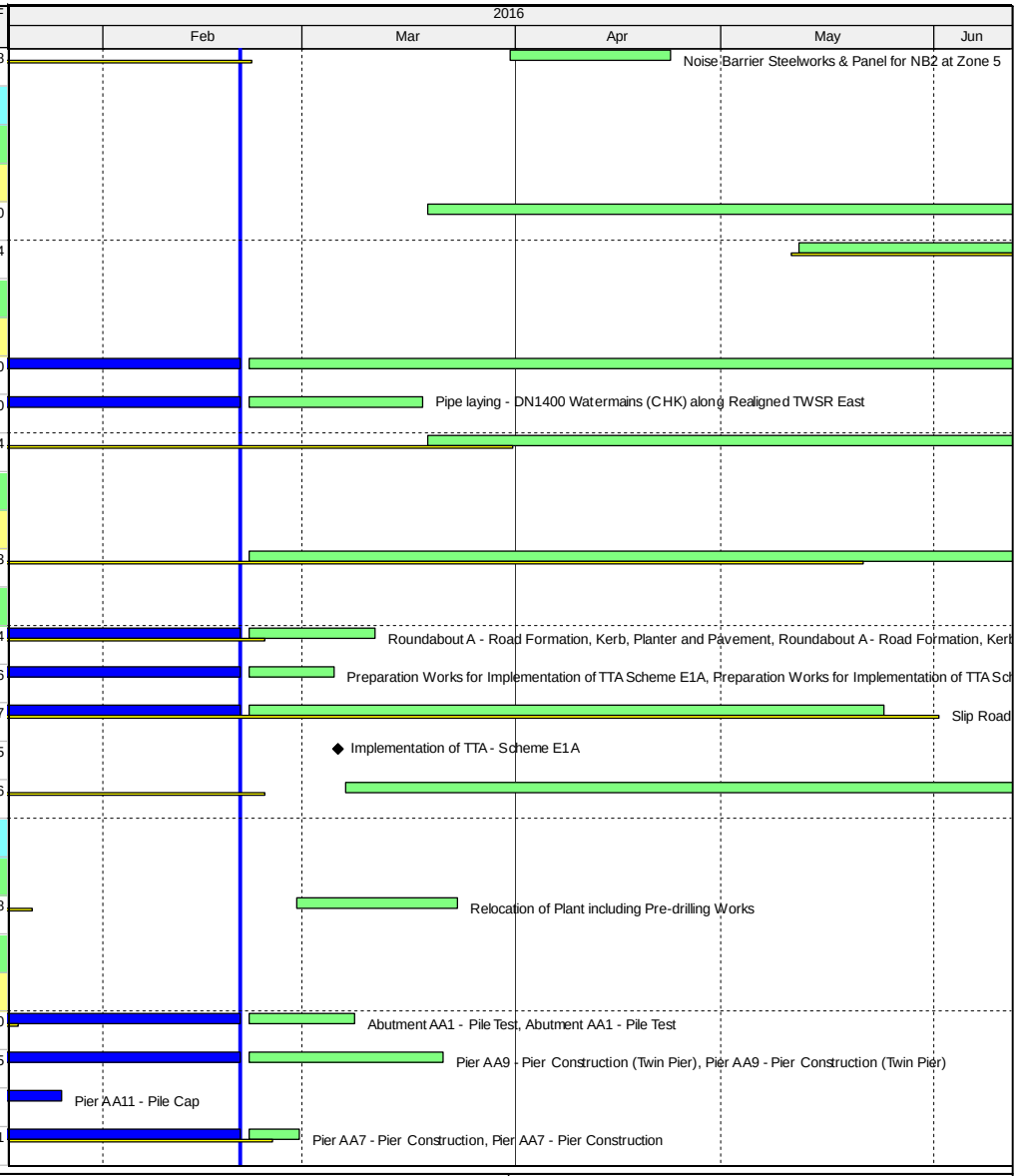
TWSRW-NB-140	Noise Barrier Steelworks & Panel for NB2 at Zone 5	20	20	31-Mar-16	23-Apr-16	18
Stage N4A & N4B - Realignment of Tai Wo Service Road East (KD-13 & KD-14)						
TWSRE Zone 1 between CH100 and CH270						
At-Grade Roadworks						
TWSRE-1140*	Pipe laying - DN1400 Watermains (CHKA) along Realigned TWSR East	90	90	19-Mar-16	11-Jul-16	110
TWSRE-1170	Remainig Noise Barrier NB3 Stem Wall (a total of 24m long)	30	30	12-May-16	17-Jun-16	224
TWSRE Zone 2 between CH270 and CH380						
At-Grade Roadworks						
TWSRE-2030A*	Pipe laying - DN600 & DN1200 Watermains (CHB &CHC) along Realigned TWSR East	30	280	17-Jul-15 A	04-Feb-17	280
TWSRE-2030B*	Pipe laying - DN1400 Watermains (CHK) along Realigned TWSR East	55	23	05-Oct-15 A	18-Mar-16	110
TWSRE-2040	Road Formation, Kerb, Footpath, Cycle Track, Planter and Pavement	71	71	19-Mar-16	17-Jun-16	224
TWSRE Zone 3 between CH380 and CH456						
At-Grade Roadworks						
TWSRE-3040	Road Formation, Kerb, Footpath, Cycle Track, Planter and Pavement (Incl. FL/F10)	165	165	22-Feb-16	09-Sep-16	153
Roundabout A, Slip Road and Access Road						
TWSRE-4070	Roundabout A - Road Formation, Kerb, Planter and Pavement	90	17	26-Oct-15 A	11-Mar-16	64
TWSRE-4110	Preparation Works for Implementation of TTA Scheme E1A	30	12	26-Oct-15 A	05-Mar-16	66
TWSRE-4020	Slip Road Y (CH260-CH404) - Road Formation, Road Drainage, Kerb, Planter and Pavement	108	74	28-Dec-15 A	24-May-16	7
TWSRE-4120	Implementation of TTA - Scheme E1A	0	0	06-Mar-16*		85
TWSRE-4030B	Slip Road Y (CH100-CH230) - Road Formation, Remaining Road Drainage, Kerb, Planter and Pavement	120	120	07-Mar-16	02-Aug-16	66
Stage 1C - Viaduct Structure & TCSS Civil Provisions (KD-9)						
Preliminaries						
B-3050	Relocation of Plant including Pre-drilling Works	21	21	29-Feb-16	23-Mar-16	18
Foundation & Pier Construction						
Bridge A						
BA-01-1010	Abutment AA1 - Pile Test	14	14	06-May-15 A	08-Mar-16	190
BA-09-1030	Pier AA9 - Pier Construction (Twin Pier)	49	25	07-Nov-15 A	21-Mar-16	35
BA-11-1020	Pier AA11 - Pile Cap	30	0	15-Dec-15 A	26-Jan-16 A	
BA-07-1030	Pier AA7 - Pier Construction	28	7	31-Dec-15 A	29-Feb-16	151



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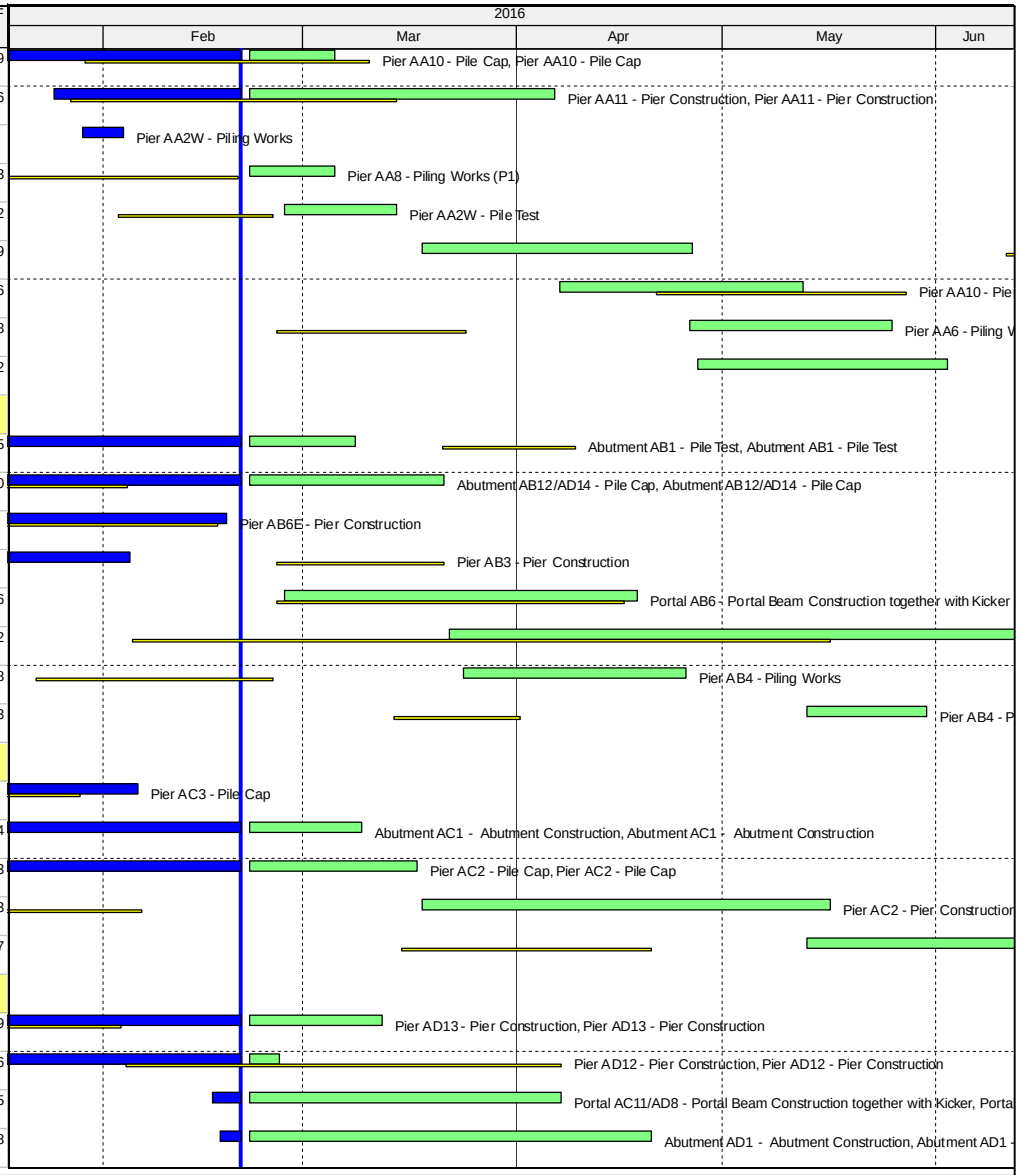
BA-10-1020	Pier AA10 - Pile Cap	30	12	18-Jan-16 A	05-Mar-16	39
BA-11-1030	Pier AA11 - Pier Construction	35	35	25-Jan-16 A	06-Apr-16	16
BA-02-1000	Pier AA2W - Piling Works	12	0	29-Jan-16 A	04-Feb-16 A	
BA-08-1000	Pier AA8 - Piling Works (P1)	12	12	22-Feb-16	05-Mar-16	33
BA-02-1010	Pier AA2W - Pile Test	14	14	27-Feb-16	14-Mar-16	112
BA-02-1020B	Pier AA2W - Pile Cap	30	30	18-Mar-16	26-Apr-16	109
BA-10-1030	Pier AA10 - Pier Construction	30	30	07-Apr-16	12-May-16	16
BA-06-1000	Pier AA6 - Piling Works	24	24	26-Apr-16	25-May-16	18
BA-01-1020	Abutment AA1 - Pile Cap	30	30	27-Apr-16	02-Jun-16	152
Bridge B						
BB-01-1010	Abutment AB1 - Pile Test	14	14	18-Aug-15 A	08-Mar-16	225
BB-12-1020	Abutment AB12/AD14 - Pile Cap	65	25	28-Oct-15 A	21-Mar-16	0
BB-06-1030	Pier AB6E - Pier Construction	48	0	21-Nov-15 A	19-Feb-16 A	
BB-03-1030	Pier AB3 - Pier Construction	21	0	29-Dec-15 A	05-Feb-16 A	
BB-06-1050	Portal AB6 - Portal Beam Construction together with Kicker	40	40	27-Feb-16	18-Apr-16	36
BB-12-1030	Abutment AB12/AD14 - Abutment Construction	75	75	22-Mar-16	24-Jun-16	132
BB-04-1000	Pier AB4 - Piling Works	24	24	24-Mar-16	25-Apr-16	18
BB-04-1010	Pier AB4 - Pile Test	14	14	13-May-16	30-May-16	43
Bridge C						
BC-03-1020	Pier AC3 - Pile Cap	30	0	11-Dec-15 A	06-Feb-16 A	
BC-01-1030	Abutment AC1 - Abutment Construction	50	15	16-Dec-15 A	09-Mar-16	244
BC-02-1020	Pier AC2 - Pile Cap	30	22	18-Jan-16 A	17-Mar-16	43
BC-02-1030	Pier AC2 - Pier Construction	45	45	18-Mar-16	16-May-16	43
BC-03-1030	Pier AC3 - Pier Construction	28	28	13-May-16	16-Jun-16	37
Bridge D						
BD-13-1030	Pier AD13 - Pier Construction	45	18	03-Dec-15 A	12-Mar-16	59
BD-12-1030	Pier AD12 - Pier Construction	45	5	09-Dec-15 A	26-Feb-16	66
BD-08-1040	Portal AC11/AD8 - Portal Beam Construction together with Kicker	40	36	17-Feb-16 A	07-Apr-16	15
BD-01-1030	Abutment AD1 - Abutment Construction	50	47	18-Feb-16 A	20-Apr-16	198



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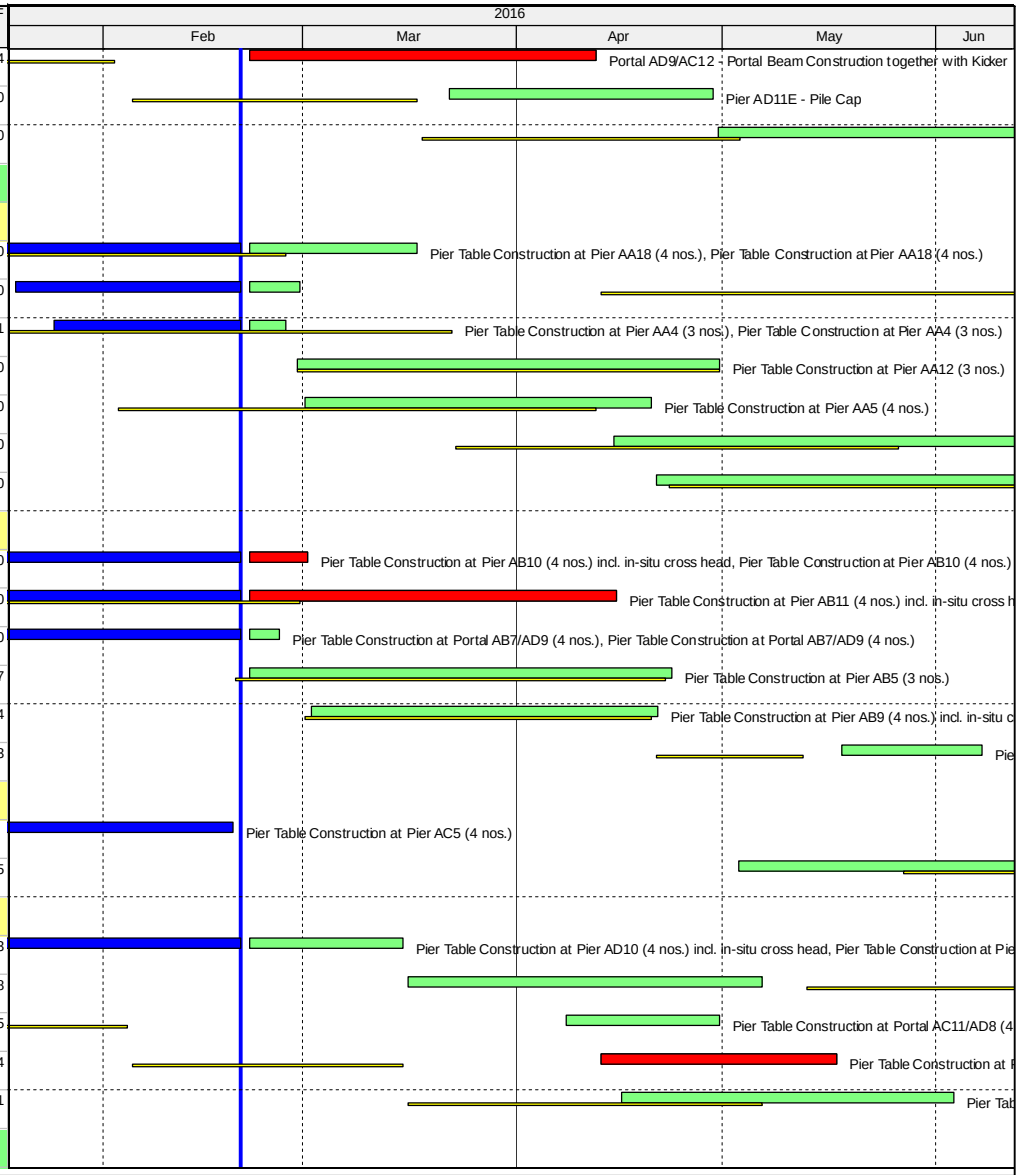
BD-09-1040	Portal AD9/AC12 - Portal Beam Construction together with Kicker	40	40	22-Feb-16	12-Apr-16	-14
BD-11-1020A	Pier AD11E - Pile Cap	30	30	22-Mar-16	29-Apr-16	0
BD-11-1030	Pier AD11E - Pier Construction	35	35	30-Apr-16	13-Jun-16	0
Pier Table Construction						
Bridge A						
PA-1180	Pier Table Construction at Pier AA18 (4 nos.)	50	22	14-Dec-15 A	17-Mar-16	50
PA-1030	Pier Table Construction at Pier AA3 (3 nos.)	50	7	19-Jan-16 A	29-Feb-16	0
PA-1040	Pier Table Construction at Pier AA4 (3 nos.)	50	6	25-Jan-16 A	27-Feb-16	31
PA-1120	Pier Table Construction at Pier AA12 (3 nos.)	50	50	29-Feb-16	30-Apr-16	50
PA-1050	Pier Table Construction at Pier AA5 (4 nos.)	40	40	01-Mar-16	20-Apr-16	0
PA-1110	Pier Table Construction at Pier AA11 (3 nos.)	50	50	15-Apr-16	15-Jun-16	30
PA-1090	Pier Table Construction at Pier AA9 (4 nos.)	50	50	21-Apr-16	21-Jun-16	20
Bridge B						
PB-1100	Pier Table Construction at Pier AB10 (4 nos.) incl. in-situ cross head	50	8	21-Sep-15 A	01-Mar-16	-70
PB-1110	Pier Table Construction at Pier AB11 (4 nos.) incl. in-situ cross head	42	43	24-Dec-15 A	15-Apr-16	-30
PB-1070	Pier Table Construction at Portal AB7/AD9 (4 nos.)	28	5	11-Jan-16 A	26-Feb-16	30
PB-1050	Pier Table Construction at Pier AB5 (3 nos.)	50	50	22-Feb-16	23-Apr-16	7
PB-1090	Pier Table Construction at Pier AB9 (4 nos.) incl. in-situ cross head	40	40	02-Mar-16	21-Apr-16	224
PB-1060	Pier Table Construction at Portal AB6 (2 nos.)	18	18	18-May-16	07-Jun-16	13
Bridge C						
PC-1050	Pier Table Construction at Pier AC5 (4 nos.)	50	0	09-Dec-15 A	20-Feb-16 A	
PC-1040	Pier Table Construction at Pier AC4 (3 nos.)	50	50	03-May-16	02-Jul-16	65
Bridge D						
PD-1100	Pier Table Construction at Pier AD10 (4 nos.) incl. in-situ cross head	40	20	06-Oct-15 A	15-Mar-16	3
PD-1120	Pier Table Construction at Pier AD12 (4 nos.) incl. in-situ cross head	40	40	16-Mar-16	06-May-16	58
PD-1080	Pier Table Construction at Portal AC11/AD8 (4 nos.)	20	20	08-Apr-16	30-Apr-16	15
PD-1090	Pier Table Construction at Portal AD9/AC12 (4 nos.)	28	28	13-Apr-16	17-May-16	-14
PD-1130	Pier Table Construction at Pier AD13 (4 nos.) incl. in-situ cross head	40	40	16-Apr-16	03-Jun-16	41
Viaduct Bridge Segement Erection						



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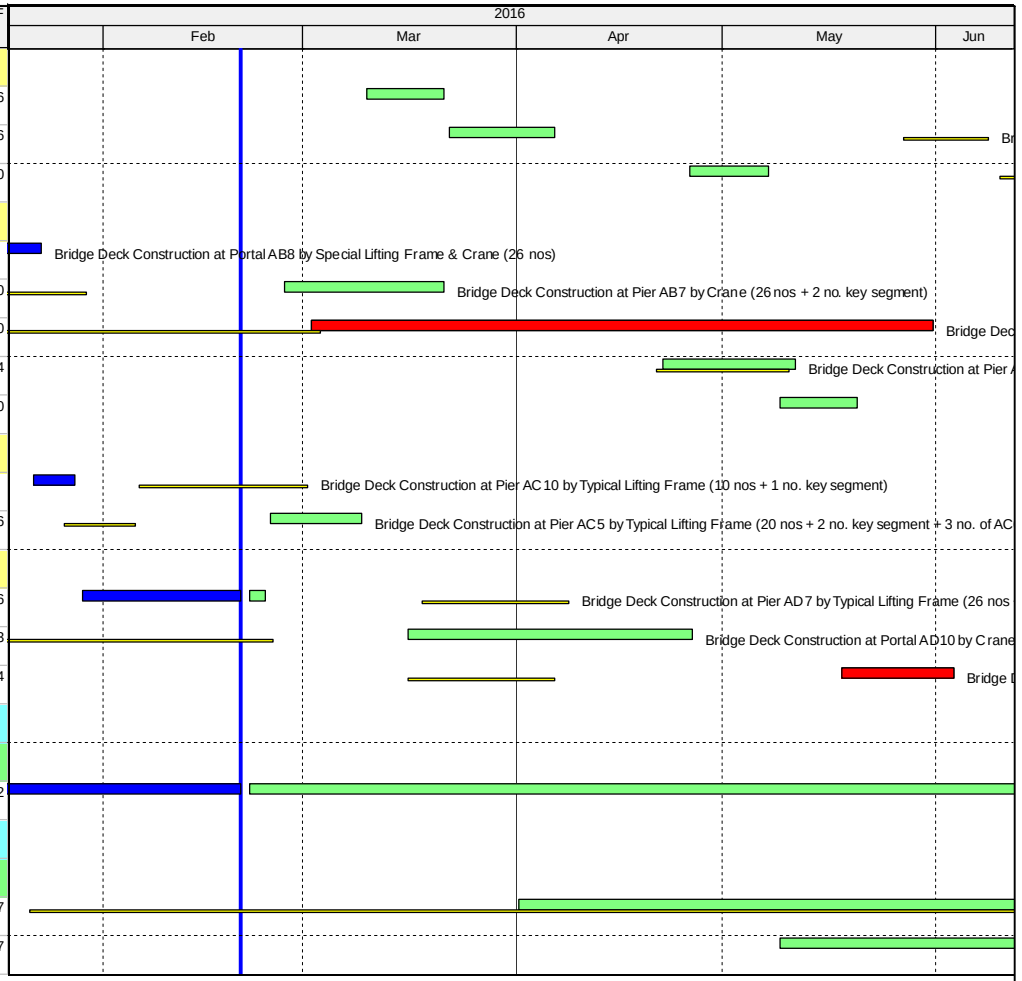
Bridge A						
EA-1030	Bridge Deck Construction at Pier AA3 by Typical Lifting Frame (16 nos + 1 no. key segment)	10	10	10-Mar-16	21-Mar-16	16
EA-1040	Bridge Deck Construction at Pier AA4 by Typical Lifting Frame (16 nos + 1 no. key segment)	10	10	22-Mar-16	06-Apr-16	16
EA-1050	Bridge Deck Construction at Pier AA5 by Typical Lifting Frame (12 nos + 1 no. key segment)	10	10	26-Apr-16	07-May-16	0
Bridge B						
EB-1080	Bridge Deck Construction at Portal AB8 by Special Lifting Frame & Crane (26 nos)	12	0	14-Jan-16 A	23-Jan-16 A	
EB-1070	Bridge Deck Construction at Pier AB7 by Crane (26 nos + 2 no. key segment)	20	20	27-Feb-16	21-Mar-16	30
EB-1100	Bridge Deck Construction at Pier AB10 by Special Lifting Frame (54 nos in which 12 nos above MTRCL Railway)	72	72	02-Mar-16	31-May-16	-70
EB-1090	Bridge Deck Construction at Pier AB9 by Crane (36 nos + 2 no. key segment)	16	16	22-Apr-16	11-May-16	224
EB-1050	Bridge Deck Construction at Pier AB5 by Typical Lifting Frame (16 nos + 1 no. key segment)	10	10	09-May-16	20-May-16	0
Bridge C						
EC-1100	Bridge Deck Construction at Pier AC10 by Typical Lifting Frame (10 nos + 1 no. key segment)	15	0	22-Jan-16 A	28-Jan-16 A	
EC-1050	Bridge Deck Construction at Pier AC5 by Typical Lifting Frame (20 nos + 2 no. key segment + 3 no. of AC6)	12	12	25-Feb-16	09-Mar-16	16
Bridge D						
ED-1070	Bridge Deck Construction at Pier AD7 by Typical Lifting Frame (26 nos + 1 no. key segment)	15	3	29-Jan-16 A	24-Feb-16	16
ED-1100	Bridge Deck Construction at Portal AD10 by Crane (52 nos)	32	32	16-Mar-16	26-Apr-16	3
ED-1090	Bridge Deck Construction at Portal AD9 by Crane (14 nos + 4 no. key segment)	15	15	18-May-16	03-Jun-16	-14
Section VI - Works in Portion FH9 (KD-6A)						
Major Works						
S6-2000*	Construction of Abutment AB12/AD14 (including Piling, Pile Cap & Abutment construction)	276	100	06-Feb-15 A	24-Jun-16	132
Landscaping & Establishment Works (KD-4, 4A, 5, 5A, 6)						
Secton III - Remainder of Landscaping Softworks Not Included in Secton IIIA						
S3-1000	Transplanting along Realigned TWSR West	120	120	01-Apr-16	24-Aug-16	307
S3-1020	Transplanting near MTR East Rail Line	240	240	09-May-16	01-Mar-17	157



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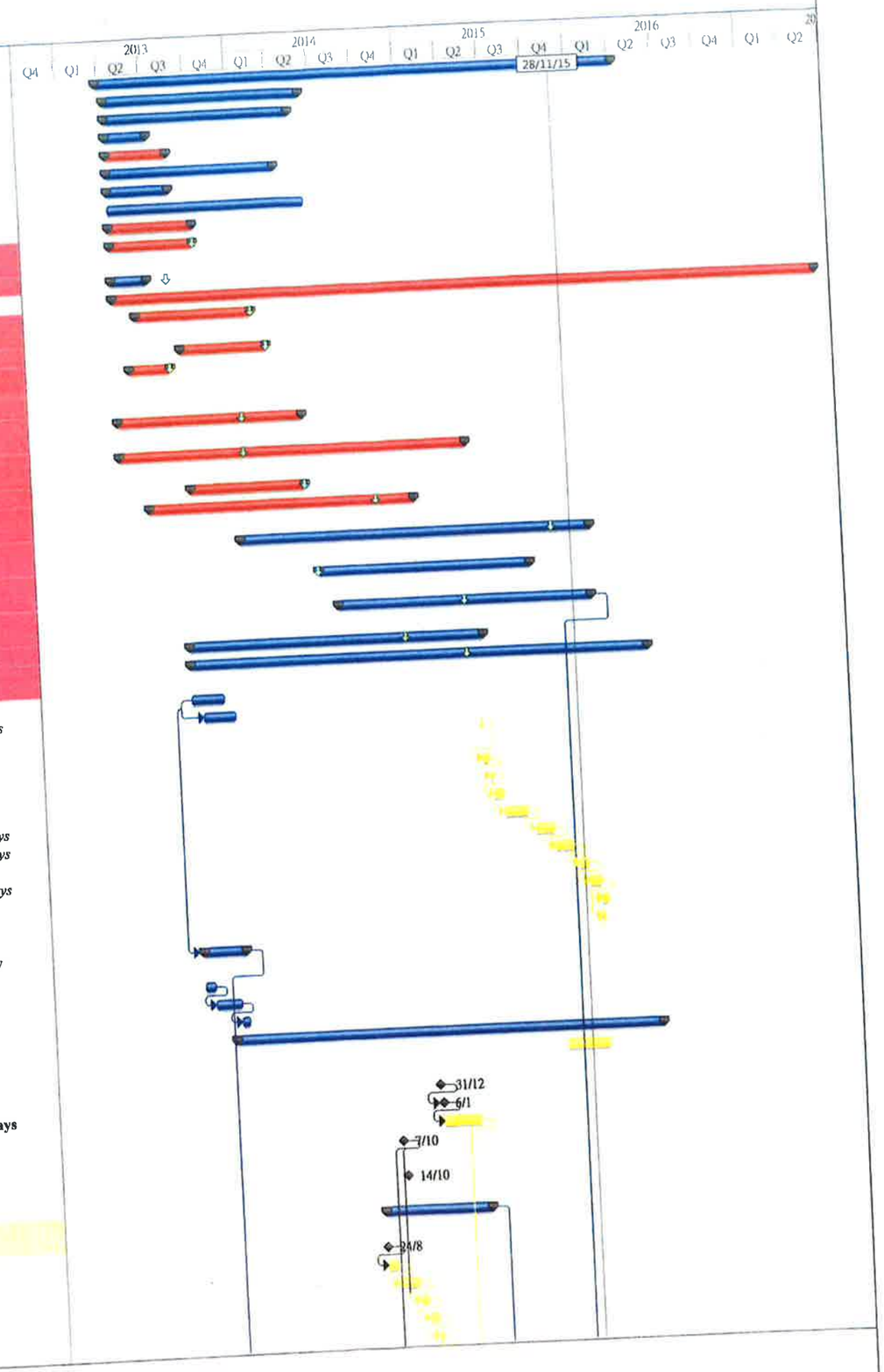
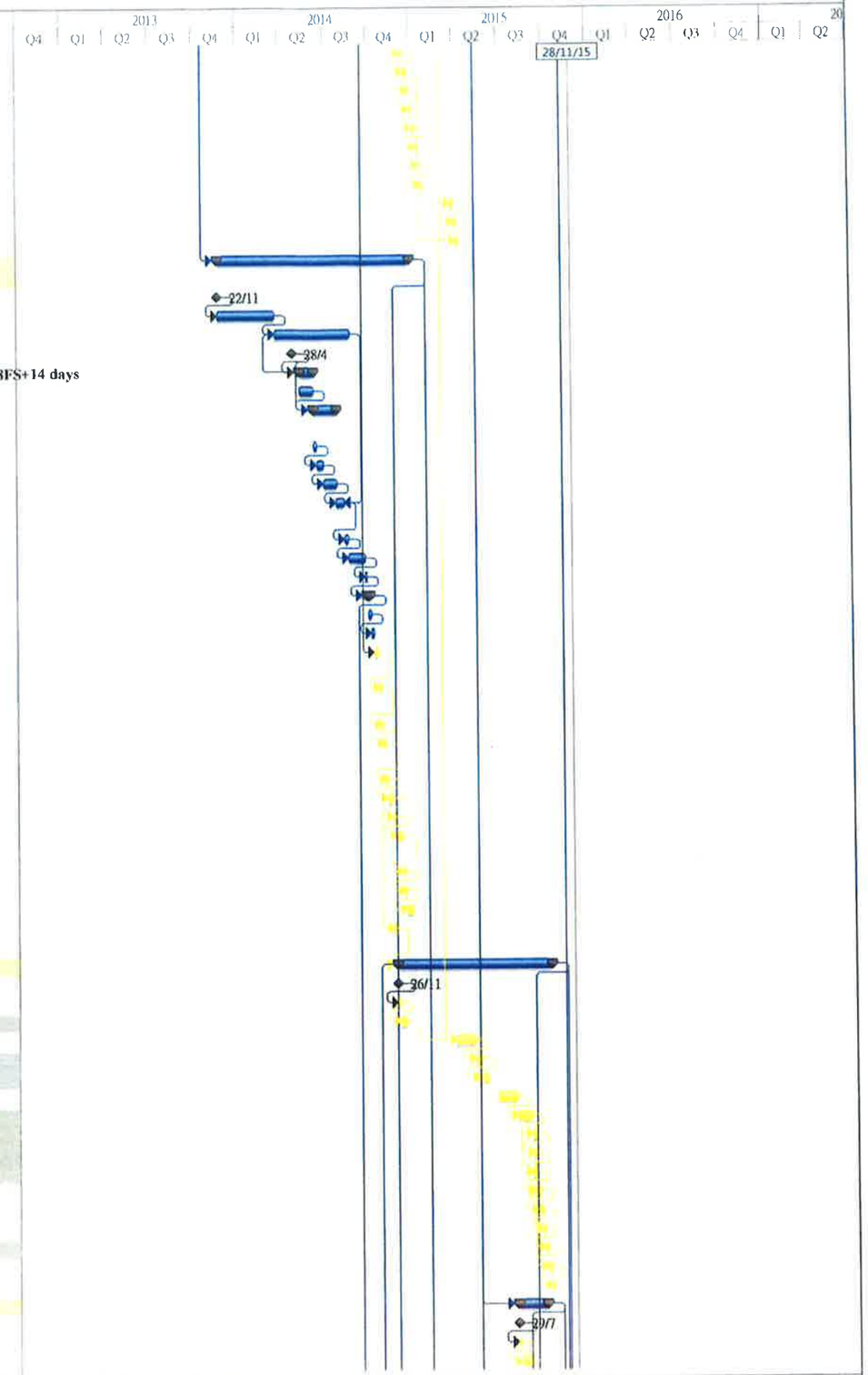
Contract 5

ID	WBS	Task Name	Duration	Start	Finish	Predecessors
1	1	**Key Dates**	1110 days	Thu 28/3/13	Sun 10/4/16	
47	2	**Preliminaries and Statuary / Contractual Submissions**	424 days	Thu 11/4/13	Mon 9/6/14	4
48	2.1	**Site Establishment**	399 days	Thu 11/4/13	Thu 15/5/14	
53	2.2	**Applications to Government Department**	89 days	Fri 12/4/13	Tue 9/7/13	
58	2.3	**Temporary Traffic Arrangement (TTA) Scheme for temp. LMH Rd**	131 days	Fri 12/4/13	Tue 20/8/13	
63	2.4	**Liaison with Utility Undertakers**	363 days	Fri 12/4/13	Wed 9/4/14	
66	2.5	**Environmental Baseline & Impact Monitoring**	132 days	Thu 11/4/13	Wed 21/8/13	
77	2.6	General Site Clearance	424 days	Fri 12/4/13	Mon 9/6/14	5SS
78	3	**Stage of the Works**	180 days	Thu 11/4/13	Mon 7/10/13	
79	3.1	Stage I of the Works - Temporary vehicular bridge B and temporary Lin Ma Hang Road	179 days	Fri 12/4/13	Mon 7/10/13	4
90	3.2	Stage II of the Works - Temporary ArchSD Depot (LMH2)	78 days	Thu 11/4/13	Thu 27/6/13	
94	4	**Section of the Works**	1511 days	Fri 12/4/13	Wed 31/5/17	
95	4.1	Section I of the Works - Ground Investigation field works (Drg. 7101A-7111A)	251 days	Thu 30/5/13	Tue 4/2/14	74SS+13 days
100	4.2	Section II of the Works - All laboratory tests for Section I	188 days	Sat 31/8/13	Thu 6/3/14	97
105	4.3	Section III of the Works - Site formation works for Portions RS1, RS2 & RS3 (seek for certificate of completion in letter ref. SRJV/W47/SO/J5/1308/00416 dated 23/8/2013)	89 days	Sun 12/5/13	Thu 8/8/13	24,25,26
111	4.4	Section IV of the Works - Village house within portion RS4 - EOT3 completion 15/5/2014	399 days	Fri 12/4/13	Thu 15/5/14	4
123	4.5	Section V of the Works-All works within portion RS4 exclude Section IV - EOT8 completion 28/4/2015	747 days	Fri 12/4/13	Tue 28/4/15	4
140	4.6	Section VII of the Works - All works within Area CRD	249 days	Mon 9/9/13	Thu 15/5/14	8
177	4.7	Section VIII of the Works - All works within Area BCPA - EOT6 completion 2/1/2015	571 days	Tue 11/6/13	Fri 2/1/15	6,7,18
211	4.8	Section IX of the Works - All works within Area BCPB - EOTO12 completion 9 January 2016	751 days	Fri 20/12/13	Sat 9/1/16	7
223	4.9	Section X of the Works - All works within Area BCPC	454 days	Thu 5/6/14	Tue 1/9/15	8
239	4.10	Section XI of the Works - All works within Area BCPD - EOTO12 completion 6 January 2016	542 days	Mon 14/7/14	Wed 6/1/16	
322	4.11	Section XII of the Works - All works within Area LMH	635 days	Thu 22/8/13	Mon 18/5/15	74
491	4.12	Section XIII of the Works - Works not covered in any other Sections	983 days	Thu 22/8/13	Sat 30/4/16	74
492	4.12.1	*Submissions*	*70 days*	*Thu 22/8/13*	*Wed 30/10/13*	
493	4.12.2	*Approval of Submissions*	*68 days*	*Mon 16/9/13*	*Fri 22/11/13*	*492SS+25 days*
494	4.12.3	*VO.080 Additional Footpath adjacent to the Eastern Side of Chuk Yuen Village Re-site Area*	*1 day*	*Tue 5/5/15*	*Tue 5/5/15*	
495	4.12.4	*Submissions*	*14 days*	*Wed 6/5/15*	*Tue 19/5/15*	*494*
496	4.12.5	*Approval of Submissions*	*7 days*	*Wed 20/5/15*	*Tue 26/5/15*	*495*
497	4.12.6	*Temporarty works and excavation*	*20 days*	*Wed 27/5/15*	*Mon 15/6/15*	*496*
498	4.12.7	*Base slab*	*50 days*	*Tue 16/6/15*	*Tue 4/8/15*	*496FS+20 days*
499	4.12.8	*Wall Stem*	*40 days*	*Thu 20/8/15*	*Mon 28/9/15*	*498FS+15 days*
500	4.12.9	*Backfilling*	*40 days*	*Tue 29/9/15*	*Sat 7/11/15*	*499*
501	4.12.10	*DN150 watermain & Utilities Laying*	*20 days*	*Wed 18/11/15*	*Mon 7/12/15*	*500FS+10 days*
502	4.12.11	*Surfacing & U-Channel*	*25 days*	*Tue 8/12/15*	*Fri 1/1/16*	*501*
503	4.12.12	*Reinstatement of Gabion*	*14 days*	*Sat 2/1/16*	*Fri 15/1/16*	*502*
504	4.12.13	*Type 2 Railing*	*4 days*	*Sat 2/1/16*	*Tue 5/1/16*	*502*
505	4.12.14	**Temporary Traffic Arrangement (TTA) Scheme for Works at existing LMH Rd**	**92 days**	**Fri 23/8/13**	**Fri 22/11/13**	**492SS+1 day**
506	4.12.14.1	*Preparation of TTA scheme*	*21 days*	*Fri 23/8/13*	*Thu 12/9/13*	
507	4.12.14.2	*Comment & approval of TTA scheme by TD & RMO*	*55 days*	*Fri 13/9/13*	*Wed 6/11/13*	*506*
508	4.12.14.3	*Obtain roadwork advice from RMO*	*16 days*	*Thu 7/11/13*	*Fri 22/11/13*	*507*
509	4.12.15	**Lin Ma Hang Road Widening Section**	**920 days**	**Thu 24/10/13**	**Sat 30/4/16**	
510	4.12.15.1	*PVO - Additional U-Channel along both Side of existing LMH Road 600m x 2) (Advanced works commenced)*	*91 days*	*Wed 7/10/15*	*Tue 5/1/16*	
511	4.12.15.2	**VO.061 Addition al Rising Main at LMH Road**	**0 days**	**Wed 31/12/14**	**Wed 31/12/14**	
512	4.12.15.3	**place order for HDPE pipes**	**0 days**	**Tue 6/1/15**	**Tue 6/1/15**	**511FS+2 days**
513	4.12.15.4	***arrival of HDPE pipes***	***80 days***	***Tue 6/1/15***	***Thu 26/3/15***	***512***
514	4.12.15.5	**RECEIVE VO 053 ADDITIONAL CROSS ROAD DUCTS FOR EXISTING IRRIGATION PIPES**	**0 days**	**Tue 7/10/14**	**Tue 7/10/14**	
515	4.12.15.6	**RECEIVE VO 062 CABLE DUCTS LAYING FOR PUBLIC LIGHTING SYSTEM AT LIN MA HANG ROAD**	**0 days**	**Tue 14/10/14**	**Tue 14/10/14**	
516	4.12.15.7	**1 Works from chainage 190 to chainage 380 (west side carriageway & footpath)**	**231 days**	**Sun 24/8/14**	**Sat 11/4/15**	
517	4.12.15.7.1	TTA for ch 310-380(west)	0 days	Sun 24/8/14	Sun 24/8/14	
518	4.12.15.7.2	*earthwork to lay drainage & waterwork*	*21 days*	*Sun 24/8/14*	*Sat 13/9/14*	*517*
519	4.12.15.7.3	*drainage & waterwork + backfill for CLP*	*45 days*	*Sun 14/9/14*	*Tue 28/10/14*	*518*
520	4.12.15.7.4	***VO053 - crossing no. 1(whole), 2 (west)***	***18 days***	***Wed 29/10/14***	***Sat 15/11/14***	***519,514***
521	4.12.15.7.5	***UU for ch 190-380 (132kV,11kV,LV)***	***19 days***	***Sun 16/11/14***	***Thu 4/12/14***	***520***
522	4.12.15.7.6	*filling works to formation of road (include SRT98%)*	*7 days*	*Fri 5/12/14*	*Thu 11/12/14*	*521*



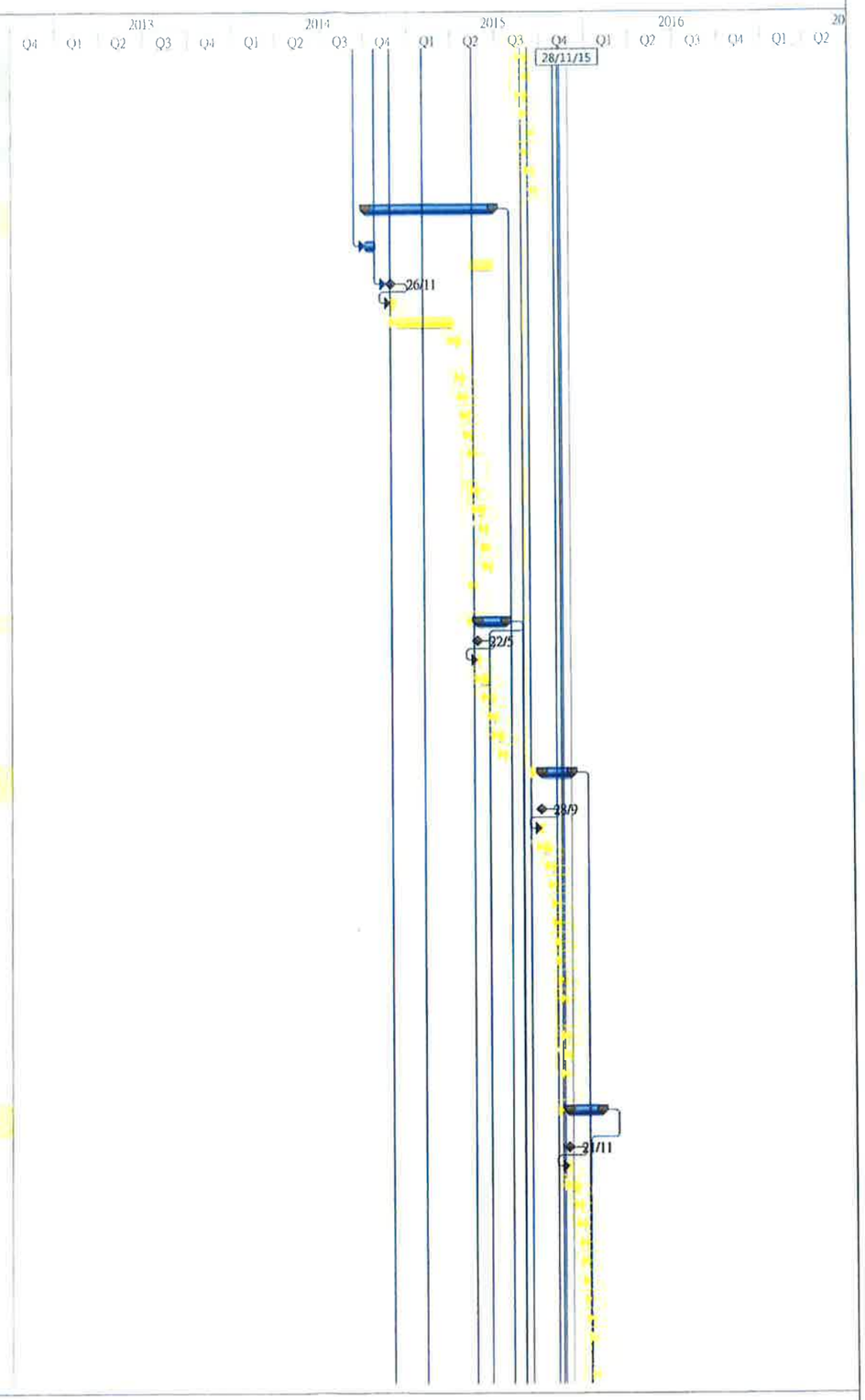
ID	WBS	Task Name	Duration	Start	Finish	Predecessors
523	4.12.15.7.7	*street lighting drawpits & crossroads*	*7 days*	*Fri 12/12/14*	*Thu 18/12/14*	*522*
524	4.12.15.7.8	*kerb bedding, laying & backing before bituminous material*	*9 days*	*Fri 19/12/14*	*Sat 27/12/14*	*523*
525	4.12.15.7.9	*filling works to formation of footpath*	*4 days*	*Sun 28/12/14*	*Wed 31/12/14*	*524*
526	***4.12.15.7.10***	***UU for CLP (lighting)***	***5 days***	***Thu 1/1/15***	***Mon 5/1/15***	***525***
527	***4.12.15.7.11***	***UU for ch 190-380 (PCCW)***	***7 days***	***Tue 6/1/15***	***Mon 12/1/15***	***526***
528	4.12.15.7.12	*irrigation system*	*7 days*	*Tue 13/1/15*	*Mon 19/1/15*	*527*
529	4.12.15.7.13	*preparation works to formation of footpath*	*3 days*	*Mon 19/1/15*	*Wed 21/1/15*	*528FS-1 day*
530	4.12.15.7.14	*footpath paving*	*9 days*	*Thu 22/1/15*	*Fri 30/1/15*	*529*
531	***4.12.15.7.15***	***VO.061 for renewal of rising main***	***6 days***	***Fri 27/3/15***	***Wed 1/4/15***	***513***
532	4.12.15.7.16	*sub-base laying for road*	*5 days*	*Thu 2/4/15*	*Mon 6/4/15*	*531*
533	***4.12.15.7.17***	***AC - lay DBM & base course***	***5 days***	***Tue 7/4/15***	***Sat 11/4/15***	***524,532***
534	**4.12.15.8**	**1 Works from chainage 380 to chainage 580 (west side carriageway & footpath)**	**402 days**	**Fri 22/11/13**	**Mon 29/12/14**	**505**
535	4.12.15.8.1	TTA for ch 380-580(west)	0 days	**Fri 22/11/13**	Fri 22/11/13	
536	4.12.15.8.2	watermain (include issue of alignment and laying)	120 days	Sat 23/11/13	Sat 22/3/14	535
537	4.12.15.8.3	drainage (pipe, manholes & gullies)	155 days	Sun 23/3/14	Sun 24/8/14	536
538	**4.12.15.8.4**	**Received Variation Order Nos. 040 & 042**	**0 days**	**Mon 28/4/14**	**Mon 28/4/14**	
539	**4.12.15.8.5**	**construct DN450mm pipe with concrete surround**	**28 days**	Mon 12/5/14	Sun 8/6/14	**537SS+50 days,538FS+14 days**
540	4.12.15.8.5.1	low stream pipe & catchpit at western side	28 days	Mon 12/5/14	Sun 8/6/14	
541	**4.12.15.8.6**	**construct 1900x950 box culvert with manholes SMH8052A & B**	**49 days**	Mon 9/6/14	Sun 27/7/14	**538,540**
542	4.12.15.8.6.1	support existing DN150mm sewer pipe & watermain	7 days	Mon 9/6/14	Sun 15/6/14	
543	4.12.15.8.6.2	construct box culvert	14 days	Mon 16/6/14	Sun 29/6/14	542
544	4.12.15.8.6.3	construct manholes	28 days	Mon 30/6/14	Sun 27/7/14	543
545	4.12.15.8.7	found existing cables affected construction of gullies & discuss with CLP	18 days	Sat 26/7/14	Tue 12/8/14	537FF-12 days,544FS-2 days
546	4.12.15.8.8	complete preparation work & fill footpath for 132kV, 11kV & LV	8 days	Wed 13/8/14	Wed 20/8/14	545
547	**4.12.15.8.9**	**UU - 132kV+11kV & LV**	**35 days**	**Thu 21/8/14**	**Wed 24/9/14**	**546**
548	4.12.15.8.10	temporary connection of cables	3 days	Thu 25/9/14	Sat 27/9/14	547
549	**4.12.15.8.11**	**960x650 box culvert (low stream & west catchpit)**	**7 days**	Sun 28/9/14	Sat 4/10/14	**548**
551	4.12.15.8.12	construct outstanding drainage & gullies	7 days	Wed 1/10/14	Tue 7/10/14	550FS-4 days
552	4.12.15.8.13	filling work to formation of road (include SRT98%)	5 days	Wed 8/10/14	Sun 12/10/14	551
553	***4.12.15.8.14***	***VO053 - crossing no. 3, 4 (west)***	***10 days***	**Mon 13/10/14**	**Wed 22/10/14**	***514FS+6 days***
554	*4.12.15.8.15*	*complete filling work to formation of road (include SRT98%)*	*5 days*	Thu 23/10/14	Mon 27/10/14	*553*
555	*4.12.15.8.16*	*street lighting drawpits & crossing at ch 523*	*4 days*	Mon 27/10/14	Thu 30/10/14	*554FS-1 day*
556	***4.12.15.8.17***	***UU for CLP (lighting)***	***5 days***	**Fri 31/10/14**	**Tue 4/11/14**	***555***
557	*4.12.15.8.18*	*sub-base laying for road*	*4 days*	Wed 5/11/14	Sat 8/11/14	*556*
558	*4.12.15.8.19*	*kerb bedding, laying & backing before bituminous material*	*12 days*	Sat 8/11/14	Wed 19/11/14	*557FS-1 day*
559	*4.12.15.8.20*	*filling works to formation of footpath*	*5 days*	Thu 20/11/14	Mon 24/11/14	*558*
560	***4.12.15.8.21***	***UU for ch 380-580 (PCCW)***	***14 days***	**Tue 25/11/14**	**Mon 8/12/14**	***559***
561	*4.12.15.8.22*	*irrigation system*	*4 days*	Tue 9/12/14	Fri 12/12/14	*560*
562	*4.12.15.8.23*	*preparation works to formation of footpath*	*3 days*	Sat 13/12/14	Mon 15/12/14	*561*
563	*4.12.15.8.24*	*footpath paving*	*14 days*	Tue 16/12/14	Mon 29/12/14	*562*
564	***4.12.15.8.25***	***AC - lay DBM & base course***	***5 days***	**Thu 20/11/14**	**Mon 24/11/14**	***558***
565	**4.12.15.9**	**2 Works from ch 380-580 (east side carriageway)**	**318 days**	**Wed 26/11/14**	**Sat 10/10/15**	**564FS+2 days**
566	4.12.15.9.1	TTA for ch 380-580 (east)	0 days	**Wed 26/11/14**	Wed 26/11/14	
567	4.12.15.9.2	remove existing pavement	4 days	*Thu 27/11/14*	*Sun 30/11/14*	566
568	4.12.15.9.3	PVO: 2 nos. U-Channel Drainage Crossing	14 days	Mon 1/12/14	Sun 14/12/14	567
569	***4.12.15.9.4***	***VO.061 for rising main***	***40 days***	***Fri 27/3/15***	***Tue 5/5/15***	***513,568***
570	4.12.15.9.5	Waterworks - 150T FH, 150T Irrigation & 150T	14 days	Wed 6/5/15	Tue 19/5/15	569
571	4.12.15.9.6	VO053 - crossing no. 2, 3, 4, 5 (east)	20 days	Wed 13/5/15	Mon 1/6/15	570FS-7 days
572	***4.12.15.9.7***	***PVO - Revised Design of VO.061 for Rising Mains***	***40 days***	***Fri 19/6/15***	***Tue 28/7/15***	
573	***4.12.15.9.8***	*****Re-construction: VO.061 for Rising Mains***	***30 days***	***Wed 29/7/15***	***Thu 27/8/15***	***572***
574	4.12.15.9.9	**Re-construction: Waterworks - 150T FH, 150T Irrigation & 150T	10 days	Fri 28/8/15	Sun 6/9/15	573
575	***4.12.15.9.10***	*****Re-construction: RVO053 - crossing no. 2, 3, 4, 5 (east)***	***10 days***	***Mon 31/8/15***	***Wed 9/9/15***	***574FS-7 days***
576	4.12.15.9.11	**Re-construction: PVO: 2 nos. U-Channel Drainage Crossing	10 days	Fri 28/8/15	Sun 6/9/15	573
577	*4.12.15.9.12*	*middle stream box culvert 960x650*	*14 days*	*Mon 31/8/15*	*Sun 13/9/15*	*576FS-7 days*
578	*4.12.15.9.13*	*middle stream DN450mm pipe*	*12 days*	*Mon 7/9/15*	*Fri 18/9/15*	*577FS-7 days*
579	*4.12.15.9.14*	*street light crossing at ch 523*	*4 days*	*Sat 19/9/15*	*Tue 22/9/15*	*575,578*
580	4.12.15.9.15	SRT Formation level	5 days	Wed 23/9/15	Sun 27/9/15	579
581	*4.12.15.9.16*	*sub-base & east kerbing*	*8 days*	*Mon 28/9/15*	*Mon 5/10/15*	*575,580*
582	***4.12.15.9.17***	***AC - lay DBM & base course***	***5 days***	***Tue 6/10/15***	**Sat 10/10/15**	***581***
583	**4.12.15.10**	**3 Works from ch 190-380 (east side carriageway)**	**60 days**	**Wed 29/7/15**	**Sat 26/9/15**	**516FS+2 days**
584	4.12.15.10.1	TTA for ch 190-380 (east)	0 days	**Wed 29/7/15**	Wed 29/7/15	
585	*4.12.15.10.2*	*remove existing pavement*	*4 days*	*Wed 29/7/15*	*Sat 1/8/15*	*584*
586	*4.12.15.10.3*	*VO.061 for rising main*	*25 days*	*Sun 2/8/15*	*Wed 26/8/15*	*585*



Revision 1
Tue 26/1/16

Task | Split | Milestone | Summary | Project Summary | Critical | Critical Split | Progress | Deadline

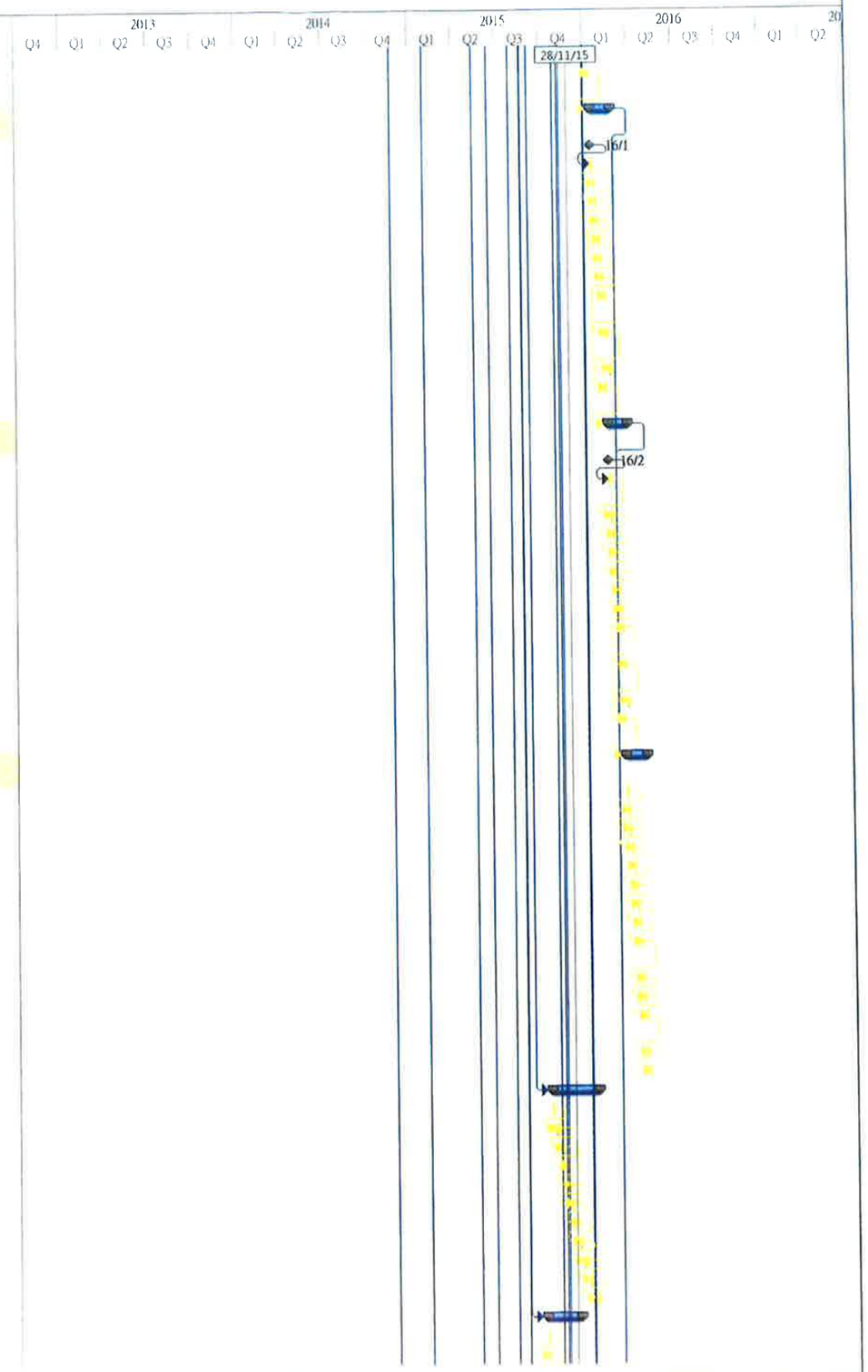
ID	WBS	Task Name	Duration	Start	Finish	Predecessors
587	4.12.15.10.4	Waterworks - 150T FH, 150T x 2	14 days	Thu 27/8/15	Wed 9/9/15	586
588	4.12.15.10.5	RVO053 - crossing no. 1 (east)	6 days	Mon 7/9/15	Sat 12/9/15	587FS-3 days
589	4.12.15.10.6	PVO: 2 nos. U-Channel Drainage Crossing	10 days	Thu 27/8/15	Sat 5/9/15	586
590	*4.12.15.10.7*	*street light crossings at ch 287, 350*	*4 days*	*Thu 3/9/15*	*Sun 6/9/15*	*589FS-3 days*
591	*4.12.15.10.8*	PCCW crossings at ch 350	2 days	Sat 5/9/15	Sun 6/9/15	590FF
592	4.12.15.10.9	SRT Formation level	5 days	Mon 7/9/15	Fri 11/9/15	591
593	*4.12.15.10.10*	sub-base & east kerbing	*10 days*	*Sat 12/9/15*	*Mon 21/9/15*	*590,592*
594	**4.12.15.10.11**	**AC - lay DBM & base course**	**5 days**	**Tue 22/9/15**	**Sat 26/9/15**	**593**
595	**4.12.15.11**	**2,3,7 Works from chainage 580 to chainage 785 (west side carriageway & footpath)**	**265 days**	**Sun 5/10/14**	**Fri 26/6/15**	
596	**4.12.15.11.1**	**UU for ch 580-785 (132kV,11kV,LV)**	**21 days**	**Sun 5/10/14**	**Sat 25/10/14**	**549**
597	*4.12.15.11.2*	*VO.091 Water Mains Diversion*	*50 days*	*Fri 8/5/15*	*Fri 26/6/15*	
598	4.12.15.11.3	TTA for ch 580-785(west)	0 days	**Wed 26/11/14**	Wed 26/11/14	565SS
599	*4.12.15.11.4*	*earthwork to lay drainage & waterwork*	*10 days*	*Thu 27/11/14*	*Sat 6/12/14*	*598*
600	*4.12.15.11.5*	*drainage & waterwork*	*120 days*	*Sun 7/12/14*	*Sun 5/4/15*	*599*
601	***4.12.15.11.6***	***VO053 - crossing no. 5, 6, 7&8 & Ducts along ch613-700 (west)***	***14 days***	***Mon 6/4/15***	***Sun 19/4/15***	***600***
602	*4.12.15.11.7*	*filling works to formation of road (include SRT98%)*	*7 days*	*Mon 20/4/15*	*Sun 26/4/15*	*601*
603	*4.12.15.11.8*	*street lighting drawpits & crossings ch760,785*	*5 days*	*Mon 27/4/15*	*Fri 1/5/15*	*602*
604	*4.12.15.11.9*	*sub-base laying for road*	*5 days*	*Sat 2/5/15*	*Wed 6/5/15*	*603*
605	*4.12.15.11.10*	*kerb bedding, laying & backing before bituminous material*	*9 days*	*Thu 7/5/15*	*Fri 15/5/15*	*604*
606	*4.12.15.11.11*	*filling works to formation of footpath*	*4 days*	*Sat 16/5/15*	*Tue 19/5/15*	*605*
607	***4.12.15.11.12***	***UU for CLP (lighting)***	***5 days***	***Wed 20/5/15***	***Sun 24/5/15***	***606***
608	***4.12.15.11.13***	***UU for ch 580-785 (PCCW)***	***14 days***	***Mon 25/5/15***	***Sun 7/6/15***	***606,607***
609	*4.12.15.11.14*	*irrigation system*	*5 days*	*Mon 8/6/15*	*Fri 12/6/15*	*608*
610	*4.12.15.11.15*	*preparation works to formation of footpath*	*3 days*	*Sat 13/6/15*	*Mon 15/6/15*	*609*
611	*4.12.15.11.16*	*footpath paving*	*7 days*	*Tue 16/6/15*	*Mon 22/6/15*	*610*
612	***4.12.15.11.17***	***AC - lay DBM & base course***	***5 days***	***Sat 16/5/15***	**Wed 20/5/15**	***605***
613	**4.12.15.12**	**4,5,6 Works from ch 580-785 (east side carriageway)**	**58 days**	**Fri 22/5/15**	**Sun 19/7/15**	**612FS+2 days**
614	4.12.15.12.1	TTA for ch 580-785 (east)	0 days	**Fri 22/5/15**	Fri 22/5/15	
615	4.12.15.12.2	remove existing pavement	5 days	Sat 23/5/15	Wed 27/5/15	614
616	**4.12.15.12.3**	**VO.061 for rising main**	**20 days**	**Thu 28/5/15**	**Tue 16/6/15**	**615**
617	**4.12.15.12.4**	**VO053 - crossing no. 5, 6, 7&8 (east)**	**14 days**	**Fri 12/6/15**	**Thu 25/6/15**	**616FS-5 days**
618	4.12.15.12.5	street lighting crossings at ch 760, 785	7 days	Wed 24/6/15	Tue 30/6/15	617FS-2 days
619	4.12.15.12.6	sub-base & east kerbing	14 days	Wed 1/7/15	Tue 14/7/15	618
620	**4.12.15.12.7**	**AC - lay DBM & base course**	**5 days**	**Wed 15/7/15**	**Sun 19/7/15**	**619**
621	**4.12.15.13**	**5 Works from chainage 125 to chainage 190 (west side carriageway & footpath)**	**62 days**	**Mon 28/9/15**	**Sun 29/11/15**	**594FS+2 days**
622	4.12.15.13.1	TTA for ch 125-190 (west)	0 days	**Mon 28/9/15**	Mon 28/9/15	
623	*4.12.15.13.2*	*earthwork to lay drainage & waterwork*	*3 days*	*Tue 29/9/15*	*Thu 1/10/15*	*622*
624	*4.12.15.13.3*	*drainage & waterwork + backfill for CLP*	*18 days*	*Thu 1/10/15*	*Sun 18/10/15*	*623FS-1 day*
625	***4.12.15.13.4***	***UU for ch 125-190 (132kV,11kV,LV)***	***8 days***	***Mon 19/10/15***	***Mon 26/10/15***	***624***
626	*4.12.15.13.5*	*filling works to formation of road (include SRT98%)*	*7 days*	*Sun 25/10/15*	*Sat 31/10/15*	*625FS-2 days*
627	*4.12.15.13.6*	*street lighting drawpits & crossing at ch 154*	*3 days*	*Sun 1/11/15*	*Tue 3/11/15*	*626*
628	*4.12.15.13.7*	*irrigation system*	*4 days*	*Mon 2/11/15*	*Thu 5/11/15*	*627FS-2 days*
629	***4.12.15.13.8***	***UU for CLP (lighting)***	***3 days***	***Fri 6/11/15***	***Sun 8/11/15***	***628***
630	*4.12.15.13.9*	*sub-base laying*	*3 days*	*Mon 9/11/15*	*Wed 11/11/15*	*629*
631	*4.12.15.13.10*	*kerb bedding, laying & backing before bituminous material*	*5 days*	*Thu 12/11/15*	*Mon 16/11/15*	*630*
632	*4.12.15.13.11*	*filling works to formation of footpath*	*3 days*	*Mon 16/11/15*	*Wed 18/11/15*	*631FS-1 day*
633	***4.12.15.13.12***	***UU for ch 125-190 (PCCW)***	***5 days***	***Thu 19/11/15***	***Mon 23/11/15***	***632***
634	*4.12.15.13.13*	*footpath paving*	*7 days*	*Mon 23/11/15*	*Sun 29/11/15*	*633FS-1 day*
635	***4.12.15.13.14***	***AC - lay DBM & base course***	***4 days***	***Tue 17/11/15***	**Fri 20/11/15**	***631***
636	**4.12.15.14**	**7 Works from chainage 80 to chainage 125 (west side carriageway & footpath)**	**67 days**	**Sat 21/11/15**	**Wed 27/1/16**	**635FS+1 day**
637	4.12.15.14.1	TTA for ch 80-125(west)	0 days	**Sat 21/11/15**	Sat 21/11/15	
638	*4.12.15.14.2*	*earthwork to lay drainage & waterwork*	*3 days*	Sun 22/11/15	Tue 24/11/15	*637*
639	*4.12.15.14.3*	*drainage & waterwork + backfill for CLP*	*18 days*	Wed 25/11/15	Sat 12/12/15	*638*
640	***4.12.15.14.4***	***UU for ch 80-190 (132kV,11kV,LV)***	***6 days***	**Sun 13/12/15**	**Fri 18/12/15**	***639***
641	*4.12.15.14.5*	*filling works to formation of road (include SRT98%)*	*7 days*	Sat 19/12/15	Fri 25/12/15	*640*
642	*4.12.15.14.6*	*street lighting drawpits & crossing at ch 98*	*3 days*	Sat 26/12/15	Mon 28/12/15	*641*
643	*4.12.15.14.7*	*irrigation system*	*3 days*	Tue 29/12/15	Thu 31/12/15	*642*
644	***4.12.15.14.8***	***UU for CLP (lighting)***	***3 days***	**Fri 1/1/16**	**Sun 3/1/16**	***643***
645	*4.12.15.14.9*	*sub-base laying*	*3 days*	Mon 4/1/16	Wed 6/1/16	*644*
646	*4.12.15.14.10*	*kerb bedding, laying & backing before bituminous material*	*5 days*	Thu 7/1/16	Mon 11/1/16	*645*
647	*4.12.15.14.11*	*filling works to formation of footpath*	*4 days*	Tue 12/1/16	Fri 15/1/16	*646*
648	***4.12.15.14.12***	***UU for ch 80-190 (PCCW)***	***4 days***	**Sat 16/1/16**	**Tue 19/1/16**	***647***



Revision 1
Tue 26/1/16

Task | Milestone | Project Summary | Critical Split | Deadline
Split | Summary | Critical | Progress

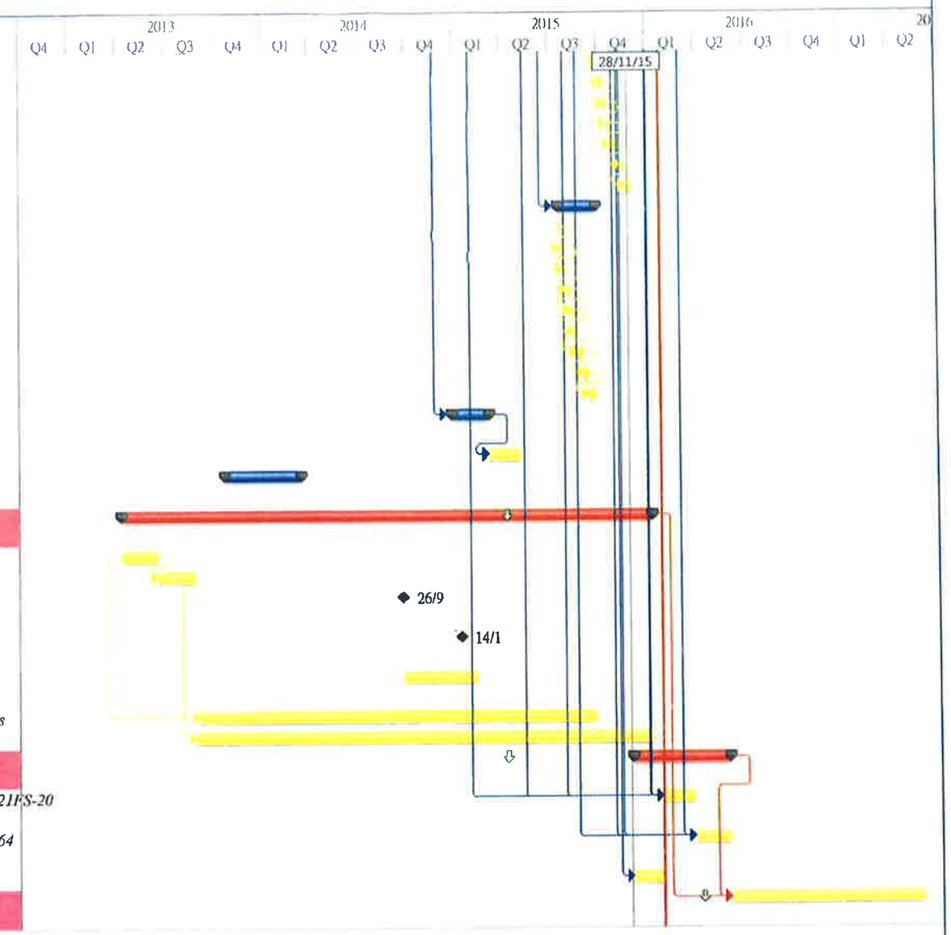
ID	WBS	Task Name	Duration	Start	Finish	Predecessors
649	4.12.15.14.13	*footpath paving*	*8 days*	Wed 20/1/16	Wed 27/1/16	*648*
650	4.12.15.14.14	***AC - lay DBM & base course***	***4 days***	**Tue 12/1/16**	**Fri 15/1/16**	*646*
651	**4.12.15.15**	**4 Works from chainage 125 to chainage 190 (east side carriageway & footpath)**	**42 days**	**Sat 16/1/16**	**Sat 27/2/16**	**650FS+1 day**
652	4.12.15.15.1	TTA for ch 125-190 (east)	0 days	**Sat 16/1/16**	Sat 16/1/16	
653	4.12.15.15.2	***VO.061 for rising main***	***7 days***	**Sun 17/1/16**	**Sat 23/1/16**	***652***
654	4.12.15.15.3	*filling works to formation of road (include SRT98%)*	*4 days*	Sat 23/1/16	Tue 26/1/16	*653FS-1 day*
655	4.12.15.15.4	*street lighting drawpits & crossing at ch 154*	*3 days*	Wed 27/1/16	Fri 29/1/16	*654*
656	4.12.15.15.5	*irrigation system*	*3 days*	Sat 30/1/16	Mon 1/2/16	*655*
657	4.12.15.15.6	***UU for CLP (lighting)***	***3 days***	**Tue 2/2/16**	**Thu 4/2/16**	***656***
658	4.12.15.15.7	*sub-base laying*	*2 days*	Fri 5/2/16	Sat 6/2/16	*657,656*
659	4.12.15.15.8	*kerb bedding, laying & backing before bituminous material*	*5 days*	Sun 7/2/16	Thu 11/2/16	*658*
660	4.12.15.15.9	*filling works to formation of footpath*	*3 days*	Fri 12/2/16	Sun 14/2/16	*659*
661	4.12.15.15.10	***UU for ch 125-200 (PCCW/HGC)***	***5 days***	**Mon 15/2/16**	**Fri 19/2/16**	***660***
662	4.12.15.15.11	*footpath paving*	*8 days*	Sat 20/2/16	Sat 27/2/16	*661*
663	4.12.15.15.12	***AC - lay DBM & base course***	***4 days***	**Fri 12/2/16**	**Mon 15/2/16**	*659*
664	**4.12.15.16**	**6 Works from chainage 80 to chainage 125 (east side carriageway & footpath)**	**40 days**	**Tue 16/2/16**	**Sun 27/3/16**	**663FS+1 day**
665	4.12.15.16.1	TTA for ch 80-125 (east)	0 days	**Tue 16/2/16**	Tue 16/2/16	
666	4.12.15.16.2	***VO.061 for rising main***	***7 days***	**Wed 17/2/16**	**Tue 23/2/16**	***665***
667	4.12.15.16.3	*filling works to formation of road (include SRT98%)*	*5 days*	Mon 22/2/16	Fri 26/2/16	*666FS-2 days*
668	4.12.15.16.4	*street lighting drawpits & crossing at ch 98*	*3 days*	**Fri 26/2/16**	Sun 28/2/16	*667FS-1 day*
669	4.12.15.16.5	*irrigation system*	*3 days*	Mon 29/2/16	Wed 2/3/16	*668*
670	4.12.15.16.6	***UU for CLP (lighting)***	***3 days***	**Thu 3/3/16**	**Sat 5/3/16**	***669***
671	4.12.15.16.7	*sub-base laying*	*3 days*	Sun 6/3/16	Tue 8/3/16	*670*
672	4.12.15.16.8	*kerb bedding, laying & backing before bituminous material*	*5 days*	Wed 9/3/16	Sun 13/3/16	*671*
673	4.12.15.16.9	*filling works to formation of footpath*	*3 days*	Mon 14/3/16	Wed 16/3/16	*672*
674	4.12.15.16.10	***UU for ch 80-125 (PCCW/HGC)***	***4 days***	**Thu 17/3/16**	**Sun 20/3/16**	***673***
675	4.12.15.16.11	*footpath paving*	*7 days*	Mon 21/3/16	Sun 27/3/16	*674*
676	4.12.15.16.12	***AC - lay DBM & base course***	***3 days***	**Mon 14/3/16**	**Wed 16/3/16**	*672*
677	**4.12.15.17**	**Rising manholes & drawpit covers & Lay wearing course (with TTA)**	**44 days**	**Fri 18/3/16**	**Sat 30/4/16**	**676FS+1 day**
678	4.12.15.17.1	*Chainage 80 to Chainage 180 (west side)*	4 days	Fri 18/3/16	Mon 21/3/16	
679	4.12.15.17.2	*Chainage 80 to Chainage 180 (east side)*	2 days	Tue 22/3/16	Wed 23/3/16	678
680	4.12.15.17.3	*Chainage 180 to Chainage 280 (west side)*	4 days	Thu 24/3/16	Sun 27/3/16	679
681	4.12.15.17.4	*Chainage 180 to Chainage 280 (east side)*	4 days	Mon 28/3/16	Thu 31/3/16	680
682	4.12.15.17.5	*Chainage 280 to Chainage 380 (west side)*	4 days	Fri 1/4/16	Mon 4/4/16	681
683	4.12.15.17.6	*Chainage 280 to Chainage 380 (east side)*	2 days	Tue 5/4/16	Wed 6/4/16	682
684	4.12.15.17.7	*Chainage 380 to Chainage 480 (west side)*	4 days	Thu 7/4/16	Sun 10/4/16	683
685	4.12.15.17.8	*Chainage 380 to Chainage 480 (east side)*	2 days	Mon 11/4/16	Tue 12/4/16	684
686	4.12.15.17.9	*Chainage 480 to Chainage 580 (west side)*	4 days	Wed 13/4/16	Sat 16/4/16	685
687	4.12.15.17.10	*Chainage 480 to Chainage 580 (east side)*	2 days	Sun 17/4/16	Mon 18/4/16	686
688	4.12.15.17.11	*Chainage 580 to Chainage 680 (west side)*	4 days	Tue 19/4/16	Fri 22/4/16	687
689	4.12.15.17.12	*Chainage 580 to Chainage 680 (east side)*	2 days	Sat 23/4/16	Sun 24/4/16	688
690	4.12.15.17.13	*Chainage 680 to Chainage 785 (west side)*	4 days	Mon 25/4/16	Thu 28/4/16	689
691	4.12.15.17.14	*Chainage 680 to Chainage 785 (east side)*	2 days	Fri 29/4/16	Sat 30/4/16	690
692	**4.12.15.18**	**Eastern Footpath from ch 380-580)**	**98 days**	**Sun 11/10/15**	**Sat 16/1/16**	**565**
693	4.12.15.18.1	*remove existing pavement*	*3 days*	Sun 11/10/15	Tue 13/10/15	
694	4.12.15.18.2	*upper stream box culvert 960x650*	*14 days*	Wed 14/10/15	Tue 27/10/15	*693*
695	4.12.15.18.3	*upper stream DN450mm pipe*	*12 days*	Wed 28/10/15	Sun 8/11/15	*694*
696	4.12.15.18.4	***VO053 - crossing no. 2, 3, 4, 5 (east footpath)***	***5 days***	**Mon 9/11/15**	**Fri 13/11/15**	***695***
697	4.12.15.18.5	*filling works to formation of footpath*	*5 days*	Sat 14/11/15	Wed 18/11/15	*696*
698	4.12.15.18.6	*street light crossing at ch523*	*5 days*	Thu 19/11/15	Mon 23/11/15	*697*
699	4.12.15.18.7	***UU for CLP (lighting)***	***5 days***	**Sun 29/11/15**	**Thu 3/12/15**	***698FS+5 days***
700	4.12.15.18.8	*sub-base & edging*	*6 days*	Fri 4/12/15	Wed 9/12/15	*699*
701	4.12.15.18.9	***UU for ch 380-580 (PCCW/HGC)***	***14 days***	**Thu 10/12/15**	**Wed 23/12/15**	***700***
702	4.12.15.18.10	*construct edging*	*10 days*	Thu 24/12/15	Sat 2/1/16	*701*
703	4.12.15.18.11	*footpath paving*	*14 days*	Sun 3/1/16	Sat 16/1/16	*702*
704	**4.12.15.19**	**Eastern Footpath from ch 190-380)**	**71 days**	**Sun 27/9/15**	**Sun 6/12/15**	**583**
705	4.12.15.19.1	*remove existing pavement*	*3 days*	Sun 27/9/15	Tue 29/9/15	
706	4.12.15.19.2	***VO053 - crossing no. 2 (east footpath)***	***3 days***	**Wed 30/9/15**	**Fri 2/10/15**	***705***



Revision 1
Tue 26/1/16

Task | Split | Milestone | Summary | Project Summary | Critical | Critical Split | Progress | Deadline

ID	WBS	Task Name	Duration	Start	Finish	Predecessors
707	*4.12.15.19.3*	*filling works to formation of footpath*	*5 days*	Sat 3/10/15	Wed 7/10/15	*706*
708	*4.12.15.19.4*	*street light crossings at ch287,350*	*7 days*	Thu 8/10/15	Wed 14/10/15	*707*
709	***4.12.15.19.5***	***UU for CLP (lighting)***	***5 days***	**Thu 15/10/15**	**Mon 19/10/15**	***708***
710	*4.12.15.19.6*	*sub-base & edging*	*6 days*	Tue 20/10/15	Sun 25/10/15	*709*
711	***4.12.15.19.7***	***UU for ch 190-380 (PCCW/HGC)***	***20 days***	**Mon 26/10/15**	**Sat 14/11/15**	***710***
712	*4.12.15.19.8*	*construct edging*	*9 days*	Sun 15/11/15	Mon 23/11/15	*711*
713	*4.12.15.19.9*	*footpath paving*	*13 days*	Tue 24/11/15	Sun 6/12/15	*712*
714	**4.12.15.20**	**Eastern Footpath from ch 580-785)**	**71 days**	**Mon 20/7/15**	**Mon 28/9/15**	**613**
715	*4.12.15.20.1*	*remove existing pavement*	*3 days*	*Mon 20/7/15*	*Wed 22/7/15*	
716	***4.12.15.20.2***	***VO053 - crossing no. 5, 6, 7&8 (east footpath)***	***7 days***	***Thu 23/7/15***	***Wed 29/7/15***	***715***
717	*4.12.15.20.3*	*filling works to formation of footpath*	*5 days*	*Thu 30/7/15*	*Mon 3/8/15*	*716*
718	*4.12.15.20.4*	*street light crossings at ch760,785*	*7 days*	*Tue 4/8/15*	*Mon 10/8/15*	*717*
719	***4.12.15.20.5***	***UU for CLP (lighting)***	***5 days***	***Tue 11/8/15***	***Sat 15/8/15***	***718***
720	*4.12.15.20.6*	*sub-base & edging*	*6 days*	*Sun 16/8/15*	*Fri 21/8/15*	*719*
721	***4.12.15.20.7***	***UU for ch 580-785 (PCCW/HGC)***	***14 days***	***Sat 22/8/15***	***Fri 4/9/15***	***720***
722	*4.12.15.20.8*	*construct edging*	*10 days*	*Sat 5/9/15*	*Mon 14/9/15*	*721*
723	*4.12.15.20.9*	*footpath paving*	*14 days*	*Tue 15/9/15*	*Mon 28/9/15*	*722*
724	**4.12.15.21**	**Construction of retaining wall RW8 - CH0 to 22 (3 bays)**	**70 days**	**Tue 30/12/14**	**Mon 9/3/15**	**534**
726	*4.12.15.22*	*Site Formation works for ArchSD Depot (Drg. 1001B)*	*60 days*	*Tue 10/3/15*	*Fri 8/5/15*	*724*
727	**4.12.15.23**	**Archaeological survey (Sections T1 to T3)(Drg. 6403A)**	**147 days**	**Thu 24/10/13**	**Wed 19/3/14**	
733	**4.13**	**Section XIV of the Works - Trees preservation and protection (EOT012 completion 9 January 2016)**	**1003 days**	**Fri 12/4/13**	**Sat 9/1/16**	**4**
734	*4.13.1*	*Submissions*	*69 days*	*Fri 12/4/13*	*Wed 19/6/13*	
735	*4.13.2*	*Approval of Submissions*	*70 days*	*Thu 20/6/13*	*Wed 28/8/13*	*734*
736	**4.13.3**	**Claim No. 009 - Delays due to Delayed Possession of Portion BCP4 of the Site**	**0 days**	**Fri 26/9/14**	**Fri 26/9/14**	**181**
737	**4.13.4**	**Claim No. 007 - Delay due to Non-Possession of Parts of Portion BCP3 due to Resistant by Local Resident**	**0 days**	**Wed 14/1/15**	**Wed 14/1/15**	**217**
738	**4.13.5**	**Section XIV of the Works - Tree felling/removal works and tree transplanting works at BCP4**	**139 days**	**Fri 26/9/14**	**Wed 11/2/15**	**181**
739	*4.13.6*	*Tree felling/removal works and tree transplanting works for other areas*	*750 days*	*Fri 6/9/13*	*Fri 25/9/15*	*74,734SS+147 days*
740	*4.13.7*	*Preservation and Protection of Existing Trees in all Portion of the Site*	*864 days*	*Thu 29/8/13*	*Sat 9/1/16*	*74,735*
741	**4.14**	**Section XV of the Works - Landscape soft works (including transplant trees to permanent locations)**	**181 days**	**Thu 3/12/15**	**Tue 31/5/16**	
742	*4.14.1*	*tree & shrub planting at re-aligned Lin Ma Hang Road (west) for Section XIII of the Works*	*58 days*	*Thu 28/1/16*	*Fri 25/3/16*	*516,534,595,636,621FS-20 days*
743	*4.14.2*	*tree & shrub planting at re-aligned Lin Ma Hang Road (east) for Section XIII of the Works*	*65 days*	*Mon 28/3/16*	*Tue 31/5/16*	*565,583,613,651,664*
744	*4.14.3*	*tree & shrub planting at BCPD Section XI of the Works*	*55 days*	*Thu 3/12/15*	*Tue 26/1/16*	*239FS-35 days*
745	**4.15**	**Section XVI of the Works - Establishment works for landscape soft works**	**365 days**	**Wed 1/6/16**	**Wed 31/5/17**	**733,741**



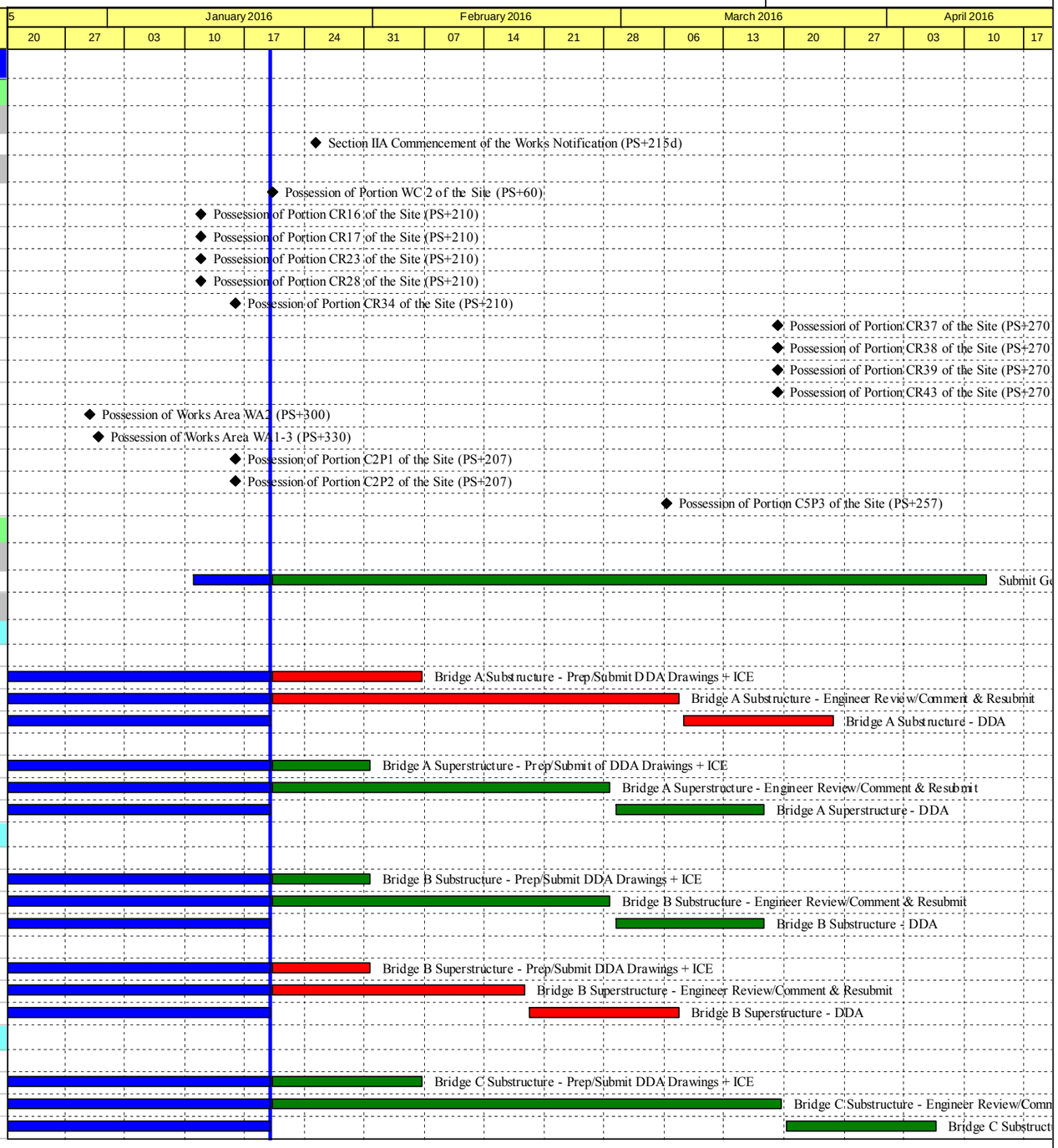
Revision 1
Tue 26/1/16

Task — Milestone — Project Summary — Critical Split — Deadline
Split — Summary — Critical — Progress

Contract 6

Liantang / Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works - CONTRACT 6

Activity ID	Activity Name	Rem Dur	Start	Finish
LT/HYW BCP Contract 6 - 3MRP Jan 2016				
1.0 - Contract Key Dates				
1.1 - Commencement of the Works				
CKD-1600	Section IIA Commencement of the Works Notification (PS+215d)	0	25-Jan-16	
1.5 - Works Areas Possession Date				
CKD-5160	Possession of Portion WC 2 of the Site (PS+60)	0	20-Jan-16	
CKD-5300	Possession of Portion CR16 of the Site (PS+210)	0	12-Jan-16 A	
CKD-5310	Possession of Portion CR17 of the Site (PS+210)	0	12-Jan-16 A	
CKD-5360	Possession of Portion CR23 of the Site (PS+210)	0	12-Jan-16 A	
CKD-5380	Possession of Portion CR28 of the Site (PS+210)	0	12-Jan-16 A	
CKD-5400	Possession of Portion CR34 of the Site (PS+210)	0	16-Jan-16 A	
CKD-5580	Possession of Portion CR37 of the Site (PS+270)	0	19-Mar-16	
CKD-5590	Possession of Portion CR38 of the Site (PS+270)	0	19-Mar-16	
CKD-5600	Possession of Portion CR39 of the Site (PS+270)	0	19-Mar-16	
CKD-5640	Possession of Portion CR43 of the Site (PS+270)	0	19-Mar-16	
CKD-5650	Possession of Works Area WA2 (PS+300)	0	30-Dec-15 A	
CKD-5660	Possession of Works Area WA1-3 (PS+330)	0	31-Dec-15 A	
CKD-5720	Possession of Portion C2P1 of the Site (PS+207)	0	16-Jan-16 A	
CKD-5730	Possession of Portion C2P2 of the Site (PS+207)	0	16-Jan-16 A	
CKD-5740	Possession of Portion C5P3 of the Site (PS+257)	0	06-Mar-16	
3.0 - Submission and Approval				
3.1 - General Submission				
SUB-5930	Submit Geotechnical Risk Management Plan (PS 33.115.1(2))	84	11-Jan-16 A	12-Apr-16
3.3 - DDA - Alternative Design				
- DDA Submission - Bridge A				
DDA Submission - Bridge A Substructure				
SUB-3000	Bridge A Substructure - Prep/Submit DDA Drawings + ICE	18	15-Jul-15 A	06-Feb-16
SUB-3010	Bridge A Substructure - Engineer Review/Comment & Resubmit	48	29-Sep-15 A	07-Mar-16
SUB-3030	Bridge A Substructure - DDA	18	23-Nov-15 A	25-Mar-16
DDA Submission - Bridge A Superstructure				
SUB-3050	Bridge A Superstructure - Prep/Submit of DDA Drawings + ICE	12	27-Jul-15 A	31-Jan-16
SUB-3060	Bridge A Superstructure - Engineer Review/Comment & Resubmit	40	04-Dec-15 A	28-Feb-16
SUB-3070	Bridge A Superstructure - DDA	18	04-Dec-15 A	17-Mar-16
- DDA Submission - Bridge B				
DDA Submission - Bridge B Substructure				
SUB-3100	Bridge B Substructure - Prep/Submit DDA Drawings + ICE	12	15-Jul-15 A	31-Jan-16
SUB-3110	Bridge B Substructure - Engineer Review/Comment & Resubmit	40	29-Sep-15 A	28-Feb-16
SUB-3130	Bridge B Substructure - DDA	18	23-Sep-15 A	17-Mar-16
DDA Submission - Bridge B Superstructure				
SUB-3140	Bridge B Superstructure - Prep/Submit DDA Drawings + ICE	12	15-Jul-15 A	31-Jan-16
SUB-3150	Bridge B Superstructure - Engineer Review/Comment & Resubmit	30	05-Dec-15 A	18-Feb-16
SUB-3160	Bridge B Superstructure - DDA	18	04-Dec-15 A	07-Mar-16
- DDA Submission - Bridge C				
DDA Submission - Bridge C Substructure				
SUB-3200	Bridge C Substructure - Prep/Submit DDA Drawings + ICE	18	20-Aug-15 A	06-Feb-16
SUB-3210	Bridge C Substructure - Engineer Review/Comment & Resubmit	60	12-Oct-15 A	19-Mar-16
SUB-3230	Bridge C Substructure - DDA	18	12-Oct-15 A	06-Apr-16



CRBC-CEC-KADEN Joint Venture

◆ Milestone
Critical Activity
Non-Critical Activity
Remaining Level of Effort
Actual Work

3-month Rolling Programme (20-Jan-2016)

Data Date: 20-Jan-16 **Run Date: 29-Jan-16**

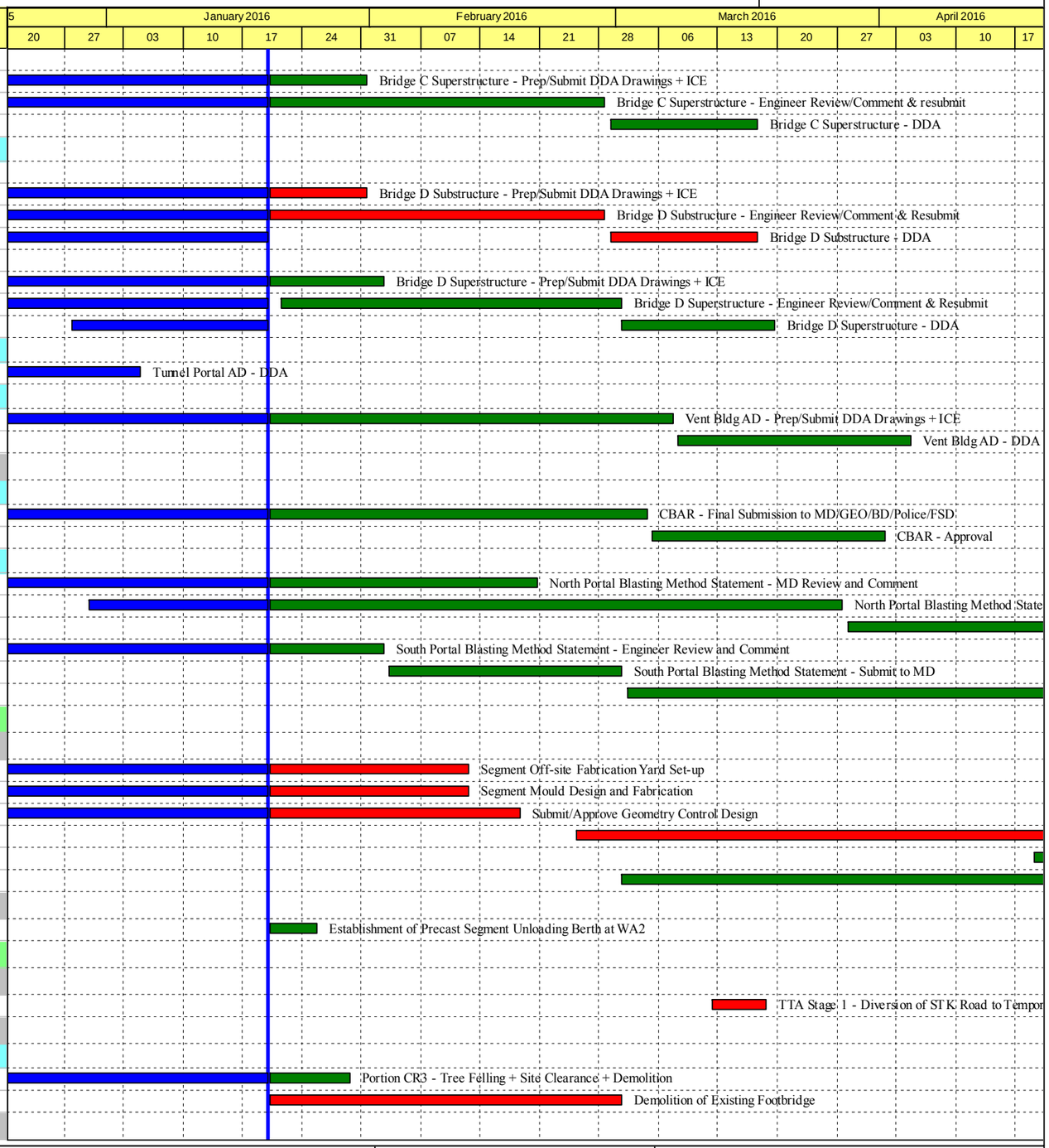
Project ID :LT6-3MRP-7.0
Layout : LT6IWP 3MRP

3-month Rolling Programme

Date	Revision	Checked	Approved
20-Jan-16	3MRP		

Liantang / Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works - CONTRACT 6

Activity ID	Activity Name	Rem Dur	Start	Finish
	DDA Submission - Bridge C Superstructure			
SUB-3240	Bridge C Superstructure - Prep/Submit DDA Drawings + ICE	12	23-Sep-15 A	31-Jan-16
SUB-3250	Bridge C Superstructure - Engineer Review/Comment & resubmit	40	09-Dec-15 A	28-Feb-16
SUB-3260	Bridge C Superstructure - DDA	18	29-Feb-16	17-Mar-16
	- DDA Submission - Bridge D			
	DDA Submission - Bridge D Substructure			
SUB-3300	Bridge D Substructure - Prep/Submit DDA Drawings + ICE	12	15-Jul-15 A	31-Jan-16
SUB-3310	Bridge D Substructure - Engineer Review/Comment & Resubmit	40	13-Oct-15 A	28-Feb-16
SUB-3330	Bridge D Substructure - DDA	18	12-Oct-15 A	17-Mar-16
	DDA Submission - Bridge D Superstructure			
SUB-3340	Bridge D Superstructure - Prep/Submit DDA Drawings + ICE	14	05-Sep-15 A	02-Feb-16
SUB-3350	Bridge D Superstructure - Engineer Review/Comment & Resubmit	40	05-Oct-15 A	01-Mar-16
SUB-3360	Bridge D Superstructure - DDA	18	28-Dec-15 A	19-Mar-16
	- DDA Submission - Tunnel & Portal Alternative Design			
SUB-3420	Tunnel Portal AD - DDA	0	20-Nov-15 A	05-Jan-16 A
	- DDA Submission - Ventilation Building Alternative Design			
SUB-3440	Vent Bldg AD - Prep/Submit DDA Drawings + ICE	48	07-Oct-15 A	07-Mar-16
SUB-3450	Vent Bldg AD - DDA	28	08-Mar-16	04-Apr-16
	3.4 - Statutory Submission and Approval			
	- Contracor Blasting Assessment Report (CBAR)			
SUB-4040	CBAR - Final Submission to MD/GEO/BD/Police/FSD	45	12-Dec-15 A	04-Mar-16
SUB-4050	CBAR - Approval	28	05-Mar-16	01-Apr-16
	- Blasting Method Statement			
SUB-4120	North Portal Blasting Method Statement - MD Review and Comment	32	15-Oct-15 A	20-Feb-16
SUB-4125	North Portal Blasting Method Statement - Resubmit to MD	68	30-Dec-15 A	27-Mar-16
SUB-4130	North Portal Blasting Method Statement - Approval by MD	28	28-Mar-16	24-Apr-16
SUB-4140	South Portal Blasting Method Statement - Engineer Review and Comment	14	16-Oct-15 A	02-Feb-16
SUB-4145	South Portal Blasting Method Statement - Submit to MD	28	03-Feb-16	01-Mar-16
SUB-4150	South Portal Blasting Method Statement - MD Review and Comment	120	02-Mar-16	29-Jun-16
	4.0 - Off-Site Works			
	4.1 - Segment Fabrication			
OSW-1000	Segment Off-site Fabrication Yard Set-up	24	17-Aug-15 A	12-Feb-16
OSW-1050	Segment Mould Design and Fabrication	24	20-Aug-15 A	12-Feb-16
OSW-1100	Submit/Approve Geometry Control Design	30	12-Oct-15 A	18-Feb-16
OSW-1120	Bridge B - Segment Fabrication 183 nos @ 12 nos/week	168	25-Feb-16	10-Aug-16
OSW-1250	Bridge A - Segment Fabrication 469 nos @ 12 nos/week	336	19-Apr-16	20-Mar-17
OSW-1400	Bridge D - Segment Fabrication 2344 nos @ 32 nos/week	511	01-Mar-16	25-Jul-17
	4.2 - Portion WA1			
OSW-2300	Establishment of Precast Segment Unloading Berth at WA2	6	20-Jan-16	25-Jan-16
	5.0 - Sha Tau Kok Interchange			
	5.2 - STKI Temporary Traffic Arrangement			
STK-9340	TTA Stage 1 - Diversion of STK Road to Temporary Road	6	12-Mar-16	18-Mar-16
	5.3 - STKI (North) - Portion CR3, WKS & CR8			
	- Portion CR3			
STK-3030	Portion CR3 - Tree Felling + Site Clearance + Demolition	9	01-Aug-15 A	29-Jan-16
STK-5250	Demolition of Existing Footbridge	30	20-Jan-16	01-Mar-16
	5.4 - STKI (South) - Portion CR5, CR6, CR7 & C2P2			



CRBC-CEC-KADEN Joint Venture

◆ Milestone
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Actual Work

3-month Rolling Programme (20-Jan-2016)

Data Date: 20-Jan-16 **Run Date: 29-Jan-16**

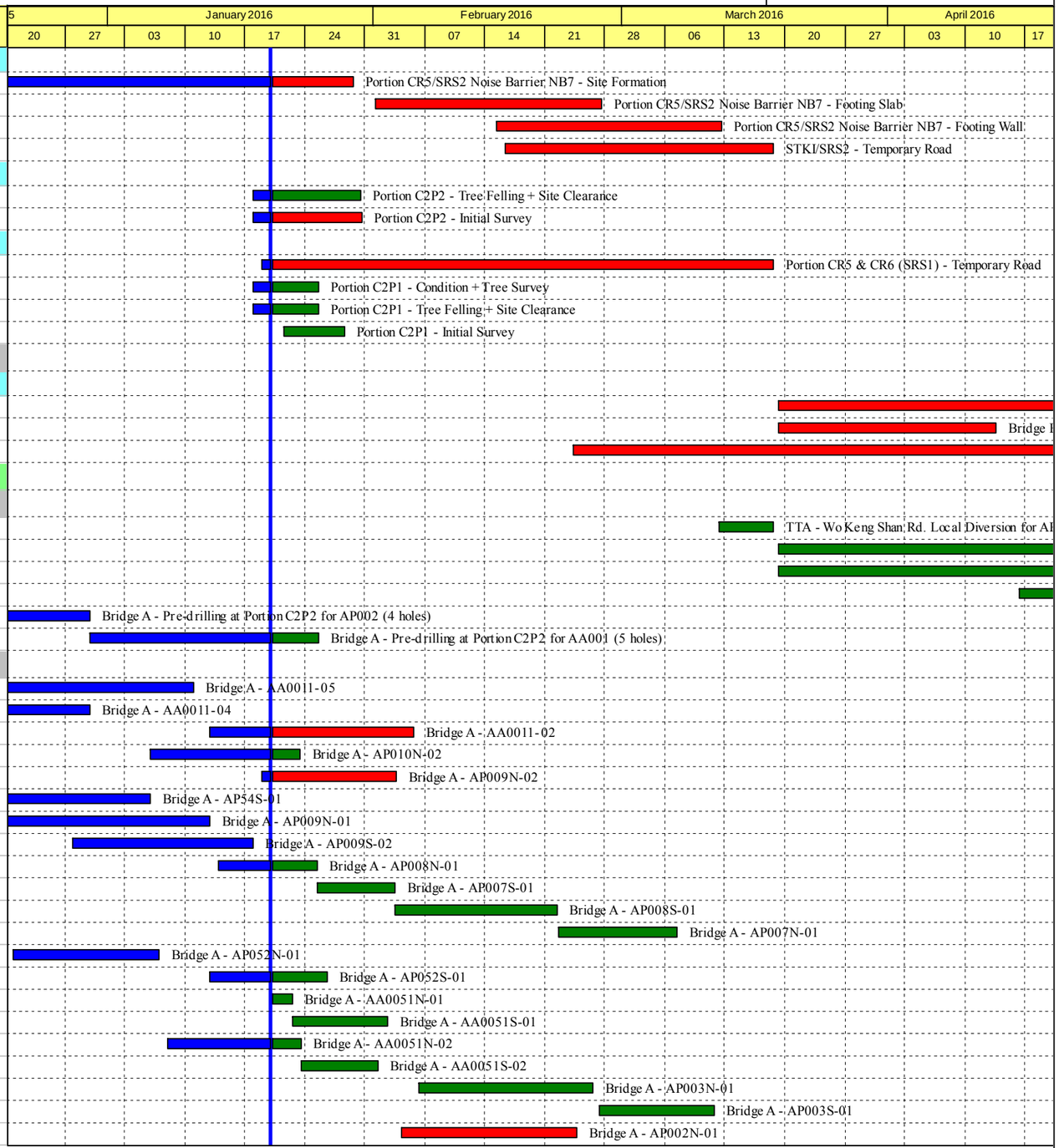
Project ID :LT6-3MRP-7.0
Layout : LT6IWP 3MRP

3-month Rolling Programme

Date	Revision	Checked	Approved
20-Jan-16	3MRP		

Liantang / Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works - CONTRACT 6

Activity ID	Activity Name	Rem Dur	Start	Finish
- STKI Slip Road S2				
STK-4140	Portion CR5/SRS2 Noise Barrier NB7 - Site Formation	9	12-Nov-15 A	29-Jan-16
STK-4141	Portion CR5/SRS2 Noise Barrier NB7 - Footing Slab	18	01-Feb-16	27-Feb-16
STK-4142	Portion CR5/SRS2 Noise Barrier NB7 - Footing Wall	24	15-Feb-16	12-Mar-16
STK-4150	STKI/SRS2 - Temporary Road	28	16-Feb-16	18-Mar-16
- STKI Portion C2P2				
STK-4220	Portion C2P2 - Tree Felling + Site Clearance	10	18-Jan-16 A	30-Jan-16
STK-4230	Portion C2P2 - Initial Survey	10	18-Jan-16 A	30-Jan-16
- STKI Slip Road S1				
STK-4305	Portion CR5 & CR6 (SRS1) - Temporary Road	45	19-Jan-16 A	18-Mar-16
STK-4315	Portion C2P1 - Condition + Tree Survey	5	18-Jan-16 A	25-Jan-16
STK-4320	Portion C2P1 - Tree Felling + Site Clearance	5	18-Jan-16 A	25-Jan-16
STK-4325	Portion C2P1 - Initial Survey	6	21-Jan-16	28-Jan-16
5.5 - STKI (East) - Portion CR3 & RD				
- Bridge E				
STK-5210	Bridge E - Diversion of Existing Utilities	36	19-Mar-16	04-May-16
STK-5220	Bridge E - Abutment A021 Pre-drilling	18	19-Mar-16	13-Apr-16
STK-5270	Bridge E - Abutment A022 Bored Piling	54	24-Feb-16	30-Apr-16
6.0 - Bridge A (Ch6850 to Ch7295)				
6.2 - Ground Investigation				
BRA-2022	TTA - Wo Keng Shan Rd. Local Diversion for AP006	6	12-Mar-16	18-Mar-16
BRA-2023	Diversion of Existing Utilities Diversion for AP006	48	19-Mar-16	19-May-16
BRA-2035	Diversion of Existing Utilities Diversion for AP004	48	19-Mar-16	19-May-16
BRA-2039	Bridge A - Pre-drilling at Portion RD-CR3 for AP004 (4 holes)	12	16-Apr-16	29-Apr-16
BRA-2050	Bridge A - Pre-drilling at Portion C2P2 for AP002 (4 holes)	0	17-Dec-15 A	30-Dec-15 A
BRA-2060	Bridge A - Pre-drilling at Portion C2P2 for AA001 (5 holes)	5	30-Dec-15 A	25-Jan-16
6.3 - Bored Piles				
BRA-3000.03	Bridge A - AA0011-05	0	15-Dec-15 A	11-Jan-16 A
BRA-3000.04	Bridge A - AA0011-04	0	27-Nov-15 A	30-Dec-15 A
BRA-3000.06	Bridge A - AA0011-02	15	13-Jan-16 A	05-Feb-16
BRA-3000.10	Bridge A - AP010N-02	3	06-Jan-16 A	23-Jan-16
BRA-3000.11	Bridge A - AP009N-02	13	19-Jan-16 A	03-Feb-16
BRA-3000.13	Bridge A - AP54S-01	0	08-Dec-15 A	06-Jan-16 A
BRA-3000.16	Bridge A - AP009N-01	0	07-Dec-15 A	13-Jan-16 A
BRA-3000.17	Bridge A - AP009S-02	0	28-Dec-15 A	18-Jan-16 A
BRA-3010.18	Bridge A - AP008N-01	5	14-Jan-16 A	25-Jan-16
BRA-3010.19	Bridge A - AP007S-01	8	25-Jan-16	03-Feb-16
BRA-3010.20	Bridge A - AP008S-01	10	03-Feb-16	22-Feb-16
BRA-3010.21	Bridge A - AP007N-01	12	22-Feb-16	07-Mar-16
BRA-3010.22	Bridge A - AP052N-01	0	21-Dec-15 A	07-Jan-16 A
BRA-3010.23	Bridge A - AP052S-01	6	13-Jan-16 A	26-Jan-16
BRA-3010.24	Bridge A - AA0051N-01	3	20-Jan-16	22-Jan-16
BRA-3010.25	Bridge A - AA0051S-01	9	22-Jan-16	02-Feb-16
BRA-3010.26	Bridge A - AA0051N-02	4	08-Jan-16 A	23-Jan-16
BRA-3010.27	Bridge A - AA0051S-02	7	23-Jan-16	01-Feb-16
BRA-3050.38	Bridge A - AP003N-01	12	06-Feb-16	26-Feb-16
BRA-3050.39	Bridge A - AP003S-01	12	27-Feb-16	11-Mar-16
BRA-3060.40	Bridge A - AP002N-01	12	04-Feb-16	24-Feb-16



CRBC-CEC-KADEN Joint Venture

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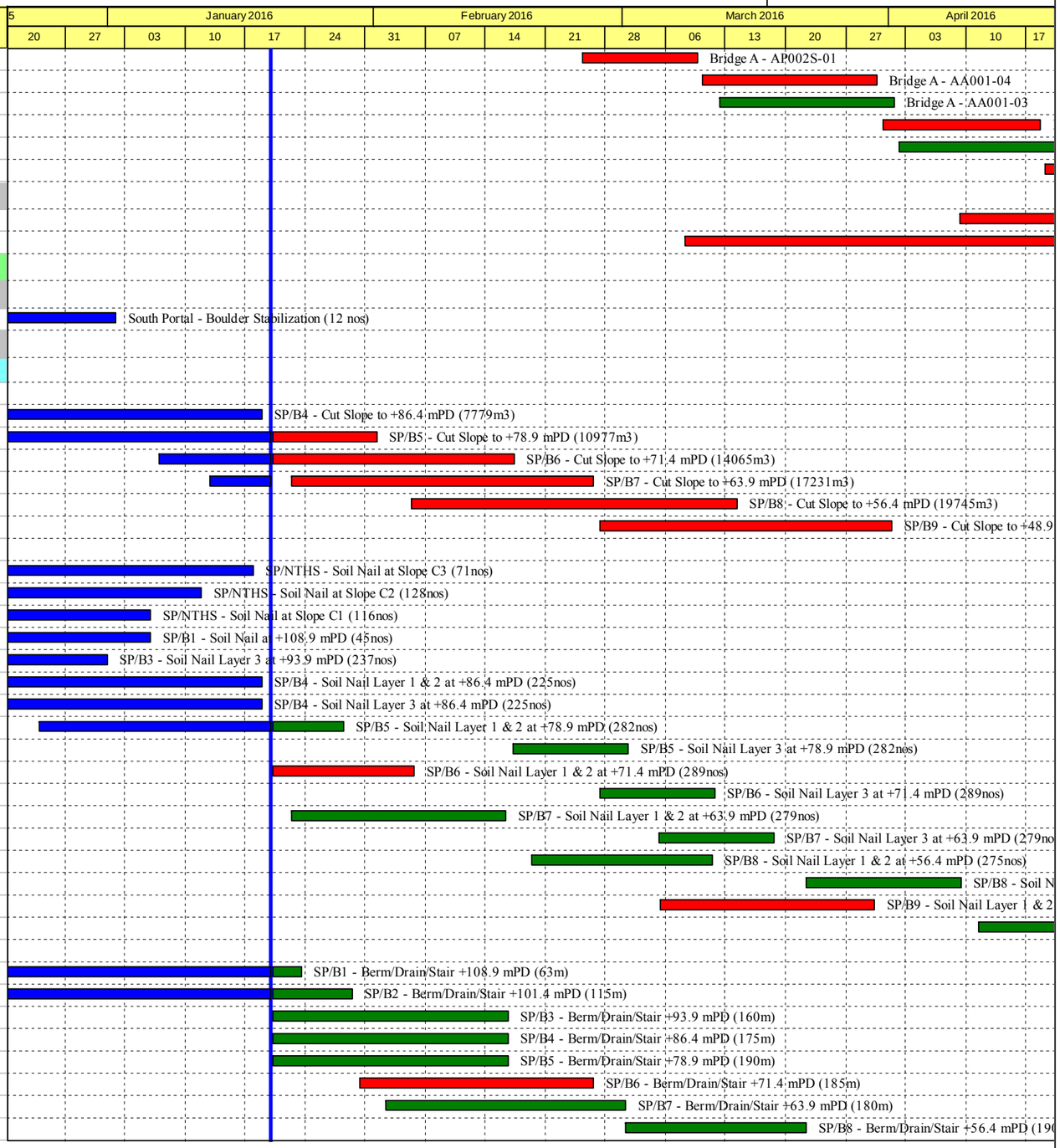
Liantang / Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works - CONTRACT 6

Activity ID	Activity Name	Rem Dur	Start	Finish
BRA-3060.41	Bridge A - AP002S-01	12	25-Feb-16	09-Mar-16
BRA-3600.42	Bridge A - AA001-04	15	10-Mar-16	30-Mar-16
BRA-3600.43	Bridge A - AA001-03	15	12-Mar-16	01-Apr-16
BRA-3600.44	Bridge A - AA001-01	15	31-Mar-16	18-Apr-16
BRA-3600.45	Bridge A - AA001-05	15	02-Apr-16	20-Apr-16
BRA-3600.46	Bridge A - AA001-02	15	19-Apr-16	05-May-16
6.4 - Pile Cap				
BRA-4000	Bridge A - Pilecap for Abut AA011	42	09-Apr-16	28-May-16
BRA-4010	Bridge A - Pilecap at Portion CR4/CR10 (2P) - 4 nos	36	08-Mar-16	22-Apr-16
7.0 - South Portal Works				
7.1 - South Portal Preliminary Works				
TSP-1060	South Portal - Boulder Stabilization (12 nos)	0	09-Sep-15 A	02-Jan-16 A
7.2 - South Portal Formation				
- SP Slope Excavation to 48.9mPD				
-- Cut Slope				
TSP-1240	SP/B4 - Cut Slope to +86.4 mPD (7779m3)	0	11-Nov-15 A	19-Jan-16 A
TSP-1250	SP/B5 - Cut Slope to +78.9 mPD (10977m3)	10	17-Dec-15 A	01-Feb-16
TSP-1260	SP/B6 - Cut Slope to +71.4 mPD (14065m3)	18	07-Jan-16 A	17-Feb-16
TSP-1270	SP/B7 - Cut Slope to +63.9 mPD (17231m3)	25	13-Jan-16 A	26-Feb-16
TSP-1280	SP/B8 - Cut Slope to +56.4 mPD (19745m3)	26	05-Feb-16	14-Mar-16
TSP-1290	SP/B9 - Cut Slope to +48.9 mPD (23489m3)	26	27-Feb-16	01-Apr-16
-- Soil nail				
TSP-1075	SP/NTHS - Soil Nail at Slope C3 (71nos)	0	17-Sep-15 A	18-Jan-16 A
TSP-1080	SP/NTHS - Soil Nail at Slope C2 (128nos)	0	03-Oct-15 A	12-Jan-16 A
TSP-1085	SP/NTHS - Soil Nail at Slope C1 (116nos)	0	01-Dec-15 A	06-Jan-16 A
TSP-1310	SP/B1 - Soil Nail at +108.9 mPD (45nos)	0	23-Sep-15 A	06-Jan-16 A
TSP-1335	SP/B3 - Soil Nail Layer 3 at +93.9 mPD (237nos)	0	04-Nov-15 A	01-Jan-16 A
TSP-1340	SP/B4 - Soil Nail Layer 1 & 2 at +86.4 mPD (225nos)	0	11-Nov-15 A	19-Jan-16 A
TSP-1345	SP/B4 - Soil Nail Layer 3 at +86.4 mPD (225nos)	0	02-Dec-15 A	19-Jan-16 A
TSP-1350	SP/B5 - Soil Nail Layer 1 & 2 at +78.9 mPD (282nos)	8	24-Dec-15 A	28-Jan-16
TSP-1355	SP/B5 - Soil Nail Layer 3 at +78.9 mPD (282nos)	12	17-Feb-16	01-Mar-16
TSP-1360	SP/B6 - Soil Nail Layer 1 & 2 at +71.4 mPD (289nos)	15	20-Jan-16	05-Feb-16
TSP-1365	SP/B6 - Soil Nail Layer 3 at +71.4 mPD (289nos)	12	27-Feb-16	11-Mar-16
TSP-1370	SP/B7 - Soil Nail Layer 1 & 2 at +63.9 mPD (279nos)	15	22-Jan-16	16-Feb-16
TSP-1375	SP/B7 - Soil Nail Layer 3 at +63.9 mPD (279nos)	12	05-Mar-16	18-Mar-16
TSP-1380	SP/B8 - Soil Nail Layer 1 & 2 at +56.4 mPD (275nos)	18	19-Feb-16	11-Mar-16
TSP-1385	SP/B8 - Soil Nail Layer 3 at +56.4 mPD (275nos)	12	22-Mar-16	09-Apr-16
TSP-1390	SP/B9 - Soil Nail Layer 1 & 2 at +48.9 mPD (283nos)	18	05-Mar-16	30-Mar-16
TSP-1395	SP/B9 - Soil Nail Layer 3 at +48.9 mPD (283nos)	12	11-Apr-16	25-Apr-16
-- Berm				
TSP-1410	SP/B1 - Berm/Drain/Stair +108.9 mPD (63m)	4	08-Oct-15 A	23-Jan-16
TSP-1420	SP/B2 - Berm/Drain/Stair +101.4 mPD (115m)	8	09-Oct-15 A	29-Jan-16
TSP-1430	SP/B3 - Berm/Drain/Stair +93.9 mPD (160m)	18	20-Jan-16	16-Feb-16
TSP-1440	SP/B4 - Berm/Drain/Stair +86.4 mPD (175m)	18	20-Jan-16	16-Feb-16
TSP-1450	SP/B5 - Berm/Drain/Stair +78.9 mPD (190m)	18	20-Jan-16	16-Feb-16
TSP-1460	SP/B6 - Berm/Drain/Stair +71.4 mPD (185m)	18	30-Jan-16	26-Feb-16
TSP-1470	SP/B7 - Berm/Drain/Stair +63.9 mPD (180m)	18	02-Feb-16	01-Mar-16
TSP-1480	SP/B8 - Berm/Drain/Stair +56.4 mPD (190m)	18	01-Mar-16	22-Mar-16



CRBC-CEC-KADEN Joint Venture

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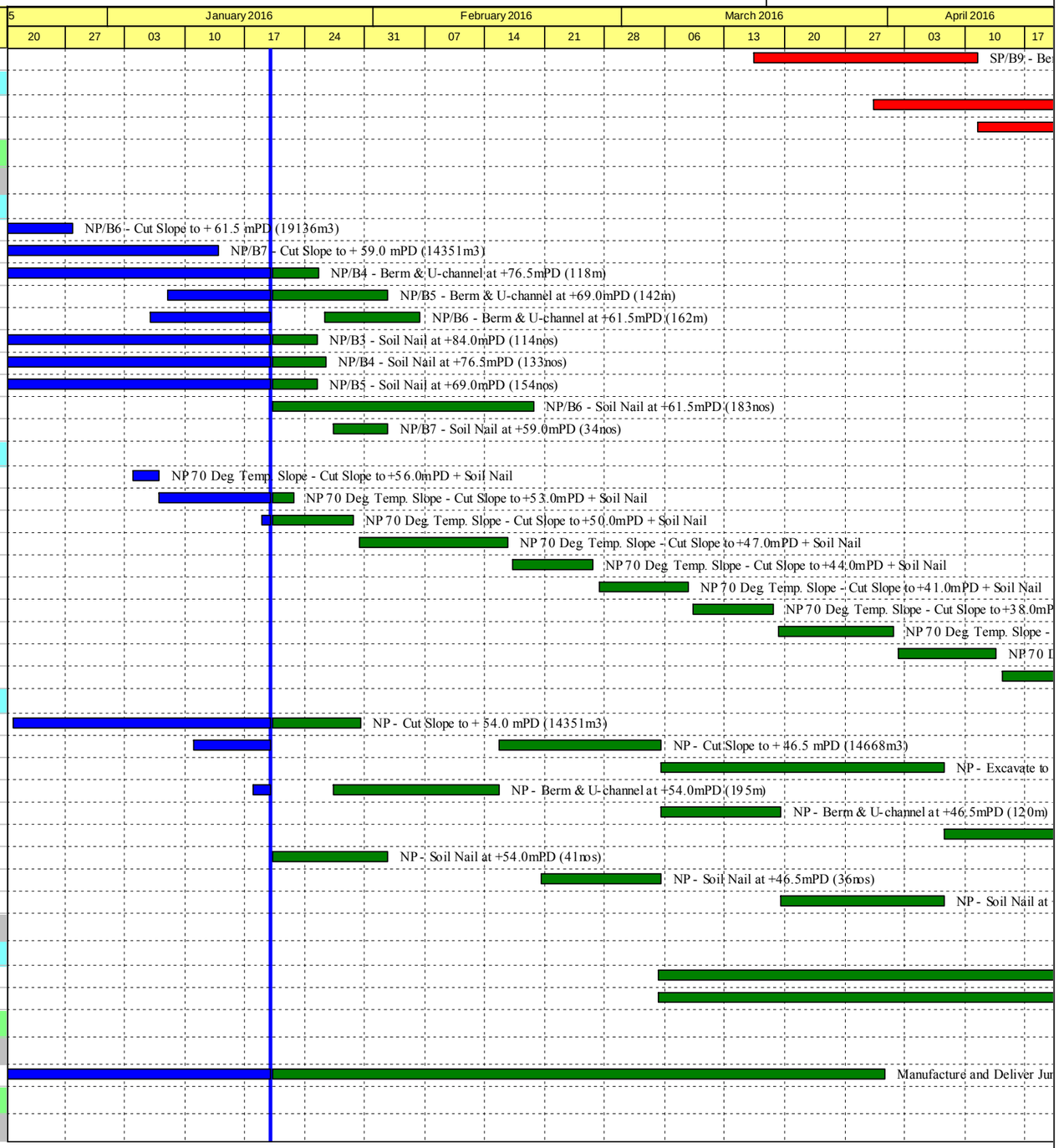
Data Date: 20-Jan-16 **Run Date: 29-Jan-16**

Project ID :LT6-3MRP-7.0
Layout : LT6IWP 3MRP

3-month Rolling Programme

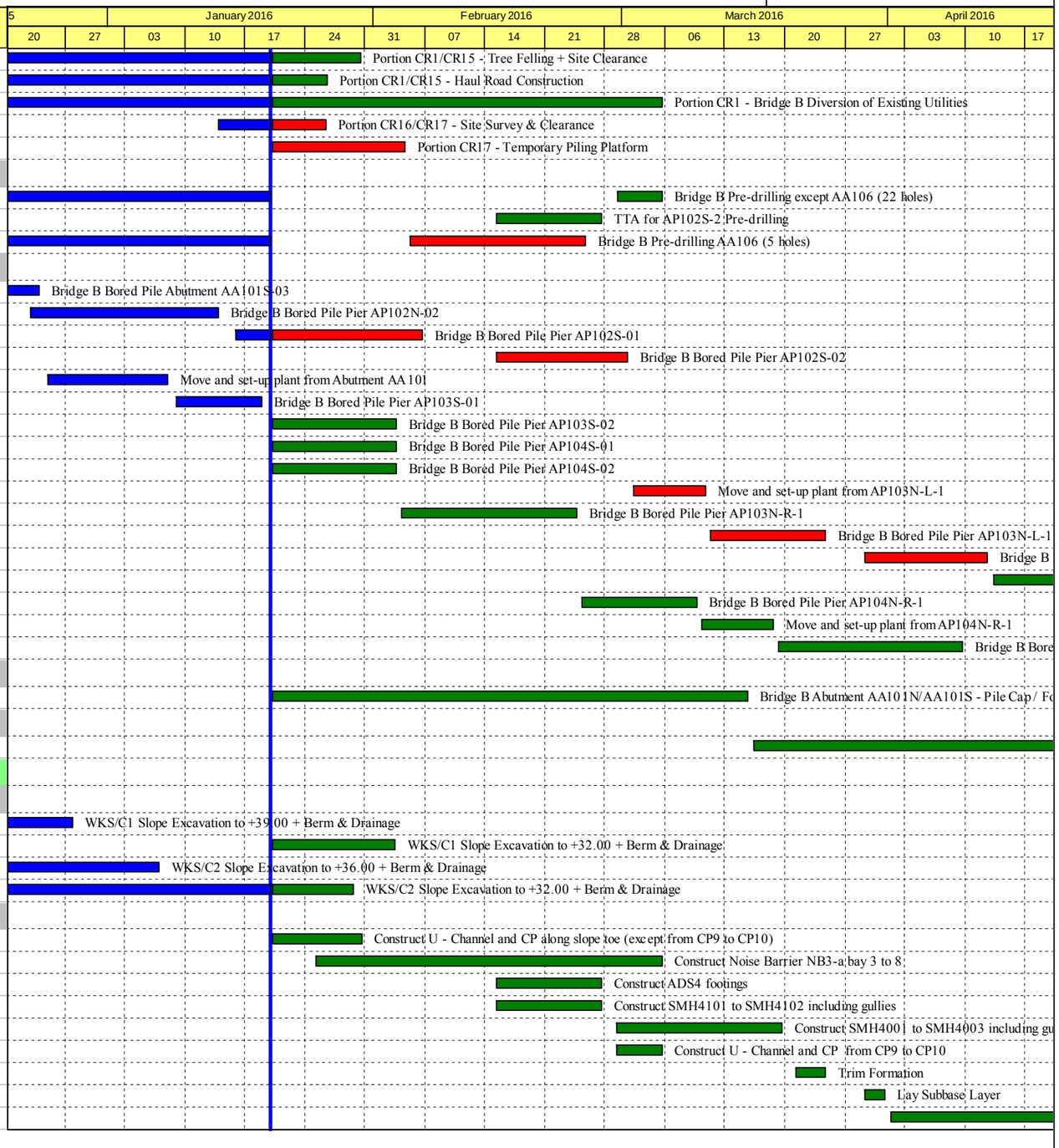
Date	Revision	Checked	Approved
20-Jan-16	3MRP		

Activity ID	Activity Name	Rem Dur	Start	Finish
TSP-1490	SP/B9 - Berm/Drain/Stair +48.9 mPD (185m)	18	16-Mar-16	11-Apr-16
- SP 70 Deg. Temporary Slope				
TSP-1510	SP 70 Deg. Temp. Slope - Cut Slope + Soil Nail at +47.0mPD	18	30-Mar-16	21-Apr-16
TSP-1511	SP 70 Deg. Temp. Slope - Cut Slope + Soil Nail at +45.0mPD	18	11-Apr-16	02-May-16
8.0 - North Portal Works				
8.2 - North Portal Site Formation				
- NP Slope Excavation to +59.0mPD				
TNP-1135	NP/B6 - Cut Slope to + 61.5 mPD (19136m3)	0	03-Dec-15 A	28-Dec-15 A
TNP-1140	NP/B7 - Cut Slope to + 59.0 mPD (14351m3)	0	17-Dec-15 A	14-Jan-16 A
TNP-1220	NP/B4 - Berm & U-channel at +76.5mPD (118m)	5	19-Dec-15 A	25-Jan-16
TNP-1230	NP/B5 - Berm & U-channel at +69.0mPD (142m)	12	08-Jan-16 A	02-Feb-16
TNP-1240	NP/B6 - Berm & U-channel at +61.5mPD (162m)	11	06-Jan-16 A	06-Feb-16
TNP-1310	NP/B3 - Soil Nail at +84.0mPD (114nos)	5	23-Nov-15 A	25-Jan-16
TNP-1320	NP/B4 - Soil Nail at +76.5mPD (133nos)	5	01-Dec-15 A	26-Jan-16
TNP-1330	NP/B5 - Soil Nail at +69.0mPD (154nos)	5	04-Dec-15 A	25-Jan-16
TNP-1340	NP/B6 - Soil Nail at +61.5mPD (183nos)	21	20-Jan-16	19-Feb-16
TNP-1350	NP/B7 - Soil Nail at +59.0mPD (34nos)	6	27-Jan-16	02-Feb-16
- NP 70 Deg. Temporary Slope				
A1080	NP 70 Deg. Temp. Slope - Cut Slope to +56.0mPD + Soil Nail	0	04-Jan-16 A	07-Jan-16 A
A1090	NP 70 Deg. Temp. Slope - Cut Slope to +53.0mPD + Soil Nail	3	07-Jan-16 A	22-Jan-16
A1100	NP 70 Deg. Temp. Slope - Cut Slope to +50.0mPD + Soil Nail	9	19-Jan-16 A	29-Jan-16
A1110	NP 70 Deg. Temp. Slope - Cut Slope to +47.0mPD + Soil Nail	9	30-Jan-16	16-Feb-16
A1120	NP 70 Deg. Temp. Slope - Cut Slope to +44.0mPD + Soil Nail	9	17-Feb-16	26-Feb-16
A1130	NP 70 Deg. Temp. Slope - Cut Slope to +41.0mPD + Soil Nail	9	27-Feb-16	08-Mar-16
A1140	NP 70 Deg. Temp. Slope - Cut Slope to +38.0mPD + Soil Nail	9	09-Mar-16	18-Mar-16
A1150	NP 70 Deg. Temp. Slope - Cut Slope to +35.0mPD + Soil Nail	9	19-Mar-16	01-Apr-16
A1160	NP 70 Deg. Temp. Slope - Cut Slope to +32.0mPD + Soil Nail	9	02-Apr-16	13-Apr-16
A1170	NP 70 Deg. Temp. Slope - Cut Slope to +30.5mPD + Soil Nail	9	14-Apr-16	23-Apr-16
- NP Remaining Slope Excavation to Road Level				
TNP-1142	NP - Cut Slope to + 54.0 mPD (14351m3)	10	21-Dec-15 A	30-Jan-16
TNP-1145	NP - Cut Slope to + 46.5 mPD (14668m3)	17	11-Jan-16 A	05-Mar-16
TNP-1147	NP - Excavate to Berm at +39.0mPD	24	05-Mar-16	07-Apr-16
TNP-1250	NP - Berm & U-channel at +54.0mPD (195m)	11	18-Jan-16 A	15-Feb-16
TNP-1260	NP - Berm & U-channel at +46.5mPD (120m)	12	05-Mar-16	19-Mar-16
TNP-1265	NP - Berm & U-channel at +39.0mPD (80m)	12	07-Apr-16	21-Apr-16
TNP-1352	NP - Soil Nail at +54.0mPD (41nos)	12	20-Jan-16	02-Feb-16
TNP-1355	NP - Soil Nail at +46.5mPD (36nos)	12	20-Feb-16	05-Mar-16
TNP-1605	NP - Soil Nail at +39.0mPD (24nos)	12	19-Mar-16	07-Apr-16
8.3 - North Portal Site Formation				
- NP Area 1				
TNP-1480	Cut Slope CSTNP/C2	45	05-Mar-16	30-Apr-16
TNP-1490	Cut Slope CSTNP/C3	45	05-Mar-16	30-Apr-16
9.0 - Cheung Shan Tunnel Works				
9.1 - Preliminary Works				
TUN-1410	Manufacture and Deliver Jumbo	53	07-Oct-15 A	31-Mar-16
10.0 - Bridge B (Ch8250 to Ch8505)				
10.1 - Preparation Works				



Liantang / Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works - CONTRACT 6

Activity ID	Activity Name	Rem Dur	Start	Finish
BRB-1020	Portion CR1/CR15 - Tree Felling + Site Clearance	10	02-Jul-15 A	30-Jan-16
BRB-1040	Portion CR1/CR15 - Haul Road Construction	6	07-Aug-15 A	26-Jan-16
BRB-1080	Portion CR1 - Bridge B Diversion of Existing Utilities	34	17-Jul-15 A	05-Mar-16
BRB-1400	Portion CR16/CR17 - Site Survey & Clearance	5	14-Jan-16 A	26-Jan-16
BRB-1405	Portion CR17 - Temporary Piling Platform	14	20-Jan-16	04-Feb-16
10.2 - Ground Investigation				
BRB-2000	Bridge B Pre-drilling except AA106 (22 holes)	6	31-Jul-15 A	05-Mar-16
BRB-2100	TTA for AP102S-2 Pre-drilling	12	15-Feb-16*	27-Feb-16
BRB-2200	Bridge B Pre-drilling AA106 (5 holes)	12	25-Jul-15 A	25-Feb-16
10.3 - Bored piles				
BRB-3030	Bridge B Bored Pile Abutment AA101S-03	0	14-Dec-15 A	24-Dec-15 A
BRB-3052	Bridge B Bored Pile Pier AP102N-02	0	23-Dec-15 A	14-Jan-16 A
BRB-3053	Bridge B Bored Pile Pier AP102S-01	16	16-Jan-16 A	06-Feb-16
BRB-3053.1	Bridge B Bored Pile Pier AP102S-02	14	15-Feb-16	01-Mar-16
BRB-3061	Move and set-up plant from Abutment AA101	0	25-Dec-15 A	08-Jan-16 A
BRB-3062	Bridge B Bored Pile Pier AP103S-01	0	09-Jan-16 A	19-Jan-16 A
BRB-3063	Bridge B Bored Pile Pier AP103S-02	13	20-Jan-16	03-Feb-16
BRB-3064	Bridge B Bored Pile Pier AP104S-01	13	20-Jan-16	03-Feb-16
BRB-3065	Bridge B Bored Pile Pier AP104S-02	13	20-Jan-16	03-Feb-16
BRB-3072	Move and set-up plant from AP103N-L-1	8	02-Mar-16	10-Mar-16
BRB-3073	Bridge B Bored Pile Pier AP103N-R-1	12	04-Feb-16	24-Feb-16
BRB-3074	Bridge B Bored Pile Pier AP103N-L-1	12	11-Mar-16	24-Mar-16
BRB-3075	Bridge B Bored Pile Pier AP104N-L-1	12	29-Mar-16	12-Apr-16
BRB-3075.1	Bridge B Bored Pile Pier AP105N-R-1	15	13-Apr-16	29-Apr-16
BRB-3076	Bridge B Bored Pile Pier AP104N-R-1	12	25-Feb-16	09-Mar-16
BRB-3081	Move and set-up plant from AP104N-R-1	8	10-Mar-16	18-Mar-16
BRB-3082	Bridge B Bored Pile Pier AP105N-R-1	15	19-Mar-16	09-Apr-16
10.4 - Pile Cap & Footing				
BRB-4000	Bridge B Abutment AA101N/AA101S - Pile Cap / Footing	42	20-Jan-16	15-Mar-16
10.5 - Abutment wall, Pier, Portal				
BRB-5000	Bridge B Abutment AA101N/AA101S + Bearing	36	16-Mar-16	30-Apr-16
11.0 - Road On Grade (Ch 8505 to Ch 8700)				
11.2 - Cut Slopes				
RBC-2300	WKS/C1 Slope Excavation to +39.00 + Berm & Drainage	0	30-Sep-15 A	28-Dec-15 A
RBC-2400	WKS/C1 Slope Excavation to +32.00 + Berm & Drainage	13	30-Jan-16 A	03-Feb-16
RBC-2500	WKS/C2 Slope Excavation to +36.00 + Berm & Drainage	0	03-Dec-15 A	07-Jan-16 A
RBC-2600	WKS/C2 Slope Excavation to +32.00 + Berm & Drainage	9	08-Dec-15 A	29-Jan-16
11.5 - Road Works				
RBC-5000	Construct U - Channel and CP along slope toe (except from CP9 to CP10)	10	20-Jan-16	30-Jan-16
RBC-5010	Construct Noise Barrier NB3-a bay 3 to 8	30	25-Jan-16	05-Mar-16
RBC-5020	Construct ADS4 footings	12	15-Feb-16	27-Feb-16
RBC-5030	Construct SMH4101 to SMH4102 including gullies	12	15-Feb-16	27-Feb-16
RBC-5040	Construct SMH4001 to SMH4003 including gullies	18	29-Feb-16	19-Mar-16
RBC-5050	Construct U - Channel and CP from CP9 to CP10	6	29-Feb-16	05-Mar-16
RBC-5060	Trim Formation	4	21-Mar-16	24-Mar-16
RBC-5070	Lay Subbase Layer	3	29-Mar-16	31-Mar-16
RBC-5080	Construct Road Kerb (M1 & K2)	17	01-Apr-16	21-Apr-16



CRBC-CEC-KADEN Joint Venture

◆ Milestone
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Actual Work

3-month Rolling Programme (20-Jan-2016)

Data Date: 20-Jan-16 **Run Date: 29-Jan-16**

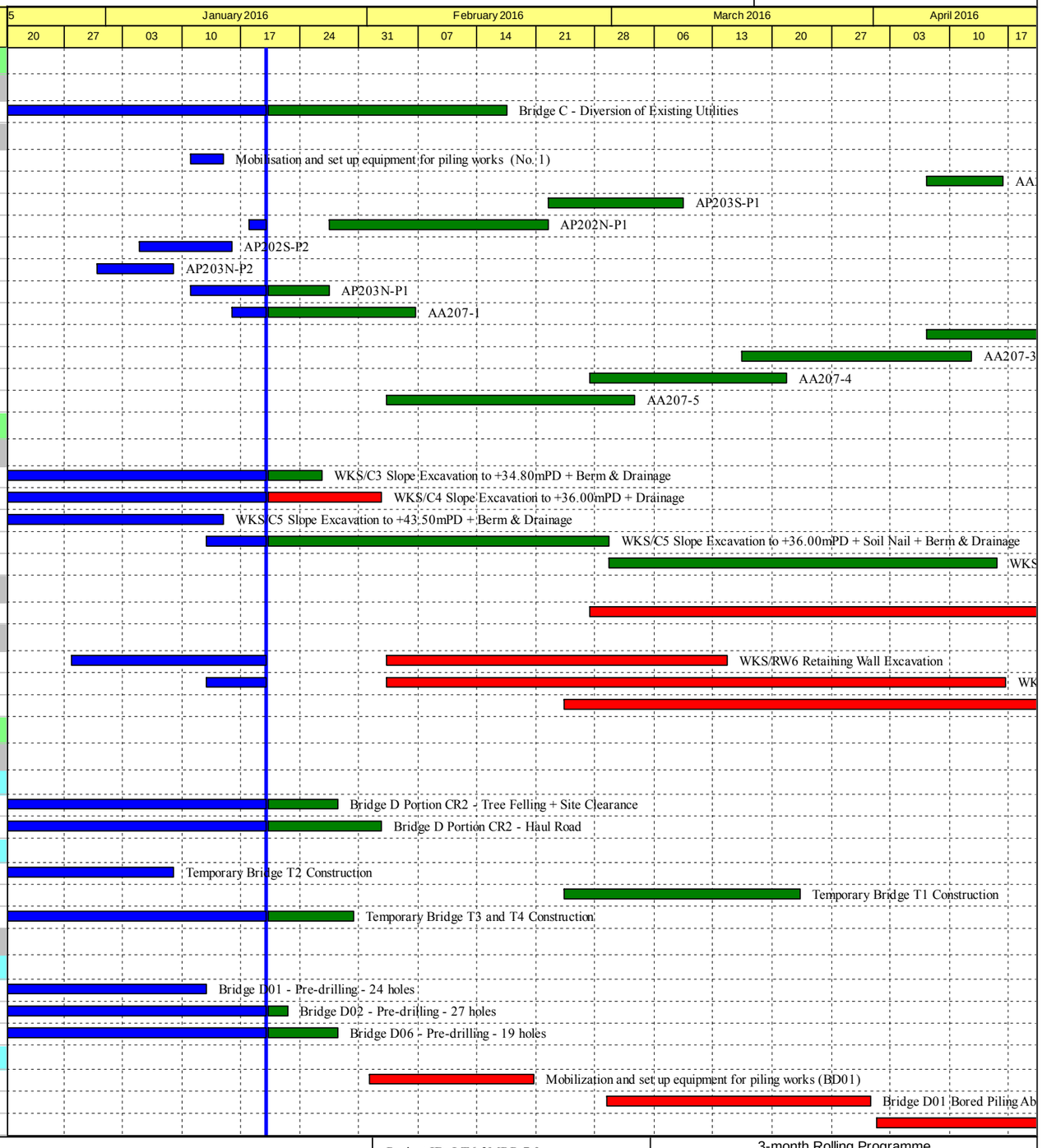
Project ID :LT6-3MRP-7.0
Layout : LT6IWP 3MRP

3-month Rolling Programme

Date	Revision	Checked	Approved
20-Jan-16	3MRP		

Liantang / Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works - CONTRACT 6

Activity ID	Activity Name	Rem Dur	Start	Finish
12.0 - Bridge C (Ch8700 to Ch9005)				
12.1 - Preparation Works				
BRC-9610	Bridge C - Diversion of Existing Utilities	19	31-Jul-15 A	17-Feb-16
12.3 - Bored piles				
BRC-2900	Mobilisation and set up equipment for piling works (No. 1)	0	11-Jan-16 A	15-Jan-16 A
BRC-2905	AA201-P1	8	07-Apr-16	16-Apr-16
BRC-2931	AP203S-P1	14	22-Feb-16	09-Mar-16
BRC-2935	AP202N-P1	16	18-Jan-16 A	22-Feb-16
BRC-2950	AP202S-P2	0	05-Jan-16 A	16-Jan-16 A
BRC-2960	AP203N-P2	0	31-Dec-15 A	09-Jan-16 A
BRC-2965	AP203N-P1	6	11-Jan-16 A	27-Jan-16
BRC-2980	AA207-1	16	16-Jan-16 A	06-Feb-16
BRC-2980.01	AA207-2	20	07-Apr-16	29-Apr-16
BRC-2980.02	AA207-3	20	16-Mar-16	12-Apr-16
BRC-2980.03	AA207-4	20	27-Feb-16	21-Mar-16
BRC-2980.04	AA207-5	20	03-Feb-16	03-Mar-16
13.0 - Road On Grade (Ch 9005 to Ch 9260)				
13.2 - Cut Slopes				
RCD-2020	WKS/C3 Slope Excavation to +34.80mPD + Berm & Drainage	6	08-Oct-15 A	26-Jan-16
RCD-2030	WKS/C4 Slope Excavation to +36.00mPD + Drainage	12	24-Oct-15 A	02-Feb-16
RCD-2100	WKS/C5 Slope Excavation to +43.50mPD + Berm & Drainage	0	04-Dec-15 A	15-Jan-16 A
RCD-2200	WKS/C5 Slope Excavation to +36.00mPD + Soil Nail + Berm & Drainage	29	13-Jan-16 A	29-Feb-16
RCD-2300	WKS/C5 Slope Excavation to +32.00mPD + Soil Nail + Berm & Drainage	36	29-Feb-16	15-Apr-16
13.3 - Fill Slopes				
RCD-3000	WKS/F8 Fill Slope	75	27-Feb-16	30-May-16
13.4 - Retaining Walls				
RCD-4000	WKS/RW6 Retaining Wall Excavation	29	28-Dec-15 A	14-Mar-16
RCD-4100	WKS/RW6 Retaining Wall Base Slab	54	13-Jan-16 A	16-Apr-16
RCD-4200	WKS/RW6 Retaining Wall Stem Wall	60	24-Feb-16	07-May-16
14.0 - Bridge D (Ch9269 to Ch11369)				
14.1 - Bridge D - Preliminary Works				
- Site Establishment				
BRD-1020	Bridge D Portion CR2 - Tree Felling + Site Clearance	8	31-Jul-15 A	28-Jan-16
BRD-1180	Bridge D Portion CR2 - Haul Road	12	08-Sep-15 A	02-Feb-16
- Temporary Bridges				
BRD-1190	Temporary Bridge T2 Construction	0	04-Dec-15 A	09-Jan-16 A
BRD-1200	Temporary Bridge T1 Construction	24	24-Feb-16	23-Mar-16
BRD-1220	Temporary Bridge T3 and T4 Construction	9	16-Dec-15 A	30-Jan-16
14.2 - Bored Piles				
- Pre-drilling				
BRD-2010	Bridge D01 - Pre-drilling - 24 holes	0	27-Oct-15 A	13-Jan-16 A
BRD-2020	Bridge D02 - Pre-drilling - 27 holes	3	22-Oct-15 A	22-Jan-16
BRD-2060	Bridge D06 - Pre-drilling - 19 holes	8	08-Sep-15 A	28-Jan-16
- Bored Piling				
BRD-2100.	Mobilization and set up equipment for piling works (BD01)	12	01-Feb-16*	20-Feb-16
BRD-2100.	Bridge D01 Bored Piling Abutment AA301-01	25	29-Feb-16	31-Mar-16
BRD-2100.	Bridge D01 Bored Piling Abutment AA301-02	24	01-Apr-16	29-Apr-16



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Date	Revision	Checked	Approved
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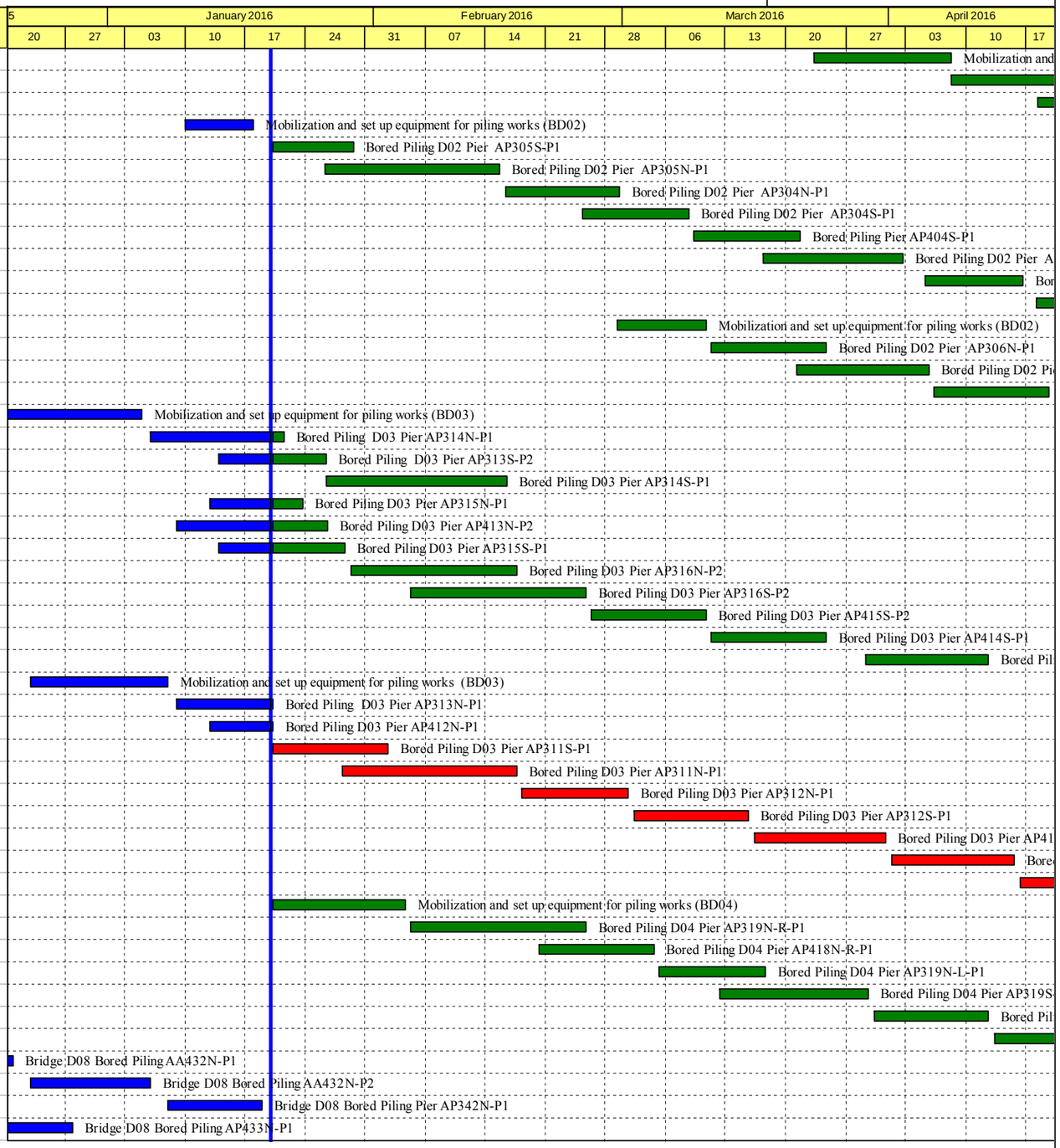
Liantang / Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works - CONTRACT 6

Activity ID	Activity Name	Rem Dur	Start	Finish
BRD-2100.	Mobilization and set up equipment for piling works (BD01)	10	23-Mar-16*	08-Apr-16
BRD-2100.	Bored Piling D01 Pier AP302N-R-P1	13	08-Apr-16	23-Apr-16
BRD-2100.	Bored Piling D01 Pier AP302N-R-P2	13	18-Apr-16	03-May-16
BRD-2100.	Mobilization and set up equipment for piling works (BD02)	0	10-Jan-16 A	18-Jan-16 A
BRD-2100.	Bored Piling D02 Pier AP305S-P1	9	20-Jan-16	29-Jan-16
BRD-2100.	Bored Piling D02 Pier AP305N-P1	12	26-Jan-16	15-Feb-16
BRD-2100.	Bored Piling D02 Pier AP304N-P1	12	16-Feb-16	29-Feb-16
BRD-2100.	Bored Piling D02 Pier AP304S-P1	11	25-Feb-16	08-Mar-16
BRD-2100.	Bored Piling Pier AP404S-P1	11	09-Mar-16	21-Mar-16
BRD-2100.	Bored Piling D02 Pier AP404S-P1	12	17-Mar-16	02-Apr-16
BRD-2100.	Bored Piling D02 Pier AP405S-P1	11	05-Apr-16	16-Apr-16
BRD-2100.	Bored Piling D02 Pier AP406S-P1	12	18-Apr-16	30-Apr-16
BRD-2100.	Mobilization and set up equipment for piling works (BD02)	10	29-Feb-16	10-Mar-16
BRD-2100.	Bored Piling D02 Pier AP306N-P1	12	11-Mar-16	24-Mar-16
BRD-2100.	Bored Piling D02 Pier AP306S-P1	10	21-Mar-16	05-Apr-16
BRD-2100.	Bored Piling D02 Pier AP304N-P2	12	06-Apr-16	19-Apr-16
BRD-2100.	Mobilization and set up equipment for piling works (BD03)	0	20-Dec-15 A	05-Jan-16 A
BRD-2100.	Bored Piling D03 Pier AP314N-P1	2	06-Jan-16 A	21-Jan-16
BRD-2100.	Bored Piling D03 Pier AP313S-P2	6	14-Jan-16 A	26-Jan-16
BRD-2100.	Bored Piling D03 Pier AP314S-P1	12	26-Jan-16	16-Feb-16
BRD-2100.	Bored Piling D03 Pier AP315N-P1	4	13-Jan-16 A	23-Jan-16
BRD-2100.	Bored Piling D03 Pier AP413N-P2	6	09-Jan-16 A	26-Jan-16
BRD-2100.	Bored Piling D03 Pier AP315S-P1	8	14-Jan-16 A	28-Jan-16
BRD-2100.	Bored Piling D03 Pier AP316N-P2	11	29-Jan-16	17-Feb-16
BRD-2100.	Bored Piling D03 Pier AP316S-P2	12	05-Feb-16	25-Feb-16
BRD-2100.	Bored Piling D03 Pier AP415S-P2	12	26-Feb-16	10-Mar-16
BRD-2100.	Bored Piling D03 Pier AP414S-P1	12	11-Mar-16	24-Mar-16
BRD-2100.	Bored Piling D03 Abutment AA413S-P1	12	29-Mar-16	12-Apr-16
BRD-2100.	Mobilization and set up equipment for piling works (BD03)	0	23-Dec-15 A	08-Jan-16 A
BRD-2100.	Bored Piling D03 Pier AP313N-P1	0	09-Jan-16 A	20-Jan-16
BRD-2100.	Bored Piling D03 Pier AP412N-P1	0	13-Jan-16 A	20-Jan-16
BRD-2100.	Bored Piling D03 Pier AP311S-P1	12	20-Jan-16	02-Feb-16
BRD-2100.	Bored Piling D03 Pier AP311N-P1	12	28-Jan-16	17-Feb-16
BRD-2100.	Bored Piling D03 Pier AP312N-P1	11	18-Feb-16	01-Mar-16
BRD-2100.	Bored Piling D03 Pier AP312S-P1	12	02-Mar-16	15-Mar-16
BRD-2100.	Bored Piling D03 Pier AP413N-P1	11	16-Mar-16	31-Mar-16
BRD-2100.	Bored Piling D03 Pier AP414N-P1	12	01-Apr-16	15-Apr-16
BRD-2100.	Bored Piling D03 Pier AP316N-P1	12	16-Apr-16	29-Apr-16
BRD-2100.	Mobilization and set up equipment for piling works (BD04)	14	20-Jan-16	04-Feb-16
BRD-2100.	Bored Piling D04 Pier AP319N-R-P1	12	05-Feb-16	25-Feb-16
BRD-2100.	Bored Piling D04 Pier AP418N-R-P1	12	20-Feb-16	04-Mar-16
BRD-2100.	Bored Piling D04 Pier AP319N-L-P1	11	05-Mar-16	17-Mar-16
BRD-2100.	Bored Piling D04 Pier AP319S-R-P1	12	12-Mar-16	29-Mar-16
BRD-2100.	Bored Piling D04 Pier AP418N-R-P2	11	30-Mar-16	12-Apr-16
BRD-2100.	Bored Piling D04 Pier AP319N-L-P2	12	13-Apr-16	26-Apr-16
BRD-2101.	Bridge D08 Bored Piling AA432N-P1	0	28-Nov-15 A	21-Dec-15 A
BRD-2101.	Bridge D08 Bored Piling AA432N-P2	0	23-Dec-15 A	06-Jan-16 A
BRD-2101.	Bridge D08 Bored Piling Pier AP342N-P1	0	08-Jan-16 A	19-Jan-16 A
BRD-2101.	Bridge D08 Bored Piling AP433N-P1	0	16-Dec-15 A	28-Dec-15 A



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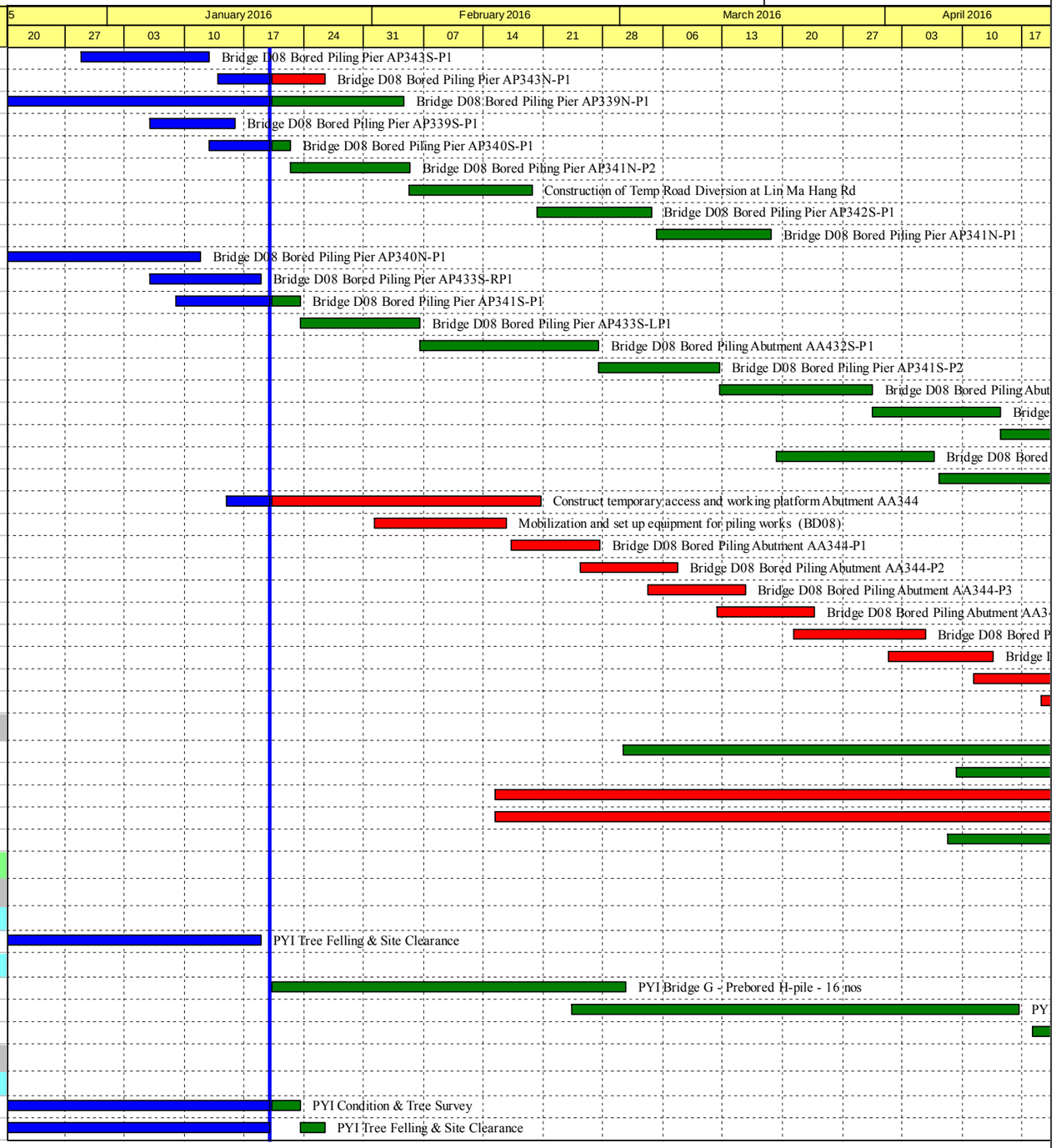
Liantang / Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works - CONTRACT 6

Activity ID	Activity Name	Rem Dur	Start	Finish
BRD-2101.	Bridge D08 Bored Piling Pier AP343S-P1	0	29-Dec-15 A	13-Jan-16 A
BRD-2101.	Bridge D08 Bored Piling Pier AP343N-P1	6	14-Jan-16 A	26-Jan-16
BRD-2101.	Bridge D08 Bored Piling Pier AP339N-P1	14	15-Dec-15 A	04-Feb-16
BRD-2101.	Bridge D08 Bored Piling Pier AP339S-P1	0	06-Jan-16 A	16-Jan-16 A
BRD-2101.	Bridge D08 Bored Piling Pier AP340S-P1	2	13-Jan-16 A	22-Jan-16
BRD-2101.	Bridge D08 Bored Piling Pier AP341N-P2	12	22-Jan-16	05-Feb-16
BRD-2101.	Construction of Temp Road Diversion at Lin Ma Hang Rd	7	05-Feb-16	19-Feb-16
BRD-2101.	Bridge D08 Bored Piling Pier AP342S-P1	12	20-Feb-16	04-Mar-16
BRD-2101.	Bridge D08 Bored Piling Pier AP341N-P1	12	05-Mar-16	18-Mar-16
BRD-2101.	Bridge D08 Bored Piling Pier AP340N-P1	0	19-Dec-15 A	12-Jan-16 A
BRD-2101.	Bridge D08 Bored Piling Pier AP433S-RP1	0	06-Jan-16 A	19-Jan-16 A
BRD-2101.	Bridge D08 Bored Piling Pier AP341S-P1	4	09-Jan-16 A	23-Jan-16
BRD-2101.	Bridge D08 Bored Piling Pier AP433S-LP1	12	23-Jan-16	06-Feb-16
BRD-2101.	Bridge D08 Bored Piling Abutment AA432S-P1	12	06-Feb-16	27-Feb-16
BRD-2101.	Bridge D08 Bored Piling Pier AP341S-P2	12	27-Feb-16	12-Mar-16
BRD-2101.	Bridge D08 Bored Piling Abutment AA432S-P2	12	12-Mar-16	30-Mar-16
BRD-2101.	Bridge D08 Bored Piling Pier AP338S-P2	12	30-Mar-16	14-Apr-16
BRD-2101.	Bridge D08 Bored Piling Pier AP338N-P2	12	14-Apr-16	28-Apr-16
BRD-2101.	Bridge D08 Bored Piling Pier AP338S-P1	12	19-Mar-16	06-Apr-16
BRD-2101.	Bridge D08 Bored Piling Pier AP338N-P1	12	07-Apr-16	20-Apr-16
BRD-2101.	Construct temporary access and working platform Abutment AA344	22	15-Jan-16 A	20-Feb-16
BRD-2101.	Mobilization and set up equipment for piling works (BD08)	8	01-Feb-16	16-Feb-16
BRD-2101.	Bridge D08 Bored Piling Abutment AA344-P1	10	17-Feb-16	27-Feb-16
BRD-2101.	Bridge D08 Bored Piling Abutment AA344-P2	10	25-Feb-16	07-Mar-16
BRD-2101.	Bridge D08 Bored Piling Abutment AA344-P3	10	04-Mar-16	15-Mar-16
BRD-2101.	Bridge D08 Bored Piling Abutment AA344-P4	10	12-Mar-16	23-Mar-16
BRD-2101.	Bridge D08 Bored Piling Abutment AA344-P5	10	21-Mar-16	05-Apr-16
BRD-2101.	Bridge D08 Bored Piling Abutment AA344-P6	10	01-Apr-16	13-Apr-16
BRD-2101.	Bridge D08 Bored Piling Abutment AA344-P7	10	11-Apr-16	21-Apr-16
BRD-2101.	Bridge D08 Bored Piling Abutment AA344-P8	10	19-Apr-16	29-Apr-16
14.3 - Pile Caps				
BRD-3100	Bridge D02 Pilecap (2P), 5 nos (2 sets)	60	01-Mar-16	13-May-16
BRD-3125	Bridge D02 Pilecap (1P), 13 nos (3 sets)	60	09-Apr-16	20-Jun-16
BRD-3750	Bridge D08 - Pilecap (2P), 5 nos (2 sets)	72	15-Feb-16	12-May-16
BRD-3775	Bridge D08 - Pilecap (1P), 11 nos (3 sets)	72	15-Feb-16	12-May-16
BRD-3800	Bridge D08 - Pilecap Abutment AA432N	30	08-Apr-16	12-May-16
15.0 - Ping Yeung Interchange (PYI)				
15.1 - PYI Local Road - South				
- Preparation Works				
PYI-1015	PYI Tree Felling & Site Clearance	0	03-Sep-15 A	19-Jan-16 A
- Bridge G				
PYI-1050	PYI Bridge G - Prebored H-pile - 16 nos	30	20-Jan-16	01-Mar-16
PYI-1100	PYI Bridge G - Construct Abutments	42	24-Feb-16	16-Apr-16
PYI-1150	PYI Bridge G - Construct Deck	76	18-Apr-16	18-Jul-16
15.2 - PYI Local Road - North				
- Preparation Works				
PYI-2010	PYI Condition & Tree Survey	4	03-Sep-15 A	23-Jan-16
PYI-2020	PYI Tree Felling & Site Clearance	2	21-Sep-15 A	26-Jan-16



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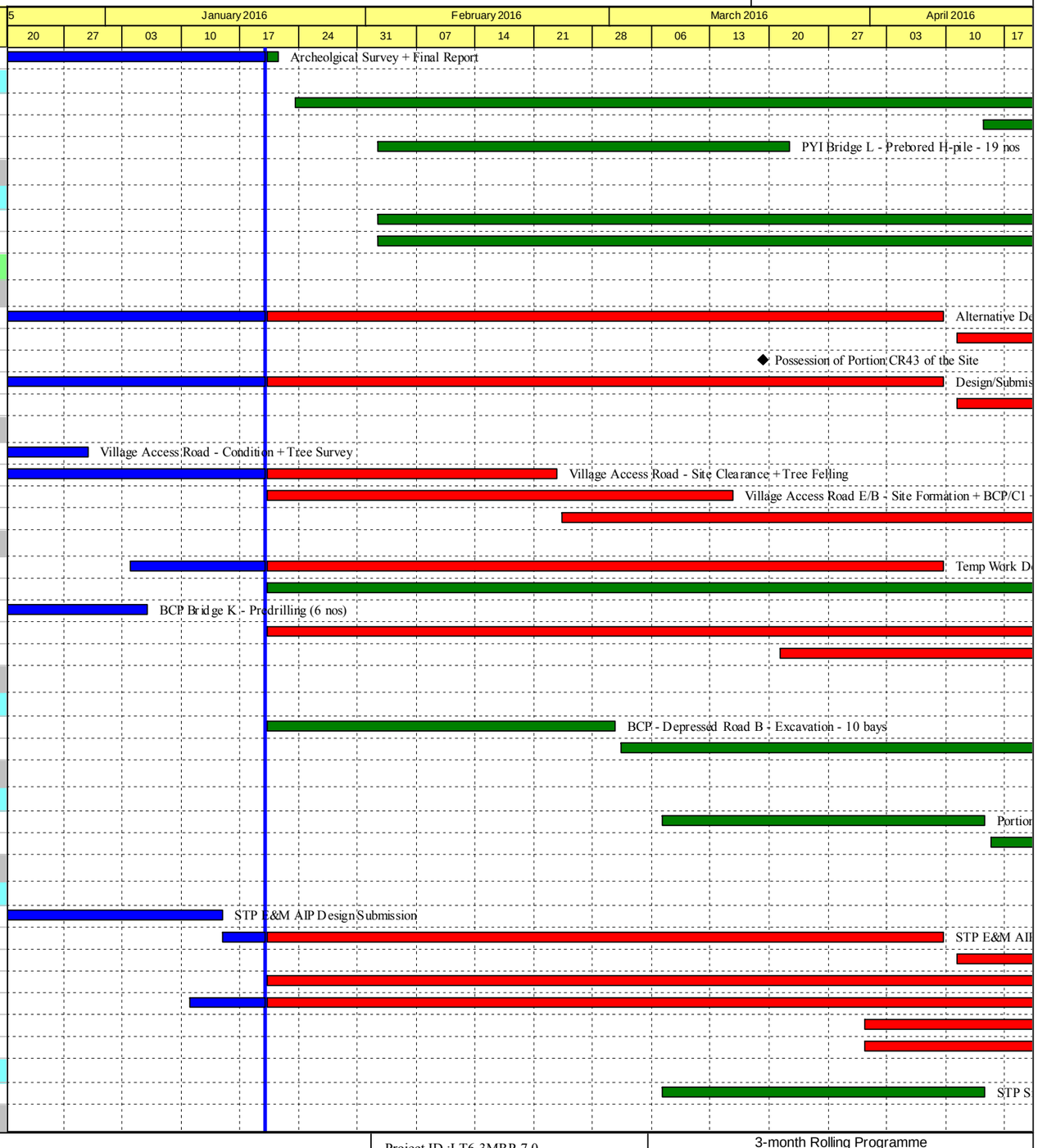
Liantang / Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works - CONTRACT 6

Activity ID	Activity Name	Rem Dur	Start	Finish
PYI-2040	Archeolgical Survey + Final Report	2	21-Sep-15 A	21-Jan-16
- Bridge L				
PYI-2041	Temp Work Design - Submit/No Adverse Comment - Bridge L Abutment	90	23-Jan-16	20-May-16
PYI-2042	Temp Work Design - Submit/No Adverse Comment - Bridge L Deck	90	14-Apr-16	01-Aug-16
PYI-2100	PYI Bridge L - Prebored H-pile - 19 nos	36	02-Feb-16	22-Mar-16
15.3 - PYI Roadworks				
- Bridge H				
PYI-2691	Temp Work Design - Submit/No Adverse Comment - Bridge H Abutment	90	02-Feb-16	30-May-16
PYI-2710	PYI Bridge H - Prebored H-pile - 12 nos	90	02-Feb-16	30-May-16
16.0 - Border Control Point (BCP)				
16.1 - Proposed Lin Ma Hang Road				
BCP-1010	Alternative Design/Submission/Approval for BCP/RW4A	60	02-Sep-15 A	09-Apr-16
BCP-1050	C5P1/Lin Ma Hang Rd - Retaining Wall BCP/RW4 & RW4A	118	11-Apr-16	29-Aug-16
BCP-1100	Possession of Portion CR43 of the Site	0	19-Mar-16	
BCP-1110	Design/Submission/Approval of CSD Proposal for BCP/RW3	60	02-Sep-15 A	09-Apr-16
BCP-1150	C5P1/Lin Ma Hang Rd - CSD Proposal BCP/RW3	40	11-Apr-16	27-May-16
16.2 - Village Access Road (VAR)				
BCP-6010	Village Access Road - Condition + Tree Survey	0	02-Sep-15 A	30-Dec-15 A
BCP-6020	Village Access Road - Site Clearance + Tree Felling	24	02-Oct-15 A	23-Feb-16
BCP-6050	Village Access Road E/B - Site Formation + BCP/C1 + BCP/C2	42	20-Jan-16	15-Mar-16
BCP-6100	Village Access Road - Gabion Channel	120	24-Feb-16	20-Jul-16
16.4 - Bridge K				
BCP-3991	Temp Work Design - Submit/No Adverse Comment - Bridge K Abutment	60	04-Jan-16 A	09-Apr-16
BCP-3992	Temp Work Design - Submit/No Adverse Comment - Bridge K Deck	90	20-Jan-16	16-May-16
BCP-4050	BCP Bridge K - Predrilling (6 nos)	0	02-Oct-15 A	06-Jan-16 A
BCP-4100	BCP Bridge K - Prebored H-pile (12 nos)	72	20-Jan-16	23-Apr-16
BCP-4150	BCP Bridge K - Construct Abutments	48	21-Mar-16	20-May-16
16.5 - BCP Underpass				
- Depressed Road Structure				
BCP-2200	BCP - Depressed Road B - Excavation - 10 bays	30	20-Jan-16	01-Mar-16
BCP-2250	BCP - Depressed Road B - Base Slab - 10 bays	54	02-Mar-16	07-May-16
16.7 - BCP Perimeter Road				
- Portion C5P3				
BCP-8510	Portion C5P3 - Condition + Tree Survey	30	07-Mar-16	14-Apr-16
BCP-8520	Portion C5P3 - Site Clearance + Tree Felling	30	15-Apr-16	20-May-16
16.8 - Sewage Treatment Plant				
- Contractor's Design Approval				
BCP-7005	STP E&M AIP Design Submission	0	24-Jul-15 A	15-Jan-16 A
BCP-7010	STP E&M AIP Design Engineer Review + Approval	60	15-Jan-16 A	09-Apr-16
BCP-7015	STP E&M AIP Design Review by Relevant Govt. Dept.	70	11-Apr-16	04-Jul-16
BCP-7020	STP E&M DDA Design Submission	130	20-Jan-16	04-Jul-16
BCP-7030	STP Civil and Structure Design Submission	90	11-Jan-16 A	16-May-16
BCP-7035	STP Civil and Structure Design Engineer Review + Approval	90	31-Mar-16	18-Jul-16
BCP-7040	STP ABWF Design Submission	90	31-Mar-16	18-Jul-16
- Preliminary Works				
BCP-7100	STP Site Initial Survey + Condition Survey	30	07-Mar-16	14-Apr-16
16.9 - Reclaimed Water Facilities (Provisional)				



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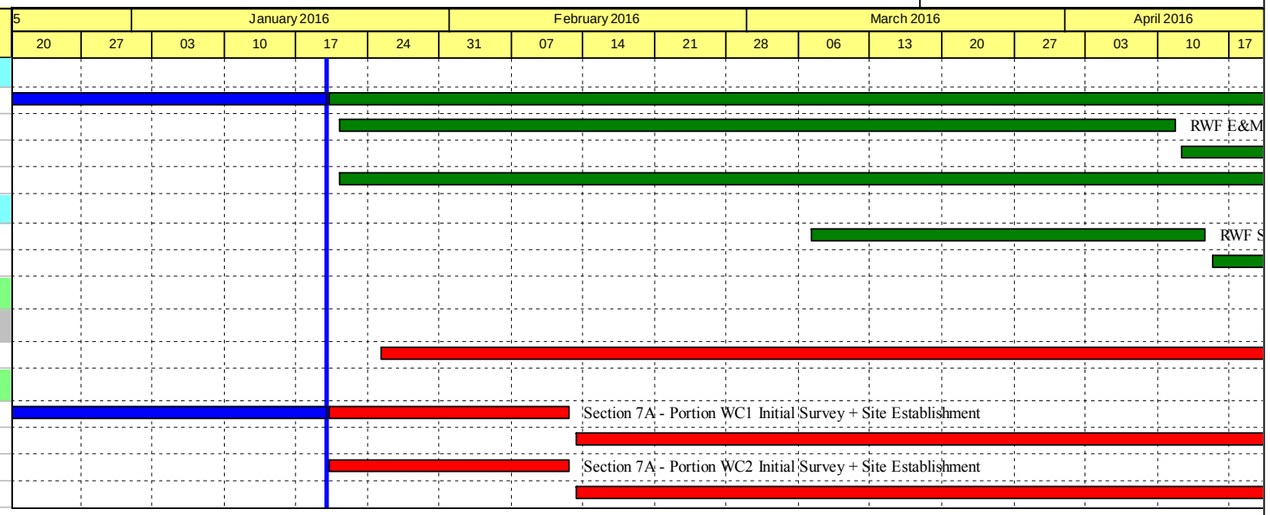
Liantang / Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works - CONTRACT 6

Activity ID	Activity Name	Rem Dur	Start	Finish
- Contractor's Design Approval				
BCP-8780	RWF E&M AIP Design Submission	75	05-Oct-15 A	27-Apr-16
BCP-8790	RWF E&M AIP Design Engineer Review + Approval	60	21-Jan-16	11-Apr-16
BCP-8800	RWF E&M AIP Design Review by Relevant Govt. Dept.	70	12-Apr-16	05-Jul-16
BCP-8810	RWF E&M DDA Design Submission	130	21-Jan-16	05-Jul-16
- Preliminary Works				
BCP-8700	RWF Site Initial Survey + Condition Survey	30	07-Mar-16	14-Apr-16
BCP-8705	RWF Acess Road Formation	30	15-Apr-16	20-May-16
17.0 - Works Subject to Excision				
17.6 - Section IIA of the Works				
WSE-6000	Pipe Jacking HV001 and HV002	475	25-Jan-16	13-May-17
18.0 - Landscaping and Establishment Works				
LEW-1000	Section 7A - Portion WC1 Initial Survey + Site Establishment	24	24-Jul-15 A	12-Feb-16
LEW-1100	Section 7A - Portion WC1 Initial Planting	220	13-Feb-16	19-Sep-16
LEW-1200	Section 7A - Portion WC2 Initial Survey + Site Establishment	24	20-Jan-16	12-Feb-16
LEW-1300	Section 7A - Portion WC2 Initial Planting	220	13-Feb-16	19-Sep-16



CRBC-CEC-KADEN Joint Venture

◆ Milestone
Critical Activity
Non-Critical Activity
Remaining Level of Effort
Actual Work

3-month Rolling Programme (20-Jan-2016)

Data Date: 20-Jan-16 **Run Date: 29-Jan-16**

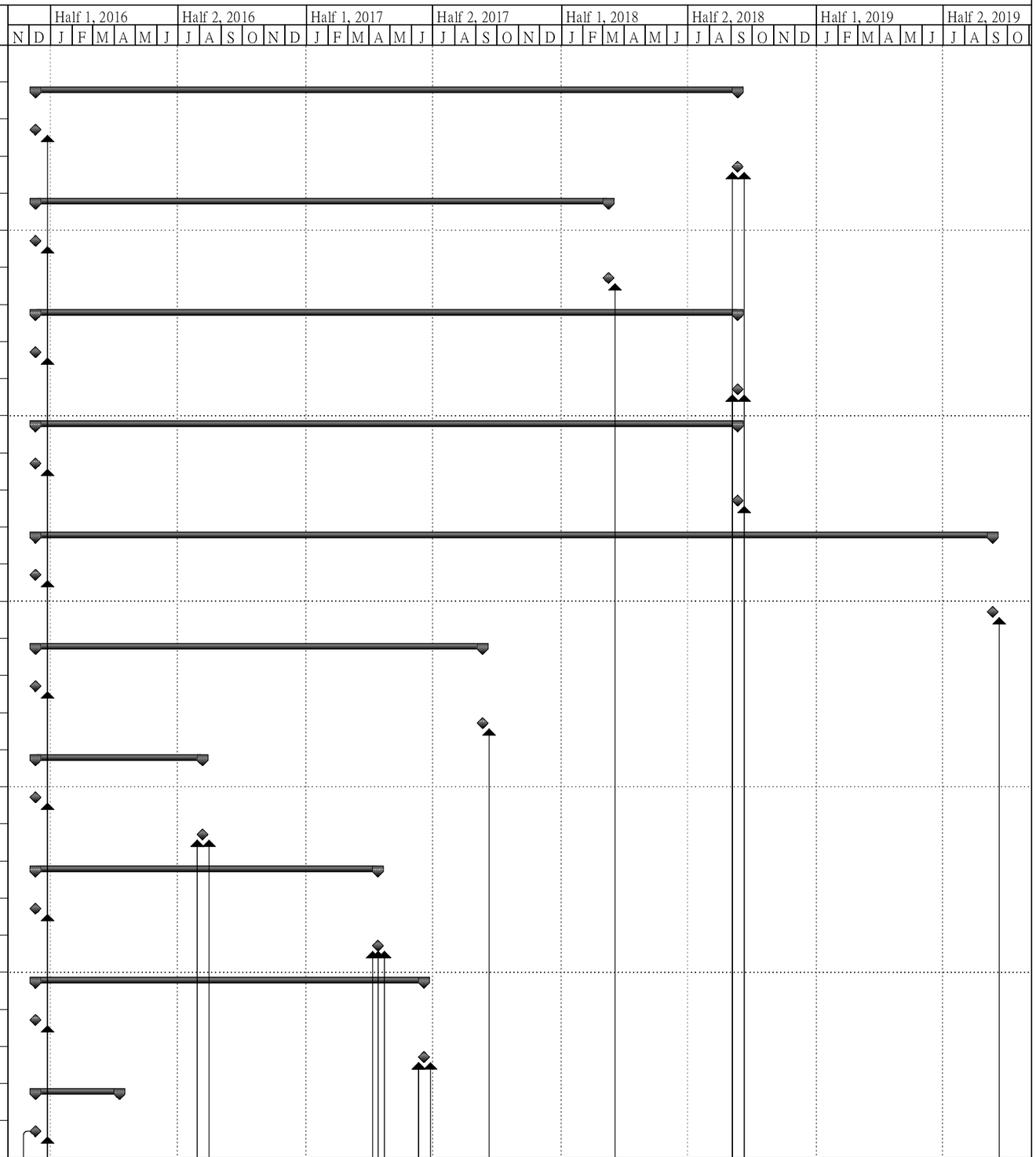
Project ID :LT6-3MRP-7.0
Layout : LT6IWP 3MRP

3-month Rolling Programme			
Date	Revision	Checked	Approved
20-Jan-16	3MRP		

Contract 7

NE/2014/03 - Liantang/ Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works - Contract 7

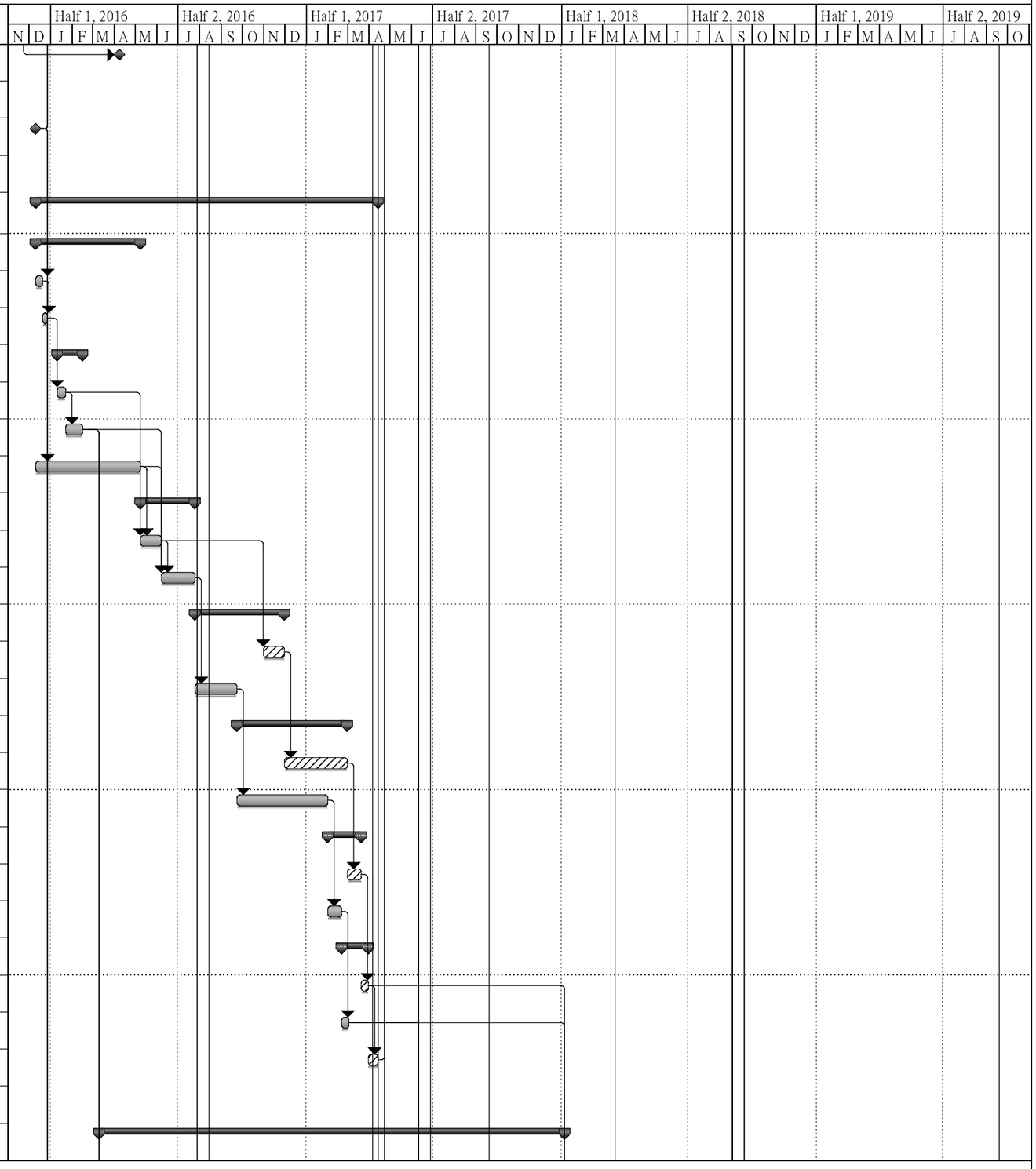
ID	Task Name	Duration	Start	Finish	Predecessors
1					
2	**Section I Works**	**1005 days**	**11/12/2015**	**10/9/2018**	
3	Commencement of Section I Works	0 days	11/12/2015	11/12/2015	33
4	Handover of Section I	0 days	10/9/2018	10/9/2018	107,145
5	**Section II Works**	**820 days**	**11/12/2015**	**9/3/2018**	
6	Commencement of Section II Works	0 days	11/12/2015	11/12/2015	33
7	Handover of Section II	0 days	9/3/2018	9/3/2018	170
8	**Section III Works**	**1005 days**	**11/12/2015**	**10/9/2018**	
9	Commencement of Section III Works	0 days	11/12/2015	11/12/2015	33
10	Handover of Section III	0 days	10/9/2018	10/9/2018	67,87,108,146
11	**Section IV Works**	**1005 days**	**11/12/2015**	**10/9/2018**	
12	Commencement of Section IV Works	0 days	11/12/2015	11/12/2015	33
13	Handover of Section IV	0 days	10/9/2018	10/9/2018	173
14	**Section V Works**	**1370 days**	**11/12/2015**	**10/9/2019**	
15	Commencement of Section V Works	0 days	11/12/2015	11/12/2015	33
16	Handover of Section V	0 days	10/9/2019	10/9/2019	174
17	**Stage I Works**	**640 days**	**11/12/2015**	**10/9/2017**	
18	Commencement of Stage I Works	0 days	11/12/2015	11/12/2015	33
19	Handover of Stage I Works	0 days	10/9/2017	10/9/2017	168
20	**Stage II Works**	**239 days**	**11/12/2015**	**5/8/2016**	
21	Commencement of Stage II Works	0 days	11/12/2015	11/12/2015	33
22	Handover of Stage II Works	0 days	5/8/2016	5/8/2016	81,101,160
23	**Stage III Works**	**490 days**	**11/12/2015**	**13/4/2017**	
24	Commencement of Stage III Works	0 days	11/12/2015	11/12/2015	33
25	Handover of Stage III Works	0 days	13/4/2017	13/4/2017	58,85,105,136,165
26	**Stage IV Works**	**556 days**	**11/12/2015**	**18/6/2017**	
27	Commencement of Stage IV Works	0 days	11/12/2015	11/12/2015	33
28	Handover of Stage IV Works	0 days	18/6/2017	18/6/2017	57,83,104,135,165
29	**Stage V Works**	**120 days**	**11/12/2015**	**8/4/2016**	
30	Commencement of Stage IV Works	0 days	11/12/2015	11/12/2015	33



Revision: 0

Task | Progress | Summary | Project Summary
Critical Task | Milestone | Split | Deadline

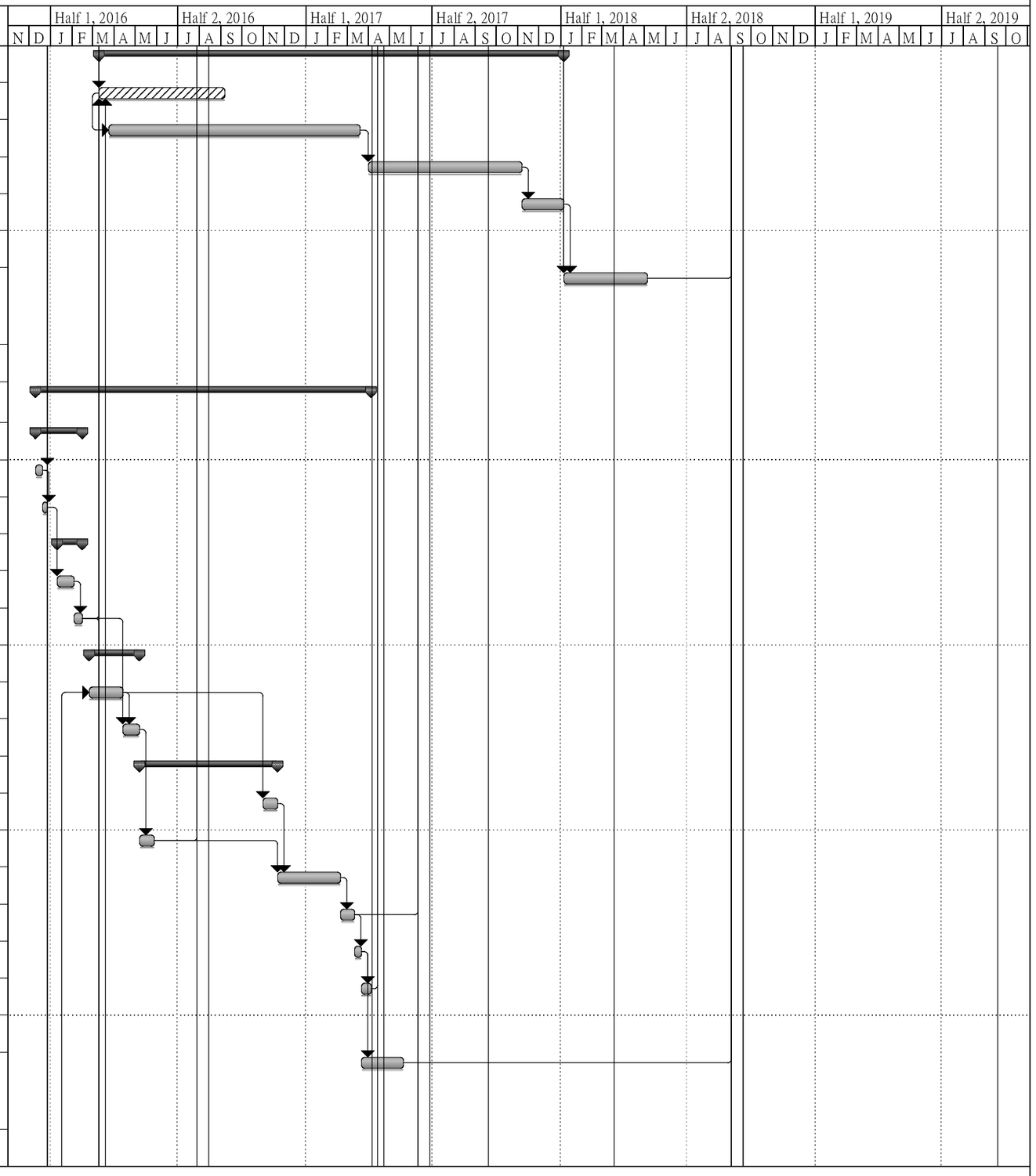
ID	Task Name	Duration	Start	Finish	Predecessors
31	Handover of Stage IV Works	0 days	8/4/2016	8/4/2016	30SS+120 days
32					
33	Commencement of Works	0 days	11/12/2015	11/12/2015	
34					
35	**Bridge A (Abutment to Cantilever End)**	**490 days**	**11/12/2015**	**13/4/2017**	
36	**Preparation Works**	**150 days**	**11/12/2015**	**8/5/2016**	
37	Initial Survery	10 days	11/12/2015	20/12/2015	33
38	Site Clearance	7 days	21/12/2015	27/12/2015	37
39	**GI Works**	**36 days**	**11/1/2016**	**15/2/2016**	
40	Outside Boundary Fence (2nos.)	12 days	11/1/2016	22/1/2016	38
41	Inside Boundary Fence (4 nos.)	24 days	23/1/2016	15/2/2016	40
42	Alternative Design Submission and Approval	150 days	11/12/2015	8/5/2016	33
43	**Piles (Pre-bore Socketed H-Pile)**	**78 days**	**9/5/2016**	**25/7/2016**	
44	Outside Boundary Fence (10 nos.)	30 days	9/5/2016	7/6/2016	42,40
45	Inside Boundary Fence (16 nos.)	48 days	8/6/2016	25/7/2016	42,41,44
46	**Cap & Column**	**128 days**	**26/7/2016**	**30/11/2016**	
47	Outside Boundary Fence (2 nos.)	30 days	1/11/2016	30/11/2016	44
48	Inside Boundary Fence (4 nos.)	60 days	26/7/2016	23/9/2016	45
49	**Decking**	**158 days**	**24/9/2016**	**28/2/2017**	
50	Outside Boundary Fence (A04 - Cantilever End)	90 days	1/12/2016	28/2/2017	47
51	Inside Boundary Fence (Abutment to A04)	130 days	24/9/2016	31/1/2017	48
52	**Pre-stress**	**48 days**	**1/2/2017**	**20/3/2017**	
53	Pier A04 to Cantileve End	20 days	1/3/2017	20/3/2017	50
54	Abutment to Pier A04	20 days	1/2/2017	20/2/2017	51
55	**Removal of Temporary Works**	**38 days**	**21/2/2017**	**30/3/2017**	
56	Outside Boundary Fence	10 days	21/3/2017	30/3/2017	53
57	Inside Boundary Fence	10 days	21/2/2017	2/3/2017	54
58	Reinstate of Shen Zhen River	14 days	31/3/2017	13/4/2017	56
59					
60	**U-trough (Road A)**	**666 days**	**11/3/2016**	**5/1/2018**	



Revision: 0

Task | Progress | Summary | Project Summary
Critical Task | Milestone | Split | Deadline

ID	Task Name	Duration	Start	Finish	Predecessors
61	**Preparation Works**	**666 days**	**11/3/2016**	**5/1/2018**	
62	GI Works (30 nos.)	180 days	11/3/2016	6/9/2016	41,75,95,116
63	Piling (Bored Pile)	360 days	25/3/2016	19/3/2017	62SS+14 days
64	U-trough Structure	220 days	1/4/2017	6/11/2017	63
65	Backfilling of U-trough	60 days	7/11/2017	5/1/2018	64
66					
67	Construction of Road Surface, Parapet and Road Lighting for Bridge A and Road A	120 days	6/1/2018	5/5/2018	65,57,56
68					
69	**Bridge B**	**481 days**	**11/12/2015**	**4/4/2017**	
70	**Preparation Works**	**67 days**	**11/12/2015**	**15/2/2016**	
71	Initial Survery	10 days	11/12/2015	20/12/2015	33
72	Site Clearance	7 days	21/12/2015	27/12/2015	71
73	**GI Works**	**36 days**	**11/1/2016**	**15/2/2016**	
74	Outside Boundary Fence (4nos.)	24 days	11/1/2016	3/2/2016	72
75	Inside Boundary Fence (2 nos.)	12 days	4/2/2016	15/2/2016	74
76	**Piles (Bored Piles)**	**72 days**	**26/2/2016**	**7/5/2016**	
77	Outside Boundary Fence (4 nos.)	48 days	26/2/2016	13/4/2016	156SS+30 days
78	Inside Boundary Fence (2 nos.)	24 days	14/4/2016	7/5/2016	75,77
79	**Cap**	**198 days**	**8/5/2016**	**21/11/2016**	
80	Outside Boundary Fence (1 nos.)	21 days	1/11/2016	21/11/2016	77
81	Inside Boundary Fence (1 nos.)	21 days	8/5/2016	28/5/2016	78
82	Decking (B00-Cantilever End)	90 days	22/11/2016	19/2/2017	80,81
83	Pre-stress (B00-Cantilever End)	20 days	20/2/2017	11/3/2017	82
84	Removal of Temporary Works	10 days	12/3/2017	21/3/2017	83
85	Reinstate of Shen Zhen River	14 days	22/3/2017	4/4/2017	84
86					
87	Construction of Road Surface, Parapet and Road Lighting for Bridge B	60 days	22/3/2017	20/5/2017	84
88					

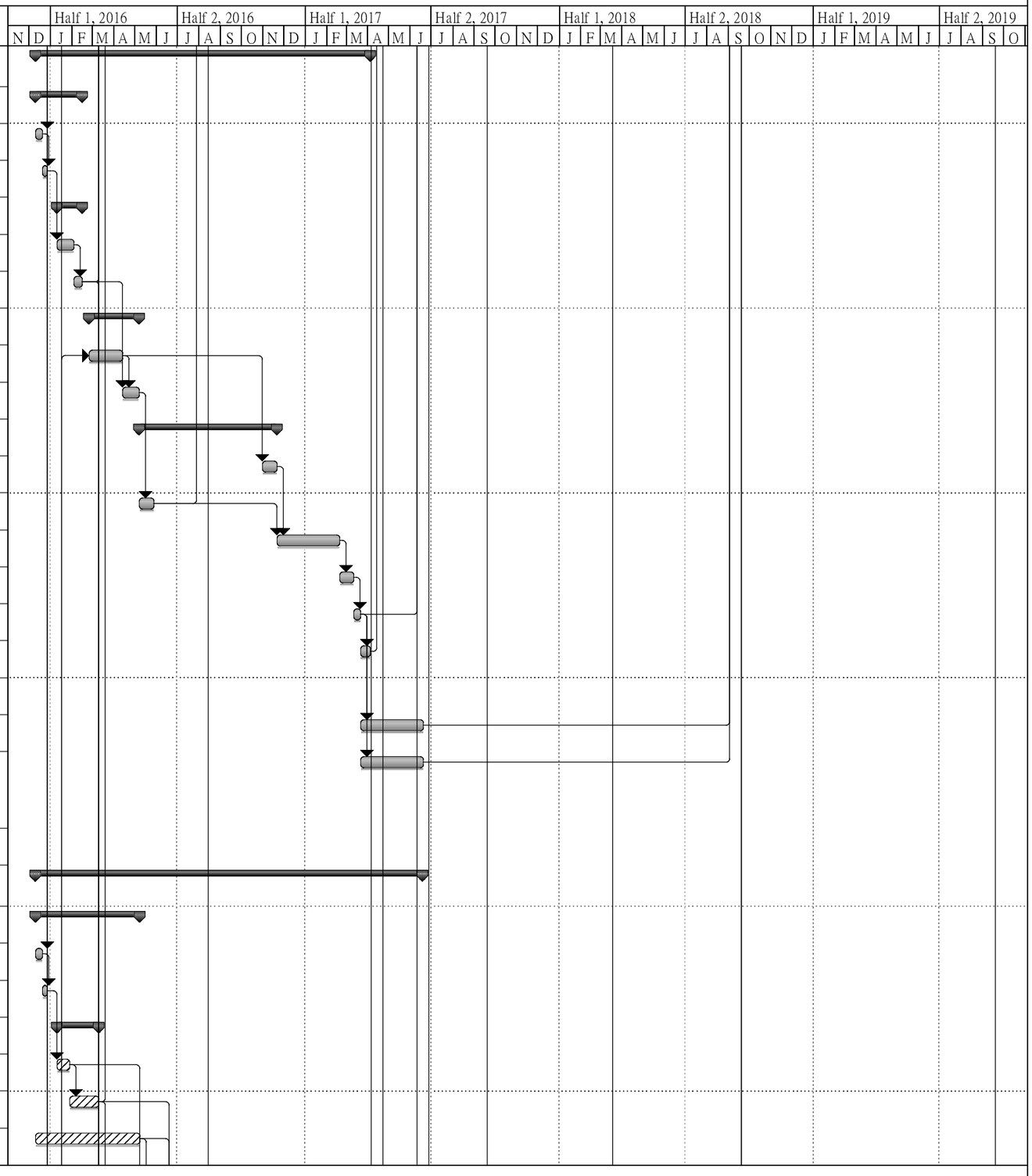


Revision: 0

Task — Progress — Summary — Project Summary

Critical Task — Milestone — Split — Deadline

ID	Task Name	Duration	Start	Finish	Predecessors
89	**Bridge D**	**481 days**	**11/12/2015**	**4/4/2017**	
90	**Preparation Works**	**67 days**	**11/12/2015**	**15/2/2016**	
91	Initial Survery	10 days	11/12/2015	20/12/2015	33
92	Site Clearance	7 days	21/12/2015	27/12/2015	91
93	**GI Works**	**36 days**	**11/1/2016**	**15/2/2016**	
94	Outside Boundary Fence (4nos.)	24 days	11/1/2016	3/2/2016	92
95	Inside Boundary Fence (2 nos.)	12 days	4/2/2016	15/2/2016	94
96	**Piles (Bored Piles)**	**72 days**	**26/2/2016**	**7/5/2016**	
97	Outside Boundary Fence (4 nos.)	48 days	26/2/2016	13/4/2016	156SS+30 days
98	Inside Boundary Fence (2 nos.)	24 days	14/4/2016	7/5/2016	95,97
99	**Cap**	**198 days**	**8/5/2016**	**21/11/2016**	
100	Outside Boundary Fence (1 nos.)	21 days	1/11/2016	21/11/2016	97
101	Inside Boundary Fence (1 nos.)	21 days	8/5/2016	28/5/2016	98
102	Decking (D00-Cantilever End)	90 days	22/11/2016	19/2/2017	100,101
103	Pre-stress (D00-Cantilever End)	20 days	20/2/2017	11/3/2017	102
104	Removal of Temporary Works	10 days	12/3/2017	21/3/2017	103
105	Reinstate Shen Zhen River	14 days	22/3/2017	4/4/2017	104
106					
107	Construction of Noise Barrier and Parapet	90 days	22/3/2017	19/6/2017	104
108	Construction of Road Surface and Road Lighting for Bridge D	90 days	22/3/2017	19/6/2017	104
109					
110	**Bridge E (Abutment to Cantilever End)**	**556 days**	**11/12/2015**	**18/6/2017**	
111	**Preparation Works**	**150 days**	**11/12/2015**	**8/5/2016**	
112	Initial Survery	10 days	11/12/2015	20/12/2015	33
113	Site Clearance	7 days	21/12/2015	27/12/2015	112
114	**GI Works**	**60 days**	**11/1/2016**	**10/3/2016**	
115	Outside Boundary Fence (3nos.)	18 days	11/1/2016	28/1/2016	113
116	Inside Boundary Fence (7 nos.)	42 days	29/1/2016	10/3/2016	115
117	Alternative Design Submission and Approval	150 days	11/12/2015	8/5/2016	

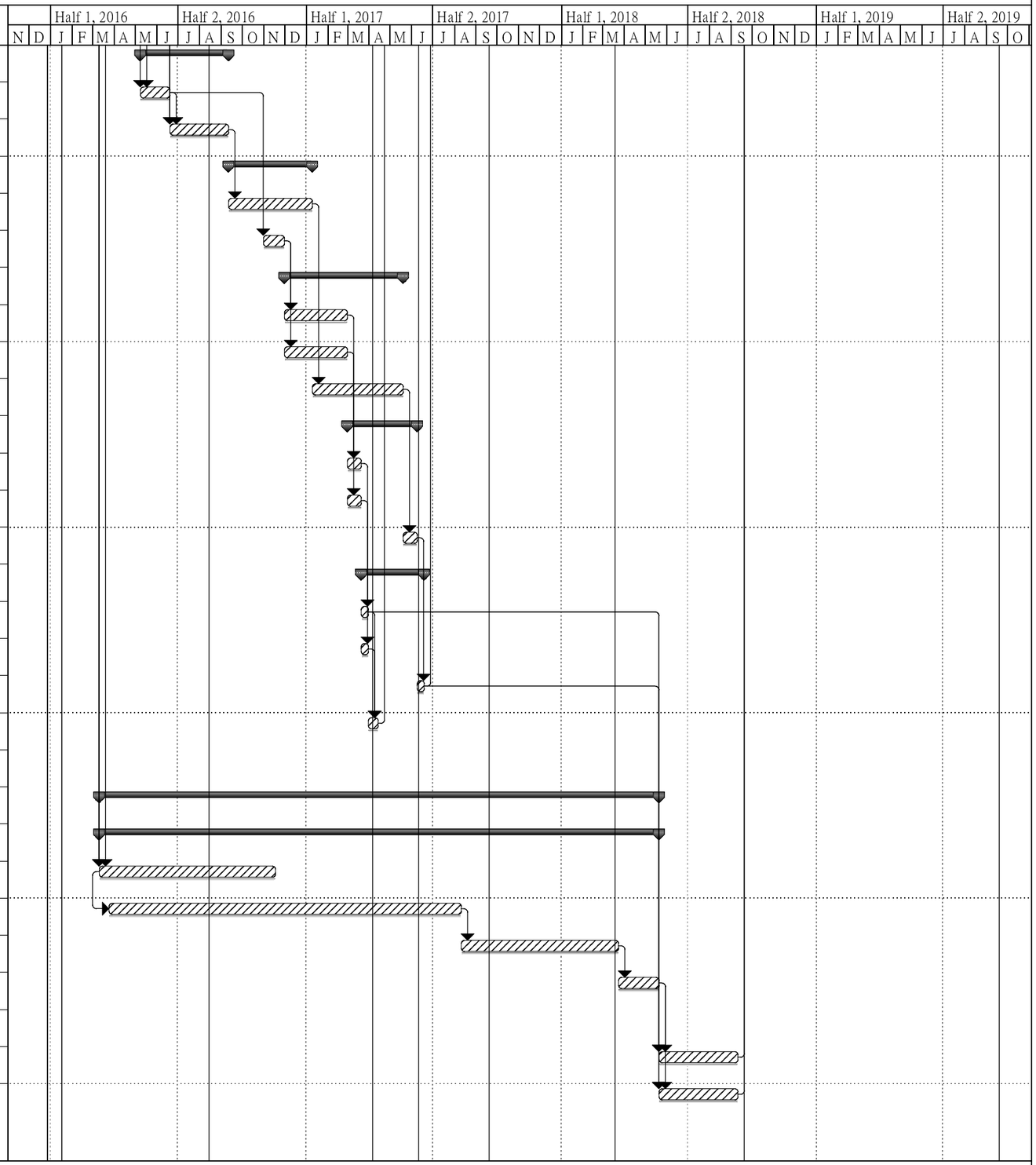


Revision: 0

Task — Progress — Summary — Project Summary
Critical Task — Milestone — Split — Deadline

NE/2014/03 - Liantang/ Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works - Contract 7

ID	Task Name	Duration	Start	Finish	Predecessors
118	**Piles (Pre-bore Socketed H-Pile)**	**126 days**	**9/5/2016**	**11/9/2016**	
119	Outside Boundary Fence (14 nos.)	42 days	9/5/2016	19/6/2016	115,117
120	Inside Boundary Fence (28 nos.)	84 days	20/6/2016	11/9/2016	116,117,119
121	**Cap & Column**	**120 days**	**12/9/2016**	**9/1/2017**	
122	Inside Boundary Fence (8 nos.)	120 days	12/9/2016	9/1/2017	120
123	Outside Boundary Fence (3 nos.)	30 days	1/11/2016	30/11/2016	119
124	**Decking**	**170 days**	**1/12/2016**	**19/5/2017**	
125	Outside Boundary Fence (E07 - Cantilever End)	90 days	1/12/2016	28/2/2017	123
126	Outside Boundary Fence (E03 - E07)	90 days	1/12/2016	28/2/2017	123
127	Inside Boundary Fence (Abutment to E03)	130 days	10/1/2017	19/5/2017	122
128	**Pre-stress**	**100 days**	**1/3/2017**	**8/6/2017**	
129	Pier E07 to Cantileve End	20 days	1/3/2017	20/3/2017	125
130	Pier E03 - E07	20 days	1/3/2017	20/3/2017	126
131	Abutment to Pier A03	20 days	20/5/2017	8/6/2017	127
132	**Removal of Temporary Works**	**90 days**	**21/3/2017**	**18/6/2017**	
133	Outside Boundary Fence (E07 - Cantilever End)	10 days	21/3/2017	30/3/2017	129
134	Outside Boundary Fence (E03 - E07)	10 days	21/3/2017	30/3/2017	130
135	Inside Boundary Fence (Abutment to E03)	10 days	9/6/2017	18/6/2017	131
136	Reinstate Shen Zhen River	14 days	31/3/2017	13/4/2017	133,134
137					
138	**U-trough (Road E)**	**801 days**	**11/3/2016**	**20/5/2018**	
139	**Preparation Works**	**801 days**	**11/3/2016**	**20/5/2018**	
140	GI Works (42 nos.)	252 days	11/3/2016	17/11/2016	116,41,75,95
141	Piling (Bored Pile)	504 days	25/3/2016	10/8/2017	140SS+14 days
142	U-trough Structure	225 days	11/8/2017	23/3/2018	141
143	Backfilling of U-trough	58 days	24/3/2018	20/5/2018	142
144					
145	Construction of Noise Barrier and Parapet	113 days	21/5/2018	10/9/2018	133,135,143
146	Construction of Road Surface and Road Lighting for Bridge E and Road E	113 days	21/5/2018	10/9/2018	133,135,143

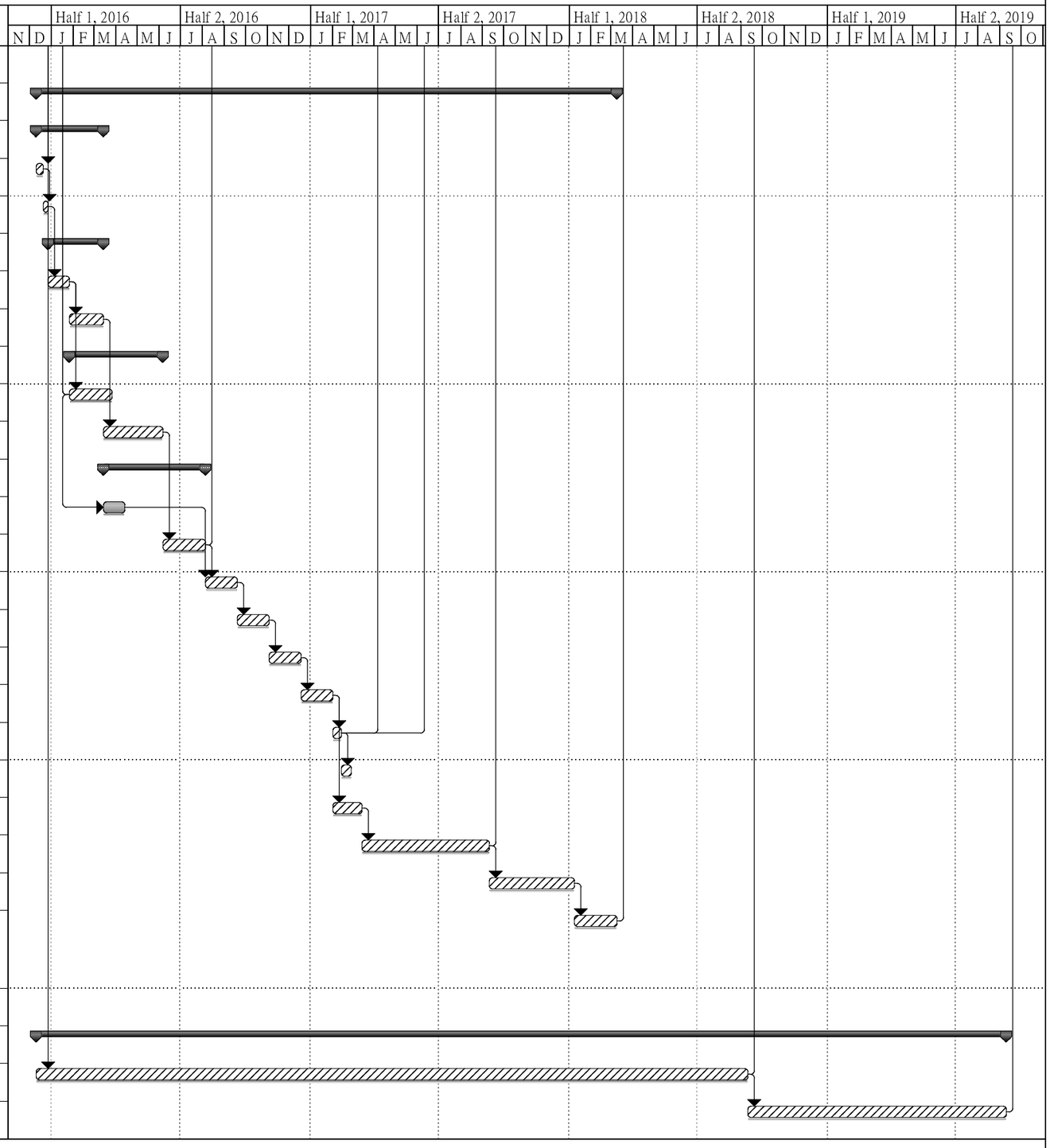


Revision: 0

Task | Progress | Summary | Project Summary
Critical Task | Milestone | Split | Deadline

NE/2014/03 - Liantang/ Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works - Contract 7

ID	Task Name	Duration	Start	Finish	Predecessors
147					
148	**Bridge C**	**820 days**	**11/12/2015**	**9/3/2018**	
149	**Preparation Works**	**95 days**	**11/12/2015**	**14/3/2016**	
150	Initial Survery	10 days	11/12/2015	20/12/2015	33
151	Site Clearance	7 days	21/12/2015	27/12/2015	150
152	**GI Works**	**78 days**	**28/12/2015**	**14/3/2016**	
153	Outside Boundary Fence (12 nos.)	30 days	28/12/2015	26/1/2016	151
154	Inside Boundary Fence (8 nos.)	48 days	27/1/2016	14/3/2016	153
155	**Piles**	**132 days**	**27/1/2016**	**6/6/2016**	
156	Outside Boundary Fence (12 nos.)	60 days	27/1/2016	26/3/2016	153
157	Inside Boundary Fence (8 nos.)	84 days	15/3/2016	6/6/2016	154
158	**Cap & Column**	**144 days**	**15/3/2016**	**5/8/2016**	
159	Outside Boundary Fence (3 nos.)	30 days	15/3/2016	13/4/2016	156SS+48 days
160	Inside Boundary Fence (8 nos.)	60 days	7/6/2016	5/8/2016	157
161	Erection of Falsework	45 days	6/8/2016	19/9/2016	159,160
162	Construction of 2nd Floor Slab and Column	45 days	20/9/2016	3/11/2016	161
163	Construction of 3rd Floor Slab and Column	45 days	4/11/2016	18/12/2016	162
164	Construction of Roof Slab	45 days	19/12/2016	1/2/2017	163
165	Removal of Temporary Works	12 days	2/2/2017	13/2/2017	164
166	Reinstate Shen Zhen River	14 days	14/2/2017	27/2/2017	165
167	Construction of Roof Upstand and Parapet	41 days	2/2/2017	14/3/2017	164
168	Installation of Façade Wall	180 days	15/3/2017	10/9/2017	167
169	Installation of Building Maintenance Unit	120 days	11/9/2017	8/1/2018	168
170	Installation of Ground cover and Irrigation System at Roof Floor	60 days	9/1/2018	9/3/2018	169
171					
172	**Portion Z**	**1370 days**	**11/12/2015**	**10/9/2019**	
173	Landscape Softworks	1005 days	11/12/2015	10/9/2018	33
174	Establishment Works	365 days	11/9/2018	10/9/2019	173



Revision: 0

Task | Progress | Summary | Project Summary
Critical Task | Milestone | Split | Deadline

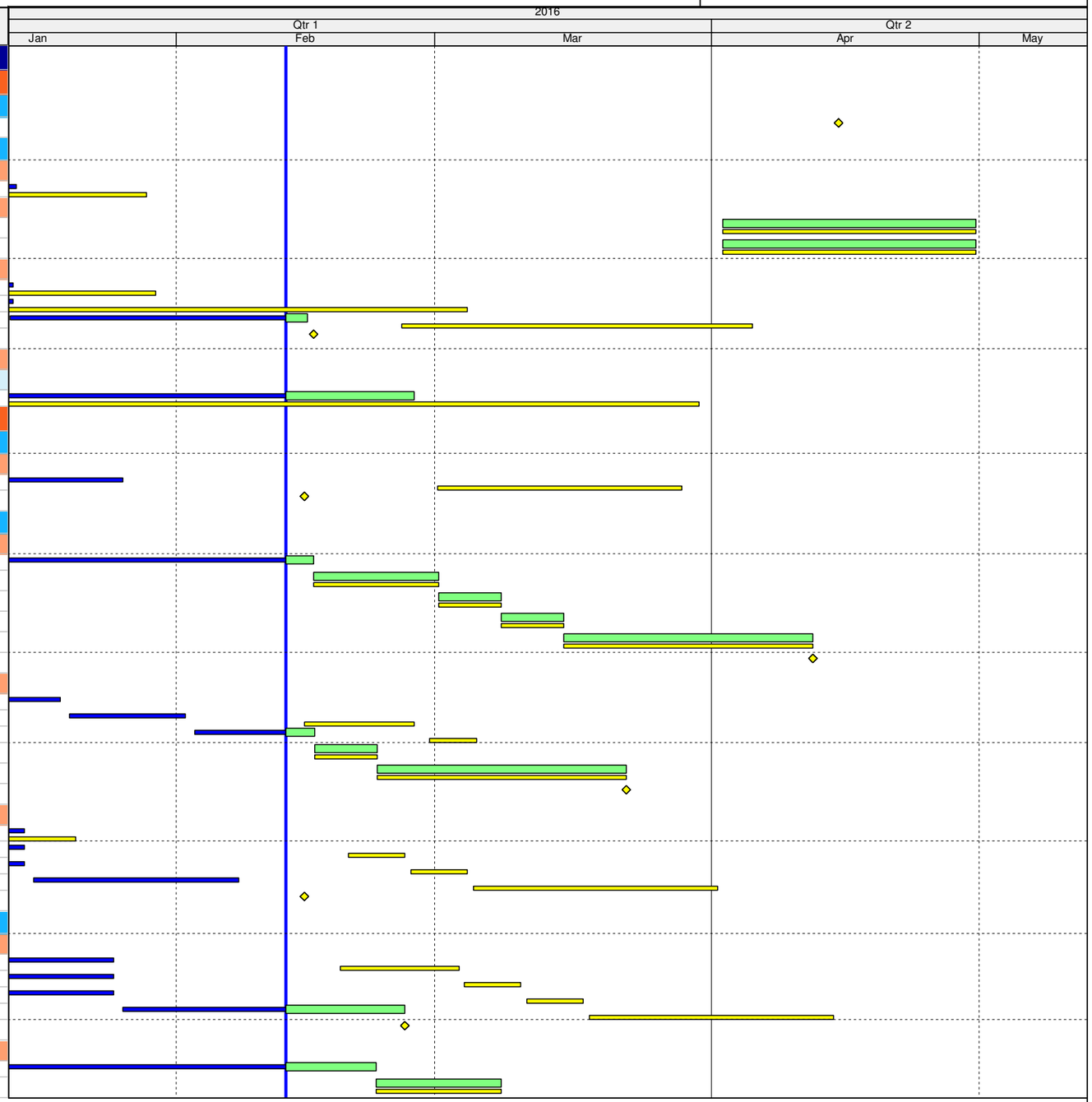
Contract SS C505

Data Date: 13-Feb-16
Print Date: 17-Feb-16 13:51

Liantang/Heung Yuen Wai Boundary Control Point

BCP Buildings and Associated Facilities

Activity ID	Activity Name	Orig	Start	Finish	Finish Variance
LHYW Boundary Control Point - Works Programme Rev		395	09-Jul-15 A	07-Nov-16	0
PRELIMINARIES AND GENERAL REQUIREMENTS		96	21-Jul-15 A	30-Apr-16	0
Possession of Site		0	15-Apr-16	15-Apr-16	0
PP2	Possession of Portion 2 (Day 270)	0	15-Apr-16		0
Submission and Approvals		96	21-Jul-15 A	30-Apr-16	0
Programme		31	29-Dec-15 A	14-Jan-16 A	15
1086b	Architect review and approval on Works Programme Rev 1A	31	29-Dec-15 A	14-Jan-16 A	15
Other Submissions		24	02-Apr-16	30-Apr-16	0
1161	Prepare and submit Ironmongery Schedule for PTB	24	02-Apr-16	30-Apr-16	0
8796	Prepare and submit Ironmongery Schedule for Ancillary Buildings	24	02-Apr-16	30-Apr-16	0
CSD / CBWD Submission		71	07-Dec-15 A	16-Feb-16	39
8808	Comment by Consultant	24	07-Dec-15 A	13-Jan-16 A	14
8809	Review By ArchSD	48	07-Dec-15 A	13-Jan-16 A	38
8810	Address to Comments and Resubmission	30	13-Jan-16 A	15-Feb-16	39
8811	Approval Obtained	0	16-Feb-16		0
Permit		90	21-Jul-15 A	27-Feb-16	32
Environmental Permit EP-404/2011		90	21-Jul-15 A	27-Feb-16	32
1176	EP - Prepare and submit Environmental Monitoring and Audit (EM&A) Pro	90	21-Jul-15 A	27-Feb-16	32
DETAILED DESIGN OF WORKS		377	24-Jul-15 A	07-Nov-16	0
Foundations for Passenger Terminal Building		34	24-Dec-15 A	15-Feb-16	34
Piles adjacent to CEDD Subway		34	24-Dec-15 A	15-Feb-16	34
8223	19 - SCU review	28	24-Dec-15 A	26-Jan-16 A	63
8224	19 - Architect issue consent to commence construction	0		15-Feb-16	0
Foundation for Ancillary Buildings (Portion 1)		204	24-Jul-15 A	12-Apr-16	0
Driven H-Piles - 02 HKPF Building		204	24-Jul-15 A	12-Apr-16	0
8226	Prepare design submission	24	24-Jul-15 A	16-Feb-16	-136
8230	Architect review design submission	12	16-Feb-16	01-Mar-16	0
8232	Response to Architect comments	6	01-Mar-16	08-Mar-16	0
8234	Architect review final submission	6	08-Mar-16	15-Mar-16	0
8235	SCU review	28	15-Mar-16	12-Apr-16	0
8236	Architect issue consent to commence construction	0		12-Apr-16	0
Driven H-Piles - 03 Fire Station		167	24-Jul-15 A	22-Mar-16	0
8517	Prepare design submission	24	24-Jul-15 A	19-Jan-16 A	-94
8519	Architect review design submission	12	20-Jan-16 A	02-Feb-16 A	17
8520	Response to Architect comments	6	03-Feb-16 A	16-Feb-16	17
8521	Architect review final submission	6	16-Feb-16	23-Feb-16	0
8522	SCU review	28	23-Feb-16	22-Mar-16	0
8523	Architect issue consent to commence construction	0		22-Mar-16	0
Driven H-Piles - 07 FXRVIS Building (Outbound)		65	07-Jan-16 A	15-Feb-16	38
8531	Architect review design submission	12	07-Jan-16 A	15-Jan-16 A	5
8532	Response to Architect comments	6	07-Jan-16 A	15-Jan-16 A	31
8533	Architect review final submission	6	07-Jan-16 A	15-Jan-16 A	37
8534	SCU review	28	16-Jan-16 A	08-Feb-16 A	54
8535	Architect issue consent to commence construction	0		15-Feb-16	0
Foundation for Ancillary Buildings (Portion 2) and Elevated		126	24-Jul-15 A	19-Apr-16	0
Driven H-Piles - 06 FXRVIS Building (Inbound)		44	07-Jan-16 A	26-Feb-16	37
8537	Architect review design submission	12	07-Jan-16 A	25-Jan-16 A	28
8538	Response to Architect comments	6	07-Jan-16 A	25-Jan-16 A	34
8539	Architect review final submission	6	07-Jan-16 A	25-Jan-16 A	40
8540	SCU review	28	26-Jan-16 A	26-Feb-16	48
8541	Architect issue consent to commence construction	0		26-Feb-16	0
Driven H-Piles - Elevated Walkways 1, 3 & 4		126	24-Jul-15 A	19-Apr-16	0
8547	Prepare design submission	24	24-Jul-15 A	23-Feb-16	-58
8549	Architect review design submission	12	23-Feb-16	08-Mar-16	0



- Actual Milestone
- Milestone
- Baseline Milestone
- Actual Work
- Critical Remaining Work
- Remaining Work
- Project Baseline

3 Months Lookahead Works Programme

Progress to 13-Feb-16

Project ID: H2634-P8
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Progress Update			
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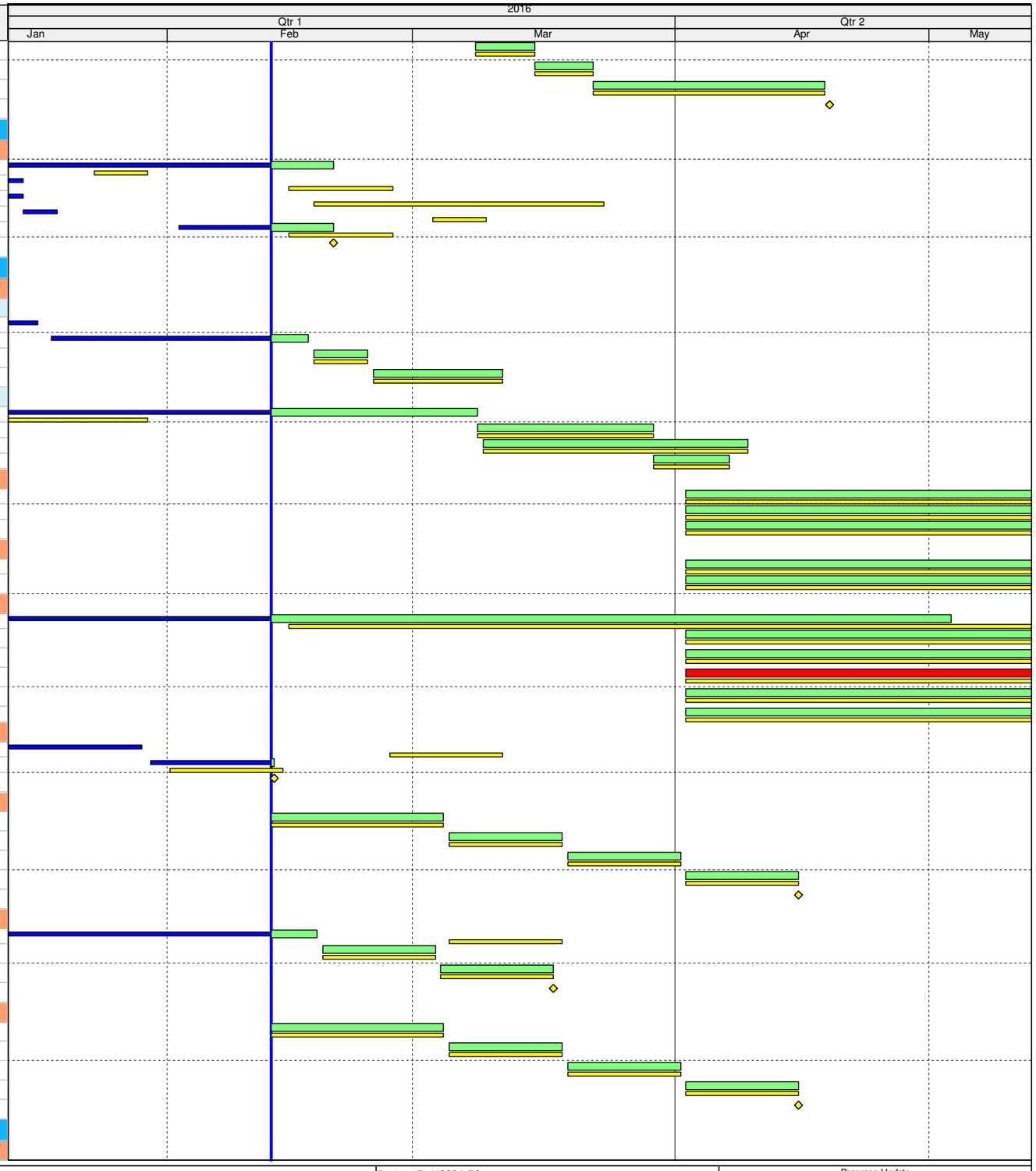
Activity ID	Activity Name	Orig	Start	Finish	Finish Variance
8550	Response to Architect comments	6	08-Mar-16	15-Mar-16	0
8551	Architect review final submission	6	15-Mar-16	22-Mar-16	0
8551a	SCU review	28	22-Mar-16	18-Apr-16	0
8552	Architect issue consent to commence construction	0		19-Apr-16	0
Foundation for Bridges B1 - B5		46	29-Dec-15 A	20-Feb-16	27
DDA (B1/B2/B3)		46	29-Dec-15 A	20-Feb-16	27
8260	B1/B2/B3 - Architect 2nd Review	6	29-Dec-15 A	20-Feb-16	-13
8950	B1/B2/B3 - HyD Review and Comment	12	29-Dec-15 A	15-Jan-16 A	32
8943	B1/B2/B3 - GEO Auditing Period	35	29-Dec-15 A	15-Jan-16 A	69
8801	B1/B2/B3 - Response to comments from HyD incl. IDC Check	6	15-Jan-16 A	19-Jan-16 A	38
8944	B1/B2/B3 - HyD "No Comment"	12	02-Feb-16 A	20-Feb-16	6
8262	B1/B2/B3 - Architech Consent to Commence Construction	0		20-Feb-16	0
Architectural & Others		300	30-Nov-15 A	07-Nov-16	0
Curtain Walls, Glass Wall & Aluminum Claddings		126	01-Dec-15 A	09-Apr-16	0
PMU Design		105	01-Dec-15 A	11-Mar-16	0
1488	Prepare shop drawings	18	01-Dec-15 A	16-Jan-16 A	-46
1556	Submit for comment	21	18-Jan-16 A	17-Feb-16	-46
1558	Incorporate comments	6	18-Feb-16	24-Feb-16	0
8656	Resubmit and approval	14	25-Feb-16	11-Mar-16	0
Prototypes and Mockups		75	28-Dec-15 A	09-Apr-16	0
1572	Performance Prototype & Prototype Trial Assemblies Submissions (A11-1.	24	28-Dec-15 A	08-Mar-16	-27
1576	Architect Review and comment on Performance Prototype & prototype tr	21	08-Mar-16	29-Mar-16	0
1570	Mock up Submission for Curtain Wall, Glass Wall and Aluminum Cladding	24	09-Mar-16	09-Apr-16	0
1578	Re-submit Performance prototype & prototype trial assemblies submission	7	29-Mar-16	07-Apr-16	0
Roofing		180	02-Apr-16	07-Nov-16	0
1410	Metal Roofing & Roof Fall Arrest System Design Submission Review & Ap	180	02-Apr-16	07-Nov-16	0
1414	Skylight/Glazed Canopies/Glazed Roofing & Sun Shades Design Submissio	180	02-Apr-16	07-Nov-16	0
1416	Green Roof System Design Submission Review & Approval	150	02-Apr-16	30-Sep-16	0
Suspended Ceiling, Steel Windows, Louvre and Door		180	02-Apr-16	07-Nov-16	0
1408	Steel Windows, Louvre and Door Design Submission Review & Approval	150	02-Apr-16	30-Sep-16	0
1418	Suspended Ceiling System Design Submission Review & Approval	180	02-Apr-16	07-Nov-16	0
Others		158	30-Nov-15 A	25-Aug-16	0
8686	Steel Maintenance and Support Platforms Design Submission Review & A	120	30-Nov-15 A	03-May-16	57
8666	Glass and Metal Balustrades Design Submission Review & Approval	120	02-Apr-16	25-Aug-16	0
8676	Minor Structural Steelworks Design Submission Review & Approval	120	02-Apr-16	25-Aug-16	0
8706	Glass Cladding Design Submission Review & Approval	120	02-Apr-16	25-Aug-16	0
8716	X-ray Shielding Doors Design Submission Review & Approval	90	02-Apr-16	21-Jul-16	0
8726	Hoisting and Beams Installation Design Submission Review & Approval	90	02-Apr-16	21-Jul-16	0
Bridge Bearing Design Submission (Bridge 4 & 5)		40	07-Jan-16 A	13-Feb-16	27
A1094	Response to Architech Comment	14	07-Jan-16 A	29-Jan-16 A	43
A1095	Architect 2nd Review	14	30-Jan-16 A	13-Feb-16	1
A1096	Architech Approval	0		13-Feb-16	0
Bridge Movement Joint Design Submission (Bridge 4 & 5)		63	13-Feb-16	15-Apr-16	0
A1097	Prepare Submission	21	13-Feb-16*	04-Mar-16	0
A1098	Architech 1st Review	14	05-Mar-16	18-Mar-16	0
A1099	Response to Architech Comment	14	19-Mar-16	01-Apr-16	0
A1100	Architect 2nd Review	14	02-Apr-16	15-Apr-16	0
A1101	Architech Approval	0		15-Apr-16	0
Bridge Bearing Design Submission (Bridge 1-3)		29	01-Dec-15 A	17-Mar-16	1
A1083	Architech 1st Review	14	01-Dec-15 A	18-Feb-16	29
A1084	Response to Architech Comment	14	19-Feb-16	03-Mar-16	0
A1085	Architect 2nd Review	14	04-Mar-16	17-Mar-16	0
A1086	Architech Approval	0		17-Mar-16	0
Bridge Movement Joint Design Submission (Bridge 1-3)		63	13-Feb-16	15-Apr-16	0
A1087	Prepare Submission	21	13-Feb-16*	04-Mar-16	0
A1088	Architech 1st Review	14	05-Mar-16	18-Mar-16	0
A1089	Response to Architech Comment	14	19-Mar-16	01-Apr-16	0
A1090	Architect 2nd Review	14	02-Apr-16	15-Apr-16	0
A1091	Architech Approval	0		15-Apr-16	0
MEP Systems		235	15-Sep-15 A	21-Oct-16	0
Shop Drawings		156	15-Oct-15 A	24-Mar-16	91



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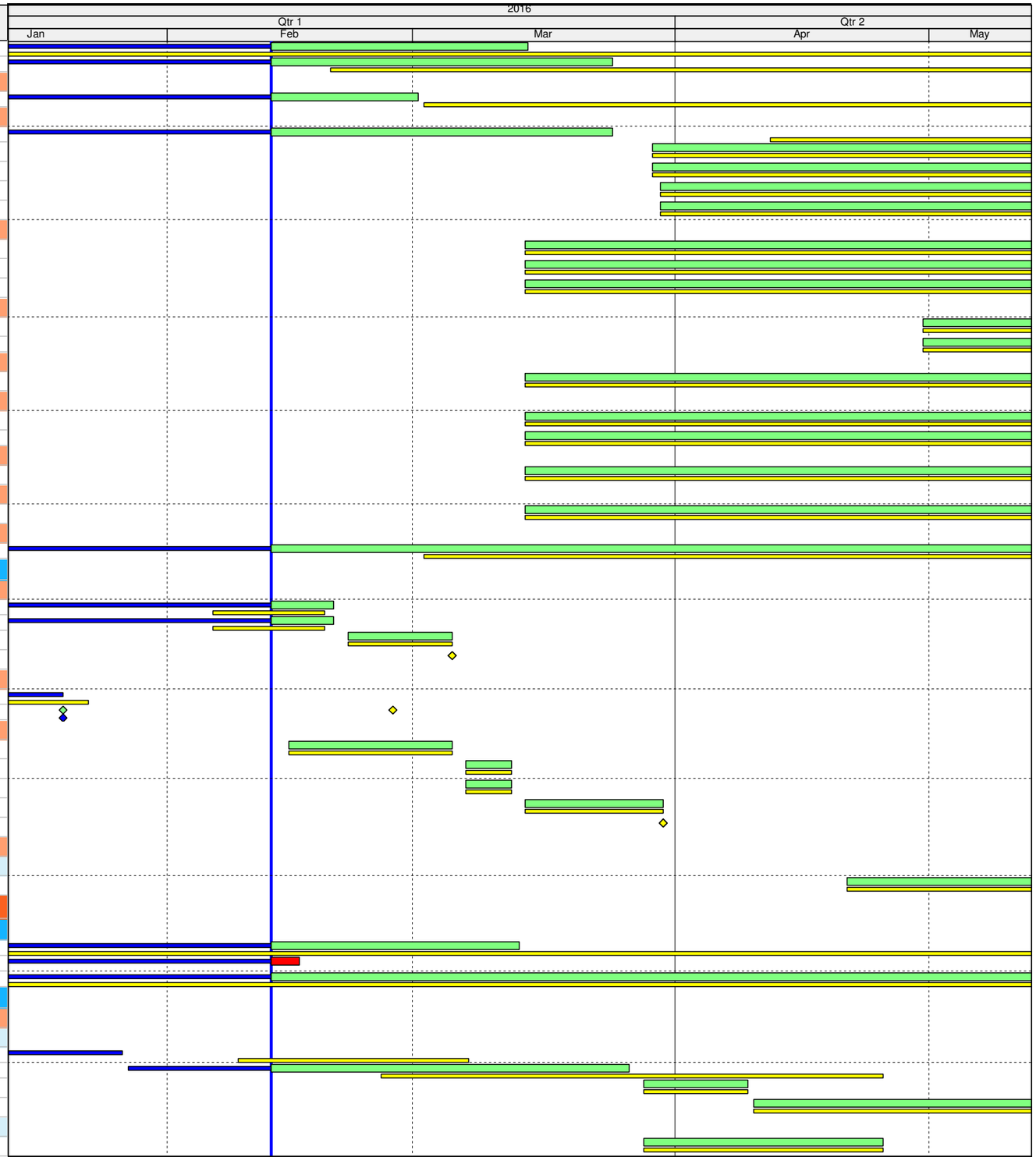
Activity ID	Activity Name	Orig	Start	Finish	Finish Variance
3100	Combined BWIC & Concealed Conduit / Services Drawings	120	15-Oct-15 A	14-Mar-16	64
3102	Combined Services Drawings & Shop Drawings	120	27-Oct-15 A	24-Mar-16	91
Fuel Tank		100	27-Oct-15 A	01-Mar-16	100
DD.BS82	Fuel Tank Submission/Review & Approval	100	27-Oct-15 A	01-Mar-16	100
Air Conditioning		111	15-Sep-15 A	29-Jul-16	10
DD.BS0010	Chiller Design Submission/Review & Approval	100	15-Sep-15 A	24-Mar-16	111
DD.BS0020	AHU/PAU Design Submission/Review & Approval	100	29-Mar-16	28-Jul-16	0
DD.BS0014	Cooling Tower Design Submission/Review & Approval	100	29-Mar-16	28-Jul-16	0
DD.BS0012	Chiller Package Pumps Design Submission/Review & Approval	100	30-Mar-16*	29-Jul-16	0
DD.BS0016	VRV/VAV Design Submission Review & Approval	100	30-Mar-16*	29-Jul-16	0
Electrical		100	14-Mar-16	16-Jul-16	0
DD.BS0030	MCC Design Submission/Review & Approval	100	14-Mar-16	16-Jul-16	0
DD.BS0032	Armoured Cable Design Submission/Review & Approval	100	14-Mar-16	16-Jul-16	0
DD.BS0034	MCB/ MCCB Design Submission/Review & Approval	100	14-Mar-16	16-Jul-16	0
Fire Services		100	30-Apr-16	29-Aug-16	0
DD.BS0040	FS Pumps Design Submission/Review & Approval	100	30-Apr-16*	29-Aug-16	0
DD.BS0058	Fire Shutters, Folding Gates & Smoke Curtain Design Submission Review	100	30-Apr-16	29-Aug-16	0
Diesel Generators		100	14-Mar-16	16-Jul-16	0
DD.BS0050	Diesel Generators Design Submission/Review & Approval	100	14-Mar-16	16-Jul-16	0
Broadcast Reception & Burglar Alarm System		100	14-Mar-16	16-Jul-16	0
DD.BS0070	Broadcast Reception Design Submission/Review & Approval	100	14-Mar-16	16-Jul-16	0
DD.BS0072	Burglar Alarm & Security System Design Submission/Review & Approval	100	14-Mar-16	16-Jul-16	0
Catering Equipment		180	14-Mar-16	21-Oct-16	0
DD.BS0080	Catering Equipment Design Submission/Review & Approval	180	14-Mar-16	21-Oct-16	0
LPG		100	14-Mar-16	16-Jul-16	0
DD.BS80	Liquified Petroleum Gas Design Submission/Review & Approval	100	14-Mar-16	16-Jul-16	0
Drainage		100	27-Oct-15 A	17-Jun-16	14
DD.BS81	Drainage and plumbing Design Submission/Review & Approval	100	27-Oct-15 A	17-Jun-16	14
Temporary Works Design & Engineering		102	29-Oct-15 A	20-May-16	0
ELS for u/g Water / Fuel Tanks		19	29-Oct-15 A	05-Mar-16	0
1492	TW2 - ICE review and issue check certificate	6	29-Oct-15 A	20-Feb-16	-1
1494	TW2 - Prepare 1st submission; incl. Method Statement, Temp works Desi	6	29-Oct-15 A	20-Feb-16	-1
1496	TW2 - Submit to Architect for review	12	22-Feb-16	05-Mar-16	0
1498	TW2 - Architect Issue Consent	0		05-Mar-16	0
Formwork and Falsework		37	27-Nov-15 A	19-Jan-16 A	28
1588	TW8 - Submit to Architect for review	12	27-Nov-15 A	19-Jan-16 A	3
1590	TW8 - Architect Issue Consent	0		19-Jan-16 A	28
Formwork and Falsework - Bridge		36	15-Feb-16	30-Mar-16	0
8802	TW9 - Prepare design for Formworks and Falseworks	18	15-Feb-16	05-Mar-16	0
8803	TW9 - ICE review and issue check certificate	6	07-Mar-16	12-Mar-16	0
8804	TW9 - Prepare 1st submission; incl. Method Statement	6	07-Mar-16	12-Mar-16	0
8805	TW9 - Submit to Architect for review	12	14-Mar-16	30-Mar-16	0
8806	TW9 - Architect Issue Consent	0		30-Mar-16	0
Interfacing		24	21-Apr-16	20-May-16	0
Interfacing with NE/2014/03 (LTBCP - Contract 7)		24	21-Apr-16	20-May-16	0
1550	INT - NE/2014/03 Pre-Construction Coordination Meeting	24	21-Apr-16	20-May-16	0
PROCUREMENT MOCK-UPS MANUFACTURING & DELIVE		304	28-Jul-15 A	19-Sep-16	0
Procurement of Major Subcontracts		296	28-Jul-15 A	15-Jun-16	13
3778	Building Services	150	28-Jul-15 A	13-Mar-16	77
3776	Architectural / fitting Out	120	07-Sep-15 A	16-Feb-16	-43
3774	Builder's Works	180	06-Nov-15 A	15-Jun-16	13
Mock-Ups, Prototypes & Performance Test		195	21-Dec-15 A	01-Sep-16	0
Facade		139	21-Dec-15 A	27-Jun-16	0
VMU		93	28-Dec-15 A	08-Jun-16	0
A1010	Installation	24	28-Dec-15 A	26-Jan-16 A	35
A1020	1st stage inspection	60	27-Jan-16 A	26-Mar-16	30
A1030	Incorporate comments	12	28-Mar-16	09-Apr-16	0
A1040	2nd stage inspection	60	10-Apr-16	08-Jun-16	0
PMU		79	28-Mar-16	27-Jun-16	0
A1060	Procurement including extrusion and glazing	25	28-Mar-16	25-Apr-16	0



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Progress Update			
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Activity ID	Activity Name	Orig	Start	Finish	Finish Variance
A1070	Fabricate and install	12	26-Apr-16	09-May-16	0
A1080	Testing	42	10-May-16	27-Jun-16	0
GV Kiosk (Prototype A)		80	22-Jan-16 A	17-May-16	0
PT.1051	RC Structure	24	22-Jan-16 A	15-Mar-16	-8
PT.1060	Fabricate prototype	28	16-Mar-16	19-Apr-16	0
PT.1070	Install prototype	24	20-Apr-16	17-May-16	0
Double Curved Aluminum Cladding (Prototype B)		121	21-Dec-15 A	25-May-16	0
PT.1130	Prepare shop drawings and structural calculations	60	21-Dec-15 A	02-Mar-16	9
PT.1140	Submit to Architect	18	03-Mar-16	24-Mar-16	0
PT.1150	Fabricate prototype	28	26-Mar-16	27-Apr-16	0
PT.1160	Install prototype (assembled off-site)	24	28-Apr-16	25-May-16	0
PTB Passenger Hall Interior (Prototype D)		60	03-Mar-16	13-May-16	0
PT.1310	Prepare shop drawings and structural calculations	60	03-Mar-16	13-May-16	0
Mock-ups		164	15-Feb-16	01-Sep-16	0
Other Specified Mockups (PS.A01)		164	15-Feb-16	01-Sep-16	0
MU.1210	Fairface Concrete Works	120	15-Feb-16*	12-Jul-16	0
MU.1370	Structural Steel works	120	15-Feb-16*	12-Jul-16	0
MU.1110	Acoustic Panel System	60	17-Feb-16*	30-Apr-16	0
MU.1170	Dog Kennel Partitions and Doors	120	17-Feb-16*	14-Jul-16	0
MU.1240	Floor Self Smoothing System	60	17-Feb-16*	30-Apr-16	0
MU.1250	Flooring System	60	17-Feb-16*	30-Apr-16	0
MU.1360	Toilet Cubicle and Changing Cubicle (incl fittings etc)	120	17-Feb-16*	14-Jul-16	0
MU.1120	Aluminium Windows Louvres and Doors	120	11-Apr-16	01-Sep-16	0
MU.1130	Aluminium Standing Seam Metal Roofing	120	11-Apr-16	01-Sep-16	0
Procurement Architectural & Others		113	03-Mar-16	21-Jul-16	0
Walls, Windows & Claddings		96	23-Mar-16	21-Jul-16	0
1574	Bulk material procurement	96	23-Mar-16	21-Jul-16	0
Interior and Others		96	03-Mar-16	30-Jun-16	0
8756	Steel Maintenance and Support Platforms order manufacture and delivery	96	03-Mar-16	30-Jun-16	0
Elavated Walkway Type A & B Steel Trusses		60	05-Apr-16	16-Jun-16	0
Elavated Walkway 1		60	05-Apr-16	16-Jun-16	0
8901	Subcontracting / Prepare Shop Drawings / Matierial Submission	60	05-Apr-16	16-Jun-16	0
Procurement MEP Systems		144	29-Mar-16	19-Sep-16	0
Air Conditioning		144	29-Mar-16	19-Sep-16	0
PR.BS1000	Chiller Order, Manufacturing & Delivery	144	29-Mar-16	19-Sep-16	0
CONSTRUCTION		315	09-Jul-15 A	21-Jul-16	10
Establishment Mobilisation & Advance Works		258	09-Jul-15 A	25-May-16	0
Site Establishment Works		33	15-Apr-16	25-May-16	0
Portion 2		33	15-Apr-16	25-May-16	0
Initial Surveys		33	15-Apr-16	25-May-16	0
1262	Initial site survey (P2)	6	15-Apr-16	21-Apr-16	0
8506	Initial utility survey (P2)	6	15-Apr-16	21-Apr-16	0
1264	Setup monitoring station (P2)	3	22-Apr-16	25-Apr-16	0
1266	Topographic survey and pre-condition survey of existing structures (P2)	12	26-Apr-16	10-May-16	0
1268	Baseline monitoring & report (P2)	12	11-May-16	25-May-16	0
Offices Welfare and other Facilities		24	22-Apr-16	21-May-16	0
1306	Weighbridge	24	22-Apr-16	21-May-16	0
Temporary Utilities		201	09-Jul-15 A	14-Mar-16	0
8508	Obtain permit for electric connection and build sub-station	180	09-Jul-15 A	13-Mar-16	-69
1296	Temporary Site Power ready	0		14-Mar-16	0
Tower Cranes		70	16-Dec-15 A	11-May-16	0
19 Passenger Terminal Building (PTB)		70	16-Dec-15 A	11-May-16	0
1362	TC - Setup Tower Crane TC1 & TC2; Test & Cert. by ICE	3	16-Dec-15 A	16-Feb-16	12
1368	TC - Setup Tower Crane TC3 & TC4; Test & Cert. by ICE	3	15-Feb-16	17-Feb-16	0
1372	TC - Construct Tower Crane Footing (TC5 & TC6)	30	31-Mar-16	07-May-16	0
1374	TC - Setup Tower Crane TC5 & TC6; Test & Cert. by ICE	3	07-May-16	11-May-16	0
05 Cargo Examination Building (Outbound)		33	10-Mar-16	21-Apr-16	0
1378	TC - Concrete Tower Crane Footing (TC7 & TC8)	30	10-Mar-16	18-Apr-16	0

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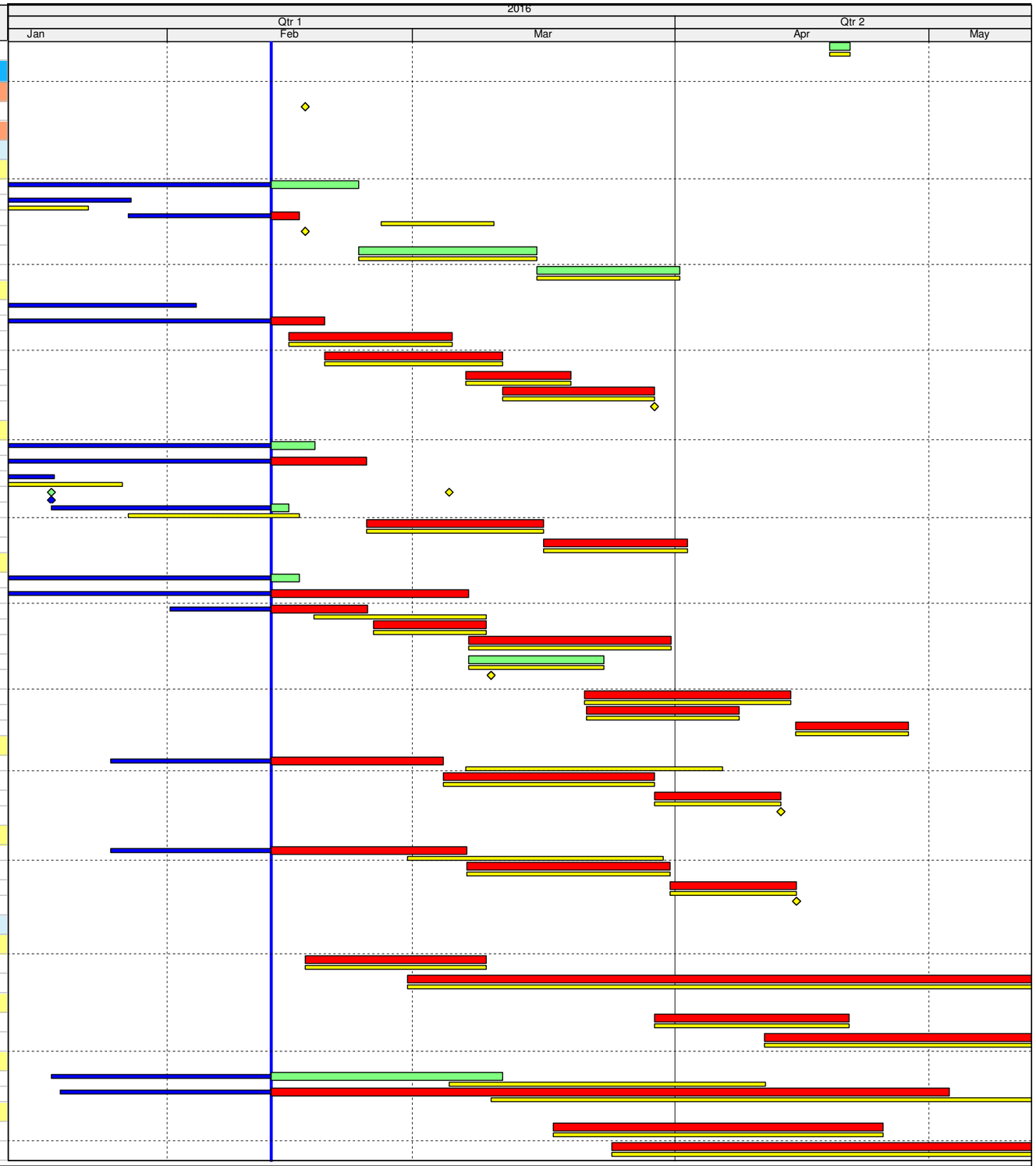
Activity ID	Activity Name	Orig	Start	Finish	Finish Variance
1380	TC - Setup Tower Crane TC7 & TC8; Test & Cert. by ICE	3	19-Apr-16	21-Apr-16	0
Passenger Terminal Building (PTB)		238	17-Sep-15 A	21-Jul-16	0
19/20 Milestones		0	17-Feb-16	17-Feb-16	0
19.MS20	PTB Building - Pilecaps Works Start	0	17-Feb-16		0
19 - PTB (Podium)		238	17-Sep-15 A	21-Jul-16	0
19 - Foundations		170	17-Sep-15 A	28-Apr-16	0
19 - Foundations Portion C1		124	27-Oct-15 A	01-Apr-16	0
19.804	19C1b - H Piles Outside Tower(177 no)	18	27-Oct-15 A	23-Feb-16	-76
19.806	19C1 Submit Piling Record & Load Test Under Tower	18	21-Dec-15 A	27-Jan-16 A	-4
19.808	19C1 Architect review Piling Record and Load Test Under Tower	12	27-Jan-16 A	16-Feb-16	20
19.116	19C1 - Start to construct Pilecaps at Portion C1	0	17-Feb-16		0
19.810	19C1 Submit Piling Record & Load Test Outside Tower	18	23-Feb-16	15-Mar-16	0
19.812	19C1 Architect review Piling Record and Load Test Outside Tower	12	15-Mar-16	01-Apr-16	0
19 - Foundations Portion C2		145	17-Sep-15 A	29-Mar-16	0
19.814	19C2a - H Piles Under Tower (261 no)	27	17-Sep-15 A	04-Feb-16 A	-80
19.816	19C2b - H Piles Outside Tower (165 no)	18	23-Oct-15 A	19-Feb-16	-76
19.818	19C2 Submit Piling Record & Load Test Under Tower	18	15-Feb-16	05-Mar-16	0
19.822	19C2 Submit Piling Record & Load Test Outside Tower	18	19-Feb-16	11-Mar-16	0
19.820	19C2 Architect Review Piling Record and Load Test Under Tower	12	07-Mar-16	19-Mar-16	0
19.824	19C2 Architect Review Piling Record and Load Test Outside Tower	12	11-Mar-16	29-Mar-16	0
19.218	19C2 - Start to construct Pilecaps at Portion C2	0	29-Mar-16		0
19 - Foundations Portion B1		149	02-Oct-15 A	02-Apr-16	0
19.826	19B1a - H Piles Under Tower (295 no)	30	02-Oct-15 A	18-Feb-16	-83
19.830	19B1b - H Piles Outside Tower (182 no)	18	27-Oct-15 A	24-Feb-16	-77
19.828	19B1 Submit Piling Record & Load Test Under Tower	18	02-Jan-16 A	18-Jan-16 A	7
19.372	19B1 - Start to construct Pilecaps at Portion B1	0	18-Jan-16 A		35
19.832	19B1 Architect Review Piling Record and Load Test Under Tower	12	18-Jan-16 A	15-Feb-16	2
19.834	19B1 Submit Piling Record & Load Test Outside Tower	18	24-Feb-16	16-Mar-16	0
19.836	19B1 Architect Review Piling Record and Load Test Outside Tower	12	16-Mar-16	02-Apr-16	0
19 - Foundations Portion B2		167	28-Sep-15 A	28-Apr-16	0
19.838	19B2a - H Piles Under Tower (236 no)	25	28-Sep-15 A	16-Feb-16	-84
19.842	19B2c - H Piles Outside Tower (116 no)	25	24-Oct-15 A	07-Mar-16	-82
19.844	19B2 Submit Piling Record & Load Test Under Tower	18	01-Feb-16 A	24-Feb-16	12
19.846	19B2 Architect Review Piling Record and Load Test Under Tower	12	25-Feb-16	09-Mar-16	0
19.848	19B2 Submit Piling Record & Load Test Outside Tower	18	07-Mar-16	31-Mar-16	0
19.870	19B2b - H Piles Outside Tower adjacent to CEDD subway (49 no)	14	07-Mar-16	23-Mar-16	0
19.382	19B2 - Start to construct Pilecaps at Portion B2	0	10-Mar-16		0
19.852	19B2 Submit Piling Record & Load Test for piles Outside Tower adjacent	18	21-Mar-16	14-Apr-16	0
19.850	19B2 Architect Review Piling Record and Load Test Outside Tower	12	21-Mar-16	08-Apr-16	0
19.854	19B2 Architect Review Piling Record and Load Test Outside Tower	12	15-Apr-16	28-Apr-16	0
19 - Foundations Portion A1		30	25-Jan-16 A	13-Apr-16	0
19.856	19A1 - H Piles Outside Tower (240 no)	23	25-Jan-16 A	04-Mar-16	24
19.858	19A1 Submit Piling Record & Load Test Outside Tower	18	04-Mar-16	29-Mar-16	0
19.860	19A1 Architect Review Piling Record and Load Test Outside Tower	12	29-Mar-16	13-Apr-16	0
19.620	19A1 - Start to construct Pilecaps at Portion A1	0	13-Apr-16		0
19 - Foundations Portion A2		36	25-Jan-16 A	15-Apr-16	0
19.862	19A2 - H Piles Outside Tower (260 no)	24	25-Jan-16 A	07-Mar-16	18
19.864	19A2 Submit Piling Record & Load Test Outside Tower	18	07-Mar-16	31-Mar-16	0
19.866	19A2 Architect Review Piling Record and Load Test Outside Tower	12	31-Mar-16	15-Apr-16	0
19.630	19A2 - Start to construct Pilecaps at Portion A2	0	15-Apr-16		0
19 - Substructures		112	18-Jan-16 A	05-Jul-16	0
19 - Substructures Portion C1		81	17-Feb-16	27-May-16	0
19.118	19C1 - Excavation down to FL	19	17-Feb-16	09-Mar-16	0
19.120	19C1 - Prepare Pile heads and construct pilecaps	71	29-Feb-16	27-May-16	0
19 - Substructures Portion C2		79	29-Mar-16	05-Jul-16	0
19.220	19C2 - Excavation down to FL	19	29-Mar-16	21-Apr-16	0
19.222	19C2 - Prepare Pile heads and construct pilecaps	69	11-Apr-16	05-Jul-16	0
19 - Substructures Portion B1		69	18-Jan-16 A	03-May-16	23
19.374	19B1 - Excavation down to FL	28	18-Jan-16 A	11-Mar-16	22
19.376	19B1 - Prepare Pile heads and construct pilecaps	65	19-Jan-16 A	03-May-16	23
19 - Substructures Portion B2		73	17-Mar-16	18-Jun-16	0
19.384	19B2 - Excavation down to FL	29	17-Mar-16	25-Apr-16	0
19.386	19B2 - Prepare Pile heads and construct pilecaps	67	24-Mar-16	18-Jun-16	0



Actual Milestone
Milestone
Baseline Milestone
Actual Work
Critical Remaining Work
Remaining Work
Project Baseline

3 Months Lookahead Works Programme

Progress to 13-Feb-16

Project ID: H2634-P8
Baseline: Works Programme Rev 1A

Layout: 3 Month Lookahead Works Programme
Filter: TASK filter: Date range DD-1M to DD+3M.

Page 5 of 8

Progress Update			
Date	Revision	Checked	A
13-Feb-16	Progress update		

Activity ID	Activity Name	Orig	Start	Finish	Finish Variance
19 - Substructures Portion A1		64	13-Apr-16	30-Jun-16	0
19.622	19A1 - Excavation down to FL	20	13-Apr-16	07-May-16	0
19.624	19A1 - Prepare Pile heads and construct pilecaps	58	20-Apr-16	30-Jun-16	0
19 - Substructures Portion A2		51	15-Apr-16	17-Jun-16	0
19.632	19A2 - Excavation down to FL	15	15-Apr-16	04-May-16	0
19.634	19A2 - Prepare Pile heads and construct pilecaps	45	22-Apr-16	17-Jun-16	0
19 - RC Structures		113	30-Jan-16 A	21-Jul-16	0
19 - PTB Ground Floor		111	30-Jan-16 A	19-Jul-16	0
19 - PTB G/F Portion C1		60	30-Mar-16	11-Jun-16	0
19.122	19C1 - Construct Columns up to MF	60	30-Mar-16	11-Jun-16	0
19.128	19C1 - Construct RC Structures up to GF (GL17-18/PN-PM) (Genset Rm)	15	15-Apr-16	03-May-16	0
19.172	19C1 - Construct RC Structures up to GF slabs (GL13-15/PO) (DG Store)	18	15-Apr-16	06-May-16	0
19.124	19C1 - Construct RC Structures up to GF Slabs (GL8-11/G10-E) (Pump R	45	18-Apr-16	11-Jun-16	0
19.126	19C1 - Construct RC Structures up to GF Slabs (GL14-17/PM-E) (Tx Rm)	36	28-Apr-16	11-Jun-16	0
19.130	19C1 - Construct RC Structures up to +20.225 (GL17-18/PN-PM) (Genset	15	04-May-16	21-May-16	0
19.174	19C1 - Construct RC Structures up to +17.575 (GL13-15/PO) (DG Store)	18	11-May-16	01-Jun-16	0
19 - PTB G/F Portion C2		62	04-May-16	19-Jul-16	0
19.258	19C2 - Construct Columns up to MF	62	04-May-16	19-Jul-16	0
19.256	19C2 - Construct RC Structures up to GF Slabs (GL14-18/G7-G5) (Pump	30	10-May-16	16-Jun-16	0
19 - PTB G/F Portion B1		92	30-Jan-16 A	18-May-16	32
19.530	19B1 - Construct Columns up to MF	62	30-Jan-16 A	18-May-16	32
19.528	19B1 - Construct RC Structures up to GF Slabs (GLP9-1/PK-PF) (Store Rr	48	02-Mar-16	03-May-16	0
19.532	19B1 - Construct RC Structures up to +19.425 (GLP9-1/PK-PF) (Store Rn	30	11-Apr-16	18-May-16	0
19 - PTB G/F Portion B2		66	19-Apr-16	09-Jul-16	0
19.546	19B2 - Construct Columns up to MF	66	19-Apr-16	09-Jul-16	0
19.544	19B2 - Construct RC Structures up to GF Slabs (GLP8-1/G4-G3) (Toilet)	18	26-Apr-16	19-May-16	0
19.402	19B2 - Construct RC Structures up to GF slabs (GL8-9/PA) (Tank & Pump	18	11-May-16	02-Jun-16	0
19 - PTB Mezzanine Floor		111	05-Mar-16	21-Jul-16	0
19 - PTB M/F Portion C1		30	28-Apr-16	03-Jun-16	0
19.176	19C1 - Erect Structural Steel Platform	30	28-Apr-16	03-Jun-16	0
19 - PTB M/F Portion B1		111	05-Mar-16	21-Jul-16	0
19.556	19B1 - Erect Structural Steel Platform	30	05-Mar-16	13-Apr-16	0
19.540	19B1 - Construct RC Structures up to MF Slabs	60	18-Apr-16	30-Jun-16	0
19.534	19B1 - Construct Columns up to 1F	62	06-May-16	21-Jul-16	0
Associated Buildings		195	24-Nov-15 A	04-Jul-16	7
02 HKPF Building and Observation Tower		51	08-Apr-16	10-Jun-16	0
02 - Milestones		0	12-Apr-16	12-Apr-16	0
02.MS10	HKPF Building & Observation Tower Construction Works Start	0	12-Apr-16		0
02 - HKPF Building		51	08-Apr-16	10-Jun-16	0
02 - Foundations		51	08-Apr-16	10-Jun-16	0
02.102	02 - Mobilisation	3	08-Apr-16	12-Apr-16	0
02.104	02 - Install Driven H-piles (64 nos)	24	12-Apr-16	11-May-16	0
02.106	02 - Proof drilling & Loading test	24	11-May-16	10-Jun-16	0
03 Fire Station and Drill Tower		54	15-Mar-16	24-May-16	0
03 - Milestones		0	22-Mar-16	22-Mar-16	0
03.MS10	Fire Station & Drill Tower Construction Works Start	0	22-Mar-16		0
03 Fire Station		54	15-Mar-16	24-May-16	0
03 - Foundations		54	15-Mar-16	24-May-16	0
03.102	03 - Mobilisation	6	15-Mar-16	22-Mar-16	0
03.104	03 - Install driven H-piles (75 nos)	24	22-Mar-16	23-Apr-16	0
03.106	03 - Proof drilling & Loading test	24	23-Apr-16	24-May-16	0
03 - Structures		24	23-Apr-16	24-May-16	0
03.200	03 - Excavation down to FL (GL A-C/3-7)	24	23-Apr-16	24-May-16	0
03 Drill Tower		16	23-Apr-16	13-May-16	0
03 - Foundations		16	23-Apr-16	13-May-16	0
03.124	03 - Install Driven H-piles (15 nos)	16	23-Apr-16	13-May-16	0
04 Cargo Examination Building (Inbound)		107	18-Dec-15 A	04-Jul-16	7
04 - Foundations		107	18-Dec-15 A	30-May-16	35
04.106	04 - Install driven H-piles (542 nos)	46	18-Dec-15 A	13-May-16	48
04.108	04 - Proof drilling / Loading Test	72	01-Mar-16	30-May-16	0

Actual Milestone
Milestone
Baseline Milestone
Actual Work
Critical Remaining Work
Remaining Work
Project Baseline

3 Months Lookahead Works Programme

Progress to 13-Feb-16

Project ID: H2634-P8
Baseline: Works Programme Rev 1A

Layout: 3 Month Lookahead Works Programme
Filter: TASK filter: Date range DD-1M to DD+3M.

Page 6 of 8

Progress Update			
Date	Revision	Checked	A
13-Feb-16	Progress update		

Activity ID	Activity Name	Orig	Start	Finish	Finish Variance
04.110	04 - Start to construct the pilecaps	0	01-Apr-16		0
04 - Pilecaps / Tie Beams		76	01-Apr-16	04-Jul-16	0
04.112	04 - Excavation down to FL	30	01-Apr-16	07-May-16	0
04.114	04 - Construct pilecaps and tie beams	64	16-Apr-16	04-Jul-16	0
05 Cargo Examination Building (Outbound)		158	24-Nov-15 A	27-May-16	0
05 - Foundations		147	24-Nov-15 A	13-May-16	0
05.106	05 - Install driven H-piles (289 nos)	40	24-Nov-15 A	07-Apr-16	-77
05.108	05 - Proof drilling / Loading Test	72	15-Feb-16	13-May-16	0
05.110	05 - Start to construct the pilecaps	0	10-Mar-16		0
05 - Pilecaps / Tie Beams		62	10-Mar-16	27-May-16	0
05.114	05 - Construct pilecaps and tie beams	50	10-Mar-16	12-May-16	0
05.116	05 - Backfilling	30	21-Apr-16	27-May-16	0
06 Fixed X-ray Vehicle Inspection System (FXRVIS) Buildings (Inbo		6	07-May-16	16-May-16	0
06 - Foundations		6	07-May-16	16-May-16	0
06.110	06 - Mobilisation	6	07-May-16	16-May-16	0
07 Fixed X-ray Vehicle Inspection System (FXRVIS) Buildings (Outb		48	08-Apr-16	04-Jun-16	0
07 - Milestones		0	08-Apr-16	08-Apr-16	0
07.MS10	Fixed X-ray Vehicle Inspection System (FXRVIS) Buildings (Outbound) Cor	0	08-Apr-16		0
07 - Foundations		48	08-Apr-16	04-Jun-16	0
07.112	07 - Install driven H-piles (84 nos)	24	08-Apr-16	06-May-16	0
07.114	07 - Proof drilling / Loading Test	24	07-May-16	04-Jun-16	0
11 GV Kiosk (Outbound)		18	11-May-16	01-Jun-16	0
11 - Milestones		0	11-May-16	11-May-16	0
11.MS10	GV Kiosk (Outbound) Construction Works Start	0	11-May-16		0
11 - Foundations		18	11-May-16	01-Jun-16	0
11.168	11 - Open cut excavation down to formation level -2.4	18	11-May-16	01-Jun-16	0
Other Associated Buildings for C&ED		130	19-Oct-15 A	11-Jun-16	0
09 MXRVSS (Outbound)		130	19-Oct-15 A	11-Jun-16	0
09 - Structures		130	19-Oct-15 A	11-Jun-16	0
09.200	09 - Construct RC footing (x10)	30	19-Oct-15 A	06-Apr-16	-46
09.202	09 - Backfilling and construct G/F Slab	18	07-Apr-16	27-Apr-16	0
09.212	09 - Construct Roof RC Strutrures	36	28-Apr-16	11-Jun-16	0
External Civil Works		169	16-Dec-15 A	12-Jul-16	18
37-40 Elevated Walkways		96	02-Jan-16 A	04-Jun-16	0
37 Elevated Walkway E1		96	02-Jan-16 A	04-Jun-16	0
37 - Milestones		0	19-Apr-16	19-Apr-16	0
37.MS10	Elevated Walkway E1 Construction Works Start	0	19-Apr-16		0
37 - SI Works		28	02-Jan-16 A	25-Feb-16	12
37.100	37 - Site Investigation (11 nos)	28	02-Jan-16 A	25-Feb-16	12
37 - Foundations		45	12-Apr-16	04-Jun-16	0
37.104	37 - Mobilisation	6	12-Apr-16	19-Apr-16	0
37.106	37 - Install driven of H-piles (39 nos)	39	19-Apr-16	04-Jun-16	0
39 Elevated Walkway E3		3	26-Feb-16	29-Feb-16	0
39 - Milestones		0	26-Feb-16	26-Feb-16	0
39.MS10	Elevated Walkway E3 Construction Works Start	0	26-Feb-16		0
39 - SI Works		3	26-Feb-16	29-Feb-16	0
39.100	39 - Site investigation (1 nos)	3	26-Feb-16	29-Feb-16	0
40 Elevated Walkway E4		10	01-Mar-16	11-Mar-16	0
40 - Milestones		0	01-Mar-16	01-Mar-16	0
40.MS10	Elevated Walkway E4 Construction Works Start	0	01-Mar-16		0
40 - SI Works		10	01-Mar-16	11-Mar-16	0
40.100	40 - Site investigation (4 nos)	10	01-Mar-16	11-Mar-16	0
Vehicular Bridges		169	16-Dec-15 A	12-Jul-16	18
Bridge 1		84	14-Jan-16 A	04-Jun-16	42
B1 - Foundations		84	14-Jan-16 A	04-Jun-16	42
B1.104	B1 - Mobilisation	12	14-Jan-16 A	29-Jan-16 A	67
B1.106	B1 - Construction of Bored Piles	72	30-Jan-16 A	06-May-16	66
B1.108	B1 - Core test, full core, sonic test	24	06-May-16	04-Jun-16	0

Actual Milestone
Milestone
Baseline Milestone
Actual Work
Critical Remaining Work
Remaining Work
Project Baseline

3 Months Lookahead Works Programme

Progress to 13-Feb-16

Project ID: H2634-P8
Baseline: Works Programme Rev 1A

Layout: 3 Month Lookahead Works Programme
Filter: TASK filter: Date range DD-1M to DD+3M.

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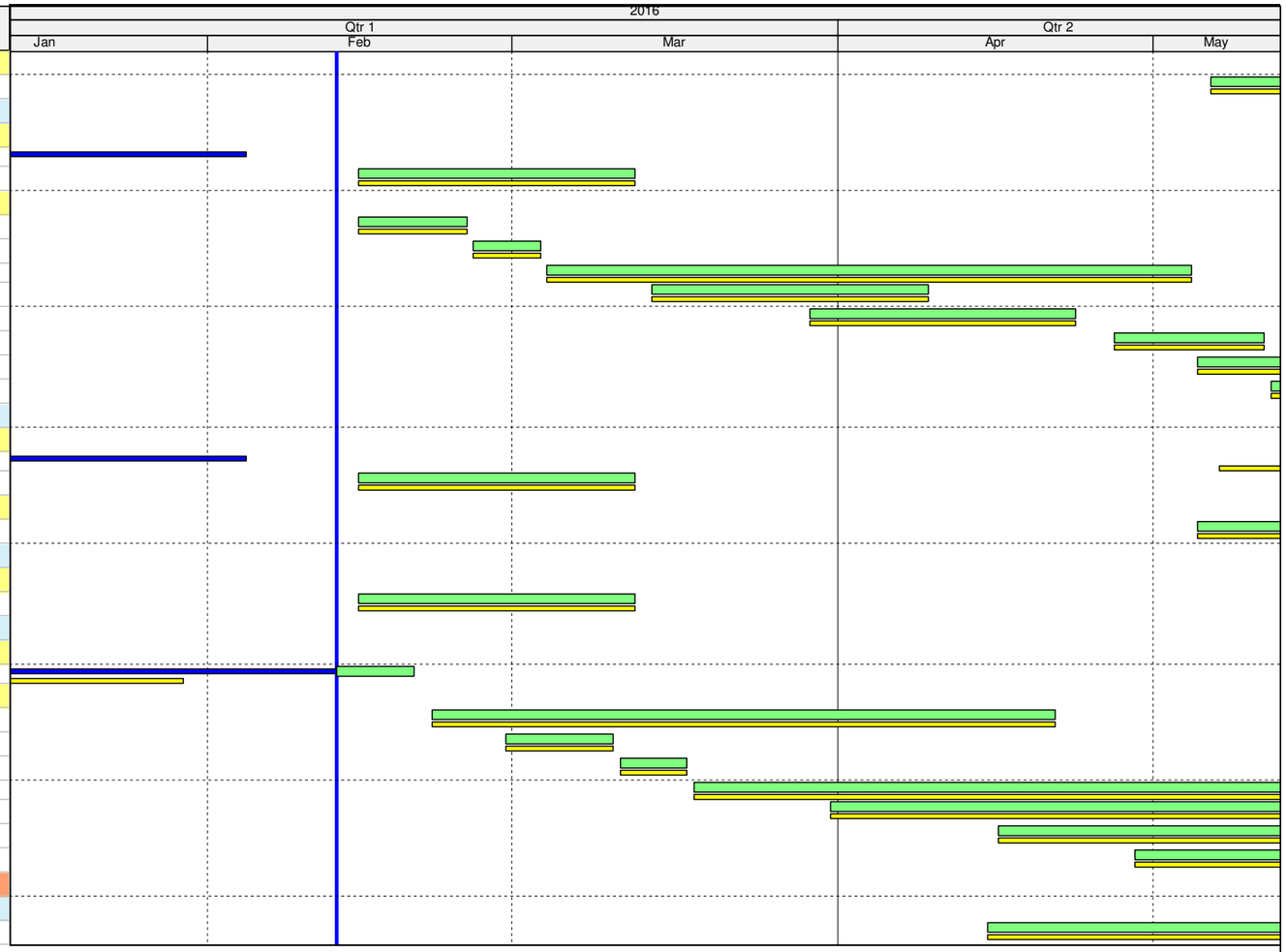
Progress Update			
Date	Revision	Checked	A
13-Feb-16	Progress update		

Activity ID	Activity Name	Orig	Start	Finish	Finish Variance
B1 - Pilecaps / Piers / Abutment / Retaining Walls / Portal		10	06-May-16	19-May-16	0
B1.110	B1 - Excavation for retaining wall / abutment	10	06-May-16	19-May-16	0
Bridge 2		138	11-Jan-16 A	12-Jul-16	18
B2 - Foundations		138	11-Jan-16 A	12-Mar-16	114
B2.106	B2 - Construction of Borepiles	18	11-Jan-16 A	04-Feb-16 A	140
B2.108	B2 - Core test, full core, sonic test	24	15-Feb-16	12-Mar-16	0
B2 - Pilecaps / Piers / Abutment / Retaining Walls / Portal		120	15-Feb-16	12-Jul-16	0
B2.110	B2 - Excavation for retaining wall	10	15-Feb-16	25-Feb-16	0
B2.112	B2 - Plate Load test	6	26-Feb-16	03-Mar-16	0
B2.116	B2 - Construction of Retaining walls 2W1A-2W3A, 2W1B-2W3B	48	04-Mar-16	04-May-16	0
B2.114	B2 - Excavation for Pilecaps & Abutment	20	14-Mar-16	09-Apr-16	0
B2.122	B2 - Construct Pilecaps 2P1-2P2	22	29-Mar-16	23-Apr-16	0
B2.124	B2 - Construct Piers 2P1-2P2	12	27-Apr-16	11-May-16	0
B2.126	B2 - Construction of RW 2W4-2W6	30	05-May-16	10-Jun-16	0
B2.171	B2 - Install Bearings	50	12-May-16	12-Jul-16	0
Bridge 3		90	11-Jan-16 A	17-May-16	16
B3 - Foundations		90	11-Jan-16 A	12-Mar-16	66
B3.102	B3 - Construction of Borepiles	24	11-Jan-16 A	04-Feb-16 A	92
B3.104	B3 - Core test, full core, sonic test	24	15-Feb-16	12-Mar-16	0
B3 - Pilecaps / Piers / Abutment / Retaining Walls / Portal		10	05-May-16	17-May-16	0
B3.106	B3 - Excavation for retaining wall	10	05-May-16	17-May-16	0
Bridge 4		24	15-Feb-16	12-Mar-16	0
B4 - Foundations		24	15-Feb-16	12-Mar-16	0
B4.104	B4 - Core test, full core, sonic test	24	15-Feb-16	12-Mar-16	0
Bridge 5		127	16-Dec-15 A	13-Jun-16	0
B5 - Foundations		24	16-Dec-15 A	20-Feb-16	-13
B5.104	B5 - Core test, full core, sonic test	24	16-Dec-15 A	20-Feb-16	-13
B5 - Pilecaps / Piers / Abutment / Retaining Walls / Portal		90	22-Feb-16	13-Jun-16	0
B5.110	B5 - Excavation for Pilecaps	48	22-Feb-16	21-Apr-16	0
B5.106	B5 - Excavation for retaining wall / abutment	10	29-Feb-16	10-Mar-16	0
B5.108	B5 - Plate Load test	6	11-Mar-16	17-Mar-16	0
B5.112	B5 - Construction of Retaing walls 5W10A-5W7A, 5W10B-5W7B	64	18-Mar-16	07-Jun-16	0
B5.118	B5 - Construct Pilecaps 5P1-5P8	38	31-Mar-16	17-May-16	0
B5.116	B5 - Construct Abutment A5 and Install bearing	30	16-Apr-16	23-May-16	0
B5.120	B5 - Construct Piers 5P1-5P8	36	29-Apr-16	13-Jun-16	0
External Works		48	15-Apr-16	13-Jun-16	0
Portion 2		48	15-Apr-16	13-Jun-16	0
8120	P2 - Initial Site formation	48	15-Apr-16	13-Jun-16	0



Actual Milestone
Milestone
Baseline Milestone
Actual Work
Critical Remaining Work
Remaining Work
Project Baseline

3 Months Lookahead Works Programme

Progress to 13-Feb-16

Project ID: H2634-P8
Baseline: Works Programme Rev 1A

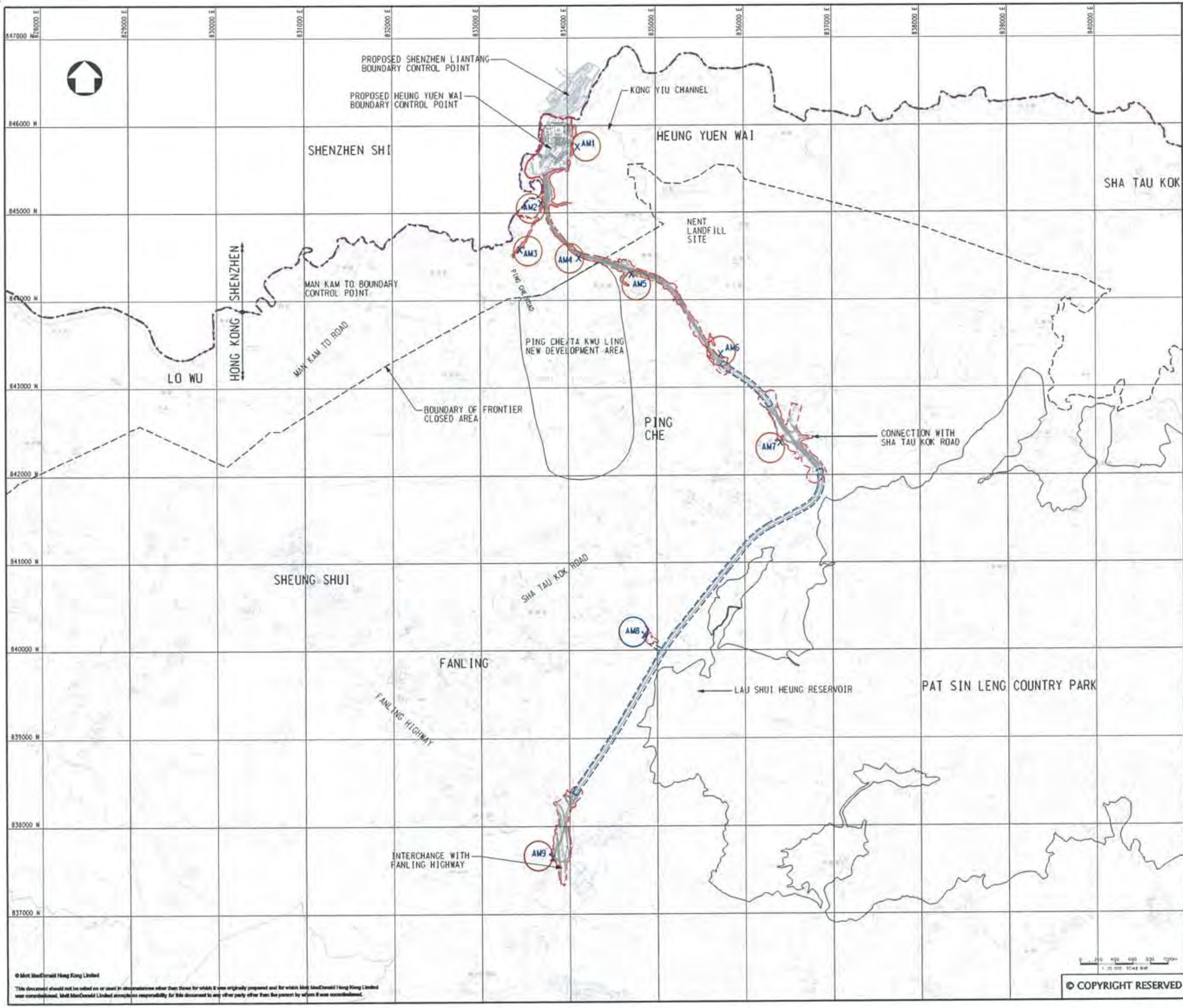
Layout: 3 Month Lookahead Works Programme
Filter: TASK filter: Date range DD-1M to DD+3M.

Page 8 of 8

Progress Update			
Date	Revision	Checked	A
13-Feb-16	Progress update		

Appendix D

Designated Monitoring Locations as Recommended in the Approved EM&A Manual



LEGEND:
- BOUNDARY OF HKSAR
- WORKS AREA (ABOVE GROUND)
- WORKS AREA (TUNNEL)
- X AIR MONITORING STATIONS

Rev	Date	Drawn	Description	Ch'k'd	App'd
P1	AUG 10	WING	FIRST ISSUE	DC	HT

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Client: CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

Project: AGREEMENT NO. CE45/2008(CE) LIANTANG/HEUNG YUEN WAI BOUNDARY CONTROL POINT AND ASSOCIATED WORKS

Title: PROPOSED LOCATION OF CONSTRUCTION AIR QUALITY MONITORING STATIONS

Designed: DC	Eng.Chk: EC		
Drawn: WING	Coordination: EC		
Dwg.Chk: DC	Approved: HT		
Scale at A1: 1:20000	Project: 255228		Status: PRE
Drawing No: FIGURE 2.1			Rev: P1

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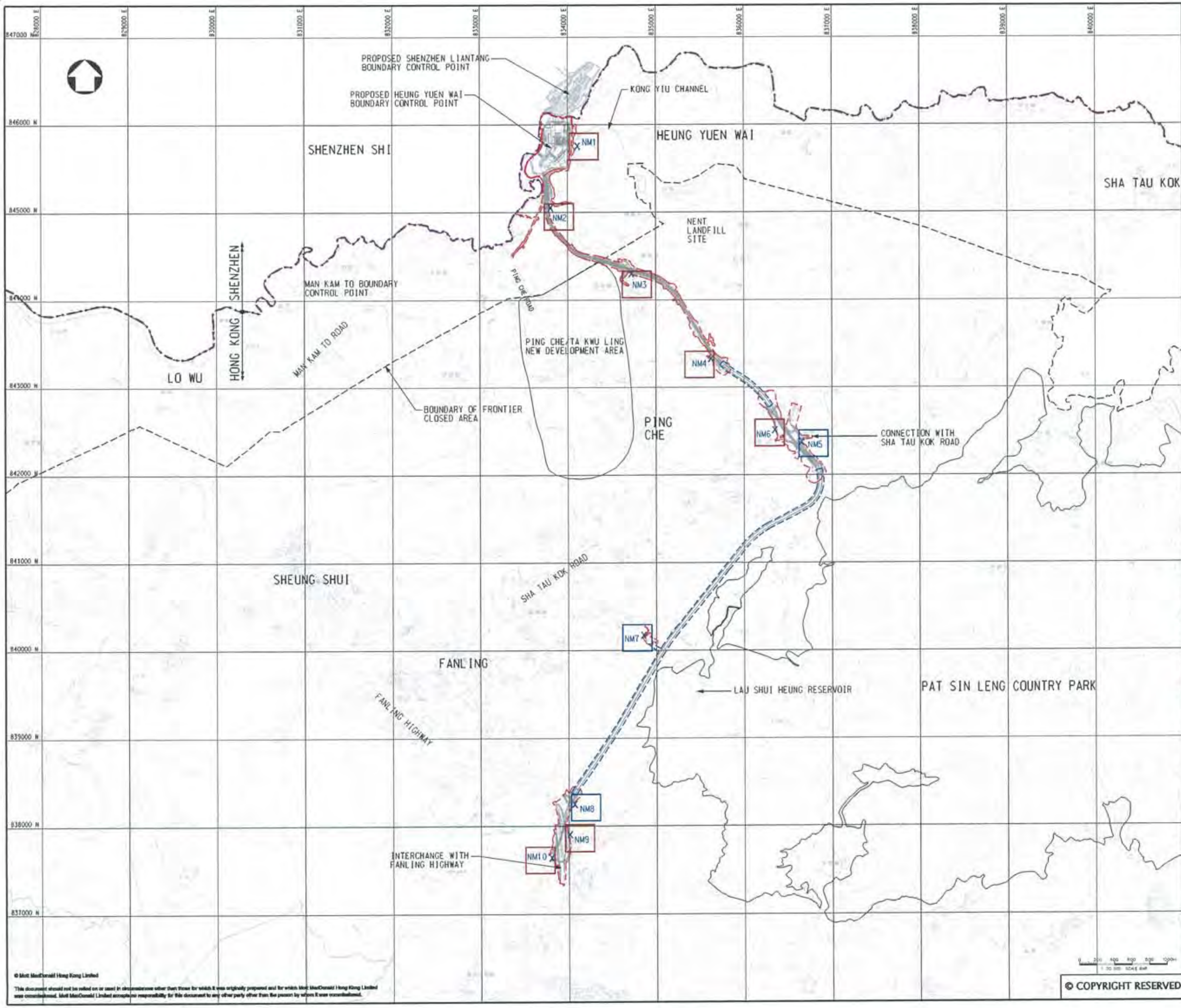

LEGEND:

- BOUNDARY OF HKSAR
- WORKS AREA (ABOVE GROUND)
- WORKS AREA (TUNNEL)
- X CONSTRUCTION NOISE MONITORING STATIONS

Rev	Date	Drawn	Description	Ch'k'd	App'd
P1	AUG 10	WING	FIRST ISSUE	DC	HT

Mott MacDonald

Client: CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT (CEDD)

Project: AGREEMENT NO. CE45/2008(CE) LIANTANG/HEUNG YUEN WAI BOUNDARY CONTROL POINT AND ASSOCIATED WORKS

Title: PROPOSED LOCATION OF CONSTRUCTION NOISE MONITORING STATIONS

Designed	DC	Eng Chk.	EC
Drawn	WING	Coordination	EC
Dwg Chk.	DC	Approved	HT
Scale at A1	1:20000	Project	255228

Status: PRE

Drawing No: FIGURE 3.1

Rev: P1

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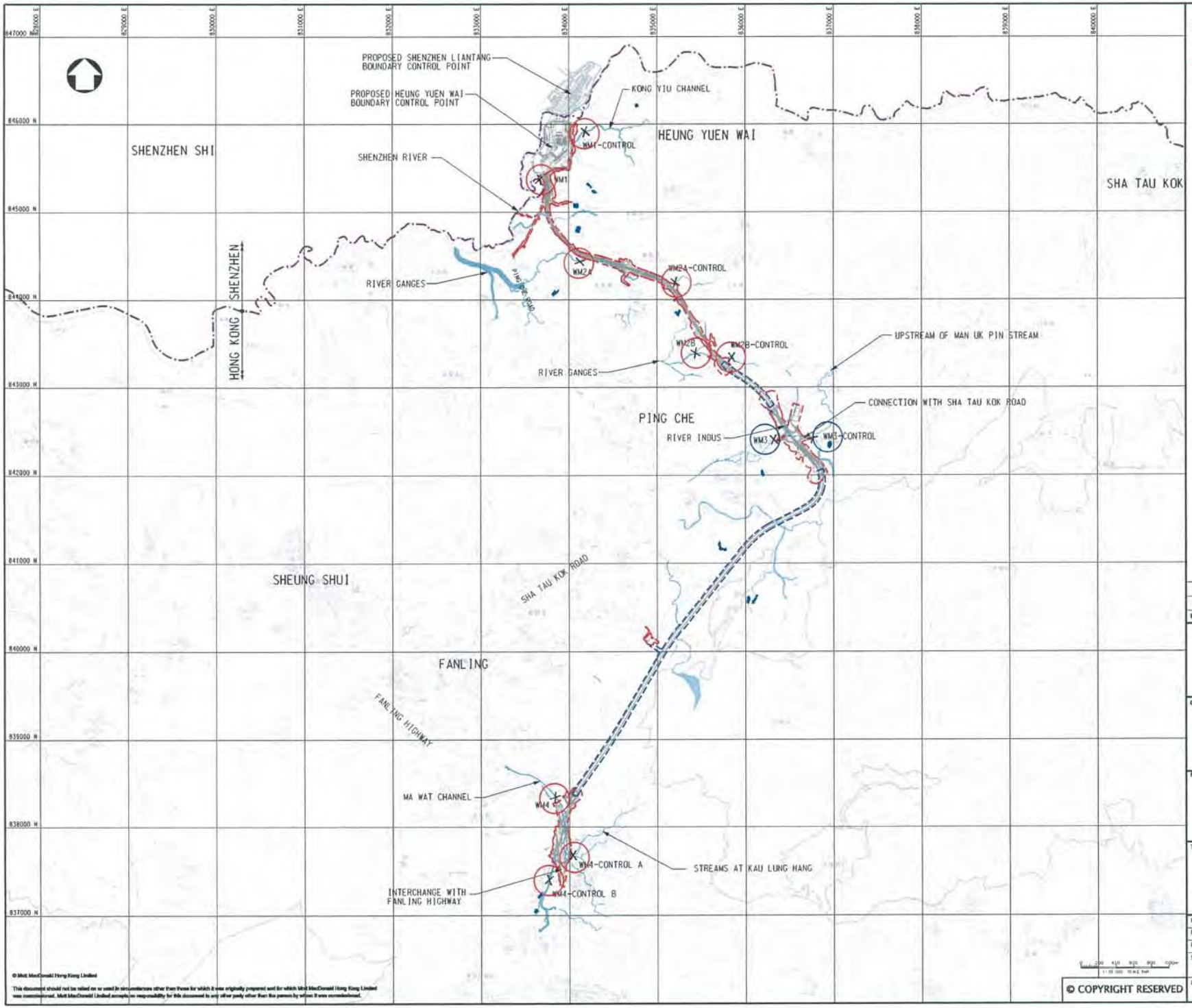

LEGEND:

- BOUNDARY OF HKSAR
- LAND REQUIREMENT LIMIT (ABOVE GROUND)
- LAND REQUIREMENT LIMIT (TUNNEL)
- X PROPOSED WATER QUALITY MONITORING STATION

MONITORING STATION	CO-ORDINATES	
	EAST(NG(m)	NORTHING(m)
WM1	833668.635	845371.097
WM1-CONTROL	834185.480	845916.662
WM2A	834132.193	844432.910
WM2A-CONTROL	835205.329	844200.151
WM2B	835434.744	843394.606
WM2B-CONTROL	835845.878	843343.625
WM3	836323.622	842404.977
WM3-CONTROL	836763.419	842425.507
WM4	833840.783	838344.842
WM4-CONTROL A	834038.937	837688.995
WM4-CONTROL B	833769.123	837406.936

Rev	Date	Drawn	Description	Ch'k'd	App'd
P2	NOV 10	WING	GENERAL REVISION	HC	HT
P1	OCT 10	WING	FIRST ISSUE	HC	HT

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Project: AGREEMENT NO. CE45/2008(CE) LIANTANG/HEUNG YUEN WAI BOUNDARY CONTROL POINT AND ASSOCIATED WORKS

Title: LOCATIONS OF PROPOSED WATER QUALITY MONITORING STATIONS

Designed	HC		Eng.Chk.	EC	
Drawn	WING		Coordination	EC	
Eng.Chk.	HC		Approved	HT	
Scale at A1	1:20000	Project	255228		Status PRE
Drawing No	FIGURE 4.1				Rev P2

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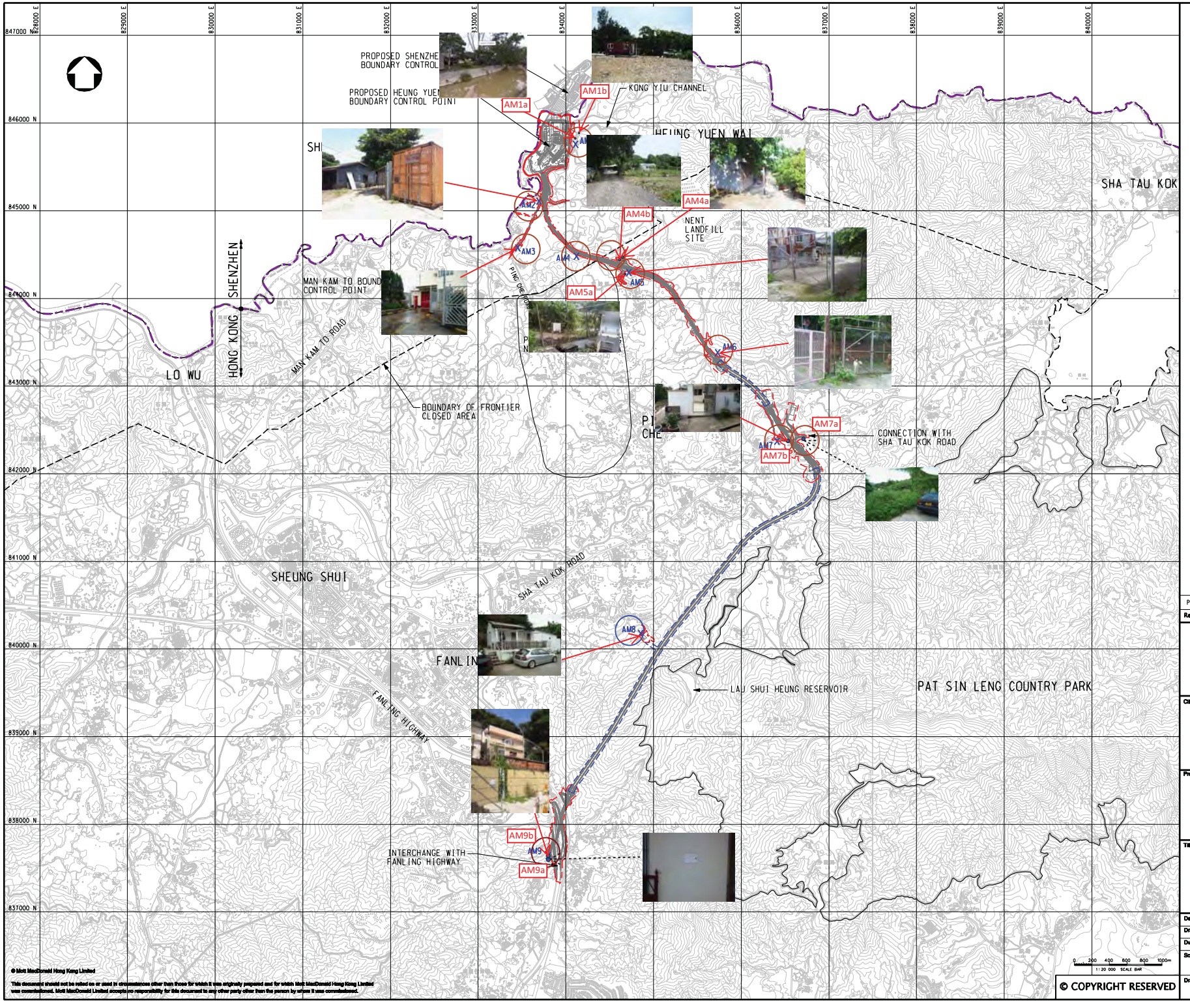
Appendix E

Monitoring Locations for Impact Monitoring



LEGEND:

- BOUNDARY OF HKSAR
- WORKS AREA (ABOVE GROUND)
- WORKS AREA (TUNNEL)
- X Air Monitoring Stations in the EM&A Manual
- Proposed Air Monitoring Stations

Rev	Date	Drawn	Description	Ch'k'd	App'd
P1	AUG 10	MING	FIRST ISSUE	DC	HT

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Client

CEDD
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

Project

AGREEMENT NO. CE45/2008(CE)
LIANTANG/HEUNG YUEN WAI BOUNDARY CONTROL POINT AND ASSOCIATED WORKS

Title

PROPOSED LOCATION OF CONSTRUCTION AIR QUALITY MONITORING STATIONS

Designed	DC		Eng.Chk.	EC	
Drawn	MING		Coordination	EC	
Dwg.Chk.	DC		Approved	HT	
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		CAD file	j:\255228\report\env\em&a\00B3\FIG 2-1.dgn		
Drawing No	FIGURE 2.1			Rev	P1

0 200 400 600 800 1000m
1:20 000 SCALE BAR

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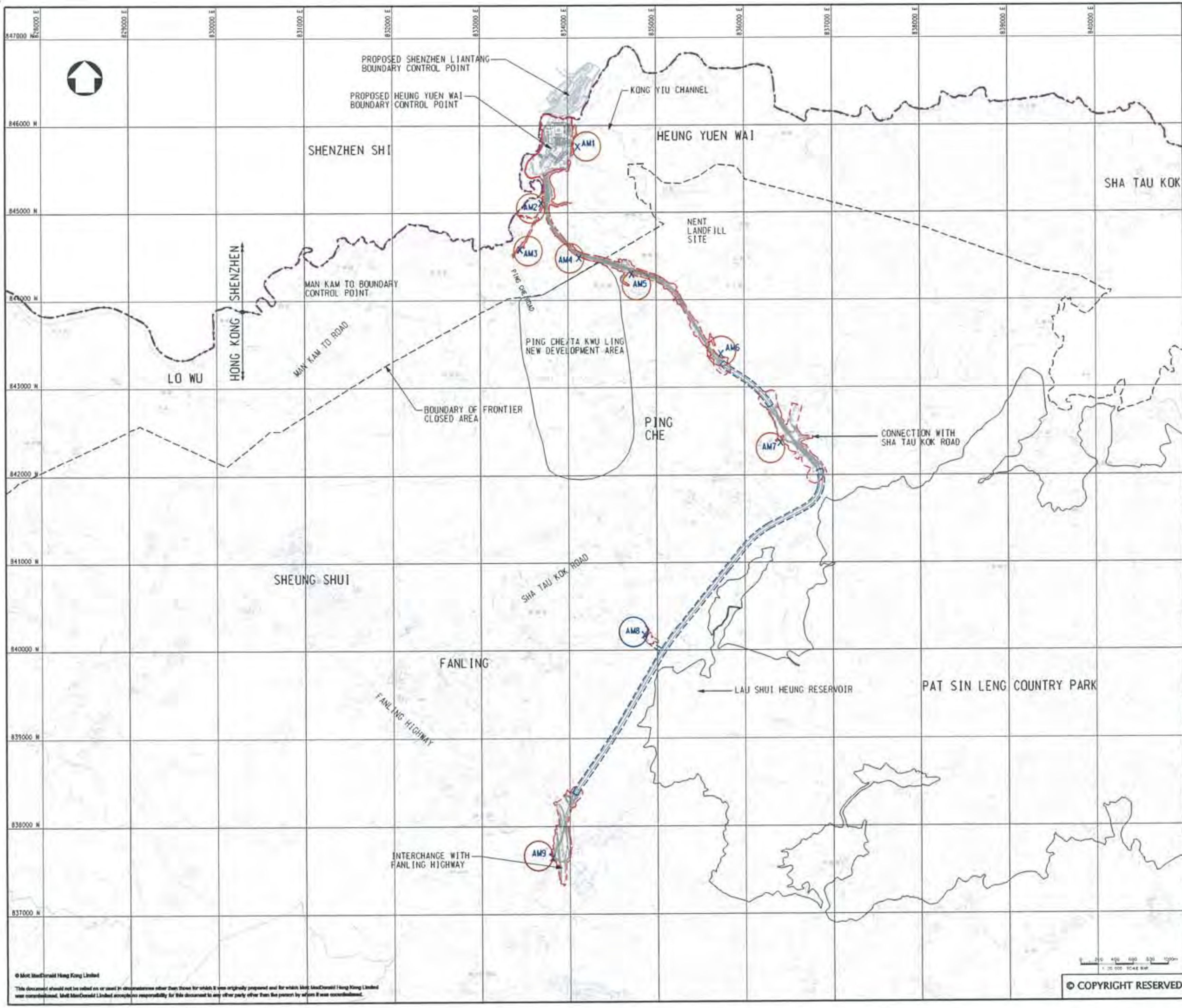

LEGEND:

- BOUNDARY OF HKSAR
- WORKS AREA (ABOVE GROUND)
- WORKS AREA (TUNNEL)
- X AIR MONITORING STATIONS

Rev	Date	Drawn	Description	Ch'k'd	App'd
P1	AUG 10	WING	FIRST ISSUE	DC	HT

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Client

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

Project

AGREEMENT NO. CE45/2008(CE)
LIANTANG/HEUNG YUEN WAI BOUNDARY CONTROL POINT AND ASSOCIATED WORKS

Title

PROPOSED LOCATION OF CONSTRUCTION AIR QUALITY MONITORING STATIONS

Designed	DC	Eng.Chk.	EC	
Drawn	WING	Coordination	EC	
Dwg.Chk.	DC	Approved	HT	
Scale at A1	1:20000	Project 255228		Status PRE
Drawing No	FIGURE 2.1			Rev P1

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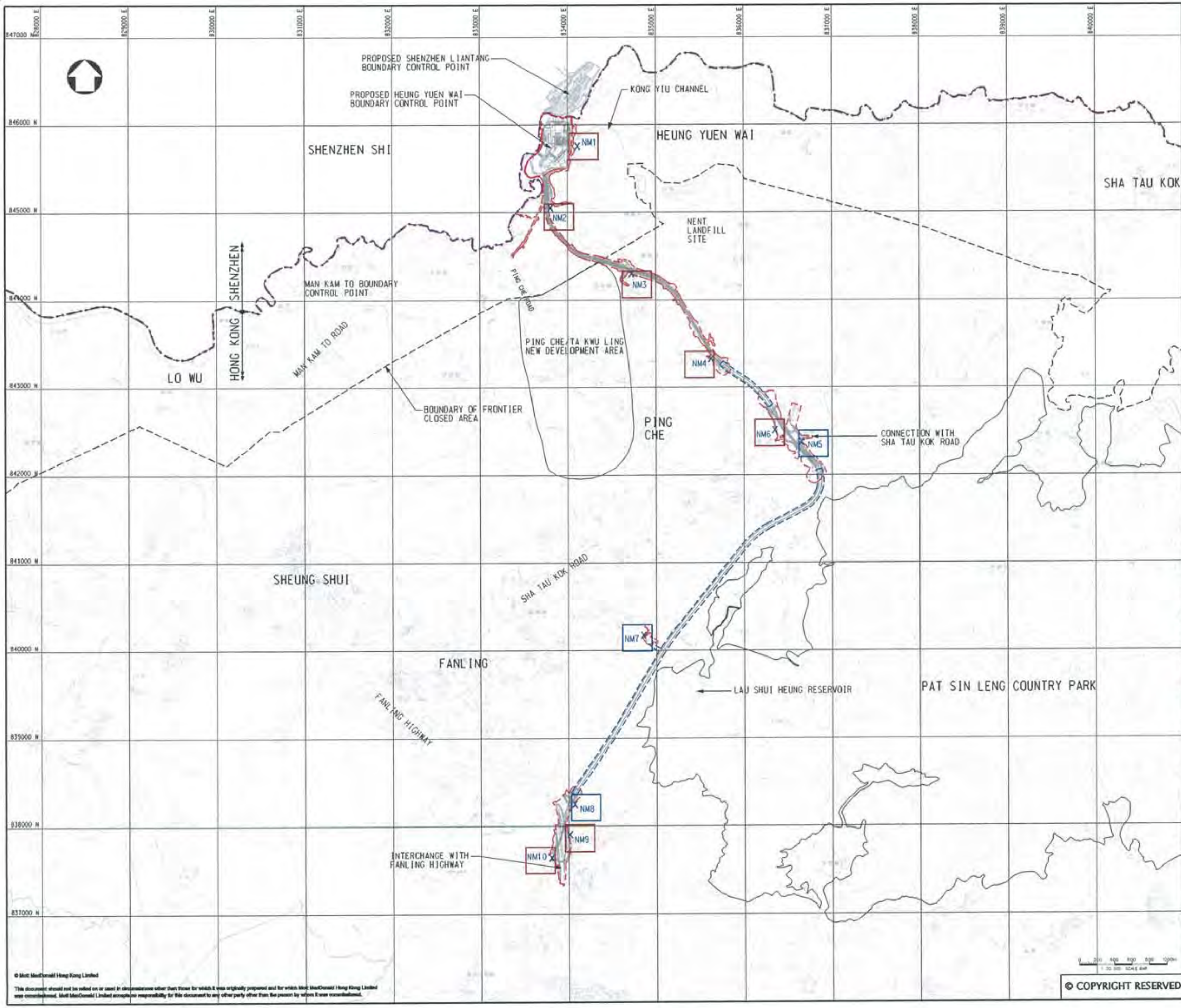

LEGEND:

- BOUNDARY OF HKSAR
- WORKS AREA (ABOVE GROUND)
- WORKS AREA (TUNNEL)
- X CONSTRUCTION NOISE MONITORING STATIONS

Rev	Date	Drawn	Description	Ch'k'd	App'd
P1	AUG 10	WING	FIRST ISSUE	DC	HT

Mott MacDonald

Client: CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT (CEDD)

Project: AGREEMENT NO. CE45/2008(CE) LIANTANG/HEUNG YUEN WAI BOUNDARY CONTROL POINT AND ASSOCIATED WORKS

Title: PROPOSED LOCATION OF CONSTRUCTION NOISE MONITORING STATIONS

Designed	DC	Eng Chk.	EC
Drawn	WING	Coordination	EC
Dwg Chk.	DC	Approved	HT
Scale at A1	1:20000	Project	255228
Drawing No	FIGURE 3.1	Status	PRE
		Rev	P1

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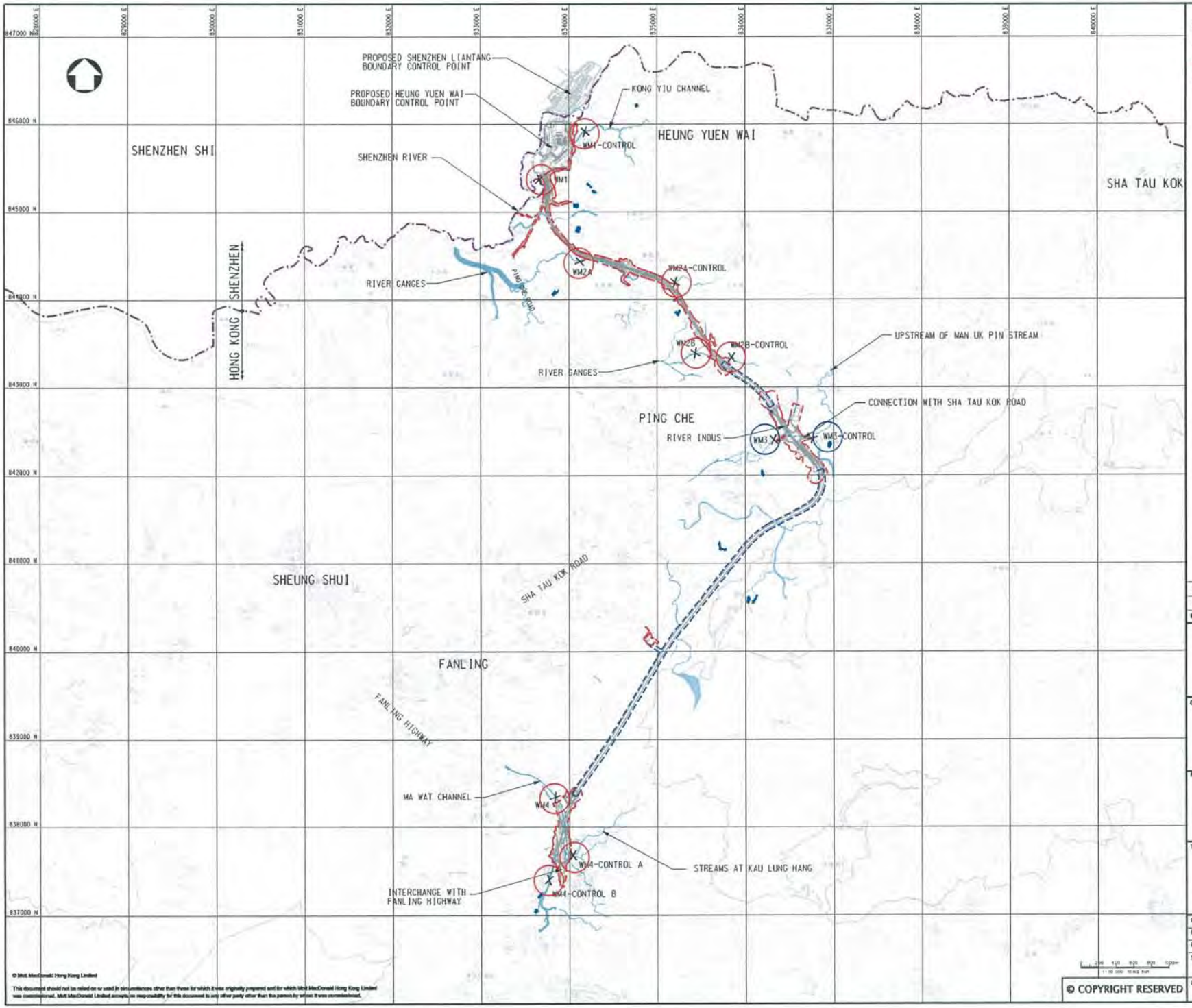

LEGEND:

- BOUNDARY OF HKSAR
- LAND REQUIREMENT LIMIT (ABOVE GROUND)
- LAND REQUIREMENT LIMIT (TUNNEL)
- X PROPOSED WATER QUALITY MONITORING STATION

MONITORING STATION	CO-ORDINATES	
	EAST(NG(m)	NORTHING(m)
WM1	833668.635	845371.097
WM1-CONTROL	834185.480	845916.662
WM2A	834132.193	844432.910
WM2A-CONTROL	835205.329	844200.151
WM2B	835434.744	843394.606
WM2B-CONTROL	835845.878	843343.625
WM3	836323.622	842404.977
WM3-CONTROL	836763.419	842425.507
WM4	833840.783	838344.842
WM4-CONTROL A	834038.937	837688.995
WM4-CONTROL B	833769.123	837406.936

Rev	Date	Drawn	Description	Ch'k'd	App'd
P2	NOV 10	WING	GENERAL REVISION	HC	HT
P1	OCT 10	WING	FIRST ISSUE	HC	HT

Mott MacDonald

Client: CEDD — CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

Project: AGREEMENT NO. CE45/2008(CE) LIANTANG/HEUNG YUEN WAI BOUNDARY CONTROL POINT AND ASSOCIATED WORKS

Title: LOCATIONS OF PROPOSED WATER QUALITY MONITORING STATIONS

Designed	HC		Eng.Chk.	EC	
Drawn	WING		Coordination	EC	
Eng.Chk.	HC		Approved	HT	
Scale at A1	1:20000	Project	255228		Status PRE
Drawing No	FIGURE 4.1				Rev P2

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Appendix F

Calibration Certificate of Monitoring Equipment and HOKLAS-accreditation Certificate of the Testing Laboratory

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Garden Farm, Tsung Yuen Ha Village		Date of Calibration:	23/12/2015
Location ID : AM1a		Next Calibration Date:	23/2/2016
		Technician:	K.C. Cheung

CONDITIONS

Sea Level Pressure (hPa)	1017.8	Corrected Pressure (mm Hg)	763.35
Temperature (°C)	21.1	Temperature (K)	294

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.10265
Model->	5025A	Qstd Intercept ->	-0.00335
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected
18	6.9	6.9	13.8	1.784	50	50.44
13	5.3	5.3	10.6	1.564	45	45.40
10	4.1	4.1	8.2	1.375	39	39.34
7	2.7	2.7	5.4	1.117	31	31.27
5	1.6	1.6	3.2	0.860	22	22.19

LINEAR REGRESSION

Slope = 30.8553
Intercept = -3.6127
Corr. coeff. = 0.9975

Calculations :

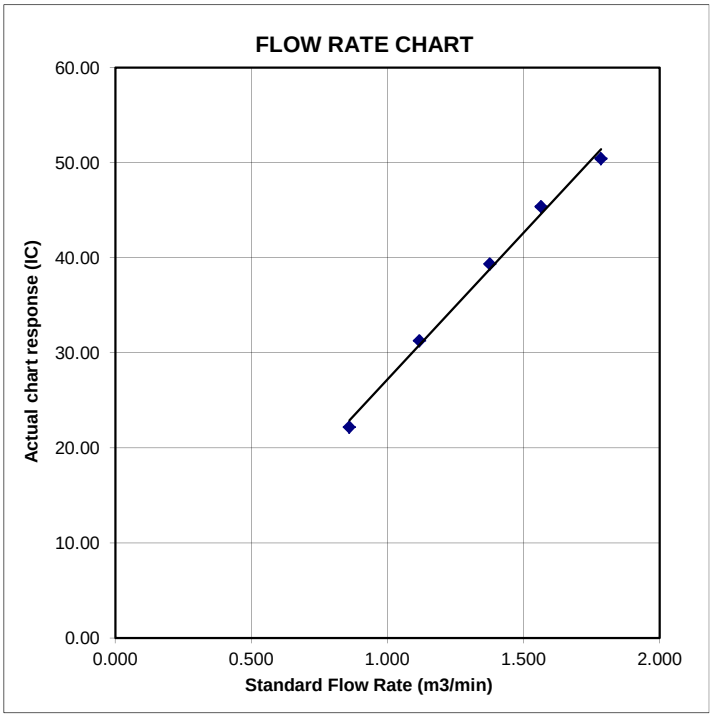
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Village House near Lin Ma Hang Road		Date of Calibration:	23/12/2015
Location ID : AM2		Next Calibration Date:	23/2/2016
		Technician:	K.C. Cheung

CONDITIONS

Sea Level Pressure (hPa)	1017.8	Corrected Pressure (mm Hg)	763.35
Temperature (°C)	21.1	Temperature (K)	294

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.10265
Model->	5025A	Qstd Intercept ->	-0.00335
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	7.2	7.2	14.4	1.822	55	55.49	Slope = 29.7487
13	6.3	6.3	12.6	1.705	50	50.44	Intercept = 0.8876
10	4.3	4.3	8.6	1.409	43	43.38	Corr. coeff. = 0.9960
7	2.7	2.7	5.4	1.117	35	35.31	
5	1.7	1.7	3.4	0.886	26	26.23	

Calculations :

Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]

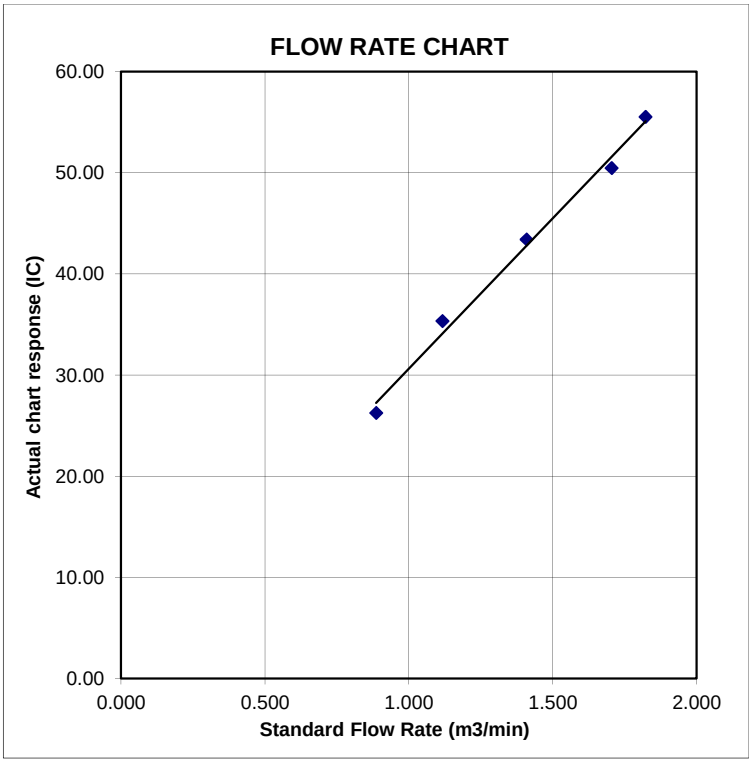
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Ta Kwu Ling Fire Service Station		Date of Calibration:	23/12/2015
Location ID : AM3		Next Calibration Date:	23/2/2016
		Technician:	K.C. Cheung

CONDITIONS

Sea Level Pressure (hPa)	1017.8	Corrected Pressure (mm Hg)	763.35
Temperature (°C)	21.1	Temperature (K)	294

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.10265
Model->	5025A	Qstd Intercept ->	-0.00335
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.1	6.1	12.2	1.677	54	54.48	Slope = 29.9474
13	4.8	4.8	9.6	1.488	49	49.43	Intercept = 4.5899
10	3.8	3.8	7.6	1.324	44	44.39	Corr. coeff. = 0.9996
7	2.4	2.4	4.8	1.053	36	36.32	
5	1.5	1.5	3.0	0.833	29	29.26	

Calculations :

Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]

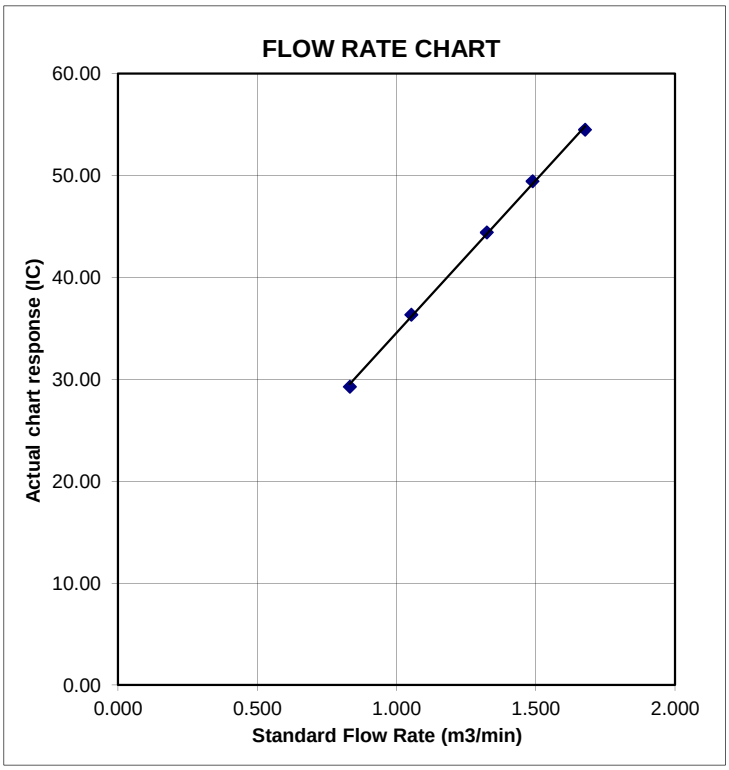
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Ping Yeung Village House		Date of Calibration:	23/12/2015
Location ID : AM4a		Next Calibration Date:	23/2/2016
		Technician:	K.C. Cheung

CONDITIONS

Sea Level Pressure (hPa)	1017.8	Corrected Pressure (mm Hg)	763.35
Temperature (°C)	21.1	Temperature (K)	294

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.10265
Model->	5025A	Qstd Intercept ->	-0.00335
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6	6	12.0	1.664	60	60.53	Slope = 29.3221
13	5.3	5.3	10.6	1.564	54	54.48	Intercept = 10.4729
10	3.8	3.8	7.6	1.324	49	49.43	Corr. coeff. = 0.9923
7	2.4	2.4	4.8	1.053	42	42.37	
5	1.5	1.5	3.0	0.833	34	34.30	

Calculations :

Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]

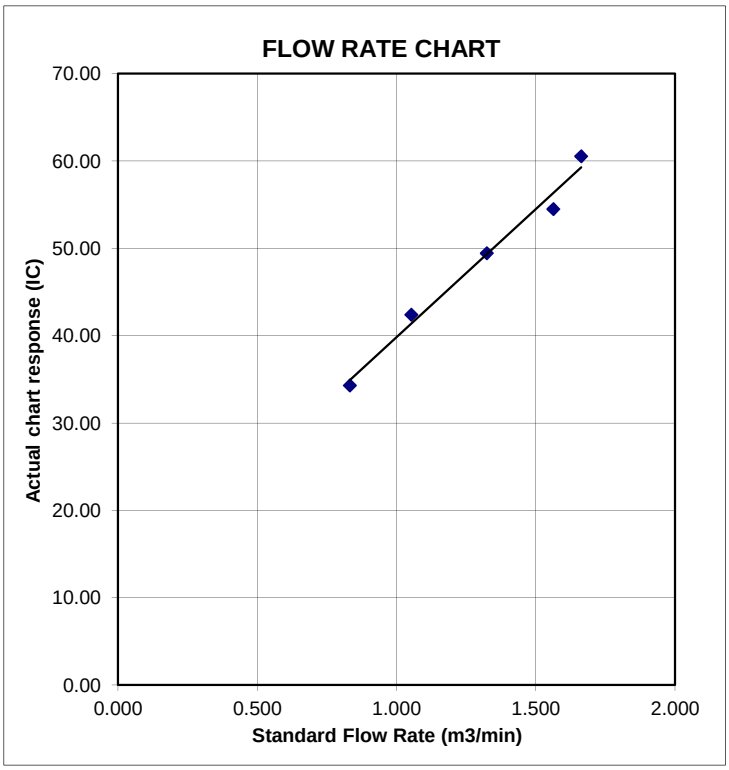
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Ping Yeung Village House		Date of Calibration:	23/12/2015
Location ID : AM5		Next Calibration Date:	23/2/2016
		Technician:	K.C. Cheung

CONDITIONS

Sea Level Pressure (hPa)	1017.8	Corrected Pressure (mm Hg)	763.35
Temperature (°C)	21.1	Temperature (K)	294

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.10265
Model->	5025A	Qstd Intercept ->	-0.00335
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.7	6.7	13.4	1.758	54	54.48	Slope = 33.5609
13	5.3	5.3	10.6	1.564	49	49.43	Intercept = -3.4935
10	4.1	4.1	8.2	1.375	43	43.38	Corr. coeff. = 0.9965
7	2.6	2.6	5.2	1.096	34	34.30	
5	1.6	1.6	3.2	0.860	24	24.21	

Calculations :

Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]

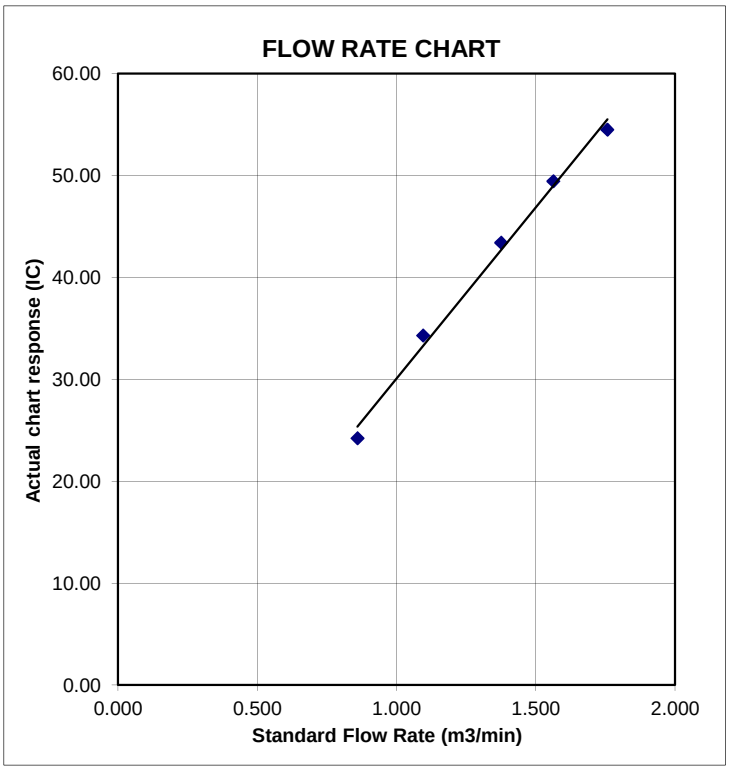
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Wo Keng Shan Village House		Date of Calibration:	23/12/2015
Location ID : AM6		Next Calibration Date:	23/2/2016
		Technician:	K.C. Cheung

CONDITIONS

Sea Level Pressure (hPa)	1017.8	Corrected Pressure (mm Hg)	763.35
Temperature (ºC)	21.1	Temperature (K)	294

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.10265
Model->	5025A	Qstd Intercept ->	-0.00335
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.6	6.6	13.2	1.745	55	55.49	Slope = 30.4315
13	5.2	5.2	10.4	1.549	51	51.45	Intercept = 3.5616
10	3.9	3.9	7.8	1.342	45	45.40	Corr. coeff. = 0.9966
7	2.5	2.5	5.0	1.074	36	36.32	
5	1.5	1.5	3.0	0.833	28	28.25	

Calculations :

Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]

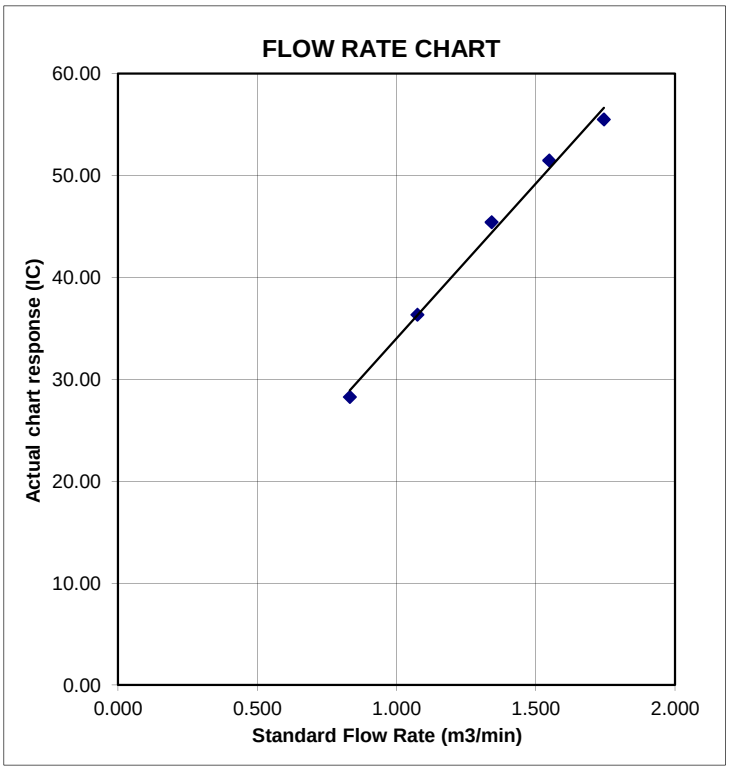
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Village House of Loi Tung Village
Location ID : AM7b

Date of Calibration: 23/12/2015
Next Calibration Date: 23/2/2016
Technician: K.C. Cheung

CONDITIONS

Sea Level Pressure (hPa)	1017.8	Corrected Pressure (mm Hg)	763.35
Temperature (°C)	21.1	Temperature (K)	294

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.10265
Model->	5025A	Qstd Intercept ->	-0.00335
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	4.7	4.7	9.4	1.473	52	52.46	Slope = 35.7639
13	3.8	3.8	7.6	1.324	47	47.41	Intercept = -0.2606
10	3.2	3.2	6.4	1.215	43	43.38	Corr. coeff. = 0.9963
7	2.3	2.3	4.6	1.031	35	35.31	
5	1.5	1.5	3.0	0.833	30	30.26	

Calculations :

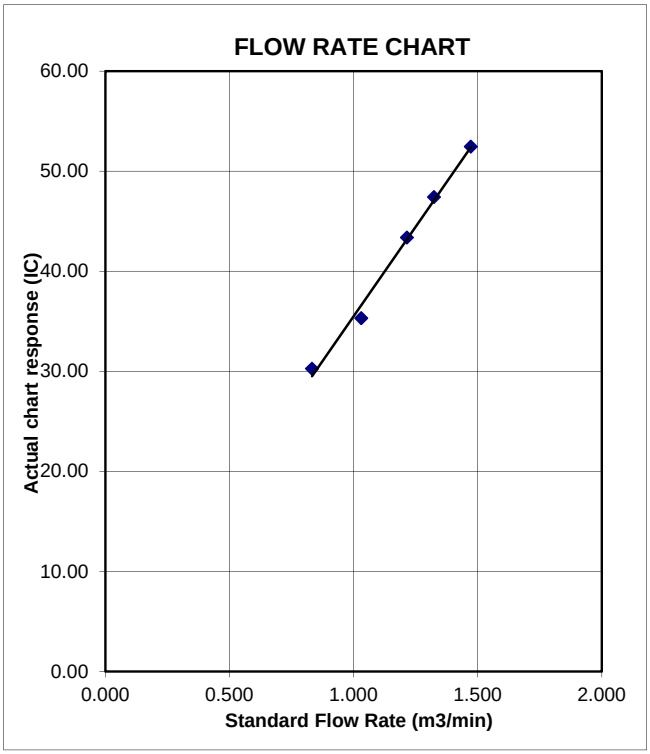
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Po Kat Tsai Village No. 4
Location ID : AM8

Date of Calibration: 23/12/2015
Next Calibration Date: 23/2/2016
Technician: K.C. Cheung

CONDITIONS

Sea Level Pressure (hPa)	1017.8	Corrected Pressure (mm Hg)	763.35
Temperature (°C)	21.1	Temperature (K)	294

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.10265
Model->	5025A	Qstd Intercept ->	-0.00335
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.2	6.2	12.4	1.691	64	64.56	Slope = 33.0787
13	5	5	10.0	1.519	59	59.52	Intercept = 9.2931
10	3.6	3.6	7.2	1.289	53	53.47	Corr. coeff. = 0.9968
7	2.5	2.5	5.0	1.074	44	44.39	
5	1.6	1.6	3.2	0.860	37	37.33	

Calculations :

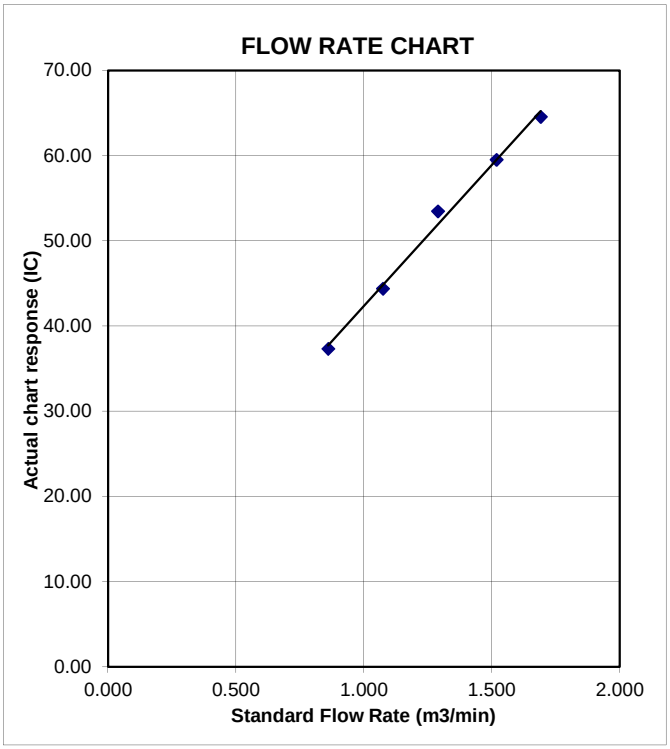
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Nam Wa Po Village House No. 80		Date of Calibration:	23/12/2015
Location ID : AM9b		Next Calibration Date:	23/2/2016
		Technician:	K.C. Cheung

CONDITIONS

Sea Level Pressure (hPa)	1017.8	Corrected Pressure (mm Hg)	763.35
Temperature (ºC)	21.1	Temperature (K)	294

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.10265
Model->	5025A	Qstd Intercept ->	-0.00335
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected
18	6.6	6.6	13.2	1.745	56	56.49
13	5.2	5.2	10.4	1.549	51	51.45
10	3.8	3.8	7.6	1.324	46	46.41
7	2.5	2.5	5.0	1.074	37	37.33
5	1.4	1.4	2.8	0.804	30	30.26

LINEAR REGRESSION

Slope =	28.3457
Intercept =	7.5574
Corr. coeff. =	0.9973

Calculations :

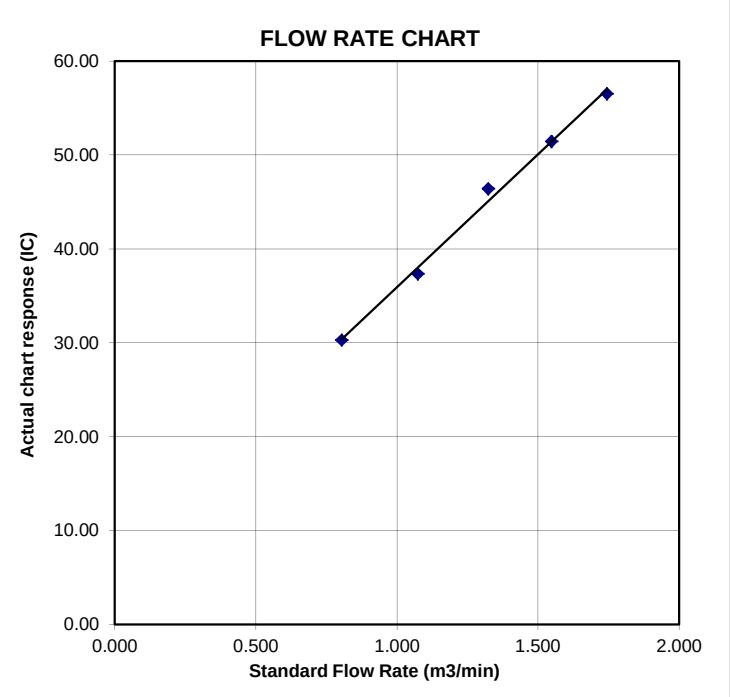
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Garden Farm, Tsung Yuen Ha Village		Date of Calibration:	23/2/2016
Location ID : AM1b		Next Calibration Date:	23/4/2016
		Technician:	Fai So

CONDITIONS

Sea Level Pressure (hPa)	1022.3	Corrected Pressure (mm Hg)	766.725
Temperature (°C)	15.5	Temperature (K)	289

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.10265
Model->	5025A	Qstd Intercept ->	-0.00335
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.7	6.7	13.4	1.779	53	54.10	Slope = 33.9477
13	5.2	5.2	10.4	1.567	47	47.98	Intercept = -5.5459
10	4	4	8.0	1.375	41	41.85	Corr. coeff. = 0.9987
7	2.5	2.5	5.0	1.087	31	31.65	
5	1.5	1.5	3.0	0.842	22	22.46	

Calculations :

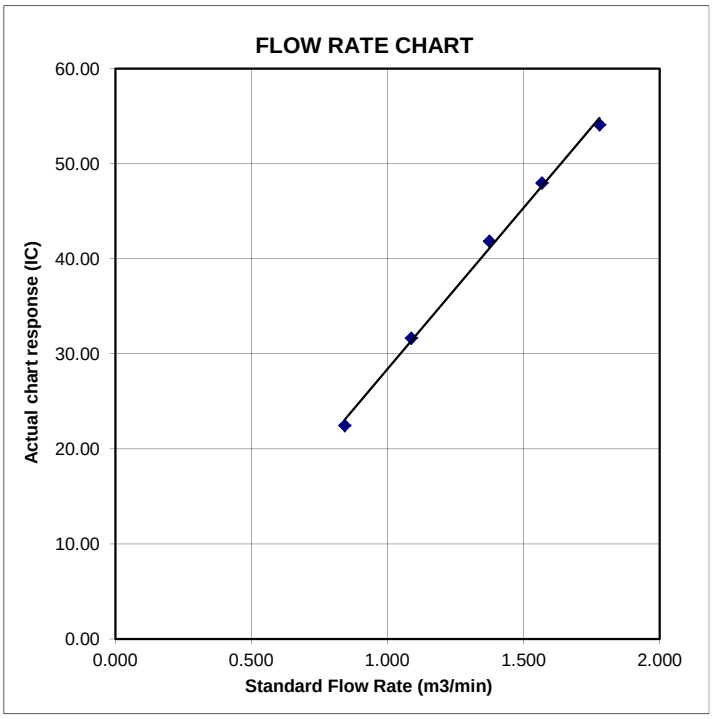
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Village House near Lin Ma Hang Road		Date of Calibration:	23/2/2016
Location ID : AM2		Next Calibration Date:	23/4/2016
		Technician:	Fai So

CONDITIONS

Sea Level Pressure (hPa)	1022.3	Corrected Pressure (mm Hg)	766.725
Temperature (°C)	15.5	Temperature (K)	289

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.10265
Model->	5025A	Qstd Intercept ->	-0.00335
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.4	6.4	12.8	1.739	56	57.17	Slope = 34.8659
13	4.8	4.8	9.6	1.506	48	49.00	Intercept = -2.8852
10	3.7	3.7	7.4	1.322	44	44.92	Corr. coeff. = 0.9961
7	2.4	2.4	4.8	1.065	34	34.71	
5	1.5	1.5	3.0	0.842	25	25.52	

Calculations :

Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]

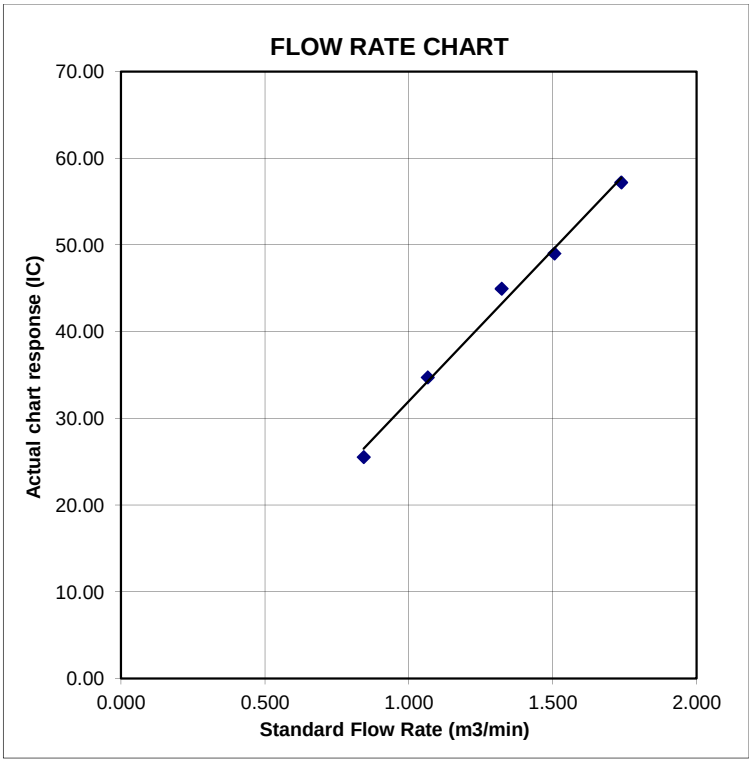
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Ta Kwu Ling Fire Service Station		Date of Calibration:	23/2/2016
Location ID : AM3		Next Calibration Date:	23/4/2016
		Technician:	Fai So

CONDITIONS

Sea Level Pressure (hPa)	1022.3	Corrected Pressure (mm Hg)	766.725
Temperature (°C)	15.5	Temperature (K)	289

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.10265
Model->	5025A	Qstd Intercept ->	-0.00335
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6	6	12.0	1.683	56	57.17	Slope = 30.9841
13	4.6	4.6	9.2	1.474	50	51.04	Intercept = 5.5195
10	3.5	3.5	7.0	1.286	45	45.94	Corr. coeff. = 0.9902
7	2	2	4.0	0.973	37	37.77	
5	1.5	1.5	3.0	0.842	29	29.60	

Calculations :

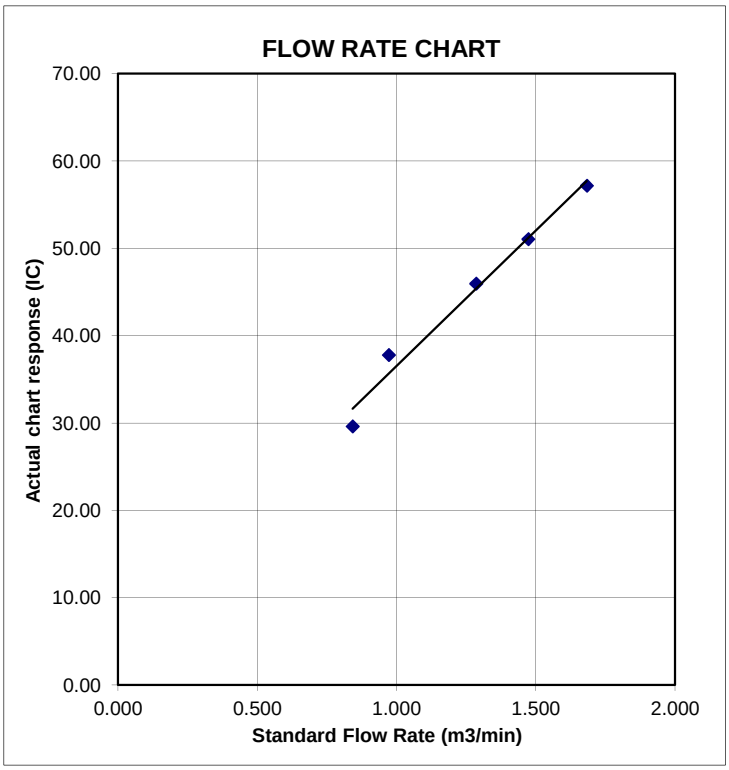
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Ping Yeung Village House		Date of Calibration:	23/2/2016
Location ID : AM4a		Next Calibration Date:	23/4/2016
		Technician:	Fai So

CONDITIONS

Sea Level Pressure (hPa)	1022.3	Corrected Pressure (mm Hg)	766.725
Temperature (ºC)	15.5	Temperature (K)	289

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.10265
Model->	5025A	Qstd Intercept ->	-0.00335
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.4	6.4	12.8	1.739	57	58.19	Slope = 32.1143
13	5	5	10.0	1.537	49	50.02	Intercept = 1.5084
10	3.8	3.8	7.6	1.340	43	43.90	Corr. coeff. = 0.9979
7	2.3	2.3	4.6	1.043	35	35.73	
5	1.4	1.4	2.8	0.814	27	27.56	

Calculations :

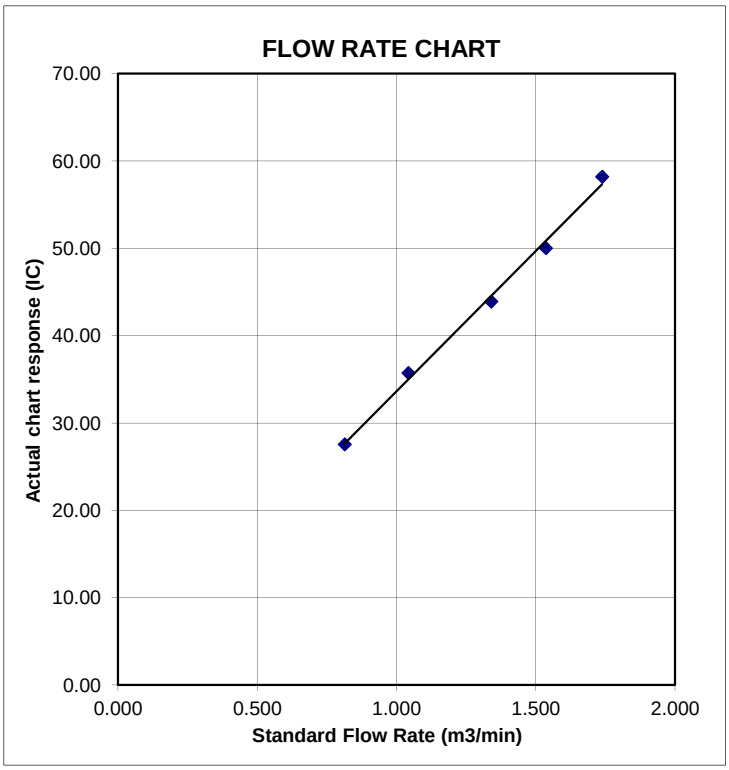
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Ping Yeung Village House		Date of Calibration:	23/2/2016
Location ID : AM5		Next Calibration Date:	23/4/2016
		Technician:	Fai So

CONDITIONS

Sea Level Pressure (hPa)	1022.3	Corrected Pressure (mm Hg)	766.725
Temperature (°C)	15.5	Temperature (K)	289

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.10265
Model->	5025A	Qstd Intercept ->	-0.00335
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.8	6.8	13.6	1.792	57	58.19	Slope = 33.3494
13	5.4	5.4	10.8	1.597	51	52.06	Intercept = -1.3144
10	3.8	3.8	7.6	1.340	42	42.87	Corr. coeff. = 0.9960
7	2.5	2.5	5.0	1.087	36	36.75	
5	1.6	1.6	3.2	0.870	26	26.54	

Calculations :

Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]

IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate

IC = corrected chart respones

I = actual chart response

m = calibrator Qstd slope

b = calibrator Qstd intercept

Ta = actual temperature during calibration (deg K)

Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

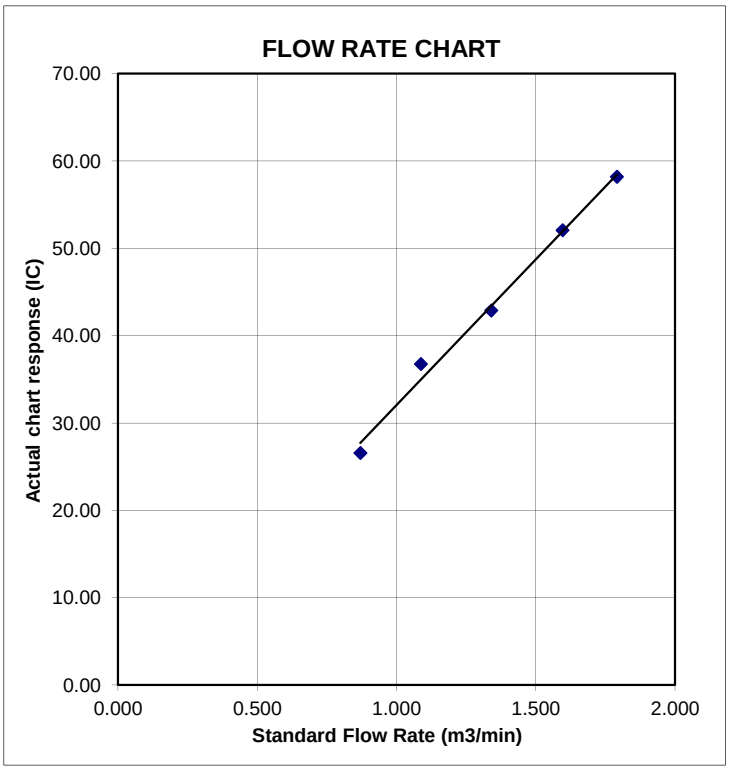
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Wo Keng Shan Village House		Date of Calibration:	23/2/2016
Location ID : AM6		Next Calibration Date:	23/4/2016
		Technician:	Fai So

CONDITIONS

Sea Level Pressure (hPa)	1022.3	Corrected Pressure (mm Hg)	766.725
Temperature (ºC)	15.5	Temperature (K)	289

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.10265
Model->	5025A	Qstd Intercept ->	-0.00335
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.6	6.6	13.2	1.765	58	59.21	Slope = 28.4255
13	5.3	5.3	10.6	1.582	51	52.06	Intercept = 7.9294
10	3.7	3.7	7.4	1.322	44	44.92	Corr. coeff. = 0.9966
7	2.4	2.4	4.8	1.065	37	37.77	
5	1.5	1.5	3.0	0.842	32	32.67	

Calculations :

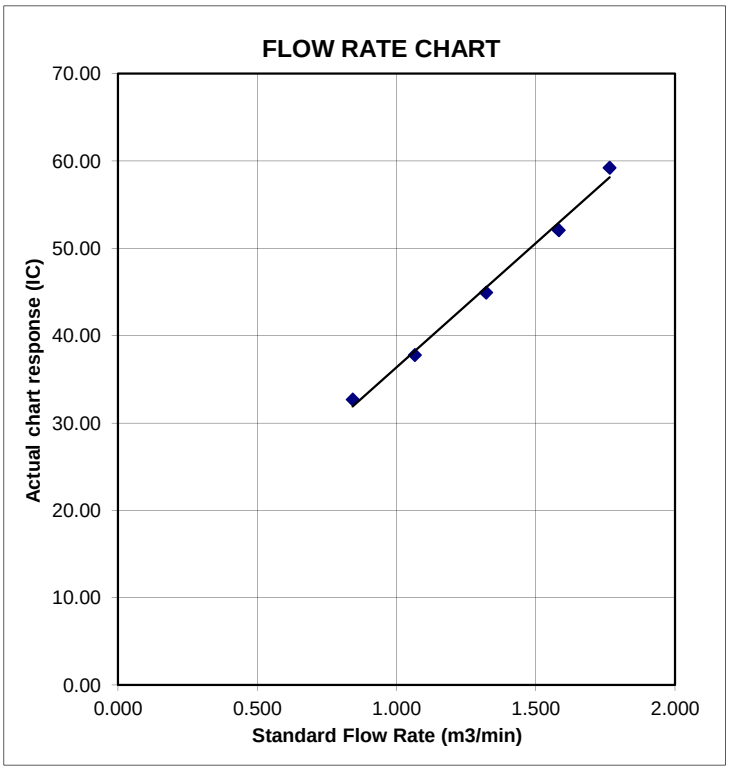
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Village House of Loi Tung Village
Location ID : AM7b

Date of Calibration: 23/2/2016
Next Calibration Date: 23/4/2016
Technician: Fai So

CONDITIONS

Sea Level Pressure (hPa)	1022.3	Corrected Pressure (mm Hg)	766.725
Temperature (°C)	15.5	Temperature (K)	289

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.10265
Model->	5025A	Qstd Intercept ->	-0.00335
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	4.9	4.9	9.8	1.521	55	56.14	Slope = 36.9465
13	4	4	8.0	1.375	50	51.04	Intercept = 0.0791
10	3.3	3.3	6.6	1.249	45	45.94	Corr. coeff. = 0.9991
7	2	2	4.0	0.973	36	36.75	
5	1.3	1.3	2.6	0.784	28	28.58	

Calculations :

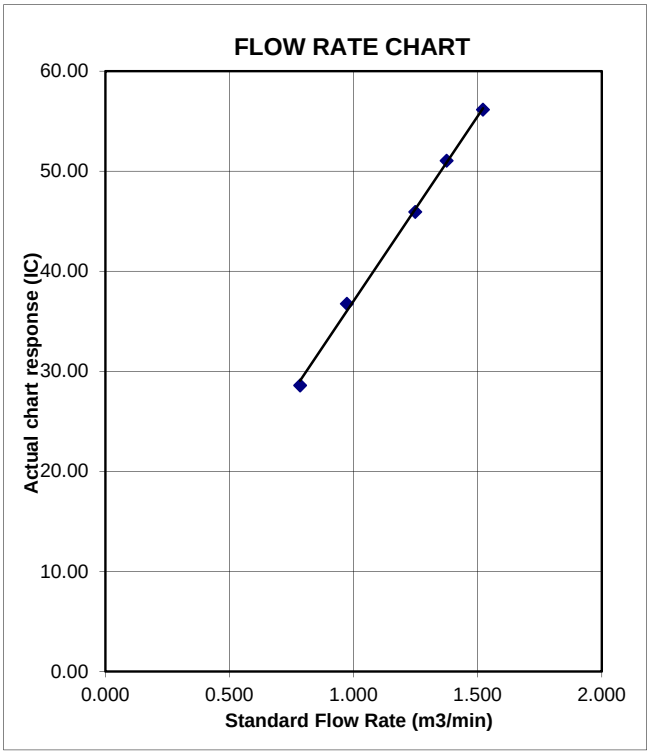
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Po Kat Tsai Village No. 4
Location ID : AM8

Date of Calibration: 23/2/2016
Next Calibration Date: 23/4/2016
Technician: Fai So

CONDITIONS

Sea Level Pressure (hPa)	1022.3	Corrected Pressure (mm Hg)	766.725
Temperature (°C)	15.5	Temperature (K)	289

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.10265
Model->	5025A	Qstd Intercept ->	-0.00335
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.5	6.5	13.0	1.752	66	67.37	Slope = 33.4105
13	5.2	5.2	10.4	1.567	58	59.21	Intercept = 7.6575
10	4	4	8.0	1.375	52	53.08	Corr. coeff. = 0.9967
7	2.6	2.6	5.2	1.109	43	43.90	
5	1.5	1.5	3.0	0.842	36	36.75	

Calculations :

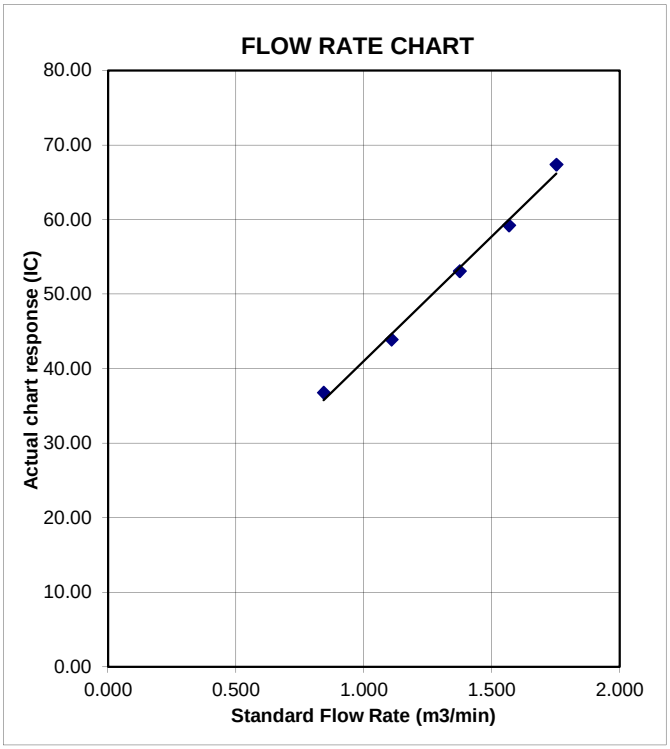
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Nam Wa Po Village House No. 80		Date of Calibration:	23/2/2016
Location ID : AM9b		Next Calibration Date:	23/4/2016
		Technician:	Fai So

CONDITIONS

Sea Level Pressure (hPa)	1022.3	Corrected Pressure (mm Hg)	766.725
Temperature (ºC)	15.5	Temperature (K)	289

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.10265
Model->	5025A	Qstd Intercept ->	-0.00335
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION	
18	6.5	6.5	13.0	1.752	54	55.12	Slope =	29.3935
13	5.2	5.2	10.4	1.567	50	51.04	Intercept =	4.3436
10	4.0	4	8.0	1.375	44	44.92	Corr. coeff. =	0.9985
7	2.5	2.5	5.0	1.087	36	36.75		
5	1.5	1.5	3.0	0.842	28	28.58		

Calculations :

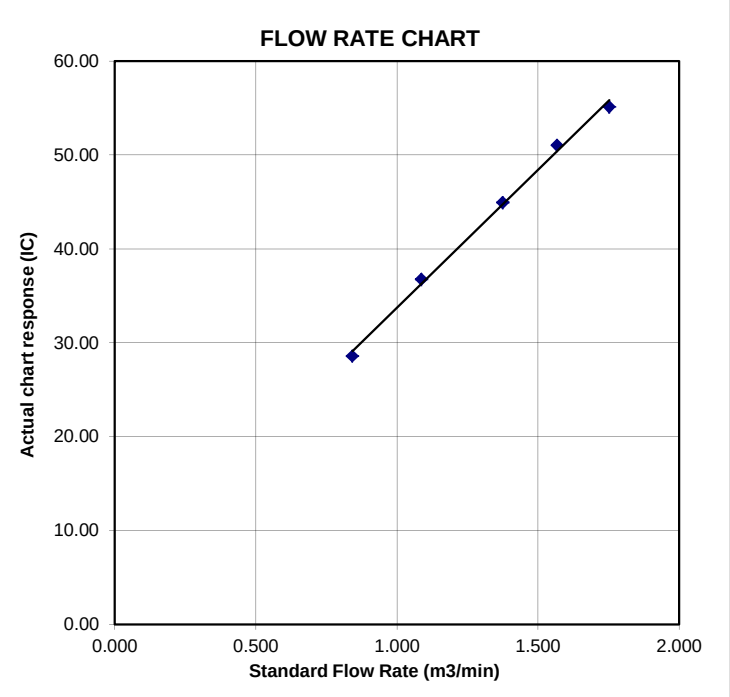
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



TISCH Environmental

TISCH ENVIRONMENTAL, INC.
145 SOUTH MIAMI AVE
VILLAGE OF CLEVES, OH
45002
513.467.9000
877.263.7610 TOLL FREE
513.467.9009 FAX

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Mar 24, 2015 Rootsmeter S/N 0438320 Ta (K) - 292
Operator Tisch Orifice I.D. - 1941 Pa (mm) - 756.92

PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER DIFF Hg (mm)	ORFICE DIFF H2O (in.)
1	NA	NA	1.00	1.4880	3.2	2.00
2	NA	NA	1.00	1.0510	6.4	4.00
3	NA	NA	1.00	0.9360	7.9	5.00
4	NA	NA	1.00	0.8920	8.8	5.50
5	NA	NA	1.00	0.7360	12.7	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)		Va	(x axis) Qa	(y axis)
1.0121	0.6802	1.4258		0.9958	0.6692	0.8784
1.0078	0.9589	2.0163		0.9916	0.9434	1.2422
1.0057	1.0745	2.2543		0.9895	1.0571	1.3888
1.0046	1.1262	2.3644		0.9884	1.1080	1.4566
0.9993	1.3578	2.8515		0.9832	1.3358	1.7568
Qstd slope (m) =		2.10265		Qa slope (m) =		1.31664
intercept (b) =		-0.00335		intercept (b) =		-0.00206
coefficient (r) =		0.99999		coefficient (r) =		0.99999
y axis = SQRT[H2O(Pa/760)(298/Ta)]				y axis = SQRT[H2O(Ta/Pa)]		

CALCULATIONS

Vstd = Diff. Vol[(Pa-Diff. Hg)/760](298/Ta)
Qstd = Vstd/Time

Va = Diff Vol [(Pa-Diff Hg)/Pa]
Qa = Va/Time

For subsequent flow rate calculations:

Qstd = 1/m{[SQRT(H2O(Pa/760)(298/Ta))]- b}
Qa = 1/m{[SQRT H2O(Ta/Pa)]- b}

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	456660
Equipment Ref:	EQ117
Job Order	

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	6 February 2015

Equipment Verification Results:

Testing Date: 5 April 2015

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m^3 (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr11min	10:00 ~ 12:11	26.0	1011.3	0.041	2344	17.9
2hr21min	12:20 ~ 14:41	26.0	1011.3	0.038	2104	14.9
2hr17min	14:50 ~ 17:07	26.0	1011.3	0.057	3514	25.7

Sensitivity Adjustment Scale Setting (Before Calibration) 607 (CPM)

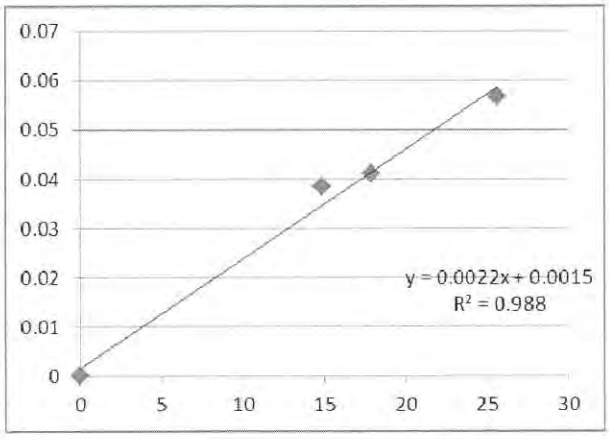
Sensitivity Adjustment Scale Setting (After Calibration) 602 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0022

Correlation Coefficient 0.9940

Date of Issue 20 April 2015



Remarks:

1. **Strong** Correlation (R>0.8)
2. Factor 0.0022 should be apply for TSP monitoring

*If R<0.5, repair or re-verification is required for the equipment

Operator : Donald Kwok Signature : Date : 20 April 2015

QC Reviewer : Ben Tam Signature : Date : 20 April 2015

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	6-Feb-15
Location ID :	Calibration Room	Next Calibration Date:	6-May-15

CONDITIONS

Sea Level Pressure (hPa)	1024.5	Corrected Pressure (mm Hg)	768.375
Temperature (°C)	13.4	Temperature (K)	286

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.00757
Model->	5025A	Qstd Intercept ->	-0.01628
Calibration Date->	7-Apr-14	Expiry Date->	7-Apr-15

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	3.8	3.8	7.6	1.417	56	57.44	Slope = 30.5075
13	3	3	6.0	1.260	52	53.33	Intercept = 14.6821
10	2.3	2.3	4.6	1.104	48	49.23	Corr. coeff. = 0.9974
8	1.7	1.7	3.4	0.950	42	43.08	
5	1.0	1.0	2.0	0.731	36	36.92	

Calculations :

Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]

IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate

IC = corrected chart respones

I = actual chart response

m = calibrator Qstd slope

b = calibrator Qstd intercept

Ta = actual temperature during calibration (deg K)

Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

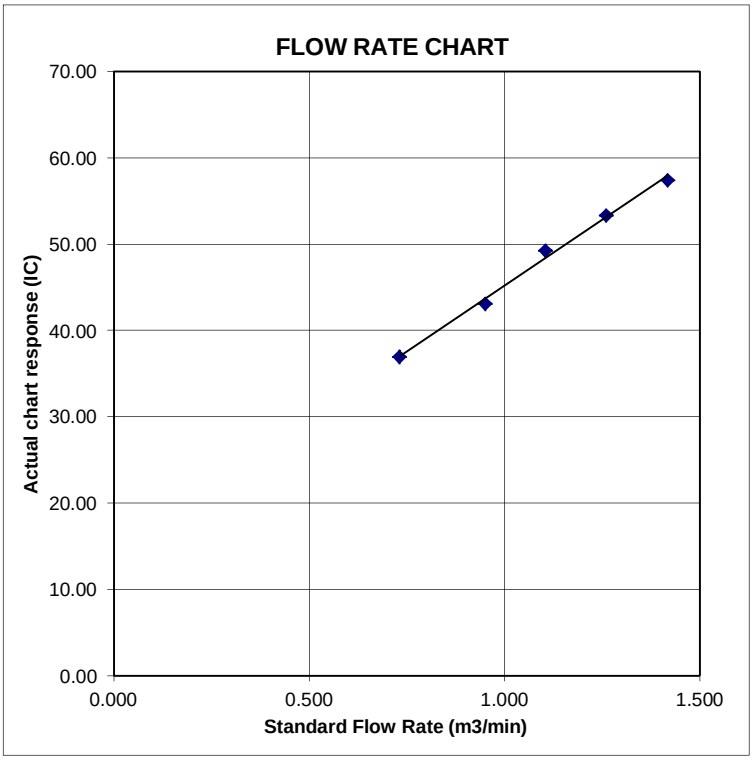
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	456658
Equipment Ref:	EQ115
Job Order	

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	6 February 2015

Equipment Verification Results:

Testing Date: 5 April 2015

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m^3 (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr11min	10:00 ~ 12:11	26.0	1011.3	0.041	2407	18.4
2hr21min	12:20 ~ 14:41	26.0	1011.3	0.038	2219	15.7
2hr17min	14:50 ~ 17:07	26.0	1011.3	0.057	3644	26.6

Sensitivity Adjustment Scale Setting (Before Calibration) 698 (CPM)

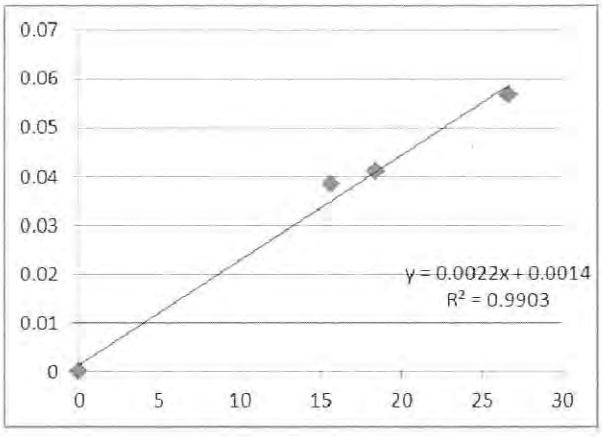
Sensitivity Adjustment Scale Setting (After Calibration) 701 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0022

Correlation Coefficient 0.9951

Date of Issue 20 April 2015



Remarks:

1. **Strong** Correlation (R>0.8)
2. Factor 0.0022 should be apply for TSP monitoring

*If R<0.5, repair or re-verification is required for the equipment

Operator : Donald Kwok Signature : Date : 20 April 2015

QC Reviewer : Ben Tam Signature : Date : 20 April 2015

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	6-Feb-15
Location ID :	Calibration Room	Next Calibration Date:	6-May-15

CONDITIONS

Sea Level Pressure (hPa)	1024.5	Corrected Pressure (mm Hg)	768.375
Temperature (°C)	13.4	Temperature (K)	286

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.00757
Model->	5025A	Qstd Intercept ->	-0.01628
Calibration Date->	7-Apr-14	Expiry Date->	7-Apr-15

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	3.8	3.8	7.6	1.417	56	57.44	Slope = 30.5075
13	3	3	6.0	1.260	52	53.33	Intercept = 14.6821
10	2.3	2.3	4.6	1.104	48	49.23	Corr. coeff. = 0.9974
8	1.7	1.7	3.4	0.950	42	43.08	
5	1.0	1.0	2.0	0.731	36	36.92	

Calculations :

Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]

IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate

IC = corrected chart respones

I = actual chart response

m = calibrator Qstd slope

b = calibrator Qstd intercept

Ta = actual temperature during calibration (deg K)

Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

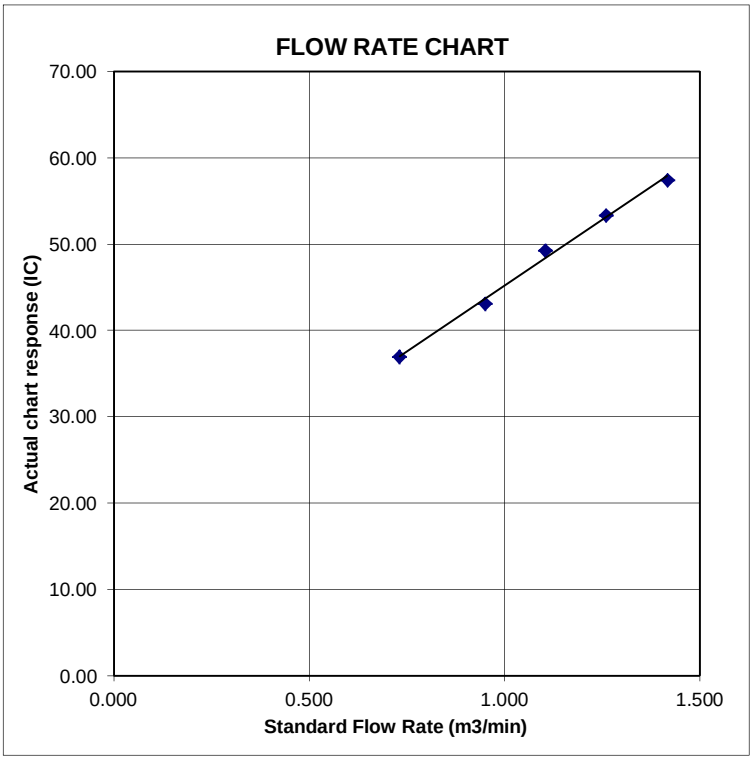
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	2X6145
Equipment Ref:	EQ105
Job Order	HK1603558

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	2 January 2016

Equipment Verification Results:

Testing Date: 4 to 6 January 2016

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m^3 (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr17min	17:30 ~ 19:47	20.6	1018.9	0.027	1602	11.7
2hr42min	17:00 ~ 19:42	20.7	1015.9	0.021	1522	9.3
2hr21min	18:00 ~ 20:21	20.9	1018.8	0.051	3347	23.6

Sensitivity Adjustment Scale Setting (Before Calibration) 593 (CPM)

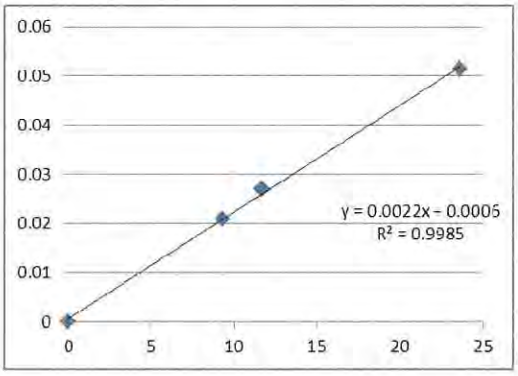
Sensitivity Adjustment Scale Setting (After Calibration) 596 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0022

Correlation Coefficient 0.9985

Date of Issue 11 January 2016



Remarks:

1. **Strong** Correlation (R>0.8)
2. Factor 0.0022 should be apply for TSP monitoring

*If R<0.5, repair or re-verification is required for the equipment

Operator : Donald Kwok Signature : Date : 12 January 2016

QC Reviewer : Ben Tam Signature : Date : 12 January 2016

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	2-Jan-16
Location ID :	Calibration Room	Next Calibration Date:	2-Apr-16

CONDITIONS

Sea Level Pressure (hPa)	1022	Corrected Pressure (mm Hg)	766.5
Temperature (°C)	18.9	Temperature (K)	292

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.10265
Model->	5025A	Qstd Intercept ->	-0.00335
Calibration Date->	24-Mar-15	Expiry Date->	24-Mar-16

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	4.1	4.1	8.2	1.384	56	56.82	Slope = 30.1332
13	3.2	3.2	6.4	1.222	52	52.76	Intercept = 15.8637
10	2.4	2.4	4.8	1.059	48	48.71	Corr. coeff. = 0.9950
8	1.6	1.6	3.2	0.865	42	42.62	
5	1.0	1.0	2.0	0.684	35	35.51	

Calculations :

Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]

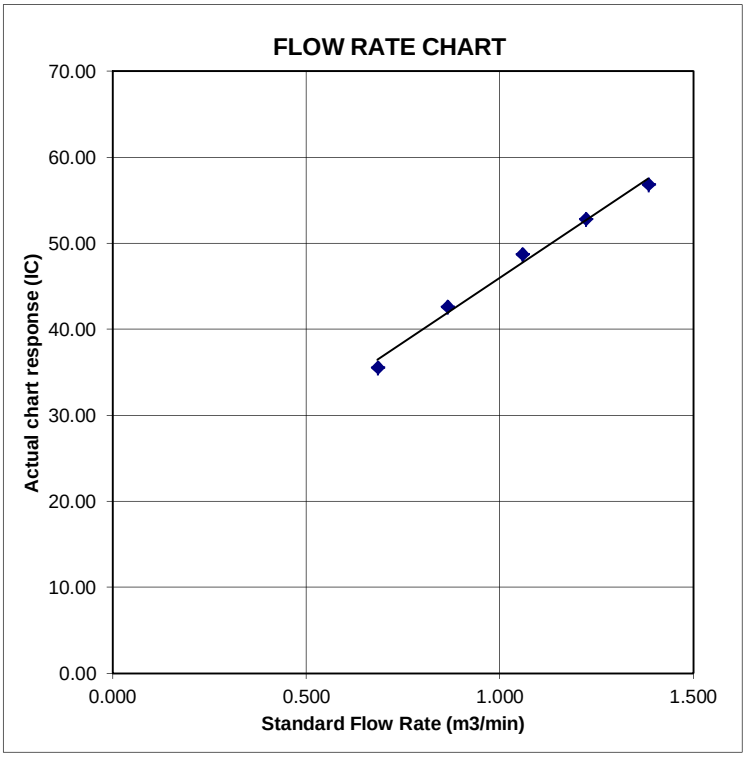
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	366409
Equipment Ref:	EQ109
Job Order	HK1603560

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	2 January 2016

Equipment Verification Results:

Testing Date: 4 to 6 January 2016

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m^3 (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr17min	17:30 ~ 19:47	20.6	1018.9	0.027	1577	11.5
2hr42min	17:00 ~ 19:42	20.7	1015.9	0.021	1433	8.8
2hr21min	18:00 ~ 20:21	20.9	1018.8	0.051	3328	23.5

Sensitivity Adjustment Scale Setting (Before Calibration) 540 (CPM)

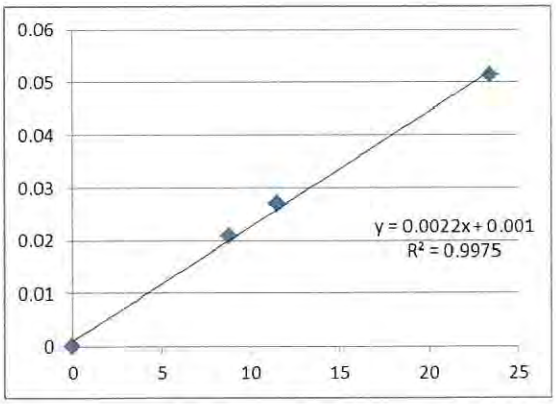
Sensitivity Adjustment Scale Setting (After Calibration) 540 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0022

Correlation Coefficient 0.9975

Date of Issue 11 January 2016



Remarks:

1. **Strong** Correlation (R>0.8)
2. Factor 0.0022 should be apply for TSP monitoring

*If R<0.5, repair or re-verification is required for the equipment

Operator : Donald Kwok Signature : Date : 12 January 2016

QC Reviewer : Ben Tam Signature : Date : 12 January 2016

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	2-Jan-16
Location ID :	Calibration Room	Next Calibration Date:	2-Apr-16

CONDITIONS

Sea Level Pressure (hPa)	1022	Corrected Pressure (mm Hg)	766.5
Temperature (°C)	18.9	Temperature (K)	292

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.10265
Model->	5025A	Qstd Intercept ->	-0.00335
Calibration Date->	24-Mar-15	Expiry Date->	24-Mar-16

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	4.1	4.1	8.2	1.384	56	56.82	Slope = 30.1332
13	3.2	3.2	6.4	1.222	52	52.76	Intercept = 15.8637
10	2.4	2.4	4.8	1.059	48	48.71	Corr. coeff. = 0.9950
8	1.6	1.6	3.2	0.865	42	42.62	
5	1.0	1.0	2.0	0.684	35	35.51	

Calculations :

Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]

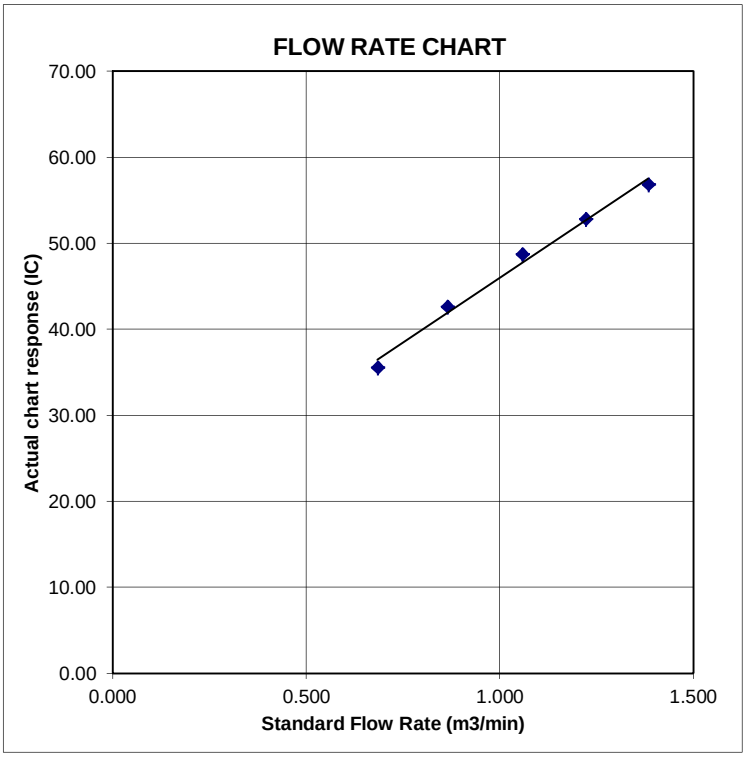
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	366410
Equipment Ref:	EQ110
Job Order	HK1603561

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	2 January 2016

Equipment Verification Results:

Testing Date: 4 to 6 January 2016

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m^3 (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr17min	17:30 ~ 19:47	20.6	1018.9	0.027	1566	11.4
2hr42min	17:00 ~ 19:42	20.7	1015.9	0.021	1422	8.7
2hr21min	18:00 ~ 20:21	20.9	1018.8	0.051	3318	23.4

Sensitivity Adjustment Scale Setting (Before Calibration) 660 (CPM)

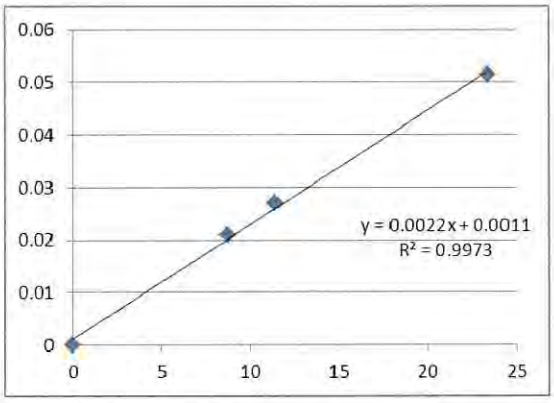
Sensitivity Adjustment Scale Setting (After Calibration) 661 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0022

Correlation Coefficient 0.9973

Date of Issue 11 January 2016



Remarks:

1. **Strong** Correlation (R>0.8)
2. Factor 0.0022 should be apply for TSP monitoring

*If R<0.5, repair or re-verification is required for the equipment

Operator : Donald Kwok Signature : Date : 12 January 2016

QC Reviewer : Ben Tam Signature : Date : 12 January 2016

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	2-Jan-16
Location ID :	Calibration Room	Next Calibration Date:	2-Apr-16

CONDITIONS

Sea Level Pressure (hPa)	1022	Corrected Pressure (mm Hg)	766.5
Temperature (°C)	18.9	Temperature (K)	292

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.10265
Model->	5025A	Qstd Intercept ->	-0.00335
Calibration Date->	24-Mar-15	Expiry Date->	24-Mar-16

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	4.1	4.1	8.2	1.384	56	56.82	Slope = 30.1332
13	3.2	3.2	6.4	1.222	52	52.76	Intercept = 15.8637
10	2.4	2.4	4.8	1.059	48	48.71	Corr. coeff. = 0.9950
8	1.6	1.6	3.2	0.865	42	42.62	
5	1.0	1.0	2.0	0.684	35	35.51	

Calculations :

Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]

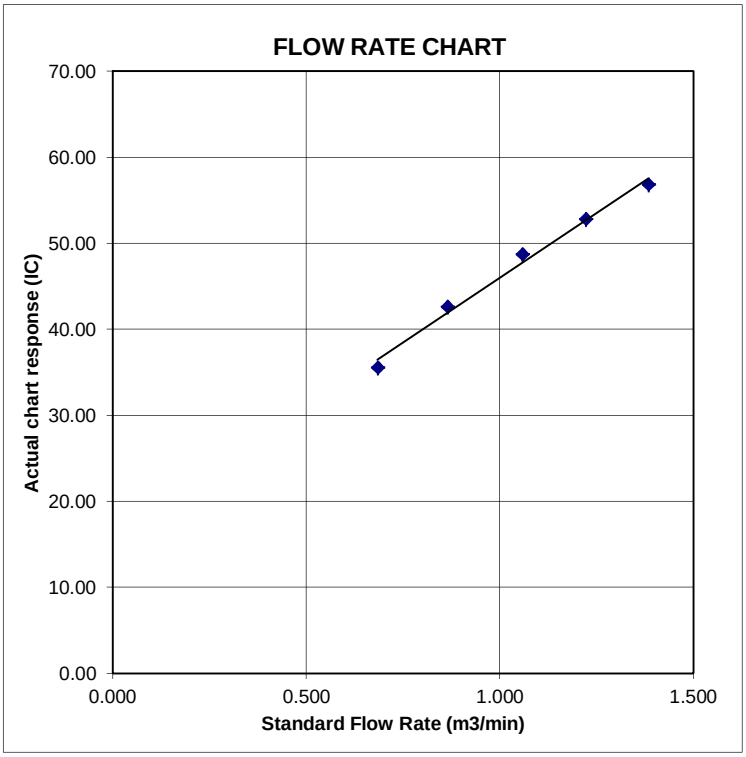
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	3Y6503
Equipment Ref:	EQ112
Job Order	HK1603553

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	2 January 2016

Equipment Verification Results:

Testing Date: 4 to 6 January 2016

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m^3 (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr17min	17:30 ~ 19:47	20.6	1018.9	0.027	1633	11.9
2hr42min	17:00 ~ 19:42	20.7	1015.9	0.021	1502	9.2
2hr21min	18:00 ~ 20:21	20.9	1018.8	0.051	3365	23.8

Sensitivity Adjustment Scale Setting (Before Calibration) 642 (CPM)

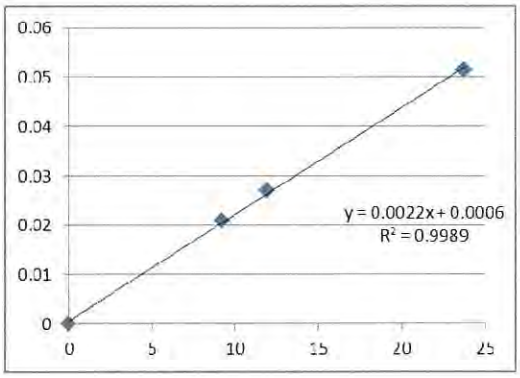
Sensitivity Adjustment Scale Setting (After Calibration) 648 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0022

Correlation Coefficient 0.9989

Date of Issue 11 January 2016



Remarks:

1. **Strong** Correlation (R>0.8)
2. Factor 0.0022 should be apply for TSP monitoring

*If R<0.5, repair or re-verification is required for the equipment

Operator : Donald Kwok Signature : Date : 12 January 2016

QC Reviewer : Ben Tam Signature : Date : 12 January 2016

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	2-Jan-16
Location ID :	Calibration Room	Next Calibration Date:	2-Apr-16

CONDITIONS

Sea Level Pressure (hPa)	1022	Corrected Pressure (mm Hg)	766.5
Temperature (°C)	18.9	Temperature (K)	292

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.10265
Model->	5025A	Qstd Intercept ->	-0.00335
Calibration Date->	24-Mar-15	Expiry Date->	24-Mar-16

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	4.1	4.1	8.2	1.384	56	56.82	Slope = 30.1332
13	3.2	3.2	6.4	1.222	52	52.76	Intercept = 15.8637
10	2.4	2.4	4.8	1.059	48	48.71	Corr. coeff. = 0.9950
8	1.6	1.6	3.2	0.865	42	42.62	
5	1.0	1.0	2.0	0.684	35	35.51	

Calculations :

Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]

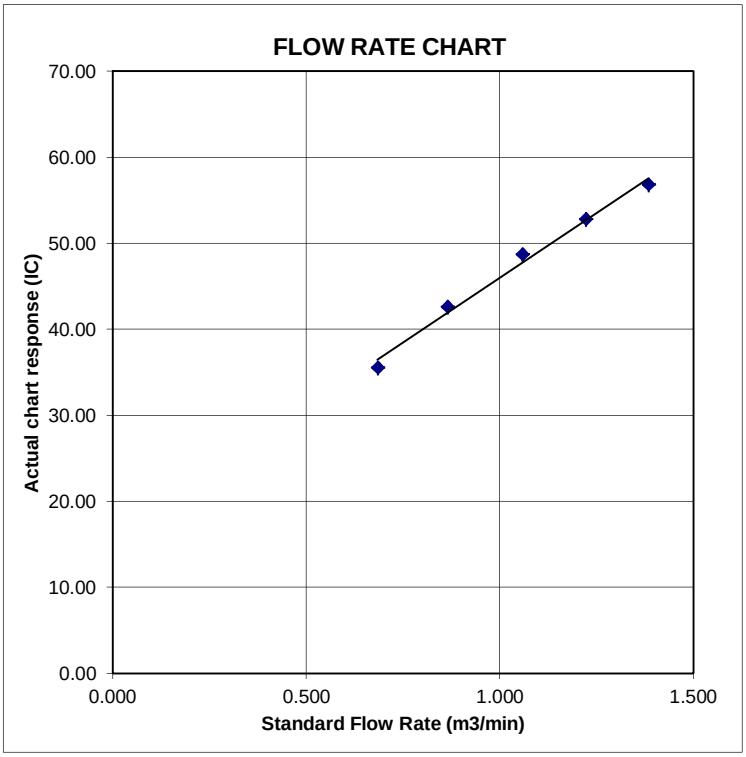
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	3Y6505
Equipment Ref:	EQ114
Job Order	HK1603562

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	2 January 2016

Equipment Verification Results:

Testing Date: 4 to 6 January 2016

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m^3 (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr17min	17:30 ~ 19:47	20.6	1018.9	0.027	1589	11.6
2hr42min	17:00 ~ 19:42	20.7	1015.9	0.021	1473	9.0
2hr21min	18:00 ~ 20:21	20.9	1018.8	0.051	3314	23.4

Sensitivity Adjustment Scale Setting (Before Calibration) 588 (CPM)

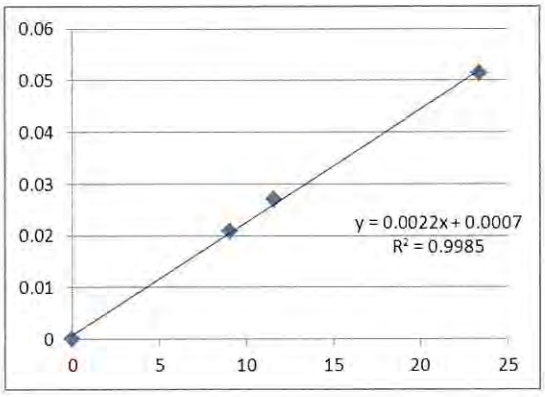
Sensitivity Adjustment Scale Setting (After Calibration) 585 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0022

Correlation Coefficient 0.9985

Date of Issue 11 January 2016



Remarks:

1. **Strong** Correlation (R>0.8)
2. Factor 0.0022 should be apply for TSP monitoring

*If R<0.5, repair or re-verification is required for the equipment

Operator : Donald Kwok Signature : Date : 12 January 2016

QC Reviewer : Ben Tam Signature : Date : 12 January 2016

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	2-Jan-16
Location ID :	Calibration Room	Next Calibration Date:	2-Apr-16

CONDITIONS

Sea Level Pressure (hPa)	1022	Corrected Pressure (mm Hg)	766.5
Temperature (°C)	18.9	Temperature (K)	292

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.10265
Model->	5025A	Qstd Intercept ->	-0.00335
Calibration Date->	24-Mar-15	Expiry Date->	24-Mar-16

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	4.1	4.1	8.2	1.384	56	56.82	Slope = 30.1332
13	3.2	3.2	6.4	1.222	52	52.76	Intercept = 15.8637
10	2.4	2.4	4.8	1.059	48	48.71	Corr. coeff. = 0.9950
8	1.6	1.6	3.2	0.865	42	42.62	
5	1.0	1.0	2.0	0.684	35	35.51	

Calculations :

Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]

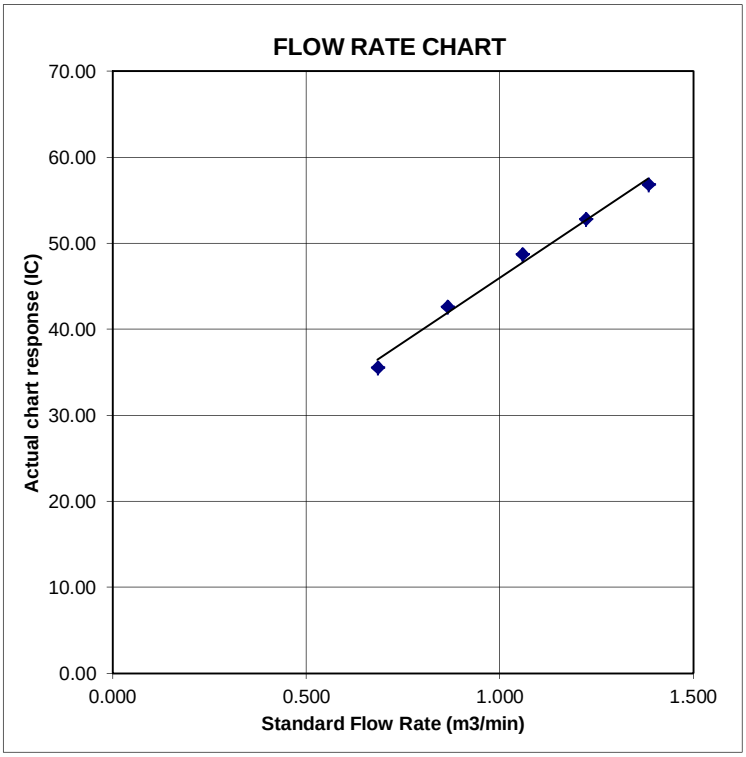
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



SIBATA (EQ111)

SIBATA SCIENTIFIC TECHNOLOGY LTD.
1-1-62, Nakane, Soka, Saitama, 340-0005 Japan
TEL : 048-933-1582 FAX : 048-933-1591

CALIBRATION CERTIFICATE

Date: May 11, 2015

Equipment Name	:	Digital Dust Indicator, Model LD-3B
Code No.	:	080000-42
Quantity	:	1 unit
Serial No.	:	3Y6501
Sensitivity	:	0.001 mg/m3
Sensitivity Adjustment	:	656CPM
Scale Setting	:	April 24, 2015

We hereby certify that the avobe mentioned instrment has been calibrated satisfactory.

Sincerely

SIBATA SCIENTIFIC TECHNOLOGY LTD.

Hong

For Kentaro Togo
Overseas Sales Division

輝創工程有限公司
Sun Creation Engineering Limited
Calibration and Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C151969
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC15-0720) Date of Receipt / 收件日期 : 24 March 2015

Description / 儀器名稱	:	Integrating Sound Level Meter (EQ006)
Manufacturer / 製造商	:	Brüel & Kjær
Model No. / 型號	:	2238
Serial No. / 編號	:	2285762
Supplied By / 委託者	:	Action-United Environmental Services and Consulting Unit A, 20/F., Gold King Industrial Building, 35-41 Tai Lin Pai Road, Kwai Chung, N.T.

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 11 April 2015

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
All results are within manufacturer's specification.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By 測試 : K C Lee, Project Engineer

Certified By 核證 : K M Wu, Engineer

Date of Issue 簽發日期 : 14 April 2015

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.
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Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 – 校正及檢測實驗所
c/o 香港新界屯門興安里一號青山灣機樓四樓
Tel/電話: 2927 2606 Fax/傳真: 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

Certificate of Calibration
校正證書

Certificate No. : C151969
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

2. Self-calibration using laboratory acoustic calibrator was performed before the test from 6.1.1.2 to 6.4.

3. The results presented are the mean of 3 measurements at each calibration point.

4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C150014
CL281	Multifunction Acoustic Calibrator	DC130171

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

6.1.1.1 Before Self-calibration

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
50 - 130	L_{AFP}	A	F	94.00	1	94.3

6.1.1.2 After Self-calibration

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 130	L_{AFP}	A	F	94.00	1	94.1	± 0.7

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
50 - 130	L_{AFP}	A	F	94.00	1	94.1 (Ref.)
				104.00		104.0
				114.00		114.0

IEC 60651 Type 1 Spec. : ± 0.4 dB per 10 dB step and ± 0.7 dB for overall different.

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.
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c/o 香港新界屯門興安里一號青山灣機樓四樓
Tel/電話: 2927 2606 Fax/傳真: 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

Certificate of Calibration
校正證書

Certificate No. : C151969
證書編號

6.2 Time Weighting

6.2.1 Continuous Signal

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 130	L_{AFP}	A	F	94.00	1	94.1	Ref.
	L_{ASP}		S			94.1	± 0.1
	L_{AIP}		I			94.1	± 0.1

6.2.2 Tone Burst Signal (2 kHz)

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Burst Duration		
30 - 110	L_{AFP}	A	F	106.0	Continuous	106.0	Ref.
	L_{AFMax}				200 ms	104.9	-1.0 ± 1.0
	L_{ASP}		S		Continuous	106.0	Ref.
	L_{ASMax}				500 ms	101.9	-4.1 ± 1.0

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L_{AFP}	A	F	94.00	31.5 Hz	55.1	-39.4 ± 1.5
					63 Hz	68.0	-26.2 ± 1.5
					125 Hz	77.9	-16.1 ± 1.0
					250 Hz	85.4	-8.6 ± 1.0
					500 Hz	90.8	-3.2 ± 1.0
					1 kHz	94.1	Ref.
					2 kHz	95.3	+1.2 ± 1.0
					4 kHz	95.1	+1.0 ± 1.0
					8 kHz	93.0	-1.1 (+1.5 ; -3.0)
					12.5 kHz	89.9	-4.3 (+3.0 ; -6.0)

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.
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Certificate of Calibration
校正證書

Certificate No. : C151969
證書編號

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L_{CFP}	C	F	94.00	31.5 Hz	91.4	-3.0 ± 1.5
					63 Hz	93.4	-0.8 ± 1.5
					125 Hz	93.9	-0.2 ± 1.0
					250 Hz	94.1	0.0 ± 1.0
					500 Hz	94.1	0.0 ± 1.0
					1 kHz	94.1	Ref.
					2 kHz	93.9	-0.2 ± 1.0
					4 kHz	93.3	-0.8 ± 1.0
					8 kHz	91.1	-3.0 (+1.5 ; -3.0)
					12.5 kHz	88.0	-6.2 (+3.0 ; -6.0)

6.4 Time Averaging

UUT Setting				Applied Value					UUT Reading (dB)	IEC 60804 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Integrating Time	Frequency (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)		
30 - 110	L_{Aeq}	A	10 sec.	4	1	1/10	110.0	100	100.0	± 0.5
						$1/10^2$		90	90.1	± 0.5
			60 sec.			$1/10^3$		80	79.4	± 1.0
			5 min.			$1/10^4$		70	69.2	± 1.0

Remarks : - UUT Microphone Model No. : 4188 & S/N : 2812705

- Mfr's Spec. : IEC 60651 Type 1 & IEC 60804 Type 1

- Uncertainties of Applied Value :

94 dB	: 31.5 Hz - 125 Hz	: ± 0.35 dB
	250 Hz - 500 Hz	: ± 0.30 dB
	1 kHz	: ± 0.20 dB
	2 kHz - 4 kHz	: ± 0.35 dB
	8 kHz	: ± 0.45 dB
	12.5 kHz	: ± 0.70 dB
104 dB : 1 kHz		: ± 0.10 dB (Ref. 94 dB)
114 dB : 1 kHz		: ± 0.10 dB (Ref. 94 dB)
Burst equivalent level		: ± 0.2 dB (Ref. 110 dB continuous sound level)

- The uncertainties are for a confidence probability of not less than 95 %.

Note :
The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.
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Sun Creation Engineering Limited – Calibration & Testing Laboratory
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輝創工程有限公司
Sun Creation Engineering Limited
Calibration and Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C153055
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC15-0720) Date of Receipt / 收件日期 : 15 May 2015

Description / 儀器名稱 : Integrating Sound Level Meter (EQ065)
Manufacturer / 製造商 : Brüel & Kjær
Model No. / 型號 : 2238
Serial No. / 編號 : 2337676
Supplied By / 委託者 : Action-United Environmental Services and Consulting
Unit A, 20/F., Gold King Industrial Building,
35-41 Tai Lin Pai Road, Kwai Chung, N.T.

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 4 June 2015

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
All results are within manufacturer's specification.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By 測試 : K C Lee, Project Engineer

Certified By 核證 : K M Wu, Engineer

Date of Issue 簽發日期 : 5 June 2015

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.
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Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 – 校正及檢測實驗所
c/o 香港新界屯門興安里一號青山灣機樓四樓
Tel/電話: 2927 2606 Fax/傳真: 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

Certificate of Calibration
校正證書

Certificate No. : C153055
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

2. The results presented are the mean of 3 measurements at each calibration point.

3. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C150014
CL281	Multifunction Acoustic Calibrator	DC130171

4. Test procedure : MA101N.

5. Results :

5.1 Sound Pressure Level

UUT Setting				Applied Value		UUT	IEC 60651
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	Reading (dB)	Type 1 Spec. (dB)
50 - 130	L_{AFP}	A	F	94.00	1	94.0	± 0.7

5.1.2 Linearity

UUT Setting				Applied Value		UUT
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	Reading (dB)
50 - 130	L_{AFP}	A	F	94.00	1	94.0 (Ref.)
				104.00		104.0
				114.00		114.0

IEC 60651 Type 1 Spec. : ± 0.4 dB per 10 dB step and ± 0.7 dB for overall different.

5.2 Time Weighting

5.2.1 Continuous Signal

UUT Setting				Applied Value		UUT	IEC 60651
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	Reading (dB)	Type 1 Spec. (dB)
50 - 130	L_{AFP}	A	F	94.00	1	94.0	Ref.
	L_{ASP}		S			94.0	± 0.1
	L_{AIP}		I			94.0	± 0.1

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.
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輝創工程有限公司 – 校正及檢測實驗所
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Tel/電話: 2927 2606 Fax/傳真: 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

Certificate of Calibration
校正證書

Certificate No. : C153055
證書編號

5.2.2 Tone Burst Signal (2 kHz)

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Burst Duration		
30 - 110	L_{AFP}	A	F	106.0	Continuous	106.0	Ref.
	L_{AFMax}				200 ms	105.0	-1.0 ± 1.0
	L_{ASP}		S		Continuous	106.0	Ref.
	L_{ASMax}				500 ms	102.0	-4.1 ± 1.0

5.3 Frequency Weighting

5.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L_{AFP}	A	F	94.00	31.5 Hz	54.8	-39.4 ± 1.5
					63 Hz	67.9	-26.2 ± 1.5
					125 Hz	77.8	-16.1 ± 1.0
					250 Hz	85.3	-8.6 ± 1.0
					500 Hz	90.8	-3.2 ± 1.0
					1 kHz	94.0	Ref.
					2 kHz	95.2	+1.2 ± 1.0
					4 kHz	95.0	+1.0 ± 1.0
					8 kHz	92.9	-1.1 (+1.5 ; -3.0)
					12.5 kHz	89.8	-4.3 (+3.0 ; -6.0)

5.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L_{CFP}	C	F	94.00	31.5 Hz	91.1	-3.0 ± 1.5
					63 Hz	93.2	-0.8 ± 1.5
					125 Hz	93.8	-0.2 ± 1.0
					250 Hz	93.9	0.0 ± 1.0
					500 Hz	94.0	0.0 ± 1.0
					1 kHz	94.0	Ref.
					2 kHz	93.8	-0.2 ± 1.0
					4 kHz	93.2	-0.8 ± 1.0
					8 kHz	91.0	-3.0 (+1.5 ; -3.0)
					12.5 kHz	87.9	-6.2 (+3.0 ; -6.0)

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.
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Certificate of Calibration
校正證書

Certificate No. : C153055
證書編號

5.4 Time Averaging

UUT Setting				Applied Value					UUT Reading (dB)	IEC 60804 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Integrating Time	Frequency (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)		
30 - 110	L_{Aeq}	A	10 sec.	4	1	1/10	110.0	100	100.0	± 0.5
						$1/10^2$		90	89.7	± 0.5
			60 sec.			$1/10^3$		80	79.8	± 1.0
			5 min.			$1/10^4$		70	69.7	± 1.0

Remarks : - UUT Microphone Model No. : 4188 & S/N : 2812708

- Mfr's Spec. : IEC 60651 Type 1 & IEC 60804 Type 1

- Uncertainties of Applied Value :

94 dB	: 31.5 Hz - 125 Hz	: ± 0.35 dB
	250 Hz - 500 Hz	: ± 0.30 dB
	1 kHz	: ± 0.20 dB
	2 kHz - 4 kHz	: ± 0.35 dB
	8 kHz	: ± 0.45 dB
	12.5 kHz	: ± 0.70 dB
104 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)
114 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)
Burst equivalent level		: ± 0.2 dB (Ref. 110 dB continuous sound level)

- The uncertainties are for a confidence probability of not less than 95 %.

Note :
The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

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輝創工程有限公司
Sun Creation Engineering Limited
Calibration and Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C152552
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC15-0720) Date of Receipt / 收件日期 : 17 April 2015

Description / 儀器名稱 : Sound Level Meter (EQ011)
Manufacturer / 製造商 : Rion
Model No. / 型號 : NL-52
Serial No. / 編號 : 01121362
Supplied By / 委託者 : Action-United Environmental Services and Consulting
Unit A, 20/F., Gold King Industrial Building,
35-41 Tai Lin Pai Road, Kwai Chung, N.T.

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 8 May 2015

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
All results are within manufacturer's specification.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By 測試 : K C Lee, Project Engineer

Certified By 核證 : K M Wu, Engineer

Date of Issue 簽發日期 : 12 May 2015

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.
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c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
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c/o 香港新界屯門興安里一號青山灣機樓四樓
Tel/電話: 2927 2606 Fax/傳真: 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

Certificate of Calibration
校正證書

Certificate No. : C152552
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

2. Self-calibration was performed before the test.

3. The results presented are the mean of 3 measurements at each calibration point.

4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C150014
CL281	Multifunction Acoustic Calibrator	DC130171

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L_A	A	Fast	94.00	1	93.6	± 1.1

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
30 - 130	L_A	A	Fast	94.00	1	93.6 (Ref.)
				104.00		103.6
				114.00		113.6

IEC 61672 Class 1 Spec. : ± 0.6 dB per 10 dB step and ± 1.1 dB for overall different.

6.2 Time Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L_A	A	Fast	94.00	1	93.6	Ref.
			Slow			93.6	± 0.3

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Certificate of Calibration
校正證書

Certificate No. : C152552
證書編號

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L_A	A	Fast	94.00	63 Hz	67.3	-26.2 ± 1.5
					125 Hz	77.4	-16.1 ± 1.5
					250 Hz	84.9	-8.6 ± 1.4
					500 Hz	90.3	-3.2 ± 1.4
					1 kHz	93.6	Ref.
					2 kHz	94.8	+1.2 ± 1.6
					4 kHz	94.6	+1.0 ± 1.6
					8 kHz	92.6	-1.1 (+2.1 ; -3.1)
					12.5 kHz	89.2	-4.3 (+3.0 ; -6.0)

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L_C	C	Fast	94.00	63 Hz	92.7	-0.8 ± 1.5
					125 Hz	93.4	-0.2 ± 1.5
					250 Hz	93.6	0.0 ± 1.4
					500 Hz	93.6	0.0 ± 1.4
					1 kHz	93.6	Ref.
					2 kHz	93.4	-0.2 ± 1.6
					4 kHz	92.8	-0.8 ± 1.6
					8 kHz	90.7	-3.0 (+2.1 ; -3.1)
					12.5 kHz	87.2	-6.2 (+3.0 ; -6.0)

Remarks : - UUT Microphone Model No. : UC-59 & S/N : 07459

- Mfr's Spec. : IEC 61672 Class 1

- Uncertainties of Applied Value :

94 dB	: 63 Hz - 125 Hz	: ± 0.35 dB
	250 Hz - 500 Hz	: ± 0.30 dB
	1 kHz	: ± 0.20 dB
	2 kHz - 4 kHz	: ± 0.35 dB
	8 kHz	: ± 0.45 dB
	12.5 kHz	: ± 0.70 dB
104 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)
114 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)

- The uncertainties are for a confidence probability of not less than 95 %.

Note :
The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

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Calibration and Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C151967
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC15-0720) Date of Receipt / 收件日期 : 24 March 2015

Description / 儀器名稱 : Sound Level Calibrator (EQ084)
Manufacturer / 製造商 : Cesva
Model No. / 型號 : CB-5
Serial No. / 編號 : 030023
Supplied By / 委託者 : Action-United Environmental Services and Consulting
Unit A, 20/F., Gold King Industrial Building,
35-41 Tai Lin Pai Road, Kwai Chung, N.T.

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration

DATE OF TEST / 測試日期 : 11 April 2015

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
All results are within manufacturer's specification. (after adjustment)
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By 測試 : K C Lee, Project Engineer

Certified By 核證 : K M Wu, Engineer

Date of Issue 簽發日期 : 14 April 2015

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.
本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。

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Certificate of Calibration
校正證書

Certificate No. : C151967
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.

2. The results presented are the mean of 3 measurements at each calibration point.

3. Test equipment :

Equipment ID	Description	Certificate No.
CL130	Universal Counter	C143868
CL281	Multifunction Acoustic Calibrator	DC130171
TST150A	Measuring Amplifier	C141558

4. Test procedure : MA100N.

5. Results :

5.1 Sound Level Accuracy

5.1.1 Before Adjustment

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	* 94.4	± 0.3	± 0.2
104 dB, 1 kHz	* 104.4		± 0.3

Out of Mfr's Spec.

5.1.2 After Adjustment

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	94.0	± 0.3	± 0.2
104 dB, 1 kHz	104.0		± 0.3

5.2 Frequency Accuracy

5.2.1 Before Adjustment

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	1.002	1 kHz ± 1.5 %	± 1

5.2.2 After Adjustment

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	1.001	1 kHz ± 1.5 %	± 1

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Certificate of Calibration
校正證書

Certificate No. : C151967
證書編號

Remark : The uncertainties are for a confidence probability of not less than 95 %.

Note :
The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

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Sun Creation Engineering Limited
Calibration and Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C152550
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC15-0720) Date of Receipt / 收件日期 : 16 April 2015

Description / 儀器名稱 : Acoustical Calibrator (EQ081)
Manufacturer / 製造商 : Brüel & Kjær
Model No. / 型號 : 4231
Serial No. / 編號 : 2326408
Supplied By / 委託者 : Action-United Environmental Services and Consulting
Unit A, 20/F., Gold King Industrial Building,
35-41 Tai Lin Pai Road, Kwai Chung, N.T.

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 7 May 2015

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
All results are within manufacturer's specification.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By 測試 : K C Lee, Project Engineer

Certified By 核證 : K M Wu, Engineer

Date of Issue 簽發日期 : 12 May 2015

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.
本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。

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Certificate of Calibration
校正證書

Certificate No. : C152550
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.

2. The results presented are the mean of 3 measurements at each calibration point.

3. Test equipment :

Equipment ID	Description	Certificate No.
CL130	Universal Counter	C143868
CL281	Multifunction Acoustic Calibrator	DC130171
TST150A	Measuring Amplifier	C141558

4. Test procedure : MA100N.

5. Results :

5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	94.0	± 0.2	± 0.2
114 dB, 1 kHz	114.0		

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	1.000 0	1 kHz ± 0.1 %	± 0.1

Remark : The uncertainties are for a confidence probability of not less than 95 %.

Note :
The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.
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Certificate of Calibration
校正證書

Certificate No. : C151968
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC15-0720) Date of Receipt / 收件日期 : 24 March 2015

Description / 儀器名稱 : Sound Calibrator (EQ083)
Manufacturer / 製造商 : Rion
Model No. / 型號 : NC-74
Serial No. / 編號 : 34246492
Supplied By / 委託者 : Action-United Environmental Services and Consulting
Unit A, 20/F., Gold King Industrial Building,
35-41 Tai Lin Pai Road, Kwai Chung, N.T.

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 11 April 2015

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
All results are within manufacturer's specification.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By 測試 : K C Lee, Project Engineer

Certified By 核證 : K M Wu, Engineer

Date of Issue 簽發日期 : 14 April 2015

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.
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Calibration and Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C151968
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.

2. The results presented are the mean of 3 measurements at each calibration point.

3. Test equipment :

Equipment ID	Description	Certificate No.
CL130	Universal Counter	C143868
CL281	Multifunction Acoustic Calibrator	DC130171
TST150A	Measuring Amplifier	C141558

4. Test procedure : MA100N.

5. Results :

5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	94.0	± 0.3	± 0.2

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	1.001	1 kHz ± 1 %	± 1

Remark : The uncertainties are for a confidence probability of not less than 95 %.

Note :
The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	MR BEN TAM	**WORK ORDER:**	HK1548853
CLIENT:	ACTION UNITED ENVIRO SERVICES	**SUB-BATCH:**	0
ADDRESS:	RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T., HONG KONG.	**LABORATORY:**	HONG KONG
		DATE RECEIVED:	16/12/2015
		DATE OF ISSUE:	24/12/2015

COMMENTS

The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.
The "Tolerance Limit" quoted is the acceptance criteria applicable for similar equipment used by the ALS Hong Kong laboratory or quoted from relevant international standards.
The "Next Calibration Date" is recommended according to best practice principals as practised by the ALS Hong Kong laboratory or quoted from relevant international standards.

Scope of Test:	Dissolved Oxygen and Temperature
Equipment Type:	Dissolved Oxygen Meter
Brand Name:	YSI
Model No.:	YSI Pro 20
Serial No.:	12C100570
Equipment No.:	--
Date of Calibration:	23 December, 2015

NOTES

This is the Final Report and supersedes any preliminary report with this batch number.
Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

Mr. Fung Lim Chee, Richard
General Manager
Greater China & Hong Kong

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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

Work Order: HK1548853
Sub-Batch: 0
Date of Issue: 24/12/2015
Client: ACTION UNITED ENVIRO SERVICES

Equipment Type: Dissolved Oxygen Meter
Brand Name: YSI
Model No.: YSI Pro 20
Serial No.: 12C100570
Equipment No.: --
Date of Calibration: 23 December, 2015 Date of next Calibration: 23 March, 2016

Parameters:

Dissolved Oxygen **Method Ref: APHA (21st edition), 4500O: G**

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
1.80	1.75	-0.05
4.86	4.73	-0.13
8.59	8.69	+0.10
	Tolerance Limit (mg/L)	±0.20

Temperature **Method Ref: Section 6 of International Accreditation New Zealand Technical Guide No. 3 Second edition March 2008: Working Thermometer Calibration Procedure.**

Expected Reading (°C)	Displayed Reading (°C)	Tolerance (°C)
10	10.4	+0.4
20	20.6	+0.6
40	39.2	-0.8
	Tolerance Limit (°C)	±2.0

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

Mr. Fung Lim Chee, Richard
General Manager -
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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	MR BEN TAM	**WORK ORDER:**	HK1548854
CLIENT:	ACTION UNITED ENVIRO SERVICES	**SUB-BATCH:**	0
ADDRESS:	RM A 20/F., GOLDEN KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T., HONG KONG	**LABORATORY:**	HONG KONG
		DATE RECEIVED:	16/12/2015
		DATE OF ISSUE:	24/12/2015

COMMENTS

The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.
The "Tolerance Limit" quoted is the acceptance criteria applicable for similar equipment used by the ALS Hong Kong laboratory or quoted from relevant international standards.

Scope of Test:	pH and Temperature
Description:	pH Meter
Brand Name:	AZ
Model No.:	8685
Serial No.:	212632
Equipment No.:	--
Date of Calibration:	23 December, 2015

NOTES

This is the Final Report and supersedes any preliminary report with this batch number.
Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

Mr Fung Lim Chee, Richard
General Manager -
Greater China & Hong Kong

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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

Work Order: HK1548854
Sub-batch: 0
Date of Issue: 24/12/2015
Client: ACTION UNITED ENVIRO SERVICES

Description: pH Meter
Brand Name: AZ
Model No.: 8685
Serial No.: 212632
Equipment No.: --
Date of Calibration: 23 December, 2015

Parameters:

pH Value

Method Ref: APHA (21st edition), 4500H:B

Expected Reading (pH Unit)	Displayed Reading (pH Unit)	Tolerance (pH unit)
4.0	3.9	-0.10
7.0	6.8	-0.20
10.0	8.6	-1.40
	Tolerance Limit (pH Unit)	±0.20

Temperature

Method Ref: Section 6 of International Accreditation New Zealand Technical Guide No. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

Expected Reading (°C)	Displayed Reading (°C)	Tolerance (°C)
10	9.6	-0.4
20	21.2	+1.2
40	39.6	-0.4
	Tolerance Limit (°C)	±2.0

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

Mr Fung Lim Chee, Richard
General Manager -
Greater China & Hong Kong

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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	MR BEN TAM	**WORK ORDER:**	HK1548856
CLIENT:	ACTION UNITED ENVIRO SERVICES	**SUB-BATCH:**	0
ADDRESS:	RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T., HONG KONG	**LABORATORY:**	HONG KONG
		DATE RECEIVED:	16/12/2015
		DATE OF ISSUE:	24/12/2015

COMMENTS

The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.
The "Tolerance Limit" quoted is the acceptance criteria applicable for similar equipment used by the ALS Hong Kong laboratory or quoted from relevant international standards.
The "Next Calibration Date" is recommended according to best practice principals as practised by the ALS Hong Kong laboratory or quoted from relevant international standards.

Scope of Test:	Turbidity
Equipment Type:	Turbidimeter
Brand Name:	HACH
Model No.:	2100Q
Serial No.:	11030C008499
Equipment No.:	--
Date of Calibration:	23 December, 2015

NOTES

This is the Final Report and supersedes any preliminary report with this batch number.
Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

Mr. Fung Lim Chee, Richard
General Manager
Greater China & Hong Kong

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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

Work Order: HK1548856
Sub-batch: 0
Date of Issue: 24/12/2015
Client: ACTION UNITED ENVIRO SERVICES

Equipment Type: Turbidimeter
Brand Name: HACH
Model No.: 2100Q
Serial No.: 11030C008499
Equipment No.: --
Date of Calibration: 23 December, 2015 Date of next Calibration: 23 March, 2016

Parameters:

Turbidity **Method Ref: APHA 21st Ed. 2130B**

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.00	--
4	4.36	+9.0
40	40.2	+0.5
80	81.1	+1.4
400	388	-3.0
800	794	-0.8
	Tolerance Limit (%)	±10.0

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

Mr. Fung Lim Chee, Richard
General Manager -
Greater China & Hong Kong

Hong Kong Accreditation Service
香港認可處

Certificate of Accreditation
認可證書

This is to certify that
特此證明

ALS TECHNICHEM (HK) PTY LIMITED

11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, New Territories, Hong Kong
香港新界葵涌永業街1-3號忠信針織中心11樓

has been accepted by the HKAS Executive, on the recommendation of the Accreditation Advisory Board, as a
為香港認可處執行機關根據認可諮詢委員會建議而接受的

HOKLAS Accredited Laboratory
「香港實驗所認可計劃」認可實驗所

This laboratory meets the requirements of ISO / IEC 17025 : 2005 – General requirements for the competence of testing and calibration laboratories and it has been accredited for performing specific tests or calibrations as listed in the HOKLAS Directory of Accredited Laboratories within the test category of
此實驗所符合ISO / IEC 17025 : 2005 –《測試及校正實驗所能力的通用規定》所訂的要求，獲認可進行載於香港實驗所認可計劃《認可實驗所名冊》內下述測試類別中的指定測試或校正工作

Environmental Testing
環境測試

This laboratory is accredited in accordance with the recognised International Standard ISO / IEC 17025 : 2005.
本實驗所乃根據公認的國際標準 ISO / IEC 17025 : 2005 獲得認可。
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (see joint IAF-ILAC-ISO Communiqué).
這項認可資格演示在指定範疇所需的技術能力及實驗所質量管理體系的運作（見國際認可論壇、國際實驗所認可合作組織及國際標準化組織的聯合公報）。

The common seal of the Hong Kong Accreditation Service is affixed hereto by the authority of the HKAS Executive
香港認可處根據認可處執行機關的權限在此蓋上通用印章

CHAN Sing Sing, Terence, Executive Administrator
執行幹事 陳成城
Issue Date : 5 May 2009
簽發日期：二零零九年五月五日

Registration Number : HOKLAS 066
註冊號碼：

Date of First Registration : 15 September 1995
首次註冊日期：一九九五年九月十五日

This certificate is issued subject to the terms and conditions laid down by HKAS
本證書按照香港認可處訂立的條款及條件發出

L 000552

Appendix G

Event and Action Plan

Event and Action Plan for Air Quality

Event	ET	IEC	ER	Action Contractor
Action Level				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 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.
2. Exceedance for two or more consecutive samples	1. Identify source; 2. Inform IEC and ER; 3. Advise the ER on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC and Contractor on remedial actions required; 7. If exceedance continues, arrange meeting with IEC and ER; 8. 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 ET on the effectiveness of the proposed remedial measures; 5. Monitor the 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 to ER within 3 working days of notification; 2. Implement the agreed proposals; 3. Amend proposal if appropriate.
Limit Level				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform 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 the ER on the effectiveness of the proposed remedial measures; 5. Monitor theimplementation of remedial measures.	1. Confirm receipt of notification of failure 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.
2. Exceedance for two or more consecutive samples	1. Notify IEC, ER, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 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. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 4. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 5. Monitor the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation 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 the ER until the exceedance is abated.

Event and Action Plan for Construction Noise

Event	ET	IEC	ER	Action Contractor
Action Level	1. Notify ER, IEC and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the IEC and Contractor on remedial measures required; 5. Increase monitoring frequency to check mitigation effectiveness.	1. Review the investigation results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; 3. Advise the ER on the effectiveness of the proposed remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures.	1. Submit noise mitigation proposals to IEC and ER; 2. Implement noise mitigation proposals.
Limit Level	1. Inform IEC, ER, Contractor and EPD; 2. Repeat measurements to confirm findings; 3. Increase monitoring frequency; 4. Identify source and investigate the cause of exceedance; 5. Carry out analysis of Contractor's working procedures; 6. Discuss with the IEC, Contractor and ER on remedial measures required; 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. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures; 5. If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the exceedance until the exceedance is abated.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC and ER within 3 working days of notification; 3. Implement the agreed proposals; 4. Submit further proposal if problem still not under control; 5. Stop the relevant portion of works as instructed by the ER until the exceedance is abated.

Event and Action Plan for Water Quality

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action level being exceeded by one sampling day	1. Repeat in-situ measurement to confirm findings; 2. Identify reasons for non-compliance and sources of impact; 3. Inform IEC and Contractor; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC and Contractor; 6. Repeat measurement on next day of exceedance.	1. Discuss with ET and Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; 3. Assess the effectiveness of the implemented mitigation measures	1. Discuss with IEC on the proposed mitigation measures; 2. Make agreement on the mitigation measures to be implemented; 3. Assess the effectiveness of the implemented mitigation measures	1. Inform the ER and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with ET and IEC and propose mitigation measures to IEC and ER; 6. Implement the agreed mitigation measures.
Action Level being exceeded by more than two consecutive sampling days	1. Repeat in-situ measurement to confirm findings; 2. Identify reasons for non-compliance and sources of impact; 3. Inform IEC and Contractor; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC and Contractor; 6. Ensure mitigation measures are implemented; 7. Prepare to increase the monitoring frequency to daily; 8. Repeat measurement on next day of exceedance.	1. Discuss with ET and Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; 3. Assess the effectiveness of the implemented mitigation measures	1. Discuss with IEC on the proposed mitigation measures; 2. Make agreement on the mitigation measures to be implemented; 3. Assess the effectiveness of the implemented mitigation measures	1. Inform the ER and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with ET and IEC and propose mitigation measures to IEC and ER within 3 working days; 6. Implement the agreed mitigation measures.
Limit Level being exceeded by one sampling day	1. Repeat in-situ measurement to confirm findings; 2. Identify reasons for non-compliance and sources of impact; 3. Inform IEC, Contractor and EPD; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, ER and Contractor; 6. Ensure mitigation measures are implemented; 7. Increase the monitoring frequency to daily until no exceedance of Limit Level.	1. Discuss with ET and Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; 3. Assess the effectiveness of the implemented mitigation measures	1. Discuss with IEC, ET and 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. Assess the effectiveness of the implemented mitigation measures	1. Inform the ER and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER within 3 working days; 6. Implement the agreed mitigation measures.
Limit level being exceeded by more than one consecutive sampling days	1. Repeat in-situ measurement to confirm findings; 2. Identify reasons for non-compliance and sources of impact; 3. Inform IEC, Contractor and EPD; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, ER and Contractor; 6. Ensure mitigation measures are implemented; 7. Increase the monitoring frequency to daily until no exceedance of Limit Level for two consecutive days.	1. Discuss with ET and Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; 3. Assess the effectiveness of the implemented mitigation measures.	1. Discuss with IEC, ET and 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. Assess the effectiveness of the implemented mitigation measures; 5. Consider and 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. Inform the ER and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER within 3 working days; 6. Implement the agreed mitigation measures; 7. As directed by the ER, to slow down or to stop all or part of the construction activities.

Appendix H

Impact Monitoring Schedule

Impact Monitoring Schedule for the Reporting Period – February 2016

Date		Dust Monitoring		Noise Monitoring	Water Quality
		1-hour TSP	24-hour TSP		
Mon	1-Feb-16	C2&C6		C2&C6	C2 & C3&C5& SSC505
Tue	2-Feb-16		C3&C5 & SSC505		C3&C5 & SSC505
Wed	3-Feb-16	C3&C5 & SSC505		C3&C5 & SSC505	C2 & C3&C5& SSC505
Thu	4-Feb-16				C2 & C6
Fri	5-Feb-16		C2&C6		C2 & C3&C5& SSC505
Sat	6-Feb-16	C3&C5 & SSC505 & C2&C6		C3&C5 & SSC505& C2&C6	C2 & C6
Sun	7-Feb-16				
Mon	8-Feb-16				
Tue	9-Feb-16				
Wed	10-Feb-16				
Thu	11-Feb-16		C3&C5 & SSC505 & C2&C6		C2 & C3&C5& SSC505& C6
Fri	12-Feb-16	C3&C5 & SSC505 & C2&C6		C3&C5 & SSC505& C2&C6	
Sat	13-Feb-16				C2 & C3&C5& SSC505& C6
Sun	14-Feb-16				
Mon	15-Feb-16				C2 & C6
Tue	16-Feb-16		C2&C6		C2 & C3&C5& SSC505
Wed	17-Feb-16	C2&C6	C3&C5 & SSC505	C2&C6	C2 & C6
Thu	18-Feb-16	C3&C5 & SSC505		C3&C5 & SSC505	C2 & C3&C5& SSC505
Fri	19-Feb-16				C2 & C6
Sat	20-Feb-16				C2 & C3&C5& SSC505
Sun	21-Feb-16				
Mon	22-Feb-16		C2&C6		C2 & C3&C5& SSC505
Tue	23-Feb-16	C2&C6	C3&C5 & SSC505	C2&C6	C2 & C6
Wed	24-Feb-16	C3&C5 & SSC505		C3&C5 & SSC505	C2 & C3&C5& SSC505
Thu	25-Feb-16				C2 & C6
Fri	26-Feb-16				C2 & C3&C5& SSC505
Sat	27-Feb-16		C2&C6		C2 & C6
Sun	28-Feb-16				
Mon	29-Feb-16	C2&C6	C3&C5 & SSC505	C2&C6	C2 & C6

Remark: no water monitoring was carried out from 7 to 10 February 2016 since it was site closed for Lunar New Year Holiday and no construction activities were being conducted.

	Monitoring Day
	Sunday or Public Holiday

Monitoring Location

Contract 2 (C2)	Air Quality	AM7b & AM8
	Construction Noise	NM5, NM6, NM7
	Water Quality#	WM3, WM3-Control, WM4, WM4-Control A & WM4-Control B
Contract 3 (C3)	Air Quality	AM9b
	Construction Noise	NM8, NM9 & NM10
	Water Quality	WM4, WM4-Control A & WM4-Control B
Contract 5 (C5)	Air Quality	AM1b, AM2 & AM3
	Construction Noise	NM1, NM2
	Water Quality	WM1 & WM1-Control
Contract SS C505	Air Quality	AM1b
	Construction Noise	NM1
	Water Quality	WM1 & WM1-Control
Contract 6 (C6)	Air Quality	AM2, AM3, AM4b, AM5 & AM6
	Construction Noise	NM2,NM3, NM4, NM5 & NM6
	Water Quality	WM1, WM1C, WM2a, WM2A-C, WM2B, WM2B-C, WM3, WM3-C
Contract 7 (C7)	Air Quality	AM1b
	Construction Noise	NM1

Impact Monitoring Schedule for next Reporting Period – March 2016

Date		Dust Monitoring		Noise Monitoring	Water Quality
		1-hour TSP	24-hour TSP		
Tue	1-Mar-16	C3&C5 & SSC505		C3&C5 & SSC505	
Wed	2-Mar-16				C2 & C3&C5& SSC505& C6
Thu	3-Mar-16		C6		
Fri	4-Mar-16	C6	C2	C6	C2 & C3&C5& SSC505& C6
Sat	5-Mar-16	C2	C3&C5 & SSC505	C2	
Sun	6-Mar-16				
Mon	7-Mar-16	C3&C5 & SSC505		C3&C5 & SSC505	C2 & C3&C5& SSC505& C6
Tue	8-Mar-16				
Wed	9-Mar-16		C6		C2 & C3&C5& SSC505& C6
Thu	10-Mar-16	C6	C2	C6	
Fri	11-Mar-16	C2	C3&C5 & SSC505	C2	C2 & C3&C5& SSC505& C6
Sat	12-Mar-16	C3&C5 & SSC505		C3&C5 & SSC505	
Sun	13-Mar-16				
Mon	14-Mar-16				C2 & C3&C5& SSC505& C6
Tue	15-Mar-16		C6		
Wed	16-Mar-16	C6	C2	C6	C2 & C3&C5& SSC505& C6
Thu	17-Mar-16	C2	C3&C5 & SSC505	C2	
Fri	18-Mar-16	C3&C5 & SSC505		C3&C5 & SSC505	C2 & C3&C5& SSC505& C6
Sat	19-Mar-16		C6		
Sun	20-Mar-16				
Mon	21-Mar-16	C6		C6	C2 & C3&C5& SSC505& C6
Tue	22-Mar-16		C2		
Wed	23-Mar-16	C2&C6	C3&C5 & SSC505	C2	C2 & C3&C5& SSC505& C6
Thu	24-Mar-16	C3&C5 & SSC505	C2&C6	C3&C5 & SSC505	
Fri	25-Mar-16				
Sat	26-Mar-16				
Sun	27-Mar-16				
Mon	28-Mar-16				
Tue	29-Mar-16	C2&C6	C3&C5 & SSC505	C2&C6	C2 & C3&C5& SSC505& C6
Wed	30-Mar-16	C3&C5 & SSC505	C2&C6	C3&C5 & SSC505	
Thu	31-Mar-16				C2 & C3&C5& SSC505& C6

	Monitoring Day
	Sunday or Public Holiday

Monitoring Location

Contract 2 (C2)	Air Quality	AM7b & AM8
	Construction Noise	NM5, NM6, NM7
	Water Quality#	WM3, WM3-Control, WM4, WM4-Control A & WM4-Control B
Contract 3 (C3)	Air Quality	AM9b
	Construction Noise	NM8, NM9 & NM10
	Water Quality	WM4, WM4-Control A & WM4-Control B
Contract 5 (C5)	Air Quality	AM1b, AM2 & AM3
	Construction Noise	NM1, NM2
	Water Quality	WM1 & WM1-Control
Contract SS C505	Air Quality	AM1b
	Construction Noise	NM1
	Water Quality	WM1 & WM1-Control
Contract 6 (C6)	Air Quality	AM2, AM3, AM4b, AM5 & AM6
	Construction Noise	NM2,NM3, NM4, NM5 & NM6
	Water Quality	WM1, WM1C, WM2a, WM2A-C, WM2B, WM2B-C, WM3, WM3-C
Contract 7 (C7)	Air Quality	AM1b
	Construction Noise	NM1

Appendix I

Database of Monitoring Result

24-hour TSP Monitoring Data

DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP	AVG AIR PRESS	STANDARD FLOW RATE	AIR VOLUME	FILTER WEIGHT (g)		DUST WEIGHT COLLECTED	24-HR TSP ($\mu g/m^3$)
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(℃)	(hPa)	(m^3/min)	(std m^3)	INITIAL	FINAL	(g)	
AM1b – Open Area, Tsung Yuen Ha Village															
3-Feb-16	29014	11070.76	11094.31	1413.00	40	40	40.0	12.5	1023.6	1.45	2046	2.8718	2.9392	0.0674	33
5-Feb-16	29036	11094.31	11118.29	1438.80	35	37	36.0	15.9	1019.7	1.31	1879	2.8460	2.9467	0.1007	54
11-Feb-16	29048	11118.29	11142.45	1449.60	48	48	48.0	18.8	1014.9	1.69	2450	2.8879	2.9906	0.1027	42
17-Feb-16	29031	11142.45	11166.59	1448.40	32	32	32.0	12.9	1024.1	1.18	1711	2.8550	2.9342	0.0792	46
23-Feb-16	29085	11166.59	11190.78	1451.40	28	28	28.0	15.5	1022.3	1.04	1514	2.8233	2.8676	0.0443	29
29-Feb-16	29119	11190.78	11214.97	1451.40	24	24	24.0	18.5	1024.4	0.88	1280	2.8286	2.9190	0.0904	71
AM2 - Village House near Lin Ma Hang Road															
2-Feb-16	29015	6619.78	6643.59	1428.60	36	35	35.5	10.4	1024.4	1.20	1715	2.8744	2.9108	0.0364	21
5-Feb-16	29024	6643.59	6667.42	1429.80	33	35	34.0	15.9	1019.7	1.13	1622	2.8922	2.9942	0.1020	63
11-Feb-16	29058	6667.42	6691.24	1429.20	36	36	36.0	18.8	1014.9	1.19	1707	2.8055	2.9037	0.0982	58
17-Feb-16	29071	6691.24	6715.08	1430.40	34	36	35.0	12.9	1024.1	1.18	1685	2.8252	2.9300	0.1048	62
23-Feb-16	29086	6715.08	6738.87	1427.40	24	25	24.5	15.5	1022.3	0.81	1157	2.8245	2.8919	0.0674	58
29-Feb-16	29094	6738.87	6762.62	1425.00	24	24	24.0	18.5	1024.4	0.78	1115	2.8282	2.9021	0.0739	66
AM3 - Ta Kwu Ling Fire Service Station of Ta Kwu Ling Village															
2-Feb-16	29016	7731.23	7754.76	1411.80	24	24	24.0	10.4	1024.4	0.67	950	2.8777	2.9322	0.0545	57
5-Feb-16	29035	7754.96	7778.97	1440.60	32	32	32.0	15.9	1019.7	0.94	1348	2.8787	3.0675	0.1888	140
11-Feb-16	29059	7778.97	7802.97	1440.00	50	50	50.0	18.8	1014.9	1.54	2211	2.8164	2.9863	0.1699	77
17-Feb-16	29074	7802.98	7826.98	1440.00	50	50	50.0	12.9	1024.1	1.56	2247	2.8393	3.1167	0.2774	123
23-Feb-16	29084	7826.98	7850.98	1440.00	42	44	43.0	15.5	1022.3	1.31	1890	2.8080	2.9381	0.1301	69
29-Feb-16	29093	7850.98	7874.99	1440.60	44	47	45.5	18.5	1024.4	1.31	1894	2.8319	3.0813	0.2494	132
AM4 - House no. 10B1 Nga Yiu Ha Village															
5-Feb-16	28999	9738.75	9762.75	1440.00	42	42	42.0	14.8	1021.1	1.11	1593	2.9002	2.9782	0.0780	49
11-Feb-16	29025	9762.75	9786.75	1440.00	41	42	41.5	18.8	1014.9	1.07	1547	2.8641	2.9884	0.1243	80
16-Feb-16	29030	9786.76	9810.76	1440.00	32	32	32.0	12.8	1025.4	0.76	1100	2.8652	2.9263	0.0611	56
22-Feb-16	29076	9810.75	9834.75	1440.00	31	32	31.5	16.1	1020.6	0.74	1062	2.8209	2.9596	0.1387	131
27-Feb-16	29089	9834.75	9858.75	1440.00	34	34	34.0	15.5	1024.7	1.04	1490	2.8391	2.9087	0.0696	47
AM5a - Ping Yeung Village House															
5-Feb-16	28998	7577.05	7601.05	1440.00	22	25	23.5	14.8	1021.1	0.82	1180	2.8779	2.9424	0.0645	55
11-Feb-16	29026	7601.05	7625.05	1440.00	32	33	32.5	18.8	1014.9	1.08	1560	2.8687	2.9908	0.1221	78
16-Feb-16	29029	7625.05	7649.05	1440.00	26	26	26.0	12.8	1025.4	0.90	1296	2.8840	2.9569	0.0729	56
22-Feb-16	29075	7649.05	7673.05	1440.00	26	26	26.0	16.1	1020.6	0.89	1287	2.8244	2.9260	0.1016	79
27-Feb-16	29090	7673.05	7697.05	1440.00	34	34	34.0	15.5	1024.7	1.08	1557	2.8285	2.9565	0.1280	82
AM6 - Wo Keng Shan Village House															

DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP	AVG AIR PRESS	STANDARD FLOW RATE	AIR VOLUME	FILTER WEIGHT (g)		DUST WEIGHT COLLECTED	24-HR TSP ($\mu g/m^3$)
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(℃)	(hPa)	(m^3/min)	(std m^3)	INITIAL	FINAL	(g)	
5-Feb-16	29001	6148.48	6172.47	1439.40	34	34	34.0	14.8	1021.1	1.02	1474	2.8810	3.0111	0.1301	88
11-Feb-16	29027	6172.47	6196.47	1440.00	34	34	34.0	18.8	1014.9	1.01	1459	2.8784	3.0188	0.1404	96
16-Feb-16	29028	6196.47	6220.47	1440.00	30	30	30.0	12.8	1025.4	0.90	1290	2.8736	2.9621	0.0885	69
22-Feb-16	29129	6220.47	6244.47	1440.00	28	30	29.0	16.1	1020.6	0.85	1230	2.8543	2.9888	0.1345	109
27-Feb-16	29091	6244.47	6268.47	1440.00	28	28	28.0	15.5	1024.7	0.73	1048	2.8256	2.9416	0.1160	111
AM7b - Loi Tung Village House															
2-Feb-16	28997	15157.08	15181.08	1440.00	28	28	28.0	11.2	1024.4	0.81	1171	2.8866	2.9176	0.0310	26
5-Feb-16	29034	15181.08	15205.08	1440.00	29	30	29.5	15.9	1019.7	0.85	1221	2.8810	2.9667	0.0857	70
11-Feb-16	28692	15205.08	15229.08	1440.00	30	30	30.0	18.8	1014.9	0.86	1232	2.7817	2.8438	0.0621	50
17-Feb-16	29072	15229.10	15253.10	1440.00	20	20	20.0	12.9	1024.1	0.58	837	2.8235	2.8630	0.0395	47
23-Feb-16	29087	15253.10	15277.10	1440.00	19	20	19.5	15.5	1022.3	0.56	812	2.8230	2.8441	0.0211	26
29-Feb-16	29120	15277.10	15301.10	1440.00	31	31	31.0	18.5	1024.4	0.85	1225	2.8376	2.9896	0.1520	124
AM8 - Po Kat Tsai Village No. 4															
2-Feb-16	28996	9027.48	9051.48	1440.00	44	44	44.0	10.4	1024.4	1.09	1570	2.8679	2.9029	0.0350	22
5-Feb-16	29023	9051.48	9075.48	1440.00	42	43	42.5	15.9	1019.7	1.03	1480	2.8852	2.9260	0.0408	28
11-Feb-16	29049	9075.49	9099.49	1440.00	45	45	45.0	18.8	1014.9	1.09	1577	2.8953	2.9333	0.0380	24
17-Feb-16	29073	9099.50	9123.50	1440.00	28	30	29.0	12.9	1024.1	0.62	891	2.8256	2.8580	0.0324	36
23-Feb-16	29088	9123.50	9147.50	1440.00	44	44	44.0	15.5	1022.3	1.08	1551	2.8267	2.8707	0.0440	28
29-Feb-16	29121	9147.50	9171.50	1440.00	30	31	30.5	18.5	1024.4	0.70	1006	2.8440	2.9126	0.0686	68
AM9b - Nam Wa Po Village House No. 80															
2-Feb-16	28978	16504.29	16528.29	1440.00	24	25	24.5	10.4	1024.4	0.62	899	2.8600	2.8848	0.0248	28
5-Feb-16	29000	16528.29	16552.29	1440.00	24	24	24.0	15.9	1019.7	0.60	858	2.8852	2.9260	0.0408	48
11-Feb-16	29069	16552.31	16576.31	1440.00	30	33	31.5	18.8	1014.9	0.86	1234	2.8156	2.9265	0.1109	90
17-Feb-16	29070	16576.32	16600.32	1440.00	32	32	32.0	12.9	1024.1	0.89	1285	2.8336	2.9283	0.0947	74
23-Feb-16	29079	16600.32	16624.32	1440.00	29	30	29.5	15.5	1022.3	0.80	1146	2.8384	2.8725	0.0341	30
29-Feb-16	29092	16624.32	16648.32	1440.00	24	24	24.0	18.5	1024.4	0.68	982	2.8380	2.9079	0.0699	71

Construction Noise Monitoring Results, dB(A)

Date	Start Time	1st Leq_{5min}	L10	L90	2nd Leq_{5min}	L10	L90	3rd Leq_{5min}	L10	L90	4th Leq_{5min}	L10	L90	5th Leq_{5min}	L10	L90	6th Leq_{5min}	L10	L90	Leq30	façade correction
NM1 - Tsung Yuen Ha Village House No. 63																					
3-Feb-16	16:13	69.8	71.3	67.9	70.4	73.1	68.0	68.8	71.0	68.1	69.1	70.9	67.8	70.1	72.6	68.1	67.1	69.6	66.5	69	NA
6-Feb-16	10:49	54.9	56.2	53.3	53.1	55.1	49.5	56.0	58.6	49.4	57.1	59.2	52.1	58.5	61.3	52.8	58.1	59.6	51.8	57	NA
12-Feb-16	10:08	51.4	53.3	48.3	51.2	53.6	46.9	50.7	53.2	47.5	53.0	56.1	47.7	49.4	51.3	46.3	52.6	55.3	45.1	52	NA
18-Feb-16	10:01	62.6	56.2	46.0	53.9	56.4	50.2	53.6	55.6	50.6	53.2	55.2	50.2	52.4	54.6	49.6	53.3	55.7	50.4	57	NA
24-Feb-16	10:17	66.6	69.0	56.2	68.3	71.1	57.1	66.1	68.4	56.0	67.4	70.2	57.3	65.8	67.3	55.7	65.9	67.7	56.1	67	NA
NM2 - Village House near Lin Ma Hang Road																					
3-Feb-16	16:57	67.7	69.8	65.4	66.5	68.7	65.5	68.1	70.1	65.6	66.9	68.9	65.6	67.1	69.0	64.7	66.5	68.5	65.7	67	NA
6-Feb-16	9:46	63.2	64.8	61.9	59.9	65.2	52.8	59.5	62.2	54.2	57.3	59.2	53.6	59.8	61.5	53.6	64.9	68.3	55.4	62	NA
12-Feb-16	13:29	49.8	51.1	38.7	51.6	55.9	40.1	54.9	57.2	41.6	51.7	48.7	41.6	53.8	52.2	41.2	51.6	53.8	40.7	53	NA
18-Feb-16	10:46	58.7	60.1	50.3	54.0	57.0	50.2	52.8	54.6	50.3	53.7	56.6	50.4	54.3	57.2	50.1	57.7	59.8	50.3	56	NA
24-Feb-16	11:24	71.4	73.8	65.2	70.6	73.1	64.7	68.9	72.4	64.0	70.1	73.4	65.0	72.1	74.8	66.2	69.7	72.9	65.3	71	NA
NM3 - Ping Yeung Village House																					
1-Feb-16	10:45	60.0	62.7	54.7	58.1	57.1	54.3	56.8	55.5	53.9	58.7	60.0	53.7	59.1	60.5	54.0	61.1	62.7	55.1	59	NA
6-Feb-16	9:43	57.7	59.8	53.3	60.8	64.1	53.0	58.1	61.3	53.1	57.9	60.3	52.4	59.0	62.0	51.7	58.6	61.2	54.1	59	NA
12-Feb-16	10:42	52.0	54.2	45.3	53.1	54.7	45.2	50.6	53.3	43.9	53.9	56.2	46.2	49.7	52.6	45.0	54.0	57.3	48.1	53	NA
17-Feb-16	10:03	55.5	58.1	51.7	60.0	60.2	50.9	56.7	57.7	50.9	55.7	54.1	50.7	52.8	52.9	50.7	52.9	53.3	50.9	56	NA
23-Feb-16	13:51	57.6	62.1	50.3	61.1	65.0	50.8	58.9	63.3	50.4	63.2	67.0	50.9	57.7	62.6	50.4	59.3	64.4	50.8	60	NA
29-Feb-16	11:41	61.1	63.3	51.2	57.2	61.2	51.0	52.6	54.2	50.9	54.0	55.5	50.6	59.5	59.0	50.7	59.6	63.7	53.7	58	NA
NM4 - Wo Keng Shan Village House																					
1-Feb-16	11:23	66.7	68.2	59.0	63.3	63.0	56.9	67.4	68.2	57.7	68.7	70.2	58.0	67.1	67.0	57.0	66.0	68.7	58.0	67	NA
6-Feb-16	10:22	61.6	60.2	53.2	60.9	60.4	53.1	60.5	62.9	54.6	61.1	61.9	54.4	60.6	61.9	54.5	67.2	61.6	54.3	63	NA
12-Feb-16	9:36	60.6	65.2	52.7	58.4	62.0	52.4	63.4	68.2	56.8	61.7	66.1	54.7	60.1	64.8	52.9	59.4	63.9	52.1	61	NA
17-Feb-16	10:45	67.2	69.3	62.7	68.4	70.3	63.1	68.5	70.2	62.7	66.0	68.3	62.0	67.7	69.7	62.3	63.7	65.7	61.9	67	NA
23-Feb-16	13:05	63.1	63.7	59.6	66.6	68.1	59.7	68.1	73.8	59.8	67.7	73.4	59.6	64.7	65.3	59.7	65.5	66.7	59.6	66	NA
29-Feb-16	10:30	67.2	69.7	58.7	66.2	67.3	61.0	68.6	72.5	63.6	67.3	69.3	59.7	68.8	73.0	62.1	67.7	70.1	62.2	68	NA
NM5– Ping Yeung Village House (façade facing northeast)																					
1-Feb-16	9:24	57.2	59.5	46.5	60.3	65.0	47.5	56.9	61.0	45.0	56.1	60.0	45.0	51.5	55.5	45.0	54.4	58.5	46.5	57	NA
6-Feb-16	9:27	56.7	56.5	48.5	57.9	61.5	49.0	50.2	52.0	47.5	57.7	50.5	48.0	60.3	58.0	47.5	56.6	58.0	48.0	57	NA
12-Feb-16	9:23	55.1	54.0	44.5	51.6	54.0	42.5	48.4	51.0	44.0	48.6	51.5	43.0	47.9	51.0	43.0	48.0	50.5	44.0	51	NA
17-Feb-16	9:30	55.7	57.0	52.0	56.8	58.0	54.0	59.5	62.5	54.0	57.3	59.0	53.0	57.3	59.0	53.0	60.0	62.0	54.0	58	NA
23-Feb-16	9:52	63.6	62.0	46.5	59.4	63.0	47.5	62.7	65.0	46.5	59.8	60.5	47.0	64.3	66.5	47.5	59.3	62.5	48.5	62	NA
29-Feb-16	9:31	60.4	62.5	53.5	58.8	60.5	54.0	58.9	62.0	53.0	58.0	61.0	53.5	57.2	59.5	53.5	57.9	60.0	54.0	59	NA

Date	Start Time	1st Leq_{5min}	L10	L90	2nd Leq_{5min}	L10	L90	3rd Leq_{5min}	L10	L90	4th Leq_{5min}	L10	L90	5th Leq_{5min}	L10	L90	6th Leq_{5min}	L10	L90	Leq30	façade correction
NM6 – Tai Tong Wu Village House 2																					
1-Feb-16	10:10	56.3	60.5	45.5	59.3	60.0	45.0	55.1	59.5	46.0	50.9	54.0	44.5	50.2	53.0	44.5	57.2	61.0	45.5	56	NA
6-Feb-16	10:16	62.7	63.5	52.5	58.5	63.0	52.5	54.1	54.5	52.5	57.0	55.5	52.5	54.5	55.5	52.5	68.8	65.5	53.5	63	NA
12-Feb-16	10:07	54.0	56.0	50.0	54.0	56.0	50.5	54.2	56.5	49.5	55.0	57.0	50.0	54.0	55.5	51.0	54.1	55.0	50.0	54	NA
17-Feb-16	10:13	56.2	58.0	53.5	56.7	58.5	53.5	59.7	61.0	54.5	56.0	57.5	53.5	55.7	57.5	53.0	55.6	57.0	53.0	57	NA
23-Feb-16	10:33	56.9	58.0	44.0	52.4	55.5	43.5	54.8	58.0	44.0	56.9	58.5	46.0	54.7	58.5	44.5	55.5	58.5	43.5	55	NA
29-Feb-16	10:13	58.7	59.5	55.5	57.2	58.5	55.0	58.7	59.5	55.5	57.1	58.5	54.5	58.0	59.0	54.0	57.8	59.0	55.0	58	NA
NM7 – Po Kat Tsai Village																					
1-Feb-16	13:08	61.6	65.5	52.0	58.7	61.5	50.5	58.8	63.0	49.5	62.1	66.5	51.0	62.1	67.0	51.5	65.4	69.0	53.5	62	NA
6-Feb-16	13:28	59.9	61.5	57.5	62.2	64.5	59.0	61.8	63.0	59.0	60.7	61.5	57.5	66.3	69.5	62.0	67.0	69.0	62.5	64	NA
12-Feb-16	13:08	57.4	58.0	50.5	63.1	62.0	52.0	59.4	61.0	52.5	62.9	66.5	53.5	61.4	65.0	53.0	58.3	60.5	52.5	61	NA
17-Feb-16	13:06	58.8	64.0	50.5	61.3	63.0	50.0	55.4	56.0	50.0	56.6	57.0	50.5	57.6	57.0	51.0	62.8	59.5	50.0	60	NA
23-Feb-16	13:02	71.2	71.5	44.0	52.0	54.5	45.0	53.2	55.0	45.5	56.8	58.5	47.5	62.1	66.0	50.5	63.2	65.5	51.0	65	NA
29-Feb-16	13:03	57.4	58.0	50.5	66.3	63.0	52.0	63.6	64.0	52.0	60.9	65.0	52.5	56.2	59.0	50.0	60.1	64.5	53.0	62	NA
NM8 - Village House, Tong Hang																					
3-Feb-16	13:01	61.9	64.5	56.5	65.5	67.5	62	65.2	67	62.5	59.5	62.5	53	59.6	63	54.5	59.6	62.5	54	63	NA
5-Feb-16	15:34	53.8	59.4	43.6	51.4	54	43.6	52.4	55.8	42.1	50.7	55	43.7	51.8	57	41.6	51.9	57.7	42.4	52	NA
12-Feb-16	11:10	57.1	61.3	52.6	58.4	62.1	53	58.9	62.3	53.1	57.7	61	53.1	58.3	61.9	53.4	59.2	62.4	53.7	58	NA
18-Feb-16	13:41	55.7	53.5	48	58.9	60	48.5	57.9	60.5	48	60	66	47.5	59	64	48	59.2	63.5	48.5	59	NA
24-Feb-16	13:42	57.9	61	53.5	57.8	60	53	56.3	58.5	52.5	57.2	59	54	58	60	55	58.3	60	55.5	58	NA
NM9 - Village House, Kiu Tau Village																					
3-Feb-16	13:46	64.3	68.0	52.5	56.2	59.0	52.0	57.6	61.0	52.0	57.6	60.0	52.5	55.5	58.0	51.0	58.4	61.0	52.5	59	NA
5-Feb-16	16:16	60.0	61.5	48.9	53.8	56.5	48.8	52.4	52.9	48.4	54.0	58.7	48.6	54.2	58.3	48.7	52.2	53.0	48.1	55	NA
12-Feb-16	10:24	60.9	63.7	52.0	61.3	64.5	52.6	63.3	66.1	54.1	61.1	63.9	53.3	62.1	64.4	53.4	60.7	62.5	52.6	62	NA
18-Feb-16	13:00	66.5	66.0	54.0	60.5	62.0	56.0	60.7	63.5	57.0	59.7	62.0	56.5	61.5	65.5	56.5	68.8	73.0	59.0	64	NA
24-Feb-16	13:00	71.1	66.0	56.0	61.4	65.0	56.5	61.0	62.0	57.0	60.4	64.5	56.0	59.5	61.5	56.0	60.4	63.0	57.0	65	NA
NM10 - Nam Wa Po Village House No. 80																					
3-Feb-16	9:06	63.9	67.5	59.0	60.5	60.0	59.0	59.4	60.0	58.5	62.2	62.5	58.5	59.2	59.0	58.5	61.1	63.5	58.5	61	64
6-Feb-16	14:37	48.8	50.7	46.9	49.4	51.5	46.5	47.9	49.5	46.2	49.8	51.6	47.6	48.2	50.1	45.3	48.4	49.8	46.0	49	52
12-Feb-16	9:26	61.5	64.5	52.9	56.6	60.3	49.8	60.1	63.7	51.8	61.0	64.7	53.3	58.9	61.1	50.1	59.2	61.0	50.9	60	63
18-Feb-16	9:12	65.7	69.0	59.5	65.7	68.5	60.5	64.5	66.0	61.0	61.9	64.0	58.5	62.9	66.5	57.5	65.6	69.5	59.0	65	68
24-Feb-16	9:05	65.7	68.0	62.0	65.7	69.5	61.0	65.0	68.5	61.0	64.9	67.5	61.0	64.7	67.0	61.5	64.9	66.5	62.5	65	68

Water Quality Monitoring Data for Contract 5, 6 and SS C505

Date	1-Feb-16															
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM1-C	11:57	0.29	13.9	13.9	11.79	11.8	111.8	111.9	30.6	30.4	7.8	7.9	25	25.0
			13.9		11.83		112.0		30.1		7.9		25	
WM1	12:31	0.31	14.4	14.4	12.27	12.3	102.3	102.4	40.5	40.7	8.1	8.1	29	28.5
			14.4		12.3		102.5		40.9		8.1		28	

Date	3-Feb-16															
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM1-C	14:15	0.31	14.4	14.4	12.69	12.7	124.2	124.0	13.9	13.8	8	8.0	15	15.5
			14.4		12.64		123.7		13.7		8		16	
WM1	13:50	0.30	14.2	14.3	11.68	11.7	112.3	112.4	37.4	37.6	7.7	7.7	40	41.5
			14.3		11.69		112.4		37.7		7.7		43	

Date	5-Feb-16															
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM1-C	10:51	0.30	15.1	15.1	16.07	16.1	159.6	159.7	21.5	21.6	8.7	8.7	10	11.0
			15.1		16.1		159.8		21.7		8.7		12	
WM1	10:22	0.25	17.5	17.5	11.51	11.5	120.8	120.9	18.6	18.7	7.7	7.7	35	35.0
			17.5		11.55		121.0		18.8		7.7		35	

Date	11-Feb-16															
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM1-C	14:07	0.30	22.3	22.3	11.13	11.1	127.9	127.7	5.0	5.0	8	8.0	2	2.0
			22.3		11.09		127.5		4.9		8		2	
WM1	13:40	0.28	21.8	21.8	11.94	11.9	136.0	136.1	46.7	46.9	7.8	7.8	40	40.0
			21.8		11.95		136.2		47.0		7.8		40	

Date	13-Feb-16															
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM1-C	9:07	0.29	22.5	22.5	11.97	12.0	138.2	138.3	8.1	8.1	7.4	7.4	6	6.0
			22.5		11.98		138.3		8.1		7.4		6	
WM1	8:41	0.27	22.3	22.3	11.97	12.0	137.8	137.9	41.1	41.0	7.2	7.2	43	44.5
			22.3		11.99		138.0		40.9		7.2		46	

Date	16-Feb-16															
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM1-C	14:41	0.31	13.9	13.9	12.75	12.7	123.5	123.3	20.4	20.3	8	8.0	46	47.0
			13.9		12.7		123.0		20.2		8		48	
WM1	14:10	0.27	14	14.0	11.77	11.8	114.3	114.2	19.2	19.4	8	8.0	19	19.0
			14		11.75		114.1		19.5		8		19	

Date	18-Feb-16															
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM1-C	13:37	0.31	14.9	14.9	8.29	8.3	82.0	81.9	7.8	7.8	7.6	7.6	12	11.5
			14.9		8.27		81.8		7.8		7.6		11	
WM1	13:04	0.27	15	15.0	8.42	8.4	83.4	83.4	42.0	42.2	7.6	7.6	40	39.0
			15		8.4		83.3		42.3		7.5		38	

Date	20-Feb-16															
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM1-C	9:07	0.30	17.5	17.5	9.93	9.9	103.0	103.1	14.1	14.2	6.9	6.9	31	30.5
			17.5		9.94		103.1		14.3		6.9		30	
WM1	8:32	0.26	17.4	17.5	9.42	9.4	97.6	97.6	18.1	18.3	6.3	6.3	49	50.0
			17.5		9.43		97.6		18.4		6.3		51	

Date	22-Feb-16															
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM1-C	15:00	0.31	18.5	18.5	9.26	9.3	99.1	99.2	7.8	7.8	6	6.0	5	5.5
			18.5		9.27		99.2		7.8		6		6	
WM1	14:21	0.27	18.4	18.4	9.07	9.1	96.9	97.0	32.1	32.3	6.4	6.4	35	35.0
			18.4		9.09		97.0		32.4		6.4		35	

Date	24-Feb-16															
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM1-C	10:32	0.28	17.4	17.4	9.13	9.1	95.2	95.4	8.4	8.4	6.2	6.3	12	12.0
			17.4		9.16		95.6		8.5		6.3		12	
WM1	11:00	0.27	17.2	17.2	9.18	9.2	94.9	95.0	49.7	49.6	5.9	6.0	40	41.0
			17.2		9.21		95.1		49.4		6		42	

Date	**26-Feb-16**													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM1-C	11:42	0.30	17.2	17.2	10.42	10.4	108.7	108.8	7.2	7.3	6.8	6.8	6	6.0
			17.2		10.43		108.8		7.3		6.8		6	
WM1	11:11	0.26	18.4	18.4	9.51	9.5	101.1	101.2	16.8	17.0	7	7.0	14	15.0
			18.4		9.52		101.2		17.1		7		16	

Date	**29-Feb-16**													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM1-C	12:50	0.27	19.7	19.7	10.48	10.5	114.5	114.6	10.2	10.2	5.8	5.8	11	11.0
			19.7		10.49		114.6		10.2		5.8		11	
WM1	13:11	0.26	19.5	19.5	9.26	9.3	101.0	101.0	49.6	49.9	5.6	5.6	53	51.5
			19.5		9.24		100.9		50.1		5.6		50	

Water Quality Monitoring Data for Contract 2 and 3

Date	1-Feb-16															
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM4-CA	11:01	0.19	13.1	13.1	11.61	11.6	110.4	110.6	18.1	18.3	8.2	8.2	12	12.0
			13.1		11.62		110.7		18.4		8.2		12	
WM4-CB	10:09	0.25	13.9	13.9	10.38	10.4	99.5	99.6	16.7	16.5	7.8	7.9	15	15.0
			13.9		10.4		99.7		16.3		7.9		15	
WM4	10:32	0.32	13.5	13.5	11.08	11.1	106.3	106.4	30.4	30.7	8	8.1	18	17.0
			13.5		11.09		106.4		31.0		8.1		16	

Date	3-Feb-16															
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM4-CA	11:31	0.21	14.8	14.8	13.57	13.6	134.0	134.3	12.2	12.3	8.1	8.1	9	9.5
			14.8		13.63		134.6		12.3		8.1		10	
WM4-CB	11:52	0.22	14.6	14.6	11.57	11.6	113.8	113.6	15.7	15.9	7.6	7.6	11	10.5
			14.6		11.53		113.4		16.0		7.6		10	
WM4	11:10	0.33	14.2	14.2	10.94	10.9	106.7	106.6	24.8	25.0	7.7	7.7	19	18.0
			14.2		10.91		106.4		25.1		7.7		17	

Date	5-Feb-16															
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM4-CA	12:07	0.20	16.3	16.3	12.58	12.6	128.2	128.3	6.0	6.0	8.1	8.1	5	5.0
			16.3		12.61		128.4		6.1		8.1		5	
WM4-CB	12:42	0.24	17.3	17.3	10.25	10.3	106.7	106.8	15.7	15.6	7.5	7.5	23	24.0
			17.3		10.29		106.9		15.5		7.5		25	
WM4	11:34	0.28	15.9	15.9	14.61	14.6	147.7	147.8	7.8	7.8	8.1	8.1	6	6.0
			15.9		14.63		147.8		7.9		8.1		6	

Date	11-Feb-16															
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM4-CA	15:13	0.24	23.6	23.6	11.55	11.6	136.0	136.1	5.1	5.1	7.7	7.7	5	4.5
			23.6		11.57		136.1		5.1		7.7		4	
WM4-CB	13:38	0.26	24.1	24.1	11.07	11.1	131.8	131.9	8.4	8.4	7.3	7.3	8	8.0
			24.1		11.1		132.0		8.4		7.3		8	
WM4	14:49	0.31	23	23.0	11.41	11.4	133.1	133.2	8.1	8.2	7.5	7.5	12	9.5
			23		11.42		133.3		8.2		7.5		7	

Date	13-Feb-16															
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM4-CA	12:00	0.20	22.5	22.5	11.87	11.9	137.1	137.2	3.4	3.4	7.3	7.3	<2	<2
			22.5		11.9		137.3		3.4		7.3		<2	
WM4-CB	12:12	0.22	22.6	22.6	10.8	10.8	124.9	125.0	5.6	5.6	7	7.0	9	8.5
			22.6		10.85		125.1		5.7		7		8	
WM4	11:43	0.31	22.7	22.7	10.68	10.7	124.0	124.1	7.8	7.8	7	7.1	11	10.5
			22.7		10.7		124.1		7.9		7.1		10	

Date	16-Feb-16															
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM4-CA	11:37	0.25	15.4	15.4	14.94	14.9	149.5	149.3	5.7	5.7	9.2	9.2	4	3.0
			15.4		14.89		149.0		5.7		9.2		2	
WM4-CB	12:06	0.23	16.4	16.4	13.69	13.7	140.1	140.0	20.2	20.3	9.1	9.1	32	31.5
			16.4		13.66		139.8		20.4		9		31	
WM4	11:10	0.30	15.3	15.3	13.75	13.7	137.2	137.1	10.5	10.6	8.6	8.6	10	9.5
			15.3		13.71		136.9		10.6		8.6		9	

Date	18-Feb-16															
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM4-CA	10:13	0.22	14.8	14.8	7.66	7.7	75.8	75.7	6.0	6.0	8.1	8.1	<2	<2
			14.8		7.67		75.6		6.0		8.1		<2	
WM4-CB	10:38	0.24	15.8	15.8	6.19	6.2	62.5	62.5	29.9	30.1	7.4	7.4	45	45.0
			15.8		6.18		62.4		30.2		7.4		45	
WM4	9:56	0.34	15.5	15.5	7.34	7.3	73.6	73.6	20.9	21.1	8.2	8.2	18	17.0
			15.4		7.33		73.5		21.2		8.2		16	

Date	20-Feb-16															
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM4-CA	9:59	0.22	16.6	16.6	9.37	9.4	98.5	98.6	6.4	6.4	6.4	6.4	2	2.0
			16.6		9.38		98.6		6.4		6.4		2	
WM4-CB	10:24	0.21	17.1	17.1	7.28	7.3	76.2	76.3	3.1	3.1	5.8	5.8	19	19.0
			17.1		7.29		76.3		3.1		5.8		19	
WM4	9:40	0.31	17.6	17.6	8.83	8.8	92.3	92.4	13.8	14.0	6.4	6.4	11	11.5
			17.6		8.84		92.4		14.1		6.4		12	

Date	22-Feb-16															
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM4-CA	12:33	0.22	18.5	18.5	8.75	8.8	93.6	93.7	6.4	6.4	6.7	6.8	4	4.0
			18.5		8.76		93.7		6.5		6.8		4	
WM4-CB	13:01	0.25	18.7	18.7	7.08	7.1	75.7	75.8	16.7	16.8	6.3	6.3	18	18.5
			18.7		7.09		75.8		16.9		6.3		19	
WM4	12:07	0.29	18.7	18.7	7.78	7.8	83.8	83.9	20.1	20.0	6.7	6.7	30	30.0
			18.7		7.8		83.9		19.8		6.7		30	

Date	24-Feb-16															
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM4-CA	14:15	0.21	16.8	16.8	9.33	9.3	97.3	97.4	4.5	4.5	6.3	6.3	3	3.0
			16.8		9.36		97.5		4.5		6.3		3	
WM4-CB	13:20	0.24	16.5	16.5	8.96	9.0	91.9	91.8	9.1	9.1	6.3	6.4	18	18.0
			16.5		8.94		91.7		9.0		6.4		18	
WM4	13:42	0.30	17.2	17.2	9.1	9.1	93.4	93.5	7.2	7.2	6.3	6.3	15	14.0
			17.2		9.11		93.5		7.2		6.3		13	

Date	26-Feb-16															
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM4-CA	13:17	0.23	18.3	18.3	9.37	9.4	99.7	99.8	5.3	5.3	6.5	6.5	4	4.5
			18.3		9.39		99.8		5.3		6.5		5	
WM4-CB	14:01	0.27	17.3	17.3	8.69	8.7	90.2	90.3	7.7	7.7	6	6.0	9	9.5
			17.3		8.72		90.3		7.8		6		10	
WM4	12:40	0.26	18.6	18.6	8.69	8.7	93.6	93.7	148.0	**149.5**	6.7	6.7	141	**138.0**
			18.6		8.7		93.7		151.0		6.7		135	

Date	**27-Feb-16**															
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM4-CA	10:12	0.27							16.8	16.6			10	10.0
									16.4				10	
WM4-CB	10:27	0.24							11.0	11.3			15	15.0
									11.5				15	
WM4	10:36	0.26							12.2	12.3			22	22.0
									12.4				22	

Date	**29-Feb-16**													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM4-CA	10:25	0.21	20.1	20.1	9.2	9.2	99.4	99.5	5.1	5.1	6.1	6.1	2	2.5
			20.1		9.21		99.5		5.1		6.1		3	
WM4-CB	9:41	0.25	23.5	23.5	6.09	6.1	71.8	71.9	7.5	7.5	6.1	6.1	10	10.0
			23.5		6.1		71.9		7.6		6.1		10	
WM4	10:00	0.30	19.5	19.5	8.81	8.8	96.0	96.1	8.6	8.6	6.2	6.2	12	11.5
			19.5		8.82		96.1		8.6		6.2		11	

Water Quality Monitoring Data for Contract 6

Date	2-Feb-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2A-C	10:52	0.26	13.5	13.5	13.31	13.3	127.8	127.9	5.3	5.3	8.10	8.1	<2	<2
			13.5		13.35		128.0		5.3		8.10		<2	
WM2A	10:25	0.30	12.8	12.8	11.98	12.0	113.2	113.3	20.0	19.8	8.00	8.0	11	11.5
			12.8		11.99		113.3		19.6		8.00		12	

Date	4-Feb-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2A-C	13:35	0.24	17.4	17.4	9.21	9.2	96.1	96.0	41.7	42.0	8.10	8.1	21	21.5
			17.4		9.17		95.8		42.2		8.10		22	
WM2A	14:06	0.26	17.8	17.8	9.19	9.2	96.6	96.5	17.7	17.9	7.90	7.9	14	14.5
			17.8		9.15		96.3		18.1		7.90		15	

Date	6-Feb-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2A-C	9:50	0.25	14.2	14.2	15.18	15.2	147.8	147.7	7.2	7.2	7.80	7.8	3	3.0
			14.2		15.14		147.6		7.2		7.80		3	
WM2A	9:32	0.26	14.8	14.8	14.49	14.5	140.0	139.7	6.0	6.0	7.90	7.9	3	3.0
			14.8		14.42		139.3		6.0		7.90		<2	

Date	11-Feb-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2A-C	10:50	0.23	21.5	21.5	11.61	11.6	131.6	131.8	5.0	5.0	7.70	7.7	<2	2.0
			21.5		11.62		131.9		5.1		7.70		2	
WM2A	10:21	0.26	22.3	22.3	11.85	11.9	136.3	136.4	5.4	5.5	7.50	7.5	5	4.5
			22.3		11.86		136.5		5.5		7.50		4	

Date	13-Feb-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	

WM2A-C	9:45	0.23	22.5	22.5	12.05	12.1	139.2	139.3	7.1	7.1	7.50	7.5	5	4.0
			22.5		12.07		139.3		7.1		7.50		3	
WM2A	9:26	0.25	22.3	22.3	12.17	12.2	139.0	139.1	6.0	6.0	7.60	7.6	8	7.5
			22.3		12.18		139.1		6.0		7.60		7	

Date	**15-Feb-16**													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2A-C	10:57	0.24	16.3	16.3	11.16	11.2	113.9	113.9	6.7	6.7	8.20	8.2	3	4.0
			16.3		11.15		113.8		6.7		8.20		5	
WM2A	11:31	0.22	16	16.0	11.81	11.8	119.5	119.4	5.9	5.9	8.00	8.0	8	7.5
			16		11.79		119.3		5.8		8.00		7	

Date	**17-Feb-16**													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2A-C	11:26	0.24	15.6	15.6	8.89	8.9	89.2	89.3	5.7	5.7	7.20	7.2	<2	2.0
			15.6		8.9		89.4		5.7		7.20		2	
WM2A	11:58	0.27	14.8	14.8	8.97	9.0	90.3	90.4	4.8	4.8	7.10	7.1	3	3.0
			14.8		8.98		90.5		4.8		7.10		3	

Date	**19-Feb-16**													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2A-C	12:42	0.26	16.6	16.6	9.1	9.1	93.2	93.3	12.6	12.7	5.80	5.8	10	10.0
			16.6		9.13		93.4		12.7		5.80		10	
WM2A	13:31	0.29	15.8	15.8	9.42	9.4	95.0	94.9	22.9	23.0	5.80	5.8	14	14.5
			15.8		9.4		94.7		23.1		5.80		15	

Date	**23-Feb-16**													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2A-C	11:25	0.26	17.3	17.3	8.69	8.7	90.5	90.6	7.3	7.3	7.50	7.6	4	3.0
			17.3		8.7		90.6		7.3		7.60		2	
WM2A	11:07	0.21	17.4	17.4	7.84	7.9	81.8	81.9	8.6	8.6	7.20	7.2	5	4.5
			17.4		7.86		82.0		8.6		7.20		4	

Date	25-Feb-16															
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2A-C	12:05	0.25	17	17.0	9.81	9.8	101.6	101.7	7.4	7.4	6.30	6.3	2	2.0
			17		9.82		101.7		7.5		6.30		<2	
WM2A	11:45	0.22	15.9	15.9	9.88	9.9	100.0	100.1	13.4	13.5	6.70	6.7	8	8.0
			15.9		9.89		100.1		13.5		6.70		8	

Date	27-Feb-16															
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2A-C	9:18	0.27	17.2	17.2	9.3	9.3	97.0	97.1	6.4	6.4	5.80	5.9	<2	<2
			17.2		9.33		97.2		6.4		5.90		<2	
WM2A	9:35	0.26	17.3	17.3	10.17	10.2	105.3	105.4	21.7	22.2	5.70	5.8	11	12.0
			17.2		10.18		105.4		22.6		5.80		13	

Date	29-Feb-16															
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2A-C	13:52	0.23	19.2	19.2	9.43	9.5	102.7	102.8	7.6	7.6	5.50	5.5	4	3.5
			19.2		9.47		102.9		7.6		5.50		3	
WM2A	14:15	0.25	20.8	20.8	9.61	9.6	107.7	107.8	10.4	10.4	5.50	5.5	11	11.5
			20.8		9.64		107.9		10.4		5.50		12	

Date	1-Feb-16															
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2B-C	15:31	0.04							9.5	9.5			12	12.0
									9.4				12	
WM2B	14:50	0.05							90.0	**89.7**			64	**64.0**
									89.4				64	

Date	2-Feb-16															
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2B-C	11:20	0.05	17.7	17.7	11.1	11.1	125.5	125.7	3.5	3.5	7.80	7.8	<2	2.0
			17.7		11.15		125.9		3.5		7.80		<2	
WM2B	11:48	0.02	14.5	15.0	12.77	12.8	116.5	116.7	230.0	**233.0**	7.20	7.2	268	**269.5**
			15.5		12.78		116.8		236.0		7.20		271	

Date	3-Feb-16															
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2B-C	12:35	0.01							8.7	8.7			6	6.0
									8.7				6	
WM2B	12:47	0.02							10.3	10.2			7	7.0
									10.1				7	

Date	4-Feb-16															
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2B-C	12:28	0.01	20.3	20.3	9.35	9.3	103.5	103.3	5.1	5.1	8.80	8.8	11	11.0
			20.3		9.31		103.0		5.1		8.80		11	
WM2B	12:59	0.02	19.9	20.0	9.91	9.9	104.5	104.3	10.6	10.8	7.90	7.9	11	11.5
			20		9.88		104.1		10.9		7.90		12	

Date	6-Feb-16															
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2B-C	10:45	0.01	19.9	19.9	10.97	10.9	120.4	120.1	3.2	3.2	6.90	6.9	<2	<2
			19.9		10.91		119.8		3.2		6.90		<2	
WM2B	10:33	0.02	15.6	15.6	13.46	13.4	135.4	135.1	5.2	5.2	6.60	6.6	3	3.0
			15.6		13.41		134.8		5.2		6.60		3	

Date	11-Feb-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2B-C	11:16	0.01	22.6	22.6	10.7	10.7	123.8	123.9	4.1	4.1	7.50	7.5	4	5.0
			22.6		10.71		124.0		4.1		7.50		6	
WM2B	11:42	0.01	22.8	22.8	11.91	11.9	138.4	138.5	3.8	3.8	7.20	7.2	<2	2.0
			22.8		11.93		138.5		3.8		7.20		2	

Date	13-Feb-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2B-C	10:24	0.01	22.1	22.1	12.38	12.4	141.8	141.7	9.7	9.6	8.10	8.1	12	11.5
			22.1		12.35		141.5		9.6		8.10		11	
WM2B	10:03	0.01	22.3	22.3	11.44	11.4	131.6	131.7	3.6	3.6	7.30	7.3	2	2.5
			22.3		11.45		131.8		3.6		7.30		3	

Date	15-Feb-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2B-C	10:29	0.01	17	17.0	10.82	10.8	113.0	113.2	3.3	3.3	8.00	8.0	4	3.0
			17		10.87		113.4		3.3		8.00		2	
WM2B	10:02	0.01	16.2	16.2	12.06	12.0	122.6	122.5	4.5	4.5	8.70	8.7	5	4.5
			16.2		12.03		122.4		4.5		8.70		4	

Date	17-Feb-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2B-C	10:57	0.01	15.7	15.7	7.28	7.3	73.3	73.4	3.2	3.2	7.40	7.4	<2	<2
			15.7		7.29		73.5		3.2		7.40		<2	
WM2B	10:32	0.01	15.8	15.8	7.52	7.5	75.9	75.9	4.2	4.2	7.50	7.5	<2	2.0
			15.8		7.53		75.9		4.2		7.50		2	

Date	19-Feb-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2B-C	11:41	0.01	17.7	17.7	8.3	8.3	90.0	89.9	12.1	12.2	6.40	6.4	36	37.0
			17.6		8.27		89.8		12.3		6.40		38	
WM2B	12:10	0.01	17.3	17.3	9.65	9.7	100.7	100.8	10.3	10.4	6.20	6.2	9	9.0
			17.3		9.68		100.9		10.5		6.20		9	

Date	23-Feb-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2B-C	11:35	0.01	17.3	17.3	9.46	9.5	98.4	98.5	5.9	5.9	7.40	7.4	9	9.5
			17.3		9.48		98.5		5.9		7.40		10	
WM2B	11:45	0.01	17.3	17.3	10.14	10.1	105.4	105.4	25.6	**25.7**	7.40	7.4	12	11.0
			17.3		10.13		105.3		25.8		7.40		10	

Date	24-Feb-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2B-C	15:40	0.01							4.9	4.9			<2	<2
									5.0				<2	
WM2B	15:20	0.01							10.4	10.5			7	7.0
									10.5				7	

Date	25-Feb-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2B-C	12:36	0.02	20.4	20.4	8.16	8.2	90.4	90.5	2.5	2.5	6.30	6.3	<2	<2
			20.4		8.18		90.5		2.5		6.30		<2	
WM2B	12:17	0.02	16.5	16.5	10.24	10.2	104.8	104.9	95.9	**95.5**	6.20	6.2	79	**80.5**
			16.5		10.25		104.9		95.0		6.20		82	

Date	26-Feb-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2B-C	12:16	0.01							6.1	6.2			6	6.0
									6.2				6	
WM2B	12:06	0.02							2.9	2.9			6	6.0
									2.9				6	

Date	**27-Feb-16**													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2B-C	9:00	0.01	17.4	17.4	9.8	9.8	101.7	101.8	4.1	4.1	6.10	6.1	<2	<2
			17.4		9.81		101.8		4.1		6.10		<2	
WM2B	8:53	0.02	17.5	17.5	10.72	10.7	110.6	110.7	10.7	10.7	6.10	6.1	9	9.0
			17.5		10.73		110.7		10.6		6.10		9	

Date	**29-Feb-16**													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2B-C	12:08	0.01	22.1	22.1	8.31	8.3	92.9	93.0	5.9	5.9	5.70	5.7	4	3.5
			22.1		8.34		93.1		5.9		5.70		3	
WM2B	11:49	0.02	22.1	22.1	9.31	9.3	106.6	106.7	47.1	**47.4**	5.60	5.6	40	**39.0**
			22.1		9.34		106.8		47.7		5.60		38	

Water Quality Monitoring Data for Contract 2 and 6

Date	2-Feb-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM3-C	12:31	0.05	14.9	14.9	12.12	12.1	120.2	120.4	14.5	14.7	6.90	6.9	31	31.0
			14.9		12.15		120.5		14.8		6.90		31	
WM3	13:04	0.25	14	14.0	11.76	11.8	114.2	114.4	11.0	11.2	7.50	7.5	6	6.0
			14		11.8		114.5		11.3		7.50		6	

Date	4-Feb-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM3-C	11:35	0.05	19.2	19.2	11.72	11.7	127.1	127.1	22.4	22.6	8.30	8.3	21	21.5
			19.2		11.71		127.0		22.8		8.30		22	
WM3	12:01	0.27	19	19.1	10.24	10.2	108.2	108.0	16.0	16.2	7.90	8.0	13	14.0
			19.1		10.19		107.7		16.3		8.00		15	

Date	6-Feb-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM3-C	11:01	0.02	17.1	17.1	10.25	10.3	106.6	106.7	15.6	15.5	6.70	6.7	13	14.0
			17.1		10.28		106.8		15.4		6.70		15	
WM3	11:14	0.27	15.1	15.1	11.61	11.6	115.5	115.7	8.0	8.0	7.40	7.4	10	10.0
			15.1		11.63		115.8		8.0		7.40		10	

Date	11-Feb-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM3-C	12:08	0.02	23.2	23.2	11.09	11.1	129.9	126.5	5.0	5.0	6.70	6.7	13	10.5
			23.2		11.11		123.1		5.0		6.70		8	
WM3	12:29	0.25	23.5	23.5	10.69	10.7	125.8	125.9	4.2	4.2	7.00	7.0	5	5.5
			23.5		10.72		126.0		4.3		7.00		6	

Date	13-Feb-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM3-C	10:47	0.02	22	22.0	12.82	12.8	146.8	146.6	22.4	22.6	7.80	7.8	20	19.5
			22		12.78		146.3		22.7		7.80		19	
WM3	11:10	0.30	21.7	21.7	11.75	11.8	130.8	130.9	8.2	8.2	7.10	7.1	<2	<2
			21.7		11.76		131.0		8.3		7.10		<2	

Date	15-Feb-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM3-C	12:17	0.02	17.9	18.0	10.18	10.2	108.3	108.2	12.4	12.3	7.20	7.2	23	22.5
			18		10.17		108.1		12.2		7.20		22	
WM3	12:45	0.23	17.2	17.2	10.97	11.0	113.7	113.6	10.2	10.3	7.20	7.3	7	7.5
			17.2		10.95		113.5		10.3		7.30		8	

Date	17-Feb-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM3-C	12:34	0.02	15.1	15.1	7.51	7.5	75.6	75.7	10.6	10.5	6.70	6.8	42	41.5
			15.1		7.52		75.7		10.4		6.80		41	
WM3	12:59	0.28	15.4	15.4	7.26	7.3	73.2	73.3	5.1	5.1	7.00	7.0	10	10.0
			15.3		7.28		73.4		5.1		7.00		10	

Date	19-Feb-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM3-C	11:09	0.02	17.5	17.5	9.28	9.3	97.1	97.2	27.8	28.0	5.70	5.7	44	43.5
			17.5		9.31		97.3		28.1		5.70		43	
WM3	10:40	0.25	16.3	16.3	9.61	9.6	100.1	100.3	25.1	25.0	6.10	6.2	20	20.0
			16.3		9.63		100.4		24.9		6.20		20	

Date	23-Feb-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM3-C	10:30	0.02	19.1	19.1	9.01	9.0	97.4	97.5	33.9	34.0	7.00	7.0	26	26.0
			19.1		9.02		97.5		34.1		7.00		26	
WM3	10:15	0.25	16.8	16.8	8.61	8.6	89.7	89.8	13.8	13.9	7.00	7.0	12	12.5
			16.8		8.62		89.8		14.0		7.00		13	

Date	25-Feb-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM3-C	12:48	0.03	17	17.0	9.77	9.8	100.9	101.0	333.0	334.0	6.30	6.3	194	197.0
			17		9.79		101.1		335.0		6.30		200	
WM3	13:17	0.22	16.8	16.8	9.55	9.6	98.3	98.4	46.1	46.5	6.30	6.3	35	34.5
			16.8		9.56		98.4		46.8		6.30		34	

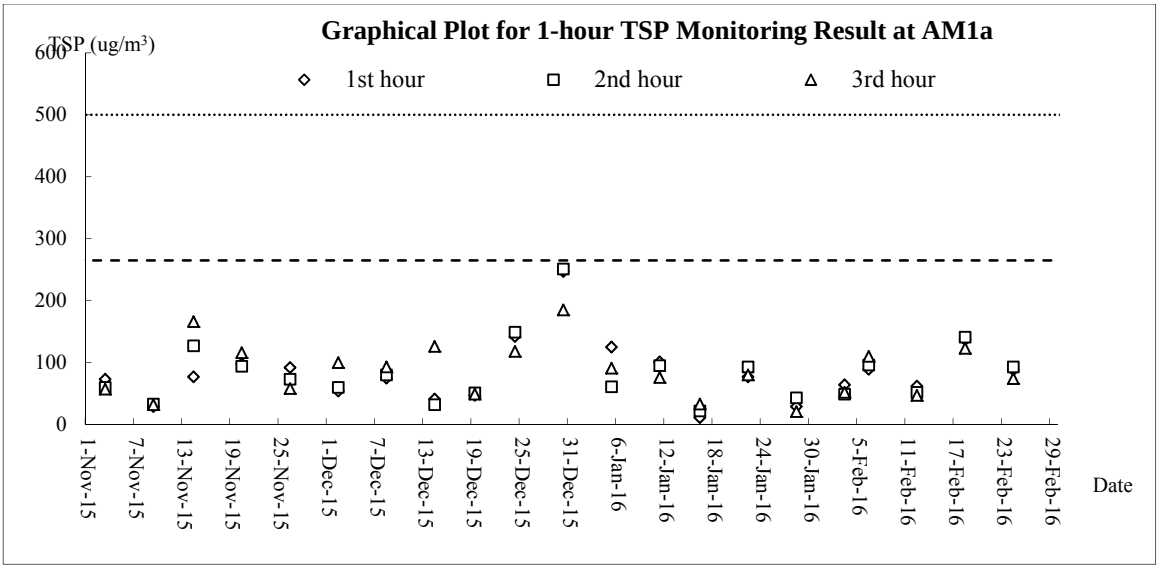
Date	**27-Feb-16**													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM3-C	8:43	0.02	18.3	18.3	9.55	9.5	105.6	105.5	17.1	17.4	5.90	6.0	26	25.5
			18.3		9.53		105.3		17.6		6.00		25	
WM3	8:22	0.26	16.4	16.4	10.8	10.8	110.2	110.3	9.0	9.0	6.10	6.1	7	7.0
			16.4		10.81		110.3		9.0		6.10		7	

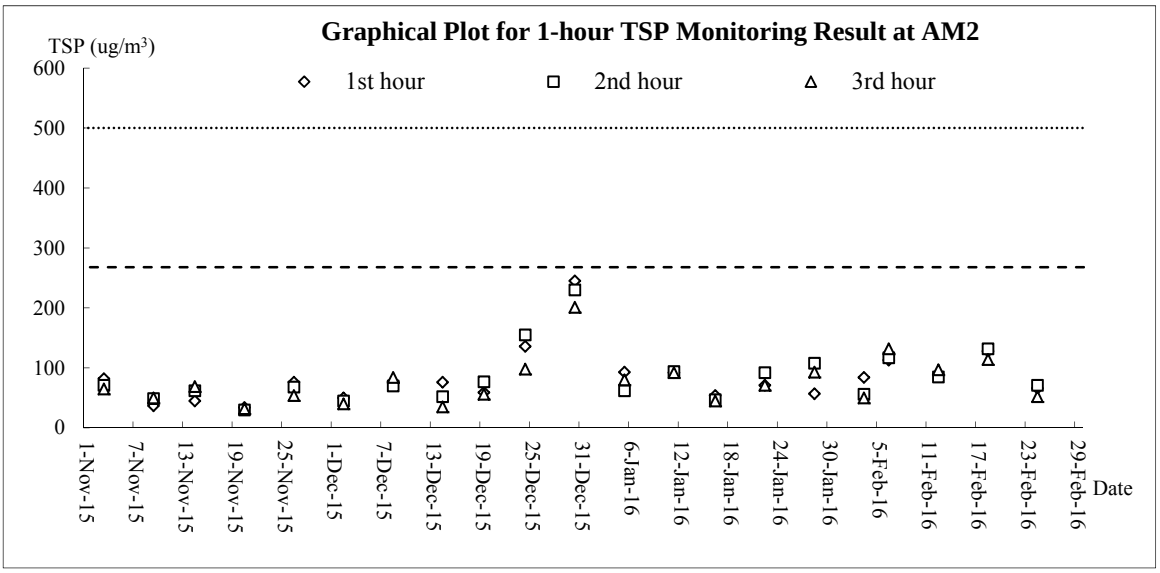
Date	**29-Feb-16**													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM3-C	11:30	0.03	22.2	22.2	8.93	8.9	102.4	102.6	17.0	17.2	5.40	5.4	33	33.0
			22.2		8.95		102.7		17.3		5.40		33	
WM3	11:05	0.23	21.7	21.8	8.94	9.0	101.6	101.7	15.8	16.0	5.40	5.4	16	16.5
			21.8		8.96		101.8		16.1		5.40		17	

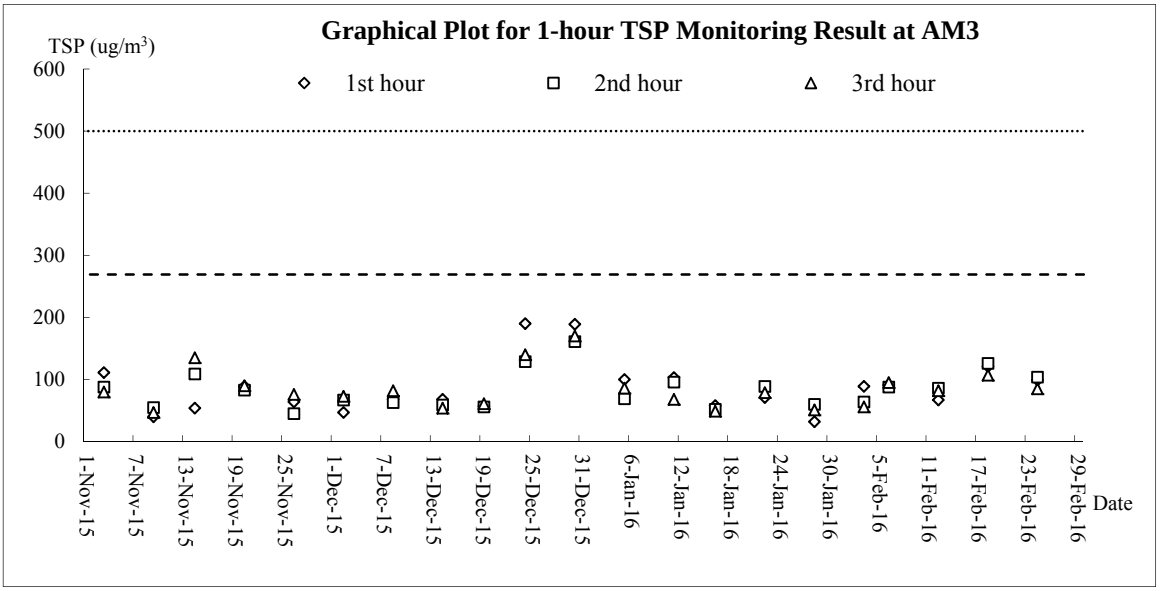
Appendix J

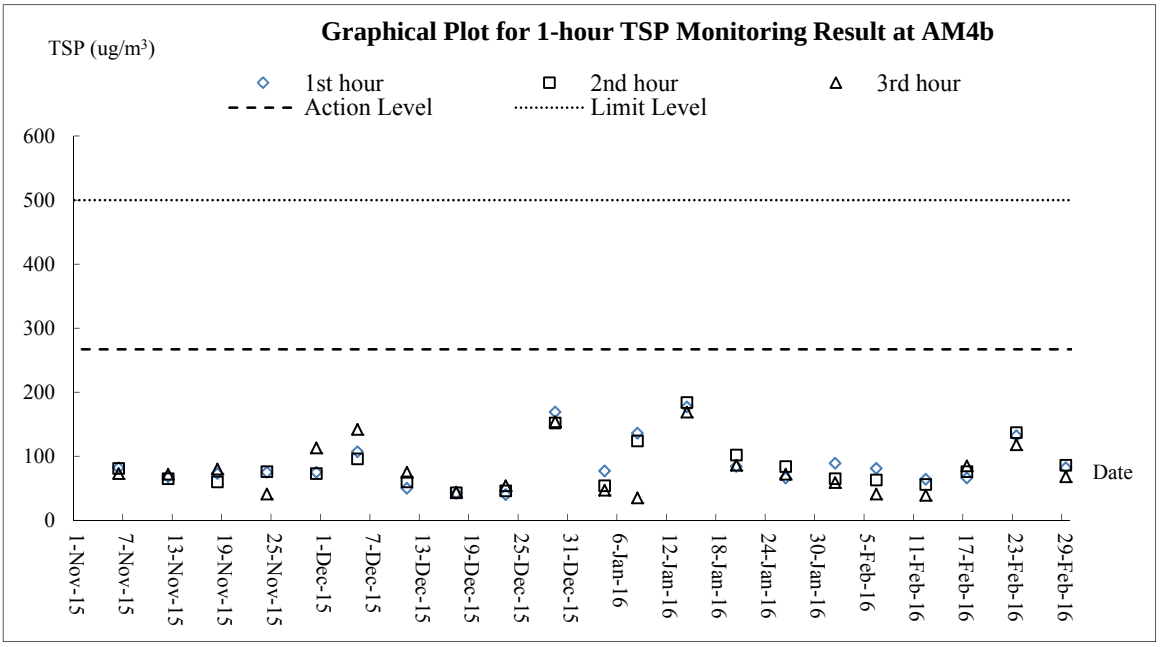
Graphical Plots for Monitoring Result

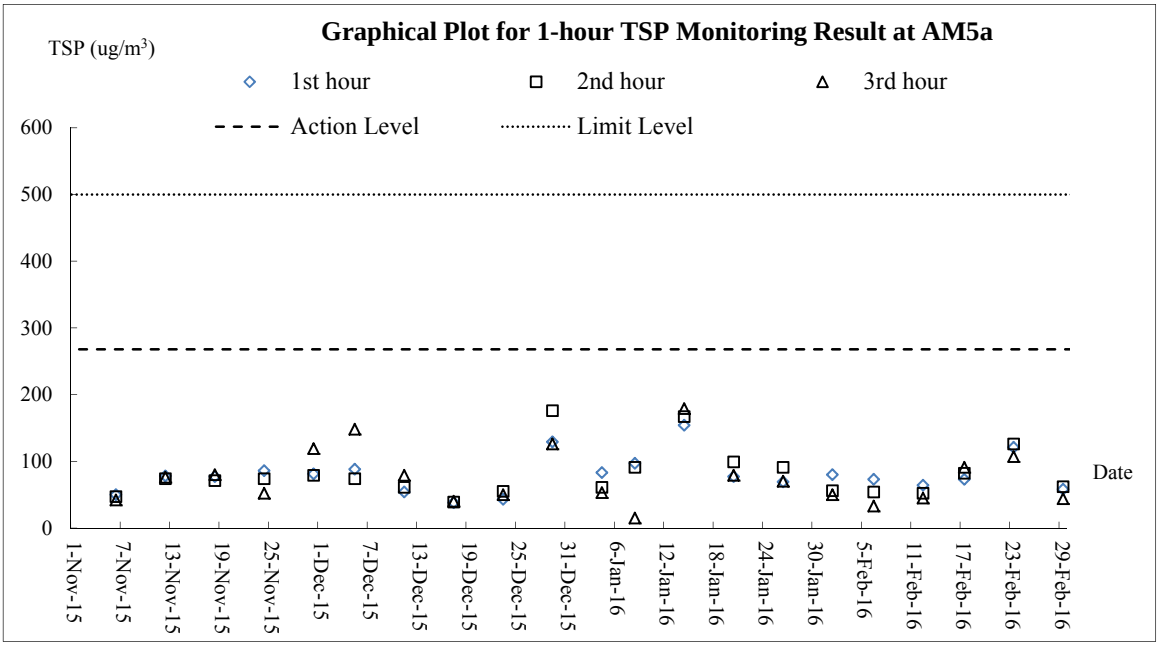
Air Quality – 1-hour TSP

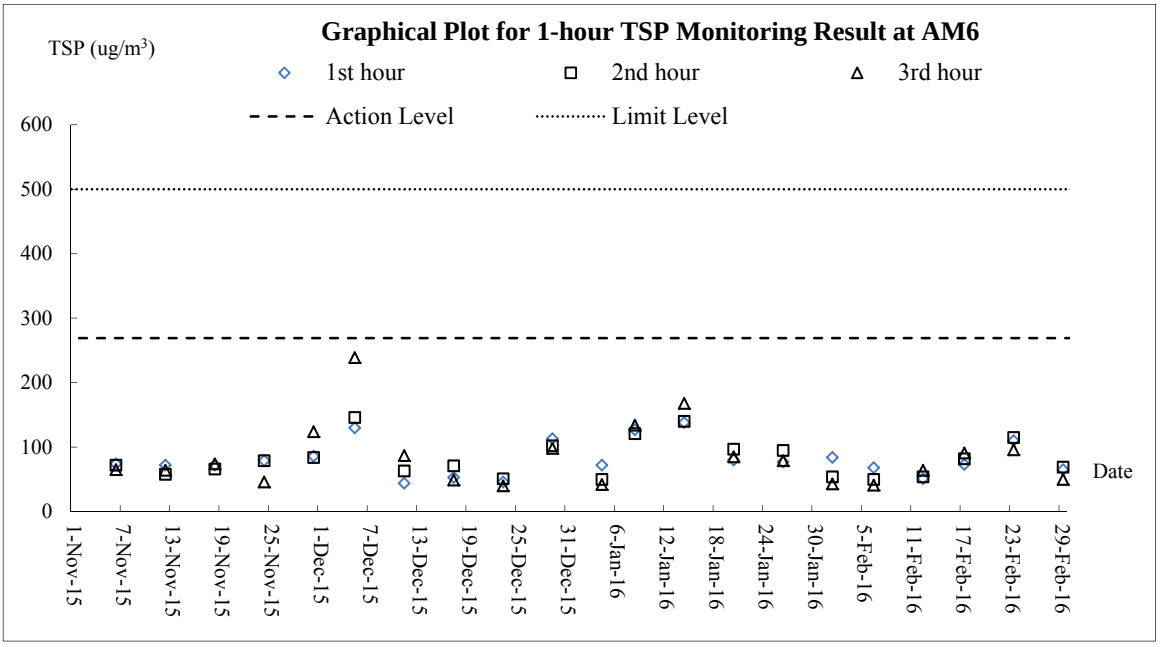


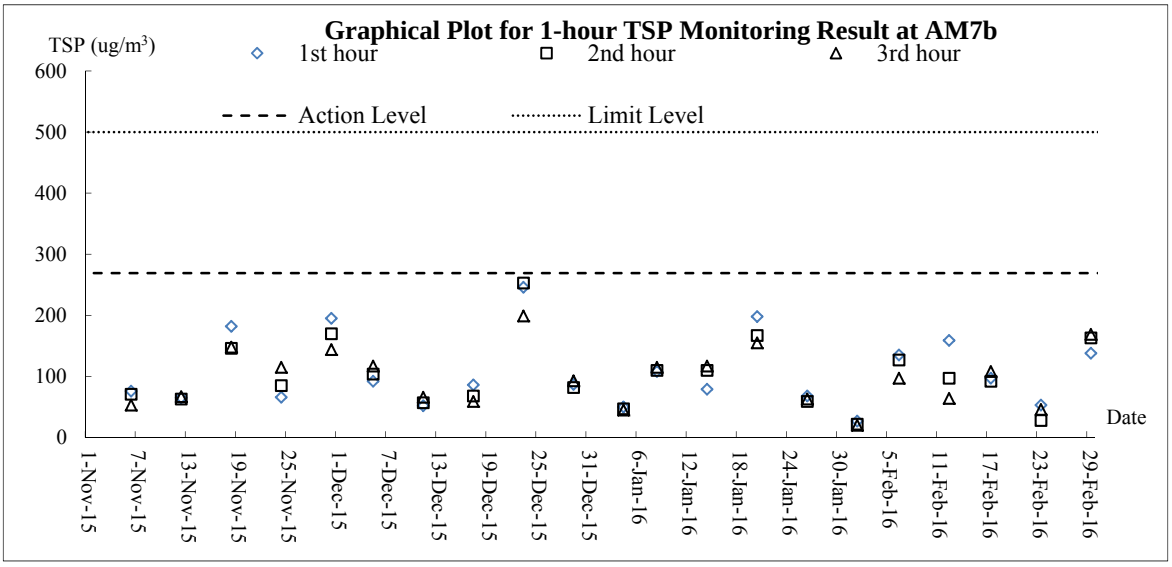


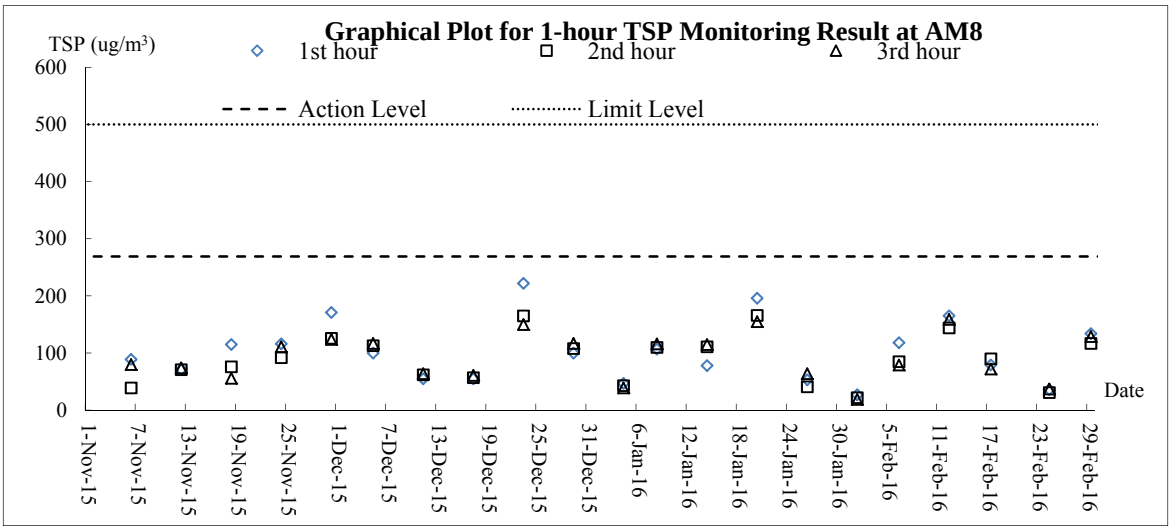



Graphical Plot for 1-hour TSP Monitoring Result at AM4b
TSP (ug/m³)
1st hour
2nd hour
3rd hour
Action Level
Limit Level
600
500
400
300
200
100
0
Date
1-Nov-15
7-Nov-15
13-Nov-15
19-Nov-15
25-Nov-15
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16


Graphical Plot for 1-hour TSP Monitoring Result at AM5a
TSP (ug/m³)
1st hour
2nd hour
3rd hour
Action Level
Limit Level
600
500
400
300
200
100
0
Date
1-Nov-15
7-Nov-15
13-Nov-15
19-Nov-15
25-Nov-15
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16


Graphical Plot for 1-hour TSP Monitoring Result at AM6
TSP (ug/m³)
1st hour
2nd hour
3rd hour
Action Level
Limit Level
600
500
400
300
200
100
0
Date
1-Nov-15
7-Nov-15
13-Nov-15
19-Nov-15
25-Nov-15
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16


Graphical Plot for 1-hour TSP Monitoring Result at AM7b
TSP (ug/m³)
1st hour
2nd hour
3rd hour
Action Level
Limit Level
600
500
400
300
200
100
0
Date
1-Nov-15
7-Nov-15
13-Nov-15
19-Nov-15
25-Nov-15
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16


Graphical Plot for 1-hour TSP Monitoring Result at AM8
TSP (ug/m³)
1st hour
2nd hour
3rd hour
Action Level
Limit Level
600
500
400
300
200
100
0
Date
1-Nov-15
7-Nov-15
13-Nov-15
19-Nov-15
25-Nov-15
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
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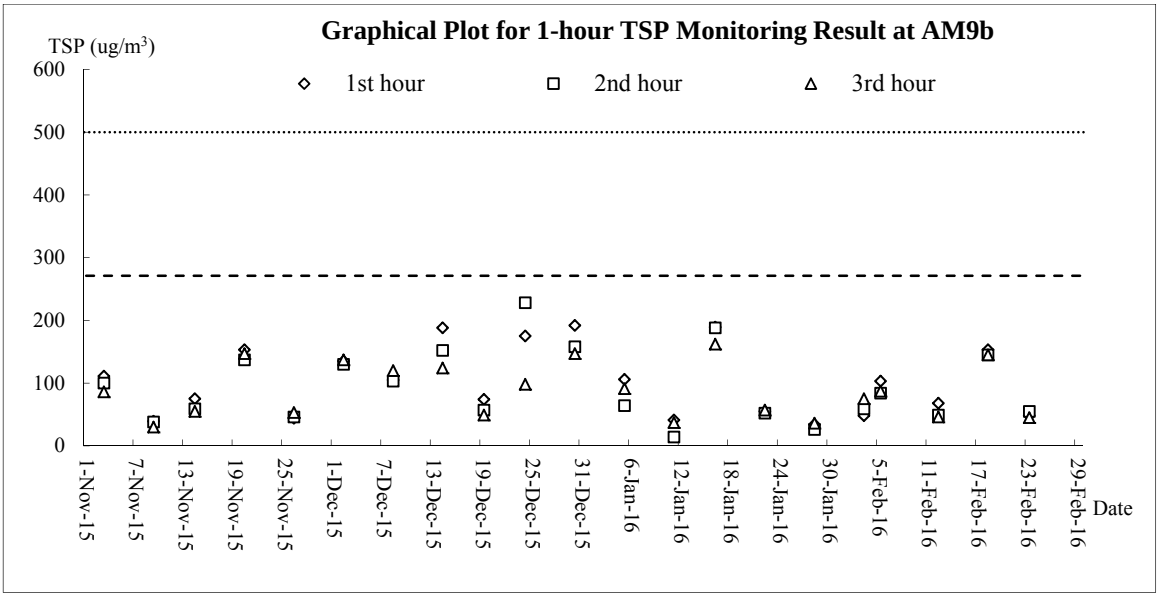
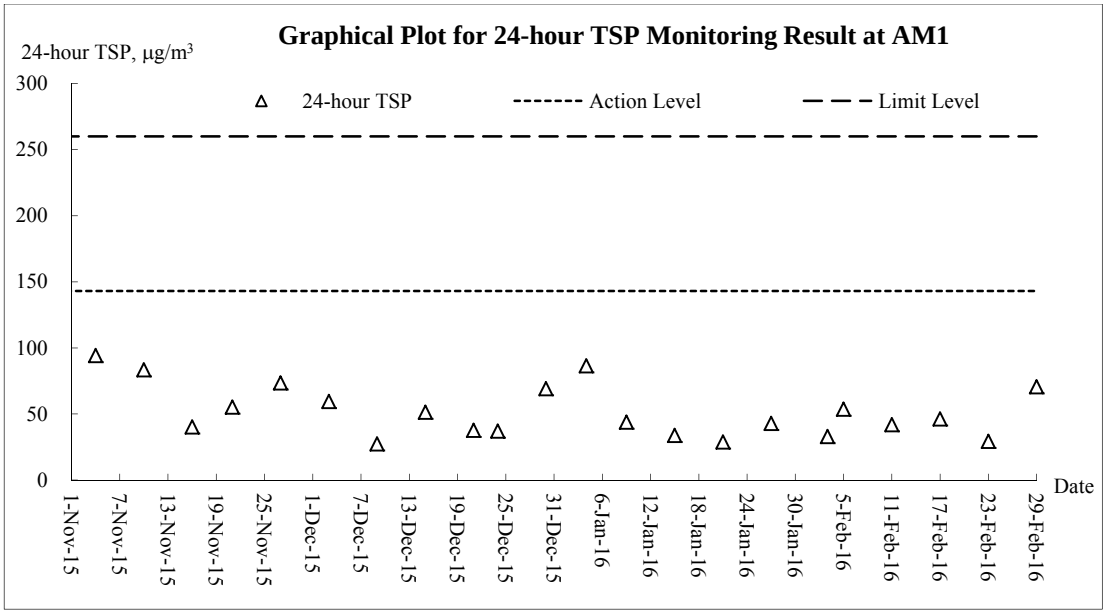
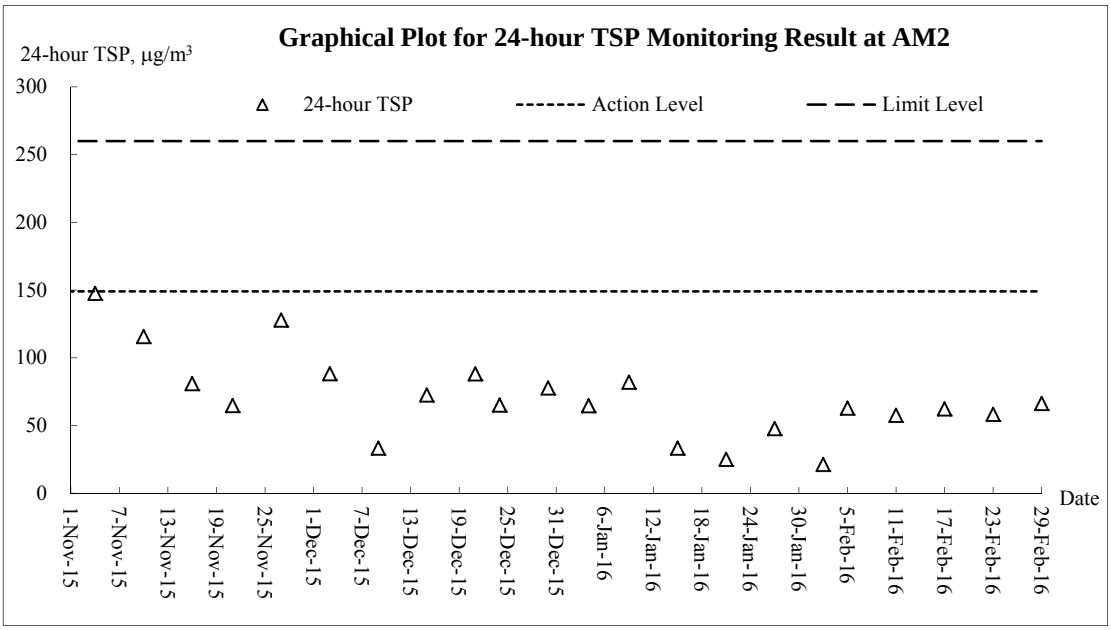
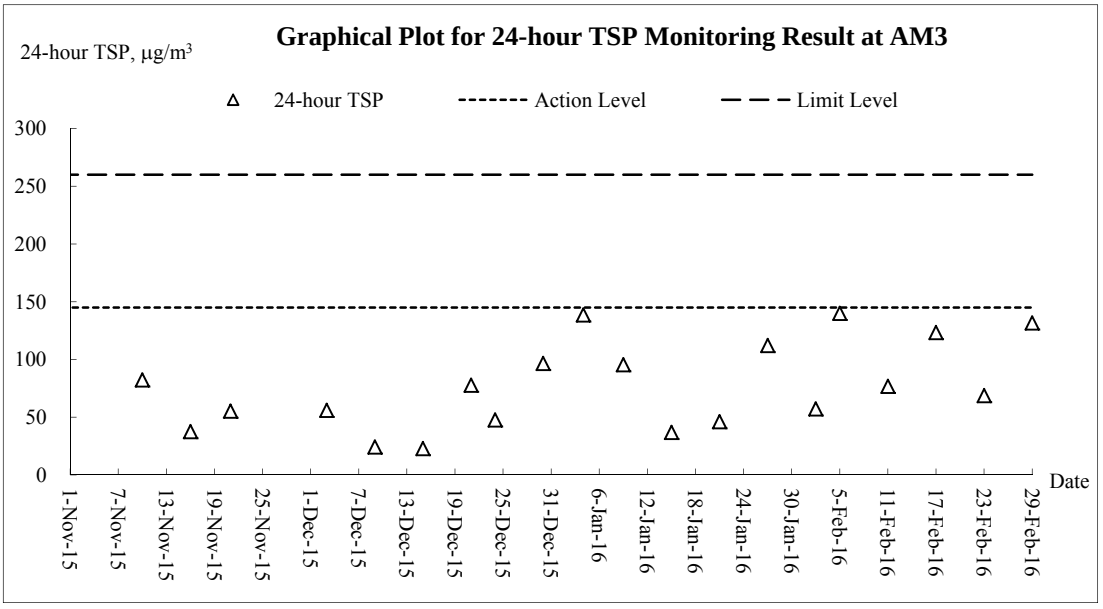
17-Feb-16
23-Feb-16
29-Feb-16

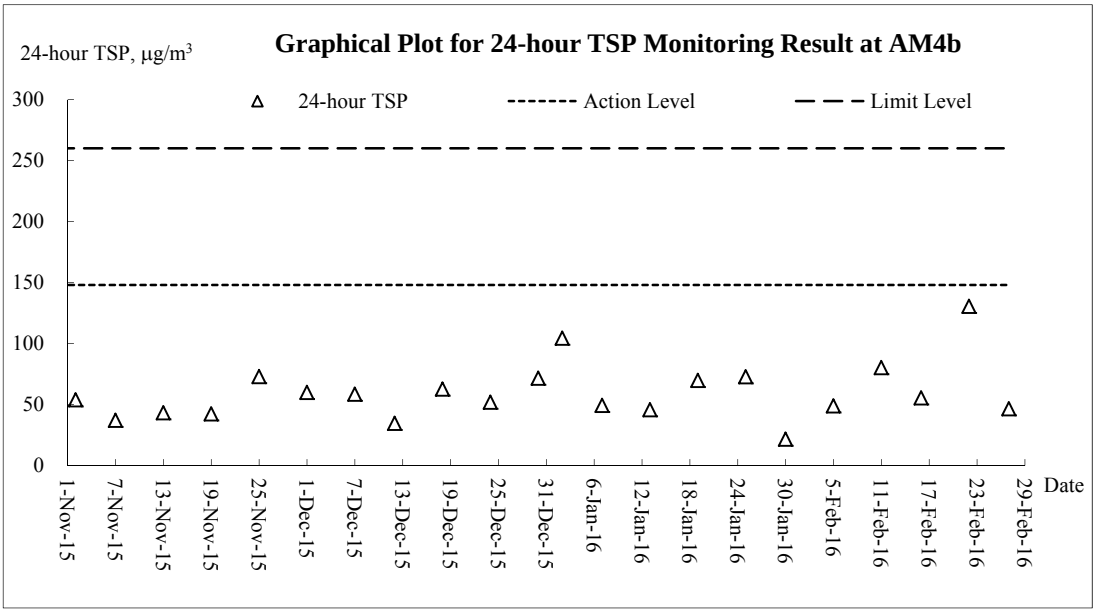

Graphical Plot for 1-hour TSP Monitoring Result at AM9b
TSP (ug/m³)
1st hour
2nd hour
3rd hour
600
500
400
300
200
100
0
Date
1-Nov-15
7-Nov-15
13-Nov-15
19-Nov-15
25-Nov-15
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16

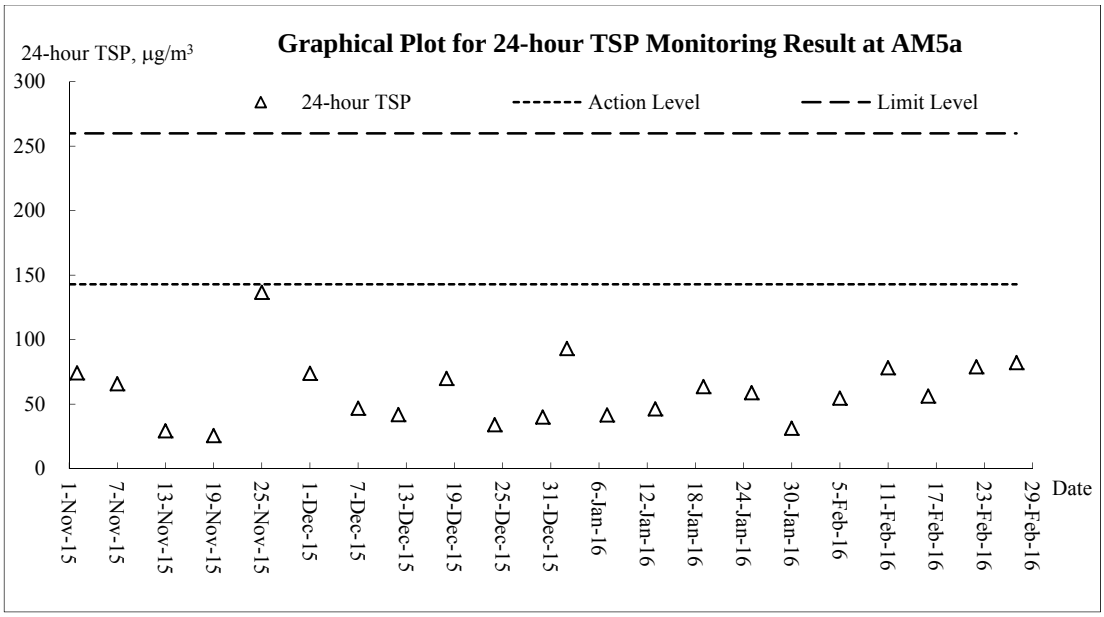
Air Quality – 24-hour TSP

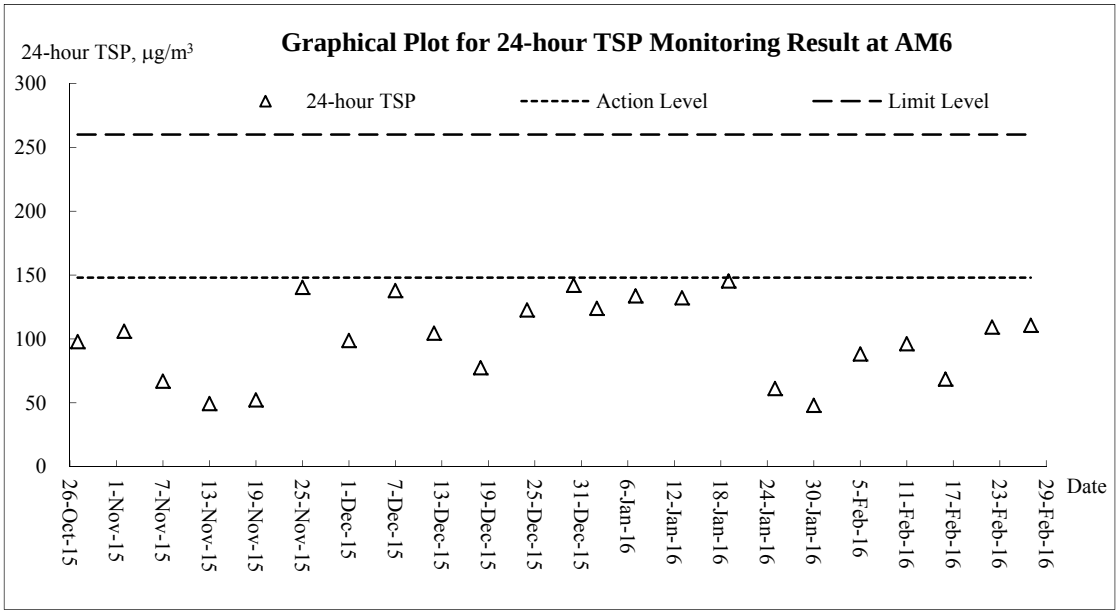


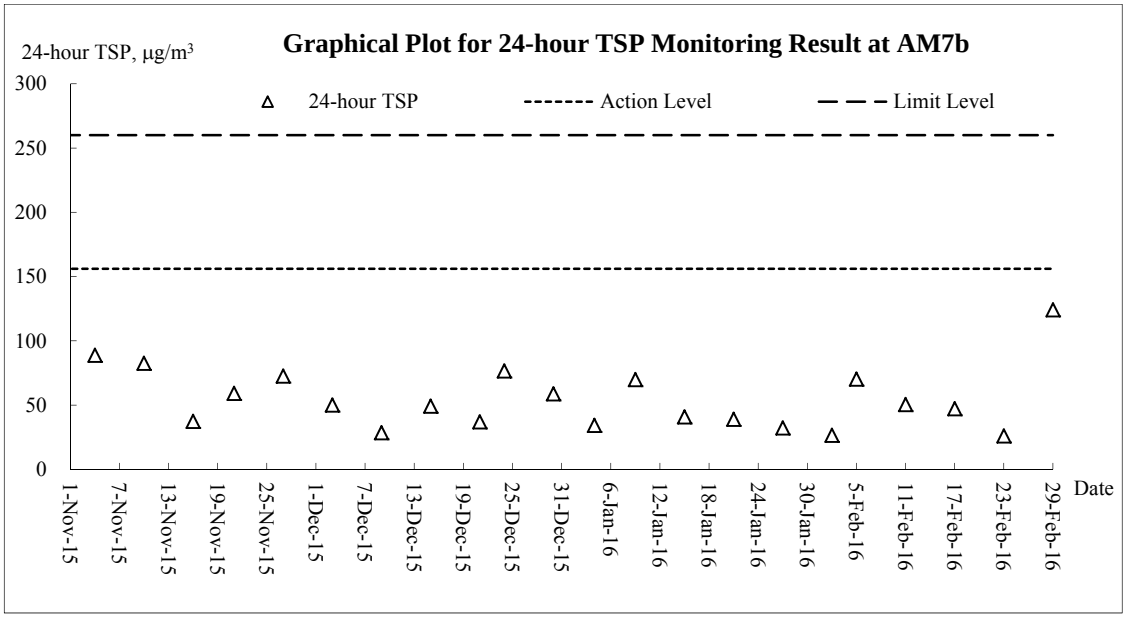


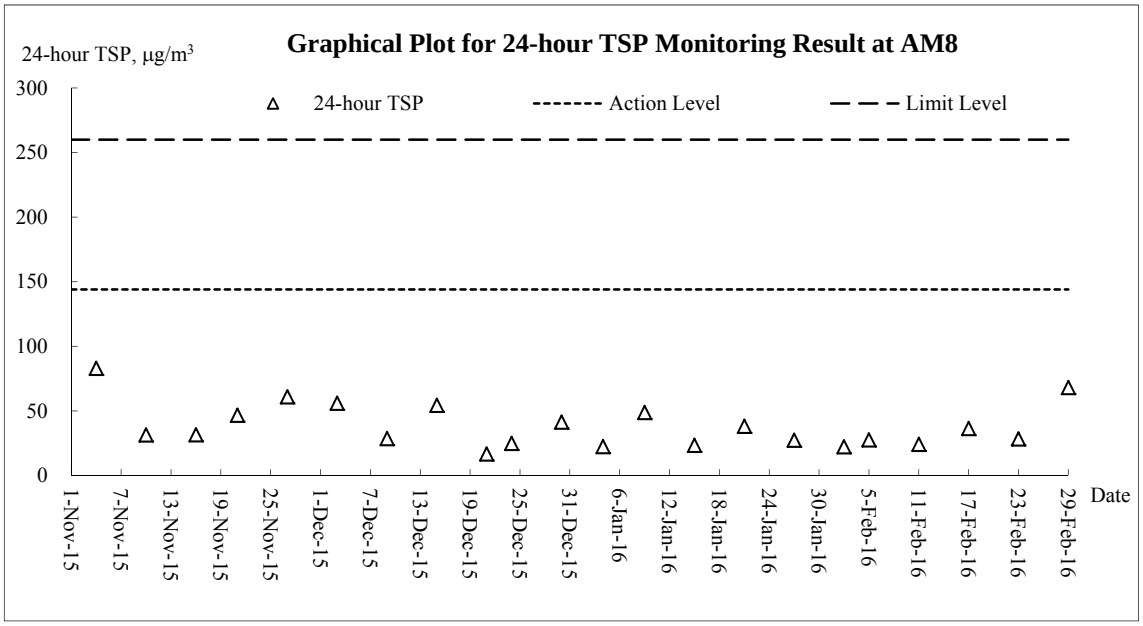



Graphical Plot for 24-hour TSP Monitoring Result at AM4b
24-hour TSP, µg/m³
24-hour TSP
Action Level
Limit Level
300
250
200
150
100
50
0
1-Nov-15
7-Nov-15
13-Nov-15
19-Nov-15
25-Nov-15
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16
Date


Graphical Plot for 24-hour TSP Monitoring Result at AM5a
24-hour TSP, µg/m³
24-hour TSP
Action Level
Limit Level
300
250
200
150
100
50
0
1-Nov-15
7-Nov-15
13-Nov-15
19-Nov-15
25-Nov-15
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16
Date


Graphical Plot for 24-hour TSP Monitoring Result at AM6
24-hour TSP, µg/m³
24-hour TSP
Action Level
Limit Level
300
250
200
150
100
50
0
26-Oct-15
1-Nov-15
7-Nov-15
13-Nov-15
19-Nov-15
25-Nov-15
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16
Date


Graphical Plot for 24-hour TSP Monitoring Result at AM7b
24-hour TSP, µg/m³
24-hour TSP
Action Level
Limit Level
300
250
200
150
100
50
0
1-Nov-15
7-Nov-15
13-Nov-15
19-Nov-15
25-Nov-15
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16
Date


Graphical Plot for 24-hour TSP Monitoring Result at AM8
24-hour TSP, µg/m³
24-hour TSP
Action Level
Limit Level
300
250
200
150
100
50
0
1-Nov-15
7-Nov-15
13-Nov-15
19-Nov-15
25-Nov-15
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
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30-Jan-16
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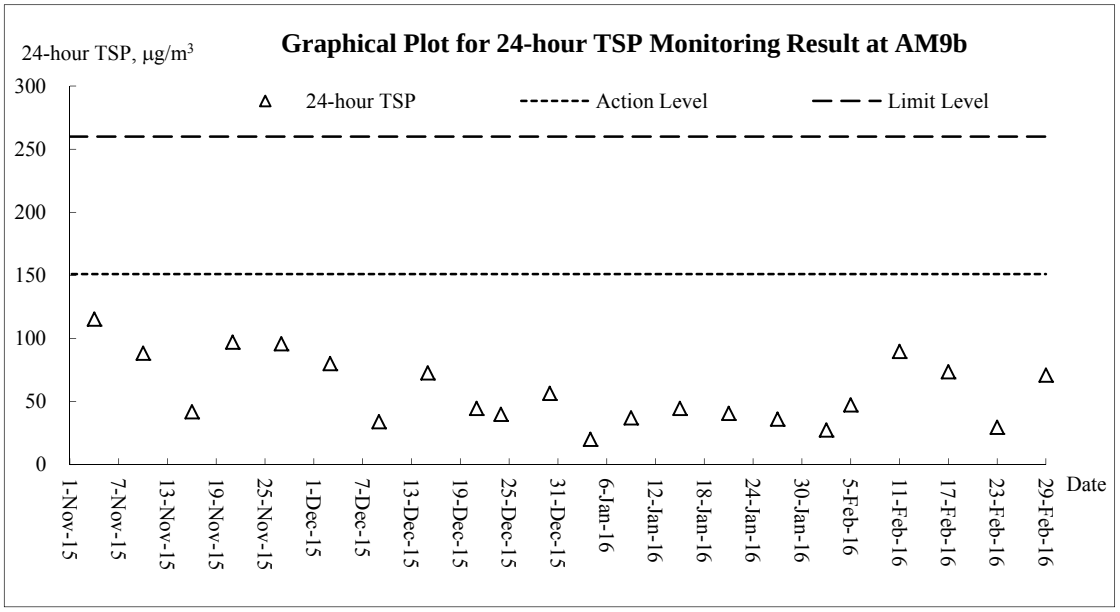
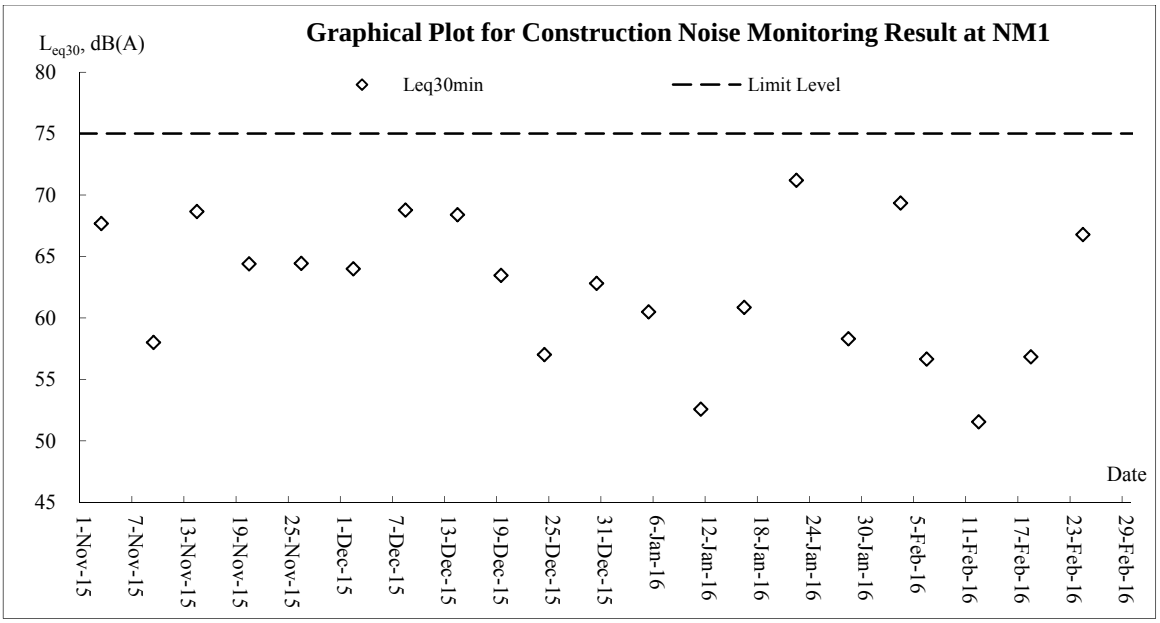
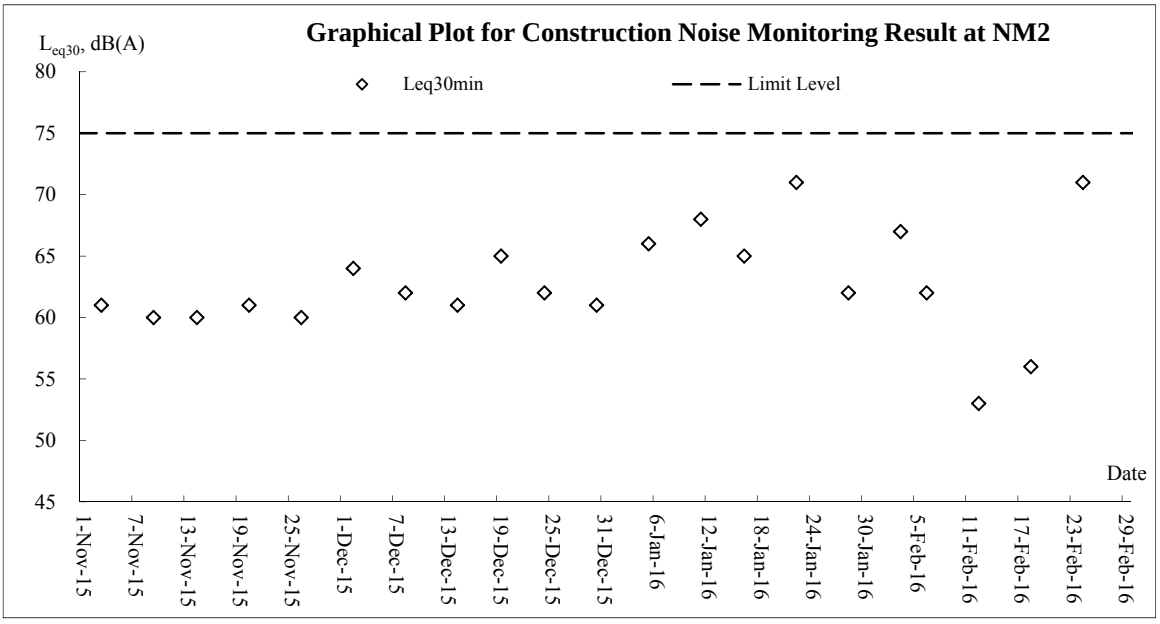
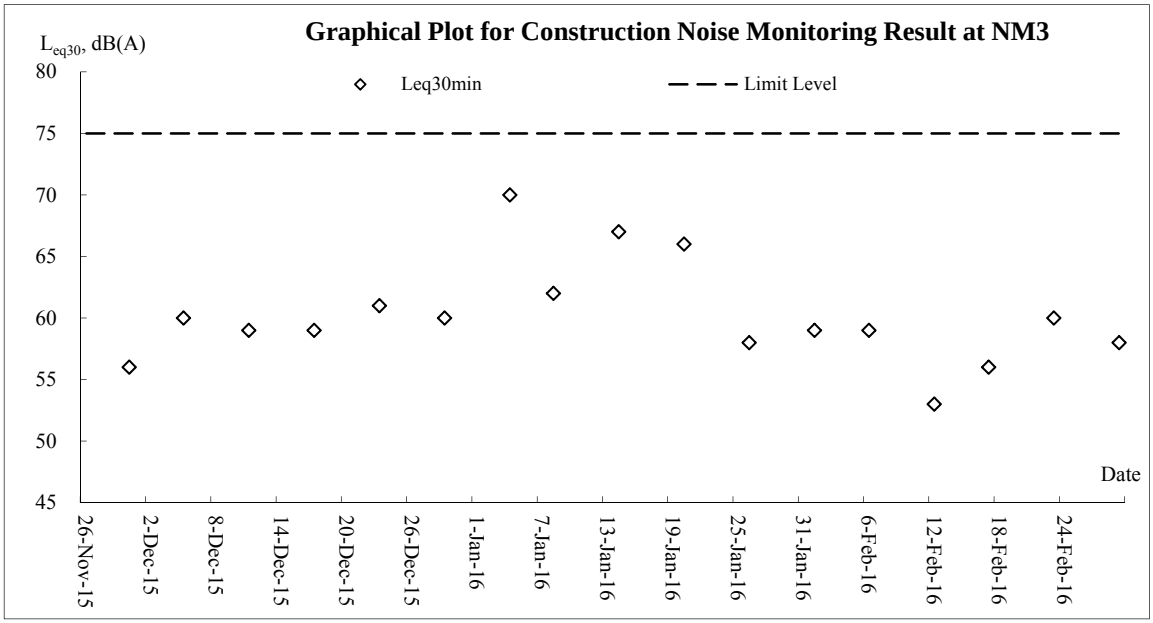
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16
Date


Graphical Plot for 24-hour TSP Monitoring Result at AM9b
24-hour TSP, µg/m³
24-hour TSP
Action Level
Limit Level
300
250
200
150
100
50
0
1-Nov-15
7-Nov-15
13-Nov-15
19-Nov-15
25-Nov-15
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16
Date

Noise


Graphical Plot for Construction Noise Monitoring Result at NM1
L_{eq30}, dB(A)
Leq30min
Limit Level
80
75
70
65
60
55
50
45
Date
1-Nov-15
7-Nov-15
13-Nov-15
19-Nov-15
25-Nov-15
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16


Graphical Plot for Construction Noise Monitoring Result at NM2
L_{eq30}, dB(A)
Leq30min
Limit Level
80
75
70
65
60
55
50
45
Date
1-Nov-15
7-Nov-15
13-Nov-15
19-Nov-15
25-Nov-15
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16


Graphical Plot for Construction Noise Monitoring Result at NM3
L_{eq30}, dB(A)
Leq30min
Limit Level
80
75
70
65
60
55
50
45
Date
26-Nov-15
2-Dec-15
8-Dec-15
14-Dec-15
20-Dec-15
26-Dec-15
1-Jan-16
7-Jan-16
13-Jan-16
19-Jan-16
25-Jan-16
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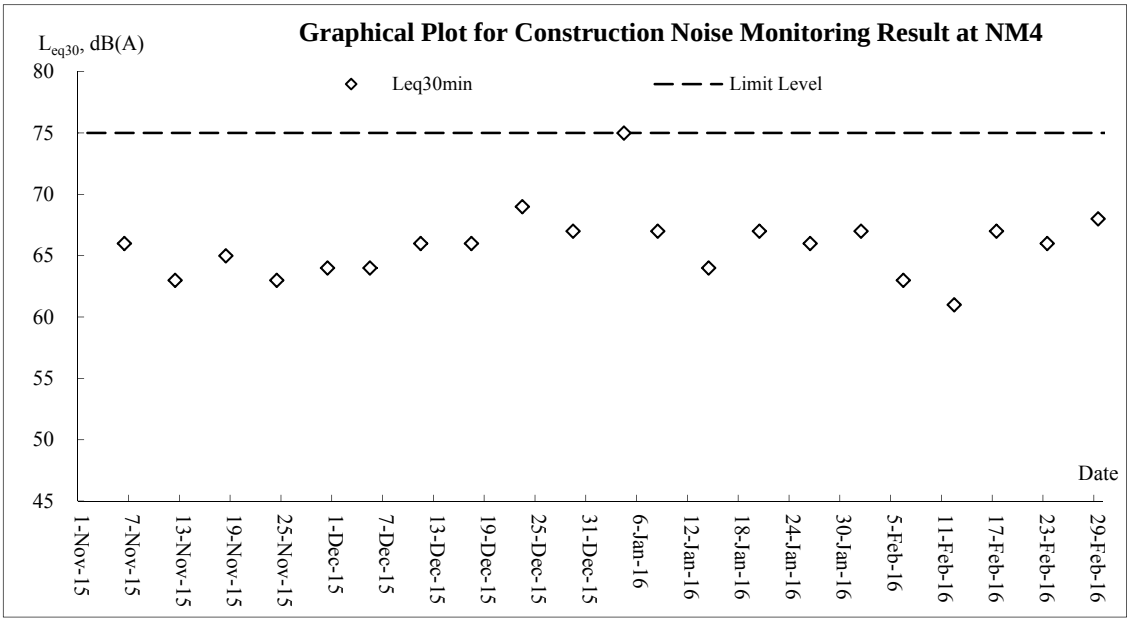
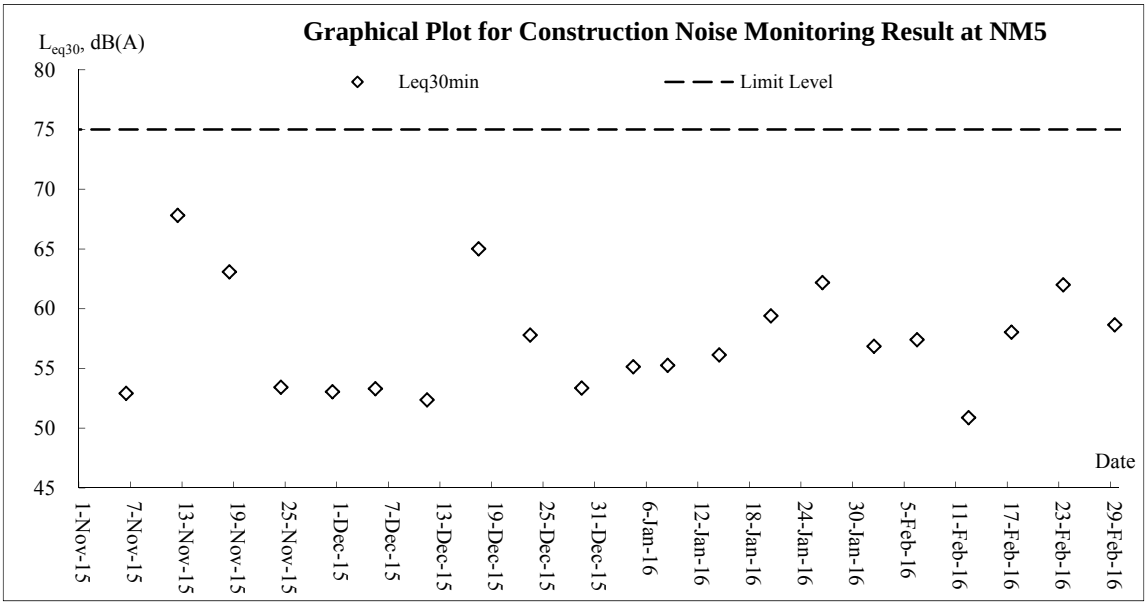
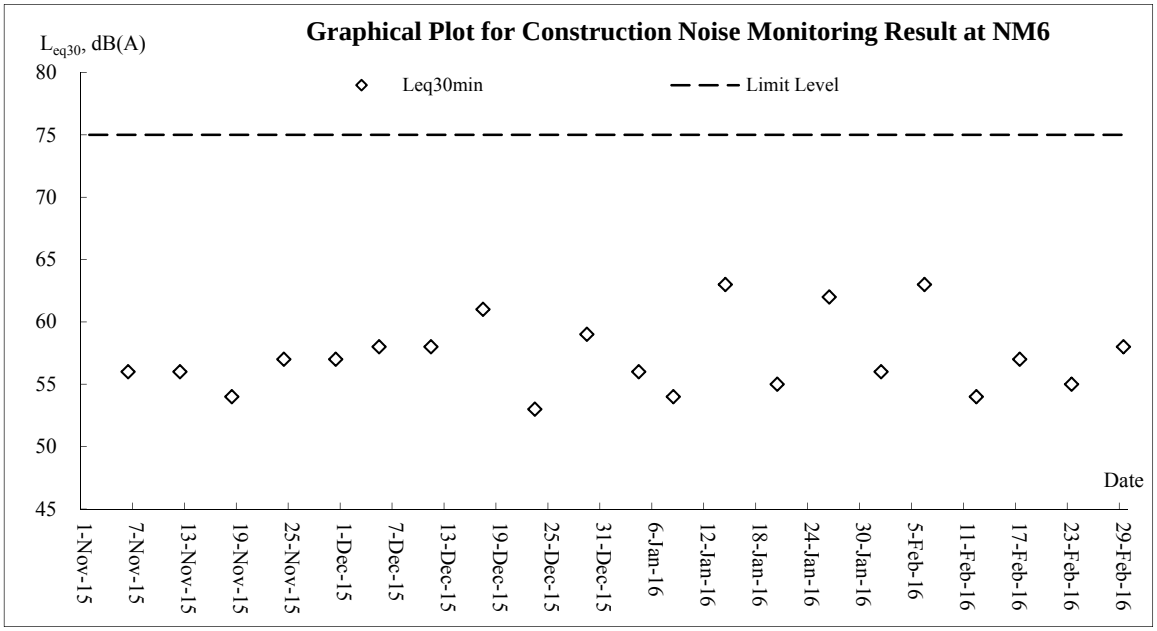
18-Feb-16
24-Feb-16


Graphical Plot for Construction Noise Monitoring Result at NM4
L_{eq30}, dB(A)
Leq30min
Limit Level
80
75
70
65
60
55
50
45
Date
1-Nov-15
7-Nov-15
13-Nov-15
19-Nov-15
25-Nov-15
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16


Graphical Plot for Construction Noise Monitoring Result at NM5
L_{eq30}, dB(A)
Leq30min
Limit Level
80
75
70
65
60
55
50
45
Date
1-Nov-15
7-Nov-15
13-Nov-15
19-Nov-15
25-Nov-15
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16


Graphical Plot for Construction Noise Monitoring Result at NM6
L_{eq30}, dB(A)
Leq30min
Limit Level
80
75
70
65
60
55
50
45
Date
1-Nov-15
7-Nov-15
13-Nov-15
19-Nov-15
25-Nov-15
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
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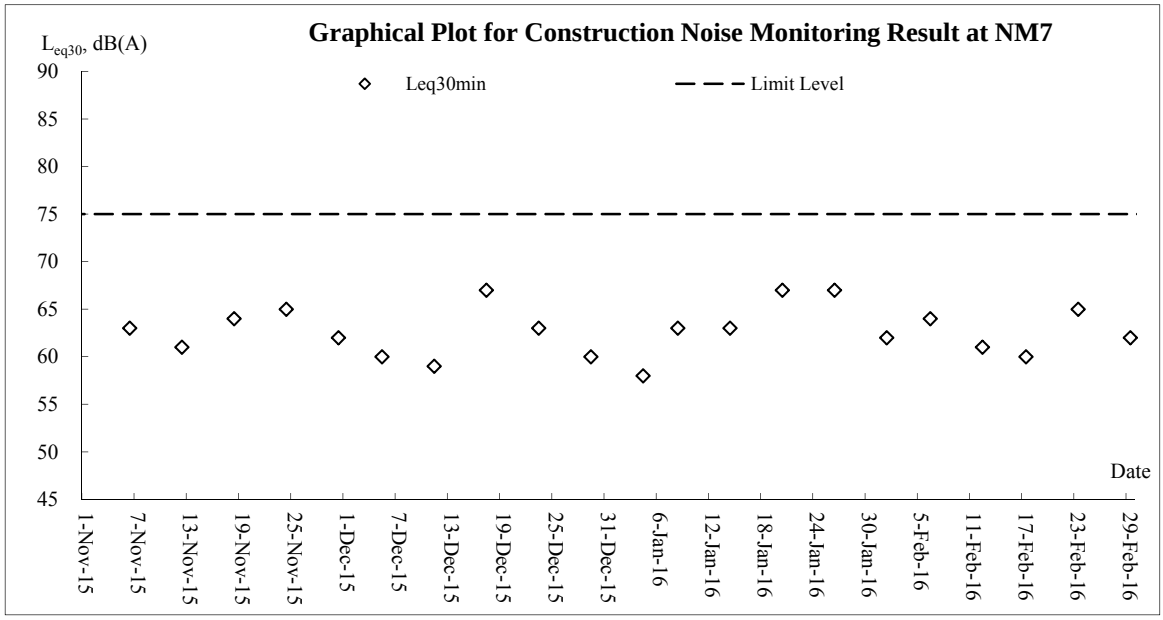
29-Feb-16


Graphical Plot for Construction Noise Monitoring Result at NM7
L_{eq30}, dB(A)
Leq30min
Limit Level
90
85
80
75
70
65
60
55
50
45
Date
1-Nov-15
7-Nov-15
13-Nov-15
19-Nov-15
25-Nov-15
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
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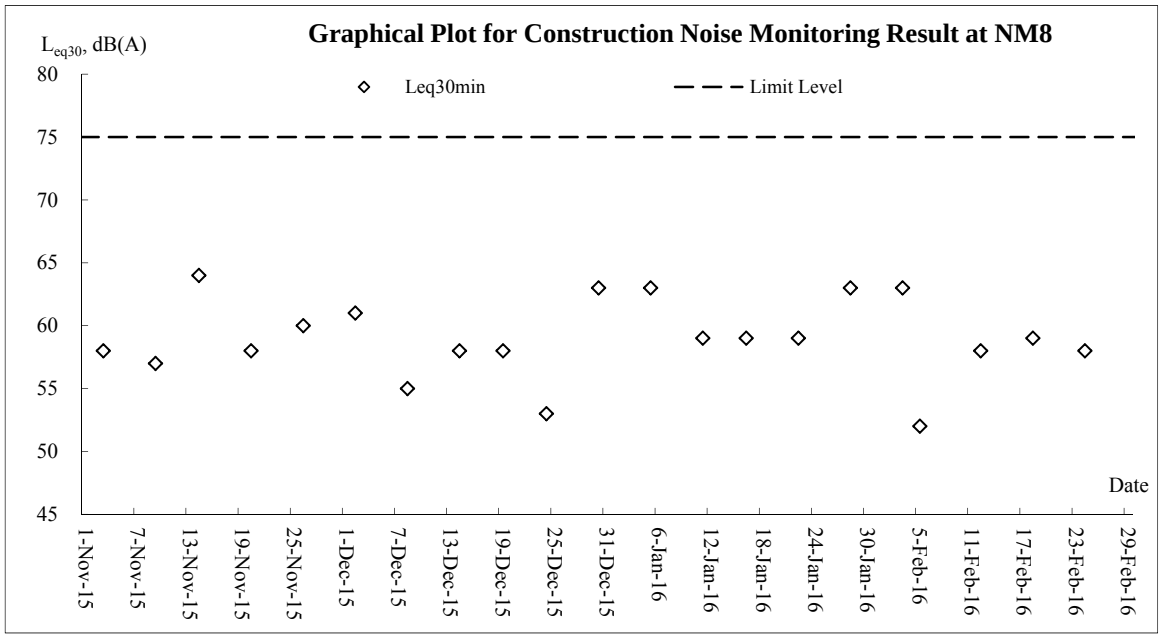
17-Feb-16
23-Feb-16
29-Feb-16


Graphical Plot for Construction Noise Monitoring Result at NM8
L_{eq30}, dB(A)
Leq30min
Limit Level
80
75
70
65
60
55
50
45
Date
1-Nov-15
7-Nov-15
13-Nov-15
19-Nov-15
25-Nov-15
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
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24-Jan-16
30-Jan-16
5-Feb-16
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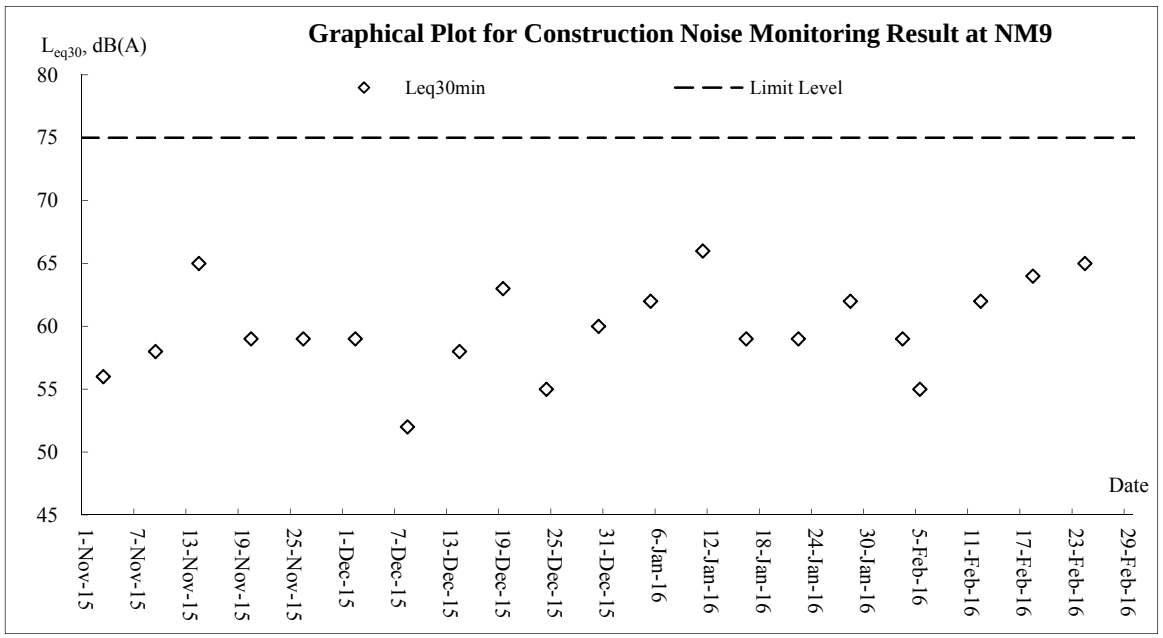
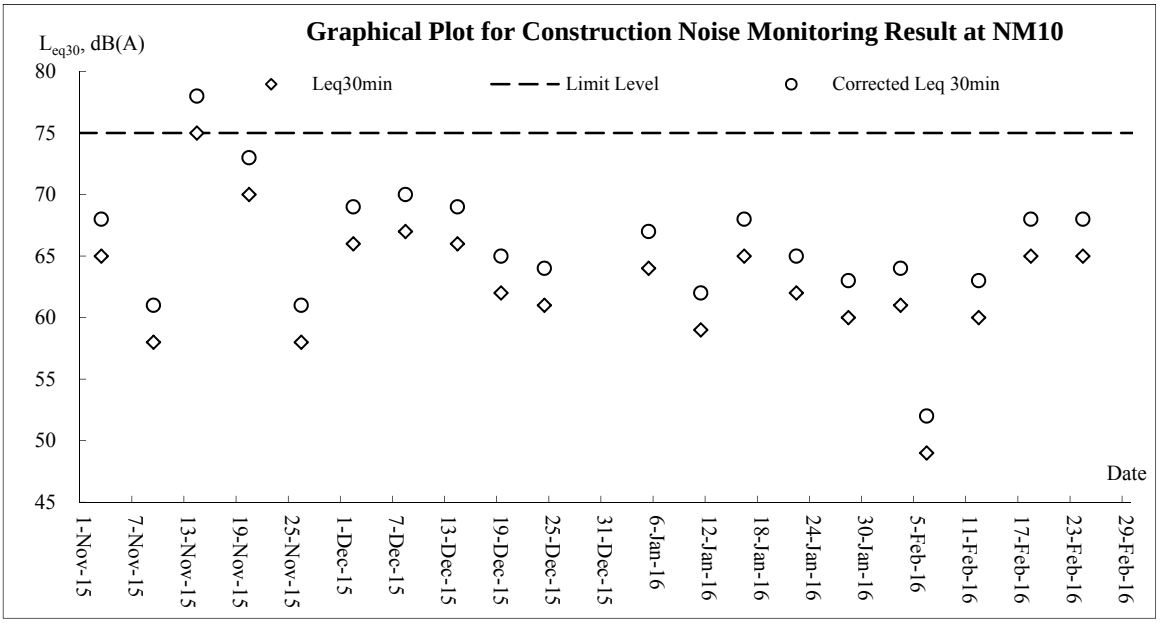
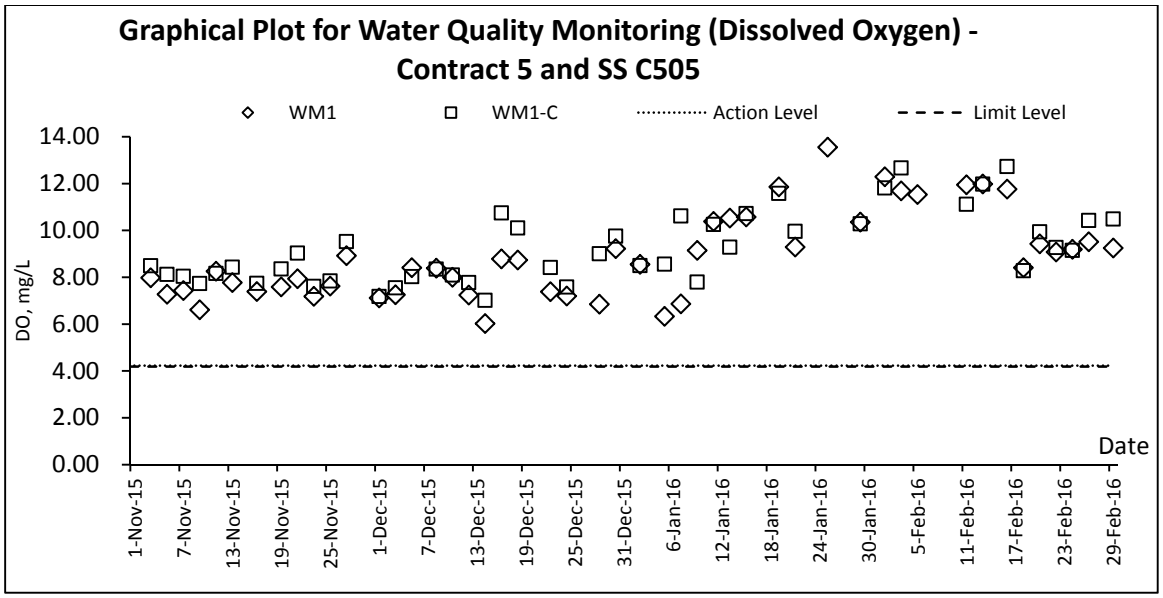
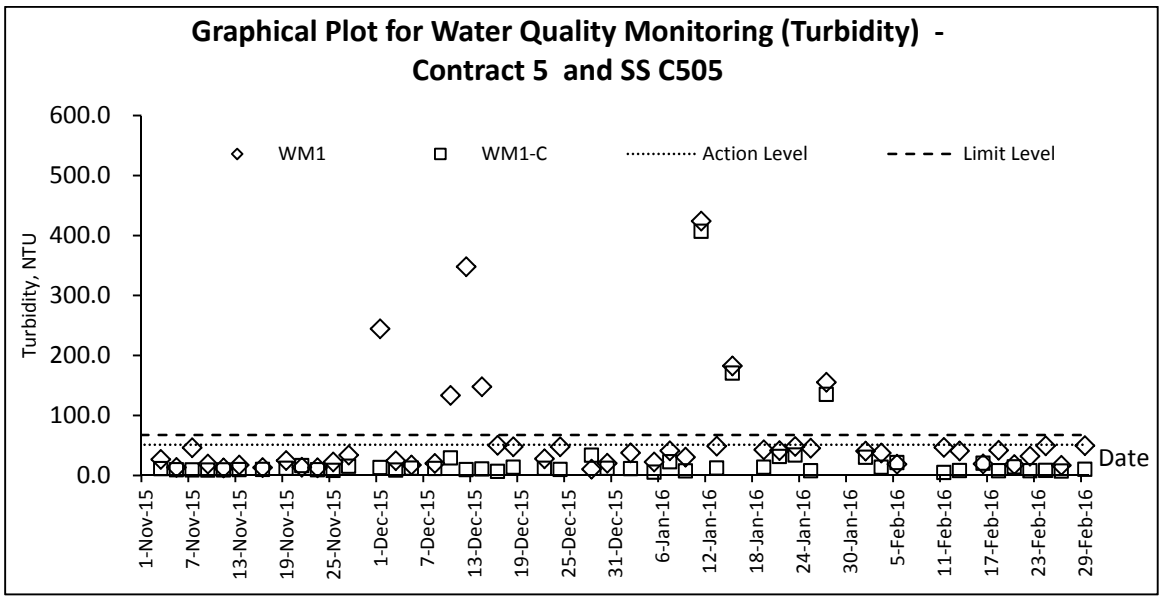
23-Feb-16
29-Feb-16

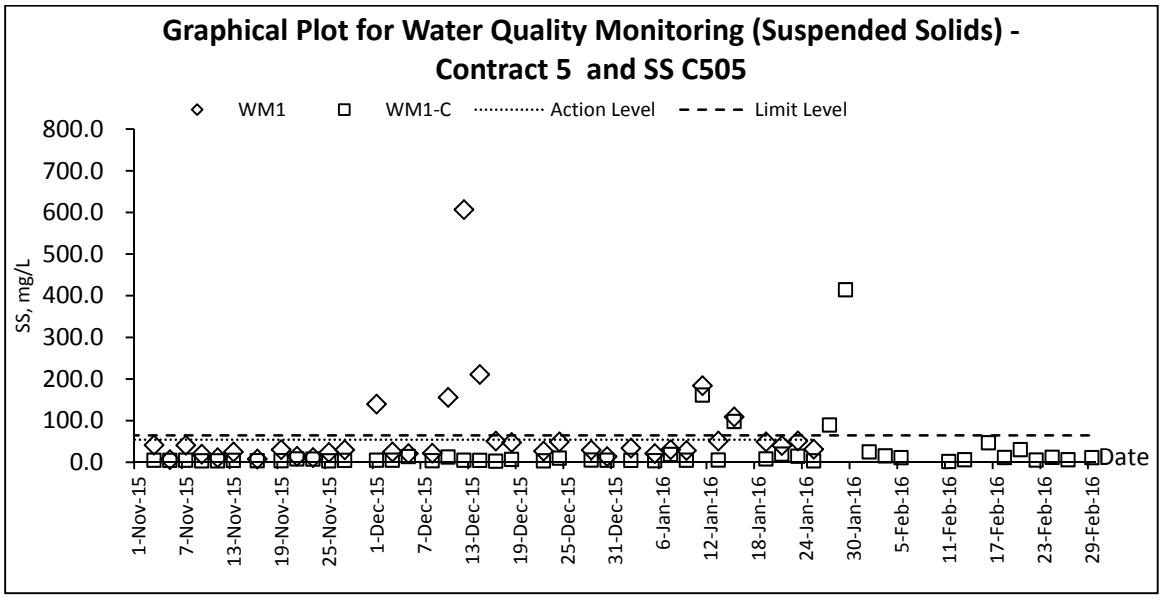

Graphical Plot for Construction Noise Monitoring Result at NM9
L_{eq30}, dB(A)
Leq30min
Limit Level
80
75
70
65
60
55
50
45
Date
1-Nov-15
7-Nov-15
13-Nov-15
19-Nov-15
25-Nov-15
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16

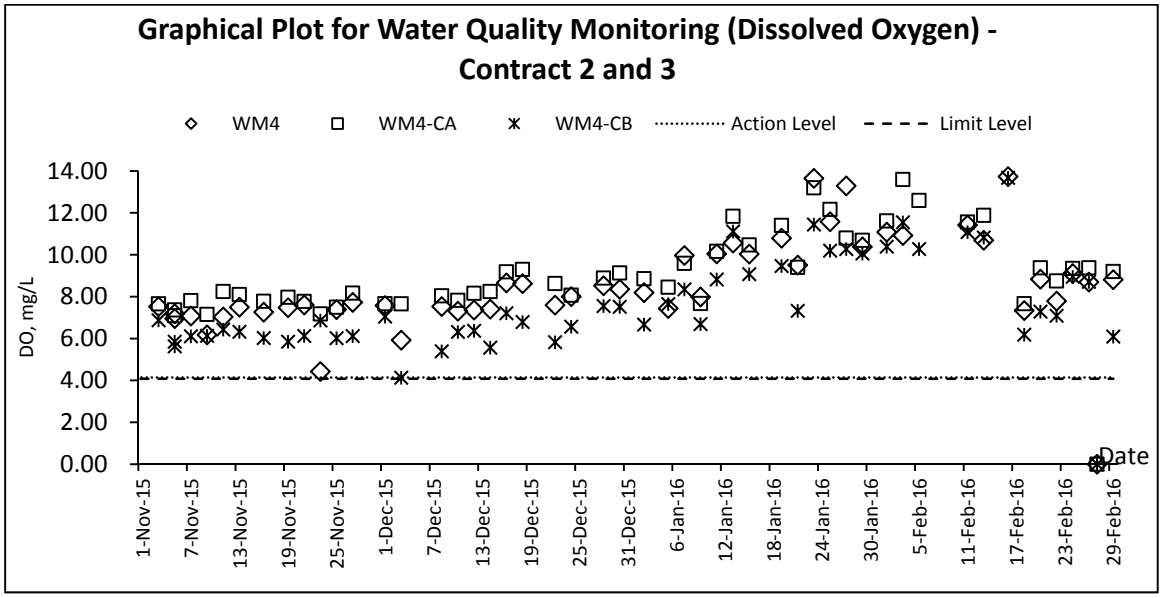

Graphical Plot for Construction Noise Monitoring Result at NM10
L_{eq30}, dB(A)
Leq30min
Limit Level
Corrected Leq 30min
80
75
70
65
60
55
50
45
Date
1-Nov-15
7-Nov-15
13-Nov-15
19-Nov-15
25-Nov-15
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16

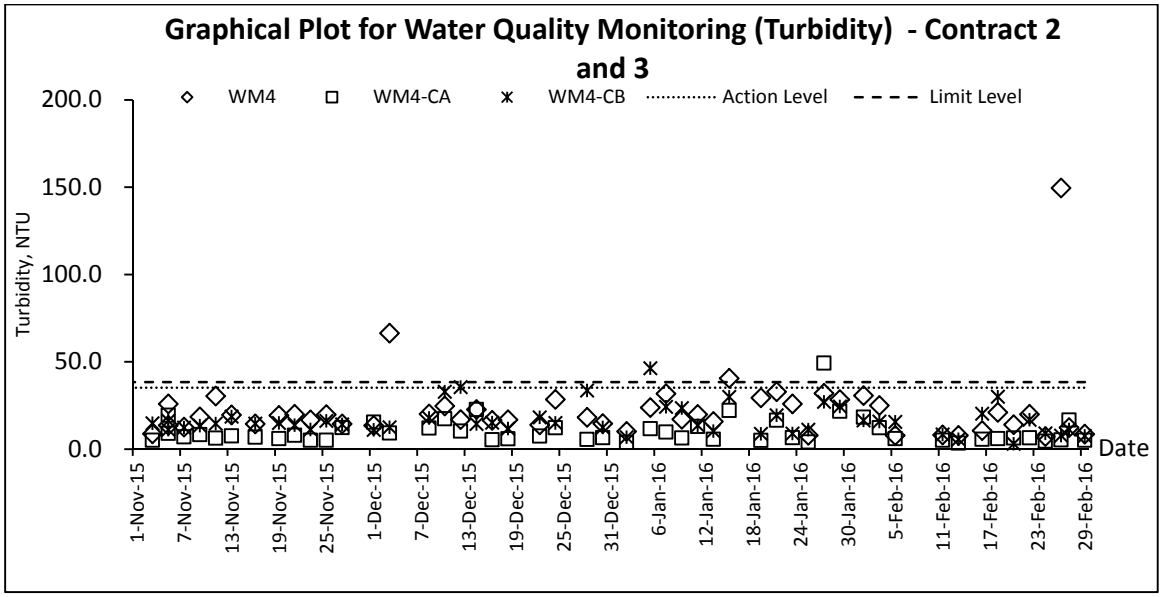
Water Quality

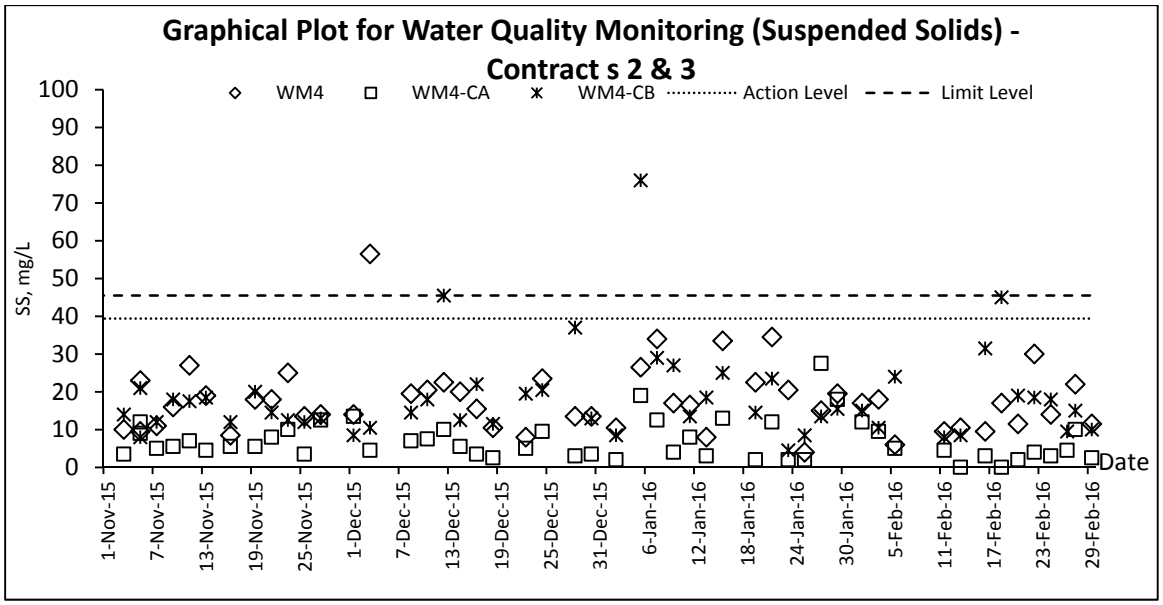


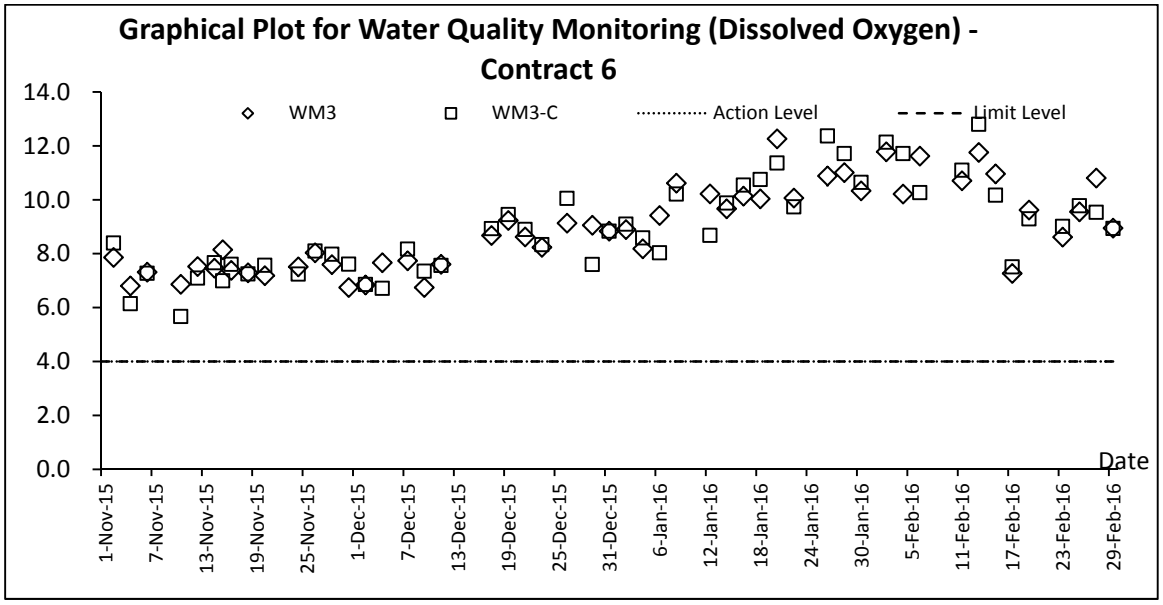


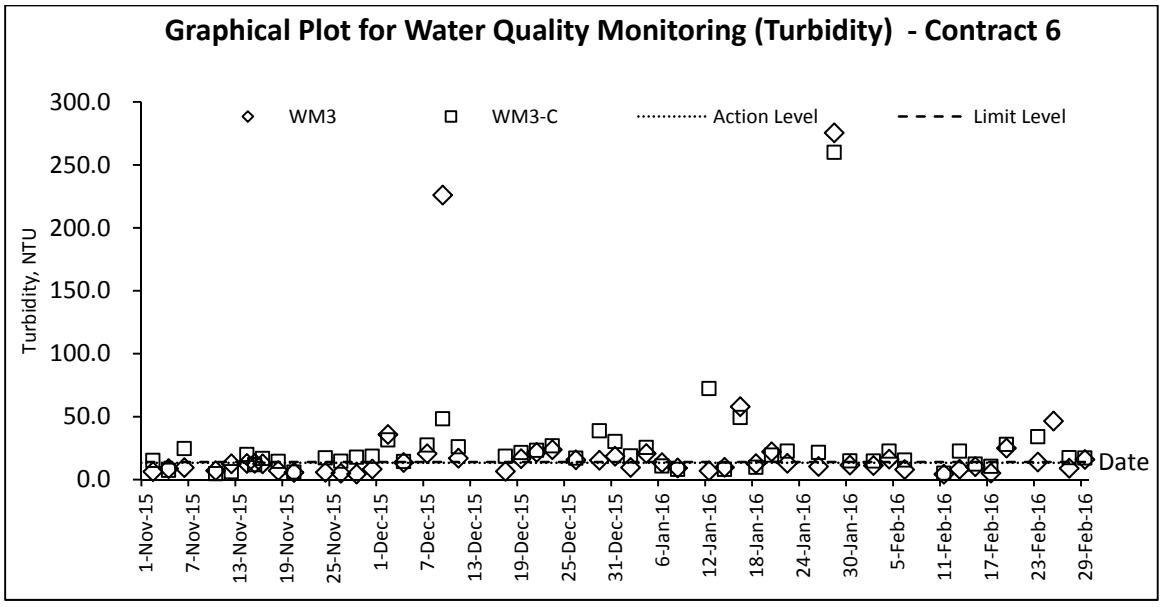


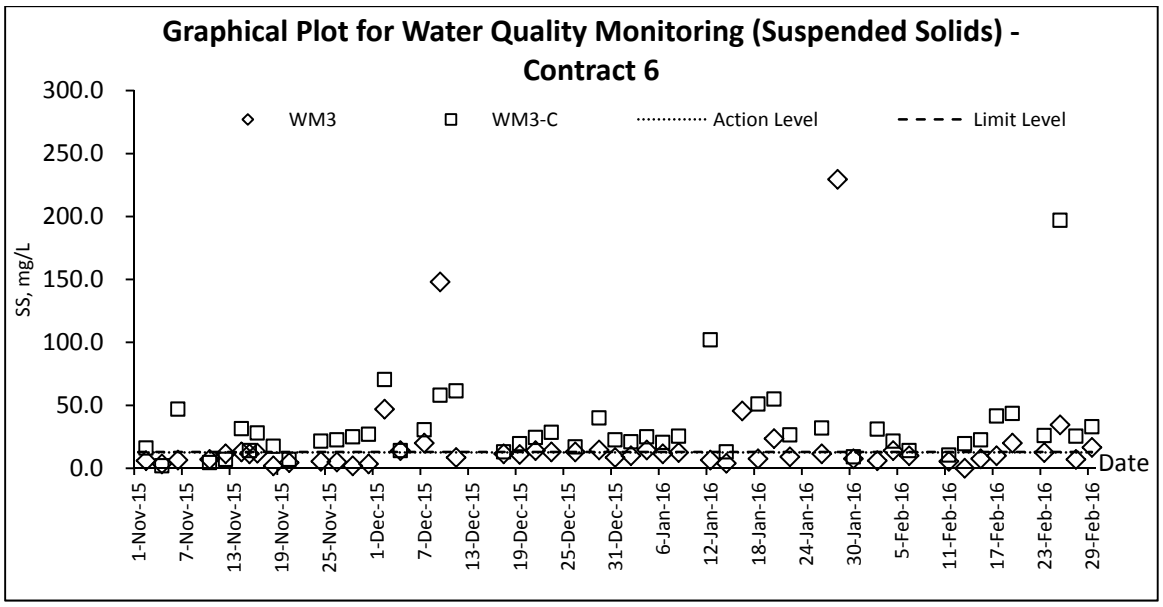

Graphical Plot for Water Quality Monitoring (Dissolved Oxygen) - Contract 2 and 3
WM4
WM4-CA
WM4-CB
Action Level
Limit Level
DO, mg/L
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
Date
1-Nov-15
7-Nov-15
13-Nov-15
19-Nov-15
25-Nov-15
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16

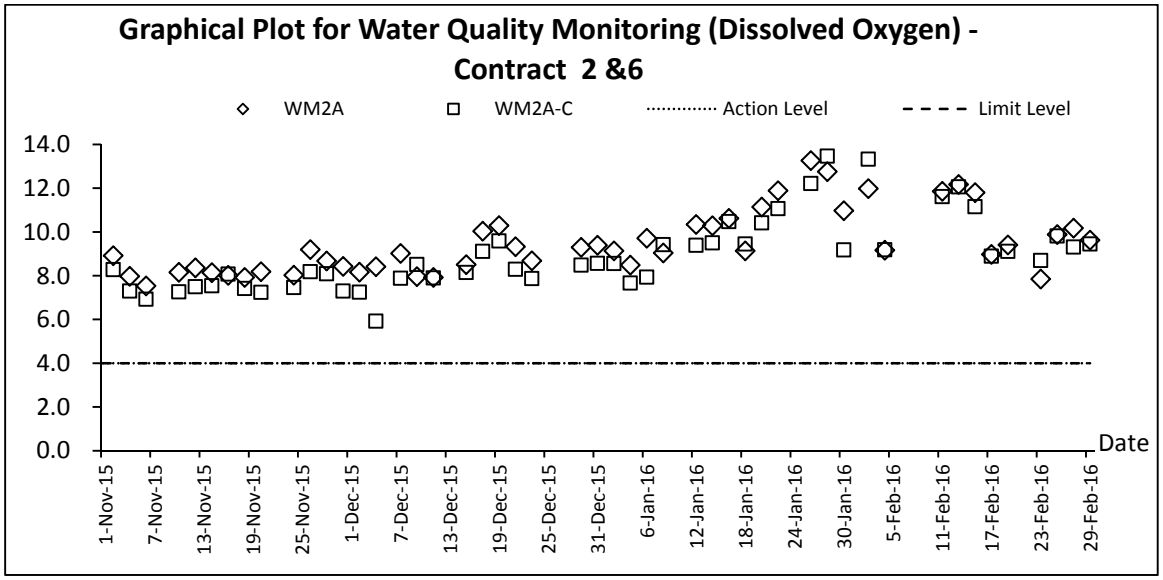

Graphical Plot for Water Quality Monitoring (Turbidity) - Contract 2 and 3
WM4
WM4-CA
WM4-CB
Action Level
Limit Level
Turbidity, NTU
200.0
150.0
100.0
50.0
0.0
Date
1-Nov-15
7-Nov-15
13-Nov-15
19-Nov-15
25-Nov-15
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16

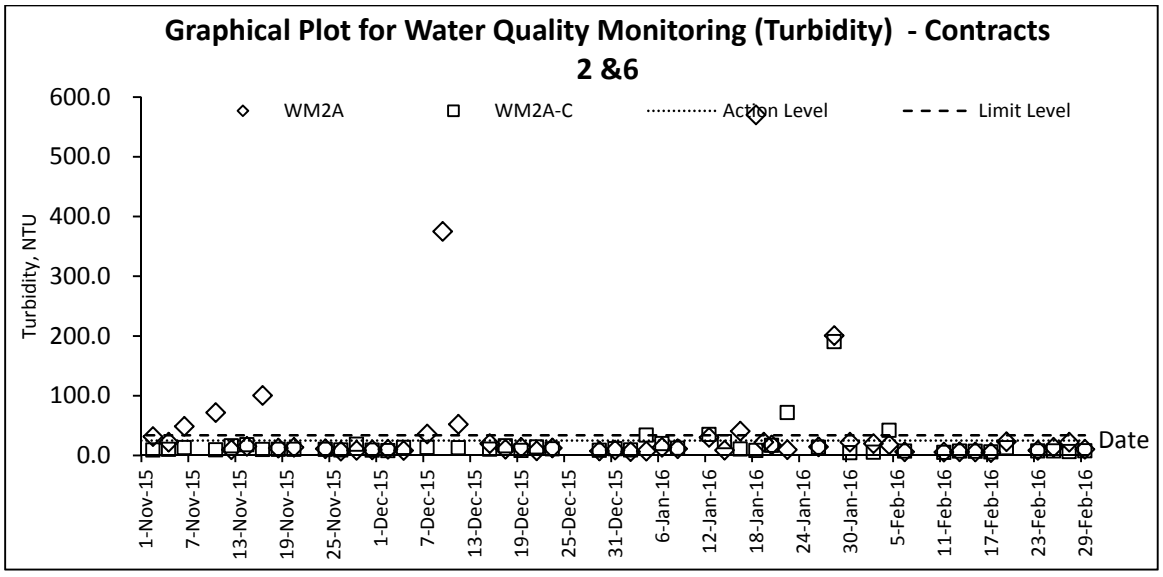

Graphical Plot for Water Quality Monitoring (Suspended Solids) - Contract s 2 & 3
WM4
WM4-CA
WM4-CB
Action Level
Limit Level
SS, mg/L
100
90
80
70
60
50
40
30
20
10
0
Date
1-Nov-15
7-Nov-15
13-Nov-15
19-Nov-15
25-Nov-15
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16

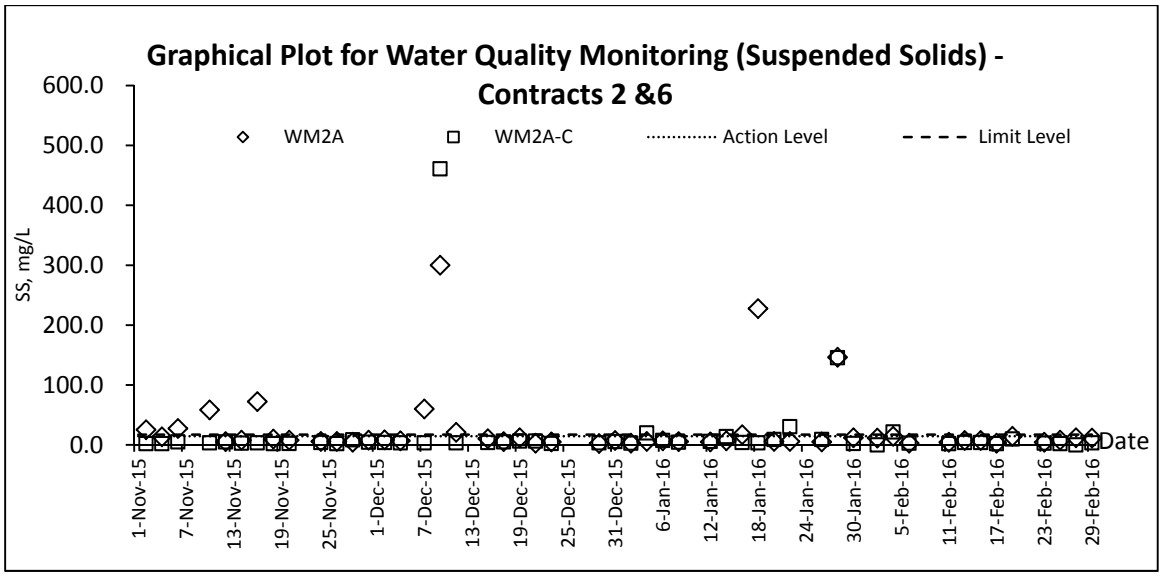

Graphical Plot for Water Quality Monitoring (Dissolved Oxygen) - Contract 6
WM3
WM3-C
Action Level
Limit Level
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
Date
1-Nov-15
7-Nov-15
13-Nov-15
19-Nov-15
25-Nov-15
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16

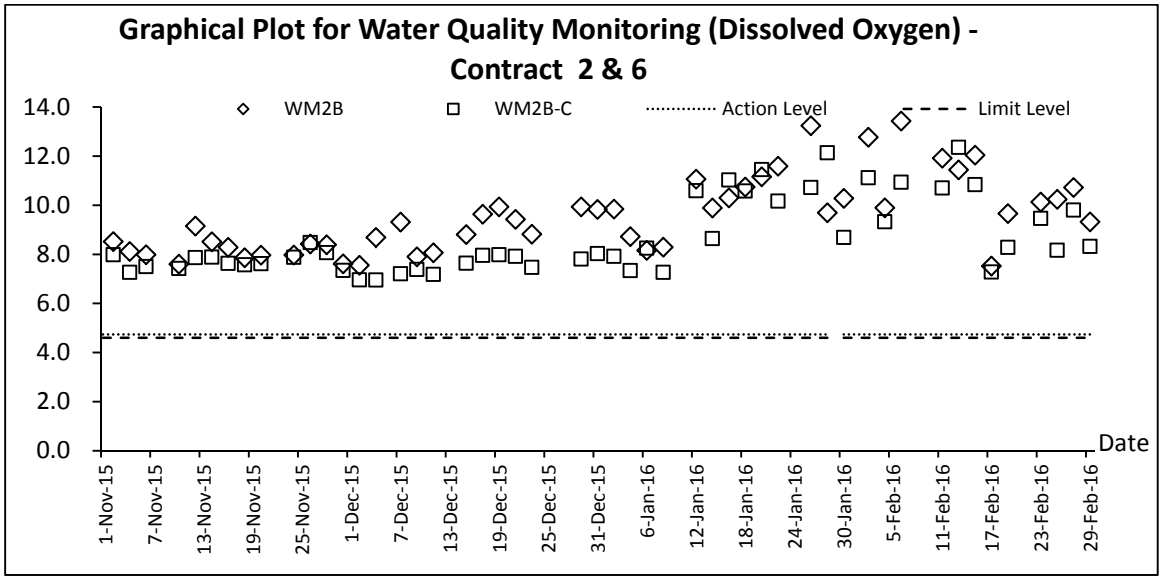

Graphical Plot for Water Quality Monitoring (Turbidity) - Contract 6
WM3
WM3-C
Action Level
Limit Level
Turbidity, NTU
300.0
250.0
200.0
150.0
100.0
50.0
0.0
Date
1-Nov-15
7-Nov-15
13-Nov-15
19-Nov-15
25-Nov-15
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16

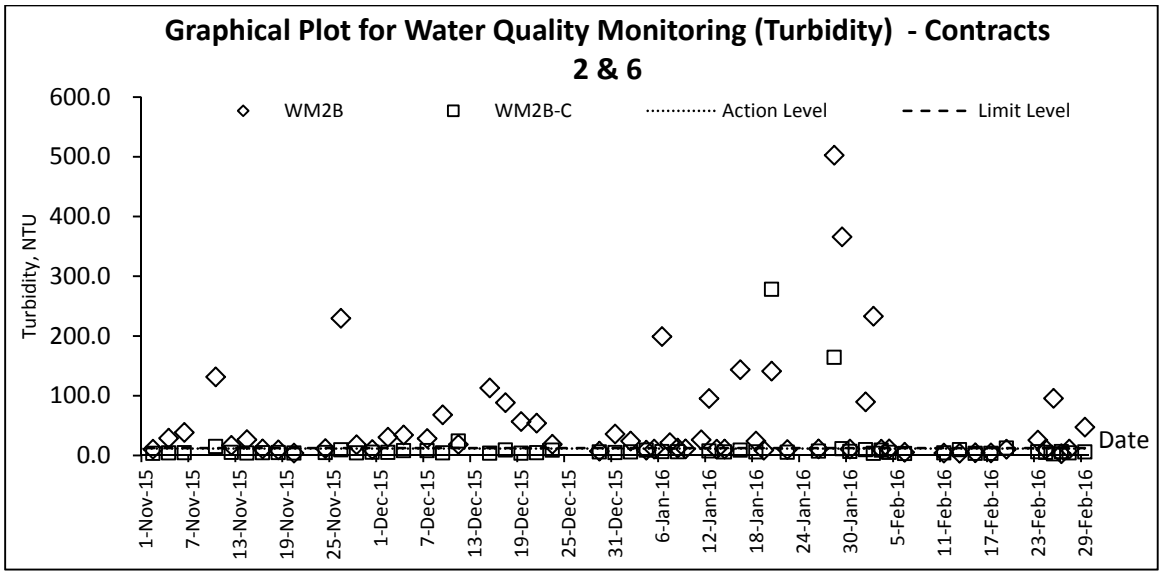

Graphical Plot for Water Quality Monitoring (Suspended Solids) - Contract 6
WM3
WM3-C
Action Level
Limit Level
SS, mg/L
300.0
250.0
200.0
150.0
100.0
50.0
0.0
Date
1-Nov-15
7-Nov-15
13-Nov-15
19-Nov-15
25-Nov-15
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16

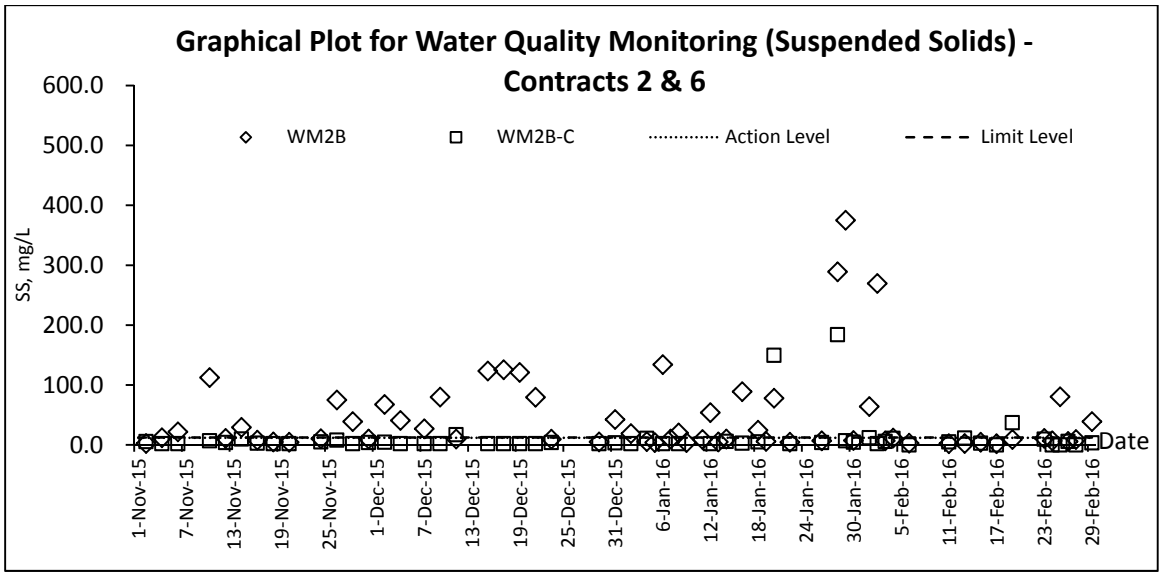

Graphical Plot for Water Quality Monitoring (Dissolved Oxygen) - Contract 2 &6
WM2A
WM2A-C
Action Level
Limit Level
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
Date
1-Nov-15
7-Nov-15
13-Nov-15
19-Nov-15
25-Nov-15
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16


Graphical Plot for Water Quality Monitoring (Turbidity) - Contracts 2 &6
WM2A
WM2A-C
Action Level
Limit Level
Turbidity, NTU
600.0
500.0
400.0
300.0
200.0
100.0
0.0
Date
1-Nov-15
7-Nov-15
13-Nov-15
19-Nov-15
25-Nov-15
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16


Graphical Plot for Water Quality Monitoring (Suspended Solids) - Contracts 2 &6
WM2A
WM2A-C
Action Level
Limit Level
SS, mg/L
600.0
500.0
400.0
300.0
200.0
100.0
0.0
Date
1-Nov-15
7-Nov-15
13-Nov-15
19-Nov-15
25-Nov-15
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16


Graphical Plot for Water Quality Monitoring (Dissolved Oxygen) - Contract 2 & 6
WM2B
WM2B-C
Action Level
Limit Level
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
Date
1-Nov-15
7-Nov-15
13-Nov-15
19-Nov-15
25-Nov-15
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16


Graphical Plot for Water Quality Monitoring (Turbidity) - Contracts 2 & 6
WM2B
WM2B-C
Action Level
Limit Level
Turbidity, NTU
600.0
500.0
400.0
300.0
200.0
100.0
0.0
Date
1-Nov-15
7-Nov-15
13-Nov-15
19-Nov-15
25-Nov-15
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16


Graphical Plot for Water Quality Monitoring (Suspended Solids) - Contracts 2 & 6
WM2B
WM2B-C
Action Level
Limit Level
SS, mg/L
600.0
500.0
400.0
300.0
200.0
100.0
0.0
Date
1-Nov-15
7-Nov-15
13-Nov-15
19-Nov-15
25-Nov-15
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16

Appendix K

Meteorological Data

Date		Weather	Total Rainfall (mm)	Ta Kwu Ling Station			
				Mean Air Temp. (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction
1-Feb-16	Mon	It will be fine. Light to moderate northerly winds.	11.3	11.5	12.7	85	N
2-Feb-16	Tue	It will be fine. Light to moderate northerly winds.	Trace	7.9	12	80	N/NW
3-Feb-16	Wed	It will be fine. Light to moderate northerly winds.	Trace	10.4	5.2	70	N/NW
4-Feb-16	Thu	It will be fine. Light to moderate northerly winds.	0	16.3	6.1	68.5	W/NW
5-Feb-16	Fri	It will be fine and dry. Cold tonight. Moderate to fresh northerly winds.	0	14.5	9.7	60.5	N/NW
6-Feb-16	Sat	It will be fine and dry. Cold tonight.	0	14	14.7	39	N/NW
7-Feb-16	Sun	holiday					
8-Feb-16	Mon						
9-Feb-16	Tue						
10-Feb-16	Wed						
11-Feb-16	Thu	It will be fine. Light to moderate northerly winds.	Trace	21.4	7.5	76.2	E/SE
12-Feb-16	Fri	It will be fine. Light to moderate northerly winds.	0.1	21	9.6	84.2	E/SE
13-Feb-16	Sat	It will be fine. Light to moderate northerly winds.	0	23	10.2	59	E/SE
14-Feb-16	Sun	holiday					
15-Feb-16	Mon	It will be fine. Light to moderate northerly winds.	0.3	12	12	55.7	N
16-Feb-16	Tue	It will be fine. Light to moderate northerly winds.	0	11	8.2	55.5	N
17-Feb-16	Wed	Humid and foggy. A few rain patches in the morning and at night. Bright periods in the afternoon. Moderate southeasterly winds.	1.7	11.1	2.9	80.5	N
18-Feb-16	Thu	Cloudy with a few light rain patches. Foggy at first. Rather cool tonight. Moderate northerly winds, fresh later.	3.4	12.1	2.6	87	N
19-Feb-16	Fri	Cloudy and cold. Moderate northerly winds, fresh later.	4.4	14.2	12.2	88	N
20-Feb-16	Sat	Cloudy and cold. Moderate northerly winds, fresh later.	2.4	16	13.9	67	N
21-Feb-16	Sun	holiday					
22-Feb-16	Mon	Cloudy with a few light rain patches. Foggy at first. Rather cool tonight. Moderate northerly winds, fresh later.	0.5	17	10.5	83	E/SE
23-Feb-16	Tue	Cloudy with a few light rain patches. Foggy at first. Rather cool tonight. Moderate northerly winds, fresh later.	0.5	14	6.5	86	W/NW
24-Feb-16	Wed	Cloudy. Moderate to fresh north to northeasterly winds.	Trace	12.9	7.6	70	N
25-Feb-16	Thu	Cloudy with a few light rain patches. Foggy at first. Rather cool tonight. Moderate northerly winds, fresh later.	0	14.3	6	70.5	N
26-Feb-16	Fri	Cloudy with a few light rain patches. Foggy at first. Rather cool tonight. Moderate northerly winds, fresh later.	Trace	14.7	5.5	75	N/NW
27-Feb-16	Sat	Cloudy with a few light rain patches. Foggy at first. Rather cool tonight.	Trace	15	9.1	79	N/NW
28-Feb-16	Sun	holiday					
29-Feb-16	Mon	Mainly fine apart from some haze. It will be cool tomorrow morning. Moderate easterly winds, fresh at times at first.	0	16.7	9	61.5	E/NE

Appendix L

Waste Flow Table

Name of Department : CEDD **Contract No./ Work Order No. :** CV/2012/08

Appendix I - Monthly Summary Waste Flow Table for 2016

(All quantities shall be rounded off to 3 decimal places)

Month	Actual Quantities of Inert C&D Materials Generated / Imported (in '000 m3)						Actual Quantities of Other C&D Materials / Wastes Generated				
	Total Quantities Generated [a+b+c+d]	Broken Concrete (including rock for recycling into aggregates) (a)	Reused in the Contract (b)	Reused in Other Projects (c)	Disposed as Public Fill (d)	Imported C&D Material	Metal (in '000kg)	Paper/ Cardboard Packaging (in '000kg)	Plastic (bottles/containers, plastic sheets/ foams from package material) (in '000kg)	Chemical Waste (in '000kg)	Others (e.g. General Refuse etc.) (in '000m3)
January	72.2029	0.0000	0.6482	31.8061	39.7486	0.7684	0.0000	0.0000	0.0000	1.2320	0.1247
February	55.6715	0.0000	1.0145	38.3484	16.3085	0.9343	0.0000	0.0000	0.0000	0.8800	0.1089
March	0.0000										
April	0.0000										
May	0.0000										
June	0.0000										
Half-year total	127.8744	0.0000	1.6627	70.1545	56.0571	1.7027	0.0000	0.0000	0.0000	2.1120	0.2336
July	0.0000										
August	0.0000										
September	0.0000										
October	0.0000										
November	0.0000										
December	0.0000										
Yearly Total	127.8744	0.0000	1.6627	70.1545	56.0571	1.7027	0.0000	0.0000	0.0000	2.1120	0.2336

(All quantities shall be rounded off to 3 decimal places)

Year	Actual Quantities of Inert C&D Materials Generated / Imported (in '000 m3)						Actual Quantities of Other C&D Materials / Wastes Generated				
	Total Quantities Generated [a+b+c+d]	Broken Concrete (including rock for recycling into aggregates) (a)	Reused in the Contract (b)	Reused in Other Projects (c)	Disposed as Public Fill (d)	Imported C&D Material	Metal (in '000kg)	Paper/ Cardboard Packaging (in '000kg)	Plastic (bottles/containers, plastic sheets/ foams from package material) (in '000kg)	Chemical Waste (in '000kg)	Others (e.g. General Refuse etc.) (in '000m3)
2013	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2014	425.4406	0.0000	2.7362	376.3945	46.3099	5.6245	3.2100	0.4390	0.0070	10.8800	2.2609
2015	570.9459	0.0000	20.8159	543.2162	6.9138	4.5492	14.1300	3.9220	1.5000	16.1920	1.1696
2016	127.8744	0.0000	1.6627	70.1545	56.0571	1.7027	0.0000	0.0000	0.0000	2.1120	0.2336
2017											
2018											
Total	1124.2609	0.0000	25.2148	989.7653	109.2808	11.8764	17.3400	4.3610	1.5070	29.1840	3.6641

Remark:

1) Density of C&D material to be 2.2 metric ton/m3
2) Density of General Refuse to be 1.6 metric ton/m3
3) Density of Spent Oil to be 0.88 metric ton/m3

Name of Department: CEDD

Contract No.: CV/2012/09

Monthly Summary Waste Flow Table for 2016 (year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics	Chemical Waste	Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in m^3)	(in '000m^3)
Jan	2.430	0.253	0.030	0.000	2.400	0.799	0.001	0.000	0.000	0.000	0.115
Feb	1.225	0.651	0.020	0.000	1.205	1.141	0.000	0.000	0.000	0.000	0.110
Mar											
Apr											
May											
Jun											
Sub-total	3.655	0.904	0.050	0.000	3.605	1.940	0.001	0.000	0.000	0.000	0.225
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
Total	3.655	0.904	0.050	0.000	3.605	1.940	0.001	0.000	0.000	0.000	0.225

Note:

1. Assume the density of soil fill is 2 ton/m^3.
2. Assume the density of rock and broken concrete is 2.5 ton/m^3.
3. Assume each truck of C&D wastes is 5m^3.
4. The inert C&D materials except slurry and bentonite are disposed at Tuen Mun 38.
5. The slurry and bentonite are disposed at Tseung Kwun O 137.
6. The non-inert C&D wastes are disposed at NENT.
7. Assume the density of metal is 7,850 kg/m^3.

Name of Department: CEDD

Monthly Summary Waste Flow Table for 2016

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics	Chemical Waste	Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
JAN	0	0	0	0	0	0.235	0	0	0	0	0.06
FEB	0	0	0	0	0	0.141	0	0	0	0	0.045
MAR											
APRIL											
MAY											
JUN											
Sub Total	0	0	0	0	0	0.376	0	0	0	0	0.105
JUL											
AUG											
SEP											
OCT											
NOV											
DEC											
Total	0	0	0	0	0	0.38	0	0	0	0	0.105

Notes:

Name of Department: CEDD

Forecast of Total Quantities of C&D Materials to be Generated from the Contract (see Note 4)										
Total Quantity Generated	Hard Rocks and Large Broken Concrete	Reused in the Contract	Reused in Other Projects	Disposed as Public Fill	Imported Fill	Metal	Paper / cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
0	0	0	0	0	350	30	4	2	1	4

Notes:

(1) The performance targets are given in PS clause 6(14) above.

(2) The waste flow table shall also include C&D materials that are specified in the Contractor to be imported for use at the Site.

(3) Plastic refer to plastic bottles/containers, plastic sheets/foam from packaging material.

(4) The Contractor shall also submit the latest forecast of the total amount of C&D materials expected to be generated from the Works, together with a breakdown of the nature

- Hard Rocks and Large Broken Concrete = Cannot be defined at this stage
- Imported Fill = Estimated by the Contractor = 1 loading = 8m 3
- Metal = Estimated by the Contractor
- Paper/cardboard packaging = Estimated by the Contractor
- Plastics = Estimated by the Contractor
- Chemical Waste = Estimated by the Contractor (Spent lubricating oil, assume density 0.9kg/L)
- Other, e.g. general refuse = Estimated by the Contractor

Monthly Summary Waste Flow Table for 2016 (year)

Name of Person completing the record: KM LUI (EO)

Project : Liangtang / Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works – Contract 6 Contract No.: CV/2013/08

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000 m^3)
Jan	58.943	0	3.811	12.131	43.001	31.248	0	0	0	0	0.695
Feb	74.418	0	8.785	39.85	25.783	6.552	0	0.097	0	0	0.339
Mar											
Apr											
May											
Jun											
Sub-total	133.361	0	12.596	51.981	68.784	37.8	0	0.097	0	0	1.034
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
Total	302.584	0	31.13	68.765	202.689	45.049	0	0.391	0	32.28	4.11

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

(2) Plastics refer to plastic bottles/containers, plastic sheets/ foam from packaging materials.

(3) Broken concrete for recycling into aggregates.

Name of Department: CEDD

Contract No.: NE/2014/03

Monthly Summary Waste Flow Table for 2016 (year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
Jan	0	0	0	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0.16	0	0	0	0	0	0
Mar											
Apr											
May											
June											
Sub-total	0	0	0	0	0.16	0	0	0	0	0	0
July											
Aug											
Sept											
Oct											
Nov											
Dec											
Total	0	0	0	0	0.16	0	0	0	0	0	0

Architectural Services Department	**Form No. D/OI.03/09.002**

Contract No. / Works Order No.: - SSC505

Monthly Summary Waste Flow Table for 2016 [year] [to be submitted not later than the 15th day of each month following reporting month]

(All quantities shall be rounded off to 3 decimal places.)

Month	Actual Quantities of Inert Construction Waste Generated Monthly				
	(a)=(b)+(c)+(d)+(e) Total Quantity Generated	(b) Broken Concrete (see Note 4)	(c) Reused in the Contract	(d) Reused in other Projects	(e) Disposed of as Public Fill
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)
Jan	0.800	0	0	0	0.800
Feb	0.858	0	0	0	0.858
Mar					
Apr					
May					
Jun					
Sub-total	1.658	0	0	0	1.658
Jul					
Aug					
Sep					
Oct					
Nov					
Dec					
Total	1.658	0	0	0	1.658

Month	Actual Quantities of Non-inert Construction Waste Generated Monthly												
	Timber		Metals		Paper/ cardboard packaging		Plastics (see Note 3)		Chemical Waste		Other Recyclable Materials (see Page 3)		General Refuse disposed of at Landfill
	(in '000kg)		(in '000kg)		(in '000kg)		(in '000kg)		(in '000kg)		(in '000kg)		(in '000m^3)
	generated	recycled	generated	recycled	generated	recycled	generated	recycled	generated	recycled	generated	recycled	generated
Jan	0.000	0.000	4.73	4.73	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.072
Feb	0.000	0.000	0.0004	0.0004	0.0186	0.0186	0.000	0.000	0.000	0.000	0.021	0.021	0.065
Mar													
Apr													
May													
Jun													
Sub-total	0.000	0.000	4.7304	4.7304	0.0186	0.0186	0.000	0.000	0.000	0.000	0.021	0.021	0.137
Jul													
Aug													
Sep													
Oct													
Nov													
Dec													
Total	0.000	0.000	4.7304	4.7304	0.0186	0.0186	0.000	0.000	0.000	0.000	0.021	0.021	0.137

Description of mode and details of recycling if any for the month e.g. XX kg of used timber was sent to YY site for transformation into fertilizers					
21kg of glass bottles were sent to *Action Health* for recycling	0.4kg of cans and 18.6kg of papers were sent to *Wong Kei* for recycling	0	0	0	0

Notes:
(1) The performance targets are given in the Particular Specification on Environmental Management Plan.
(2) The waste flow table shall also include construction waste that are specified in the Contract to be imported for use at the site.
(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.
(4) Broken concrete for recycling into aggregates.
(5) If necessary, use the conversion factor: 1 full load of dumping truck being equivalent to 6.5 m^3 by volume.

Appendix M

Implementation Schedule for Environmental Mitigation Measures

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?
Air Quality Impact (Construction)							
3.6.1.1	2.1	**General Dust Control Measures** The following dust suppression measures should be implemented: ■ Frequent water spraying for active construction areas (4 times per day for active areas in Po Kak Tsai and 8 times per day for all other active areas), including areas with heavy construction and slope cutting activities ■ 80% of stockpile areas should be covered by impervious sheets ■ Speed of trucks within the site should be controlled to about 10 km/hr ■ All haul roads within the site should be paved to avoid dust emission due to vehicular movement	To minimize adverse dust emission generated from various construction activities of the works sites	Contractor	Construction Works Sites	During Construction	EIA Recommendation and Air Pollution Control (Construction Dust) Regulation
3.6.1.2	2.1	**Best Practice for Dust Control** The relevant best practices for dust control as stipulated in the Air Pollution Control (Construction Dust) Regulation should be adopted to further reduce the construction dust impacts of the Project. These best practices include: *Good site management* ■ The Contractor should maintain high standard of housekeeping to prevent emission of fugitive dust. ■ Loading, unloading, handling and storage of raw materials, wastes or by-products should be carried out in a manner so as to minimize the release of visible dust emission. ■ Any piles of materials accumulated on or around the work areas should be cleaned up regularly. ■ Cleaning, repair and maintenance of all plant facilities within the work areas should be carried out in a manner minimizing generation of fugitive dust emissions. ■ The material should be handled properly to prevent fugitive dust emission before cleaning. *Disturbed Parts of the Roads* ■ Each and every main temporary access should be paved with	To minimize adverse dust emission generated from various construction activities of the works sites	Contractor	Construction Works Sites	During Construction	EIA Recommendation and Air Pollution Control (Construction Dust) Regulation

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?
		concrete, bituminous hardcore materials or metal plates and kept clear of dusty materials; or ■ Unpaved parts of the road should be sprayed with water or a dust suppression chemical so as to keep the entire road surface wet. *Exposed Earth* ■ Exposed earth should be properly treated by compaction, hydroseeding, vegetation planting or seating with latex, vinyl, bitumen within six months after the last construction activity on the site or part of the site where the exposed earth lies. *Loading, Unloading or Transfer of Dusty Materials* ■ All dusty materials should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material wet. *Debris Handling* ■ Any debris should be covered entirely by impervious sheeting or stored in a debris collection area sheltered on the top and the three sides. ■ Before debris is dumped into a chute, water should be sprayed so that it remains wet when it is dumped. *Transport of Dusty Materials* ■ Vehicle used for transporting dusty materials/spoils should be covered with tarpaulin or similar material. The cover should extend over the edges of the sides and tailboards. *Wheel washing* ■ Vehicle wheel washing facilities should be provided at each construction site exit. Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels. *Use of vehicles* ■ Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels. ■ Where a vehicle leaving the construction site is carrying a load of dusty materials, the load should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle.				

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?
		Site hoarding ■ Where a site boundary adjoins a road, street, service lane or other area accessible to the public, hoarding of not less than 2.4m high from ground level should be provided along the entire length of that portion of the site boundary except for a site entrance or exit. *Blasting* ■ The areas within 30m from the blasting area should be wetted with water prior to blasting.					
Air Quality Impact (Operation)							
3.5.2.2	2.2	The following odour containment and control measures will be provided for the proposed sewage treatment work at the BCP site: ■ The treatment work will be totally enclosed. Negative pressure ventilation will be provided within the enclosure to avoid any fugitive odorous emission from the treatment work. ■ Further odour containment will be achieved by covering or confining the sewage channels, sewage tanks, and equipment with potential odour emission. ■ Proper mixing will be provided at the equalization and sludge holding tanks to prevent sewage septicity. ■ Chemical or biological deodorisation facilities with a minimum odour removal efficiency of 90% will be provided to treat potential odorous emissions from the treatment plant including sewage channels / tanks, filter press and screening facilities so as to minimize any potential odour impact to the nearby ASRs.	To minimize potential odour impact from operation of the proposed sewage treatment work at BCP	DSD	BCP	Operation Phase	EIA recommendation
Noise Impact (Construction)							
4.4.1.4	3.1	**Adoption of Quieter PME** Use of the recommended quieter PME such as those given in the BS5228: Part 1:2009 and presented in **Table 4.14**, which can be found in Hong Kong.	To minimize the construction air-borne noise impact	Contractors	Construction Work Sites	During Construction	EIA recommendation, EIAO and Noise Control Ordinance (NCO)

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?
4.4.1.4	3.1	**Use of Movable Noise Barrier** The use of movable barrier for certain PME can further alleviate the construction noise impacts. In general, a 5 dB(A) reduction for movable PME and 10 dB(A) for stationary PME can be achieved depending on the actual design of the movable noise barrier. The Contractor shall be responsible for design of the movable noise barrier with due consideration given to the size of the PME and the requirement for intercepting the line of sight between the NSRs and PME. Barrier material with surface mass in excess of 7 kg/m^2 is recommended to achieve the predicted screening effect.	To minimize the construction air-borne noise impact	Contractors	Construction Work Sites	During Construction	EIA recommendation, EIAO and NCO
4.4.1.4	3.1	**Use of Noise Enclosure/ Acoustic Shed** The use of noise enclosure or acoustic shed is to cover stationary PME such as air compressor and concrete pump. With the adoption of the noise enclosure, the PME could be completely screened, and noise reduction of 15 dB(A) can be achieved according to the GW-TM.	To minimize the construction air-borne noise impact	Contractors	Construction Work Sites	During Construction	EIA recommendation, EIAO and NCO
4.4.1.4	3.1	**Use of Noise Insulating Fabric** Noise insulating fabric can be adopted for certain PME (e.g. drill rig, pilling auger etc). The insulating fabric should be lapped such that there are no openings or gaps on the joints. Technical data from manufacturers state that by using the Fabric, a noise reduction of over 10 dB(A) can be achieved on noise level.	To minimize the construction air-borne noise impact	Contractors	Construction Work Sites	During Construction	EIA recommendation, EIAO and NCO

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?
4.4.1.4	3.1	**Good Site Practice** The good site practices listed below should be followed during each phase of construction: • Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme; • Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction programme; • Mobile plant, if any, should be sited as far from NSRs as possible; • Machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; • Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs; and • Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities.	To minimize the construction air-borne noise impact	Contractors	Construction Work Sites	During Construction	EIA recommendation, EIAO and NCO
Noise Impact (Operation)							
		Road Traffic Noise					
Table 4.42 and Figure 4.20.1 to 4.20.4	3.2	Erection of noise barrier/ enclosure along the viaduct section.	To minimize the road traffic noise along the connecting road of BCP	Contractor	Loi Tung and Fanling Highway Interchange	Before Operation	EIAO and NCO
		Fixed Plant Noise					
Table 4.46	3.2	Specification of the maximum allowable sound power levels of the proposed fixed plants during daytime and night-time.	To minimize the fixed plant noise impact	Managing Authority of the buildings / Contractor	BCP, Administration Building and all ventilation buildings	Before Operation	EIA recommendation, EIAO and NCO

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?
4.5.2.4	3.2	The following noise reduction measures shall be considered as far as practicable during operation: • Choose quieter plant such as those which have been effectively silenced; • Include noise levels specification when ordering new plant (including chillier and E/M equipment); • Locate fixed plant/louver away from any NSRs as far as practicable; • Locate fixed plant in walled plant rooms or in specially designed enclosures; • Locate noisy machines in a basement or a completely separate building; • Install direct noise mitigation measures including silencers, acoustic louvers and acoustic enclosure where necessary; and • Develop and implement a regularly scheduled plant maintenance programme so that equipment is properly operated and serviced in order to maintain a controlled level of noise.	To minimize the fixed plant noise impact	Managing Authority of the buildings / Contractor	BCP, Administration Building and all ventilation buildings	Before Operation	EIAO and NCO
Water Quality Impact (Construction)							
5.6.1.1	4.1	**Construction site runoff and drainage** The site practices outlined in ProPECC Note PN 1/94 should be followed as far as practicable in order to minimise surface runoff and the chance of erosion. The following measures are recommended to protect water quality and when properly implemented should be sufficient to adequately control site discharges so as to avoid water quality impacts: ▪ At the start of site establishment, perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided on site to direct stormwater to silt removal facilities. The design of the temporary on-site drainage system should be undertaken by the Contractor prior to the commencement of construction. ▪ The dikes or embankments for flood protection should be implemented around the boundaries of earthwork areas.	To control site runoff and drainage; prevent high sediment loading from reaching the nearby watercourses	Contractor	Construction Works Sites	Construction Phase	Practice Note for Professional Persons on Construction Site Drainage (ProPECC Note PN 1/94)

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?
		Temporary ditches should be provided to facilitate the runoff discharge into stormwater drainage system through a sediment/silt trap. The sediment/silt traps should be incorporated in the permanent drainage channels to enhance deposition rates, if practical. ▪ Sand/silt removal facilities such as sand/silt traps and sediment basins should be provided to remove sand/silt particles from runoff to meet the requirements of the TM standards under the WPCO. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC Note PN 1/94. Sizes may vary depending upon the flow rate. The detailed design of the sand/silt traps should be undertaken by the Contractor prior to the commencement of construction. ▪ All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly during rainstorms. Deposited silt and grit should be regularly removed, at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times. ▪ Measures should be taken to minimize the ingress of site drainage into excavations. If excavation of trenches in wet periods is necessary, they should be dug and backfilled in short sections wherever practicable. Water pumped out from foundation excavations should be discharged into storm drains via silt removal facilities. ▪ If surface excavation works cannot be avoided during the wet season (April to September), temporarily exposed slope/soil surfaces should be covered by tarpaulin or other means, as far as practicable, and temporary access roads should be protected by crushed stone or gravel, as excavation proceeds. Interception channels should be provided (e.g. along the crest/edge of the excavation) to prevent storm runoff from washing across exposed soil surfaces. Arrangements should always be in place to ensure that adequate surface protection measures can be safely carried out well before the arrival of a rainstorm. Other measures that need to be implemented before, during and after rainstorms are summarized in ProPECC Note PN 1/94. ▪ The overall slope of the site should be kept to a minimum to reduce					

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?
		the erosive potential of surface water flows. ▪ All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing facility should be provided at construction site exit where practicable. Wash-water should have sand and silt settled out and removed regularly to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains. ▪ Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system. ▪ Manholes (including newly constructed ones) should be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and stormwater runoff being directed into foul sewers. ▪ Precautions should be taken at any time of the year when rainstorms are likely. Actions should be taken when a rainstorm is imminent or forecasted and actions to be taken during or after rainstorms are summarized in Appendix A2 of ProPECC Note PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events, especially for areas located near steep slopes. ▪ Bentonite slurries used in piling or slurry walling should be reconditioned and reused wherever practicable. Temporary enclosed storage locations should be provided on-site for any unused bentonite that needs to be transported away after all the related construction activities are completed. The requirements in ProPECC Note PN 1/94 should be adhered to in the handling and disposal of bentonite slurries.					
5.6.1.1	4.1	**Good site practices for works within water gathering grounds** The following conditions should be complied, if there is any works to be carried out within the water gathering grounds:	To minimize water quality impacts to the water gathering grounds	Contractor	Construction Works Sites within the water gathering	Construction Phase	ProPECC Note PN 1/94

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?
		▪ Adequate measures should be implemented to ensure no pollution or siltation occurs to the catchwaters and catchments. ▪ No earth, building materials, oil or fuel, soil, toxic materials or any materials that may possibly cause contamination to water gathering grounds are allowed to be stockpiled on site. ▪ All surplus spoil should be removed from water gathering grounds as soon as possible. ▪ Temporary drains with silt traps should be constructed at the site boundary before the commencement of any earthworks. ▪ Regular cleaning of silt traps should be carried out to ensure proper operation at all time. ▪ All excavated or filled surfaces which have the risk of erosion should always be protected form erosion. ▪ Facilities for washing the wheels of vehicles before leaving the site should be provided. ▪ Any construction plant which causes pollution to catchwaters or catchments due to the leakage of oil or fuel should be removed off site immediately. ▪ No maintenance activities which may generate chemical wastes should be undertaken in the water gathering grounds. Vehicle maintenance should be confined to designated paved areas only and any spillages should be cleared up immediately using absorbents and waste oils should be collected in designated tanks prior to disposal off site. All storm water run-off from these areas should be discharged via oil/petrol separators and sand/silt removal traps. ▪ Any soil contaminated with fuel leaked from plant should be removed off site and the voids arising from removal of contaminated soil should be replaced by suitable material approved by the Director of Water Supplies. ▪ Provision of temporary toilet facilities and use of chemicals or insecticide of any kind are subject to the approval of the Director of Water Supplies. ▪ Drainage plans should be submitted for approval by the Director of			grounds		

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?
		Water Supplies. ▪ An unimpeded access through the waterworks access road should always be maintained. ▪ Earthworks near catchwaters or streamcourses should only be carried out in dry season between October and March, ▪ Advance notice must be given before the commencement of works on site quoting WSD's approval letter reference.					
5.6.1.2	4.1	**Good site practices of general construction activities** Construction solid waste, debris and refuse generated on-site should be collected, handled and disposed of properly to avoid entering any nearby stormwater drain. Stockpiles of cement and other construction materials should be kept covered when not being used. Oils and fuels should only be stored in designated areas which have pollution prevention facilities. To prevent spillage of fuels and solvents to any nearby stormwater drain, all fuel tanks and storage areas should be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank. The bund should be drained of rainwater after a rain event.	To minimize water quality impacts	Contractor	All construction works sites	Construction phase	EIA Recommendation
5.6.1.3	4.1	**Sewage effluent from construction workforce** Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site where necessary to handle sewage from the workforce. A licensed contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance.	To minimize water quality impacts	Contractor	All construction works sites with on-site sanitary facilities	Construction phase	EIA Recommendation and Water Pollution Control Ordinance (WPCO)
5.6.1.4	4.1	**Hydrogeological Impact** Grout injection works would be conducted before blasting, for sealing a limited area around the tunnel with a grout of a suitable strength for controlling the potential groundwater inflows. The pre-injection grouting method would be supplemented by post-injection grouting where necessary to further enhance the groundwater inflow control. On-site treatment for the groundwater ingress pumped out would be required to remove any contamination by grouting materials before discharge off-site.	To minimize water quality impacts	Contractor	Construction works sites of the drill and blast tunnel	Construction phase	EIA Recommendation and WPCO
Water Quality Impact (Operation)							
		No mitigation measure is required.					

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?
Sewage and Sewerage Treatment Impact (Construction)							
6.7	5	The sewage generated by the on-site workforce should be collected in chemical toilets and disposed of off-site by a licensed waste collector.	To minimize water quality impacts	Contractor	All construction works sites with on-site sanitary facilities	Construction phase	EIA recommendation and WPCO
Sewage and Sewerage Treatment Impact (Operation)							
6.6.3	5	Sewage generated by the BCP and Chuk Yuen Village Resite will be collected and treated by the proposed on-site sewage treatment facility using Membrane Bioreactor treatment with a portion of the treated wastewater reused for irrigation and flushing within the BCP.	To minimize water quality impacts	DSD	BCP	Operation phase	EIA recommendation and WPCO
6.5.3	5	Sewage generated from the Administration Building will be discharged to the existing local sewerage system.	To minimize water quality impacts	DSD	Administration Building	Operation phase	EIA recommendation and WPCO
Waste Management Implication (Construction)							
7.6.1.1	6	**Good Site Practices** Adverse impacts related to waste management such as potential hazard, air, odour, noise, wastewater discharge and public transport as mentioned in section 3.4.7.2 (ii)(c) of the Study Brief are not expected to arise, provided that good site practices are strictly followed. Recommendations for good site practices during the construction activities include: ▪ Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site ▪ Training of site personnel in proper waste management and chemical handling procedures ▪ Provision of sufficient waste disposal points and regular collection of waste ▪ Dust suppression measures as required under the Air Pollution Control (Construction Dust) Regulation should be followed as far as practicable. Appropriate measures to minimise windblown litter and dust/odour during transportation of waste by covering trucks or in enclosed containers ▪ General refuse shall be removed away immediately for disposal. As	To minimize adverse environmental impact	Contractor	Construction works sites (general)	Construction Phase	EIA recommendation; Waste Disposal Ordinance; Waste Disposal (Chemical Wastes) (General) Regulation; and ETWB TC(W) No. 19/2005, Environmental Management on Construction Site

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?
		such odour is not anticipated to be an issue to distant sensitive receivers ▪ Provision of wheel washing facilities before the trucks leaving the works area so as to minimise dust introduction from public road ▪ Covers and water spraying system should be provided for the stockpiled C&D material to prevent dust impact or being washed away ▪ Designate different locations for storage of C&D material to enhance reuse ▪ Well planned programme for transportation of C&D material to lessen the off-site traffic impact. Well planned delivery programme for offsite disposal and imported filling material such that adverse noise impact from transporting of C&D material is not anticipated ▪ Site practices outlined in ProPECC PN 1/94 "Construction Site Drainage" should be adopted as far as practicable, such as cleaning and maintenance of drainage systems regularly ▪ Provision of cover for the stockpile material, sand bag or earth bund as barrier to prevent material from washing away and entering the drains					
7.6.1.2	6	**Waste Reduction Measures** Good management and control can prevent the generation of a significant amount of waste. Waste reduction is best achieved at the planning and design stage, as well as by ensuring the implementation of good site practices. Recommendations to achieve waste reduction include: ▪ Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal ▪ Encourage collection of aluminium cans by providing separate labelled bins to enable this waste to be segregated from other general refuse generated by the work force ▪ Proper storage and site practices to minimise the potential for damage or contamination of construction materials ▪ Plan and stock construction materials carefully to minimise amount	To reduce the quantity of wastes	Contractor	Construction works sites (General)	Construction Phase	EIA recommendation and Waste Disposal Ordinance

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?
		of waste generated and avoid unnecessary generation of waste ▪ In addition to the above measures, specific mitigation measures are recommended below for the identified waste arising to minimise environmental impacts during handling, transportation and disposal of these wastes.					
7.6.1.3	6	**C&D Materials** In order to minimise impacts resulting from collection and transportation of C&D material for off-site disposal, the excavated materials should be reused on-site as backfilling material as far as practicable. The surplus rock and other inert C&D material would be disposed of at the Government's Public Fill Reception Facilities (PFRFs) at Tuen Mun Area 38 for beneficial use by other projects in the HKSAR as the last resort. C&D waste generated from general site clearance and tree felling works would require disposal to the designated landfill site. Other mitigation requirements are listed below: ▪ A Waste Management Plan should be prepared and implemented in accordance with ETWB TC(W) No. 19/2005 Environmental Management on Construction Site; and ▪ In order to monitor the disposal of C&D material and solid wastes at public filling facilities and landfills, and to control fly-tipping, a trip-ticket system (e.g. ETWB TCW No. 31/2004) should be included.	To minimize impacts resulting from C&D material	Contractor	Construction Works Sites (General)	Construction Phase	EIA recommendation; Waste Disposal Ordinance; and ETWB TCW No. 31/2004
7.6.1.4	6	**General refuse** General refuse should be stored in enclosed bins or compaction units separated from other C&D material. A reputable waste collector is to be employed by the Contractor to remove general refuse from the site separately. Preferably an enclosed and covered area should be provided to reduce the occurrence of 'wind blown' litter.	To minimize impacts resulting from collection and transportation of general refuse for off-site disposal	Contractor	Construction works sites (General)	Construction phase	Waste Disposal Ordinance and Public Health and Municipal Services Ordinance - Public Cleansing and Prevention of Nuisances Regulation
7.6.1.5	6	**Chemical waste** If chemical wastes are produced at the construction site, the Contractor will be required to register with the EPD as a chemical waste producer and to follow the guidelines stated in the *Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes*. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical	To minimize impacts resulting from collection and transportation of chemical waste for off-site disposal	Contractor	Construction works sites (General)	Construction phase	Waste Disposal (Chemical Waste) (General) Regulation and Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes

Appendix N

Investigation Report for Exceedance

AUES

Fax Cover Sheet

To	**Mr. Vincent Chan**	**Fax No**	**By e-mail**
Company	**CRBC-CEC-Kaden JV**		
cc			
From	**Nicola Hon**	**Date**	**24 February 2016**
Our Ref	TCS00694/13/300/**F0140a**	**No of Pages**	5 **(Incl. cover sheet)**
RE	**Agreement No. CE 45/2008** **Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works** **Investigation Report of Exceedance of Water Quality at Location WM2B on 1 and 2 February 2016**		

If you do not receive all pages, or transmission is illegible, please contact the originator on (852) 2959-6059 to re-send. Should this facsimile be sent to the wrong fax number, would receiver please destroy this copy and notify Action-United Environmental Services & Consulting immediately. Thank you.

Dear Sir,

Further to the Notification of Exceedance (NOE) ref.: TCS00694/13/300/F0130 dated 1 February 2016, TCS00694/13/300/F0131 dated 2 February 2016 and TCS00694/13/300/F0137 dated 16 February 2016. Please find attached the "Investigation Report on Action or Limit Level Non-compliance" referenced above for your follow up action.

Should you have any queries or need further information, please do not hesitate to contact us or the undersigned at **Tel: 2959-6059 or Fax: 2959-6079**.

Yours Faithfully,
For and on Behalf of
Action-United Environmental Services & Consulting

Nicola Hon
Environmental Consultant

Encl.

c.c.	Mr. David Chan (EPD)	Fax:	2685 1155
	Mr. Simon Leung (ER of C6/ AECOM)	Fax:	2251 0698
	Mr. Antony Wong (IEC, SMEC)		By email

安順聯合環境服務及顧問
Action-United Environmental Services & Consulting
Flat A, 20/F, Gold King Industrial Building,
35-41, Tai Lin Pai Road,
Kwai Chung, New Territories.
Tel (852) 2959-6059 Fax (852) 2959-6079

Agreement No. CE 45/2008
Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works
Investigation Report on Action or Limit Level Non-compliance

Project	CE 45/2008			
Date	**1 February 2016**	**2 February 2016**	**1 February 2016**	**2 February 2016**
Location	WM2B	WM2B	WM2B	WM2B
Time	14:50	11:48	14:50	11:48
Parameter	Turbidity (NTU)		Suspended Solids (mg/L)	
Action Level	11.4 AND 120% of upstream control station of the same day		11.8 AND 120% of upstream control station of the same day	
Limit Level	12.3 AND 130% of upstream control station of the same day		12.4 AND 130% of upstream control station of the same day	
Measured Level at Control Station (WM2B-C)	9.5	3.5	12	<2
Measured Level at WM2B	**89.7**	**233.0**	**64.0**	**269.5**
Exceedance	**Limit Level**	**Limit Level**	**Limit Level**	**Limit Level**
Investigation Results, Recommendations & Mitigation Measures	1. According to the site information provided from the Contractor of C6 (CCKJV), construction activities carried out at North Portal which at upstream of WM2B on 1 and 2 February 2016 included bored piling and slope excavation. The monitoring locations and works area are shown in Figure 1. 2. According to the site record from the monitoring team on 1 and 2 February 2016, muddy water was observed at WM2B (Photo 1 and 2) 3. As advised by the CCKJV, soil erosion and generation of run-off from the excavation area at North Portal was happened on 1 and 2 February 2016 during rainstorm. Hydro-seeding at the upper stabilized slope was completed in early February 2016, however, covering the opened slopes at the active excavation area by tarpaulin to minimize muddy runoff was unable to carry out. (Photo 3) As water mitigation measures, temporary channel and sump pits were constructed under the slopes to intercept the storm runoff for primarily desilting before divert to the wastewater treatment facilities. However, the current provision of the temporary drainage channels and sump pits were not adequate to cater the large amount of storm runoff during rainstorm. The storm run-off from excavation area was flowing into the existing channel during rainstorm. 4. During site inspection on 4 February 2016, removal of silt at the existing channel was undertaken by the Contractor. The cumulated silt in the existing channel was due to the muddy runoff from excavated area during rain on 1 February 2016. (Photo 4) The Contractor agreed to enhance the mitigation measures such as covering the open slope as far as practicable to minimize muddy runoff and construction of sump pit to collect the site runoff. The construction of 2 new sump pits under the slopes and covering of open slopes were completed on 5 February 2016. (Photo 5 & 6) 5. According to the Event and Action, the monitoring frequency at WM2B has been increase to daily due to the limit level exceedance recorded until no exceedances were triggered in consecutive days. In view of the subsequent monitoring result, no exceedance was recorded. The Contractor should continue fully implement the recommended in the implementation schedule for environmental mitigation measures in the EM&A Manual.			

Prepared By :	Nicola Hon
Designation :	Environmental Consultant
Signature :	
Date :	24 February 2016

Photo Record

Photo 1
Turbid water was observed at WM2B on 1 February 2016

Photo 2
Turbid water was observed at WM2B on 2 February 2016

Photo 3
Slope excavation at North Portal was carried out on 1 and 2 February 2016

Photo 4
Run off from excavation area was flowing into the existing channel during rainstorm. (4 February 2016)

Photo 5
Covering of the open slope to minimize muddy runoff was in progress on 5 February 2016

Photo 6
Construction of sump pit to collect the site runoff was completed on 5 February 2016

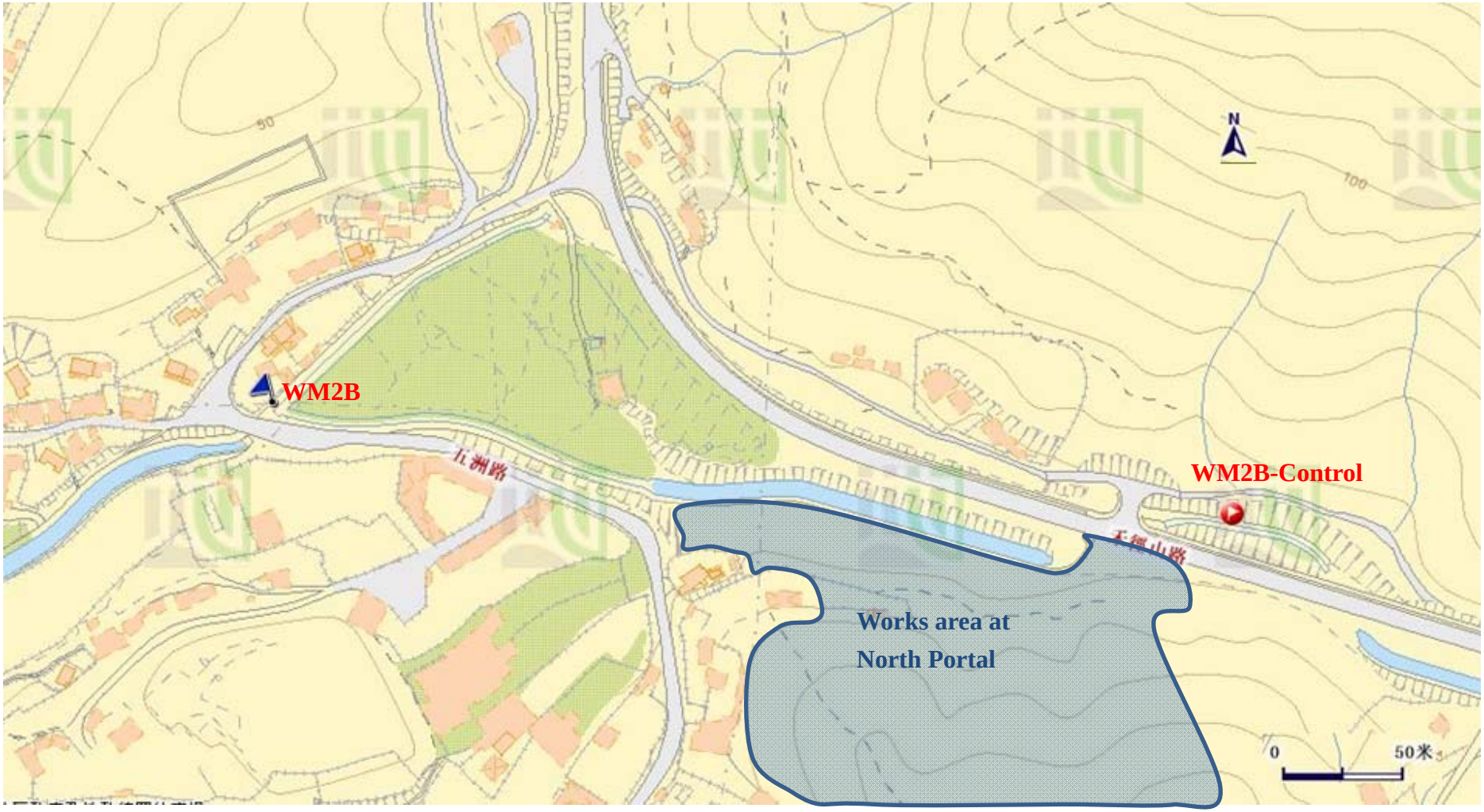


Figure 1 Location Map for Water Quality Monitoring Locations WM2B and WM2B-Control

AUES **Fax Cover Sheet**

To	**Mr. Vincent Chan**	**Fax No**	**By e-mail**
Company	**CRBC-CEC-Kaden JV**		
cc			
From	**Nicola Hon**	**Date**	**4 March 2016**
Our Ref	TCS00694/13/300/**F0150a**	**No of Pages**	4 **(Incl. cover sheet)**
RE	**Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works Investigation Report of Exceedance of Water Quality at Location WM2B on 23 February 2016**		

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Dear Sir,

Further to the Notification of Exceedance (NOE) ref.: TCS00694/13/300/F0143 dated 23 February 2016. Please find attached the "Investigation Report on Action or Limit Level Non-compliance" referenced above for your follow up action.

Should you have any queries or need further information, please do not hesitate to contact us or the undersigned at **Tel: 2959-6059 or Fax: 2959-6079**.

Yours Faithfully,
For and on Behalf of
Action-United Environmental Services & Consulting

Nicola Hon
Environmental Consultant

Encl.

c.c.	Mr. David Chan (EPD)	Fax:	2685 1155
	Mr. Simon Leung (ER of C6/ AECOM)	Fax:	2251 0698
	Mr. Antony Wong (IEC, SMEC)		By email

安順聯合環境服務及顧問
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Flat A, 20/F, Gold King Industrial Building,
35-41, Tai Lin Pai Road,
Kwai Chung, New Territories.
Tel (852) 2959-6059 Fax (852) 2959-6079

Agreement No. CE 45/2008
Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works
Investigation Report on Action or Limit Level Non-compliance

Project	CE 45/2008
Date	23 February 2016
Location	WM2B
Time	11:45
Parameter	Turbidity (NTU)
Action Level	11.4 AND 120% of upstream control station of the same day
Limit Level	12.3 AND 130% of upstream control station of the same day
Measured Level at Control Station (WM2B-C)	5.9
Measured Level at WM2B	**25.7**
Exceedance	**Limit Level**
Investigation Results, Recommendations & Mitigation Measures	1. According to the site information provided from the Contractor of C6, construction activities carried out on 23 February 2016 at North Portal at upstream of WM2B included bored piling and slope work. The monitoring locations and works area are shown in Figure 1. 2. According to the site record from the monitoring team during monitoring on 23 February 2016, very shallow water was measured at WM2B and the water depth was around 0.01m. (Photo 1) Although cumulated silt was observed at the channel bed, the water flowing in the channel and the samples collected at WM2B was visually clear. (Photo 2) Since the water sampling was carried out at the bridge over the drainage channel at shallow water, the sampled water could not avoid inclusion of the loose sediment and debris. 3. As advised by the Contractor, the wastewater generated from the bored piling was recirculated and no discharge was made. As water mitigation measures, sump pits were constructed under the slopes to divert the site runoff for temporary storage and primarily desilting before divert to the AquaSed. (Photo 4) Moreover, the slopes adjacent to channel were covered with tarpaulin sheet and hydro-seeding will be carried out on the stabilized slope to minimize muddy runoff (Photo 3) 4. During the course of monitoring on 23 February 2016, trails of muddy runoff from the public road surface into the existing channel was observed after rain. (Photo 1 and Figure 1) It is considered that the exceedance was likely related to cumulated silt at the river bed which contributed from muddy runoff from the public road surface. 5. According to the Event and Action, the monitoring frequency at WM2B has been increase to daily due to the limit level exceedance recorded until no exceedances were triggered in consecutive days. There were no exceedances triggered at WM2B for monitoring on 24 February 2016. Nevertheless, the Contractor is reminded to continuous fully implement the water mitigation measures as recommended in the implementation schedule for environmental mitigation measures in the EM&A Manual.

Prepared By : Nicola Hon

Designation : Environmental Consultant

Signature : 

Date : 4 March 2016

Photo Record

Photo 1
Very shallow water at WM2B on 23 February 2016 and the water flowing in the channel was visually clear.

Photo 2
The water samples collected at WM2B was visually clear on 23 February 2016.

Photo 3
Covering of the open slope to minimize muddy runoff

Photo 4
Sump pit with temporary channel were constructed under the slopes to divert the site runoff for temporary storage and primarily desilting before divert to the AquaSed.

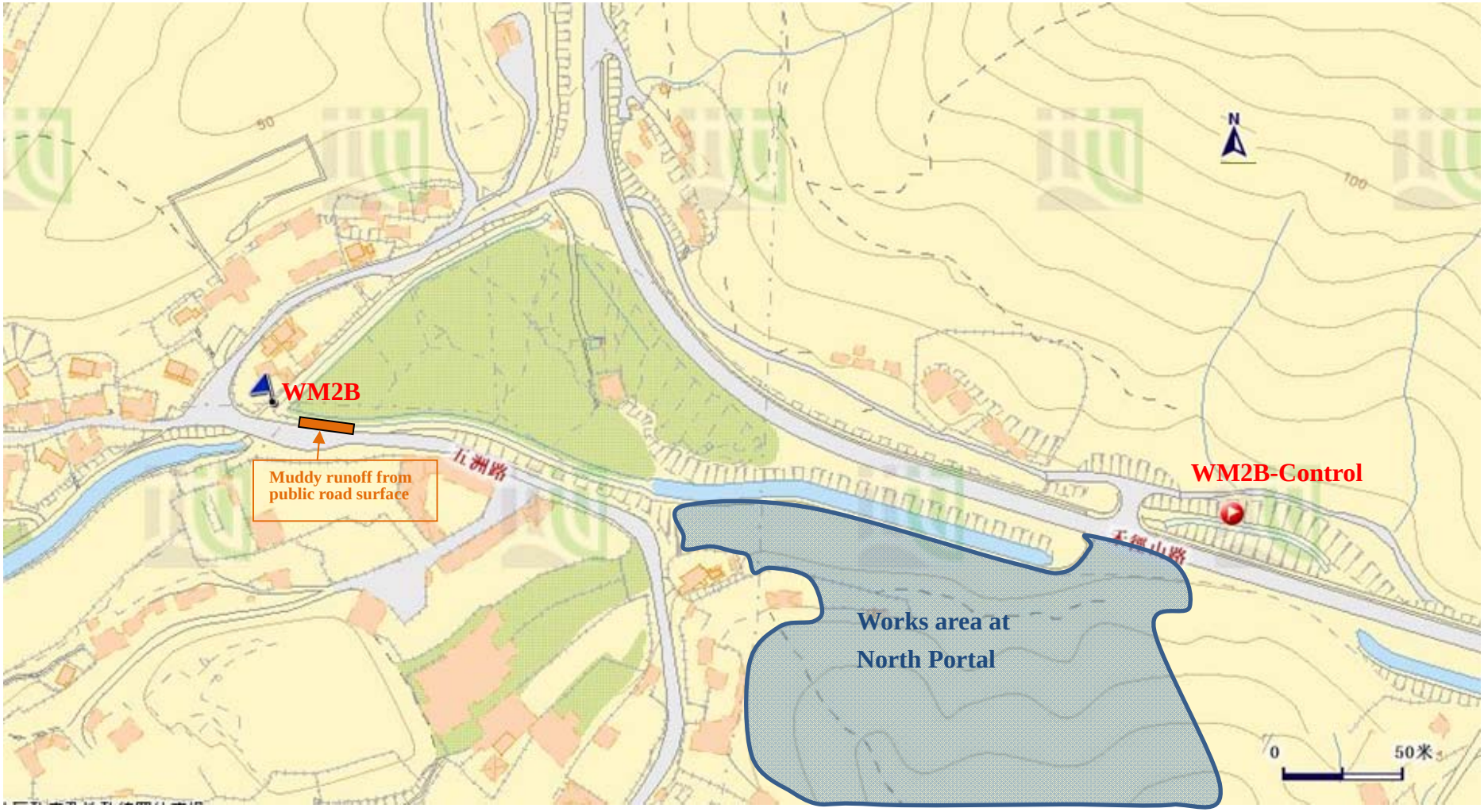

Figure 1 Location Map for Water Quality Monitoring Locations WM2B and WM2B-Control

AUES **Fax Cover Sheet**

To	**Mr. Vincent Chan**	**Fax No**	**By e-mail**
Company	**CRBC-CEC-Kaden JV**		
cc			
From	**Nicola Hon**	**Date**	**4 March 2016**
Our Ref	TCS00694/13/300/**F0154a**	**No of Pages**	4 **(Incl. cover sheet)**
RE	**Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works Investigation Report of Exceedance of Water Quality at Location WM2B on 25 February 2016**		

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Dear Sir,

Further to the Notification of Exceedance (NOE) ref.: TCS00694/13/300/F0145 dated 25 February 2016 and TCS00694/13/300/F0152 dated 2 March 2016. Please find attached the "Investigation Report on Action or Limit Level Non-compliance" referenced above for your follow up action.

Should you have any queries or need further information, please do not hesitate to contact us or the undersigned at **Tel: 2959-6059 or Fax: 2959-6079**.

Yours Faithfully,
For and on Behalf of
Action-United Environmental Services & Consulting

Nicola Hon
Environmental Consultant

Encl.

c.c.	Mr. David Chan (EPD)	Fax:	2685 1155
	Mr. Simon Leung (ER of C6/ AECOM)	Fax:	2251 0698
	Mr. Antony Wong (IEC, SMEC)		By email

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Flat A, 20/F, Gold King Industrial Building,
35-41, Tai Lin Pai Road,
Kwai Chung, New Territories.
Tel (852) 2959-6059 Fax (852) 2959-6079

Agreement No. CE 45/2008
Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works
Investigation Report on Action or Limit Level Non-compliance

Project	CE 45/2008	
Date	25 February 2016	
Location	WM2B	
Time	12:17	
Parameter	Turbidity (NTU)	Suspended Solids (mg/L)
Action Level	11.4 AND 120% of upstream control station of the same day	11.8 AND 120% of upstream control station of the same day
Limit Level	12.3 AND 130% of upstream control station of the same day	12.4 AND 130% of upstream control station of the same day
Measured Level at Control Station (WM2B-C)	2.5	<2
Measured Level at WM2B	**95.5**	**80.5**
Exceedance	**Limit Level**	**Limit Level**
Investigation Results, Recommendations & Mitigation Measures	1. According to the site information provided from the Contractor of C6, construction activities carried out on 25 February 2016 at North Portal at upstream of WM2B included bored piling and slope work. The monitoring locations and works area are shown in Figure 1. 2. According to the site record from the monitoring team during monitoring on 25 February 2016, slightly turbid water was observed at WM2B. (Photo 1 & 2) Moreover, very shallow water was measured at WM2B and the water depth was around 0.01m. (Photo 1) Since the water sampling was carried out at the bridge over the drainage channel at shallow water, the sampled water could not avoid inclusion of the loose sediment and debris. 3. As advised by the Contractor, there was turbid water emerged from outlet pipe at the open channel upstream of WM2B observed in the morning on 25 February 2016. The outlet pipe collects water from unknown source which is not within the site boundary. (Figure 1 and Photo 3) 4. Site inspection by RE, IEC, CCKJV and ET was carried out on 25 February 2016, no discharge from the construction site was observed. Moreover, the water in the open channel before the suspected outlet pipe was clear. (Photo 4). It is considered that the exceedances were related to the external turbid water emerged from the outlet pipe and not likely due to the works under the Contractor. 5. According to the Event and Action, the monitoring frequency at WM2B has been increase to daily due to the limit level exceedance recorded until no exceedances were triggered in consecutive days. There were no exceedances triggered at WM2B for monitoring on 25 and 26 February 2016. Nevertheless, the Contractor is reminded to continuous fully implement the water mitigation measures as recommended in the implementation schedule for environmental mitigation measures in the EM&A Manual.	

Prepared By : Nicola Hon

Designation : Environmental Consultant

Signature : 

Date : 4 March 2016

Photo Record

Photo 1
Very shallow water at WM2B on 25 February 2016 and the water flowing in the channel was slightly turbid.

Photo 2
The water samples collected at WM2B was slightly turbid on 25 February 2016.

Photo 3
There was turbid water emerged from outlet pipe at the open channel upstream of WM2B observed in morning of 25 February 2016. The outlet pipe collects water from unknown source which is not within the site boundary.

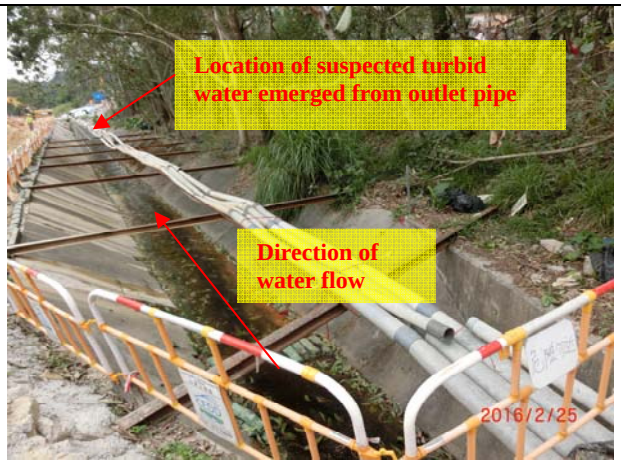

Photo 4
During site inspection on 25 February 2016, no discharge from the construction site was observed. Moreover, the water in the open channel before the suspected outlet pipe was clear.

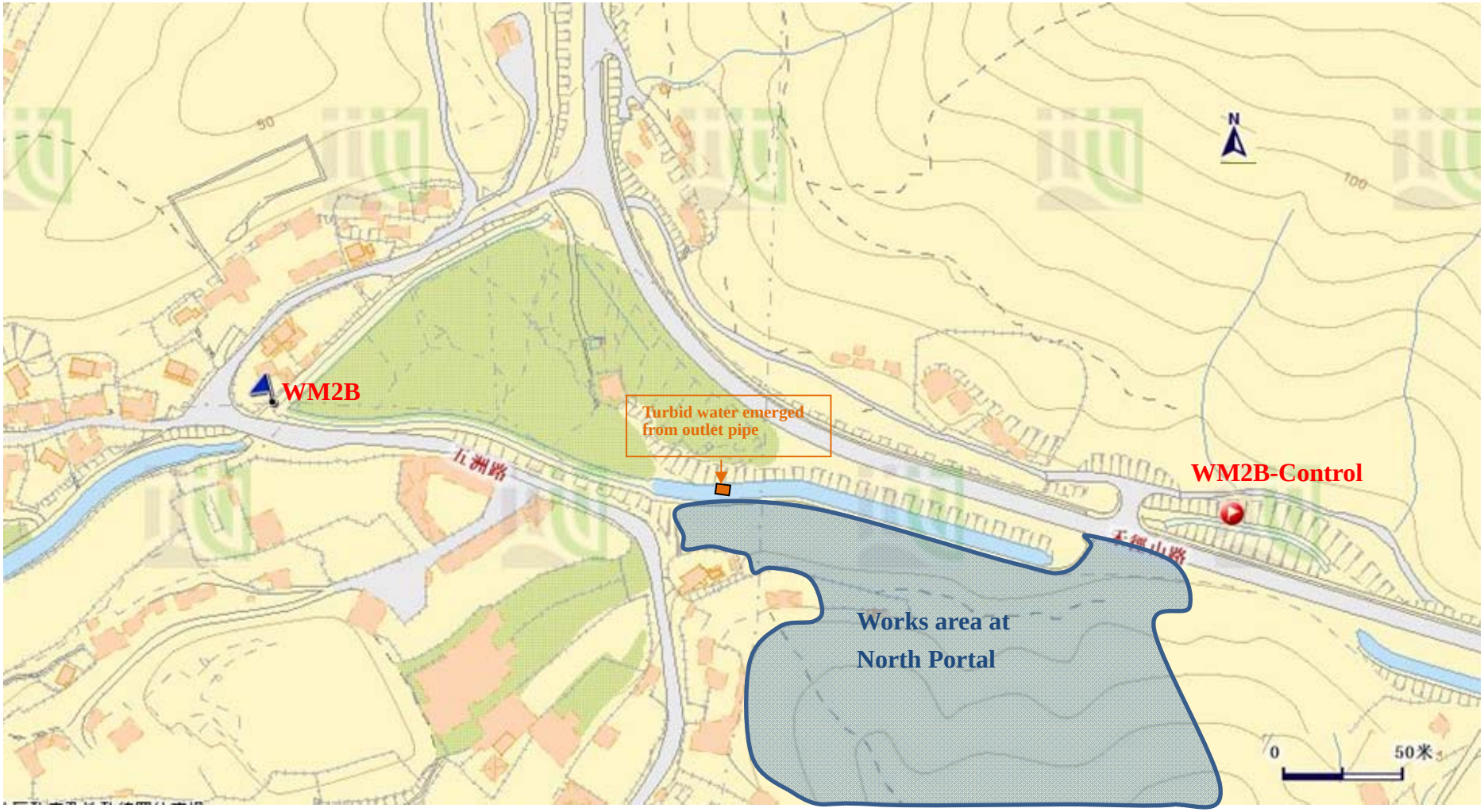

Figure 1 Location Map for Water Quality Monitoring Locations WM2B and WM2B-Control

AUES

Fax Cover Sheet

To	Mr. Daniel Ho	**Fax No**	**2638 7077**
Company	**Chun Wo Construction Ltd**		
cc			
From	**Nicola Hon**	**Date**	**7 March 2016**
Our Ref	TCS00670/13/300/**F0159**	**No of Pages**	5 **(Incl. cover sheet)**
RE	**Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works Investigation Report of Exceedance of Water Quality at Location WM4 on 26 February 2016 (Contract 3)**		

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Dear Mr. Ho,

Further to the Notification of Exceedance (NOE) ref.: TCS00670/13/300/F0147 dated 26 February 2016 and TCS00670/13/300/F0155 dated 3 March 2016. Please find attached the "Investigation Report on Action or Limit Level Non-compliance" referenced above for your follow up action.

Should you have any queries or need further information, please do not hesitate to contact us or the undersigned at **Tel: 2959-6059 or Fax: 2959-6079**.

Yours Faithfully,
For and on Behalf of
Action-United Environmental Services & Consulting

Nicola Hon
Environmental Consultant

Encl.

c.c.	Mr. David Chan (EPD)	Fax:	2685 1155
	Mr. Alan Lee (ER of C3, AECOM)	Fax:	2171 3498
	Mr. Antony Wong (IEC, SMEC)		By e-mail

安順聯合環境服務及顧問
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35-41, Tai Lin Pai Road,
Kwai Chung, New Territories.
Tel (852) 2959-6059 Fax (852) 2959-6079

Agreement No. CE 45/2008
Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works

Investigation Report on Action or Limit Level Non-compliance

Project	CE 45/2008	
Date	26 February 2016	
Location	**WM4**	
Time	12:40	
Parameter	Turbidity (NTU)	Suspended Solids (mg/L)
Action Level	35.2 AND 120% of upstream control station of the same day	39.4 AND 120% of upstream control station of the same day
Limit Level	38.4 AND 130% of upstream control station of the same day	45.5 AND 130% of upstream control station of the same day
Measured Level at Control Station (WM4-CA)	5.3	4.5
Measured Level at Control Station (WM4-CB)	7.7	9.5
Measured Level at WM4	**149.5**	**138.0**
Exceedance	**Limit Level**	**Limit Level**
Investigation Results, Recommendations & Mitigation Measures	1. According to the site record from the monitoring team on 26 February 2016, the water quality at WM4-CA and WM4-CB were visually clear but turbid water was observed at WM4. (Photo 1 to 3 and Figure 1) 2. As advised by the Contractor of Contract 3 (Chun Wo), removal of broken concrete by an excavator under Bridge E was carried out on 26 February 2016. It was because upon completion of Bridge E construction, all the temporary works including the temporary footing in the river are required to be removed and the river must be reinstated before wet season. During the removal works, the temporary footing was broken down into pieces and the broken concrete left in the river was collected by an excavator for afterward disposal. The river bed was therefore stirred up. (Photo 4 & 5) 3. Chun Wo explained that in order to reinstate the river, this process is unavoidable. Since the river is fairly shallow in the dry season and working in the river inevitably disturbed the river bed, very few could be done to get rid of the impact. However, Chun Wo was managed to remove broken concrete in 3 days (25 to 27 February 2016) so as to minimize the impact. 4. During site inspection on 29 February 2016, no adverse water quality impact from Bridge E was observed and the condition river was reinstated after completion of the removal works. It is considered that the exceedances were a short term impact. 5. According to the Event and Action, the monitoring frequency at exceed station shall be increased to daily due to the limit level exceedance recorded until no exceedances were triggered in consecutive days. In view of the subsequent monitoring result, no exceedances were triggered at WM4 on 27 and 29 February 2016. However, the Contractor should continue to implement the environmental mitigation measures recommended in implementation schedule in the	

	EM&A Manual.

Prepared By : Nicola Hon

Designation : Environmental Consultant

Signature : 

Date : 7 March 2016

Photo Record

Photo 1
Turbid water was observed at WM4 on 26 February 2016.

Photo 2
The water quality at WM4-CA was visually clear on 26 February 2016.

Photo 3
The water quality at WM4-CB was visually clear on 26 February 2016.

Photo 4
The temporary footing was broken down into pieces and the broken concrete left in the river was collected by an excavator for afterward disposal.

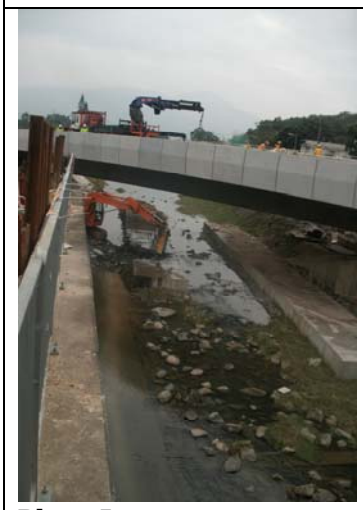

Photo 5
The temporary footing was broken down into pieces and the broken concrete left in the river was collected by an excavator for afterward disposal.

Photo 6
During site inspection on 29 February 2016, no adverse water quality impact from Bridge E was observed and the condition river was reinstated after completion of the removal works.

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.

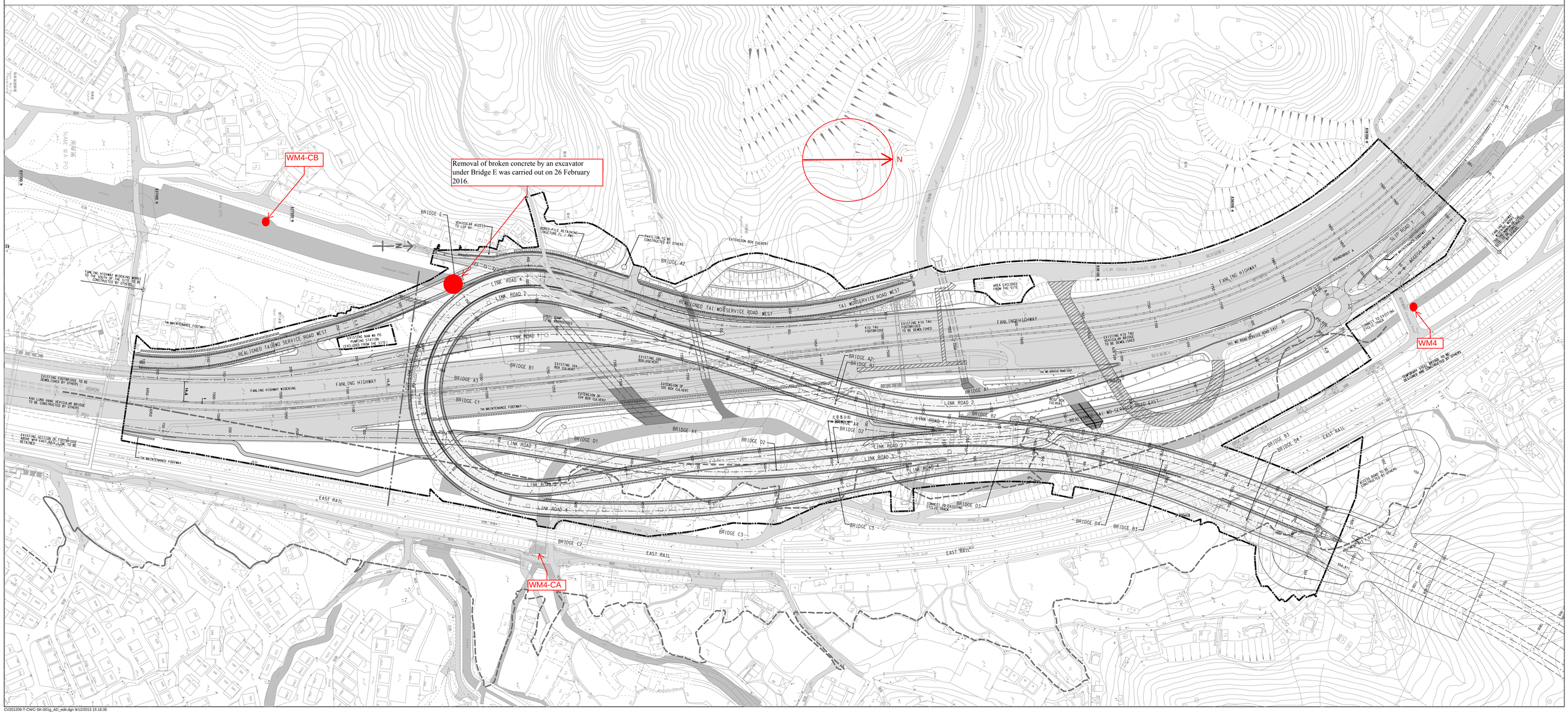

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Figure 1. Location of Water Quality Monitoring Location

AUES

Fax Cover Sheet

To	**Mr. Roger Lee**	**Fax No**	**2717 3299**
Company	**Dragages Hong Kong Limited**		
cc			
From	**Nicola Hon**	**Date**	**11 March 2016**
Our Ref	TCS00697/13/300/**F0160a**	**No of Pages**	4 **(Incl. cover sheet)**
RE	**Agreement No. CE 45/2008** **Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works** **Investigation Report of Exceedance of Water Quality at Location WM4 on 26 February 2016 (Contract 2)**		

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Dear Mr. Lee,

Further to the Notification of Exceedance (NOE) ref.: TCS00670/13/300/F0148 dated 26 February 2016 and TCS00670/13/300/F0156 dated 3 March 2016. Please find attached the "Investigation Report on Action or Limit Level Non-compliance" referenced above for your follow up action.

Should you have any queries or need further information, please do not hesitate to contact us or the undersigned at **Tel: 2959-6059 or Fax: 2959-6079**.

Yours Faithfully,
For and on Behalf of
Action-United Environmental Services & Consulting

Nicola Hon
Environmental Consultant

Encl.

c.c.	Mr. David Chan (EPD)	Fax:	2685 1155
	Mr. Gregory Lo (ER, AECOM)	Fax:	2171 3498
	Mr. Antony Wong (IEC, SMEC)		By e-mail

安順聯合環境服務及顧問
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Agreement No. CE 45/2008
Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works
Investigation Report on Action or Limit Level Non-compliance

Project	CE 45/2008	
Date	26 February 2016	
Location	**WM4**	
Time	12:40	
Parameter	Turbidity (NTU)	Suspended Solids (mg/L)
Action Level	35.2 AND 120% of upstream control station of the same day	39.4 AND 120% of upstream control station of the same day
Limit Level	38.4 AND 130% of upstream control station of the same day	45.5 AND 130% of upstream control station of the same day
Measured Level at Control Station (WM4-CA)	5.3	4.5
Measured Level at Control Station (WM4-CB)	7.7	9.5
Measured Level	**149.5**	**138.0**
Exceedance	**Limit Level**	**Limit Level**
Investigation Results, Recommendations & Mitigation Measures	1. According to the site information provided by the Contractor of Contract 2 (DHK), construction activities carried out at South Portal on 26 February 2016 included tunnel excavation and ventilation building superstructure. The construction activities were carried out away from the river course and no discharge was made on 26 February 2016. 2. According to the site record from the monitoring team on 26 February 2016, the water quality at WM4-CA and WM4-CB were visually clear but turbid water was observed at WM4. (Photo 1 to 3 and Figure 1) 3. Since the construction activities were carried out away from the river course and no discharge was made on 26 February 2016 and no adverse water quality impact was observed during site inspection on 19 and 26 February 2016. It is considered that the exceedances were not related to the works under DHK. 4. According to the Event and Action, the monitoring frequency at exceed station shall be increased to daily due to the limit level exceedance recorded until no exceedances were triggered in consecutive days. In view of the subsequent monitoring result, no exceedances were triggered at WM4 on 27 and 29 February 2016. However, the Contractor should continue to implement the environmental mitigation measures recommended in implementation schedule in the EM&A Manual.	

Prepared By : Nicola Hon

Designation : Environmental Consultant

Signature :

Date : 11 March 2016

Photo Record

Photo 1
Turbid water was observed at WM4 on 26 February 2016.

Photo 2
The water quality at WM4-CA was visually clear on 26 February 2016.

Photo 3
The water quality at WM4-CB was visually clear on 26 February 2016.

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.

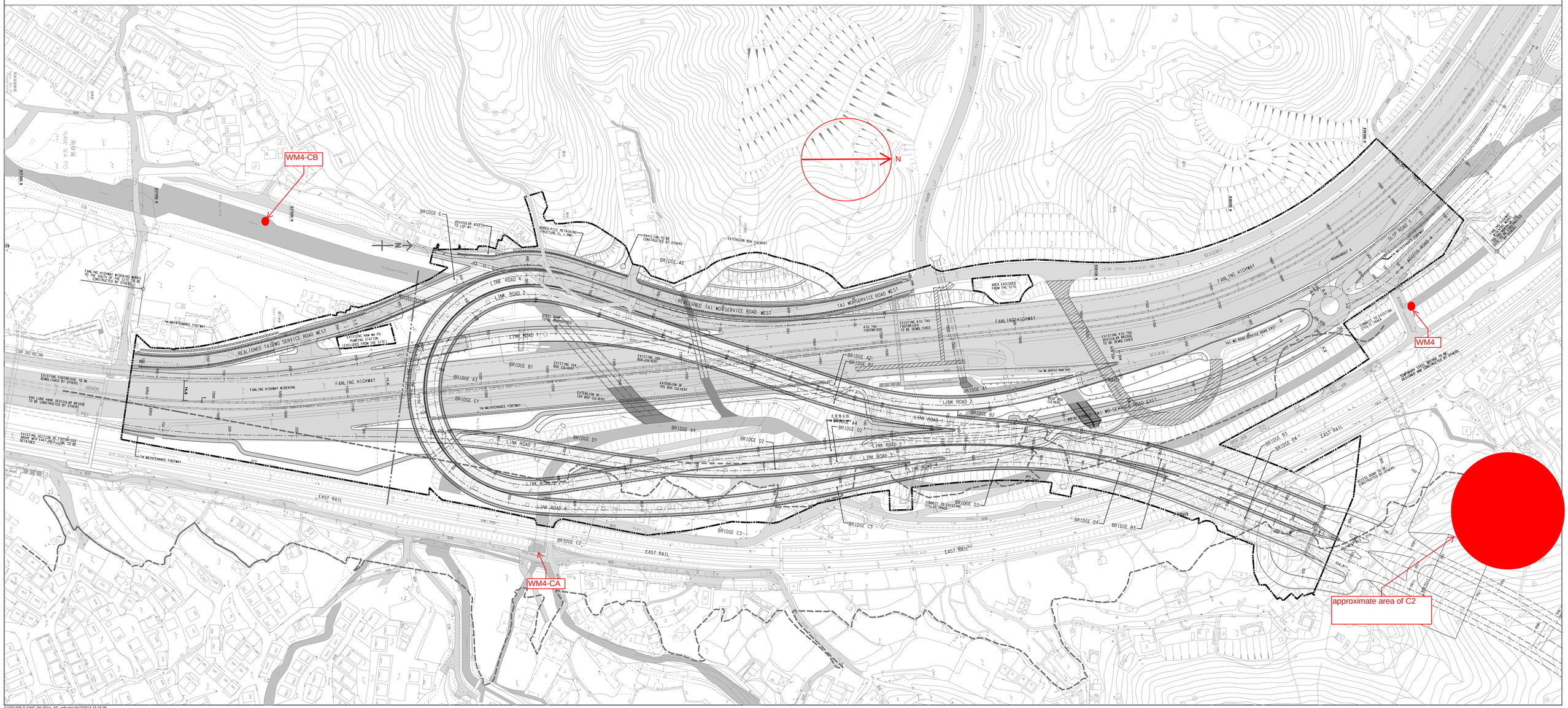

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Figure 1. Location of Water Quality Monitoring Location

AUES

Fax Cover Sheet

To	**Mr. Vincent Chan**	**Fax No**	**By e-mail**
Company	**CRBC-CEC-Kaden JV**		
cc			
From	**Nicola Hon**	**Date**	**8 March 2016**
Our Ref	TCS00694/13/300/**F0165**	**No of Pages**	5 **(Incl. cover sheet)**
RE	**Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works Investigation Report of Exceedance of Water Quality at Location WM2B on 29 February 2016**		

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Dear Sir,

Further to the Notification of Exceedance (NOE) ref.: TCS00694/13/300/F0149 dated 29 February 2016 and TCS00694/13/300/F0164 dated 8 March 2016. Please find attached the "Investigation Report on Action or Limit Level Non-compliance" referenced above for your follow up action.

Should you have any queries or need further information, please do not hesitate to contact us or the undersigned at **Tel: 2959-6059 or Fax: 2959-6079**.

Yours Faithfully,
For and on Behalf of
Action-United Environmental Services & Consulting

Nicola Hon
Environmental Consultant

Encl.

c.c.	Mr. David Chan (EPD)	Fax:	2685 1155
	Mr. Simon Leung (ER of C6/ AECOM)	Fax:	2251 0698
	Mr. Antony Wong (IEC, SMEC)		By email

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Tel (852) 2959-6059 Fax (852) 2959-6079

Agreement No. CE 45/2008
Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works
Investigation Report on Action or Limit Level Non-compliance

Project	CE 45/2008	
Date	29 February 2016	
Location	WM2B	
Time	11:49	
Parameter	Turbidity (NTU)	Suspended Solids (mg/L)
Action Level	11.4 AND 120% of upstream control station of the same day	11.8 AND 120% of upstream control station of the same day
Limit Level	12.3 AND 130% of upstream control station of the same day	12.4 AND 130% of upstream control station of the same day
Measured Level at Control Station (WM2B-C)	5.9	3.5
Measured Level at WM2B	**47.4**	**39.0**
Exceedance	**Limit Level**	**Limit Level**
Investigation Results, Recommendations & Mitigation Measures	1. According to the site information provided from the Contractor of C6, construction activities carried out on 29 February 2016 at North Portal at upstream of WM2B included bored piling and slope work. The monitoring locations and works area are shown in Figure 1. 2. According to the site record from the monitoring team during monitoring on 29 February 2016, very shallow water was measured at WM2B and the water depth was around 0.02m. (Photo 1) Although cumulated silt was observed at the channel bed, the water flowing in the channel and the samples collected at WM2B was visually clear. (Photo 2) Since the water sampling was carried out at the bridge over the drainage channel at shallow water, the sampled water could not avoid inclusion of the loose sediment and debris. 3. As advised by the Contractor, the wastewater generated from the bored piling was recirculated and no discharge was made. As water mitigation measures, sump pits were constructed under the slopes to divert the site runoff for temporary storage and primarily desilting before divert to the AquaSed. (Photo 4) Moreover, the slopes adjacent to channel were covered with tarpaulin sheet and hydro-seeding will be carried out on the stabilized slope to minimize muddy runoff. (Photo 3) 4. There were no rains recorded on 28 and 29 February 2016, therefore, generation of muddy runoff from the site was not likely to occur. In our investigation, it is considered that the exceedances were due to the shallow water and the disturbance of sediment at river bed. 5. According to the Event and Action, the monitoring frequency at WM2B has been increase to daily due to the limit level exceedance recorded until no exceedances were triggered in consecutive days. There were no exceedances triggered at WM2B on 1 March 2016. Nevertheless, the Contractor is reminded to continuous fully implement the water mitigation measures as recommended in the implementation schedule for environmental mitigation measures in the EM&A Manual.	

Prepared By :	Nicola Hon
Designation :	Environmental Consultant
Signature :	
Date :	8 March 2016

Photo Record

Photo 1
Very shallow water at WM2B on 29 February 2016 and the water flowing in the channel was visually clear.

Photo 2
The water samples collected at WM2B on 29 February 2016was visually clear.

Photo 3
Covering of the open slope to minimize muddy runoff

Photo 4
Sump pit with temporary channel were constructed under the slopes to divert the site runoff for temporary storage and primarily desilting before divert to the AquaSed.

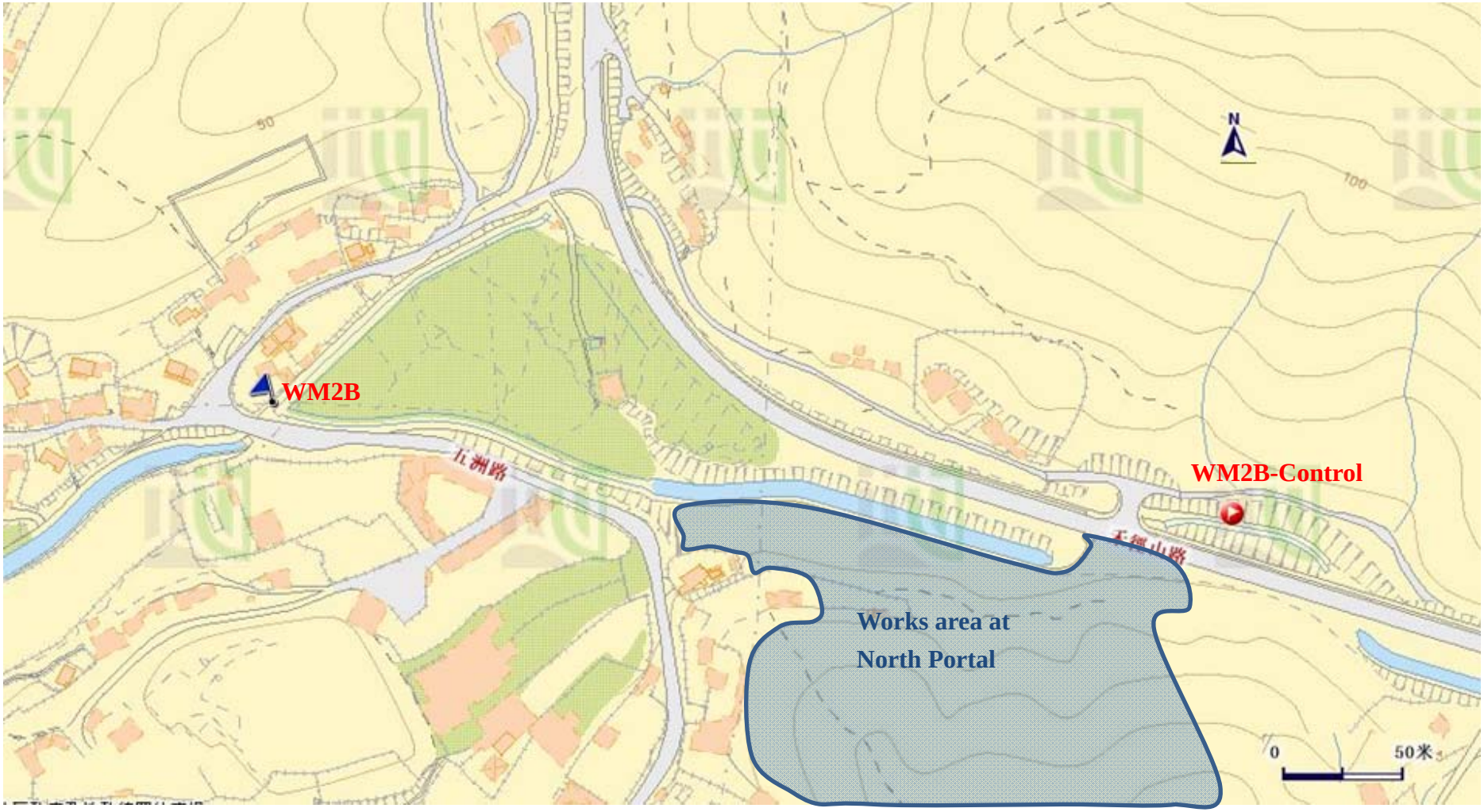

Figure 1 Location Map for Water Quality Monitoring Locations WM2B and WM2B-Control