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.32) – MARCH 2016

PREPARED FOR
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT (CEDD)

Date	Reference No.	Prepared By	Certified By
14 April 2016	TCS00694/13/600/R0227v2		
		Nicola Hon (Environmental Consultant)	Tam Tak Wing (Environmental Team Leader)

Version	Date	Remarks
1	11 April 2016	First Submission
2	14 April 2016	Amended against the IEC's comments on 13 April 2016

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14 April 2016 Our ref: 7076192/ L20308/AB/AW/MC/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. 32) – March 2016

With reference to the Monthly EM&A Report No. 32 for March 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 Man CHEUNG on tel. 3995 8132 or by email to man.cheung@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
	CCKJV	-	Mr Vincent CHAN	by email
	KRSJV	-	Mr TY LEUNG	by email
	Leighton	-	Mr Jon KITCHING	by email
	AUES	-	Mr TW TAM	by email

EXECUTIVE SUMMARY

ES01 This is the **32nd** monthly EM&A report presenting the monitoring results and inspection findings for the reporting period from **1 to 31 March 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, Contract 7 and Contract SS C505. 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	156
	24-hour TSP	9	50
Construction Noise	$L_{eq(30min)}$ Daytime	10	55
Water Quality	Water in-situ measurement and/or sampling	WM1 & WM1-C,	15(*)
		WM2A & WM2A-C	13(*)
		WM2B & WM2B-C	21(*)
		WM3 &WM3-C	13(*)
		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	5
		Contract 6	5
		Contract 7	5
		Contract SS C505	5

(*) *Monitoring day (included additional monitoring day due to exceedance)*

BREACH OF ACTION AND LIMIT (A/L) LEVELS

ES04 In the Reporting Period, no air quality and construction noise exceedance was registered for the Project. For water quality monitoring, a total of forty-two (42) Action/ Limit Levels (AL/LL) exceedances, namely twenty (26) LL exceedances of turbidity and nineteen (19) AL/LL exceedances of Suspended Solids. 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	0	0	0	--	--
Water Quality	DO	0	0	0	--	--

Environmental Aspect	Monitoring Parameters	Action Level	Limit Level	Event & Action		
				NOE Issued	Investigation Result	Corrective Actions
	Turbidity	0	**23**	**23**	- Channel clearing was carried out on 5, 8, 9 and 10 March 2016 to remove the silt cumulated at the channel bed. The exceedances were due to insufficient mitigation measures during channel clearing.	- CCKJV should ensure the turbid water at the adjacent open channel was entirely blocked by the sand bag barrier or other means to prevent it flowing further downstream before carry out the channel cleaning.
	SS	**1**	**18**	**19**		

ENVIRONMENTAL COMPLAINT

ES05 In this Reporting Period, one (1) documented environmental complaint was received for Contract 2 regarding generation of fugitive dust when heavy dump truck travelling along in Sha Tau Kok Road on 8 March 2016. Investigation report for complaint 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 In the Reporting Period, the revised EM&A Programme was approved by EPD on 29 March 2016.

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 **4, 11, 18 and 24 March 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 **7, 16, 21 and 30 March 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 **1, 8, 15, 22 and 29 March 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 **3, 10, 17, 24 and 31 March 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 **2, 9, 16, 23 and 30 March 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 **1, 8, 15, 22 and 29 March 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 **32nd** monthly EM&A report presenting the monitoring results and inspection findings for reporting period from **1** to **31 March 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*

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, 7 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 and initial construction program for Contract 7 are enclosed in ***Appendix C***.

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	• Tube excavation (NB + SB)
Portal	• Adit invert slab
	• Ventilation building superstructure
North Portal	• Slope stabilization 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
- FRP Lining on existing water main
- Filling works at Tong Hang East
- 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
- H-piling
- Pile cap construction
- Road surfacing

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
- H-pile works
- Tower crane construction
- Erection of Welfare Shelter
- Underground drainage works
- Column and conduit works
- Weighbridge works
- Prototype "A" Construction works
- Mock Up Curtain Wall works
- Pile Cap construction
- Bored Pile works and pre-drill works
- Bridge construction 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
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-RN0795-15	7 Dec 2015	6 Jun 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
		GW-RN0167-16	18-Mar-2016	17-May-2016
		GW-RN0199-16	24-Mar-2016	17-Sep-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	Account No. 7017914	2 Aug 13	Till Contract ends

Item	Description	License/Permit Status		
		Ref. no.	Effective Date	Expiry Date
	of Construction Waste			
5	Construction Noise Permit	GW-RN0892-15	9 Jan 2016	8 July 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
		GW-RN0157-16	8 Mar 2016	7 Jun 2016
		GW-RN0158-16	8 Mar 2016	31 Aug 2016
		GW-RN0164-16	16 Mar 2016	31 Mar 2016
		GW-RN0168-16	15 Mar 2016	14 Sep 2016
		GW-RN0169-16	15 Mar 2016	14 Jun 2016
		GW-RN0170-16	11 Mar 2016	10 Sep 2016
		GW-RN0172-16	29 Mar 2016	8 Apr 2016
		GW-RN0218-16	6 April 2016	30 Sep 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) Regulation	Ref. No: 390614	29 Jun 2015	Till the end of Contract
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

Item	Description	License/Permit Status		
		Ref. no.	Effective Date	Expiry Date
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
		PP-RN0007-16	10 Mar 2016	9 May 2016
		GW-RN0023-16	23 Jan 2016	22 Mar 2016
		GW-RN0197-16	23 Jan 2016	22 May 216
		GW-RN0209-16	23 Jan 2016	22 May 216
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
5	Construction Noise Permit	GW-RN0162-16	23 Mar 2016	22 May 2016

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

Station ID	Description	Works Area	Related to the Work Contract
AM3	Ta Kwu Ling Fire Service Station of Ta Kwu Ling Village.	LMH to Frontier Closed Area	Contract 5 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 air quality monitoring locations was enclosed in the updated EM&A Programme which approval by EPD on 29 Mar 2016.

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-	Upstream of	834 185	845 917	NA	SS C505

Station ID	Description	Coordinates of Designated / Alternative Location		Nature of the location	Related to the Work Contract
Control	Kong Yiu Channel				Contract 5 Contract 6
WM2A	Downstream of River Ganges	834 204	844 471	Alternative location located at downstream 81m of the designated location	Contract 6
WM2A-Controlx #	Upstream of River Ganges	835 377	844 188	Alternative location located at upstream 160m 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
WM3x #	Downstream of River Indus	836 206	842 270	Alternative location located at downstream 180m of the designated location	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

 # Proposal for change of water quality monitoring location from are enclosed in the updated EM&A Programme which approval by EPD on 29 Mar 2016.

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
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.

Lboratory 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	Monitoring Location

	criteria	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			
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 ***156*** events of 1-hour TSP and ***50*** 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
5-Mar-16	105	1-Mar-16	11:42	207	168	156
11-Mar-16	32	7-Mar-16	12:05	180	113	88
17-Mar-16	17	12-Mar-16	10:01	24	22	26
23-Mar-16	27	18-Mar-16	9:30	76	69	67
29-Mar-16	61	24-Mar-16	13:01	49	43	40
		30-Mar-16	13:40	71	65	62
Average (Range)	**48 (17 – 105)**	Average (Range)		**85 (22 – 207)**		

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
5-Mar-16	87	1-Mar-16	11:22	220	179	169
11-Mar-16	90	7-Mar-16	12:21	175	91	67
17-Mar-16	38	12-Mar-16	10:11	28	27	32
23-Mar-16	51	18-Mar-16	9:39	71	65	62
29-Mar-16	94	24-Mar-16	13:05	62	65	60
		30-Mar-16	13:27	79	82	78
Average (Range)	**72 (38 – 94)**	Average (Range)		**90 (27 – 220)**		

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
5-Mar-16	74	1-Mar-16	11:03	236	222	192
11-Mar-16	99	7-Mar-16	11:40	155	113	85
17-Mar-16	28	12-Mar-16	10:15	64	43	43
23-Mar-16	31	18-Mar-16	9:45	67	60	58
29-Mar-16	112	24-Mar-16	13:11	44	41	38
		30-Mar-16	13:13	60	56	53
Average (Range)	**69 (31 – 112)**	Average (Range)		**91 (38 – 236)**		

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
3-Mar-16	69	4-Mar-16	10:01	84	74	62
9-Mar-16	34	10-Mar-16	13:00	15	14	17
15-Mar-16	71	16-Mar-16	9:31	95	88	67
19-Mar-16	59	21-Mar-16	9:58	47	41	38
24-Mar-16	27	23-Mar-16	9:31	56	49	47
30-Mar-16	115	29-Mar-16	9:41	60	54	51
Average (Range)	**63 (27 – 115)**	Average (Range)		**53 (14 – 95)**		

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
3-Mar-16	64	4-Mar-16	10:11	79	69	62
9-Mar-16	35	10-Mar-16	13:05	10	7	22
15-Mar-16	59	16-Mar-16	9:44	69	53	57
19-Mar-16	46	21-Mar-16	10:04	60	54	51
24-Mar-16	30	23-Mar-16	9:37	73	76	71
30-Mar-16	82	29-Mar-16	9:37	68	71	67
Average (Range)	**52 (30 – 82)**	Average (Range)		**57 (7 – 79)**		

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
3-Mar-16	117	4-Mar-16	11:01	71	61	53
9-Mar-16	51	10-Mar-16	13:14	14	9	13
15-Mar-16	123	16-Mar-16	9:22	66	59	48
19-Mar-16	86	21-Mar-16	10:14	43	36	34
24-Mar-16	29	23-Mar-16	9:49	53	49	47
30-Mar-16	127	29-Mar-16	9:33	53	49	47
Average (Range)	**88 (29 – 127)**	Average (Range)		**45 (9 – 71)**		

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
4-Mar-16	41	5-Mar-16	9:26	95	57	52
10-Mar-16	22	11-Mar-16	9:09	89	67	79
16-Mar-16	57	17-Mar-16	10:04	38	32	29
22-Mar-16	30	23-Mar-16	14:09	60	54	51
24-Mar-16	28	29-Mar-16	13:01	65	58	56
30-Mar-16	130					
Average (Range)	**51 (22 –130)**	Average (Range)		**59 (29 – 95)**		

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
4-Mar-16	28	5-Mar-16	10:14	75	66	60
10-Mar-16	34	11-Mar-16	13:01	81	60	77
16-Mar-16	19	17-Mar-16	10:05	43	36	34
22-Mar-16	22	23-Mar-16	14:21	68	71	67
24-Mar-16	19	29-Mar-16	13:17	73	76	71
30-Mar-16	70					
Average (Range)	**32 (19 – 70)**	Average (Range)		**64 (34 – 81)**		

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
5-Mar-16	35	1-Mar-16	11:03	125	115	116
11-Mar-16	25	7-Mar-16	9:14	115	114	122
17-Mar-16	23	12-Mar-16	9:11	64	54	44
23-Mar-16	38	18-Mar-16	9:23	181	141	145
29-Mar-16	65	24-Mar-16	13:09	74	64	69
		30-Mar-16	9:31	69	63	60
Average (Range)	**37 (23 – 65)**	Average (Range)		**96 (44 – 181)**		

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(*)**
1-Mar-16	55	61	63	61	60
7-Mar-16	55	68	54	60	61
12-Mar-16	64	62	56	60	63
18-Mar-16	66	64	56	61	67
24-Mar-16	54	56	60	56	62
30-Mar-16	64	60	63	63	61
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**
5-Mar-16	58	64	52	53	60
10-Mar-16	61	64	62	59	65
16-Mar-16	63	57	51	60	59
21-Mar-16	62	63	53	61	59
29-Mar-16	61	61	51	61	63
Limit Level	**75 dB(A)**				

5.2.2 As shown in ***Tables 5-1 and 5-2***, the noise level measured at all designated monitoring locations were below 75dB(A). Furthermore, there was no noise complaints (Action Level exceedance) received by the RE, CEDD, Architect/AR/ and the Contractors in the Reporting Period. Therefore, no Action or Limit Level exceedance was triggered and no corrective action was required.

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 was scheduled to carry out for all designated locations with their control stations, except for thirteen (13) sampling days for WM4 and its control station. Since water quality exceedances were recorded, one (1) additional day water quality monitoring were conducted at WM2A, WM3 and WM4 and three (3) and nine (9) additional day water quality monitoring were conducted at WM1 and WM2B 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
2-Mar-16	5.6	6.6	5.1	29.1	90.5	13.1	24.5	33.5	9.0
4-Mar-16	7.7	8.6	7.1	26.8	14.9	15.1	18.5	5.0	13.5
7-Mar-16	5.1	6.3	4.2	20.5	11.2	33.3	26.5	8.5	42.0
9-Mar-16	4.8	4.9	4.1	20.7	11.5	45.2	19.5	9.0	33.0
11-Mar-16	9.7	10.4	7.5	27.8	28.4	22.0	18.5	11.5	20.0
14-Mar-16	8.3	9.5	6.5	21.8	14.6	20.6	17.0	6.5	29.0
16-Mar-16	7.4	9.4	6.0	34.7	over range	37.6	29.0	50.5	51.0
18-Mar-16	7.1	7.8	5.8	23.2	29.0	29.9	21.5	14.5	25.5
21-Mar-16	7.6	8.6	7.3	**89.1**	25.7	49.1	**70.5**	20.5	35.5
22-Mar-16#	--	--	--	35.1	20.4	30.5	20.0	9.0	18.0
23-Mar-16	7.4	8.3	5.9	33.1	18.6	28.6	24.0	7.5	26.0
25-Mar-16	9.4	8.2	8.5	16.5	8.2	16.8	12.0	3.5	15.5
29-Mar-16	8.3	8.9	7.1	39.0	127.0	44.7	29.0	86.5	25.0
31-Mar-16	7.9	9.3	6.8	15.7	6.8	19.3	28.0	7.5	42.5

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
2-Mar-16	8.6	10.2	31.1	11.6	37.5	4.5
4-Mar-16	8.0	9.4	**146.0**	9.1	**185.5**	2.5
5-Mar-16#	--	--	31.2	11.2	23.0	5.0
7-Mar-16	4.9	7.4	38.1	11.6	25.5	9.0
9-Mar-16	5.2	6.7	**82.7**	23.0	51.0	11.0
10-Mar-16#	--	--	**352.0**	47.2	**196.0**	35.0
11-Mar-16	8.6	9.2	28.0	8.1	6.5	42.5
12-Mar-16#	--	--	28.1	10.3	26.0	5.0
14-Mar-16	7.8	9.2	47.4	41.1	27.5	23.5

Date	Dissolved Oxygen (mg/L)		Turbidity (NTU)		Suspended Solids (mg/L)	
	WM1	WM1-Control	WM1	WM1-Control	WM1	WM1-Control
16-Mar-16	8.2	8.4	38.8	13.1	42.0	9.0
18-Mar-16	6.9	7.3	30.0	12.3	17.0	6.5
21-Mar-16	8.0	8.2	367.0	389.0	206.0	193.5
23-Mar-16	8.0	7.7	47.5	33.4	37.5	23.0
29-Mar-16	9.0	8.9	94.0	92.6	71.5	97.0
31-Mar-16	8.2	8.8	25.9	10.6	29.5	7.0

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 6-3 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
2-Mar-16	9.7	8.6	7.8	6.4	9.8	9.4	**over range**	3.5	5.5	<2	**1355.0**	2.0
3-Mar-16#	--	--	--	--	--	--	**20.7**	3.9	--	--	**21.0**	3.0
4-Mar-16	9.0	8.0	8.1	7.5	4.9	21.8	**24.1**	9.5	2.0	12.0	10.5	<2
5-Mar-16#	--	--	--	--	--	--	**40.2**	2.6	--	--	10.0	<2
7-Mar-16	6.3	6.2	6.3	6.3	13.4	7.8	7.7	4.0	5.5	5.0	6.5	<2
8-Mar-16#	--	--	--	--	--	--	**221.5**	4.0	--	--	**138.0**	4.0
9-Mar-16	6.3	5.7	6.3	6.0	14.5	30.3	**14.9**	5.0	10.0	15.0	***12.0***	5.5
10-Mar-16#	--	--	--	--	--	--	**27.3**	5.2	--	--	**16.0**	6.0
11-Mar-16	9.4	8.8	10.0	8.4	**198.5**	16.1	**87.6**	5.1	**164.5**	7.0	**70.0**	2.0
12-Mar-16#	--	--	--	--	12.8	10.4	10.6	9.4	11.0	6.0	6.0	12.0
14-Mar-16	10.1	8.4	9.9	8.7	13.0	19.2	**45.1**	15.7	2.5	6.0	**69.0**	<2
15-Mar-16#	--	--	--	--	--	--	**19.0**	5.6	--	--	10.0	<2
16-Mar-16	8.4	8.4	9.6	7.6	14.9	8.6	**108.0**	5.9	12.5	<2	**48.5**	3.0
17-Mar-16#	--	--	--	--	--	--	9.1	7.8	--	--	9.0	9.0
18-Mar-16	8.6	7.8	8.3	7.3	23.6	19.7	9.4	6.3	11.5	9.5	4.0	3.5
21-Mar-16	8.6	8.3	9.4	8.1	23.6	41.6	**284.0**	6.7	9.5	18.0	**179.0**	5.0
22-Mar-16#	--	--	--	--	--	--	**50.0**	6.3	--	--	**52.0**	3.0
23-Mar-16	7.8	7.8	8.4	8.0	29.7	27.3	**452.0**	49.8	10.5	5.0	**301.5**	35.5
24-Mar-16#	--	--	--	--	--	--	**124.0**	20.8	--	--	**160.0**	9.0
29-Mar-16	9.5	8.8	9.1	7.6	11.8	8.4	11.2	6.0	4.5	2.0	5.0	<2
31-Mar-16	9.3	8.3	9.0	7.7	8.9	5.1	9.2	3.2	5.0	2.0	10.5	<2

Remarks: *(iii)* *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-Mar-16	7.2	6.9	12.0	8.3	12.5	6.5
4-Mar-16	9.3	10.0	16.8	19.0	11.0	11.5
7-Mar-16	6.6	5.6	7.4	12.8	11.5	21.0
9-Mar-16	5.2	4.7	13.1	11.8	15.5	16.5
11-Mar-16	8.7	10.3	16.8	16.2	25.5	26.5
14-Mar-16	8.8	8.3	19.5	40.1	13.5	51.5
16-Mar-16	8.2	8.8	13.2	36.1	15.5	13.0
18-Mar-16	7.6	8.1	13.2	6.5	12.0	8.0
21-Mar-16	7.6	8.8	32.0	28.9	21.0	41.5

Date	Dissolved Oxygen (mg/L)		Turbidity (NTU)		Suspended Solids (mg/L)	
	WM3	WM3-Control	WM3	WM3-Control	WM3	WM3-Control
23-Mar-16	8.0	7.9	38.5	34.7	25.5	47.0
29-Mar-16	8.0	8.3	**72.1**	4.9	**109.0**	7.0
30-Mar-16#	--	--	**121.5**	5.2	**54.5**	6.5
31-Mar-16	8.4	8.2	**35.3**	2.6	**16.0**	14.0

Remarks: *(iv)* *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 6-5 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	**3**	0	**2**	0	**5**
WM2A	0	0	0	**1**	0	**1**	0	**2**
WM2B	0	0	0	**15**	**1**	**11**	**1**	**26**
WM3	0	0	0	**3**	0	**3**	0	**6**
WM4	0	0	0	**1**	0	**1**	0	**2**
No of Exceedance	0	0	0	**23**	**1**	**18**	**1**	**41**

6.2.3 In this Reporting Period, a total of forty-two (42) Action/ Limit Levels (AL/LL) exceedances, namely twenty-three (23) LL exceedances of turbidity and nineteen (19) AL/LL exceedances of Suspended Solids were recorded for the Project and they are summarized in ***Table 6-5***.

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

Date of Exceedance	Location	Exceeded Parameter	Cause of Water Quality Exceedance
2 & 3 Mar 2016	WM2B (C6)	NTU & SS	A pipe carrying wastewater from bored piling to the nearest AquaSed was burst on 2 March 2016 and the untreated wastewater were getting into the open channel accidently. CCKJV has immediate halted the bored piling work until the damaged pipe was replaced. The exceedances were related to the pipe burst accident and unlikely related to the works under Contract 6.
4 Mar 2016	WM2B (C6)	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.
5 Mar 2016	WM2B (C6)	NTU	Channel clearing was carried out on 5, 8, 9 and 10 March 2016 to remove the silt cumulated at the channel bed. The exceedances were due to insufficient mitigation measures during channel clearing. CCKJV should ensure the turbid water at the adjacent open channel was entirely blocked by the sand bag barrier or other means to prevent it flowing further downstream before carry out the channel cleaning.
8, 9 & 10 Mar 2016	WM2B (C6)	NTU & SS	
4, 9 & 10 Mar 2016	WM1 (C5, C6 and SS	NTU & SS	• C5 - There were no wastewater generation activities carried out on 4, 9 & 10 Mar 2016 and no discharge made into the river course. The exceedances were

	C505)		unlikely due to the Contract 5. • C6 - Turbid water was observed at upstream of the site area of Contract 6, the exceedances were unlikely due to the Contract 6. • SS C505 - The discharge point connecting public drainage under SS C505 would not flow to WM1 and its upstream, the exceedances were unlikely due to the SS C505.
11 Mar 2016	WM2A (C6)	NTU & SS	The condition of the water quality besides of Ping Yuen River of Bridge D under C6 on 1 Mar 2016 was normal and no turbid water was observed. There were no trails of turbid water discharge from the construction site, it is considered that exceedances were unlikely due to Contract 6.
11 Mar 2016	WM2B (C6)	NTU & SS	The water recirculation pump was detached from the water pipe accidentally and causing overflow of turbid water through the bar screen to downstream. The Contractor immediately fixed the detached recirculation pump and water pipe and the function of the recirculation pump was back to normal in the afternoon. It is concluded that the exceedances were a single incident.
14, 15 & 16 Mar 2016	WM2B (C6)	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.
21, 22, 23 & 24 Mar 2016	WM2B (C6)	NTU & SS	The effluent quality of C6 was visually acceptable. However, it was observed that muddy runoff from the public road surface into the existing channel due to rain. It is considered that the exceedances were related to cumulated silt at the river bed and muddy runoff from the public road surface and unlikely related to the works under Contract 6.
21 Mar 2016	WM4 (C2 & C3)	NTU & SS	• C2 & C3 - muddy water flowed from other upstream location which was not under monitored by the Contract was observed on 21 Mar 2016. It is considered that the exceedances were due to the stir up of sediment during rain and external muddy water from upstream and not related to the works under Contracts 2 & 3.
29, 30 & 31 Mar 2016	WM3 (C2 & C6)	NTU & SS	• C2 & C6 - discharge of turbid water and accumulated silt was observed from an unknown outfall which located at between the works area of C6 and WM3. It is considered that the turbid water detected at WM3 was related to the turbid discharge from the unknown outfall and unlikely due to the works under Contracts 2 and 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)	**34.1616**	--	**1.084**	--	0	--	**43.765**	--	**0.135**	--	**0.793**	--	**79.9386**
Reused in this Contract (Inert) (in '000 m^3)	**0.3100**	--	0	--	0	--	**6.438**	--	0	--	0	--	**6.748**
Reused in other Contracts/ Projects (Inert) (in '000 m^3)	**29.3514**	C6/ NENT# & other projects approved by the ER	0	--	0	--	**12.034**	C5 & other projects approved by the ER	0	--	0	--	**41.3854**
Disposal as Public Fill (Inert) (in '000 m^3)	**4.5003**	Tuen Mun 38	**1.084**	Tuen Mun 38	0	--	**25.292**	Tuen Mun 38	**0.135**	Tuen Mun 38	**0.793**	TKO 137	**31.5603**

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	--	**52.752**	Licensed collector	**52.752**
Recycled Paper / Cardboard Packing ('000kg) #	0	-	0	-	0	--	0	Licensed collector	0	--	**0.044**	Licensed collector	**0.044**
Recycled Plastic ('000kg) #	0	--	**0.001**	-	0	--	**0.007**	--	0	--	0	--	**0.001# 0.007**
Chemical Wastes ('000kg) #	**11.7920**	Licensed collector	0	-	0	--	0	--	0	--	0	--	**11.7920**
General Refuses ('000m^3)	**0.0682**	NENT	**0.090**	NENT	**0.055**	NENT	**0.042**	NENT	**0.005**	--	**0.059**	NENT	**0.3192**

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 **4, 11, 18 and 24 March 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
4 March 2016	• Oil drums without drip tray was observed. Drip tray should be provided for all chemical storage on site. (Admin-building)	• Oil drums removed from site.
11 March 2016	• No adverse environmental were observed.	NA
18 March 2016	• No adverse environmental were observed.	NA
24 March 2016	• Proper control measures should be provided to prevent turbidity water discharged into the water body during maintenance of the de-silting system. (North Portal)	• The damaged water pipe in concern was replaced immediately and no direct discharge was allowed.

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 **7, 16, 21 and 30 March 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
7 March 2016	• Stopper for drip tray under the generator at Bridge J was missing. The Contractor should provide a stopper for drip tray to avoid leakage of chemical and cause land contamination.	• Plug for the drip tray at Bridge J was installed.
16 March 2016	• No adverse environmental were observed.	• NA
21 March 2016	• Muddy trail was observed at site exit SA2. The Contractor should ensure no muddy trail at the site exit and public access road, and ensure all the vehicles were washed to remove dusty materials from their wheels before leaving the site.	• No muddy trail was observed at site exit SA2
30 March 2016	• No adverse environmental were observed.	• NA

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 **1, 8, 15, 22 and 29 March 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
1 March 2016	• Stagnant water accumulated in precast concrete was found at LMH site area, the Contractor should remove the stagnant water.	• Precast concretes have been turned over to prevent stagnant water.
8 March 2016	• No adverse environmental were observed.	• NA
15 March 2016	• No adverse environmental were observed.	• NA
22 March 2016	• No adverse environmental were observed.	• NA
29 March 2016	• No adverse environmental were observed.	• NA

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 **3, 10, 17, 24 and 31 March 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
3 March 2016	• Mud bund and water accumulated along waterfill barrier at the STK road site entrance was observed, the Contractor should remove the mud and provide sand bags to prevent run-off. • Insufficient surface water run-off control measures at temporary bridge Z and Bridge A wheel washing facility were observed, relevant mitigation measures should be provided. • A sedimentation tank for vehicle washing water collection was found at the STK road site entrance, the Contractor was reminded that the discharge water should fulfil the requirement of the discharge licence.	• Mud bund has been removed and sand bag bund has been provided along the waterfill barrier to prevent water from entering the footpath. • Mud bund has been removed and sand bag bund has been provided along the waterfill barrier to prevent water from entering the footpath. • Not required for reminder.
10 March 2016	• Water overflow from vehicle washing bay was observed at Ping Yeung Interchange, the Contractor should review and improve the vehicle washing procedure and system.	• The condition of the wheel washing bay was maintained and excess water in the wheel washing bay was pumped out to prevent overflow.
17 March	• Diesel drum without drip tray was	• The chemical container has

Date	Findings / Deficiencies	Follow-Up Status
2016	observed on site, the Contractor should provide drip tray for it to prevent land contamination.(Location: Bridge D) • Water accumulated in several drip trays of generator were found, the Contractor should remove the water and treat it as chemical waste (Location: Bridge D) • To reduce smoke emission, it was reminded that construction plant maintenance should be carried out regularly. • Also, maintenance should be provided for construction plant and equipment to reduce the noise generation.	been put back into chemical storage chamber. • The chemical container has been put back into chemical storage chamber. • Not required for reminder. • Not required for reminder.
24 March 2016	• Dark smoke emitted from the generator was observed. Proper maintenance should be provided. (Location: BCP) • Engine cover for the power pack was opened during operation was observed. The contractor should close the engine cover to reduce noise impact during the plant is operating. (Location: BCP) • Housekeeping at the grouting area should be improved. (Location: Bridge D) • Wheel washing water spillage into the public road was observed. The contractor should maintain the public road leading to the site is clean and tidy. (Location: Bridge D)	• Exhaust filter of the generator has been replaced. • Engine cover of the air compressor has been closed. • Cement bags and empty chemical containers have been removed. • The road surface has been cleaned.
31 March 2016	• Noise emission label was found missing on an air compressor at BCP, the Contractor should provide and display the noise emission label for it. • Oil spillage was observed in a drip tray at BCP site area, the Contractor should treat the contaminated soil as chemical waste and provide measures to prevent oil leakage.	• 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.

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 **2, 9, 16, 23 and 30 March 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
2 March 2016	• Stagnant water was observed near emergency equipment station at training center and temporary drainage channel	• Stagnant water was removed.

Date	Findings / Deficiencies	Follow-Up Status
	near training center. The Contractor should remove the stagnant water to prevent mosquito breeding. • Machinery without secondary containment was observed at training center. The Contractor should provide secondary containment such as drip tray to avoid leakage of oil and cause land contamination. • The Contractor should carry out dust mitigation measures at Portion 1 Zone 6 to reduce dust generation. • The Contractor was reminded to spray water for breaking works.	• Drip tray was provided to machinery to avoid oil leakage. • Water spray as dust mitigation was implemented at Portion 1 Zone 6. • Not required for reminder.
9 March 2016	• No adverse environmental were observed.	NA
16 March 2016	• Stagnant water was observed in waste container near Building 5 at Portion 1 (Photo 1) and at the channel between Portion 1 and 2 (Photo 2). The Contractor should remove the stagnant water to prevent mosquito breeding. • Muddy sediment was observed at drainage channel of Portion 1. The Contractor should remove the muddy sediment to ensure the channel function properly.	• Muddy sediment was observed at drainage channel of Portion 1. The Contractor should remove the muddy sediment to ensure the channel function properly. • Muddy sediment was removed at the drainage channel of Portion 1.
23 March 2016	• The Contractor was reminded to remove stagnant water at drainage channel in Portion 1 regularly and after rainy days.	• Not required for reminder.
30 March 2016	• NRMM label was missing for excavator (PUC 262) at Portion 1. The Contractor should provide the exemption/approval label for the excavator under the NRMM regulation.	• NRMM label was posted at the excavator (PUC 262)

Contract 7

8.2.11 In the Reporting Period, joint site inspection for Contract 7 to evaluate the site environmental performance has been carried out by the RE, IEC, ET and the Contractor on **1, 8, 15, 22 and 29 March 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
1 March 2016	• No adverse environmental were observed.	NA
8 March 2016	• As a reminder, to prevent mosquito breeding stagnant water should be removed from containers.	• Not required for reminder.

Date	Findings / Deficiencies	Follow-Up Status
15 March 2016	• No adverse environmental were observed.	NA
22 March 2016	• No adverse environmental were observed.	NA
29 March 2016	• No adverse environmental were observed.	NA

8.2.13 Overall, general housekeeping such as daily site tidiness and cleanliness 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, one (1) documented environmental complaint was received for Contract 2 regarding generation of fugitive dust when heavy dump truck travelling along in Sha Tau Kok Road on 8 March 2016.

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. Investigation report for the complaint has conducted by the ET and submitted to the relevant parties and the detail of complaint investigation is presented below.

Investigation Result for the Documented Complaints received from 1823 on 8 March 2016

9.1.3 A complaint was received from 1823 regarding the generation of fugitive dust when heavy dump truck from construction site of Contract 6 (DHK) travelling on Sha Tau Kok Road. Previously, DHK did arrange water bowser for road cleaning on Sha Tau Kok Road every day. However, the complainant stated that no water bowser was provided recently and the route of road cleaning was ignoring the area near 安居花園.

9.1.4 As advised by DHK, water bowser for road cleaning is still providing on Sha Tau Kok Road and the route is between Wo Keng Shan Road (Admin Bldg Site) to Ping Che Roundabout which covered the area near 安居花園. In normal day, there were 4 round trips per day and water bowser is ready whenever necessary.

9.1.5 During weekly site inspection in late February 2016 and early March 2016, the condition of the concerned Sha Tau Kok Road – Ma Mei Ha were being inspected. According to the site inspection record, the observation during site inspection is summarized below.

(a) wheel washing facilities were provided at the site exit of North Portal

(b) no dusty materials were brought by the vehicles from the site

(c) the cleanliness condition of the exit of North Portal and adjoined Sha Tau Kok Road were satisfactory.

9.1.6 Since there were many other heavy vehicles using the Sha Tau Kok Road, it is considered that the dust problem on Sha Tau Kok Road is not due to the Contract. Nevertheless, ET will continue to inspect the cleanliness of site exit and adjacent roads.

9.1.7 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 – 29 Feb 2016	Contract 2	0	**13**	• **(6) Water Quality** • **(5) Dust** • **(2) Noise**
06 Nov 2013 – 29 Feb 2016	Contract 3	0	**4**	• **(1) Dust** • **(2) Water quality**
16 Aug 2013 – 29 Feb 2016	Contract 5	0	**2**	• **(2) Dust**
16 Aug 2013 – 29 Feb 2016	Contract 6	0	**7**	• **(2) Water Quality** • **(1) Dust**
15 Feb 2016 – 29 Feb 2016	Contract 7	0	**0**	**N/A**

Reporting Period	Contract No	Environmental Complaint Statistics		
		Frequency	Cumulative	Complaint Nature
16 Aug 2013 – 29 Feb 2016	SS C505	0	**0**	**N/A**
1 – 31 Mar 2016	Contract 2	**1**	**14**	• **(6) Water Quality** • **(6) Dust** • **(2) Noise**
	Contract 3	0	**4**	• **(1) Dust** • **(2) Water quality** • **(1) Noise**
	Contract 5	0	**2**	• **(2) Dust**
	Contract 6	0	**7**	• **(6) Water Quality** • **(1) 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 – 29 Feb 2016	Contract 2	0	0	NA
06 Nov 2013 – 29 Feb 2016	Contract 3	0	0	NA
16 Aug 2013 – 29 Feb 2016	Contract 5	0	0	NA
16 Aug 2013 – 29 Feb 2016	Contract 6	0	0	NA
15 Feb 2016 – 29 Feb 2016	Contract 7	0	0	NA
16 Aug 2013 – 29 Feb 2016	SS C505	0	0	NA
1 – 31 Mar 2016	Contract 2	0	0	NA
	Contract 3	0	0	NA
	Contract 5	0	0	NA
	Contract 6	0	0	NA
	Contract 7	0	0	NA
	SS C505	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 – 29 Feb 2016	Contract 2	0	0	NA
06 Nov 2013 – 29 Feb 2016	Contract 3	0	0	NA
16 Aug 2013 – 29 Feb 2016	Contract 5	0	0	NA
16 Aug 2013 – 29 Feb 2016	Contract 6	0	0	NA
15 Feb 2016 – 29 Feb 2016	Contract 7	0	0	NA
16 Aug 2013 – 29 Feb 2016	SS C505	0	0	NA
1 – 31 Mar 2016	Contract 2	0	0	NA
	Contract 3	0	0	NA

	Contract 5	0	0	NA
	Contract 6	0	0	NA
	Contract 7	0	0	NA
	SS C505	0	0	NA

The Other Contracts

9.1.8 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
- Ventilation building superstructure

North Portal
- Retaining walls and slope stabilization
- Northbound top heading excavation and tunnel enlargement
- TBM excavation

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

Admin Building
- Building works foundation & superstructure

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
- Sewer works
- Slope works
- Socket H-pile installation
- Tree felling works
- Utilities duct laying
- Viaduct segment erection
- Water works
- Per-drilling works for noise barrier

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
- H-piling
- Pile cap construction

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
- H-pile works
- Tower crane construction
- Erection of Welfare Shelter
- Underground drainage works
- Column works
- Weighbridge works
- Prototype "A" Construction works
- Mock Up Curtain Wall works

- Pile Cap construction
- Bored Pile works and per-drill works
- Bridge construction 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 **32nd** monthly EM&A report presenting the monitoring results and inspection findings for the Reporting Period from **1** to **31 March 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 No noise complaint (which is an Action Level exceedance) was received and no construction noise measurement results that exceeded the Limit Level were recorded in the Reporting Period. No NOEs or the associated corrective actions were therefore issued.

11.1.4 For water quality monitoring, a total of forty-two (42) Action/ Limit Levels (AL/LL) exceedances, namely twenty-three (23) LL exceedances of turbidity and nineteen (19) AL/LL exceedances of Suspended Solids. 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, one (1) documented environmental complaint was received for Contract 2 regarding generation of fugitive dust when heavy dump truck travelling along in Sha Tau Kok Road on 8 March 2016. Investigation report for complaint had conducted by ET and submitted to relevant parties.

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.

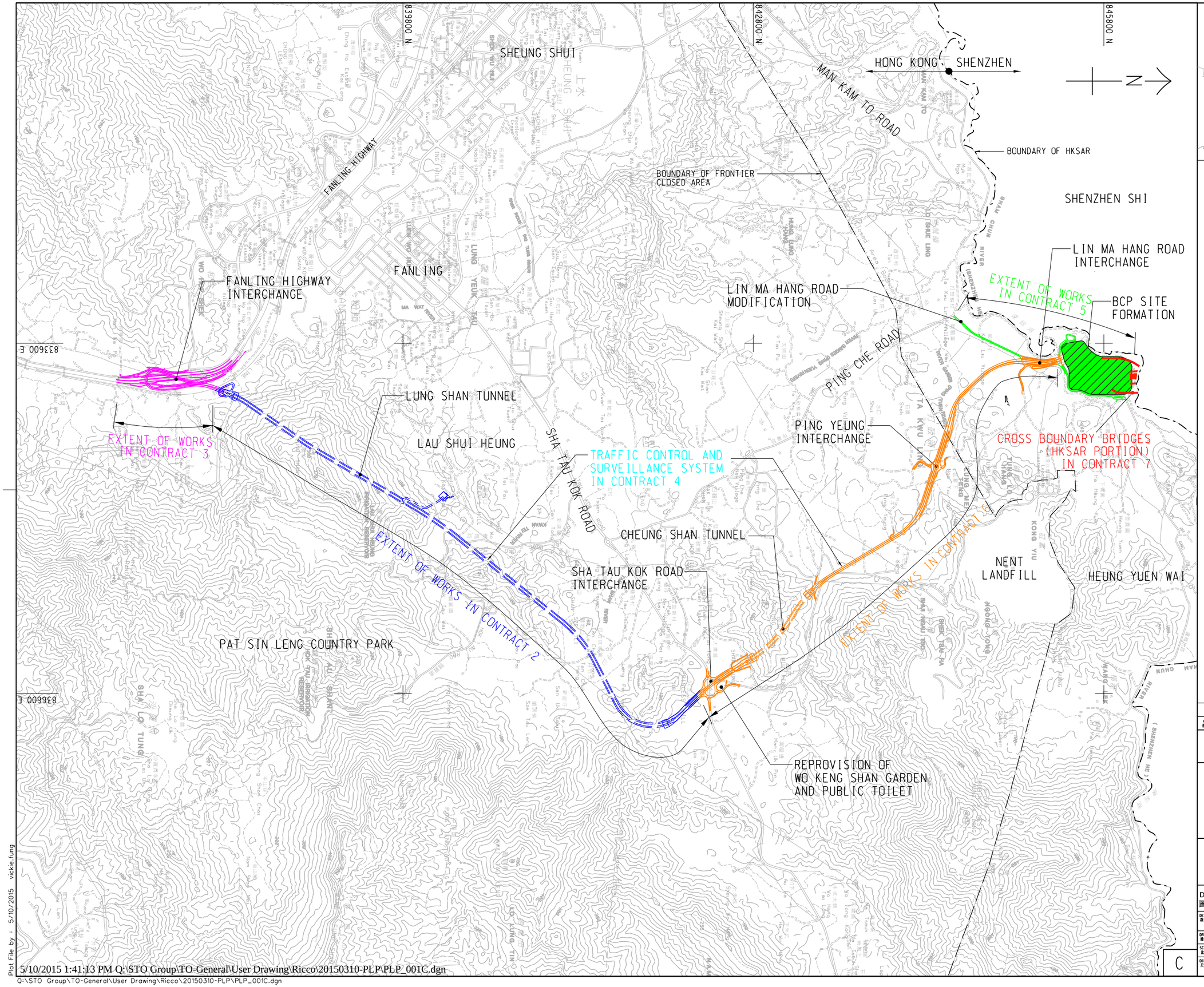
11.2.2 Construction noise would be a key environmental issue during construction work of the Project. Noise mitigation measures such as using quiet plants should be implemented in accordance with the EM&A requirement.

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	

C

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

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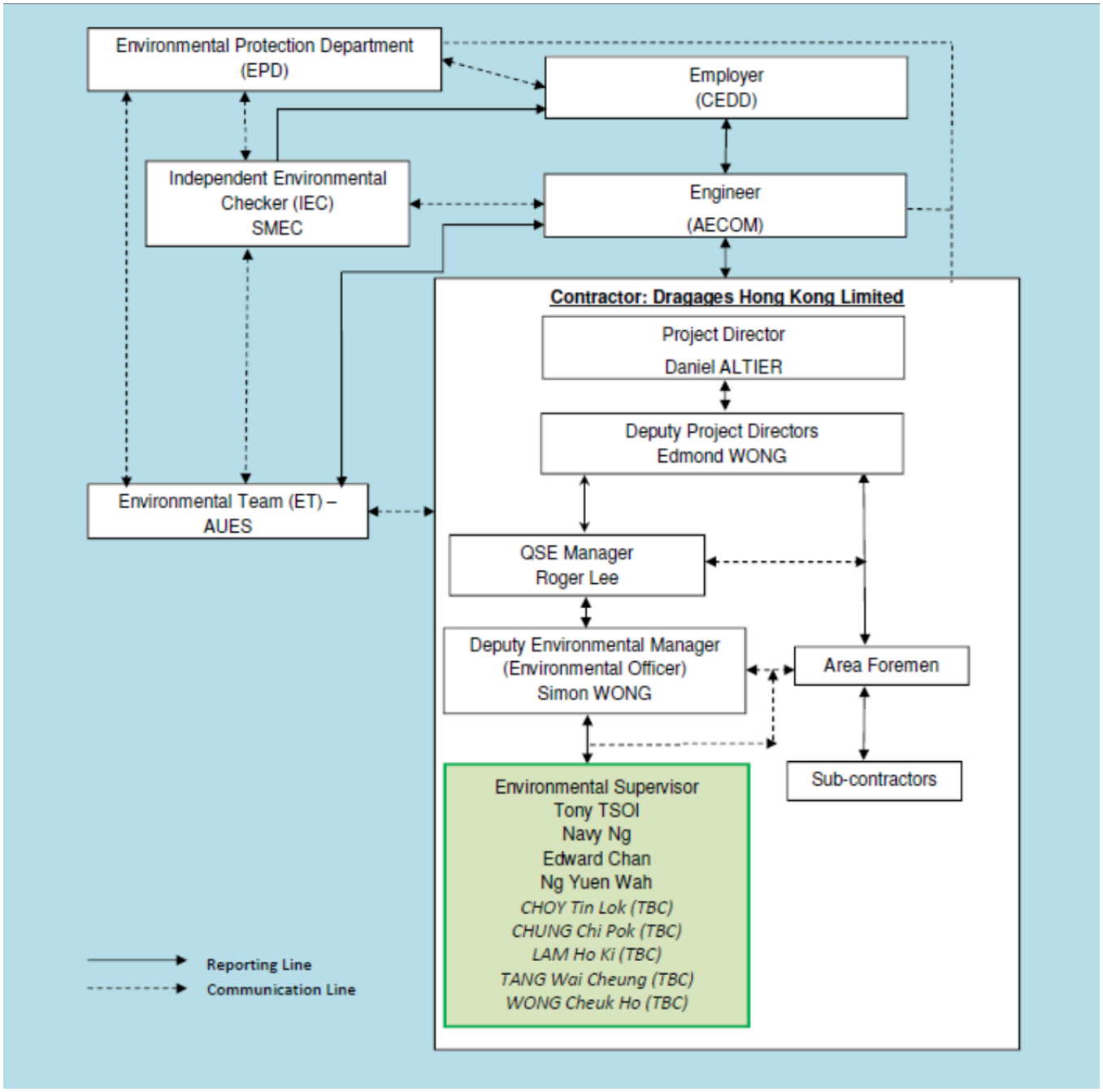
Appendix B

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:

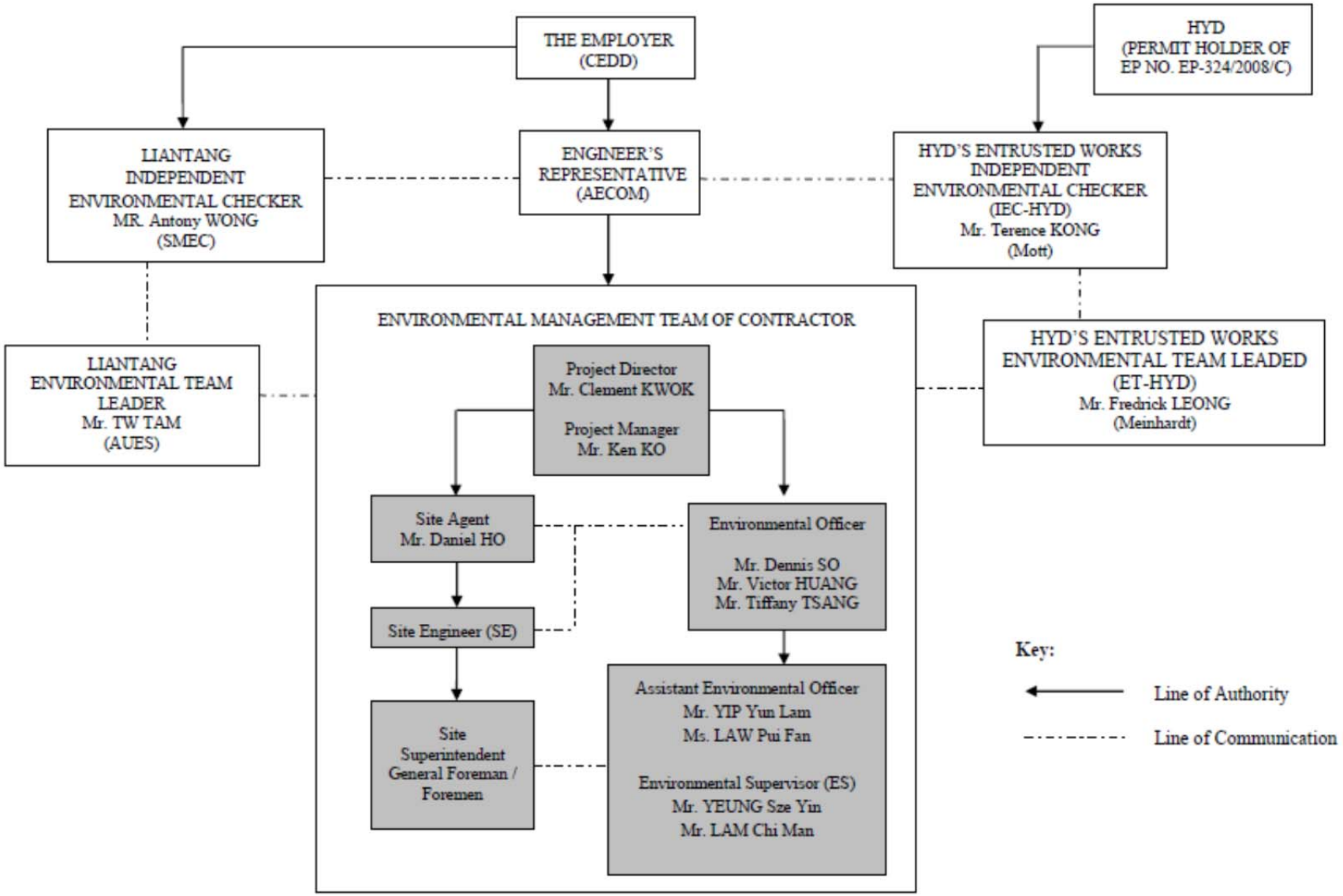
CEDD (Employer) – Civil Engineering and Development Department

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:

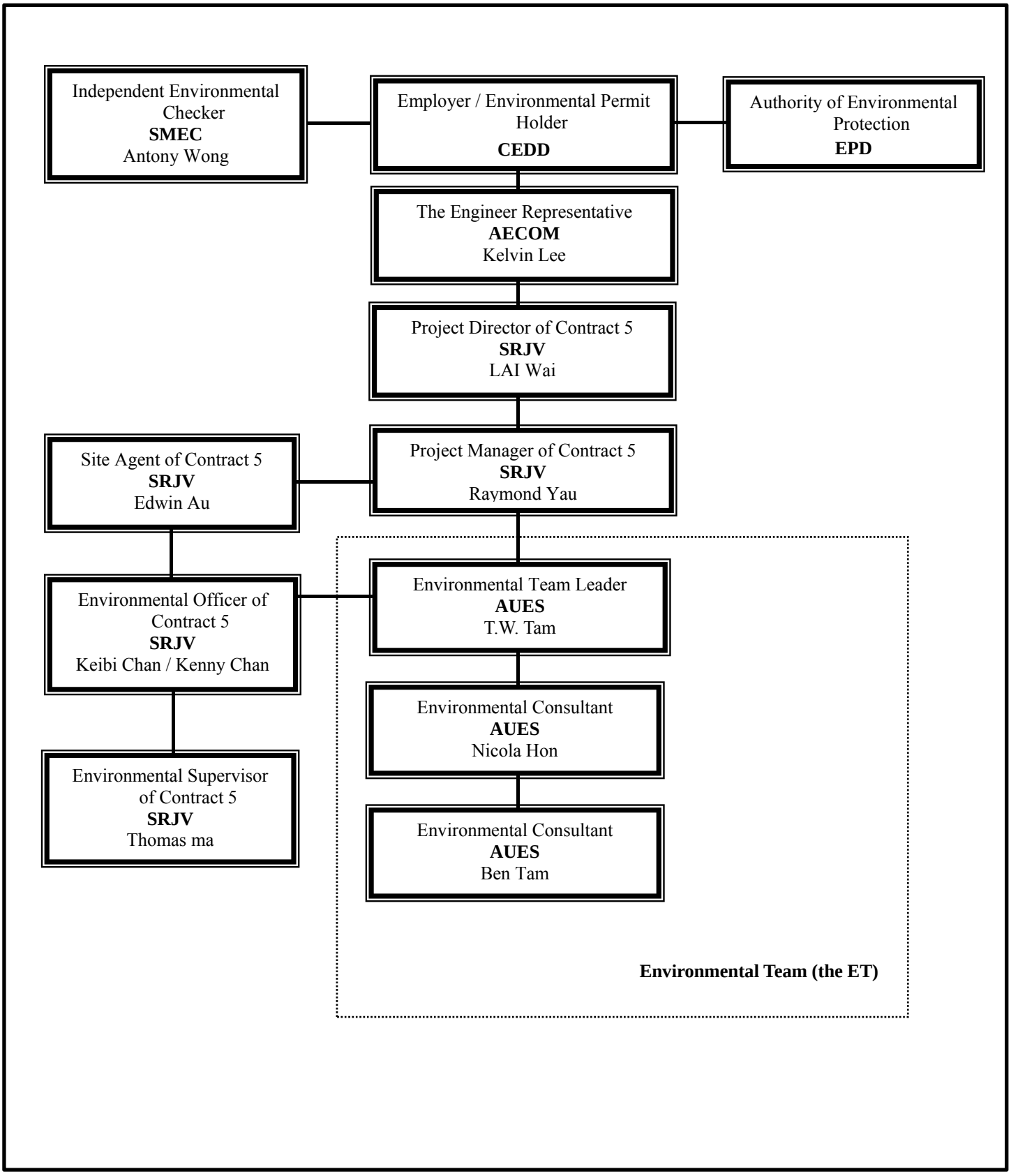
CEDD (Employer) – Civil Engineering and Development Department

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:

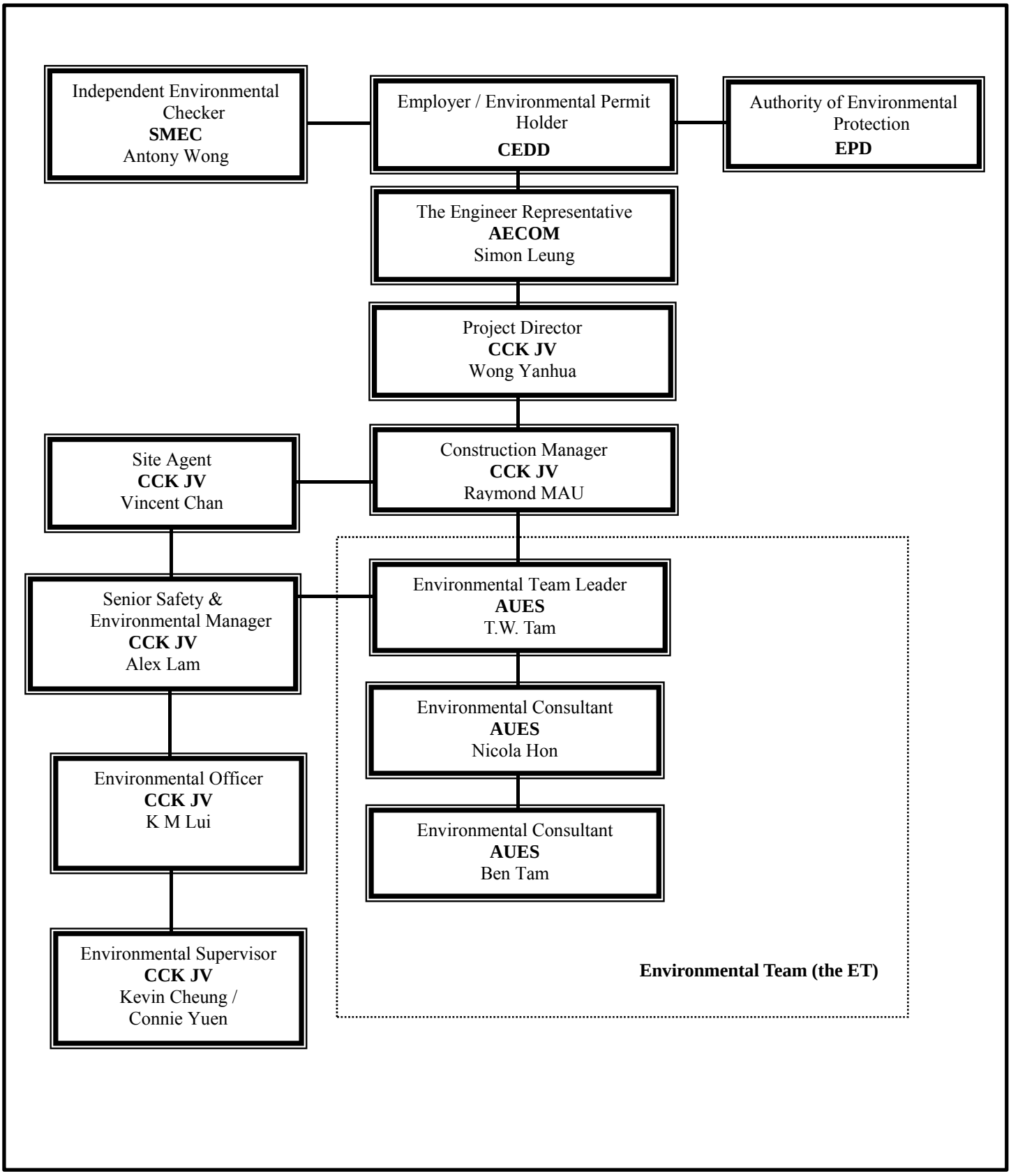
CEDD (Employer) – Civil Engineering and Development Department

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:

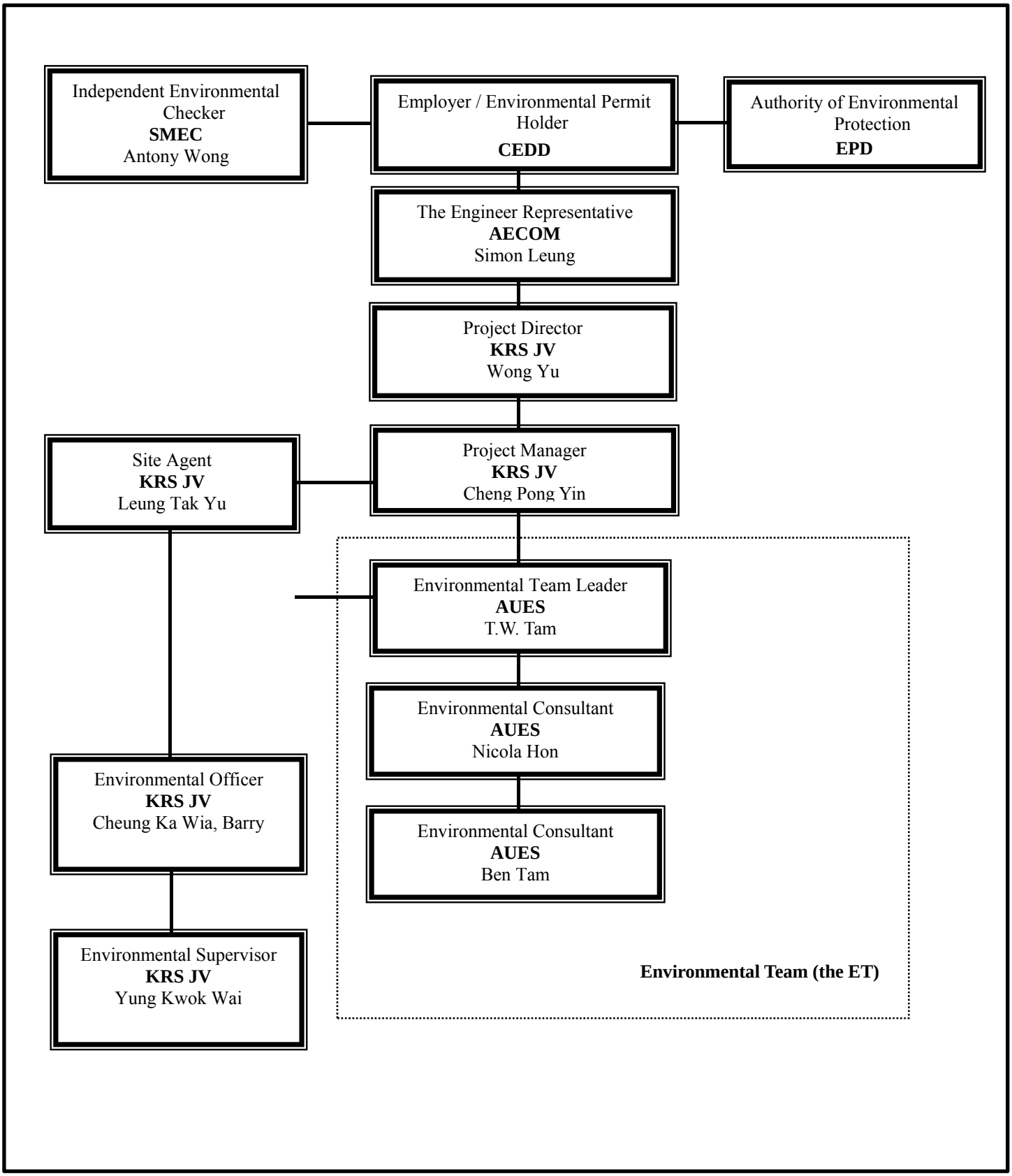
CEDD (Employer) – Civil Engineering and Development Department

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:

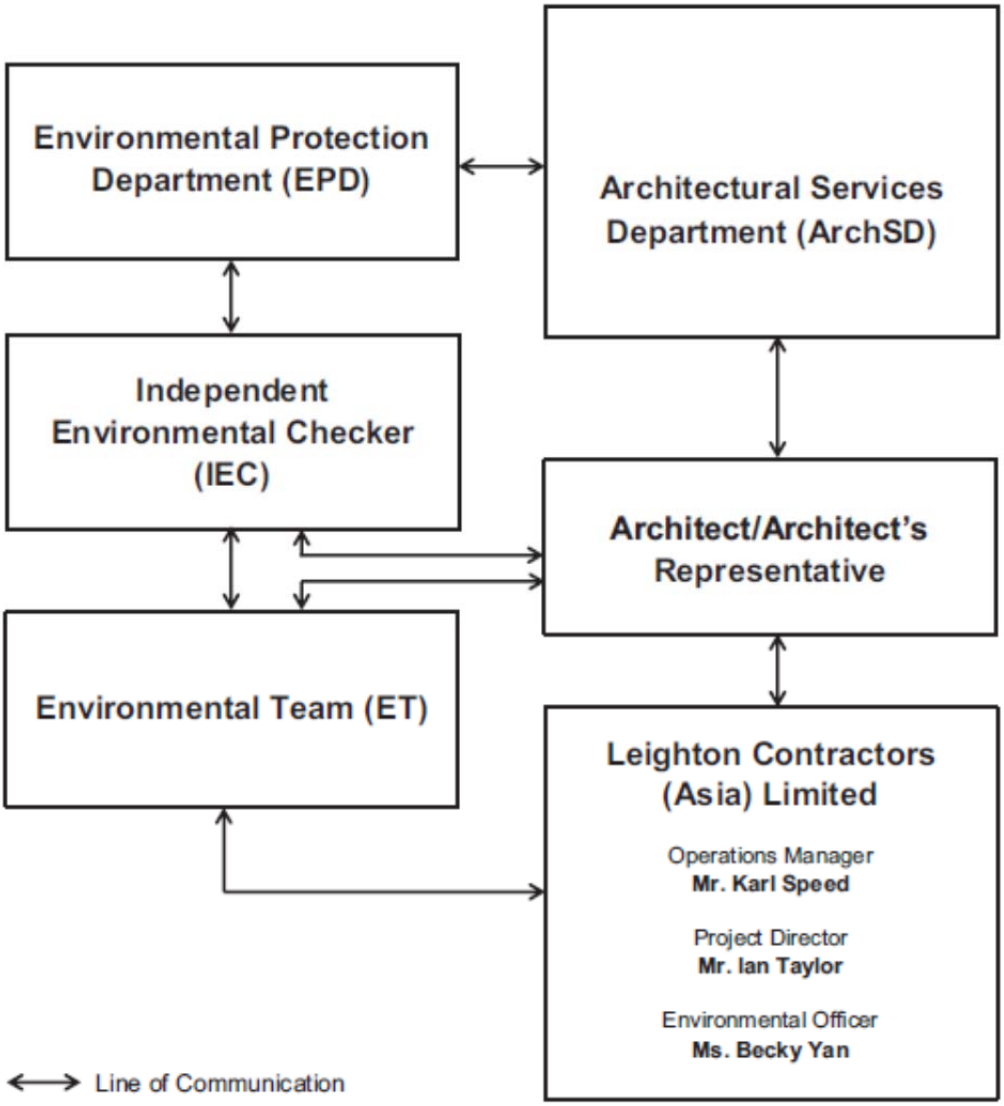
CEDD (Employer) – Civil Engineering and Development Department

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

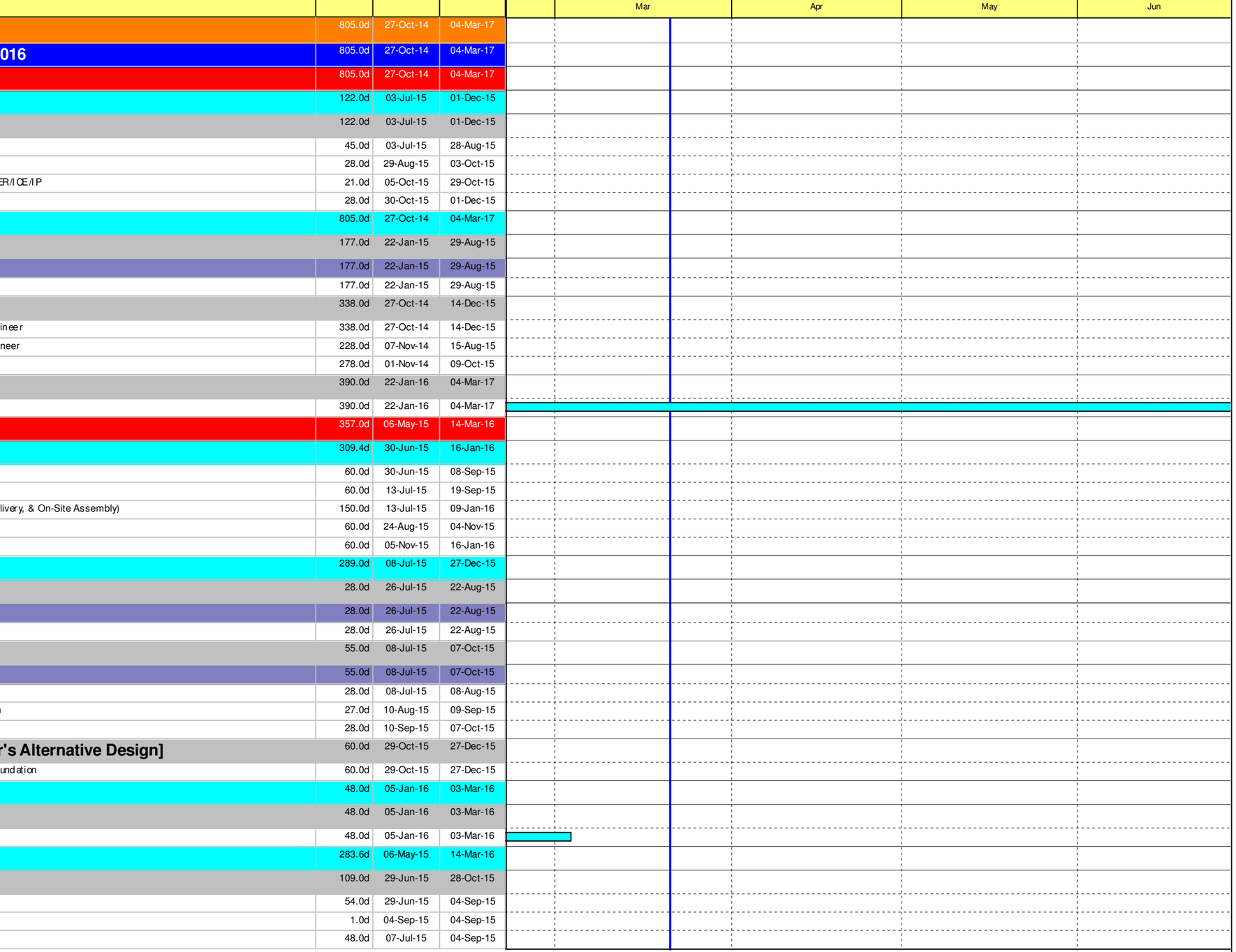
Appendix C

3-month rolling construction program

Contract 2

MPR25-D; HKLTH Works Programme update (Rev D) 19-March-2016; DHK_HKLTH_Works Programme new 3MRP; 23-Mar-16; 10:35

Activity ID	Activity Name	Working Duration	BL Project Start	BL Project Finish
Total		805.0d	27-Oct-14	04-Mar-17
HKLTH Works Programme update (Rev D) 19-March-2016		805.0d	27-Oct-14	04-Mar-17
2 General		805.0d	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		805.0d	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		357.0d	06-May-15	14-Mar-16
3.1 South Portal Subcontract & Procurement		309.4d	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		289.0d	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.27	20/03/2016	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.27 3-Months Rolling Programme (Approved Works Programme Rev. D)

DOCUMENT NO.		
LTH/DHK/PGR/PW/PLP/00124/A		
DOC. STATUS	CREATION DATE	REVISION
FOR INFO.	20-Mar-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		446.0d	05-Feb-15	02-Apr-16
4.1 Middle Portal Subcontract & Procurement		416.2d	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		410.0d	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		115.7d	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)		115.7d	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		343.0d	18-Jul-15	02-Apr-16
Adit Construction - Mid Portal		343.0d	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 (NNB) - towards North 150m	70.0d	12-Oct-15	02-Jan-16
MV2720	D&B DT Tunneling Ch3,433 to Ch3,561 (NSB) - towards North 128m	60.0d	23-Oct-15	02-Jan-16
MV2730	D&B UT Tunneling Ch3,413 to Ch3,313 (SNB) - towards South 100m	23.0d	04-Jan-16	29-Jan-16
MV2740	D&B DT Tunneling Ch3,410 to Ch3,313 (SSB) - 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.27	20/03/2016	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.27 3-Months Rolling Programme
(Approved Works Programme Rev. D)

DOCUMENT NO.
LTH/DHK/PGR/PW/PLP/00124/A

DOC. STATUS	CREATION DATE	REVISION
FOR INFO.	20-Mar-16	A

PAPER SIZE	SCALE	PAGE
A3	N/A	2 of 5

Activity ID	Activity Name	Working Duration	BL Project Start	BL Project Finish
5 North Portal Area		485.0d	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		335.9d	18-May-15	16-Nov-15
Bored Tunnel/ D&B Tunnel Transition - Headwall Structure (N/B & S/B)		82.0d	15-Jul-15	17-Oct-15
DDA Submission		82.0d	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		133.0d	20-Jul-15	24-Oct-15
DDA Submission		133.0d	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		335.9d	18-May-15	16-Nov-15
DDA Submission		335.9d	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		249.0d	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		152.2d	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		217.0d	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.27	20/03/2016	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.27 3-Months Rolling Programme (Approved Works Programme Rev. D)

DOCUMENT NO.		
LTH/DHK/PGR/PW/PLP/00124/A		
DOC. STATUS	CREATION DATE	REVISION
FOR INFO.	20-Mar-16	A
PAPER SIZE	SCALE	PAGE
A3	N/A	3 of 5

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		46.8d	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		42.0d	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		239.0d	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		239.0d	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		485.0d	21-Jan-15	06-May-16
North Portal: Site Formation		262.9d	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		271.0d	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)		247.0d	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)		311.0d	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		58.0d	03-Aug-15	05-Dec-15

REV	DESCRIPTION	DATE	PREPARED	CHECKED	APPROVED
A	Monthly Report No.27	20/03/2016	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

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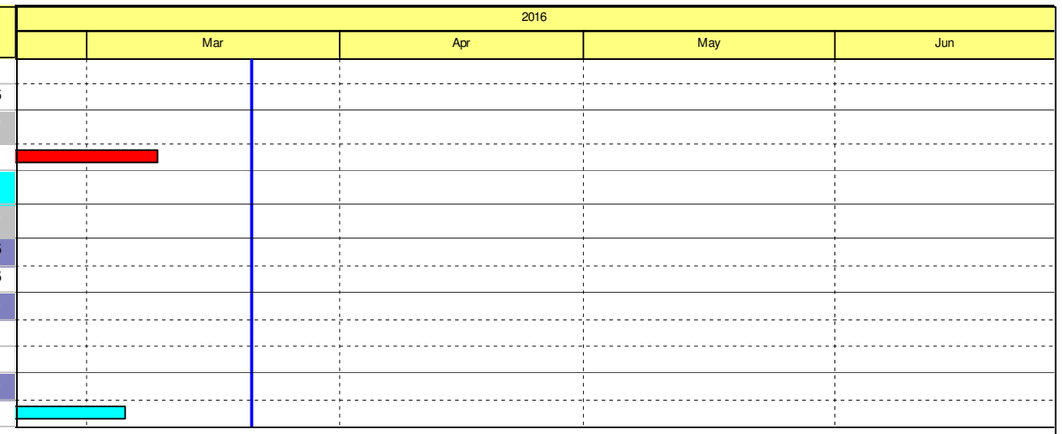
Activity ID	Activity Name	Working Duration	BL Project Start	BL Project Finish
N20930	*Retaining Wall & Site Formation (STK/RW1)	57.0d	03-Aug-15	13-Oct-15
N20940	Retaining Wall & Site Formation (STK/RW3)	45.0d	14-Oct-15	05-Dec-15
North Portal: Noise Barrier (NB5 to NB9)		51.0d	04-Jan-16	09-Mar-16
N20990	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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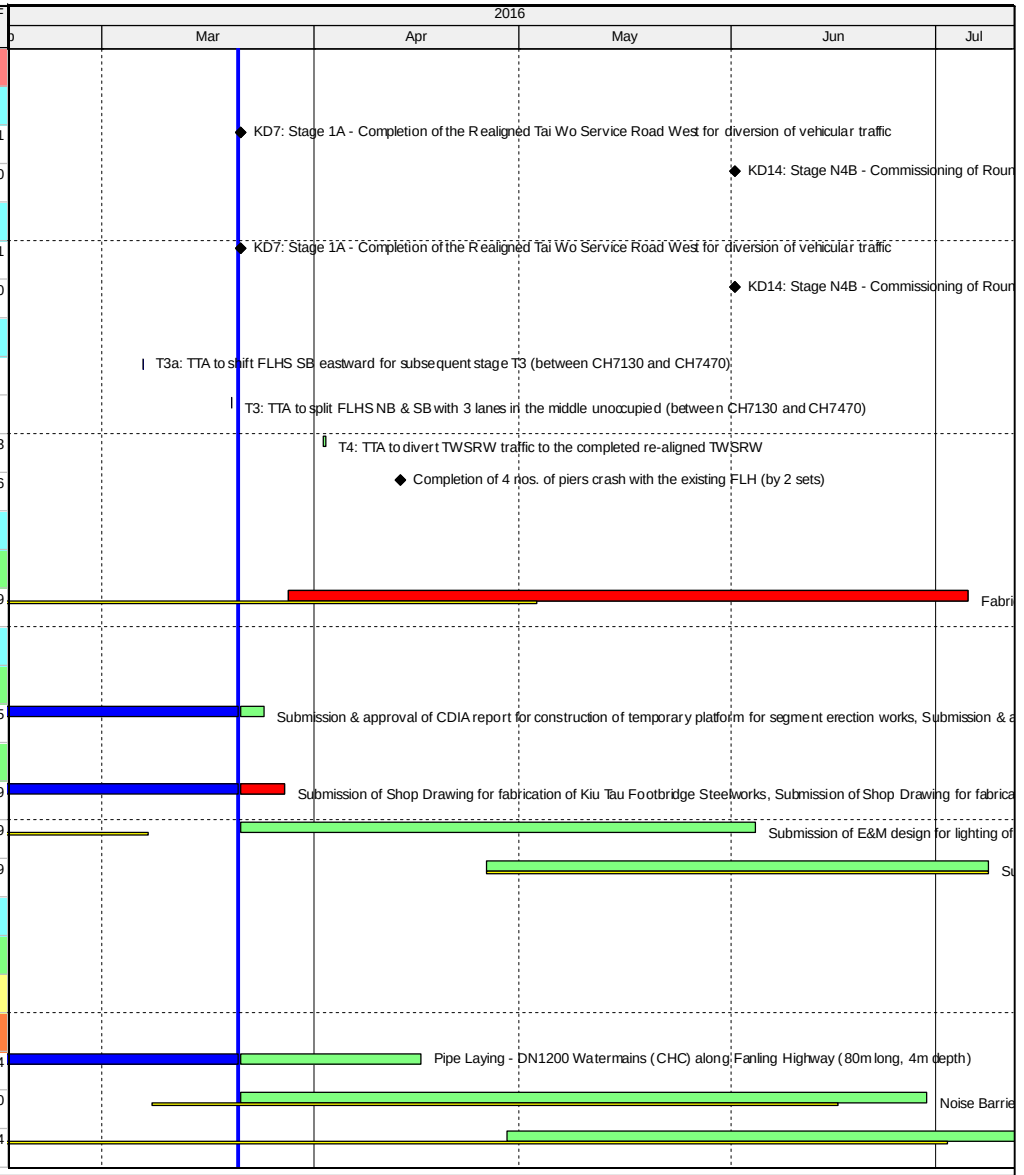
Contract 3

Activity ID	Activity Name	OD	RD	Start	Finish	TF
3-Month Rolling Programme 2016-03-21						
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-Mar-16*	-61
KD-1600	KD14: Stage N4B - Commissioning of Roundabout A by connecting to Slip Rd Y, Access Rd A & the realigned TWSRE	0	0		01-Jun-16*	0
Key Dates (Forecast)						
KD-1105	KD7: Stage 1A - Completion of the Realigned Tai Wo Service Road West for diversion of vehicular traffic	0	0		21-Mar-16	-61
KD-1605	KD14: Stage N4B - Commissioning of Roundabout A by connecting to Slip Rd Y, Access Rd A & the realigned TWSRE	0	0		01-Jun-16	0
Major Milestones and Events						
MS-2000C1	T3a: TTA to shift FLHS SB eastward for subsequent stage T3 (between CH7130 and CH7470)	1	0	07-Mar-16 A	07-Mar-16 A	
MS-2000C	T3: TTA to split FLHS NB & SB with 3 lanes in the middle unoccupied (between CH7130 and CH7470)	1	0	20-Mar-16 A	20-Mar-16 A	
MS-2000D	T4: TTA to divert TWSRW traffic to the completed re-aligned TWSRW	1	1	02-Apr-16	02-Apr-16	3
MS-0200	Completion of 4 nos. of piers crash with the existing FLH (by 2 sets)	0	0		13-Apr-16	216
Major Procurement & Delivery						
Footbridge Steel Truss						
MM-3050	Fabrication of footbridge steel truss (Kiu Tau Footbridge)	100	100	28-Mar-16	05-Jul-16	-9
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	24-Mar-16	125
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-Mar-16	-9
PRE-2030	Submission of E&M design for lighting of Kiu Tau Footbridge	60	60	21-Mar-16	04-Jun-16	59
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	16-Apr-16	24
FHW-1300	Noise Barrier NB68 - Mini-Piling at central median (CSD: 24 nos)	80	80	21-Mar-16	29-Jun-16	0
FHW-1140	Noise Barrier NB70 - Footing adjacent to SB lane (15m)	115	115	29-Apr-16	14-Sep-16	14



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

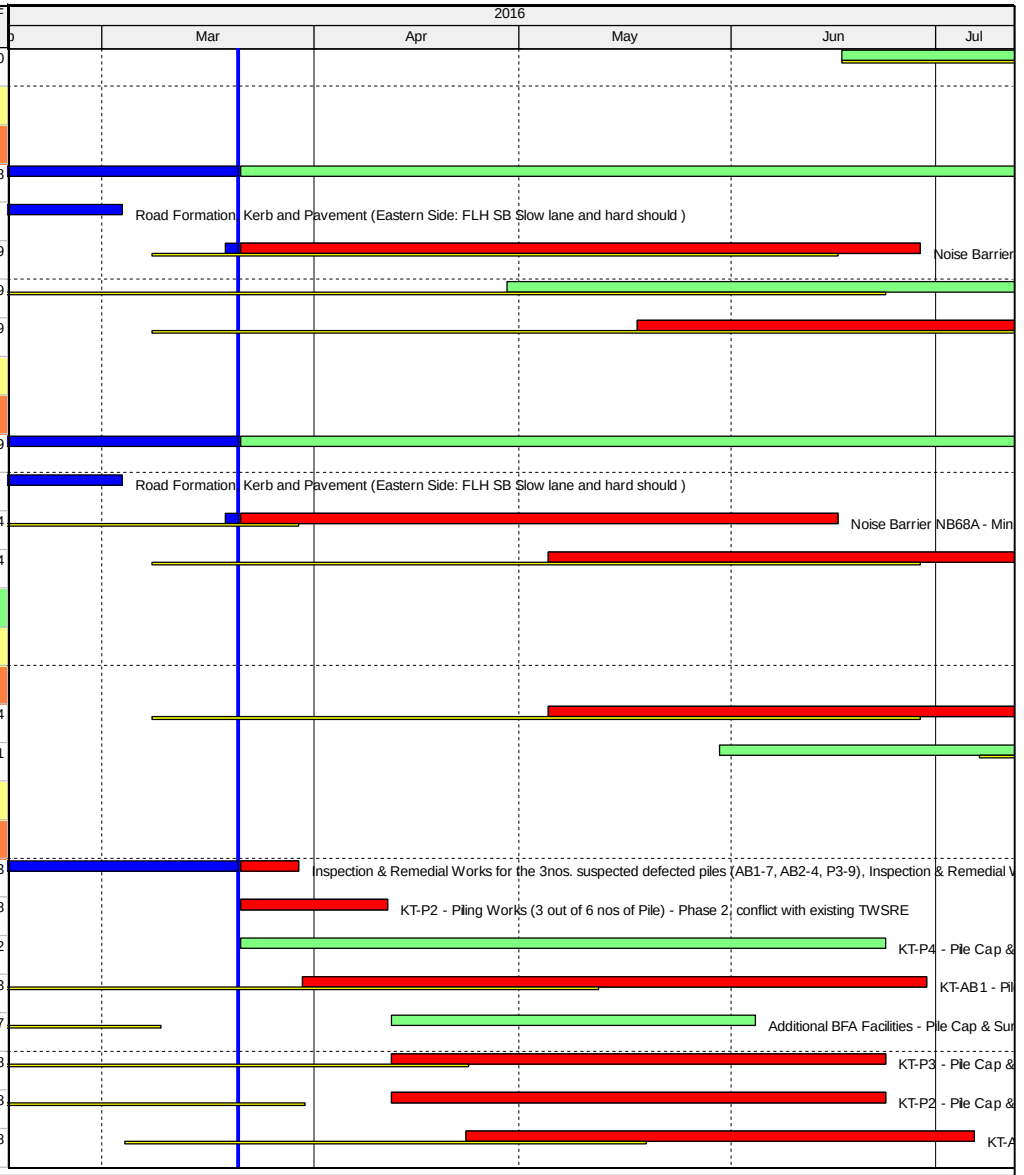
Actual Work
Remaining Work
Summary Bar
Critical Remaining Work
Milestone
Actual Level of Effort
Project Baseline Bar

CEDD Contract No. CV/2012/09
Liantang / Heung Yuen Wai BCP - Site Formation & Infrastructure Works, Contract 3
3-Month Rolling Programme
Programme ID: 3MPR032 (Data Date: 21-Mar-16)

3-Month Rolling Programme updated to 2016-03-20

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

Activity ID	Activity Name	OD	RD	Start	Finish	TF
FHW-1310	Noise Barrier NB68 - Footing at central median (72m)	73	73	17-Jun-16	10-Sep-16	0
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	316	12-Oct-15 A	20-Apr-17	198
FHW-2140	Road Formation, Kerb and Pavement (Eastern Side: FLH SB Slow lane and hard should)	61	0	14-Oct-15 A	04-Mar-16 A	
FHW-2300	Noise Barrier NB68 - Mini-Piling at central median (CSD: 22 nos)	80	79	19-Mar-16 A	28-Jun-16	-39
FHW-2190	Footpath & DSD Access Track adjacent to SB lane	108	108	29-Apr-16	06-Sep-16	109
FHW-2310	Noise Barrier NB68A - Footing at central median (157m)	130	130	18-May-16	21-Oct-16	-39
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	316	07-Jun-14 A	20-Apr-17	39
FHW-3160	Road Formation, Kerb and Pavement (Eastern Side: FLH SB Slow lane and hard should)	63	0	05-Oct-15 A	04-Mar-16 A	
FHW-3300	Noise Barrier NB68A - Mini-Piling at central median (CSD: 20 nos)	70	69	19-Mar-16 A	16-Jun-16	-34
FHW-3310	Noise Barrier NB68A - Footing at central median (98m)	90	90	05-May-16	20-Aug-16	-34
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	05-May-16	20-Aug-16	-34
FHW-4100	Noise Barrier NB71 & NB72 - Footing adjacent to SB lane (90m)	115	115	30-May-16	15-Oct-16	41
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	5	20-Nov-15 A	29-Mar-16	-3
FHW-5000C2	KT-P2 - Piling Works (3 out of 6 nos of Pile) - Phase 2, conflict with existing TWSRE	15	15	21-Mar-16	11-Apr-16	-8
FHW-5010E	KT-P4 - Pile Cap & Pier	75	75	21-Mar-16	23-Jun-16	2
FHW-5010A	KT-AB1 - Pile Cap & Abutment	75	75	30-Mar-16	29-Jun-16	-3
FHW-5090	Additional BFA Facilities - Pile Cap & Sump Pit, to be covered by VO	45	45	12-Apr-16	04-Jun-16	17
FHW-5010D	KT-P3 - Pile Cap & Pier	60	60	12-Apr-16	23-Jun-16	-8
FHW-5010C	KT-P2 - Pile Cap & Pier	60	60	12-Apr-16	23-Jun-16	-8
FHW-5010B	KT-AB2 - Pile Cap & Abutment	60	60	23-Apr-16	06-Jul-16	-8



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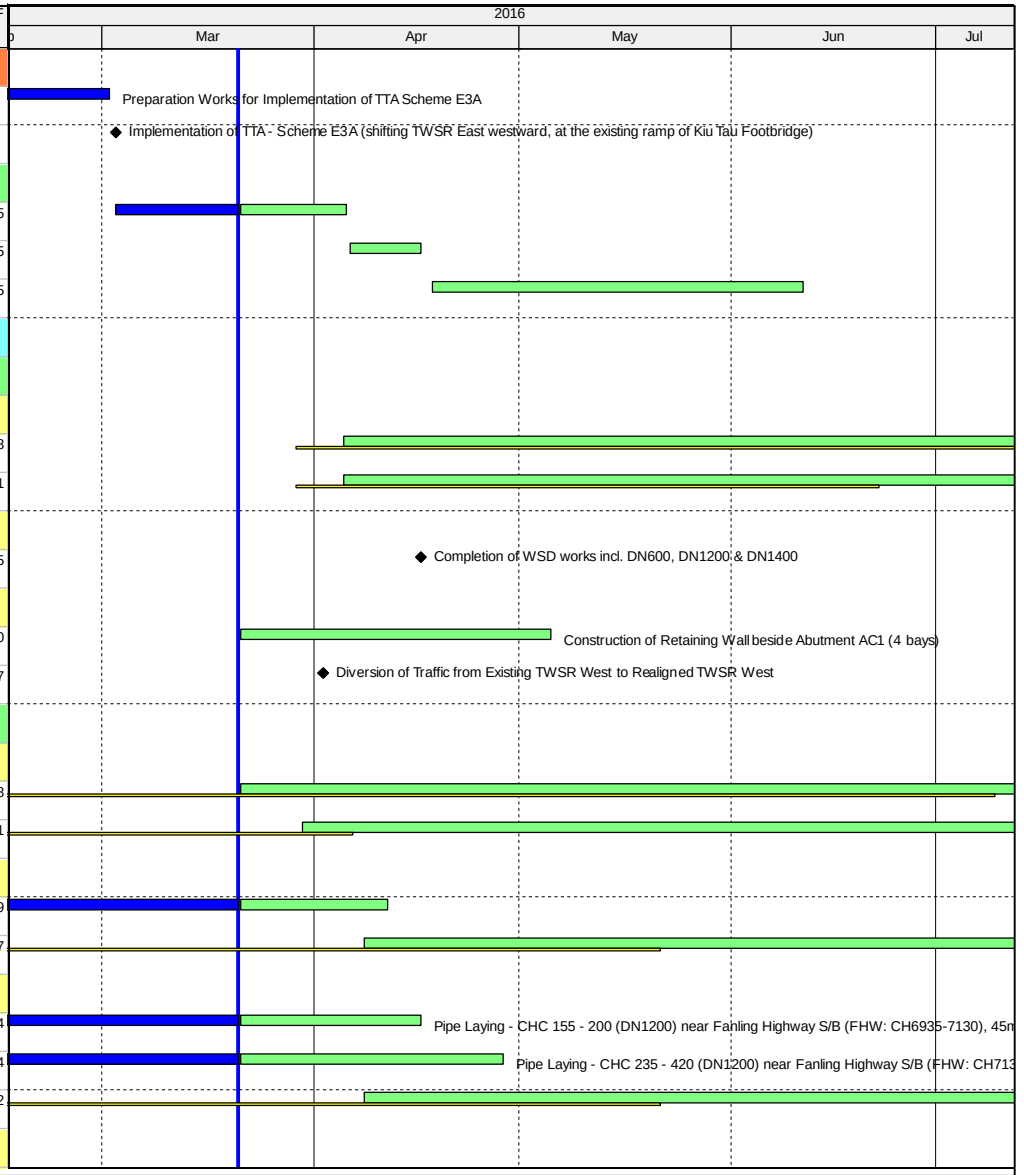
CEDD Contract No. CV/2012/09
Liantang / Heung Yuen Wai BCP - Site Formation & Infrastructure Works, Contract 3
3-Month Rolling Programme
Programme ID: 3MPR032 (Data Date: 21-Mar-16)
Page 2 of 9

3-Month Rolling Programme updated to 2016-03-20

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

Activity ID	Activity Name	OD	RD	Start	Finish	TF
	At-Grade Road Works (130m)					
FHW-5120C	Preparation Works for Implementation of TTA Scheme E3A	30	0	07-Nov-15 A	02-Mar-16 A	
FHW-5120D	Implementation of TTA - Scheme E3A (shifting TWSR East westward, at the existing ramp of Kiu Tau Footbridge)	0	0	03-Mar-16 A		
	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	10	03-Mar-16 A	05-Apr-16	485
FHW-NB-130	Noise Barrier Steelworks & Panel for NB7 (60m), adjacent to Fanling Highway SB lanes at Zone 1	10	10	06-Apr-16	16-Apr-16	485
FHW-NB-140	Noise Barrier Steelworks & Panel for NB71 (254m), adjacent to Fanling Highway SB lanes at Zones 2,3 & 4	45	45	18-Apr-16	11-Jun-16	485
	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	05-Apr-16	28-Jul-16	8
FHI-LR1-1010	Noise Barrier NB67 - Mini-Piling (42nos) (Assume 2 sets of plant)	160	160	05-Apr-16	15-Oct-16	1
	Link Road 3 (near Abutment AD1)					
FHI-LR3-3000	Completion of WSD works incl. DN600, DN1200 & DN1400	0	0		16-Apr-16	395
	Link Road 4 (near Abutment AC1)					
FHI-LR4-4030	Construction of Retaining Wall beside Abutment AC1 (4 bays)	35	35	21-Mar-16	05-May-16	380
FHI-LR4-4000	Diversion of Traffic from Existing TWSR West to Realigned TWSR West	0	0	02-Apr-16		407
	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	21-Mar-16*	19-Sep-16	18
WA-1060	Pipe Laying - CHA 450 - 575 (DN450) near Realigned TWSR West (Re-TWSRW: CH640 - 695), 125m long & 2m depth	95	95	30-Mar-16	23-Jul-16	171
	DN600 Water Mains (CHB)					
WB-1060	Pipe Laying - CHB 538 - 635 (DN600) near Realigned TWSR East (TWSRE: CH270-380), 97m long & GL	40	15	17-Jul-15 A	11-Apr-16	499
WB-1030C	Pipe Laying - CHB 350 - 450 (DN600) from Portal AB7/AD9/AC12 to Portal AB8	85	85	08-Apr-16	20-Jul-16	417
	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	16-Apr-16	24
WC-1060	Pipe Laying - CHC 235 - 420 (DN1200) near Fanling Highway S/B (FHW: CH7130-7290), 185m long (common trench with NB)	95	30	12-Oct-15 A	28-Apr-16	14
WC-1090C	Pipe Laying - CHC 615 - 720 (DN1200) from Portal AB7/AD9/AC12 to Portal AB8	85	85	08-Apr-16	20-Jul-16	102
	Twin DN1400 Water Mains (CHE & CHG)					



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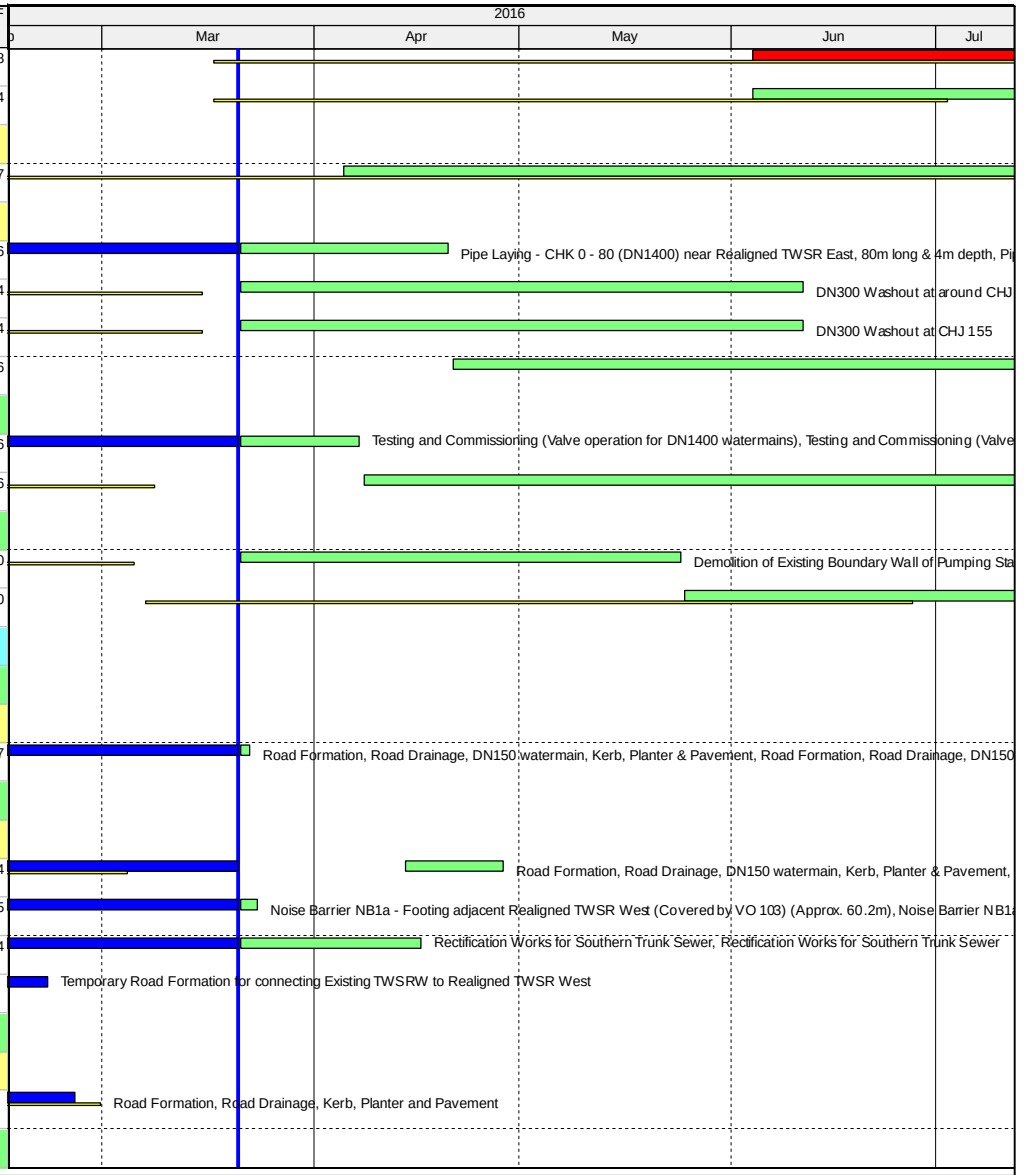
WE-1060	Pipe Laying - CHE & CHG (Twins DN1400) from Portal AB8 to new connection point	110	110	04-Jun-16	15-Oct-16	-28
WE-1050	Pipe Laying - CHE & CHG (Twins DN1400) from Portal AB7/AD9/AC12 to Portal AB8	85	85	04-Jun-16	13-Sep-16	4
DN2200 Water Mains (CHF)						
WF-1000A	Pipe Laying - CHF 80 - 112 (DN2200) near ext. TWSR West underneath Box Culvert BC01	210	210	05-Apr-16	13-Dec-16	87
DN2300 Water Mains and Leakage Collection System (CHJ & CHKA/CHK)						
WJ-1020A	Pipe Laying - CHK 0 - 80 (DN1400) near Realigned TWSR East, 80m long & 4m depth	55	23	05-Oct-15 A	20-Apr-16	86
WJ-1100	DN300 Washout at around CHJ 268	65	65	21-Mar-16	11-Jun-16*	144
WJ-1110	DN300 Washout at CHJ 155	65	65	21-Mar-16	11-Jun-16*	144
WJ-1020B	Pipe Laying - CHKA 0 - 73 (DN1400) near Realigned TWSR East, 73m long & 4m depth	90	90	21-Apr-16	08-Aug-16	86
Kau Lung Hang Valve Control & Telemetry House Reprovision						
VCTH-1020c	Testing and Commissioning (Valve operation for DN1400 watermains)	30	12	10-Oct-15 A	07-Apr-16	116
VCTH-1030	Demolition of Existing KLH Valve Control & Telemetry House	90	90	08-Apr-16*	26-Jul-16	116
Existing Nam Wa Po Trunk Sewage Pumping Station (PST3)						
PS-1000	Demolition of Existing Boundary Wall of Pumping Station (PST3)	50	50	21-Mar-16*	24-May-16	410
PS-1010	Construction of New Boundary Wall for Pumping Station (PST3)	90	90	25-May-16	08-Sep-16	410
Stage 1A - Realignment of Tai Wo Service Road West (KD-7)						
TWSRW Zone 1 betweeen CH100 and CH155						
At-Grade Roadworks						
TWSRW-1160	Road Formation, Road Drainage, DN150 watermain, Kerb, Planter & Pavement	286	2	15-Nov-14 A	22-Mar-16	7
TWSRW Zone 2 betweeen CH155 and CH280						
At-Grade Roadworks						
TWSRW-2120	Road Formation, Road Drainage, DN150 watermain, Kerb, Planter & Pavement	165	13	16-Oct-14 A	28-Apr-16	24
TWSRW-2130	Noise Barrier NB1a - Footing adjacent Realigned TWSR West (Covered by VO 103) (Approx. 60.2m)	85	3	14-Sep-15 A	23-Mar-16	45
TWSRW-2140	Rectification Works for Southern Trunk Sewer	48	20	30-Oct-15 A	16-Apr-16	24
TWSRW-2120A	Temporary Road Formation for connecting Existing TWSRW to Realigned TWSR West	18	0	22-Jan-16 A	22-Feb-16 A	
TWSRW Zone 3 betweeen CH280 and CH315						
At-Grade Roadworks						
TWSRW-3120	Road Formation, Road Drainage, Kerb, Planter and Pavement	181	0	22-Jun-15 A	26-Feb-16 A	
TWSRW Zone 4 betweeen CH315 and CH376						



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

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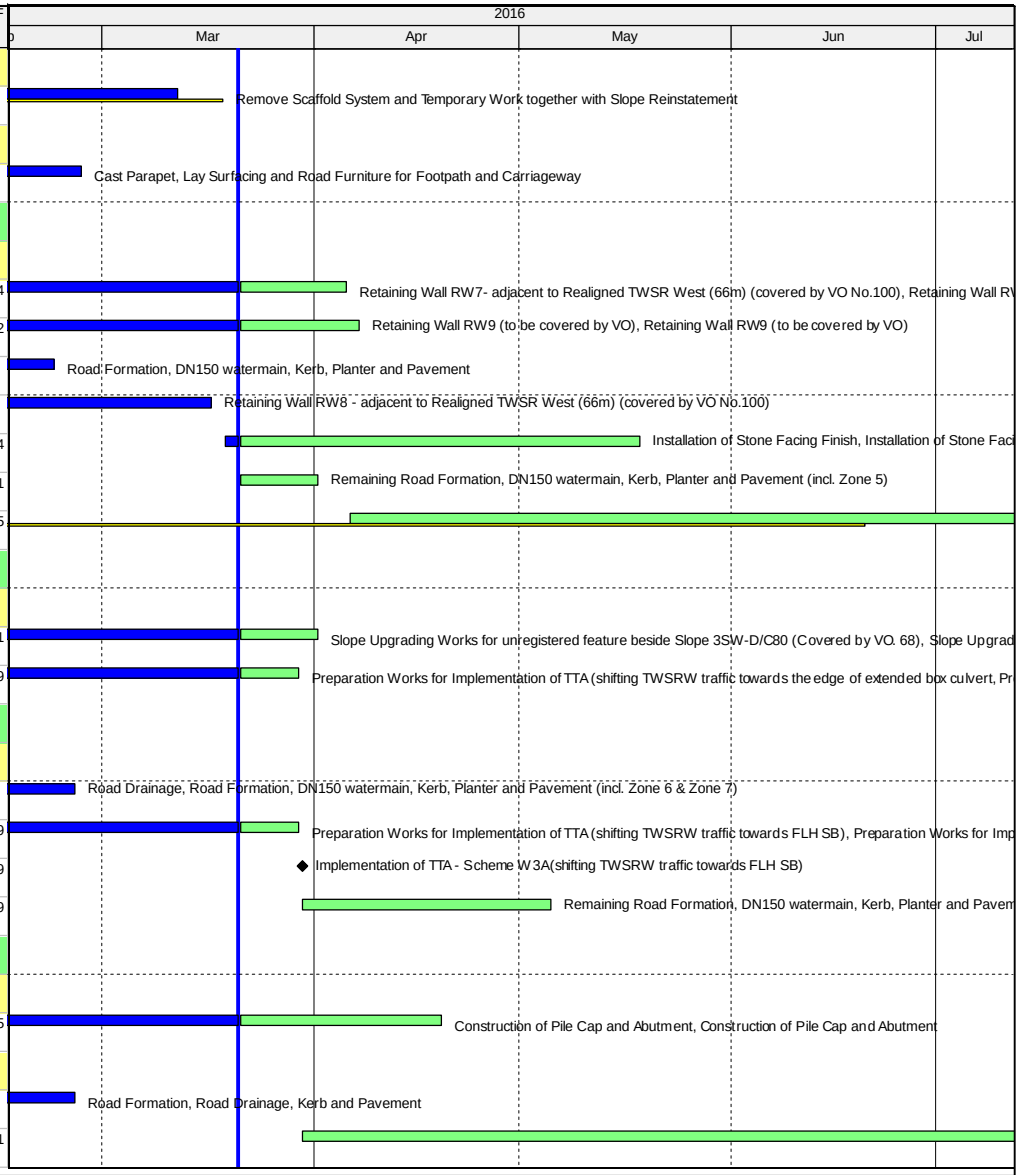
Activity ID	Activity Name	OD	RD	Start	Finish	TF
	Construction of Bridge E					
TWSRW-4100	Remove Scaffold System and Temporary Work together with Slope Reinstatement	75	0	21-Dec-15 A	12-Mar-16 A	
	At-Grade Roadworks					
TWSRW-4200	Cast Parapet, Lay Surfacing and Road Furniture for Footpath and Carriageway	35	0	12-Dec-15 A	27-Feb-16 A	
	TWSRW Zone 5 betweeen CH376 and CH520					
	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	05-Apr-16	24
TWSRW-5110	Retaining Wall RW9 (to be covered by VO)	45	12	05-Jan-16 A	07-Apr-16	2
TWSRW-5110A	Road Formation, DN150 watermain, Kerb, Planter and Pavement	19	0	21-Jan-16 A	23-Feb-16 A	
TWSRW-5100A	Retaining Wall RW8 - adjacent to Realigned TWSR West (66m) (covered by VO No.100)	50	0	29-Jan-16 A	17-Mar-16 A	
TWSRW-5130	Installation of Stone Facing Finish	45	45	19-Mar-16 A	18-May-16	274
TWSRW-5140	Remaining Road Formation, DN150 watermain, Kerb, Planter and Pavement (incl. Zone 5)	8	8	21-Mar-16	01-Apr-16	1
TWSRW-5120	Permanent Vehicular Access to Lot 81	125	125	06-Apr-16	02-Sep-16	115
	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	8	22-May-15 A	01-Apr-16	1
TWSRW-6100	Preparation Works for Implementation of TTA (shifting TWSRW traffic towards the edge of extended box culvert	21	5	24-Dec-15 A	29-Mar-16	19
	TWSRW Zone 7 betweeen CH530 and CH640					
	At-Grade Roadworks					
TWSRW-7150A	Road Drainage, Road Formation, DN150 watermain, Kerb, Planter and Pavement (incl. Zone 6 & Zone 7)	49	0	21-Dec-15 A	26-Feb-16 A	
TWSRW-7100	Preparation Works for Implementation of TTA (shifting TWSRW traffic towards FLH SB)	21	5	22-Dec-15 A	29-Mar-16	19
TWSRW-7110	Implementation of TTA - Scheme W3A(shifting TWSRW traffic towards FLH SB)	0	0	30-Mar-16		19
TWSRW-7150B	Remaining Road Formation, DN150 watermain, Kerb, Planter and Pavement (incl. Zone 6 & Zone 7)	30	30	30-Mar-16	05-May-16	19
	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	19-Apr-16	55
	At-Grade Roadworks					
TWSRW-8120	Road Formation, Road Drainage, Kerb and Pavement	22	0	21-Dec-15 A	26-Feb-16 A	
TWSRW-8110*	Pipe Laying - DN450 Watermains (CHA)	95	95	30-Mar-16	23-Jul-16	171



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	Remainder of the Works					
TWSRW-9030	Utilities Diversion in Area 3 (along existing TWSRW, Approx. 150m) (by utilities undertakers)	106	106	03-Apr-16	17-Jul-16	178
	Remaining Works for Noise Barrier along realigned TWSR West					
TWSRW-NB-110	Noise Barrier Steelworks & Panel for NB4 at Zones 1 & 2	20	20	21-Mar-16*	16-Apr-16	4
TWSRW-NB-130	Noise Barrier Steelworks & Panel for NB1b at Zone 4	10	10	18-Apr-16	28-Apr-16	4
TWSRW-NB-140	Noise Barrier Steelworks & Panel for NB2 at Zone 5	20	20	29-Apr-16	24-May-16	4
	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	21-Apr-16	08-Aug-16	86
TWSRE-1170	Remainig Noise Barrier NB3 Stem Wall (a total of 24m long)	30	30	20-May-16	24-Jun-16	218
	TWSRE Zone 2 between CH270 and CH380					
	At-Grade Roadworks					
TWSRE-2030A*	Pipe laying - DN600 & DN1200 Watermains (CHB & CHC) along Realigned TWSR East	30	256	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	20-Apr-16	86
TWSRE-2040	Road Formation, Kerb, Footpath, Cycle Track, Planter and Pavement	71	71	21-Apr-16	16-Jul-16	200
TWSRE-2060	Erection of Scaffolding for Demolition Works	60	60	16-Jun-16	25-Aug-16	0
	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	21-Mar-16	11-Oct-16	129
	Roundabout A, Slip Road and Access Road					
TWSRE-4070	Roundabout A - Road Formation, Kerb, Planter and Pavement	90	17	26-Oct-15 A	13-Apr-16	40
TWSRE-4110	Preparation Works for Implementation of TTA Scheme E1A (to shift TWSRE to Roundabout A)	30	0	26-Oct-15 A	19-Mar-16 A	
TWSRE-4020	Slip Road Y (CH260-CH404) - Road Formation, Road Drainage, Kerb, Planter and Pavement	108	57	28-Dec-15 A	01-Jun-16	0
TWSRE-4120	Implementation of TTA - Scheme E1A (to shift TWSRE to Roundabout A)	0	0	21-Mar-16 A		
TWSRE-4030B	Slip Road Y (CH100-CH230) - Road Formation, Remaining Road Drainage, Kerb, Planter and Pavement	120	120	21-Mar-16	16-Aug-16	54
	Stage 1C - Viaduct Structure & TCSS Civil Provisions (KD-9)					
	Preliminaries					
B-3050	Relocation of Plant including Pre-drilling Works	21	10	08-Mar-16 A	05-Apr-16	11

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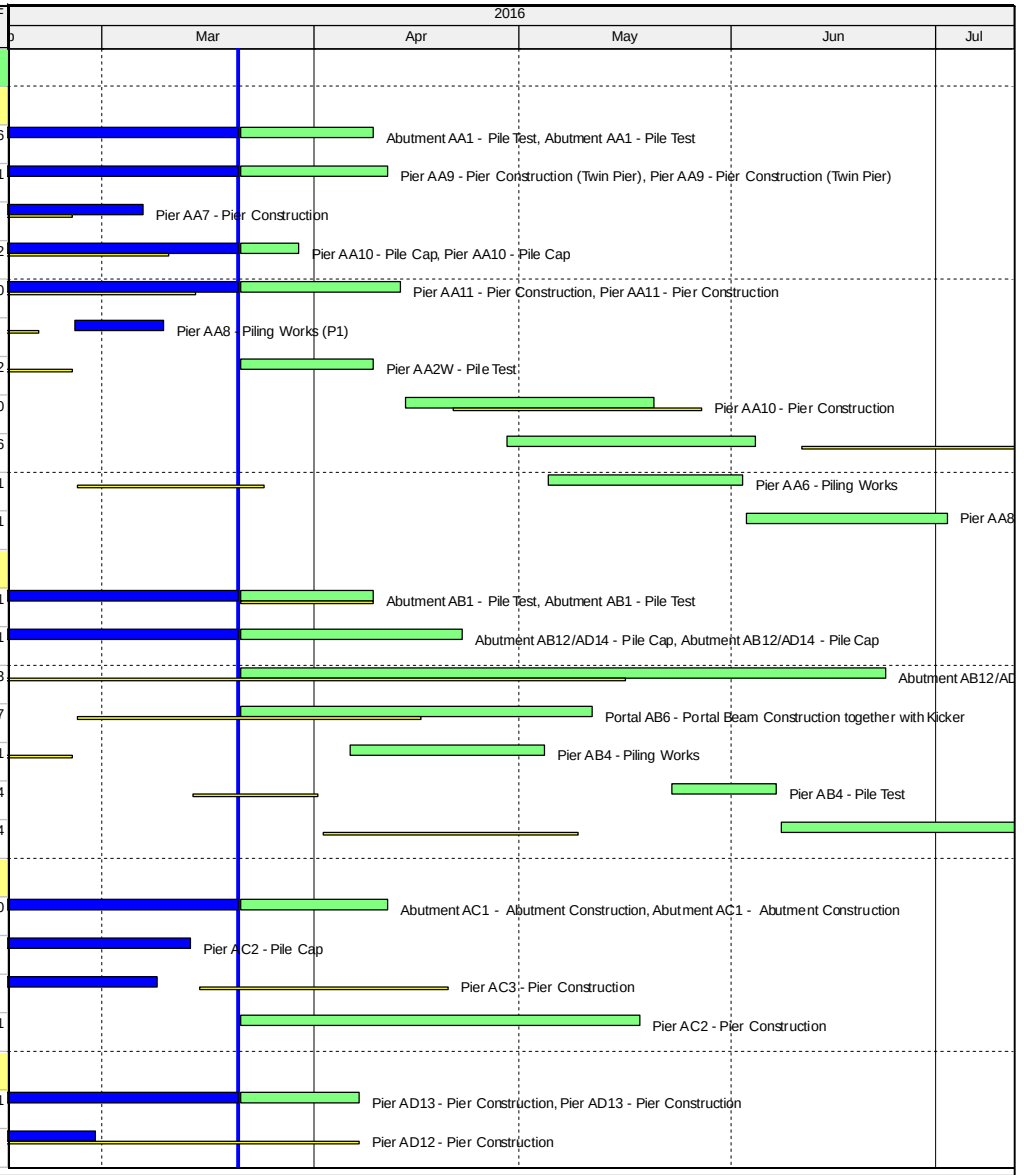
	Foundation & Pier Construction					
	Bridge A					
BA-01-1010	Abutment AA1 - Pile Test	14	14	06-May-15 A	09-Apr-16	166
BA-09-1030	Pier AA9 - Pier Construction (Twin Pier)	49	15	07-Nov-15 A	11-Apr-16	21
BA-07-1030	Pier AA7 - Pier Construction	28	0	31-Dec-15 A	07-Mar-16 A	
BA-10-1020	Pier AA10 - Pile Cap	30	5	18-Jan-16 A	29-Mar-16	22
BA-11-1030	Pier AA11 - Pier Construction	35	17	25-Jan-16 A	13-Apr-16	10
BA-08-1000	Pier AA8 - Piling Works (P1)	12	0	26-Feb-16 A	10-Mar-16 A	
BA-02-1010	Pier AA2W - Pile Test	14	14	21-Mar-16	09-Apr-16	52
BA-10-1030	Pier AA10 - Pier Construction	30	30	14-Apr-16	20-May-16	10
BA-02-1020B	Pier AA2W - Pile Cap	30	30	29-Apr-16	04-Jun-16	36
BA-06-1000	Pier AA6 - Piling Works	24	24	05-May-16	02-Jun-16	11
BA-08-1040	Pier AA8 - Piling Works (P2,P3)	24	24	03-Jun-16	02-Jul-16	11
	Bridge B					
BB-01-1010	Abutment AB1 - Pile Test	14	14	18-Aug-15 A	09-Apr-16	201
BB-12-1020	Abutment AB12/AD14 - Pile Cap	65	25	28-Oct-15 A	22-Apr-16	991
BB-12-1030	Abutment AB12/AD14 - Abutment Construction	75	75	21-Mar-16	23-Jun-16	133
BB-06-1050	Portal AB6 - Portal Beam Construction together with Kicker	40	40	21-Mar-16	11-May-16	17
BB-04-1000	Pier AB4 - Piling Works	24	24	06-Apr-16	04-May-16	11
BB-04-1010	Pier AB4 - Pile Test	14	14	23-May-16	07-Jun-16	34
BB-04-1020	Pier AB4 - Pile Cap	30	30	08-Jun-16	14-Jul-16	34
	Bridge C					
BC-01-1030	Abutment AC1 - Abutment Construction	50	15	16-Dec-15 A	11-Apr-16	220
BC-02-1020	Pier AC2 - Pile Cap	27	0	18-Jan-16 A	14-Mar-16 A	
BC-03-1030	Pier AC3 - Pier Construction	28	0	26-Jan-16 A	09-Mar-16 A	
BC-02-1030	Pier AC2 - Pier Construction	45	45	21-Mar-16	18-May-16	41
	Bridge D					
BD-13-1030	Pier AD13 - Pier Construction	45	12	03-Dec-15 A	07-Apr-16	41
BD-12-1030	Pier AD12 - Pier Construction	45	0	09-Dec-15 A	29-Feb-16 A	



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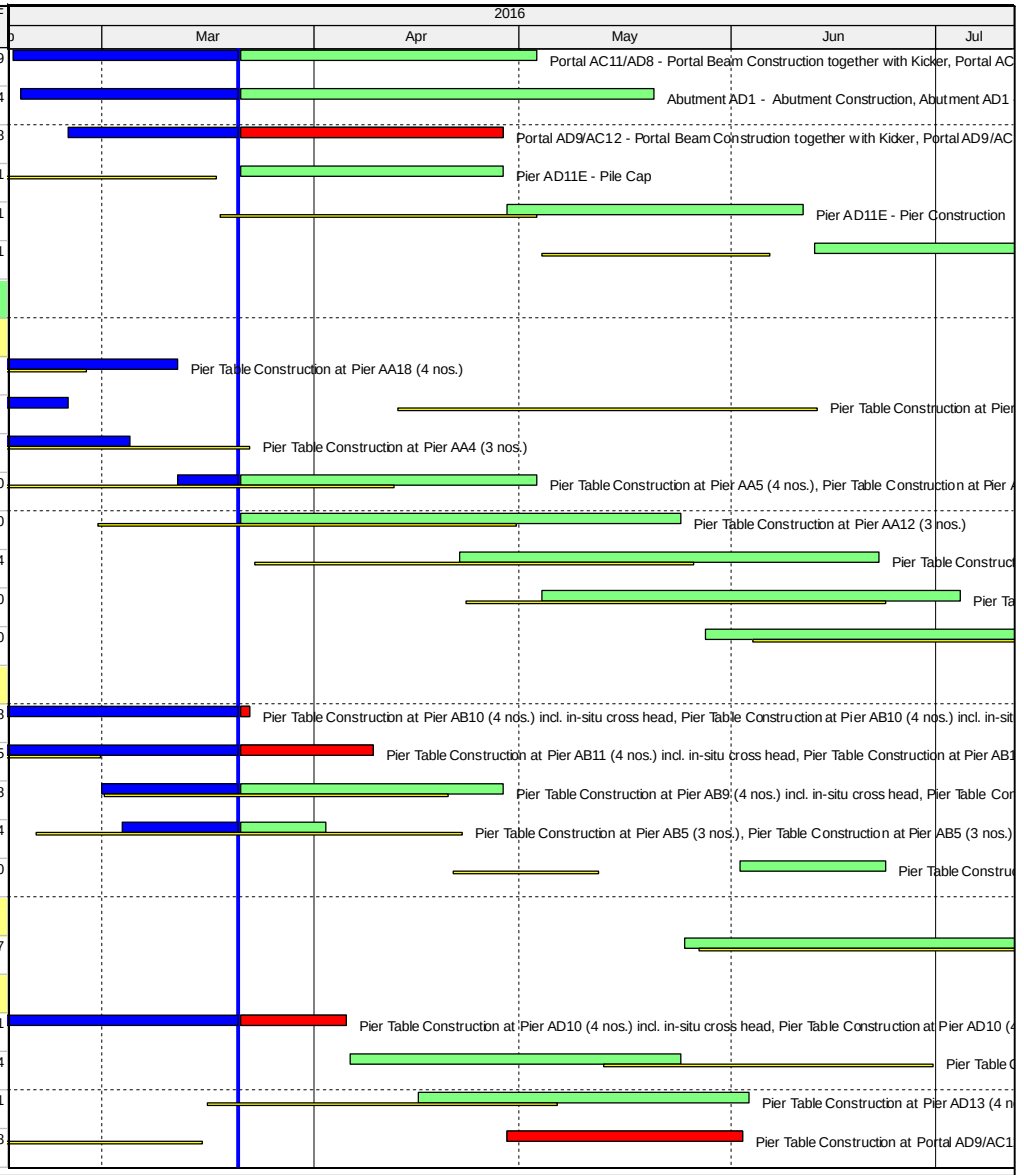
BD-08-1040	Portal AC11/AD8 - Portal Beam Construction together with Kicker	40	33	17-Feb-16 A	03-May-16	9
BD-01-1030	Abutment AD1 - Abutment Construction	50	47	18-Feb-16 A	20-May-16	174
BD-09-1040	Portal AD9/AC12 - Portal Beam Construction together with Kicker	40	30	25-Feb-16 A	28-Apr-16	-28
BD-11-1020A	Pier AD11E - Pile Cap	30	30	21-Mar-16	28-Apr-16	1
BD-11-1030	Pier AD11E - Pier Construction	35	35	29-Apr-16	11-Jun-16	1
BD-03-2030	Pier AD3E - Pier Construction	28	28	13-Jun-16	15-Jul-16	1
Pier Table Construction						
Bridge A						
PA-1180	Pier Table Construction at Pier AA18 (4 nos.)	50	0	14-Dec-15 A	12-Mar-16 A	
PA-1030	Pier Table Construction at Pier AA3 (3 nos.)	50	0	19-Jan-16 A	25-Feb-16 A	
PA-1040	Pier Table Construction at Pier AA4 (3 nos.)	50	0	25-Jan-16 A	05-Mar-16 A	
PA-1050	Pier Table Construction at Pier AA5 (4 nos.)	50	33	12-Mar-16 A	03-May-16	0
PA-1120	Pier Table Construction at Pier AA12 (3 nos.)	50	50	21-Mar-16*	24-May-16	0
PA-1110	Pier Table Construction at Pier AA11 (3 nos.)	50	50	22-Apr-16	22-Jun-16	24
PA-1090	Pier Table Construction at Pier AA9 (4 nos.)	50	50	04-May-16	04-Jul-16	10
PA-1100	Pier Table Construction at Pier AA10 (3 nos.)	50	50	28-May-16	27-Jul-16	10
Bridge B						
PB-1100	Pier Table Construction at Pier AB10 (4 nos.) incl. in-situ cross head	50	2	21-Sep-15 A	22-Mar-16*	-88
PB-1110	Pier Table Construction at Pier AB11 (4 nos.) incl. in-situ cross head	42	14	24-Dec-15 A	09-Apr-16	-25
PB-1090	Pier Table Construction at Pier AB9 (4 nos.) incl. in-situ cross head	40	30	01-Mar-16 A	28-Apr-16	218
PB-1050	Pier Table Construction at Pier AB5 (3 nos.)	50	9	04-Mar-16 A	02-Apr-16	14
PB-1060	Pier Table Construction at Portal AB6 (2 nos.)	18	18	02-Jun-16	23-Jun-16	0
Bridge C						
PC-1040	Pier Table Construction at Pier AC4 (3 nos.)	50	50	25-May-16	23-Jul-16	47
Bridge D						
PD-1100	Pier Table Construction at Pier AD10 (4 nos.) incl. in-situ cross head	40	10	06-Oct-15 A	05-Apr-16	-11
PD-1120	Pier Table Construction at Pier AD12 (4 nos.) incl. in-situ cross head	40	40	06-Apr-16	24-May-16	44
PD-1130	Pier Table Construction at Pier AD13 (4 nos.) incl. in-situ cross head	40	40	16-Apr-16	03-Jun-16	41
PD-1090	Pier Table Construction at Portal AD9/AC12 (4 nos.)	28	28	29-Apr-16	02-Jun-16	-28



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PD-1080	Pier Table Construction at Portal AC11/AD8 (4 nos.)	20	20	04-May-16	27-May-16	9
Viaduct Bridge Segement Erection						
Bridge A						
EA-1030	Bridge Deck Construction at Pier AA3 by Typical Lifting Frame (16 nos + 1 no. key segment)	10	0	04-Mar-16 A	18-Mar-16 A	
EA-1040	Bridge Deck Construction at Pier AA4 by Typical Lifting Frame (16 nos + 1 no. key segment)	10	10	21-Mar-16	05-Apr-16	5
EA-1050	Bridge Deck Construction at Pier AA5 by Typical Lifting Frame (12 nos + 1 no. key segment)	10	10	09-May-16	20-May-16	0
EA-1180	Bridge Deck Construction at Pier AA18 by Typical Lifting Frame (24 nos + 2 no. key segment)	15	15	21-May-16	07-Jun-16	0
Bridge B						
EB-1070	Bridge Deck Construction at Pier AB7 by Crane (26 nos + 2 no. key segment)	20	12	29-Feb-16 A	07-Apr-16	19
EB-1100	Bridge Deck Construction at Pier AB10 by Special Lifting Frame (54 nos in which 12 nos above MTRCL Railway)	72	72	23-Mar-16	22-Jun-16	-88
EB-1050	Bridge Deck Construction at Pier AB5 by Typical Lifting Frame (16 nos + 1 no. key segment)	10	10	20-Apr-16	30-Apr-16	5
EB-1090	Bridge Deck Construction at Pier AB9 by Crane (36 nos + 2 no. key segment)	16	16	29-Apr-16	19-May-16	218
Bridge C						
EC-1050	Bridge Deck Construction at Pier AC5 by Typical Lifting Frame (20 nos + 2 no. key segment + 3 no. of AC6)	12	12	06-Apr-16	19-Apr-16	5
Bridge D						
ED-1070	Bridge Deck Construction at Pier AD7 by Typical Lifting Frame (26 nos + 1 no. key segment)	15	0	29-Jan-16 A	25-Feb-16 A	
ED-1100	Bridge Deck Construction at Portal AD10 by Crane (52 nos)	32	32	06-Apr-16	13-May-16	-11
ED-1090	Bridge Deck Construction at Portal AD9 by Crane (14 nos + 4 no. key segment)	15	15	03-Jun-16	21-Jun-16	-28
ED-1130	Bridge Deck Construction at Pier AD13 by Crane (6 nos)	44	44	04-Jun-16	27-Jul-16	41
ED-1080	Bridge Deck Construction at Portal (AC11 & AD8) by Typical Lifting Frame (12 nos + 2 no. key segment)	13	13	08-Jun-16	23-Jun-16	0
Section VI - Works in Portion FH9 (KD-6A)						
Major Works						
S6-2000*	Construction of Abutment AB12/AD14 (including Piling, Pile Cap & Abutment construction)	276	75	06-Feb-15 A	23-Jun-16	133
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	05-Apr-16	26-Aug-16	305
S3-1020	Transplanting near MTR East Rail Line	240	240	21-May-16	13-Mar-17	147

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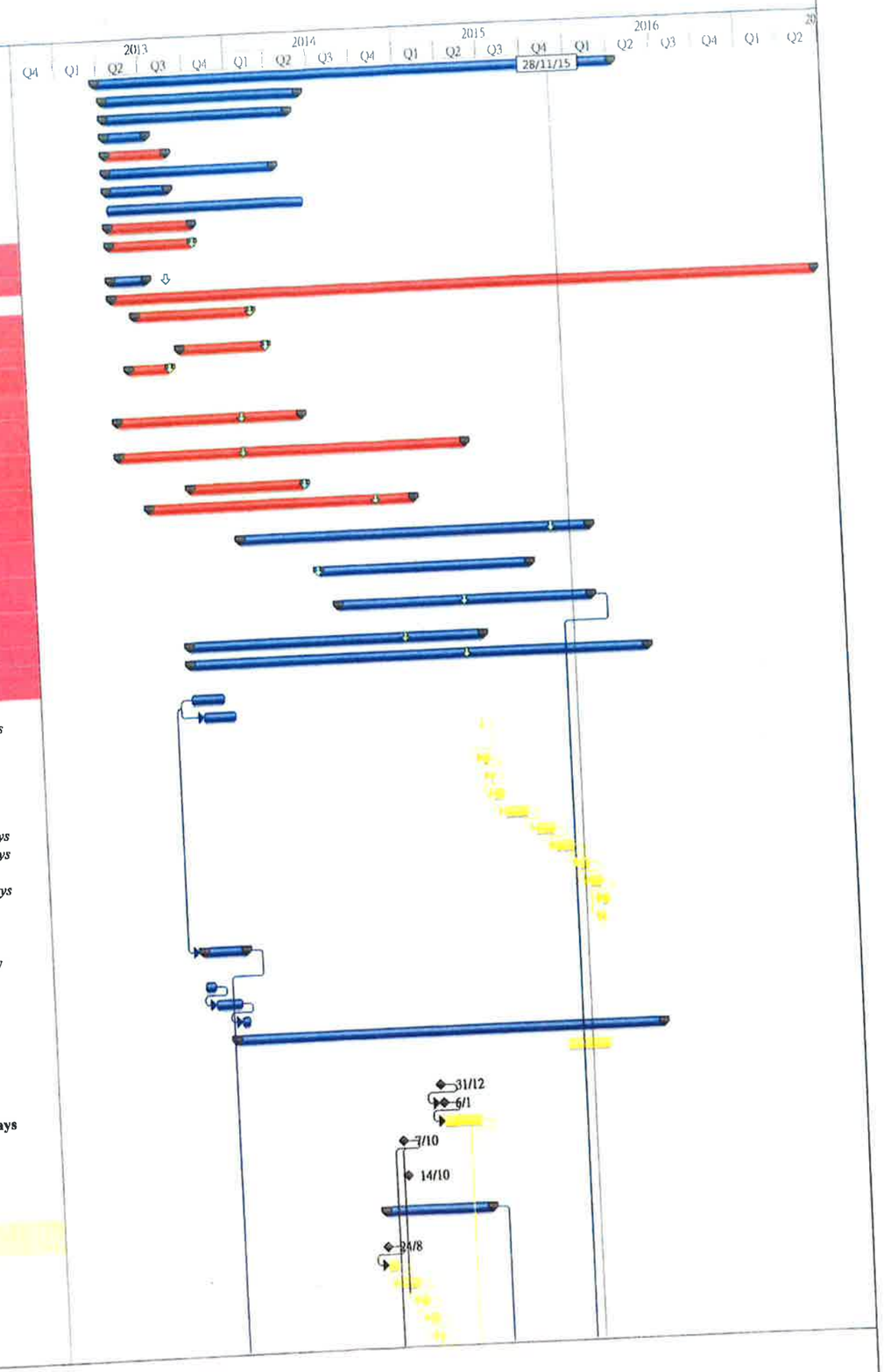
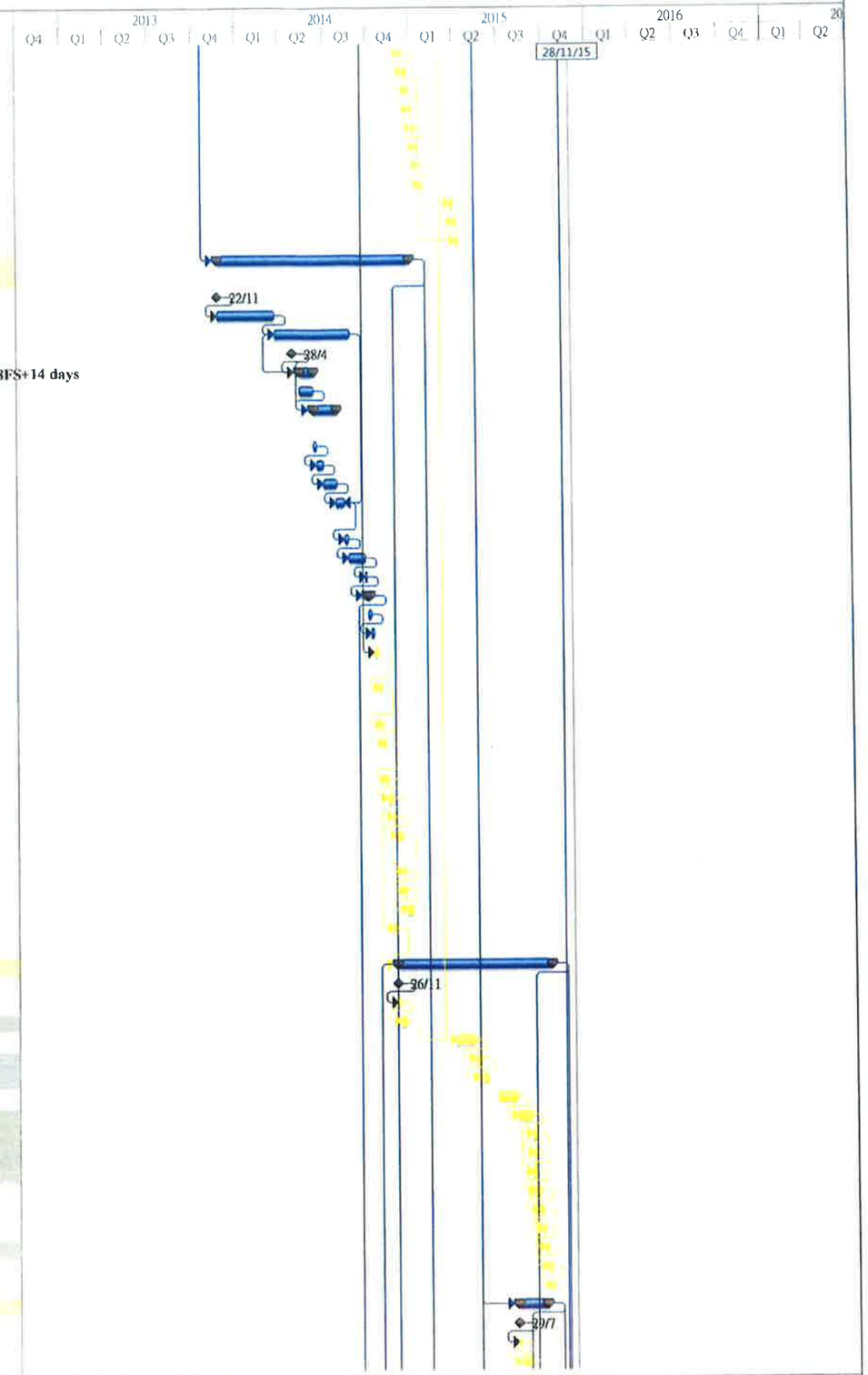
Contract 5

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*



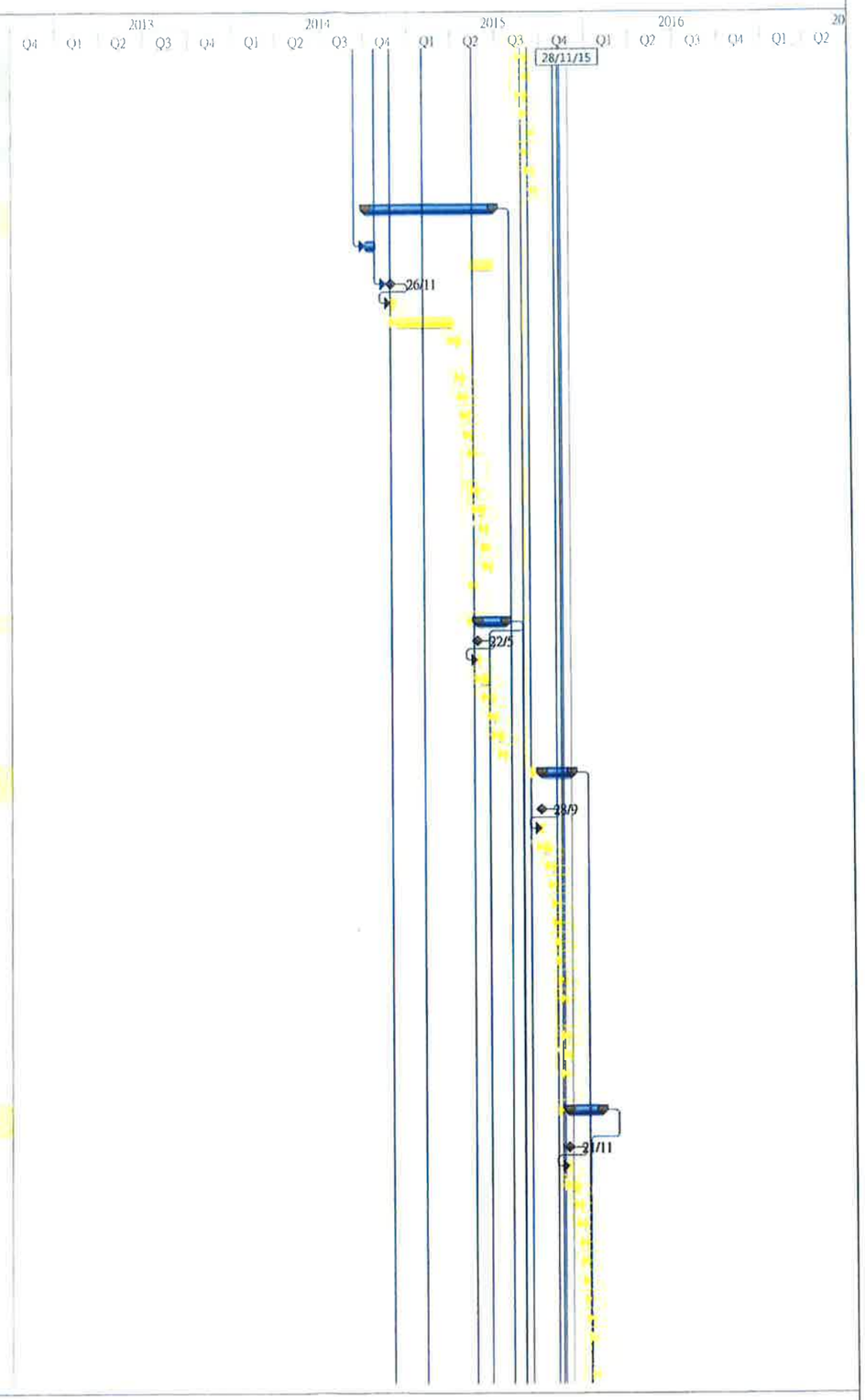
ID	WBS	Task Name	Duration	Start	Finish	Predecessors
523	4.12.15.7.7	*street lighting drawpits & crossroads*	*7 days*	*Fri 12/12/14*	*Thu 18/12/14*	*522*
524	4.12.15.7.8	*kerb bedding, laying & backing before bituminous material*	*9 days*	*Fri 19/12/14*	*Sat 27/12/14*	*523*
525	4.12.15.7.9	*filling works 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

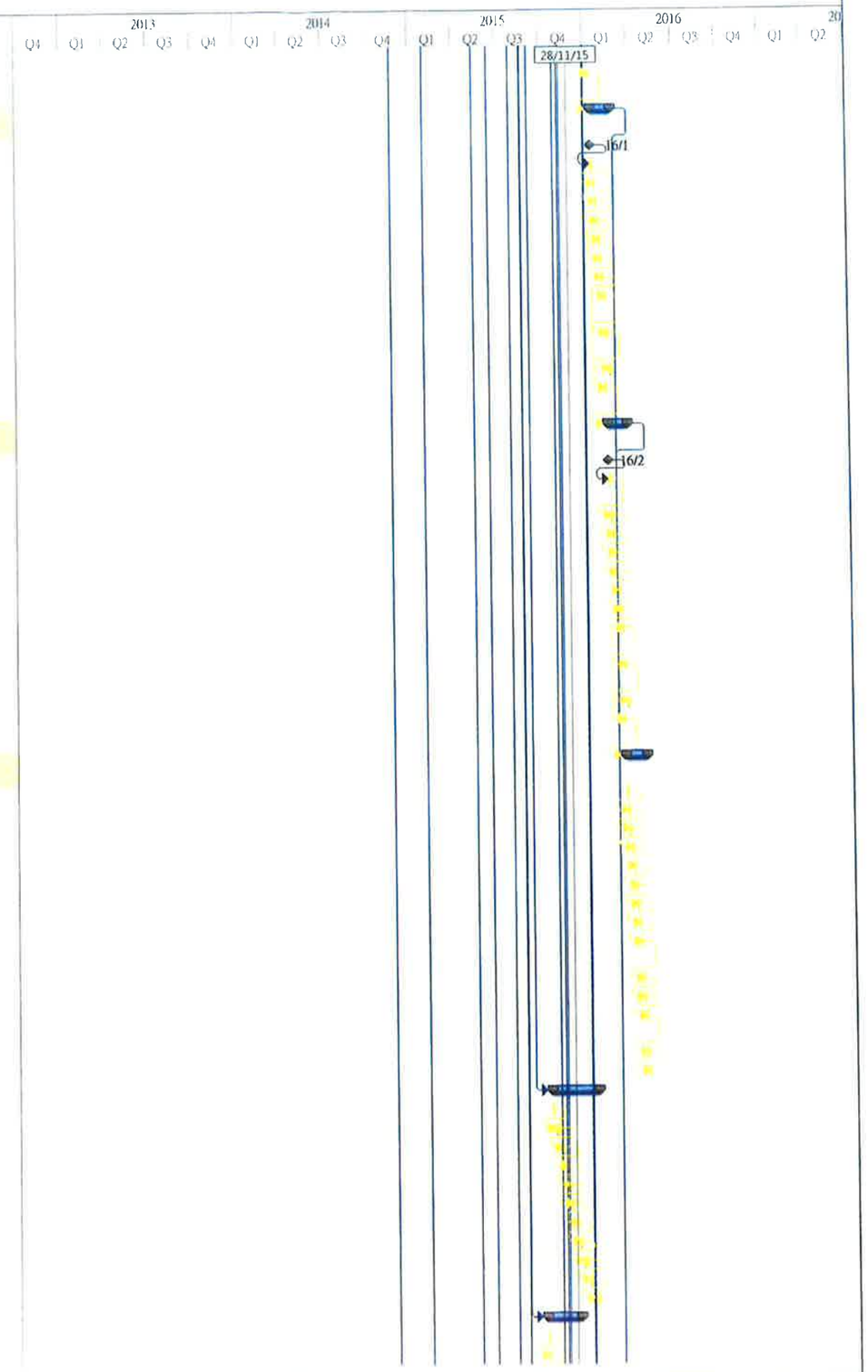
ID	WBS	Task Name	Duration	Start	Finish	Predecessors
587	4.12.15.10.4	Waterworks - 150T FH, 150T x 2	14 days	Thu 27/8/15	Wed 9/9/15	586
588	4.12.15.10.5	RVO053 - crossing no. 1 (east)	6 days	Mon 7/9/15	Sat 12/9/15	587FS-3 days
589	4.12.15.10.6	PVO: 2 nos. U-Channel Drainage Crossing	10 days	Thu 27/8/15	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

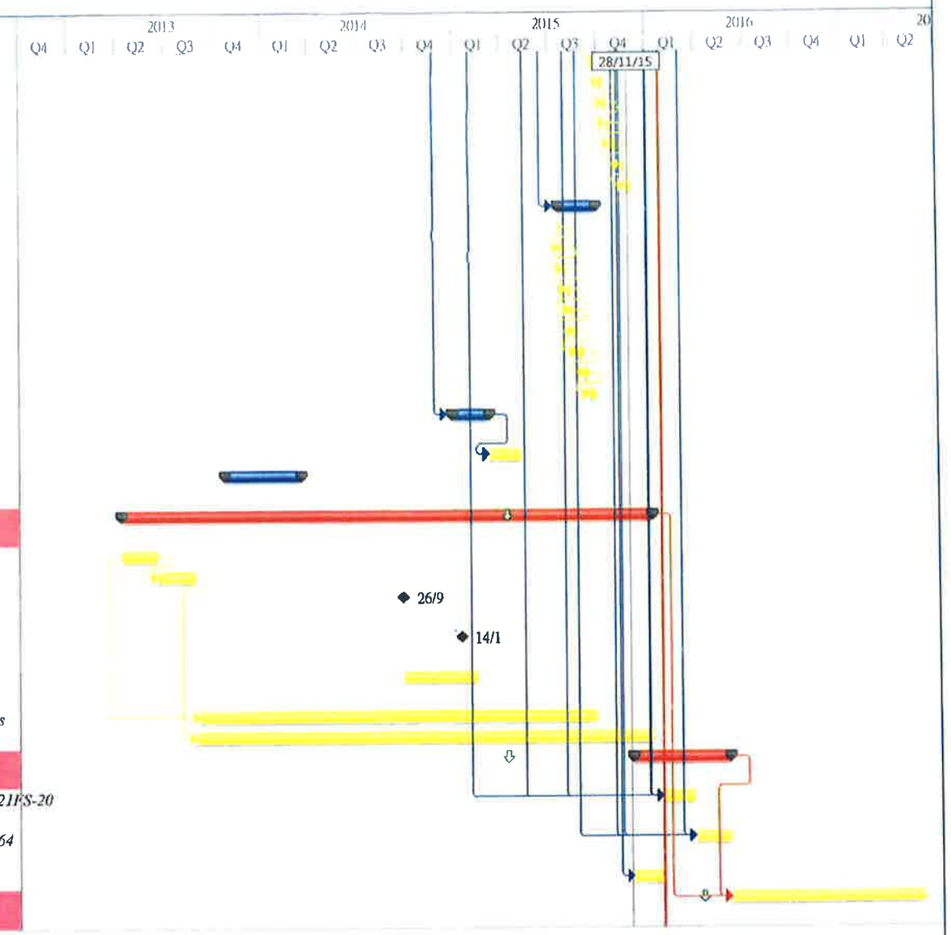
ID	WBS	Task Name	Duration	Start	Finish	Predecessors
649	4.12.15.14.13	*footpath paving*	*8 days*	Wed 20/1/16	Wed 27/1/16	*648*
650	4.12.15.14.14	***AC - lay DBM & base course***	***4 days***	**Tue 12/1/16**	**Fri 15/1/16**	*646*
651	**4.12.15.15**	**4 Works from chainage 125 to chainage 190 (east side 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

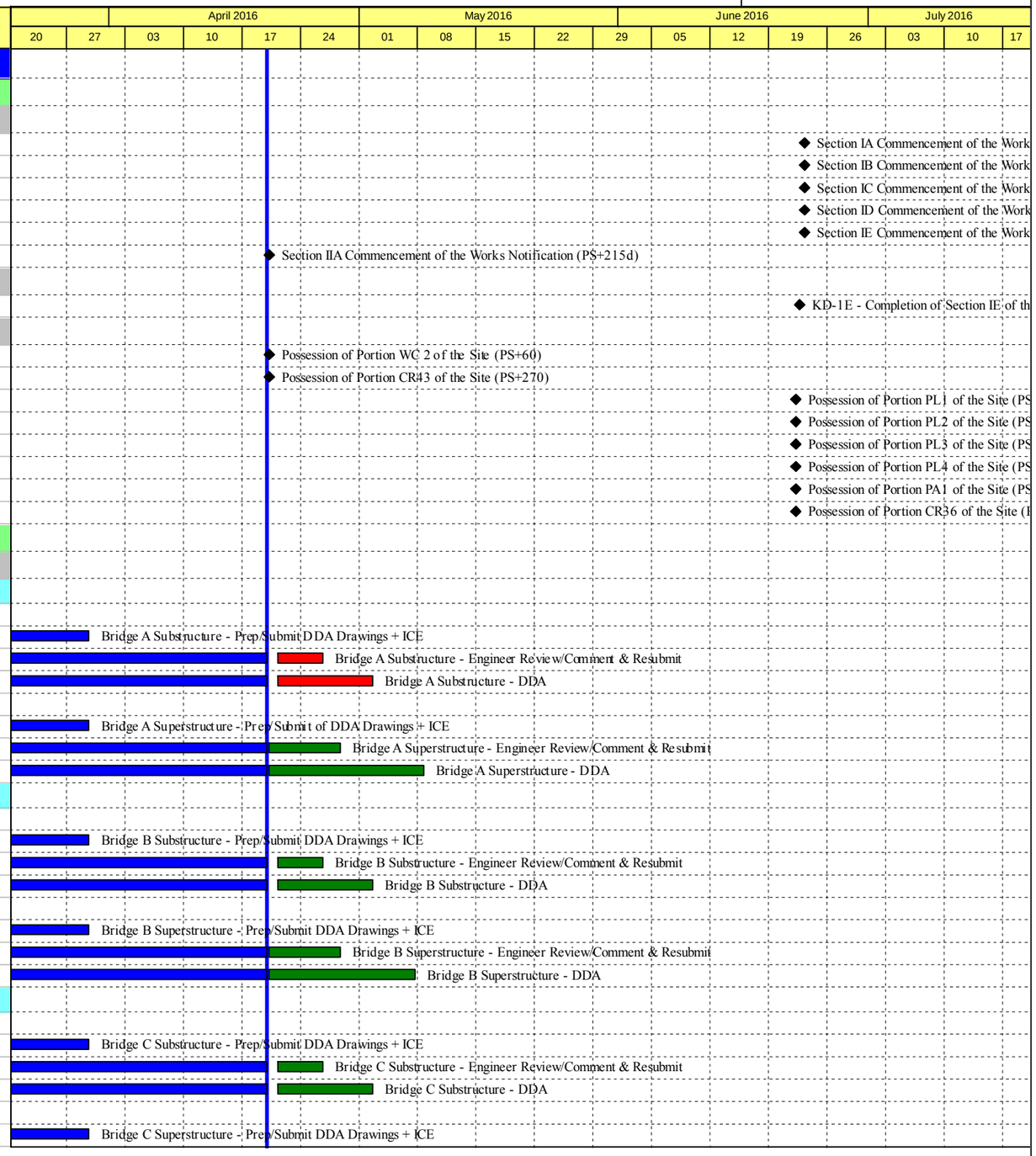
Task — Milestone — Project Summary — Critical Split — Deadline
Split — Summary — Critical — Progress

Contract 6

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

AECOM | CEDD

Activity ID	Activity Name	Rem Dur	Start	Finish
LT/HYW BCP Contract 6 - 3MRP Apr 2016				
1.0 - Contract Key Dates				
1.1 - Commencement of the Works				
CKD-1100	Section IA Commencement of the Works Notification (PS+365d)	0	23-Jun-16	
CKD-1200	Section IB Commencement of the Works Notification (PS+365d)	0	23-Jun-16	
CKD-1300	Section IC Commencement of the Works Notification (PS+365d)	0	23-Jun-16	
CKD-1400	Section ID Commencement of the Works Notification (PS+365d)	0	23-Jun-16	
CKD-1500	Section IE Commencement of the Works Notification (PS+365d)	0	23-Jun-16	
CKD-1600	Section IIA Commencement of the Works Notification (PS+215d)	0	20-Apr-16	
1.3 - Completion of Section of the Works Subject to Excision				
A1070	KD-1E - Completion of Section IE of the Works (PS+850d)	0		22-Jun-16
1.5 - Works Areas Possession Date				
CKD-5160	Possession of Portion WC 2 of the Site (PS+60)	0	20-Apr-16	
CKD-5640	Possession of Portion CR43 of the Site (PS+270)	0	20-Apr-16	
CKD-5670	Possession of Portion PL1 of the Site (PS+365)	0	22-Jun-16	
CKD-5680	Possession of Portion PL2 of the Site (PS+365)	0	22-Jun-16	
CKD-5690	Possession of Portion PL3 of the Site (PS+365)	0	22-Jun-16	
CKD-5700	Possession of Portion PL4 of the Site (PS+365)	0	22-Jun-16	
CKD-5710	Possession of Portion PA1 of the Site (PS+365)	0	22-Jun-16	
CKD-5770	Possession of Portion CR36 of the Site (PS+365)	0	22-Jun-16	
3.0 - Submission and Approval				
3.3 - DDA - Alternative Design				
- DDA Submission - Bridge A				
DDA Submission - Bridge A Substructure				
SUB-3000	Bridge A Substructure - Prep/Submit DDA Drawings + ICE	0	15-Jul-15 A	29-Mar-16 A
SUB-3010	Bridge A Substructure - Engineer Review/Comment & Resubmit	6	29-Sep-15 A	26-Apr-16
SUB-3030	Bridge A Substructure - DDA	12	23-Nov-15 A	02-May-16
DDA Submission - Bridge A Superstructure				
SUB-3050	Bridge A Superstructure - Prep/Submit of DDA Drawings + ICE	0	27-Jul-15 A	29-Mar-16 A
SUB-3060	Bridge A Superstructure - Engineer Review/Comment & Resubmit	9	04-Dec-15 A	28-Apr-16
SUB-3070	Bridge A Superstructure - DDA	19	04-Dec-15 A	08-May-16
- DDA Submission - Bridge B				
DDA Submission - Bridge B Substructure				
SUB-3100	Bridge B Substructure - Prep/Submit DDA Drawings + ICE	0	15-Jul-15 A	29-Mar-16 A
SUB-3110	Bridge B Substructure - Engineer Review/Comment & Resubmit	6	29-Sep-15 A	26-Apr-16
SUB-3130	Bridge B Substructure - DDA	12	23-Sep-15 A	02-May-16
DDA Submission - Bridge B Superstructure				
SUB-3140	Bridge B Superstructure - Prep/Submit DDA Drawings + ICE	0	15-Jul-15 A	29-Mar-16 A
SUB-3150	Bridge B Superstructure - Engineer Review/Comment & Resubmit	9	05-Dec-15 A	28-Apr-16
SUB-3160	Bridge B Superstructure - DDA	18	04-Dec-15 A	07-May-16
- DDA Submission - Bridge C				
DDA Submission - Bridge C Substructure				
SUB-3200	Bridge C Substructure - Prep/Submit DDA Drawings + ICE	0	20-Aug-15 A	29-Mar-16 A
SUB-3210	Bridge C Substructure - Engineer Review/Comment & Resubmit	6	12-Oct-15 A	26-Apr-16
SUB-3230	Bridge C Substructure - DDA	12	12-Oct-15 A	02-May-16
DDA Submission - Bridge C Superstructure				
SUB-3240	Bridge C Superstructure - Prep/Submit DDA Drawings + ICE	0	23-Sep-15 A	29-Mar-16 A



CRBC-CEC-KADEN Joint Venture

◆ ◆ Milestone
Critical Activity
Non-Critical Activity
Actual Work

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

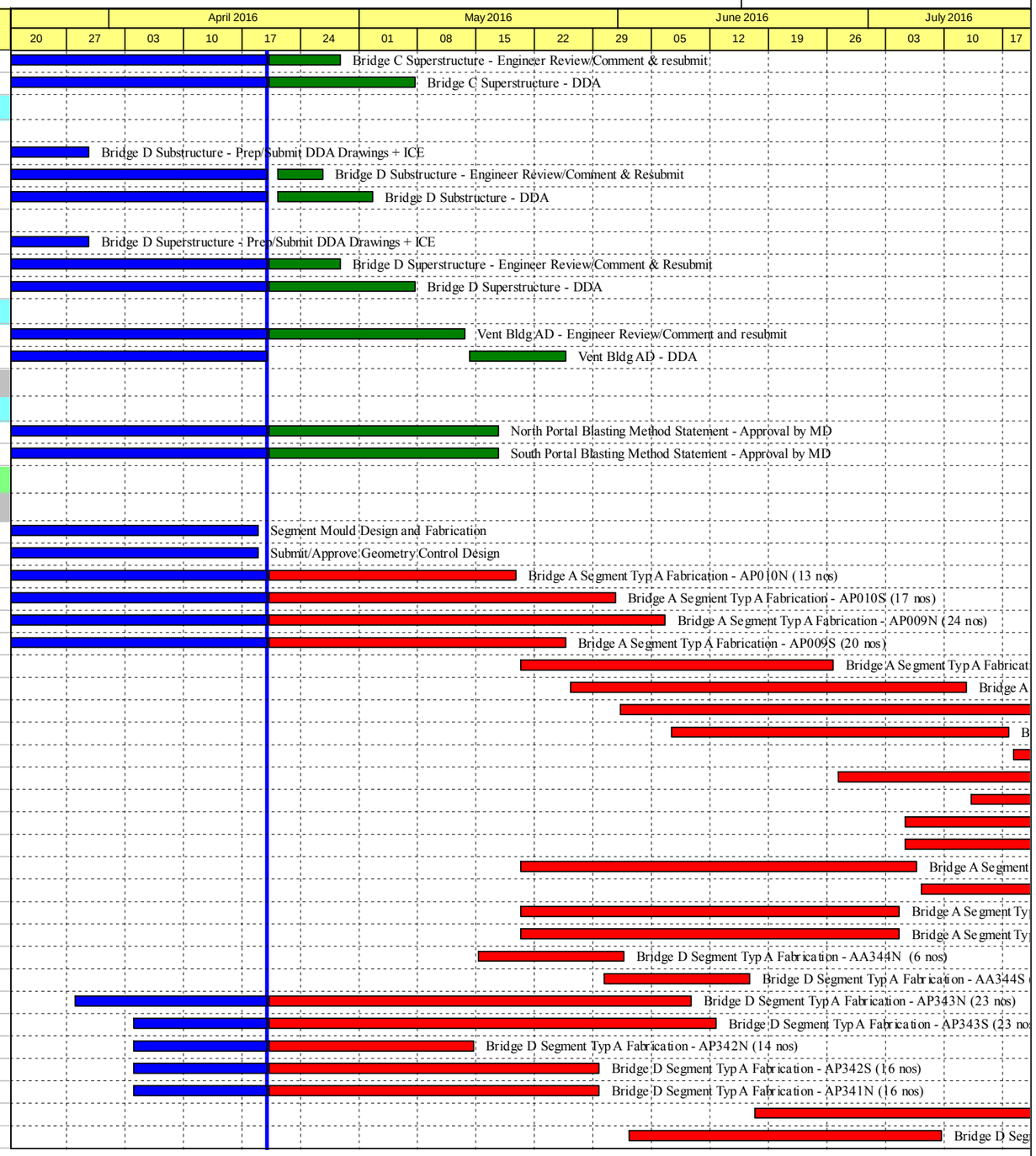
Data Date: 20-Apr-16 **Run Date: 26-Apr-16**

Project ID :LT6-3MRP-10
Layout : LT6IWP 3MRP

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

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

Activity ID	Activity Name	Rem Dur	Start	Finish
SUB-3250	Bridge C Superstructure - Engineer Review/Comment & resubmit	9	09-Dec-15 A	28-Apr-16
SUB-3260	Bridge C Superstructure - DDA	18	03-Nov-15 A	07-May-16
	- DDA Submission - Bridge D			
	DDA Submission - Bridge D Substructure			
SUB-3300	Bridge D Substructure - Prep/Submit DDA Drawings + ICE	0	15-Jul-15 A	29-Mar-16 A
SUB-3310	Bridge D Substructure - Engineer Review/Comment & Resubmit	6	13-Oct-15 A	26-Apr-16
SUB-3330	Bridge D Substructure - DDA	12	12-Oct-15 A	02-May-16
	DDA Submission - Bridge D Superstructure			
SUB-3340	Bridge D Superstructure - Prep/Submit DDA Drawings + ICE	0	05-Sep-15 A	29-Mar-16 A
SUB-3350	Bridge D Superstructure - Engineer Review/Comment & Resubmit	9	05-Oct-15 A	28-Apr-16
SUB-3360	Bridge D Superstructure - DDA	18	28-Dec-15 A	07-May-16
	- DDA Submission - Ventilation Building Alternative Design			
SUB-3440	Vent Bldg AD - Engineer Review/Comment and resubmit	24	07-Oct-15 A	13-May-16
SUB-3450	Vent Bldg AD - DDA	12	04-Nov-15 A	25-May-16
	3.4 - Statutory Submission and Approval			
	- Blasting Method Statement			
SUB-4130	North Portal Blasting Method Statement - Approval by MD	28	01-Mar-16 A	17-May-16
SUB-4160	South Portal Blasting Method Statement - Approval by MD	28	01-Mar-16 A	17-May-16
	4.0 - Off-Site Works			
	4.1 - Segment Fabrication			
OSW-1050	Segment Mould Design and Fabrication	0	20-Aug-15 A	19-Apr-16 A
OSW-1100	Submit/Approve Geometry Control Design	0	12-Oct-15 A	19-Apr-16 A
OSW-1111	Bridge A Segment Typ A Fabrication - AP010N (13 nos)	30	18-Feb-16 A	19-May-16
OSW-1112	Bridge A Segment Typ A Fabrication - AP010S (17 nos)	42	01-Feb-16 A	31-May-16
OSW-1113	Bridge A Segment Typ A Fabrication - AP009N (24 nos)	48	08-Mar-16 A	06-Jun-16
OSW-1114	Bridge A Segment Typ A Fabrication - AP009S (20 nos)	36	15-Jan-16 A	25-May-16
OSW-1115	Bridge A Segment Typ A Fabrication - AP008N (14 nos)	38	20-May-16	26-Jun-16
OSW-1116	Bridge A Segment Typ A Fabrication - AP008S (18 nos)	48	26-May-16	12-Jul-16
OSW-1117	Bridge A Segment Typ A Fabrication - AP007N (19 nos)	51	01-Jun-16	21-Jul-16
OSW-1118	Bridge A Segment Typ A Fabrication - AP007S (15 nos)	41	07-Jun-16	17-Jul-16
OSW-1125	Bridge A Segment Typ A Fabrication - AP003N (12 nos)	33	18-Jul-16	19-Aug-16
OSW-1127	Bridge A Segment Typ A Fabrication - AP002N (20 nos)	53	27-Jun-16	18-Aug-16
OSW-1128	Bridge A Segment Typ A Fabrication - AP002S (12 nos)	33	13-Jul-16	14-Aug-16
OSW-1135	Bridge A Segment Typ C Fabrication - AP052N (18 nos)	48	05-Jul-16	21-Aug-16
OSW-1136	Bridge A Segment Typ C Fabrication - AP052S (18 nos)	48	05-Jul-16	21-Aug-16
OSW-1137	Bridge A Segment Typ C Fabrication - AP053N (18 nos)	48	20-May-16	06-Jul-16
OSW-1138	Bridge A Segment Typ C Fabrication - AP053S (18 nos)	48	07-Jul-16	23-Aug-16
OSW-1139	Bridge A Segment Typ C Fabrication - AP054N (17 nos)	46	20-May-16	04-Jul-16
OSW-1140	Bridge A Segment Typ C Fabrication - AP054S (17 nos)	46	20-May-16	04-Jul-16
OSW-1411	Bridge D Segment Typ A Fabrication - AA344N (6 nos)	18	15-May-16	01-Jun-16
OSW-1412	Bridge D Segment Typ A Fabrication - AA344S (6 nos)	18	30-May-16	16-Jun-16
OSW-1413	Bridge D Segment Typ A Fabrication - AP343N (23 nos)	51	28-Mar-16 A	09-Jun-16
OSW-1414	Bridge D Segment Typ A Fabrication - AP343S (23 nos)	54	04-Apr-16 A	12-Jun-16
OSW-1415	Bridge D Segment Typ A Fabrication - AP342N (14 nos)	25	04-Apr-16 A	14-May-16
OSW-1416	Bridge D Segment Typ A Fabrication - AP342S (16 nos)	40	04-Apr-16 A	29-May-16
OSW-1417	Bridge D Segment Typ A Fabrication - AP341N (16 nos)	40	04-Apr-16 A	29-May-16
OSW-1418	Bridge D Segment Typ A Fabrication - AP341S (16 nos)	43	17-Jun-16	29-Jul-16
OSW-1419	Bridge D Segment Typ A Fabrication - AP340N (14 nos)	38	02-Jun-16	09-Jul-16



CRBC-CEC-KADEN Joint Venture

◆ ◆ Milestone
Critical Activity
Non-Critical Activity
Actual Work

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

Data Date: 20-Apr-16 **Run Date: 26-Apr-16**

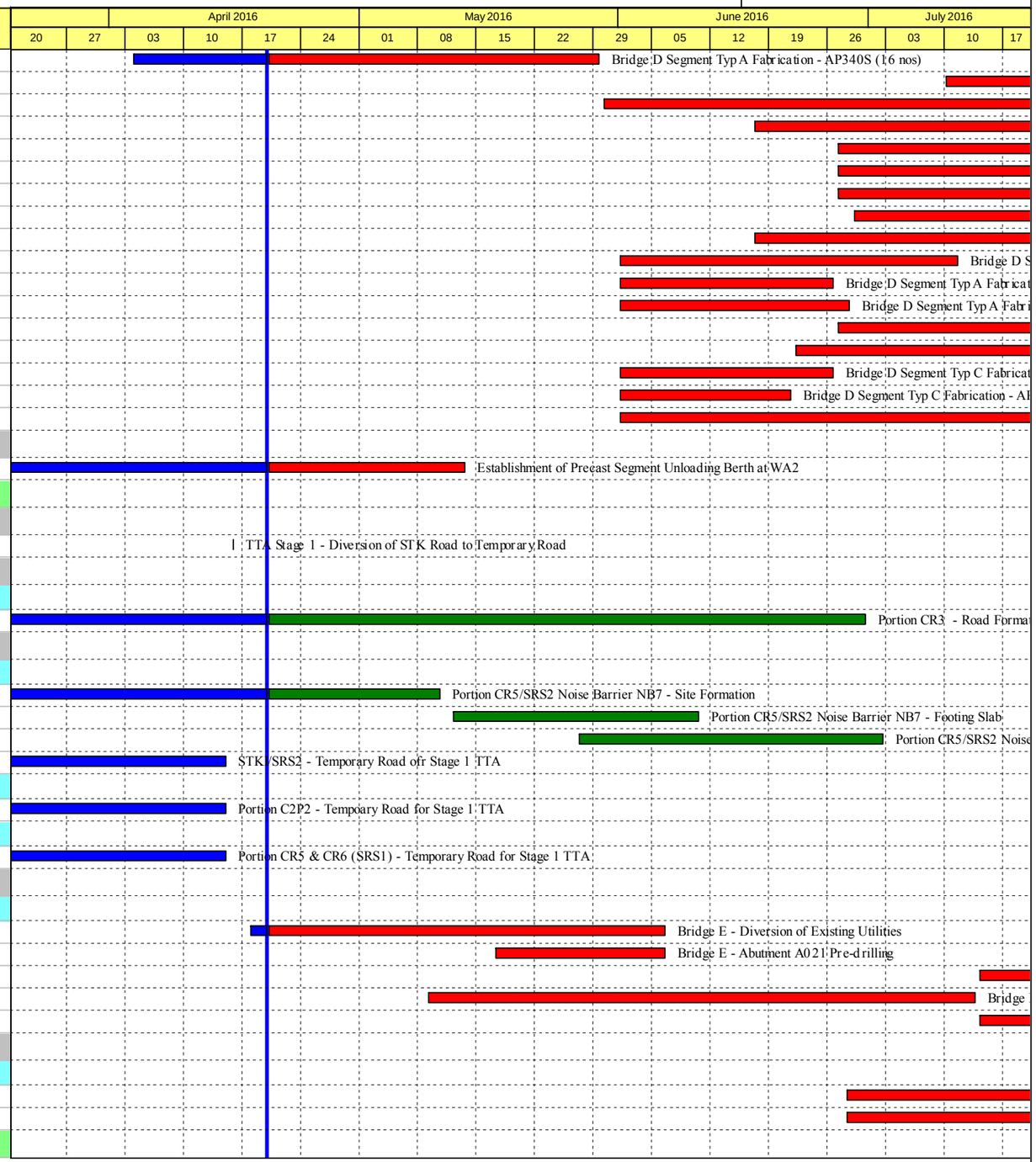
Project ID :LT6-3MRP-10
Layout : LT6IWP 3MRP

3-month Rolling Programme

Date	Revision	Checked	Approved
20-Apr-16	3MRP		

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

Activity ID	Activity Name	Rem Dur	Start	Finish
OSW-1420	Bridge D Segment Typ A Fabrication - AP340S (16 nos)	40	04-Apr-16 A	29-May-16
OSW-1421	Bridge D Segment Typ A Fabrication - AP339N (24 nos)	63	10-Jul-16	10-Sep-16
OSW-1422	Bridge D Segment Typ A Fabrication - AP339S (24 nos)	63	30-May-16	31-Jul-16
OSW-1423	Bridge D Segment Typ A Fabrication - AP338N (13 nos)	36	17-Jun-16	22-Jul-16
OSW-1489	Bridge D Segment Typ A Fabrication - AP305N (16 nos)	43	27-Jun-16	08-Aug-16
OSW-1490	Bridge D Segment Typ A Fabrication - AP305S (18 nos)	48	27-Jun-16	13-Aug-16
OSW-1493	Bridge D Segment Typ A Fabrication - AP303N (16 nos)	43	27-Jun-16	08-Aug-16
OSW-1494	Bridge D Segment Typ A Fabrication - AP303S (17 nos)	46	29-Jun-16	13-Aug-16
OSW-1495	Bridge D Segment Typ A Fabrication - AP302N (17 nos)	46	17-Jun-16	01-Aug-16
OSW-1496	Bridge D Segment Typ A Fabrication - AP302S (15 nos)	41	01-Jun-16	11-Jul-16
OSW-1497	Bridge D Segment Typ A Fabrication - AA301N (9 nos)	26	01-Jun-16	26-Jun-16
OSW-1498	Bridge D Segment Typ A Fabrication - AA301S (10 nos)	28	01-Jun-16*	28-Jun-16
OSW-1542	Bridge D Segment Typ C Fabrication - AP433N (15 nos)	41	27-Jun-16	06-Aug-16
OSW-1543	Bridge D Segment Typ C Fabrication - AP433S (17 nos)	46	22-Jun-16	06-Aug-16
OSW-1544	Bridge D Segment Typ C Fabrication - AP344N-L (9 nos)	26	01-Jun-16	26-Jun-16
OSW-1545	Bridge D Segment Typ C Fabrication - AP344S-R (7 nos)	21	01-Jun-16	21-Jun-16
OSW-1546	Bridge D Segment Typ C Fabrication - AP434S (19 nos)	51	01-Jun-16*	21-Jul-16
4.2 - Portion WA1				
OSW-4300	Establishment of Precast Segment Unloading Berth at WA2	24	30-Dec-15 A	13-May-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	0	16-Apr-16 A	16-Apr-16 A
5.3 - STKI (North) - Portion CR3, WKS & CR8				
- Portion CR3				
STK-3060	Portion CR3 - Road Formation (STK/F9+STKF6)	60	18-Dec-15 A	30-Jun-16
5.4 - STKI (South) - Portion CR5, CR6, CR7 & C2P2				
- STKI Slip Road S2				
STK-4140	Portion CR5/SRS2 Noise Barrier NB7 - Site Formation	18	12-Nov-15 A	10-May-16
STK-4141	Portion CR5/SRS2 Noise Barrier NB7 - Footing Slab	24	12-May-16	10-Jun-16
STK-4142	Portion CR5/SRS2 Noise Barrier NB7 - Footing Wall	30	27-May-16	02-Jul-16
STK-4150	STKI/SRS2 - Temporary Road ofr Stage 1 TTA	0	12-Nov-15 A	15-Apr-16 A
- STKI Portion C2P2				
STK-4250	Portion C2P2 - Tempoary Road for Stage 1 TTA	0	05-Feb-16 A	15-Apr-16 A
- STKI Slip Road S1				
STK-4305	Portion CR5 & CR6 (SRS1) - Temporary Road for Stage 1 TTA	0	19-Jan-16 A	15-Apr-16 A
5.5 - STKI (East) - Portion CR3 & RD				
- Bridge E				
STK-5210	Bridge E - Diversion of Existing Utilities	40	18-Apr-16 A	06-Jun-16
STK-5220	Bridge E - Abutment A021 Pre-drilling	18	17-May-16	06-Jun-16
STK-5230	Bridge E - Abutment A021 Bored Piling	54	14-Jul-16	14-Sep-16
STK-5270	Bridge E - Abutment A022 Bored Piling	54	09-May-16*	13-Jul-16
STK-5280	Bridge E - Abutment A022 Construction	60	14-Jul-16	22-Sep-16
5.6 - STKI (West) - Portion CR4 & RD				
- Bridge F				
STK-6020	TTA - STK/WKS Road local diversion for Bridge F Construction	36	28-Jun-16	09-Aug-16
STK-6200	Bridge F - Abutment A032 Bored Piling	60	28-Jun-16	06-Sep-16
6.0 - Bridge A (Ch6850 to Ch7295)				



CRBC-CEC-KADEN Joint Venture

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

Data Date: 20-Apr-16 **Run Date: 26-Apr-16**

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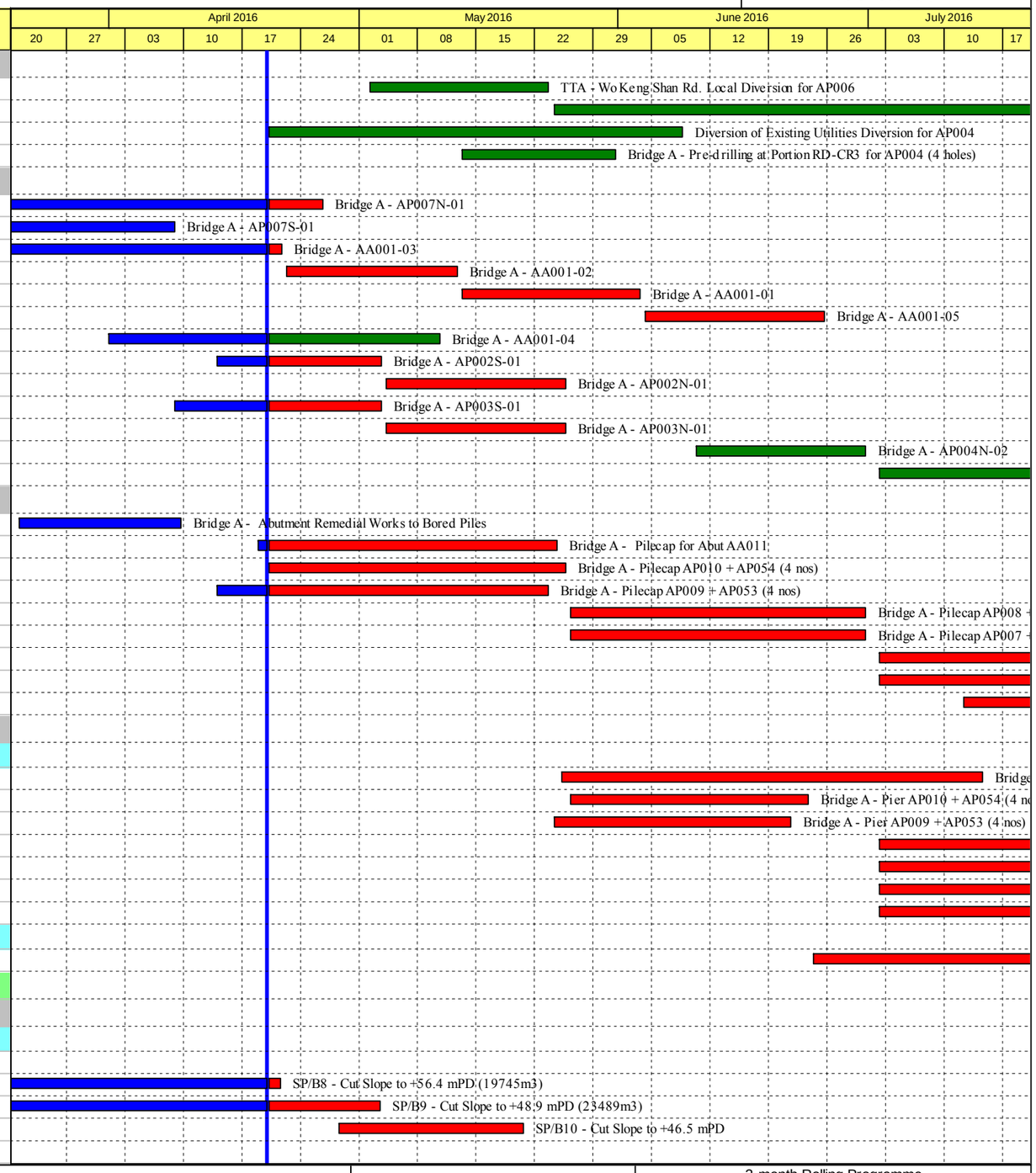
Liantang / Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works - CONTRACT 6

AECOM

CEDD

Activity ID	Activity Name	Rem Dur	Start	Finish
6.2 - Ground Investigation				
BRA-2022	TTA - Wo Keng Shan Rd. Local Diversion for AP006	18	02-May-16*	23-May-16
BRA-2023	Diversion of Existing Utilities Diversion for AP006	48	24-May-16	20-Jul-16
BRA-2035	Diversion of Existing Utilities Diversion for AP004	42	20-Apr-16	08-Jun-16
BRA-2039	Bridge A - Pre-drilling at Portion RD-CR3 for AP004 (4 holes)	15	13-May-16	31-May-16
6.3 - Bored Piles				
BRA-3000.14	Bridge A - AP007N-01	6	11-Mar-16 A	26-Apr-16
BRA-3010.10	Bridge A - AP007S-01	0	09-Mar-16 A	09-Apr-16 A
BRA-3010.18	Bridge A - AA001-03	2	16-Mar-16 A	21-Apr-16
BRA-3010.19	Bridge A - AA001-02	18	22-Apr-16	12-May-16
BRA-3010.20	Bridge A - AA001-01	18	13-May-16	03-Jun-16
BRA-3010.21	Bridge A - AA001-05	18	04-Jun-16	25-Jun-16
BRA-3010.22	Bridge A - AA001-04	18	01-Apr-16 A	10-May-16
BRA-3010.40	Bridge A - AP002S-01	12	14-Apr-16 A	03-May-16
BRA-3010.41	Bridge A - AP002N-01	18	04-May-16	25-May-16
BRA-3010.42	Bridge A - AP003S-01	12	09-Apr-16 A	03-May-16
BRA-3010.43	Bridge A - AP003N-01	18	04-May-16	25-May-16
BRA-3010.50	Bridge A - AP004N-02	18	10-Jun-16	30-Jun-16
BRA-3010.51	Bridge A - AP004S-02	18	02-Jul-16	22-Jul-16
6.4 - Pile Cap				
BRA-3999	Bridge A - Abutment Remedial Works to Bored Piles	0	21-Mar-16 A	09-Apr-16 A
BRA-4000	Bridge A - Pilecap for Abut AA011	29	19-Apr-16 A	24-May-16
BRA-4005	Bridge A - Pilecap AP010 + AP054 (4 nos)	30	20-Apr-16	25-May-16
BRA-4008	Bridge A - Pilecap AP009 + AP053 (4 nos)	28	14-Apr-16 A	23-May-16
BRA-4010	Bridge A - Pilecap AP008 + AP052 (4nos)	30	26-May-16	30-Jun-16
BRA-4053	Bridge A - Pilecap AP007 + AA051 (4 nos)	30	26-May-16	30-Jun-16
BRA-4120	Bridge A - Pilecap for AP002 (2P) - 2 nos	36	02-Jul-16	12-Aug-16
BRA-4130	Bridge A - Pilecap for AP003 (2P) - 2 nos	36	02-Jul-16	12-Aug-16
BRA-4500	Bridge A - Pilecap for Abut AA001	36	12-Jul-16	22-Aug-16
6.5 - Bridge Pier				
- Pier Column / Abutment				
BRA-5000	Bridge A - Abutment AA011 + Bearing	42	25-May-16	14-Jul-16
BRA-5001	Bridge A - Pier AP010 + AP054 (4 nos)	24	26-May-16	23-Jun-16
BRA-5003	Bridge A - Pier AP009 + AP053 (4 nos)	24	24-May-16	21-Jun-16
BRA-5005	Bridge A - Pier AP008 + AP052 (4 nos)	24	02-Jul-16	29-Jul-16
BRA-5007	Bridge A - Pier AP007	24	02-Jul-16	29-Jul-16
BRA-5010	Bridge A - Abutment AA051N + Bearing	24	02-Jul-16	29-Jul-16
BRA-5014	Bridge A - Abutment AA051S + Bearing	24	02-Jul-16	29-Jul-16
- Pier Head Segment				
BRA-5300	Bridge A Pier Head Segment AP010 + AP009 - 8 nos	48	24-Jun-16	19-Aug-16
7.0 - South Portal Works				
7.2 - South Portal Formation				
- SP Slope Excavation to 48.9mPD				
-- Cut Slope				
TSP-1280	SP/B8 - Cut Slope to +56.4 mPD (19745m3)	2	03-Mar-16 A	21-Apr-16
TSP-1290	SP/B9 - Cut Slope to +48.9 mPD (23489m3)	11	17-Mar-16 A	03-May-16
TSP-1295	SP/B10 - Cut Slope to +46.5 mPD	18	28-Apr-16	20-May-16
-- Soil nail				



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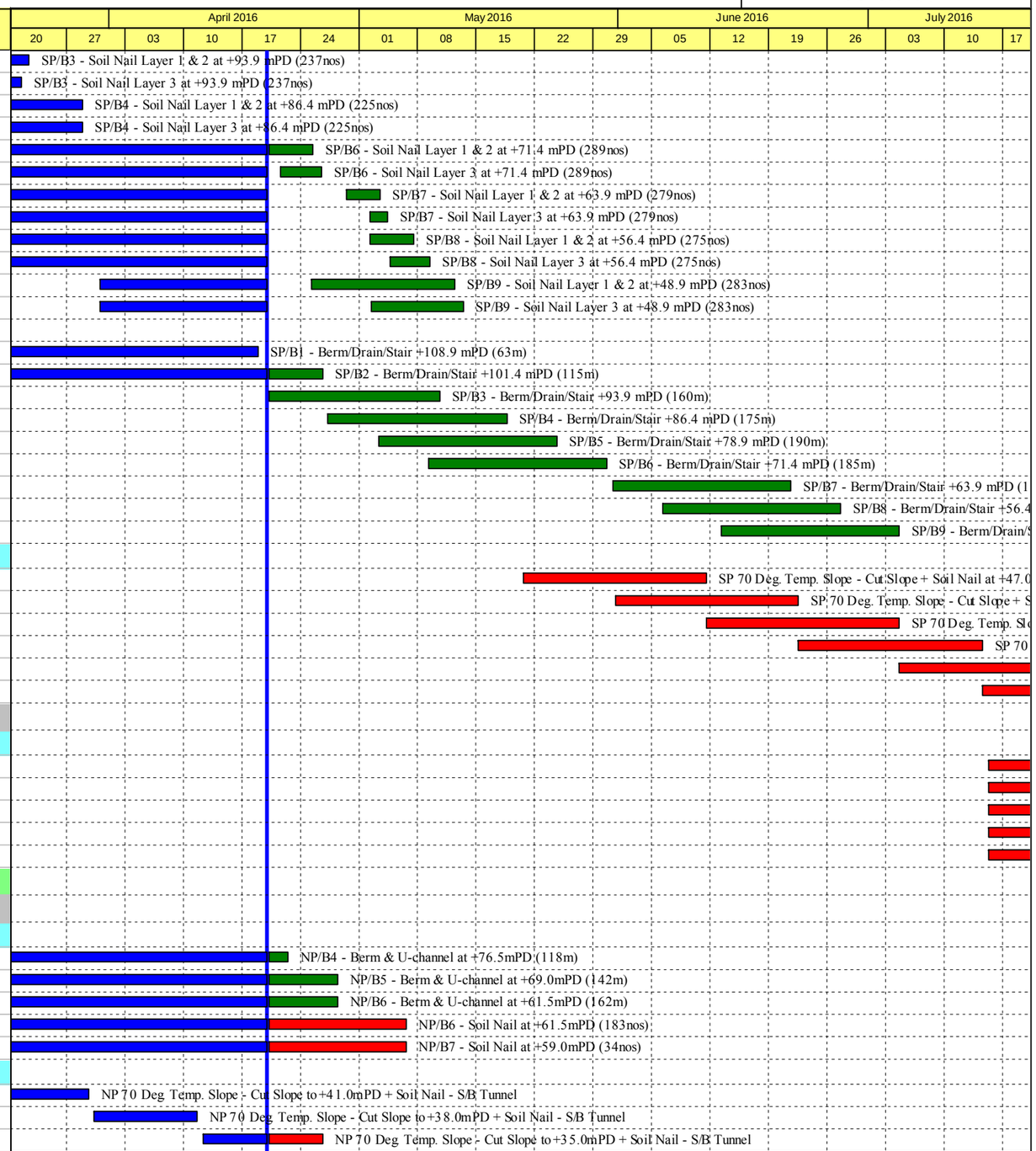
Liantang / Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works - CONTRACT 6

Activity ID	Activity Name	Rem Dur	Start	Finish
TSP-1330	SP/B3 - Soil Nail Layer 1 & 2 at +93.9 mPD (237nos)	0	16-Oct-15 A	22-Mar-16 A
TSP-1335	SP/B3 - Soil Nail Layer 3 at +93.9 mPD (237nos)	0	05-Nov-15 A	21-Mar-16 A
TSP-1340	SP/B4 - Soil Nail Layer 1 & 2 at +86.4 mPD (225nos)	0	20-Nov-15 A	29-Mar-16 A
TSP-1345	SP/B4 - Soil Nail Layer 3 at +86.4 mPD (225nos)	0	02-Dec-15 A	29-Mar-16 A
TSP-1360	SP/B6 - Soil Nail Layer 1 & 2 at +71.4 mPD (289nos)	5	21-Jan-16 A	25-Apr-16
TSP-1365	SP/B6 - Soil Nail Layer 3 at +71.4 mPD (289nos)	4	21-Jan-16 A	26-Apr-16
TSP-1370	SP/B7 - Soil Nail Layer 1 & 2 at +63.9 mPD (279nos)	3	18-Feb-16 A	03-May-16
TSP-1375	SP/B7 - Soil Nail Layer 3 at +63.9 mPD (279nos)	2	18-Feb-16 A	04-May-16
TSP-1380	SP/B8 - Soil Nail Layer 1 & 2 at +56.4 mPD (275nos)	5	07-Mar-16 A	07-May-16
TSP-1385	SP/B8 - Soil Nail Layer 3 at +56.4 mPD (275nos)	4	07-Mar-16 A	09-May-16
TSP-1390	SP/B9 - Soil Nail Layer 1 & 2 at +48.9 mPD (283nos)	15	31-Mar-16 A	12-May-16
TSP-1395	SP/B9 - Soil Nail Layer 3 at +48.9 mPD (283nos)	10	31-Mar-16 A	13-May-16
-- Berm				
TSP-1410	SP/B1 - Berm/Drain/Stair +108.9 mPD (63m)	0	08-Oct-15 A	19-Apr-16 A
TSP-1420	SP/B2 - Berm/Drain/Stair +101.4 mPD (115m)	6	09-Oct-15 A	26-Apr-16
TSP-1430	SP/B3 - Berm/Drain/Stair +93.9 mPD (160m)	18	20-Apr-16	10-May-16
TSP-1440	SP/B4 - Berm/Drain/Stair +86.4 mPD (175m)	18	27-Apr-16	18-May-16
TSP-1450	SP/B5 - Berm/Drain/Stair +78.9 mPD (190m)	18	03-May-16	24-May-16
TSP-1460	SP/B6 - Berm/Drain/Stair +71.4 mPD (185m)	18	09-May-16	30-May-16
TSP-1470	SP/B7 - Berm/Drain/Stair +63.9 mPD (180m)	18	31-May-16	21-Jun-16
TSP-1480	SP/B8 - Berm/Drain/Stair +56.4 mPD (190m)	18	06-Jun-16	27-Jun-16
TSP-1490	SP/B9 - Berm/Drain/Stair +48.9 mPD (185m)	18	13-Jun-16	04-Jul-16
- SP 70 Deg. Temporary Slope				
TSP-1510	SP 70 Deg. Temp. Slope - Cut Slope + Soil Nail at +47.0mPD	18	20-May-16	11-Jun-16
TSP-1511	SP 70 Deg. Temp. Slope - Cut Slope + Soil Nail at +45.0mPD	18	31-May-16	22-Jun-16
TSP-1513	SP 70 Deg. Temp. Slope - Cut Slope + Soil Nail at +43.0mPD	18	11-Jun-16	04-Jul-16
TSP-1515	SP 70 Deg. Temp. Slope - Cut Slope + Soil Nail at +41.0mPD	18	22-Jun-16	14-Jul-16
TSP-1517	SP 70 Deg. Temp. Slope - Cut Slope + Soil Nail at +38.0mPD (2 rows)	18	04-Jul-16	25-Jul-16
TSP-1519	SP 70 Deg. Temp. Slope - Cut Slope + Soil Nail at +35.0mPD (2 rows)	18	14-Jul-16	04-Aug-16
SP site formation				
SP Road Level Formation				
TSP-1710	Fill Slope CSTSP/F1 & F2	60	15-Jul-16	23-Sep-16
TSP-1720	Cut Slope CSTSP/C2	60	15-Jul-16	23-Sep-16
TSP-1730	Fill Slope CSTSP/F3 & F3A	60	15-Jul-16	23-Sep-16
TSP-1740	Cut Slope CSTSP/C3	60	15-Jul-16	23-Sep-16
TSP-1750	SP - Excavation to Road Formation Level	92	15-Jul-16	01-Nov-16
8.0 - North Portal Works				
8.2 - North Portal Site Formation				
- NP Slope Excavation to +59.0mPD				
TNP-1220	NP/B4 - Berm & U-channel at +76.5mPD (118m)	2	19-Dec-15 A	22-Apr-16
TNP-1230	NP/B5 - Berm & U-channel at +69.0mPD (142m)	8	08-Jan-16 A	28-Apr-16
TNP-1240	NP/B6 - Berm & U-channel at +61.5mPD (162m)	8	06-Jan-16 A	28-Apr-16
TNP-1340	NP/B6 - Soil Nail at +61.5mPD (183nos)	15	25-Jan-16 A	06-May-16
TNP-1350	NP/B7 - Soil Nail at +59.0mPD (34nos)	15	21-Dec-15 A	06-May-16
- NP 70 Deg. Temporary Slope				
A1130	NP 70 Deg. Temp. Slope - Cut Slope to +41.0mPD + Soil Nail - S/B Tunnel	0	15-Mar-16 A	29-Mar-16 A
A1140	NP 70 Deg. Temp. Slope - Cut Slope to +38.0mPD + Soil Nail - S/B Tunnel	0	30-Mar-16 A	11-Apr-16 A
A1150	NP 70 Deg. Temp. Slope - Cut Slope to +35.0mPD + Soil Nail - S/B Tunnel	6	12-Apr-16 A	26-Apr-16



CRBC-CEC-KADEN Joint Venture

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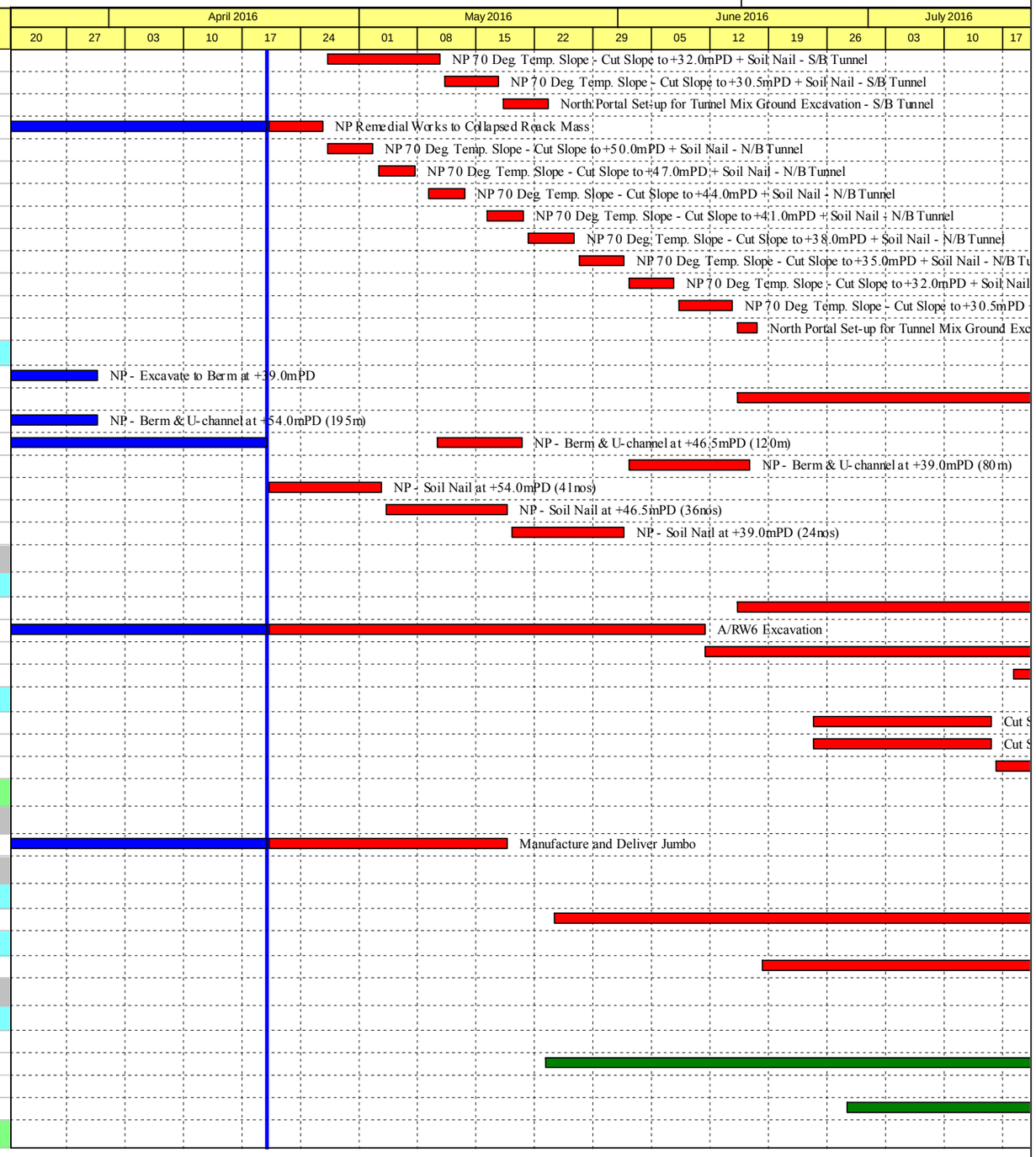
Liantang / Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works - CONTRACT 6

AECOM

CEDD

Activity ID	Activity Name	Rem Dur	Start	Finish
A1160	NP 70 Deg. Temp. Slope - Cut Slope to +32.0mPD + Soil Nail - S/B Tunnel	12	27-Apr-16	10-May-16
A1170	NP 70 Deg. Temp. Slope - Cut Slope to +30.5mPD + Soil Nail - S/B Tunnel	5	11-May-16	17-May-16
A2490	North Portal Set-up for Tunnel Mix Ground Excavation - S/B Tunnel	5	18-May-16	23-May-16
A2500	NP Remedial Works to Collapsed Roack Mass	6	02-Feb-16 A	26-Apr-16
A2510	NP 70 Deg. Temp. Slope - Cut Slope to +50.0mPD + Soil Nail - N/B Tunnel	5	27-Apr-16	02-May-16
A2520	NP 70 Deg. Temp. Slope - Cut Slope to +47.0mPD + Soil Nail - N/B Tunnel	5	03-May-16	07-May-16
A2530	NP 70 Deg. Temp. Slope - Cut Slope to +44.0mPD + Soil Nail - N/B Tunnel	5	09-May-16	13-May-16
A2540	NP 70 Deg. Temp. Slope - Cut Slope to +41.0mPD + Soil Nail - N/B Tunnel	5	16-May-16	20-May-16
A2550	NP 70 Deg. Temp. Slope - Cut Slope to +38.0mPD + Soil Nail - N/B Tunnel	5	21-May-16	26-May-16
A2560	NP 70 Deg. Temp. Slope - Cut Slope to +35.0mPD + Soil Nail - N/B Tunnel	5	27-May-16	01-Jun-16
A2570	NP 70 Deg. Temp. Slope - Cut Slope to +32.0mPD + Soil Nail - N/B Tunnel	5	02-Jun-16	07-Jun-16
A2580	NP 70 Deg. Temp. Slope - Cut Slope to +30.5mPD + Soil Nail - N/B Tunnel	5	08-Jun-16	14-Jun-16
A2590	North Portal Set-up for Tunnel Mix Ground Excavation - N/B Tunnel	3	15-Jun-16	17-Jun-16
- NP Remaining Slope Excavation to Road Level				
TNP-1147	NP - Excavate to Berm at +39.0mPD	0	07-Mar-16 A	30-Mar-16 A
TNP-1148	NP - Excavate to Berm at +32.2mPD	48	15-Jun-16	10-Aug-16
TNP-1250	NP - Berm & U-channel at +54.0mPD (195m)	0	18-Jan-16 A	30-Mar-16 A
TNP-1260	NP - Berm & U-channel at +46.5mPD (120m)	8	26-Feb-16 A	20-May-16
TNP-1265	NP - Berm & U-channel at +39.0mPD (80m)	12	02-Jun-16	16-Jun-16
TNP-1352	NP - Soil Nail at +54.0mPD (41nos)	12	20-Apr-16	03-May-16
TNP-1355	NP - Soil Nail at +46.5mPD (36nos)	12	04-May-16	18-May-16
TNP-1605	NP - Soil Nail at +39.0mPD (24nos)	12	19-May-16	01-Jun-16
8.3 - North Portal Site Formation				
NP Road Level Formation				
TNP-4320	A/RW5 Excavation	60	15-Jun-16	24-Aug-16
TNP-4365	A/RW6 Excavation	43	01-Mar-16 A	11-Jun-16
TNP-4370	A/RW6 Base Slab	42	11-Jun-16	01-Aug-16
TNP-4380	A/RW6 Wall	60	18-Jul-16	27-Sep-16
- NP Area 1				
TNP-1480	Cut Slope CSTNP/C2	18	24-Jun-16	15-Jul-16
TNP-1490	Cut Slope CSTNP/C3	18	24-Jun-16	15-Jul-16
TNP-1500	Rockfill CSTNP/RF1	60	16-Jul-16	24-Sep-16
9.0 - Cheung Shan Tunnel Works				
9.1 - Preliminary Works				
TUN-1410	Manufacture and Deliver Jumbo	24	07-Oct-15 A	18-May-16
9.2 - Excavation Works				
- South Bound Tunnel (S/B)				
TUN-1005	S/B Tunnel through NP - Mix Ground Excavation CH813-783 (30m)	60	24-May-16	03-Aug-16
- North Bound Tunnel (N/B)				
TUN-1110	N/B Tunnel through North Portal - Mix Ground Excav CH806-776 (30m)	98	18-Jun-16*	13-Oct-16*
9.3 - Lining Works				
- South Bound Tunnel (S/B)				
-- Crown Lining				
TUN-1680	Temp Work Design - Tunnel Lining Shutter	120	23-May-16	13-Oct-16
-- OHVD				
TUN-1790	Temp Work Design - OHVD Shutter	120	28-Jun-16	17-Nov-16
10.0 - Bridge B (Ch8250 to Ch8505)				



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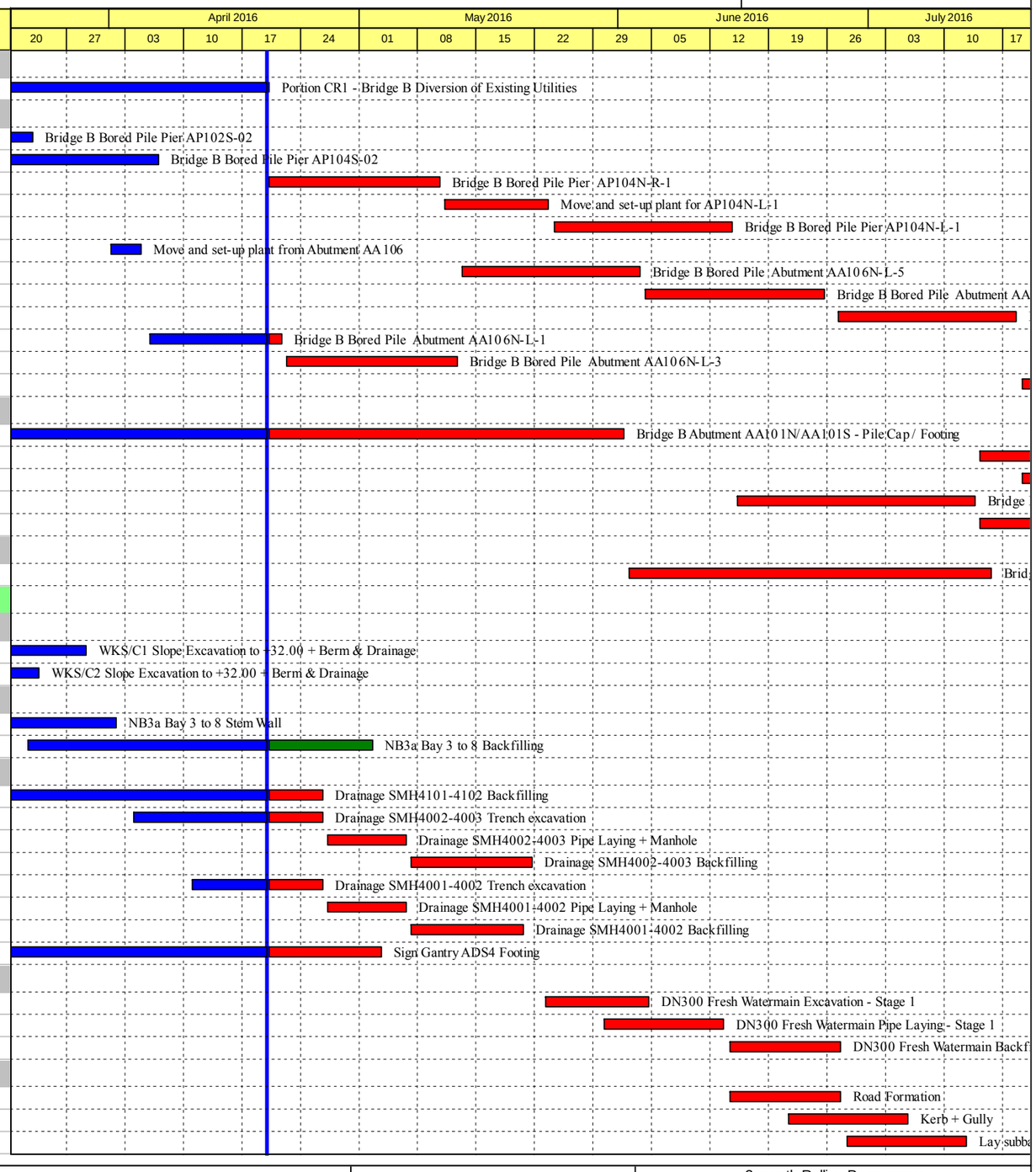
Liantang / Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works - CONTRACT 6

AECOM

CEDD

Activity ID	Activity Name	Rem Dur	Start	Finish
10.1 - Preparation Works				
BRB-1080	Portion CR1 - Bridge B Diversion of Existing Utilities	0	17-Jul-15 A	20-Apr-16
10.3 - Bored piles				
BRB-3055	Bridge B Bored Pile Pier AP102S-02	0	26-Feb-16 A	23-Mar-16 A
BRB-3069	Bridge B Bored Pile Pier AP104S-02	0	19-Mar-16 A	07-Apr-16 A
BRB-3071	Bridge B Bored Pile Pier AP104N-R-1	18	20-Apr-16	10-May-16
BRB-3072	Move and set-up plant for AP104N-L-1	10	11-May-16	23-May-16
BRB-3073	Bridge B Bored Pile Pier AP104N-L-1	18	24-May-16	14-Jun-16
BRB-3074	Move and set-up plant from Abutment AA106	0	01-Apr-16 A	05-Apr-16 A
BRB-3075	Bridge B Bored Pile Abutment AA106N-L-5	18	13-May-16	03-Jun-16
BRB-3076	Bridge B Bored Pile Abutment AA106N-L-2	18	04-Jun-16	25-Jun-16
BRB-3077	Bridge B Bored Pile Abutment AA106N-L-4	18	27-Jun-16	18-Jul-16
BRB-3079	Bridge B Bored Pile Abutment AA106N-L-1	2	06-Apr-16 A	21-Apr-16
BRB-3080	Bridge B Bored Pile Abutment AA106N-L-3	18	22-Apr-16	12-May-16
BRB-3083	Bridge B Bored Pile Pier AP105N-L-1	18	19-Jul-16	08-Aug-16
10.4 - Pile Cap & Footing				
BRB-4000	Bridge B Abutment AA101N/AA101S - Pile Cap / Footing	36	21-Jan-16 A	01-Jun-16
BRB-4010	Bridge B Pier AP104S-1+ AP104S-2+AP103N-R-1 Pile Cap	36	14-Jul-16	24-Aug-16
BRB-4030	Construct Pile Cap AA106	36	19-Jul-16	29-Aug-16
BRB-4040	Bridge B Pier AP102N - Pile Cap	24	15-Jun-16	13-Jul-16
BRB-4050	Bridge B Pier AP103N-L-1 - Pile Cap	24	14-Jul-16	10-Aug-16
10.5 - Abutment wall, Pier, Portal				
BRB-5000	Bridge B Abutment AA101N/AA101S	36	02-Jun-16	15-Jul-16
11.0 - Road On Grade (Ch 8505 to Ch 8700)				
11.2 - Cut Slopes				
RBC-2400	WKS/C1 Slope Excavation to +32.00 + Berm & Drainage	0	30-Jan-16 A	29-Mar-16 A
RBC-2600	WKS/C2 Slope Excavation to +32.00 + Berm & Drainage	0	08-Dec-15 A	23-Mar-16 A
11.3 - Noise Barrier				
RBC-2630	NB3a Bay 3 to 8 Stem Wall	0	14-Mar-16 A	02-Apr-16 A
RBC-2830	NB3a Bay 3 to 8 Backfilling	11	22-Mar-16 A	02-May-16
11.4 - Underground Works				
A3130	Drainage SMH4101-4102 Backfilling	6	09-Mar-16 A	26-Apr-16
A3140	Drainage SMH4002-4003 Trench excavation	6	04-Apr-16 A	26-Apr-16
A3150	Drainage SMH4002-4003 Pipe Laying + Manhole	9	27-Apr-16	06-May-16
A3200	Drainage SMH4002-4003 Backfilling	12	07-May-16	21-May-16
A3210	Drainage SMH4001-4002 Trench excavation	6	11-Apr-16 A	26-Apr-16
A3220	Drainage SMH4001-4002 Pipe Laying + Manhole	9	27-Apr-16	06-May-16
A3270	Drainage SMH4001-4002 Backfilling	11	07-May-16	20-May-16
A3280	Sign Gantry ADS4 Footing	12	19-Mar-16 A	03-May-16
11.6 - DN300 Fresh Watermain				
A3370	DN300 Fresh Watermain Excavation - Stage 1	12	23-May-16	04-Jun-16
A3380	DN300 Fresh Watermain Pipe Laying - Stage 1	12	30-May-16	13-Jun-16
A3390	DN300 Fresh Watermain Backfilling - Stage 1	12	14-Jun-16	27-Jun-16
11.7 - Road Works				
A3450	Road Formation	12	14-Jun-16	27-Jun-16
A3460	Kerb + Gully	12	21-Jun-16	05-Jul-16
A3480	Lay subbase layer	12	28-Jun-16	12-Jul-16



CRBC-CEC-KADEN Joint Venture

◆ ◆ Milestone
Critical Activity
Non-Critical Activity
Actual Work

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

Data Date: 20-Apr-16 **Run Date: 26-Apr-16**

Project ID :LT6-3MRP-10
Layout : LT6IWP 3MRP

3-month Rolling Programme

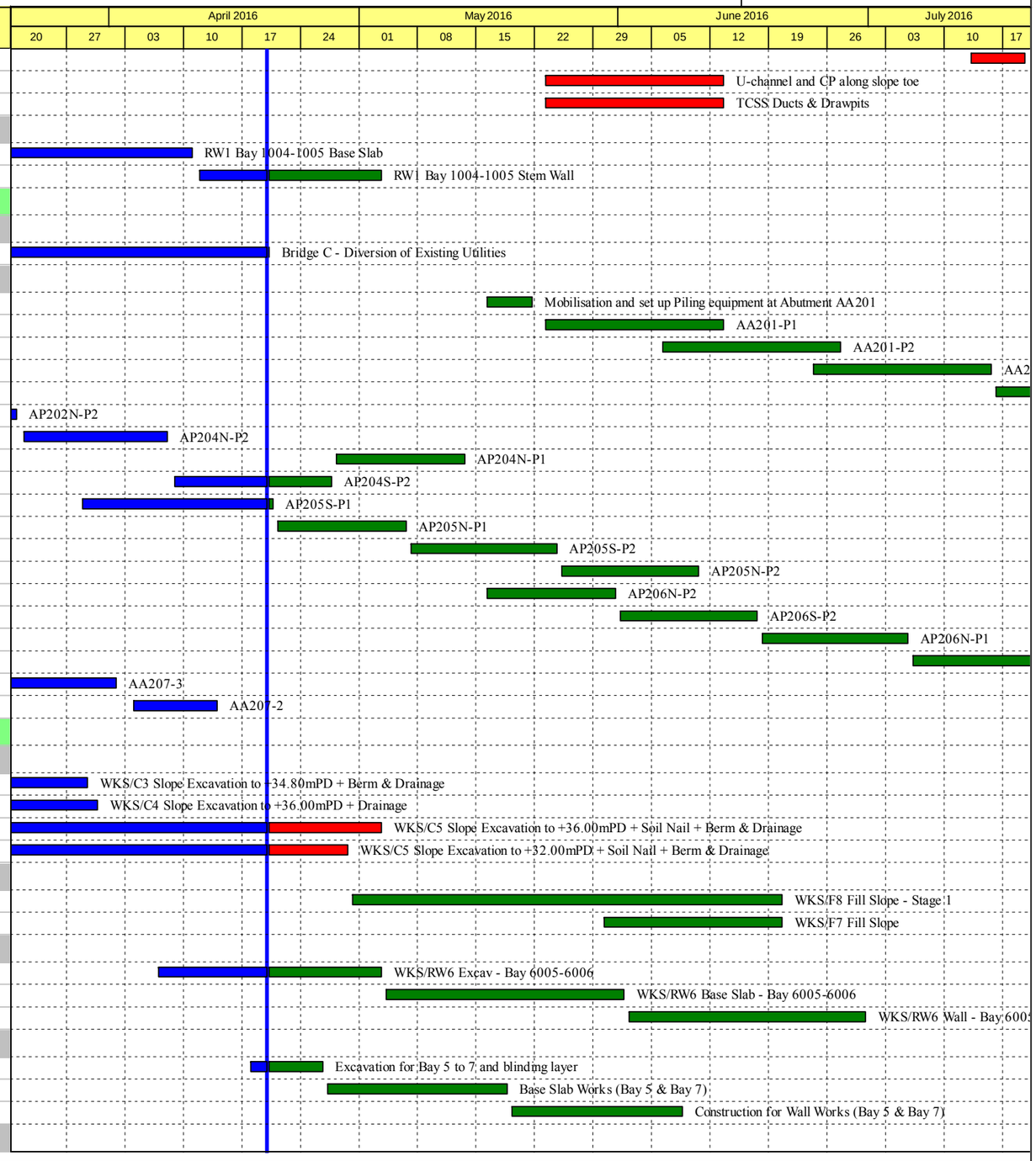
Date	Revision	Checked	Approved
20-Apr-16	3MRP		

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

AECOM

CEDD

Activity ID	Activity Name	Rem Dur	Start	Finish
A3490	Paving - Base Course	6	13-Jul-16	19-Jul-16
A3500	U-channel and CP along slope toe	18	23-May-16	13-Jun-16
A3510	TCSS Ducts & Drawpits	18	23-May-16	13-Jun-16
11.8 - RW1 (Bay 1004 & 1005) & NB4-a (Bay 3 & 4) & SMH4101A to SMH4101				
A3540	RW1 Bay 1004-1005 Base Slab	0	19-Mar-16 A	11-Apr-16 A
A3550	RW1 Bay 1004-1005 Stem Wall	12	12-Apr-16 A	03-May-16
12.0 - Bridge C (Ch8700 to Ch9005)				
12.1 - Preparation Works				
BRC-9610	Bridge C - Diversion of Existing Utilities	0	31-Jul-15 A	20-Apr-16
12.3 - Bored piles				
BRC-2900	Mobilisation and set up Piling equipment at Abutment AA201	6	16-May-16	21-May-16
BRC-2905	AA201-P1	18	23-May-16	13-Jun-16
BRC-2910	AA201-P2	18	06-Jun-16	27-Jun-16
BRC-2915	AA201-P3	18	24-Jun-16	15-Jul-16
BRC-2920	AA201-P4	18	16-Jul-16	05-Aug-16
BRC-2965	AP202N-P2	0	05-Mar-16 A	21-Mar-16 A
BRC-2970	AP204N-P2	0	22-Mar-16 A	08-Apr-16 A
BRC-2975	AP204N-P1	14	28-Apr-16	13-May-16
BRC-2980	AP204S-P2	7	09-Apr-16 A	27-Apr-16
BRC-2985	AP205S-P1	1	29-Mar-16 A	20-Apr-16
BRC-2990	AP205N-P1	14	21-Apr-16	06-May-16
BRC-2995	AP205S-P2	14	07-May-16	24-May-16
BRC-3000	AP205N-P2	14	25-May-16	10-Jun-16
BRC-3005	AP206N-P2	14	16-May-16	31-May-16
BRC-3010	AP206S-P2	14	01-Jun-16	17-Jun-16
BRC-3015	AP206N-P1	14	18-Jun-16	05-Jul-16
BRC-3020	AP206S-P2	14	06-Jul-16	21-Jul-16
BRC-3530	AA207-3	0	18-Mar-16 A	02-Apr-16 A
BRC-3540	AA207-2	0	04-Apr-16 A	14-Apr-16 A
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	0	08-Oct-15 A	29-Mar-16 A
RCD-2030	WKS/C4 Slope Excavation to +36.00mPD + Drainage	0	24-Oct-15 A	30-Mar-16 A
RCD-2200	WKS/C5 Slope Excavation to +36.00mPD + Soil Nail + Berm & Drainage	12	13-Jan-16 A	03-May-16
RCD-2300	WKS/C5 Slope Excavation to +32.00mPD + Soil Nail + Berm & Drainage	9	25-Feb-16 A	29-Apr-16
13.3 - Fill Slopes				
A4580	WKS/F8 Fill Slope - Stage 1	42	30-Apr-16	20-Jun-16
A4600	WKS/F7 Fill Slope	18	30-May-16	20-Jun-16
13.4 - Retaining Walls				
A4460	WKS/RW6 Excav - Bay 6005-6006	12	07-Apr-16 A	03-May-16
A4470	WKS/RW6 Base Slab - Bay 6005-6006	24	04-May-16	01-Jun-16
A4480	WKS/RW6 Wall - Bay 6005-6006	24	02-Jun-16	30-Jun-16
13.5 - Construction of Noise Barrier NB2				
A4790	Excavation for Bay 5 to 7 and blinding layer	6	18-Apr-16 A	26-Apr-16
A4800	Base Slab Works (Bay 5 & Bay 7)	18	27-Apr-16	18-May-16
A4810	Construction for Wall Works (Bay 5 & Bay 7)	18	19-May-16	08-Jun-16
13.8 - Road Works				



CRBC-CEC-KADEN Joint Venture

◆ ◆ Milestone
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Actual Work

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

Data Date: 20-Apr-16 **Run Date: 26-Apr-16**

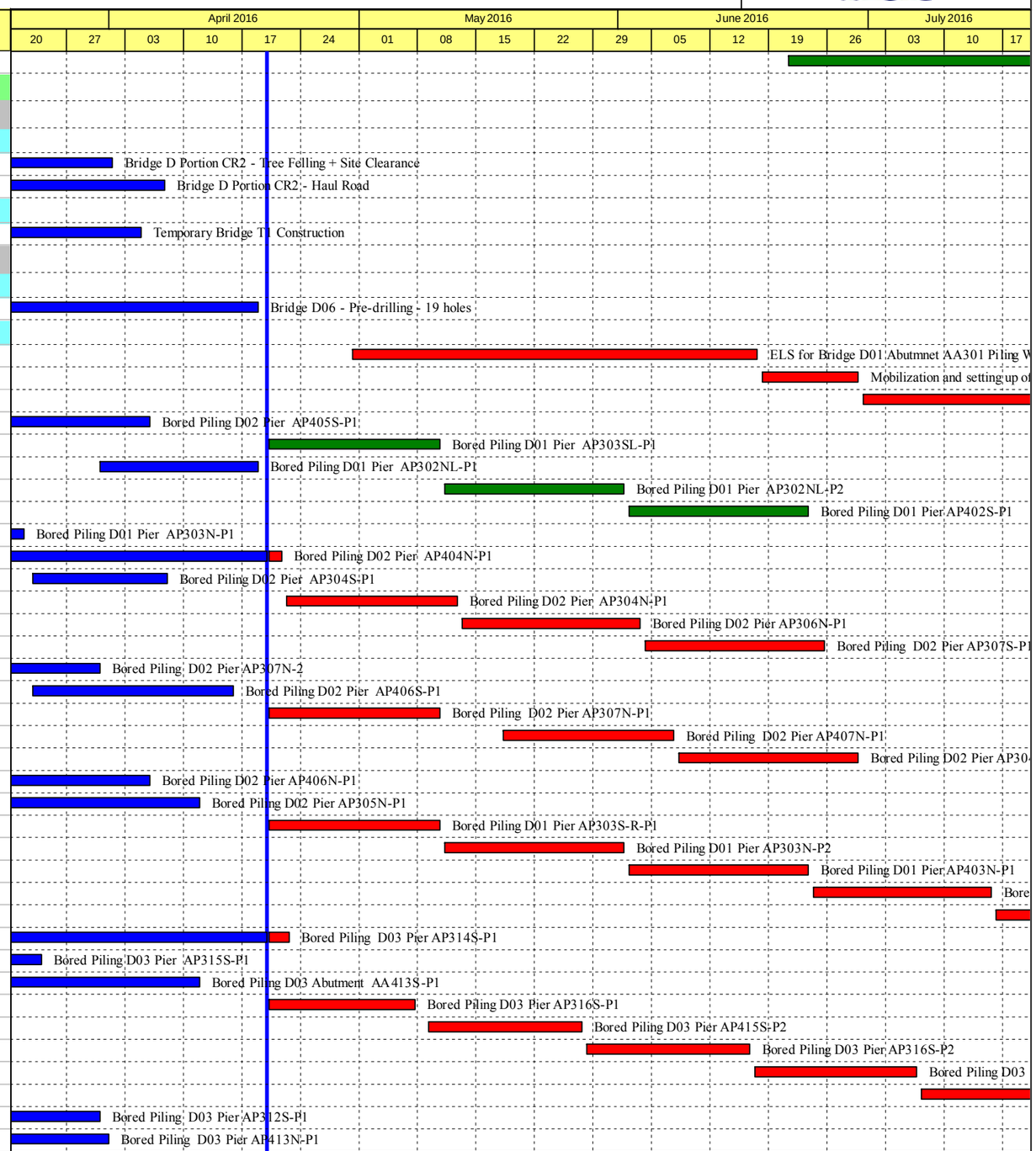
Project ID :LT6-3MRP-10
Layout : LT6IWP 3MRP

3-month Rolling Programme

Date	Revision	Checked	Approved
20-Apr-16	3MRP		

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

Activity ID	Activity Name	Rem Dur	Start	Finish
A4630	CH 9005-9260 - Road Formation (Stage 1)	60	21-Jun-16	30-Aug-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	0	31-Jul-15 A	01-Apr-16 A
BRD-1180	Bridge D Portion CR2 - Haul Road	0	08-Sep-15 A	07-Apr-16 A
- Temporary Bridges				
BRD-1200	Temporary Bridge T1 Construction	0	15-Feb-16 A	05-Apr-16 A
14.2 - Bored Piles				
- Pre-drilling				
BRD-2060	Bridge D06 - Pre-drilling - 19 holes	0	08-Sep-15 A	19-Apr-16 A
- Bored Piling				
BRD-2000.00	ELS for Bridge D01 Abutmnet AA301 Piling Woks	40	30-Apr-16	17-Jun-16
BRD-2002	Mobilization and setting up of Piling Equipment	10	18-Jun-16	29-Jun-16
BRD-2004	Bridge D01 Bored Piling Abutment AA301-02	18	30-Jun-16	21-Jul-16
BRD-2022	Bored Piling D02 Pier AP405S-P1	0	10-Mar-16 A	06-Apr-16 A
BRD-2024	Bored Piling D01 Pier AP303SL-P1	18	20-Apr-16	10-May-16
BRD-2026	Bored Piling D01 Pier AP302NL-P1	0	31-Mar-16 A	19-Apr-16 A
BRD-2028	Bored Piling D01 Pier AP302NL-P2	18	11-May-16	01-Jun-16
BRD-2032	Bored Piling D01 Pier AP402S-P1	18	02-Jun-16	23-Jun-16
BRD-2036	Bored Piling D01 Pier AP303N-P1	0	29-Feb-16 A	22-Mar-16 A
BRD-2038	Bored Piling D02 Pier AP404N-P1	2	15-Mar-16 A	21-Apr-16
BRD-2042	Bored Piling D02 Pier AP304S-P1	0	23-Mar-16 A	08-Apr-16 A
BRD-2044	Bored Piling D02 Pier AP304N-P1	18	22-Apr-16	12-May-16
BRD-2046	Bored Piling D02 Pier AP306N-P1	18	13-May-16	03-Jun-16
BRD-2048	Bored Piling D02 Pier AP307S-P1	18	04-Jun-16	25-Jun-16
BRD-2056	Bored Piling D02 Pier AP307N-2	0	10-Mar-16 A	31-Mar-16 A
BRD-2058	Bored Piling D02 Pier AP406S-P1	0	23-Mar-16 A	16-Apr-16 A
BRD-2062	Bored Piling D02 Pier AP307N-P1	18	20-Apr-16	10-May-16
BRD-2064	Bored Piling D02 Pier AP407N-P1	18	18-May-16	07-Jun-16
BRD-2066	Bored Piling D02 Pier AP304N-P2	18	08-Jun-16	29-Jun-16
BRD-2072	Bored Piling D02 Pier AP406N-P1	0	15-Mar-16 A	06-Apr-16 A
BRD-2074	Bored Piling D02 Pier AP305N-P1	0	16-Mar-16 A	12-Apr-16 A
BRD-2076	Bored Piling D01 Pier AP303S-R-P1	18	20-Apr-16	10-May-16
BRD-2078	Bored Piling D01 Pier AP303N-P2	18	11-May-16	01-Jun-16
BRD-2082	Bored Piling D01 Pier AP403N-P1	18	02-Jun-16	23-Jun-16
BRD-2084	Bored Piling D02 Pier AP304N-P2	18	24-Jun-16	15-Jul-16
BRD-2086	Bored Piling D02 Pier AP404S-P1	18	16-Jul-16	05-Aug-16
BRD-2091	Bored Piling D03 Pier AP314S-P1	3	23-Jan-16 A	22-Apr-16
BRD-2093	Bored Piling D03 Pier AP315S-P1	0	09-Mar-16 A	24-Mar-16 A
BRD-2094	Bored Piling D03 Abutment AA413S-P1	0	17-Mar-16 A	12-Apr-16 A
BRD-2095	Bored Piling D03 Pier AP316S-P1	16	20-Apr-16	07-May-16
BRD-2096	Bored Piling D03 Pier AP415S-P2	16	09-May-16	27-May-16
BRD-2097	Bored Piling D03 Pier AP316S-P2	16	28-May-16	16-Jun-16
BRD-2098	Bored Piling D03 Pier AP415S-P1	16	17-Jun-16	06-Jul-16
BRD-2099	Bored Piling D03 Pier AP317S-P1	16	07-Jul-16	25-Jul-16
BRD-2100.84	Bored Piling D03 Pier AP312S-P1	0	08-Mar-16 A	31-Mar-16 A
BRD-2100.85	Bored Piling D03 Pier AP413N-P1	0	12-Mar-16 A	01-Apr-16 A



CRBC-CEC-KADEN Joint Venture

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

Data Date: 20-Apr-16 **Run Date: 26-Apr-16**

Project ID :LT6-3MRP-10
Layout : LT6IWP 3MRP

3-month Rolling Programme

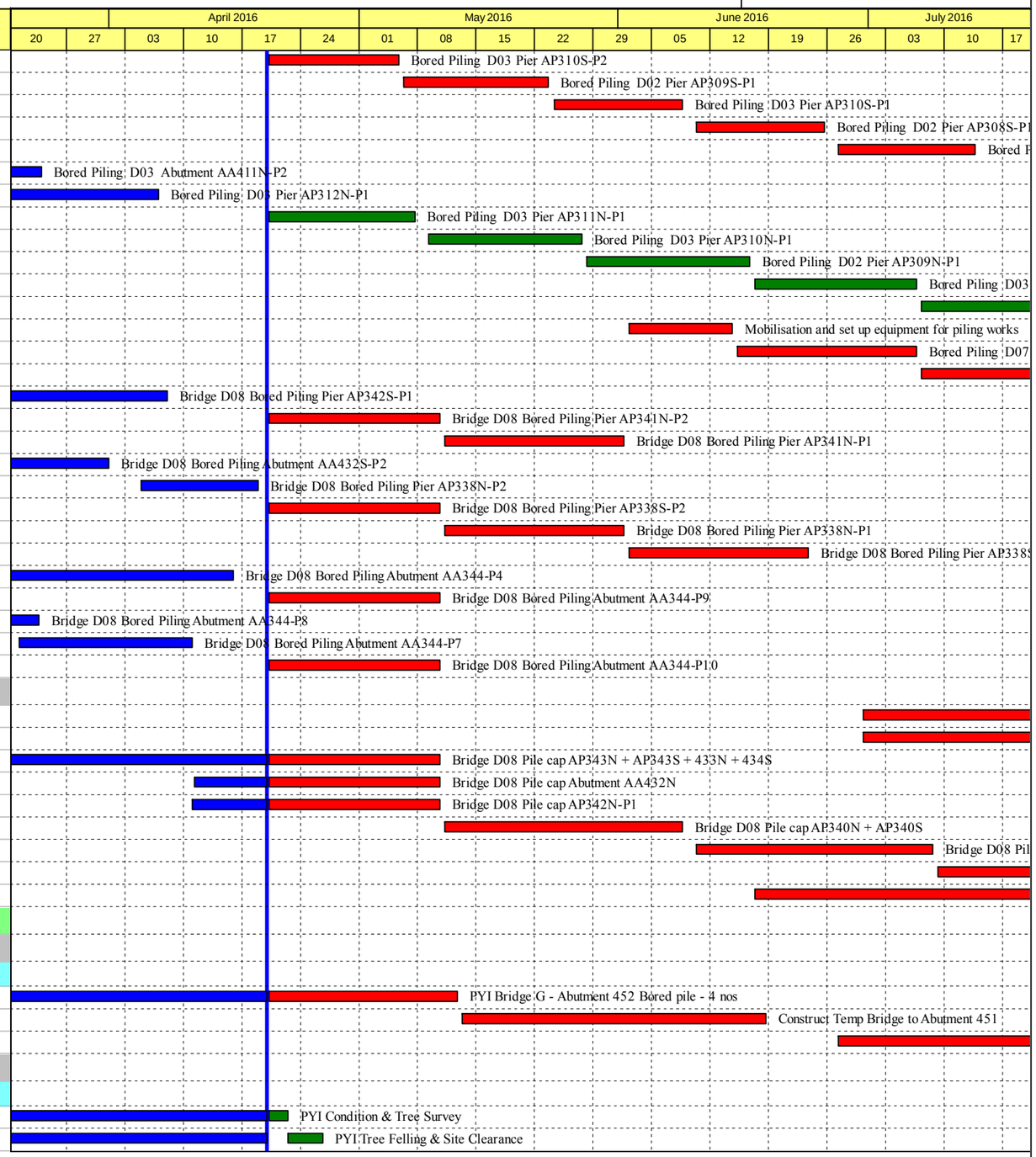
Date	Revision	Checked	Approved
20-Apr-16	3MRP		

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

AECOM

CEDD

Activity ID	Activity Name	Rem Dur	Start	Finish
BRD-2100.86	Bored Piling D03 Pier AP310S-P2	14	20-Apr-16	05-May-16
BRD-2100.87	Bored Piling D02 Pier AP309S-P1	14	06-May-16	23-May-16
BRD-2100.88	Bored Piling D03 Pier AP310S-P1	14	24-May-16	08-Jun-16
BRD-2100.89	Bored Piling D02 Pier AP308S-P1	14	10-Jun-16	25-Jun-16
BRD-2100.90	Bored Piling D02 Abutment AA408S-P2	14	27-Jun-16	13-Jul-16
BRD-2101.05	Bored Piling D03 Abutment AA411N-P2	0	04-Mar-16 A	24-Mar-16 A
BRD-2101.06	Bored Piling D03 Pier AP312N-P1	0	09-Mar-16 A	07-Apr-16 A
BRD-2101.07	Bored Piling D03 Pier AP311N-P1	16	20-Apr-16	07-May-16
BRD-2101.08	Bored Piling D03 Pier AP310N-P1	16	09-May-16	27-May-16
BRD-2101.10	Bored Piling D02 Pier AP309N-P1	16	28-May-16	16-Jun-16
BRD-2101.11	Bored Piling D03 Pier AP310N-P2	16	17-Jun-16	06-Jul-16
BRD-2101.12	Bored Piling D02 Pier AP308N-1	16	07-Jul-16	25-Jul-16
BRD-2101.34	Mobilisation and set up equipment for piling works	10	02-Jun-16	14-Jun-16
BRD-2101.35	Bored Piling D07 Pier AP337S-P1	18	15-Jun-16	06-Jul-16
BRD-2101.36	Bored Piling D07 Abutment AA423S-P2	18	07-Jul-16	27-Jul-16
BRD-2201.14	Bridge D08 Bored Piling Pier AP342S-P1	0	18-Mar-16 A	08-Apr-16 A
BRD-2201.15	Bridge D08 Bored Piling Pier AP341N-P2	18	20-Apr-16	10-May-16
BRD-2201.16	Bridge D08 Bored Piling Pier AP341N-P1	18	11-May-16	01-Jun-16
BRD-2201.23	Bridge D08 Bored Piling Abutment AA432S-P2	0	09-Mar-16 A	01-Apr-16 A
BRD-2201.24	Bridge D08 Bored Piling Pier AP338N-P2	0	05-Apr-16 A	19-Apr-16 A
BRD-2201.25	Bridge D08 Bored Piling Pier AP338S-P2	18	20-Apr-16	10-May-16
BRD-2201.26	Bridge D08 Bored Piling Pier AP338N-P1	18	11-May-16	01-Jun-16
BRD-2201.27	Bridge D08 Bored Piling Pier AP338S-P1	18	02-Jun-16	23-Jun-16
BRD-2201.34	Bridge D08 Bored Piling Abutment AA344-P4	0	15-Mar-16 A	16-Apr-16 A
BRD-2201.35	Bridge D08 Bored Piling Abutment AA344-P9	18	20-Apr-16	10-May-16
BRD-2201.38	Bridge D08 Bored Piling Abutment AA344-P8	0	07-Mar-16 A	23-Mar-16 A
BRD-2201.39	Bridge D08 Bored Piling Abutment AA344-P7	0	21-Mar-16 A	11-Apr-16 A
BRD-2201.40	Bridge D08 Bored Piling Abutment AA344-P10	18	20-Apr-16	10-May-16
14.3 - Pile Caps				
BRD-3051	Bridge D02 Pile cap 305S-P1 + 405S-P1	24	30-Jun-16	28-Jul-16
BRD-3054	Bridge D02 Pile cap AP306S-P1 + 406S-P1	24	30-Jun-16	28-Jul-16
BRD-3751	Bridge D08 Pile cap AP343N + AP343S + 433N + 434S	18	12-Mar-16 A	10-May-16
BRD-3752	Bridge D08 Pile cap Abutment AA432N	18	11-Apr-16 A	10-May-16
BRD-3754	Bridge D08 Pile cap AP342N-P1	18	11-Apr-16 A	10-May-16
BRD-3755	Bridge D08 Pile cap AP340N + AP340S	24	11-May-16	08-Jun-16
BRD-3756	Bridge D08 Pile cap AP339N + AP339S	24	10-Jun-16	08-Jul-16
BRD-3757	Bridge D08 Pile cap AP333S-L + AP333S-R	36	09-Jul-16	19-Aug-16
BRD-3790	Bridge D08 - Pilecap Abutment AA344	30	17-Jun-16	22-Jul-16
15.0 - Ping Yeung Interchange (PYI)				
15.1 - PYI Local Road - South				
- Bridge G				
PYI-1050	PYI Bridge G - Abutment 452 Bored pile - 4 nos	20	16-Feb-16 A	12-May-16
PYI-1060	Construct Temp Bridge to Abutment 451	30	13-May-16	18-Jun-16
PYI-1070	PYI Bridge G - Abutment 451 Prebored Bored pile - 4 nos	36	27-Jun-16	08-Aug-16
15.2 - PYI Local Road - North				
- Preparation Works				
PYI-2010	PYI Condition & Tree Survey	2	03-Sep-15 A	22-Apr-16
PYI-2020	PYI Tree Felling & Site Clearance	4	21-Sep-15 A	26-Apr-16



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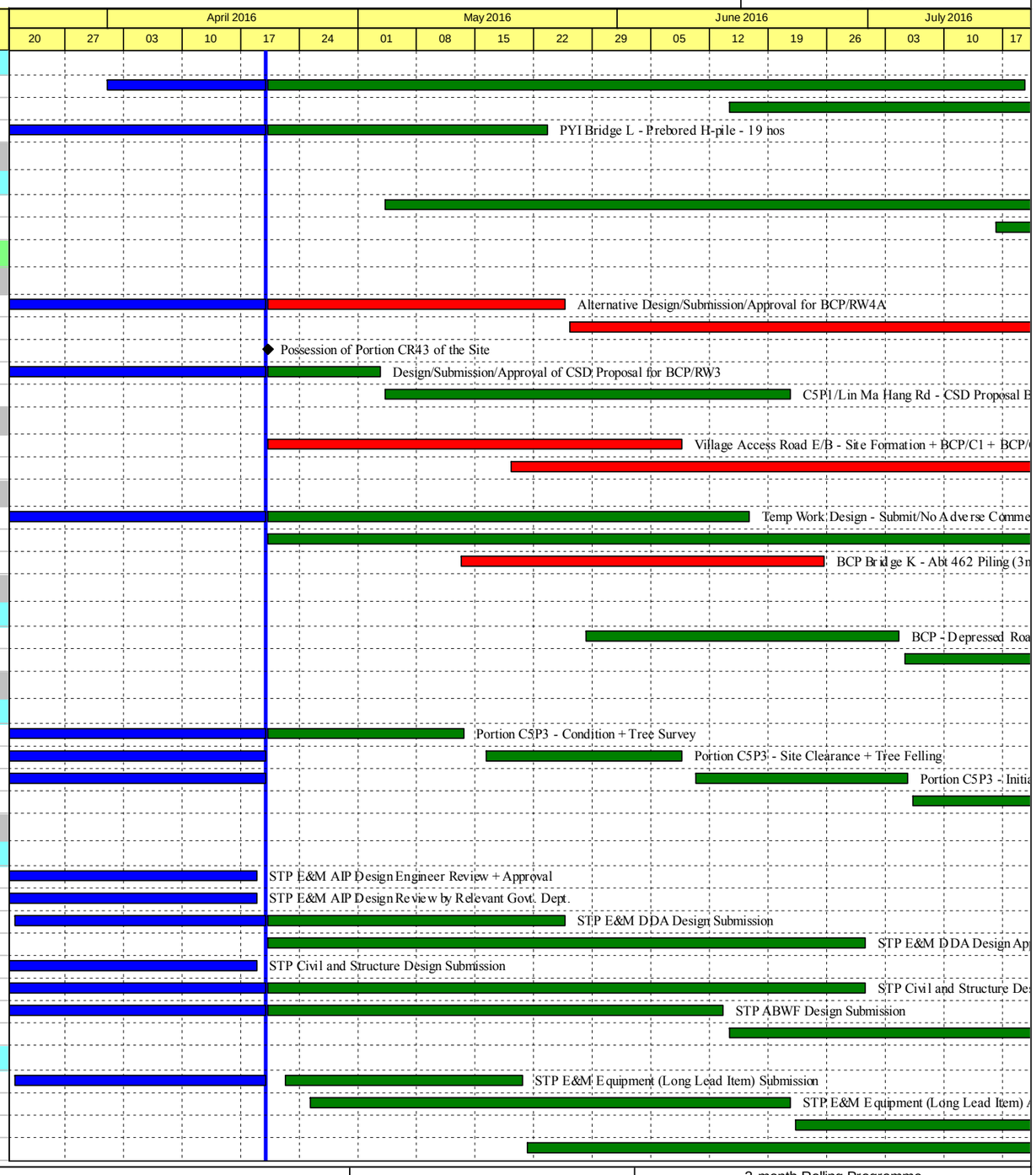
Liantang / Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works - CONTRACT 6

AECOM

CEDD

Activity ID	Activity Name	Rem Dur	Start	Finish
	- Bridge L			
PYI-2041	Temp Work Design - Submit/No Adverse Comment - Bridge L Abutment	75	01-Apr-16 A	19-Jul-16
PYI-2042	Temp Work Design - Submit/No Adverse Comment - Bridge L Deck	90	14-Jun-16	28-Sep-16
PYI-2100	PYI Bridge L - Prebored H-pile - 19 nos	28	23-Feb-16 A	23-May-16
15.3 - PYI Roadworks				
	- Bridge H			
PYI-2691	Temp Work Design - Submit/No Adverse Comment - Bridge H Abutment	90	04-May-16	19-Aug-16
PYI-2692	Temp Work Design - Submit/No Adverse Comment - Bridge H Deck	90	16-Jul-16	31-Oct-16
16.0 - Border Control Point (BCP)				
16.1 - Proposed Lin Ma Hang Road				
BCP-1010	Alternative Design/Submission/Approval for BCP/RW4A	30	02-Sep-15 A	25-May-16
BCP-1050	C5P1/Lin Ma Hang Rd - Retaining Wall BCP/RW4 & RW4A	118	26-May-16	14-Oct-16
BCP-1100	Possession of Portion CR43 of the Site	0	20-Apr-16	
BCP-1110	Design/Submission/Approval of CSD Proposal for BCP/RW3	12	02-Sep-15 A	03-May-16
BCP-1150	C5P1/Lin Ma Hang Rd - CSD Proposal BCP/RW3	40	04-May-16	21-Jun-16
16.2 - Village Access Road (VAR)				
BCP-6050	Village Access Road E/B - Site Formation + BCP/C1 + BCP/C2	42	20-Apr-16	08-Jun-16
BCP-6100	Village Access Road - Gabion Channel	120	19-May-16	10-Oct-16
16.4 - Bridge K				
BCP-3991	Temp Work Design - Submit/No Adverse Comment - Bridge K Abutment	48	04-Jan-16 A	16-Jun-16
BCP-3992	Temp Work Design - Submit/No Adverse Comment - Bridge K Deck	90	20-Apr-16	05-Aug-16
BCP-4100	BCP Bridge K - Abt 462 Piling (3nos)	36	13-May-16	25-Jun-16
16.5 - BCP Underpass				
	- Depressed Road Structure			
BCP-2200	BCP - Depressed Road B - Excavation - 10 bays	30	28-May-16	04-Jul-16
BCP-2250	BCP - Depressed Road B - Base Slab - 10 bays	54	05-Jul-16	05-Sep-16
16.7 - BCP Perimeter Road				
	- Portion C5P3			
BCP-8510	Portion C5P3 - Condition + Tree Survey	21	07-Mar-16 A	13-May-16
BCP-8520	Portion C5P3 - Site Clearance + Tree Felling	21	07-Mar-16 A	08-Jun-16
BCP-8530	Portion C5P3 - Initial Survey	21	07-Mar-16 A	05-Jul-16
BCP-8540	Portion C5P3 - Road Formation	90	06-Jul-16	20-Oct-16
16.8 - Sewage Treatment Plant				
	- Contractor's Design Approval			
BCP-7010	STP E&M AIP Design Engineer Review + Approval	0	15-Jan-16 A	19-Apr-16 A
BCP-7015	STP E&M AIP Design Review by Relevant Govt. Dept.	0	01-Feb-16 A	19-Apr-16 A
BCP-7020	STP E&M DDA Design Submission	30	21-Mar-16 A	25-May-16
BCP-7025	STP E&M DDA Design Approval	60	20-Apr-16	30-Jun-16
BCP-7030	STP Civil and Structure Design Submission	0	11-Jan-16 A	19-Apr-16 A
BCP-7035	STP Civil and Structure Design Engineer Review + Approval	60	15-Dec-15 A	30-Jun-16
BCP-7040	STP ABWF Design Submission	45	01-Feb-16 A	13-Jun-16
BCP-7045	STP ABWF Design Engineer Review + Approval	45	14-Jun-16	05-Aug-16
	- Procurement & Delivery			
BCP-7050	STP E&M Equipment (Long Lead Item) Submission	24	21-Mar-16 A	20-May-16
BCP-7055	STP E&M Equipment (Long Lead Item) Approval	48	25-Apr-16	21-Jun-16
BCP-7060	STP E&M Equipment (Long Lead Item) Procurement + Delivery	300	22-Jun-16	26-Jun-17
BCP-7065	STP E&M Equipment (Misc.) Submission	60	21-May-16	01-Aug-16



CRBC-CEC-KADEN Joint Venture

◆ ◆ Milestone
Critical Activity
Non-Critical Activity
Actual Work

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

Data Date: 20-Apr-16 **Run Date: 26-Apr-16**

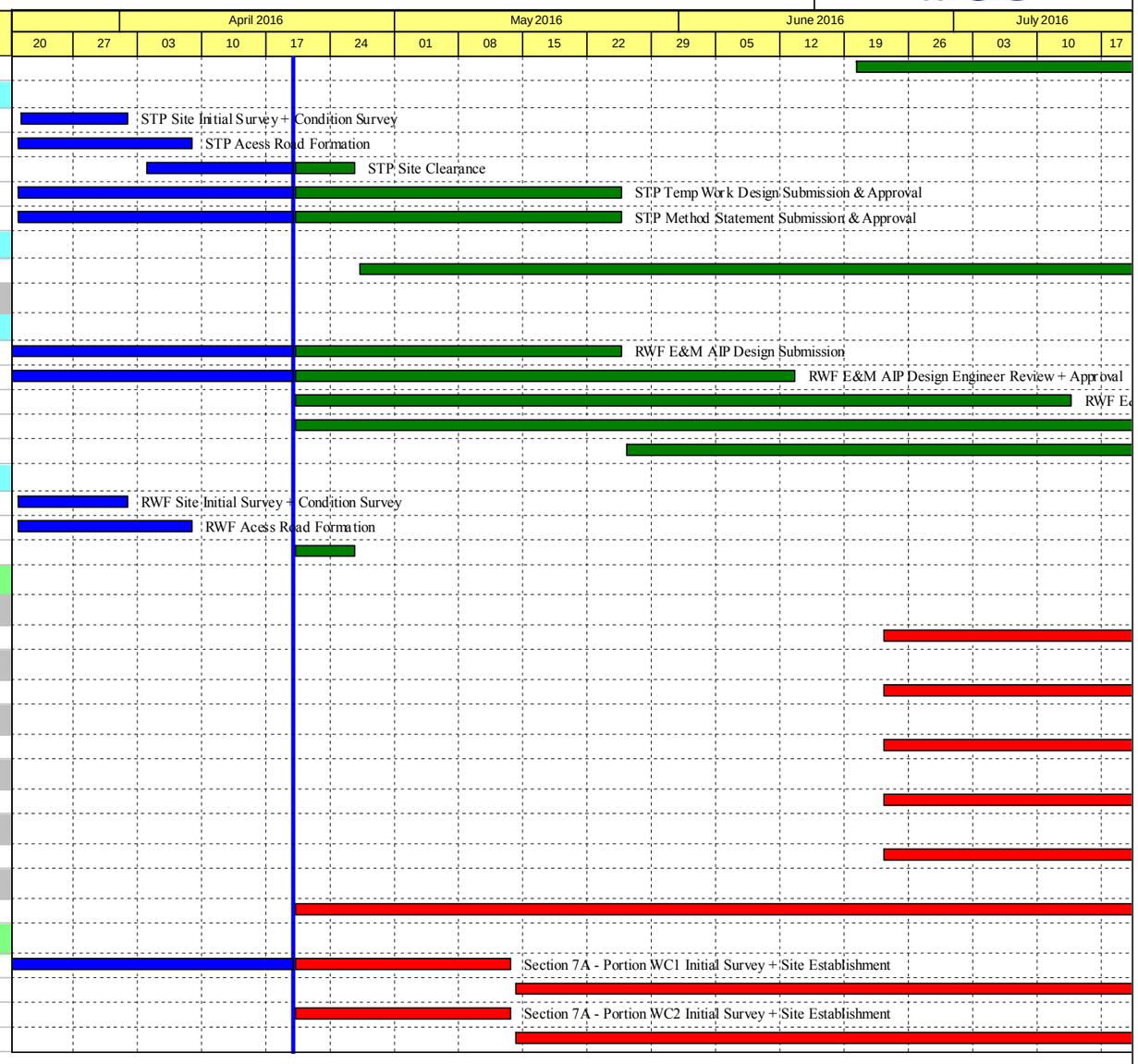
Project ID :LT6-3MRP-10
Layout : LT6IWP 3MRP

3-month Rolling Programme

Date	Revision	Checked	Approved
20-Apr-16	3MRP		

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

Activity ID	Activity Name	Rem Dur	Start	Finish
BCP-7070	STP E&M Equipment (Misc.) Approval	60	20-Jun-16	29-Aug-16
- Preliminary Works				
BCP-7100	STP Site Initial Survey + Condition Survey	0	21-Mar-16 A	02-Apr-16 A
BCP-7120	STP Acess Road Formation	0	21-Mar-16 A	09-Apr-16 A
BCP-7130	STP Site Clearance	6	04-Apr-16 A	26-Apr-16
BCP-7150	STP Temp Work Design Submission & Approval	30	21-Mar-16 A	25-May-16
BCP-7160	STP Method Statement Submission & Approval	30	21-Mar-16 A	25-May-16
- Structural Works				
BCP-7200	STP Excavation and ELS	90	27-Apr-16	12-Aug-16
16.9 - Reclaimed Water Facilities (Provisional)				
- Contractor's Design Approval				
BCP-8780	RWF E&M AIP Design Submission	30	15-Jan-16 A	25-May-16
BCP-8790	RWF E&M AIP Design Engineer Review + Approval	45	01-Feb-16 A	13-Jun-16
BCP-8800	RWF E&M AIP Design Review by Relevant Govt. Dept.	70	20-Apr-16	13-Jul-16
BCP-8810	RWF E&M DDA Design Submission	130	20-Apr-16	22-Sep-16
BCP-8830	RWF Civil and Structure Design Submission	90	26-May-16	09-Sep-16
- Preliminary Works				
BCP-8700	RWF Site Initial Survey + Condition Survey	0	21-Mar-16 A	02-Apr-16 A
BCP-8705	RWF Acess Road Formation	0	21-Mar-16 A	09-Apr-16 A
BCP-8708	RWF Site Clearance	6	04-Jul-16 A	26-Apr-16
17.0 - Works Subject to Excision				
17.1 - Section IA of the Works				
WSE-1000	Works within Portion PL1 of the Site	485	23-Jun-16	20-Oct-17
17.2 - Section IB of the Works				
WSE-2000	Works within Portion PL2 of the Site	485	23-Jun-16	20-Oct-17
17.3 - Section IC of the Works				
WSE-3000	Works within Portion PL3 of the Site	485	23-Jun-16	20-Oct-17
17.4 - Section ID of the Works				
WSE-4000	Works within Portion PL4 of the Site	485	23-Jun-16	20-Oct-17
17.5 - Section IE of the Works				
WSE-5000	Works within Portion PLA1 of the Site	485	23-Jun-16	20-Oct-17
17.6 - Section IIA of the Works				
WSE-6000	Pipe Jacking HV001 and HV002	475	20-Apr-16	07-Aug-17
18.0 - Landscaping and Establishment Works				
LEW-1000	Section 7A - Portion WC1 Initial Survey + Site Establishment	24	24-Jul-15 A	13-May-16
LEW-1100	Section 7A - Portion WC1 Initial Planting	220	14-May-16	19-Dec-16
LEW-1200	Section 7A - Portion WC2 Initial Survey + Site Establishment	24	20-Apr-16	13-May-16
LEW-1300	Section 7A - Portion WC2 Initial Planting	220	14-May-16	19-Dec-16



CRBC-CEC-KADEN Joint Venture

◆ ◆ Milestone
Critical Activity
Non-Critical Activity
Actual Work

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

Data Date: 20-Apr-16 **Run Date: 26-Apr-16**

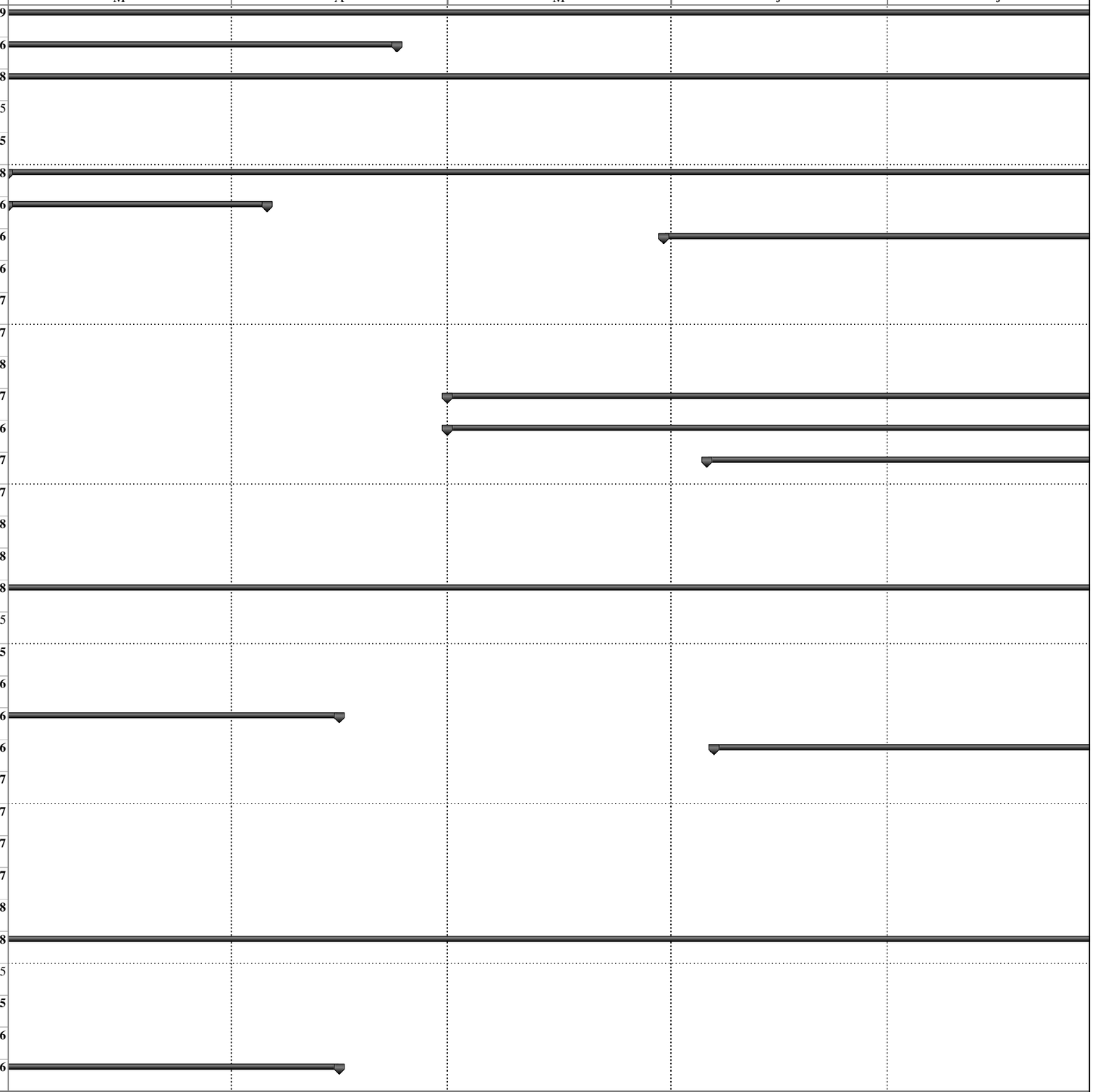
Project ID :LT6-3MRP-10
Layout : LT6IWP 3MRP

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

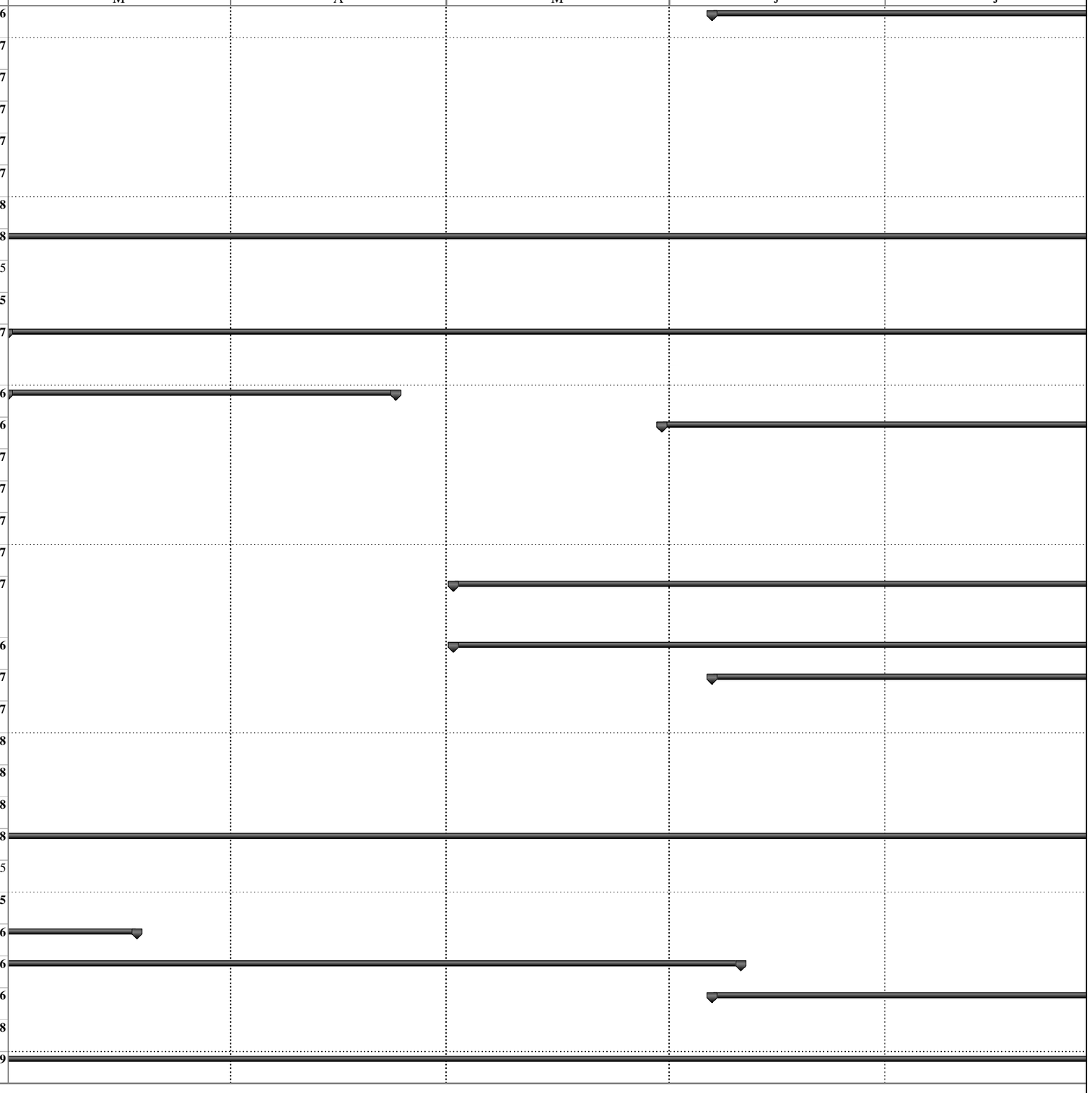
Contract 7

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

ID	Task Name	Duration	Start	Finish
1	**NE/2014/03**	**1369 days**	**11/12/2015**	**10/9/2019**
74	**Preliminary**	**135 days**	**11/12/2015**	**23/4/2016**
78	**Bridge A**	**1005 days**	**11/12/2015**	**10/9/2018**
79	Commencement	0 days	11/12/2015	11/12/2015
80	**Preliminary Works**	**21 days**	**11/12/2015**	**31/12/2015**
82	**Portion from Pier A01 to Pier A05**	**688 days**	**1/3/2016**	**17/1/2018**
83	**GI Works**	**36 days**	**1/3/2016**	**5/4/2016**
86	**Piling - Pre-bored Socket H-Piles**	**87 days**	**31/5/2016**	**25/8/2016**
90	**Cap & Column**	**97 days**	**26/8/2016**	**30/11/2016**
93	**Decking**	**340 days**	**24/11/2016**	**29/10/2017**
96	**Stressing of Permanent Tendons**	**253 days**	**11/3/2017**	**18/11/2017**
99	**Removal of Temporary Works and Reinstatement**	**293 days**	**31/3/2017**	**17/1/2018**
104	**Portion of Abutment and U-trough**	**516 days**	**1/5/2016**	**28/9/2017**
105	**GI Works**	**126 days**	**1/5/2016**	**3/9/2016**
108	**Piling - Bored Piles**	**270 days**	**6/6/2016**	**2/3/2017**
111	**Structure**	**408 days**	**17/8/2016**	**28/9/2017**
115	**Parapet and Drop-in Span**	**180 days**	**19/11/2017**	**17/5/2018**
118	**Road Surface**	**116 days**	**18/5/2018**	**10/9/2018**
121	**Bridge B**	**1005 days**	**11/12/2015**	**10/9/2018**
122	Commencement	0 days	11/12/2015	11/12/2015
123	**Preliminary Works**	**21 days**	**11/12/2015**	**31/12/2015**
125	**GI Works**	**36 days**	**11/1/2016**	**15/2/2016**
128	**Piling - Bored Piles**	**72 days**	**4/2/2016**	**15/4/2016**
131	**Cap and Column**	**177 days**	**7/6/2016**	**30/11/2016**
134	**Cap & Column**	**100 days**	**1/12/2016**	**10/3/2017**
136	**Stressing of Permanent Tendons**	**20 days**	**11/3/2017**	**30/3/2017**
138	**Removal of Temporary Works and Reinstatment**	**125 days**	**9/12/2016**	**13/4/2017**
143	**Parapet and Drop-in Span**	**180 days**	**11/3/2017**	**6/9/2017**
146	**Road Surface**	**369 days**	**7/9/2017**	**10/9/2018**
149	**Bridge D**	**1005 days**	**11/12/2015**	**10/9/2018**
150	Commencment	0 days	11/12/2015	11/12/2015
151	**Preliminary Works**	**10 days**	**11/12/2015**	**20/12/2015**
153	**GI Works**	**36 days**	**11/1/2016**	**15/2/2016**
156	**Piling - Bored Piles**	**72 days**	**4/2/2016**	**15/4/2016**



ID	Task Name	Duration	Start	Finish
159	Cap & Column	177 days	7/6/2016	30/11/2016
162	Decking	100 days	1/12/2016	10/3/2017
164	Stressing of Permanent Tendons	20 days	11/3/2017	30/3/2017
166	Removal of Temporary Works and Reinstatement	125 days	9/12/2016	13/4/2017
171	Parapet and Drop-in Span	150 days	11/3/2017	7/8/2017
174	Construct Semi-Enclosure	180 days	10/5/2017	5/11/2017
177	Road Surface	309 days	6/11/2017	10/9/2018
180	Bridge E	1005 days	11/12/2015	10/9/2018
181	Commencement	0 days	11/12/2015	11/12/2015
182	Preliminary Works	21 days	11/12/2015	31/12/2015
184	Portion from Pier E01 to Pier E08	644 days	1/3/2016	4/12/2017
185	GI Works	54 days	1/3/2016	23/4/2016
189	Piling - Pre-bore Socketed H-Piles	153 days	31/5/2016	30/10/2016
194	Cap & Column	90 days	31/10/2016	28/1/2017
198	Decking	335 days	1/12/2016	31/10/2017
202	Stressing of Permanent Tendons	255 days	11/3/2017	20/11/2017
206	Removal of Temporary Works and Reinstatement	249 days	31/3/2017	4/12/2017
211	Portion of Abutment and U-trough	461 days	2/5/2016	5/8/2017
212	GI Works	111 days	2/5/2016	20/8/2016
215	Piling - Bored Piles	215 days	7/6/2016	7/1/2017
218	Structure	353 days	18/8/2016	5/8/2017
222	Parapet and Drop-in Span	180 days	21/11/2017	19/5/2018
225	Construct noise barrier and semi-enclosure	190 days	19/2/2018	27/8/2018
228	Road Surface	14 days	28/8/2018	10/9/2018
231	Bridge C	820 days	11/12/2015	9/3/2018
232	Commencement	0 days	11/12/2015	11/12/2015
233	Preliminary Works	21 days	11/12/2015	31/12/2015
235	GI Works	78 days	1/1/2016	18/3/2016
238	Piling - Bored Piles	132 days	31/1/2016	10/6/2016
241	Cap & Column	186 days	7/6/2016	9/12/2016
245	Slabs and Façade	577 days	10/8/2016	9/3/2018
263	Establishment works at Portion Z	1370 days	11/12/2015	10/9/2019



Contract SS C505

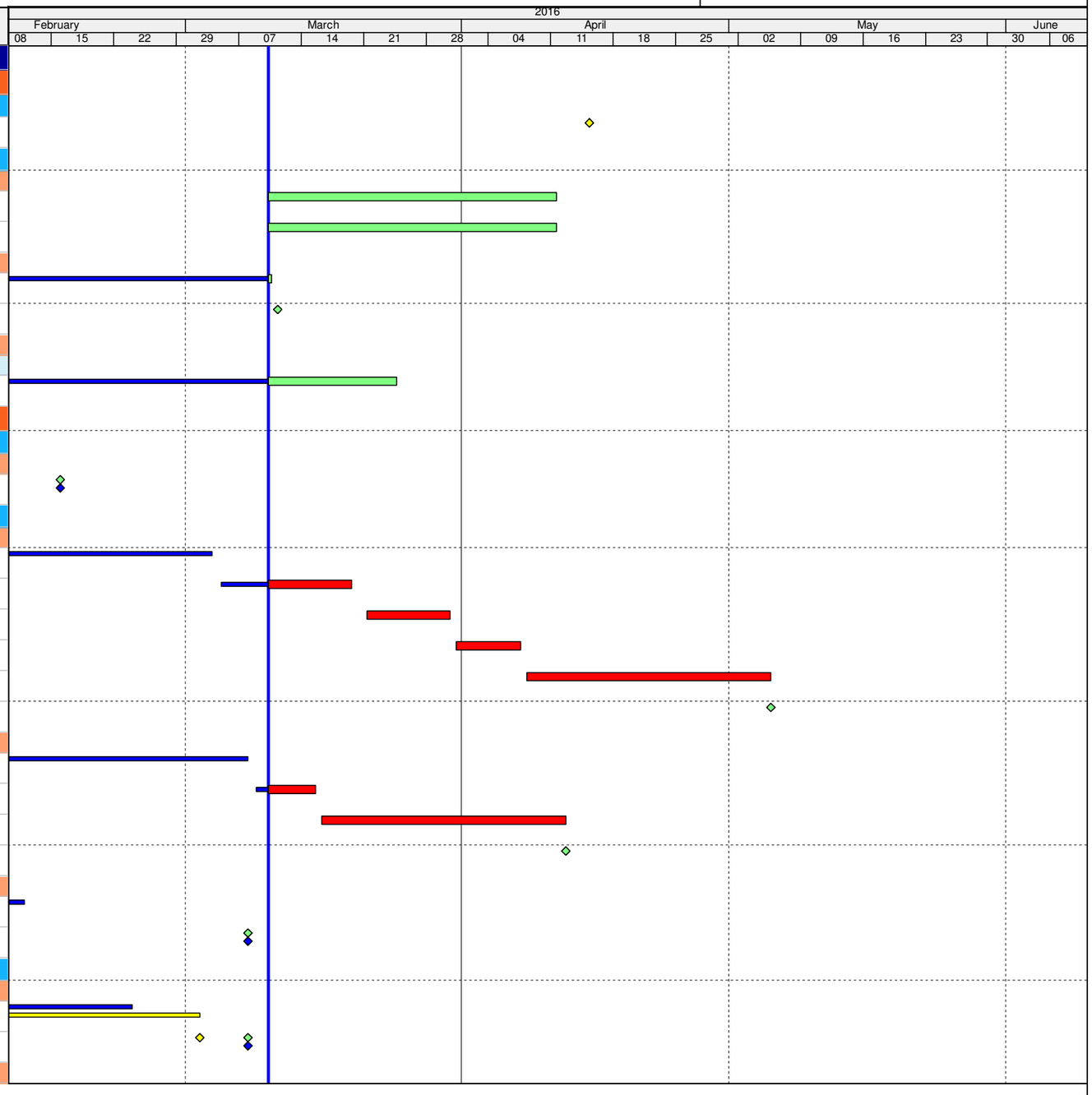
Data Date: 10-Mar-16
Print Date: 10-Mar-16 14:33

Liantang/Heung Yuen Wai Boundary Control Point

BCP Buildings and Associated Facilities

LEIGHTON 禮頓

Activity ID	Activity Name	Dur	Start	Finish	Finish Variance
LHYW Boundary Control Point - Works Programme Rev :		396	09-Jul-15 A	08-Nov-16	64
PRELIMINARIES AND GENERAL REQUIREMENTS		79	21-Jul-15 A	15-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		76	21-Jul-15 A	11-Apr-16	-50
Other Submissions		24	10-Mar-16	11-Apr-16	-50
1161	Prepare and submit Ironmongery Schedule for PTB	24	10-Mar-16	11-Apr-16	-50
8796	Prepare and submit Ironmongery Schedule for Ancillary Buildings	24	10-Mar-16	11-Apr-16	-50
CSD / CBWD Submission		30	13-Jan-16 A	11-Mar-16	-34
8810	Address to Comments and Resubmission	30	13-Jan-16 A	10-Mar-16	-34
8811	Approval Obtained	0	11-Mar-16		-34
Permit		90	21-Jul-15 A	24-Mar-16	-128
Environmental Permit EP-404/2011		90	21-Jul-15 A	24-Mar-16	-128
1176	EP - Prepare and submit Environmental Monitoring and Audit (EM&A) Programme	90	21-Jul-15 A	24-Mar-16	-128
DETAILED DESIGN OF WORKS		378	24-Jul-15 A	08-Nov-16	20
Foundations for Passenger Terminal Building		0	16-Feb-16 A	16-Feb-16 A	-101
Piles adjacent to CEDD Subway		0	16-Feb-16 A	16-Feb-16 A	-101
8224	19 - Architect issue consent to commence construction	0		16-Feb-16 A	-101
Foundation for Ancillary Buildings (Portion 1)		224	24-Jul-15 A	05-May-16	-128
Driven H-Piles - 02 HKPF Building		224	24-Jul-15 A	05-May-16	-155
8226	Prepare design submission	24	24-Jul-15 A	04-Mar-16 A	-151
8230	Architect review design submission	12	05-Mar-16 A	19-Mar-16	-153
8232	Response to Architect comments	6	21-Mar-16	30-Mar-16	-153
8234	Architect review final submission	6	31-Mar-16	07-Apr-16	-153
8235	SCU review	28	08-Apr-16	05-May-16	-197
8236	Architect issue consent to commence construction	0		05-May-16	-155
Driven H-Piles - 03 Fire Station		34	03-Feb-16 A	12-Apr-16	-109
8520	Response to Architect comments	6	03-Feb-16 A	08-Mar-16 A	-112
8521	Architect review final submission	6	09-Mar-16 A	15-Mar-16	-113
8522	SCU review	28	16-Mar-16	12-Apr-16	-143
8523	Architect issue consent to commence construction	0		12-Apr-16	-109
Driven H-Piles - 07 FXRVIS Building (Outbound)		21	16-Jan-16 A	08-Mar-16 A	-82
8534	SCU review	28	16-Jan-16 A	12-Feb-16 A	-82
8535	Architect issue consent to commence construction	0		08-Mar-16 A	-82
Foundation for Ancillary Buildings (Portion 2) and Elevated		145	24-Jul-15 A	12-May-16	-55
Driven H-Piles - 06 FXRVIS Building (Inbound)		20	26-Jan-16 A	08-Mar-16 A	-4
8540	SCU review	28	26-Jan-16 A	24-Feb-16 A	8
8541	Architect issue consent to commence construction	0		08-Mar-16 A	-4
Driven H-Piles - Elevated Walkways 1, 3 & 4		145	24-Jul-15 A	12-May-16	-73



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

3 Months Lookahead Works Programme

Progress to 10-Mar-16

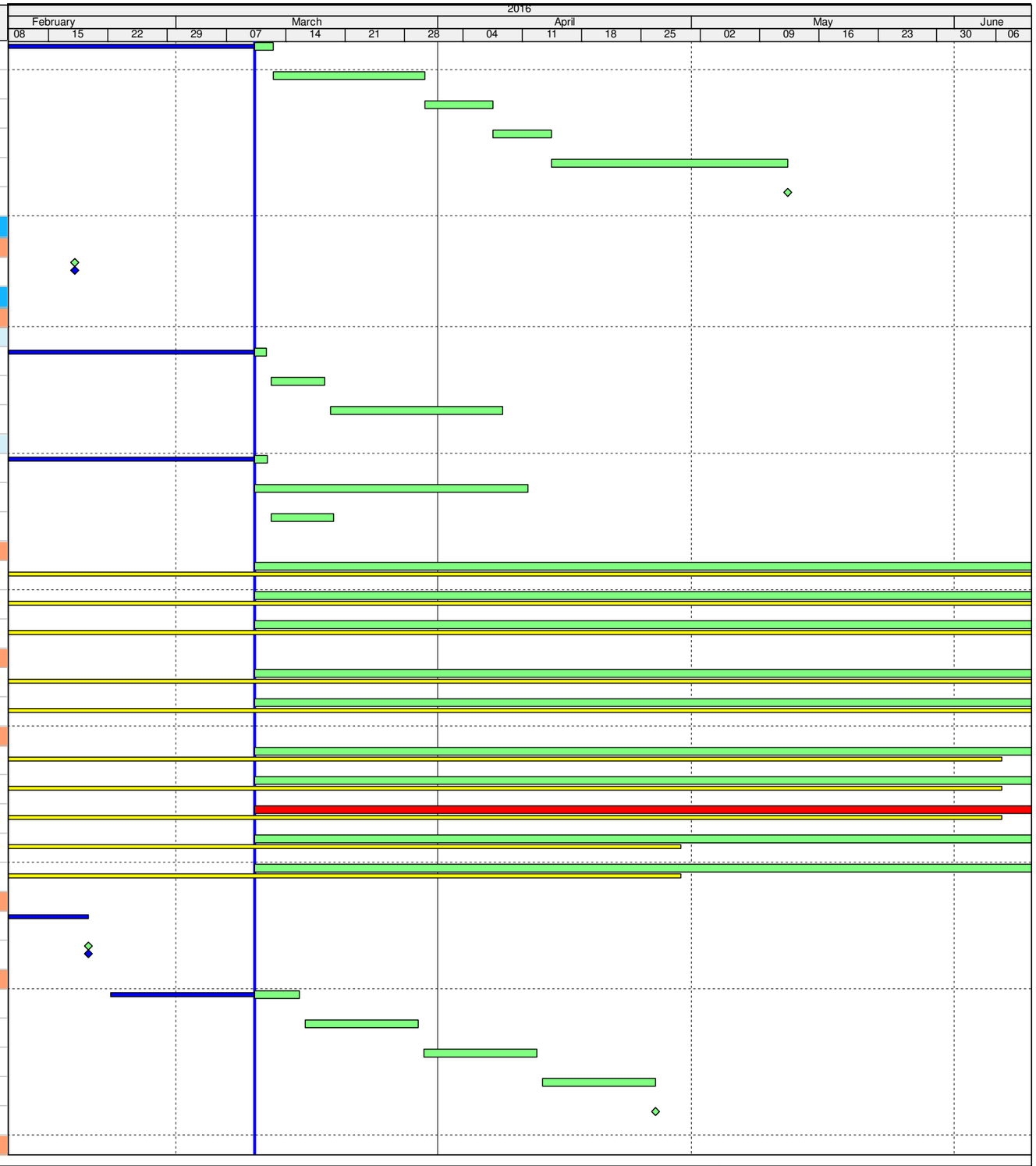
Project ID: H2634-P9
Baseline: Works Programme Rev 1A

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

Page 1 of 11

Progress Update			
Date	Revision	Checked	A
10-Mar-16	Progress update		

Activity ID	Activity Name	Dur	Start	Finish	Finish Variance
8547	Prepare design submission	24	24-Jul-15 A	12-Mar-16	-74
8549	Architect review design submission	12	12-Mar-16	30-Mar-16	-74
8550	Response to Architect comments	6	30-Mar-16	07-Apr-16	-74
8551	Architect review final submission	6	07-Apr-16	14-Apr-16	-74
8551a	SCU review	28	14-Apr-16	12-May-16	-98
8552	Architect issue consent to commence construction	0		12-May-16	-73
Foundation for Bridges B1 - B5		0	18-Feb-16 A	18-Feb-16 A	-53
DDA (B1/B2/B3)		0	18-Feb-16 A	18-Feb-16 A	-53
8262	B1/B2/B3 - Architech Consent to Commence Construction	0		18-Feb-16 A	-53
Architectural & Others		265	01-Dec-15 A	18-Oct-16	-50
Curtain Walls, Glass Wall & Aluminum Claddings		122	28-Dec-15 A	11-Apr-16	-68
PMU Design		107	28-Dec-15 A	08-Apr-16	-66
1556	Submit for comment	21	28-Dec-15 A	11-Mar-16	-66
1558	Incorporate comments	6	12-Mar-16	18-Mar-16	-66
8656	Resubmit and approval	14	19-Mar-16	08-Apr-16	-66
Prototypes and Mockups		37	29-Dec-15 A	11-Apr-16	-152
1576	Architect Review and comment on Performance Prototype & prototype trial assemblies submission	21	29-Dec-15 A	11-Mar-16	-174
1570	Mock up Submission for Curtain Wall, Glass Wall and Aluminum Cladding	24	10-Mar-16	11-Apr-16	-153
1578	Re-submit Performance prototype & prototype trial assemblies submission	7	12-Mar-16	19-Mar-16	-137
Roofing		180	10-Mar-16	18-Oct-16	-50
1410	Metal Roofing & Roof Fall Arrest System Design Submission Review & Approval	180	10-Mar-16	18-Oct-16	-50
1414	Skylight/Glazed Canopies/Glazed Roofing & Sun Shades Design Submission Review & Approval	180	10-Mar-16	18-Oct-16	-50
1416	Green Roof System Design Submission Review & Approval	150	10-Mar-16	09-Sep-16	-50
Suspended Ceiling, Steel Windows, Louvre and Door		180	10-Mar-16	18-Oct-16	-62
1408	Steel Windows, Louvre and Door Design Submission Review & Approval	150	10-Mar-16	09-Sep-16	-50
1418	Suspended Ceiling System Design Submission Review & Approval	180	10-Mar-16	18-Oct-16	-62
Others		120	10-Mar-16	05-Aug-16	-50
8666	Glass and Metal Balustrades Design Submission Review & Approval	120	10-Mar-16	05-Aug-16	-50
8676	Minor Structural Steelworks Design Submission Review & Approval	120	10-Mar-16	05-Aug-16	-50
8706	Glass Cladding Design Submission Review & Approval	120	10-Mar-16	05-Aug-16	-50
8716	X-ray Shielding Doors Design Submission Review & Approval	90	10-Mar-16	30-Jun-16	-50
8726	Hoisting and Beams Installation Design Submission Review & Approval	90	10-Mar-16	30-Jun-16	-50
Bridge Bearing Design Submission (Bridge 4 & 5)		39	30-Jan-16 A	19-Feb-16 A	-29
A1095	Architect 2nd Review	14	30-Jan-16 A	19-Feb-16 A	-29
A1096	Architech Approval	0		19-Feb-16 A	-29
Bridge Movement Joint Design Submission (Bridge 4 & 5)		48	22-Feb-16 A	26-Apr-16	-96
A1097	Prepare Submission	21	22-Feb-16 A	15-Mar-16	-96
A1098	Architech 1st Review	14	16-Mar-16	29-Mar-16	-96
A1099	Response to Architech Comment	14	30-Mar-16	12-Apr-16	-96
A1100	Architect 2nd Review	14	13-Apr-16	26-Apr-16	-96
A1101	Architech Approval	0		26-Apr-16	-96
Bridge Bearing Design Submission (Bridge 1-3)		39	01-Dec-15 A	12-Apr-16	-68



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

3 Months Lookahead Works Programme

Progress to 10-Mar-16

Project ID: H2634-P9
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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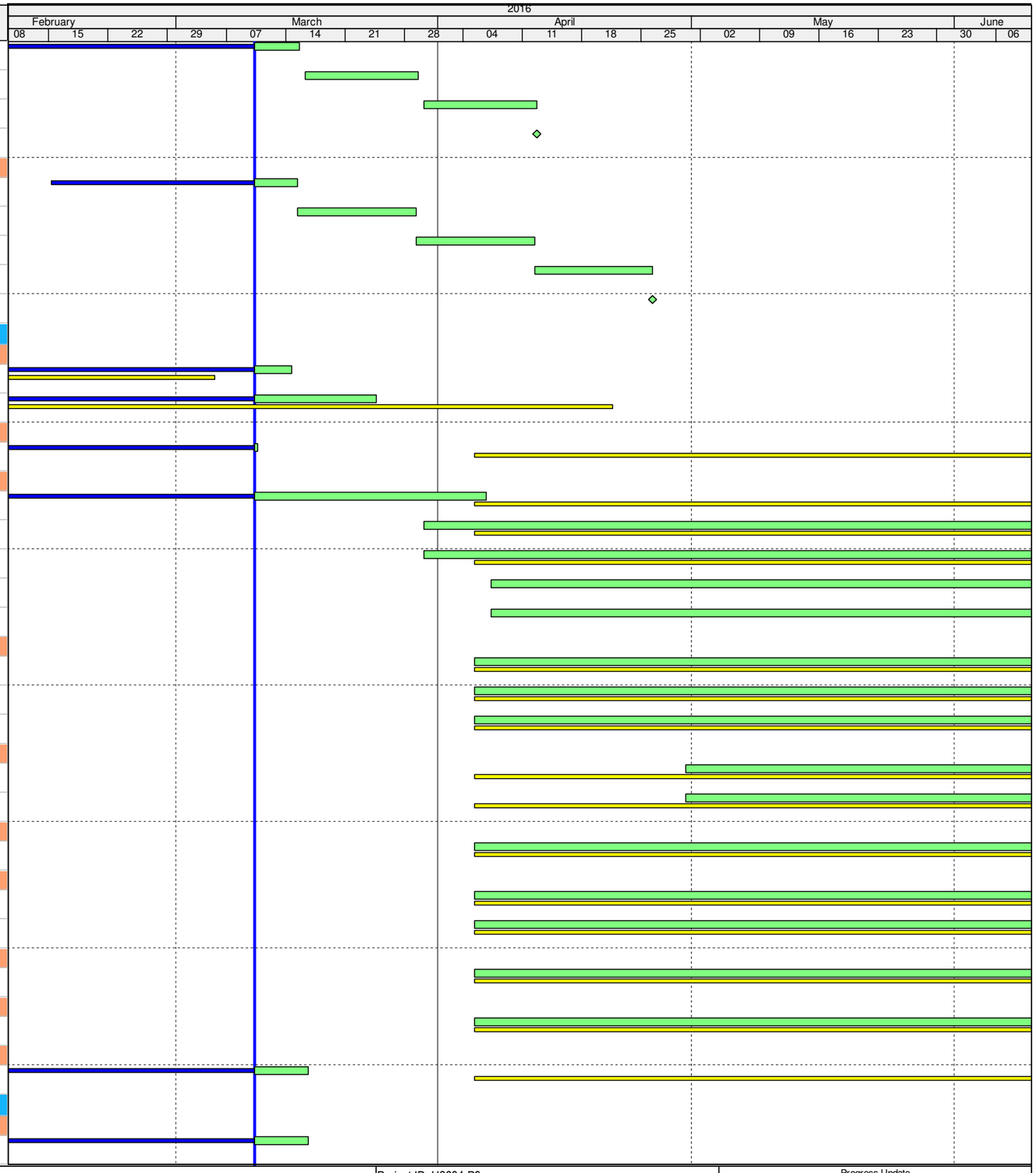
Progress Update			
Date	Revision	Checked	A
10-Mar-16	Progress update		

Activity ID	Activity Name	Dur	Start	Finish	Finish Variance
A1083	Architech 1st Review	14	01-Dec-15 A	15-Mar-16	-68
A1084	Response to Architech Comment	14	16-Mar-16	29-Mar-16	-68
A1085	Architect 2nd Review	14	30-Mar-16	12-Apr-16	-68
A1086	Architech Approval	0		12-Apr-16	-68
Bridge Movement Joint Design Submission (Bridge 1-3)		47	15-Feb-16 A	26-Apr-16	-81
A1087	Prepare Submission	21	15-Feb-16 A	15-Mar-16	-81
A1088	Architech 1st Review	14	15-Mar-16	29-Mar-16	-81
A1089	Response to Architech Comment	14	29-Mar-16	12-Apr-16	-81
A1090	Architect 2nd Review	14	12-Apr-16	26-Apr-16	-81
A1091	Architech Approval	0		26-Apr-16	-81
MEP Systems		250	15-Sep-15 A	08-Nov-16	20
Shop Drawings		156	15-Oct-15 A	24-Mar-16	20
3100	Combined BWIC & Concealed Conduit / Services Drawings	120	15-Oct-15 A	14-Mar-16	-7
3102	Combined Services Drawings & Shop Drawings	120	27-Oct-15 A	24-Mar-16	20
Fuel Tank		100	27-Oct-15 A	10-Mar-16	117
DD.BS82	Fuel Tank Submission/Review & Approval	100	27-Oct-15 A	10-Mar-16	117
Air Conditioning		110	15-Sep-15 A	05-Aug-16	98
DD.BS0010	Chiller Design Submission/Review & Approval	100	15-Sep-15 A	06-Apr-16	98
DD.BS0012	Chiller Package Pumps Design Submission/Review & Approval	100	30-Mar-16*	29-Jul-16	4
DD.BS0016	VRV/VAV Design Submission Review & Approval	100	30-Mar-16*	29-Jul-16	4
DD.BS0020	AHU/PAU Design Submission/Review & Approval	100	07-Apr-16	05-Aug-16	98
DD.BS0014	Cooling Tower Design Submission/Review & Approval	100	07-Apr-16	05-Aug-16	98
Electrical		100	05-Apr-16	03-Aug-16	0
DD.BS0030	MCC Design Submission/Review & Approval	100	05-Apr-16	03-Aug-16	0
DD.BS0032	Armoured Cable Design Submission/Review & Approval	100	05-Apr-16	03-Aug-16	0
DD.BS0034	MCB/ MCCB Design Submission/Review & Approval	100	05-Apr-16	03-Aug-16	0
Fire Services		100	30-Apr-16	29-Aug-16	-22
DD.BS0040	FS Pumps Design Submission/Review & Approval	100	30-Apr-16*	29-Aug-16	-22
DD.BS0058	Fire Shutters, Folding Gates & Smoke Curtain Design Submission Review & Approval	100	30-Apr-16	29-Aug-16	-22
Diesel Generators		100	05-Apr-16	03-Aug-16	0
DD.BS0050	Diesel Generators Design Submission/Review & Approval	100	05-Apr-16	03-Aug-16	0
Broadcast Reception & Burglar Alarm System		100	05-Apr-16	03-Aug-16	0
DD.BS0070	Broadcast Reception Design Submission/Review & Approval	100	05-Apr-16	03-Aug-16	0
DD.BS0072	Burglar Alarm & Security System Design Submission/Review & Approval	100	05-Apr-16	03-Aug-16	0
Catering Equipment		180	05-Apr-16	08-Nov-16	0
DD.BS0080	Catering Equipment Design Submission/Review & Approval	180	05-Apr-16	08-Nov-16	0
LPG		100	05-Apr-16	03-Aug-16	0
DD.BS80	Liquified Petroleum Gas Design Submission/Review & Approval	100	05-Apr-16	03-Aug-16	0
Drainage		100	27-Oct-15 A	16-Mar-16	112
DD.BS81	Drainage and plumbing Design Submission/Review & Approval	100	27-Oct-15 A	16-Mar-16	112
Temporary Works Design & Engineering		126	29-Oct-15 A	18-Jul-16	0
ELS for u/g Water / Fuel Tanks		40	29-Oct-15 A	02-Apr-16	-120
1492	TW2 - ICE review and issue check certificate	6	29-Oct-15 A	16-Mar-16	-120



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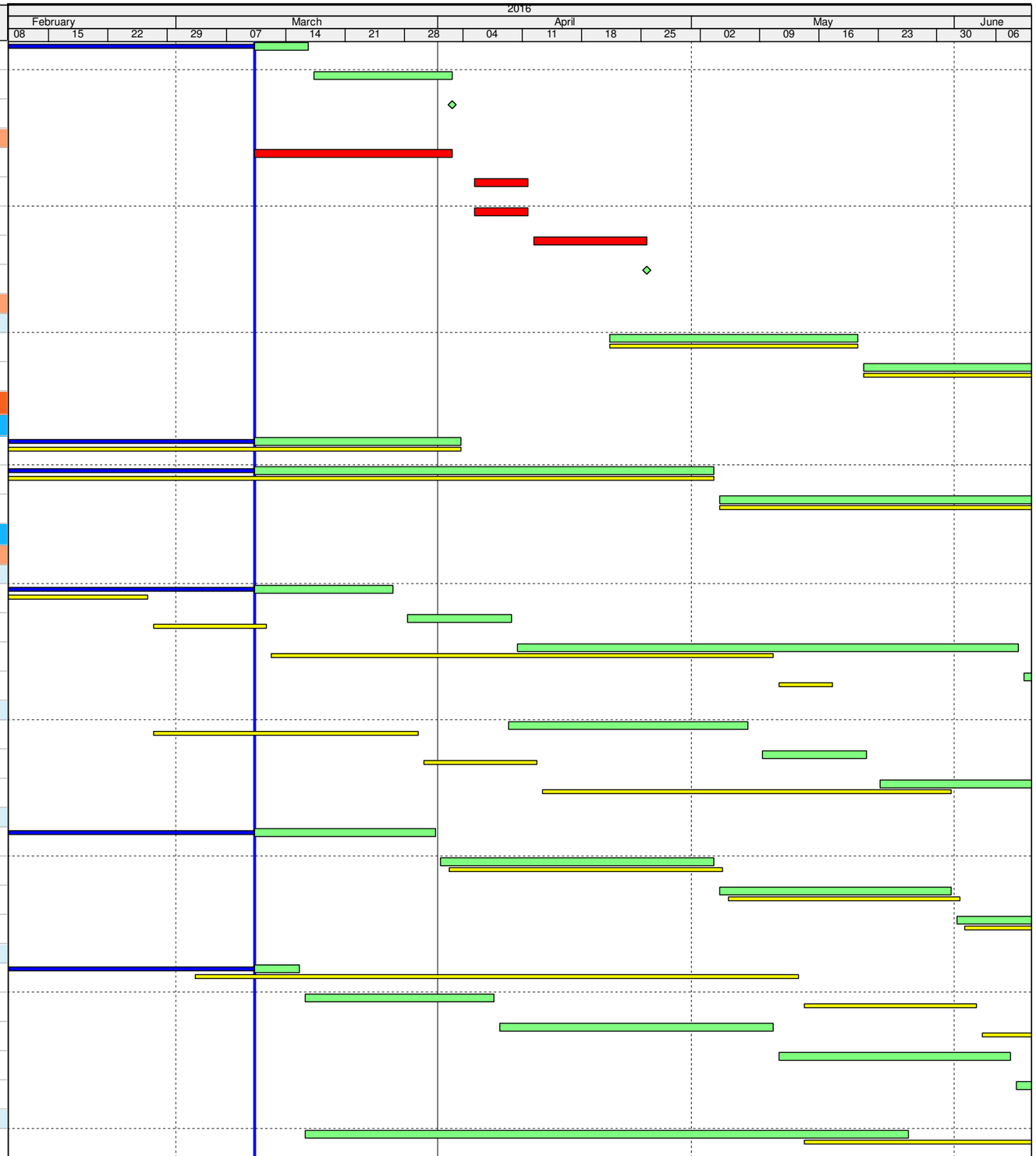
Activity ID	Activity Name	Dur	Start	Finish	Finish Variance
1494	TW2 - Prepare 1st submission; incl. Method Statement, Temp works Design, etc	6	29-Oct-15 A	16-Mar-16	-120
1496	TW2 - Submit to Architect for review	12	17-Mar-16	02-Apr-16	-120
1498	TW2 - Architect Issue Consent	0		02-Apr-16	-120
Formwork and Falsework - Bridge		36	10-Mar-16	25-Apr-16	-66
8802	TW9 - Prepare design for Formworks and Falseworks	18	10-Mar-16	02-Apr-16	-66
8803	TW9 - ICE review and issue check certificate	6	05-Apr-16	11-Apr-16	-66
8804	TW9 - Prepare 1st submission; incl. Method Statement	6	05-Apr-16	11-Apr-16	-66
8805	TW9 - Submit to Architect for review	12	12-Apr-16	25-Apr-16	-66
8806	TW9 - Architect Issue Consent	0		25-Apr-16	-66
Interfacing		72	21-Apr-16	18-Jul-16	0
Interfacing with NE/2014/03 (LTBCP - Contract 7)		72	21-Apr-16	18-Jul-16	0
1550	INT - NE/2014/03 Pre-Construction Coordination Meeting	24	21-Apr-16	20-May-16	0
1552	INT - NE/2014/03 Prepare and note the details of some of the design and preconstruction interfaces arrargement	48	21-May-16	18-Jul-16	0
PROCUREMENT MOCK-UPS MANUFACTURING & DELIVE		216	28-Jul-15 A	27-Sep-16	98
Procurement of Major Subcontracts		214	28-Jul-15 A	01-Aug-16	0
3778	Building Services	150	28-Jul-15 A	03-Apr-16	0
3774	Builder's Works	180	06-Nov-15 A	03-May-16	0
3770	Landscaping	90	04-May-16	01-Aug-16	0
Mock-Ups, Prototypes & Performance Test		214	21-Dec-15 A	24-Sep-16	6
Facade		173	21-Dec-15 A	06-Aug-16	47
VMU		88	27-Jan-16 A	15-Jun-16	-24
A1020	1st stage inspection	60	27-Jan-16 A	26-Mar-16	-29
A1030	Incorporate comments	12	28-Mar-16	09-Apr-16	-23
A1040	2nd stage inspection	60	10-Apr-16	08-Jun-16	-29
A1050	Approval	6	09-Jun-16	15-Jun-16	-25
PMU		79	09-Apr-16	11-Jul-16	-34
A1060	Procurement including extrusion and glazing	25	09-Apr-16	07-May-16	-34
A1070	Fabricate and install	12	09-May-16	21-May-16	-34
A1080	Testing	42	23-May-16	11-Jul-16	-34
GV Kiosk (Prototype A)		142	22-Jan-16 A	30-Jul-16	0
PT.1051	RC Structure	24	22-Jan-16 A	31-Mar-16	
PT.1060	Fabricate prototype	28	01-Apr-16	03-May-16	1
PT.1070	Install prototype	24	04-May-16	31-May-16	1
PT.1080	Stage I Inspection	60	01-Jun-16	30-Jul-16	1
Double Curved Aluminum Cladding (Prototype B)		173	21-Dec-15 A	06-Aug-16	47
PT.1130	Prepare shop drawings and structural calculations	60	21-Dec-15 A	15-Mar-16	49
PT.1140	Submit to Architect	18	16-Mar-16	07-Apr-16	49
PT.1150	Fabricate prototype	28	08-Apr-16	10-May-16	49
PT.1160	Install prototype (assembled off-site)	24	11-May-16	07-Jun-16	49
PT.1170	Stage I Inspection	60	08-Jun-16	06-Aug-16	58
PTB Passenger Hall Interior (Prototype D)		88	16-Mar-16	28-Jun-16	49
PT.1310	Prepare shop drawings and structural calculations	60	16-Mar-16	26-May-16	49



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Activity ID	Activity Name	Dur	Start	Finish	Finish Variance
PT.1320	Submit to Architect	18	27-May-16	16-Jun-16	49
PT.1330	Fabricate prototype	28	27-May-16	28-Jun-16	49
Mock-ups		162	10-Mar-16	24-Sep-16	0
Other Specified Mockups (PS.A01)		162	10-Mar-16	24-Sep-16	0
MU.1110	Acoustic Panel System	60	10-Mar-16*	25-May-16	-50
MU.1170	Dog Kennel Partitions and Doors	120	10-Mar-16*	05-Aug-16	-50
MU.1210	Fairface Concrete Works	120	10-Mar-16*	05-Aug-16	-98
MU.1240	Floor Self Smoothing System	60	10-Mar-16*	25-May-16	-50
MU.1250	Flooring System	60	10-Mar-16*	25-May-16	-50
MU.1360	Toilet Cubicle and Changing Cubicle (incl fittings etc)	120	10-Mar-16*	05-Aug-16	-50
MU.1370	Structural Steel works	120	10-Mar-16*	05-Aug-16	-98
MU.1120	Aluminium Windows Louvres and Doors	120	12-Apr-16	02-Sep-16	-152
MU.1130	Aluminium Standing Seam Metal Roofing	120	12-Apr-16	02-Sep-16	-74
MU.1180	Electrically Operated Chain Actuator System	120	04-May-16	24-Sep-16	0
MU.1190	Electrically Operated Security Gates and Barriers	120	04-May-16	24-Sep-16	0
MU.1200	External Paving Works	120	04-May-16	24-Sep-16	0
MU.1230	Finish Carpentry	120	04-May-16	24-Sep-16	0
MU.1270	Ironmongery	120	04-May-16	24-Sep-16	0
MU.1280	Painting works	60	04-May-16	15-Jul-16	0
MU.1290	Raised access flooring	100	04-May-16	31-Aug-16	0
MU.1300	Recycled Timber Systems	120	04-May-16	24-Sep-16	0
MU.1310	Signage Works	120	04-May-16	24-Sep-16	0
MU.1350	Tiling and Plastering Works	120	04-May-16	24-Sep-16	0
MU.1380	Smoke Vent & Curtain System	120	04-May-16	24-Sep-16	0
Procurement Architectural & Others		100	01-Dec-15 A	21-Jul-16	54
Walls, Windows & Claddings		96	23-Mar-16	21-Jul-16	54
1574	Bulk material procurement	96	23-Mar-16	21-Jul-16	54
Interior and Others		96	01-Dec-15 A	29-Apr-16	78
8756	Steel Maintenance and Support Platforms order manufacture and delivery	96	01-Dec-15 A	29-Apr-16	78
Elavated Walkway Type A & B Steel Trusses		60	27-Apr-16	11-Jul-16	-73
Elavated Walkway 1		60	27-Apr-16	11-Jul-16	-73
8901	Subcontracting / Prepare Shop Drawings / Matierial Submission	60	27-Apr-16	11-Jul-16	-73
Procurement MEP Systems		158	17-Mar-16	27-Sep-16	98
Air Conditioning		144	07-Apr-16	27-Sep-16	98
PR.BS1000	Chiller Order, Manufacturing & Delivery	144	07-Apr-16	27-Sep-16	98
Plumbing and Drainage		96	17-Mar-16	20-Jun-16	140
8566	Plumbing and Drainage materials & equipment Order Manufacturing & Delivery	96	17-Mar-16	20-Jun-16	140
CONSTRUCTION		348	09-Jul-15 A	09-Sep-16	99
Establishment Mobilisation & Advance Works		290	09-Jul-15 A	04-Jul-16	91
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

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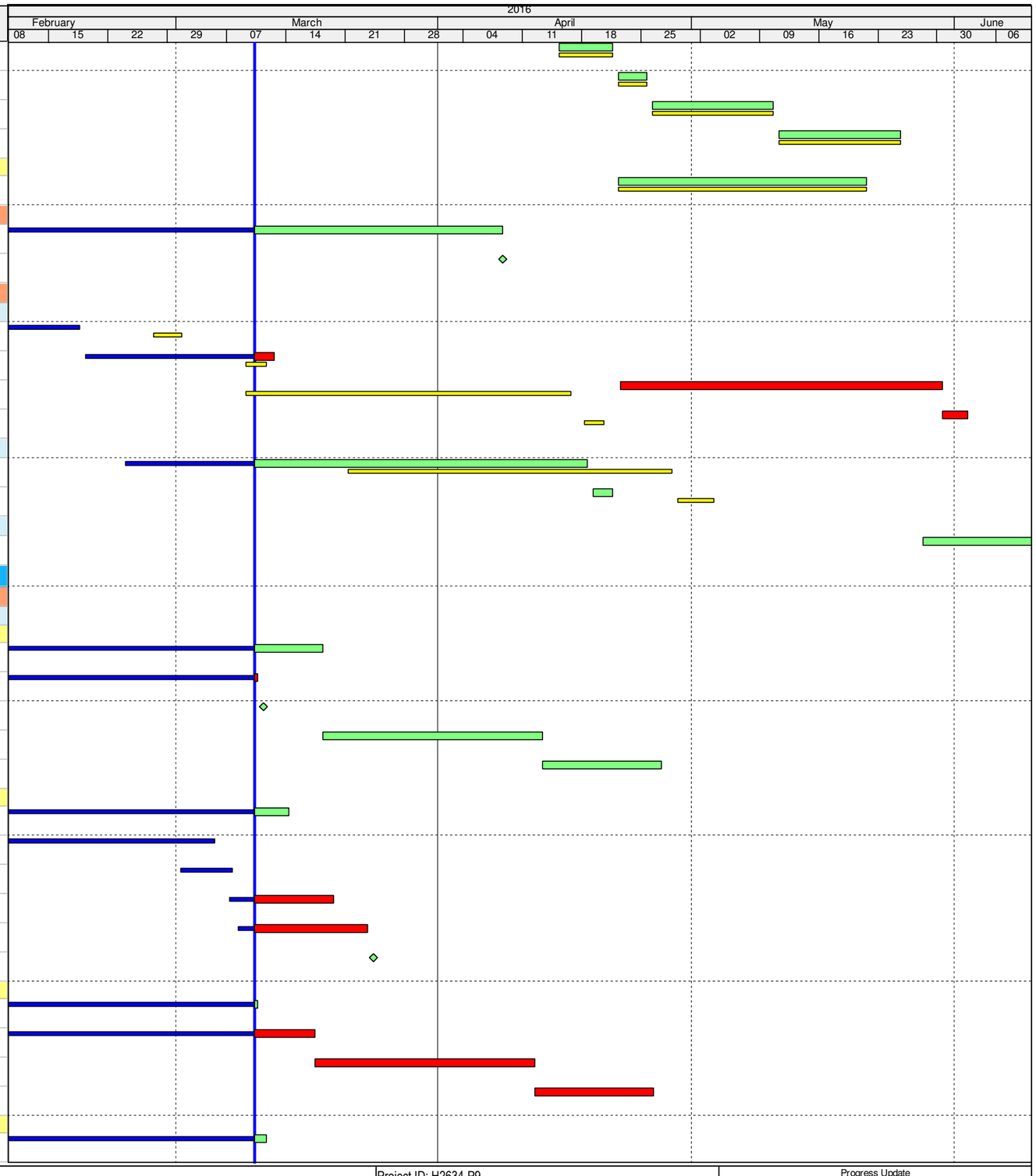
Activity ID	Activity Name	Dur	Start	Finish	Finish Variance
8506	Initial utility survey (P2)	6	15-Apr-16	21-Apr-16	0
1264	Setup monitoring station (P2)	3	22-Apr-16	25-Apr-16	0
1266	Topographic survey and pre-condition survey of existing structures (P2)	12	26-Apr-16	10-May-16	0
1268	Baseline monitoring & 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		220	09-Jul-15 A	08-Apr-16	-72
8508	Obtain permit for electric connection and build sub-station	180	09-Jul-15 A	08-Apr-16	-95
1296	Temporary Site Power ready	0		08-Apr-16	-72
Tower Cranes		102	16-Dec-15 A	04-Jul-16	91
19 Passenger Terminal Building (PTB)		77	16-Dec-15 A	02-Jun-16	-35
1362	TC - Setup Tower Crane TC1 & TC2; Test & Cert. by ICE	3	16-Dec-15 A	18-Feb-16 A	10
1368	TC - Setup Tower Crane TC3 & TC4; Test & Cert. by ICE	3	19-Feb-16 A	12-Mar-16	-1
1372	TC - Construct Tower Crane Footing (TC5 & TC6)	30	22-Apr-16	30-May-16	-35
1374	TC - Setup Tower Crane TC5 & TC6; Test & Cert. by ICE	3	30-May-16	02-Jun-16	-35
05 Cargo Examination Building (Outbound)		30	24-Feb-16 A	21-Apr-16	9
1378	TC - Concrete Tower Crane Footing (TC7 & TC8)	30	24-Feb-16 A	18-Apr-16	9
1380	TC - Setup Tower Crane TC7 & TC8; Test & Cert. by ICE	3	19-Apr-16	21-Apr-16	9
04 Cargo Examination Building (Inbound)		30	28-May-16	04-Jul-16	91
1390	TC - Concrete Tower Crane Footing (TC10 & TC11)	30	28-May-16	04-Jul-16	91
Passenger Terminal Building (PTB)		261	28-Sep-15 A	17-Aug-16	-54
19 - PTB (Podium)		261	28-Sep-15 A	17-Aug-16	-54
19 - Foundations		212	28-Sep-15 A	20-Jun-16	-89
19 - Foundations Portion C1		144	27-Oct-15 A	27-Apr-16	-96
19.804	19C1b - H Piles Outside Tower(177 no)	18	27-Oct-15 A	18-Mar-16	-96
19.808	19C1 Architect review Piling Record and Load Test Under Tower	12	27-Jan-16 A	10-Mar-16	-72
19.116	19C1 - Start to construct Pilecaps at Portion C1	0	11-Mar-16		-60
19.810	19C1 Submit Piling Record & Load Test Outside Tower	18	18-Mar-16	13-Apr-16	-96
19.812	19C1 Architect review Piling Record and Load Test Outside Tower	12	13-Apr-16	27-Apr-16	-96
19 - Foundations Portion C2		133	23-Oct-15 A	24-Mar-16	-74
19.816	19C2b - H Piles Outside Tower (165 no)	18	23-Oct-15 A	14-Mar-16	-95
19.818	19C2 Submit Piling Record & Load Test Under Tower	18	06-Feb-16 A	05-Mar-16 A	-83
19.822	19C2 Submit Piling Record & Load Test Outside Tower	18	01-Mar-16 A	07-Mar-16 A	-72
19.820	19C2 Architect Review Piling Record and Load Test Under Tower	12	07-Mar-16 A	19-Mar-16	-83
19.824	19C2 Architect Review Piling Record and Load Test Outside Tower	12	08-Mar-16 A	23-Mar-16	-74
19.218	19C2 - Start to construct Pilecaps at Portion C2	0	24-Mar-16		-74
19 - Foundations Portion B1		167	02-Oct-15 A	26-Apr-16	-95
19.826	19B1a - H Piles Under Tower (295 no)	30	02-Oct-15 A	10-Mar-16	-102
19.830	19B1b - H Piles Outside Tower (182 no)	18	27-Oct-15 A	17-Mar-16	-95
19.834	19B1 Submit Piling Record & Load Test Outside Tower	18	17-Mar-16	12-Apr-16	-95
19.836	19B1 Architect Review Piling Record and Load Test Outside Tower	12	12-Apr-16	26-Apr-16	-95
19 - Foundations Portion B2		209	28-Sep-15 A	20-Jun-16	-89
19.838	19B2a - H Piles Under Tower (236 no)	25	28-Sep-15 A	11-Mar-16	-105



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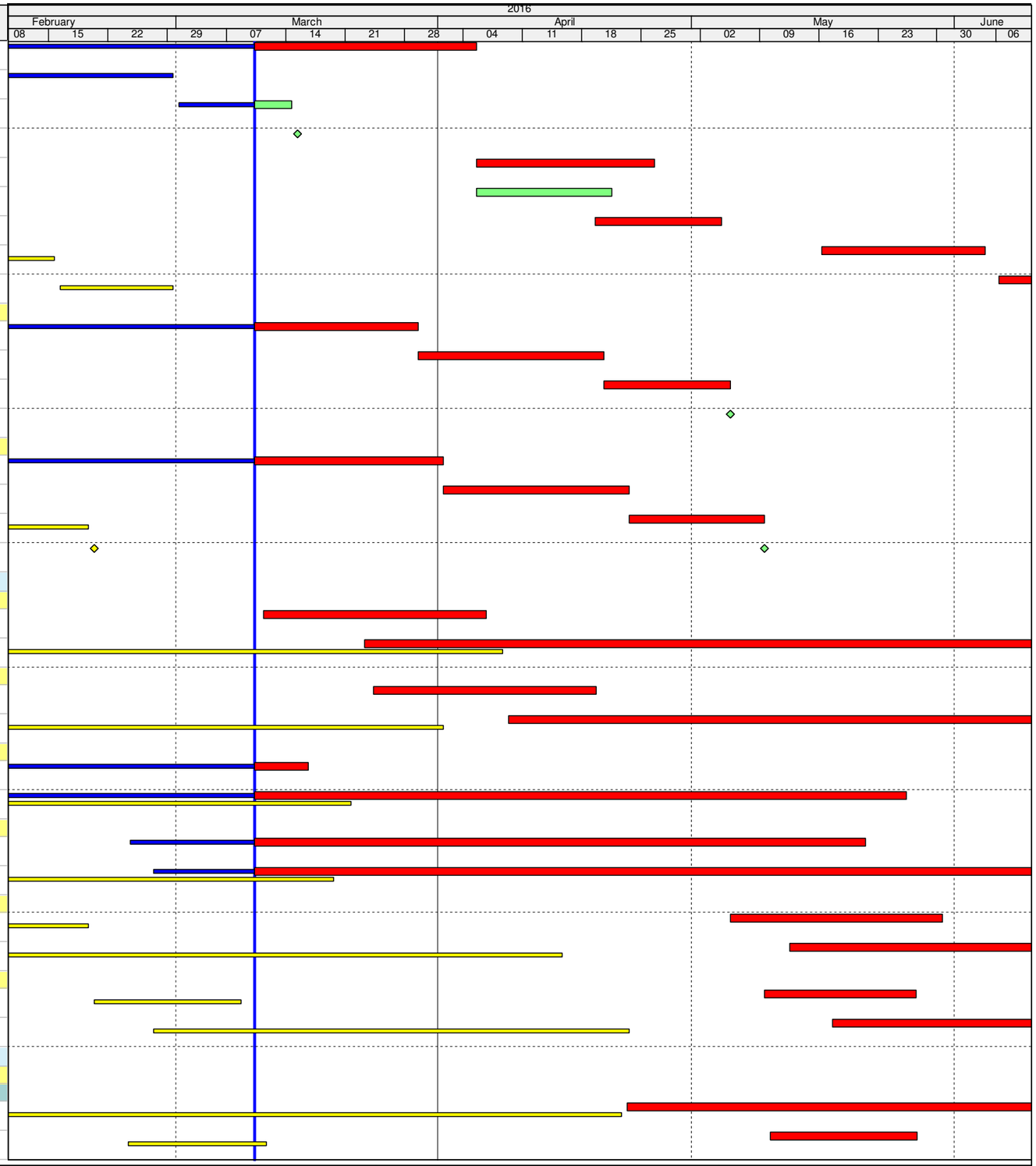
19.842	19B2c - H Piles Outside Tower (116 no)	25	24-Oct-15 A	05-Apr-16	-103
19.844	19B2 Submit Piling Record & Load Test Under Tower	18	01-Feb-16 A	29-Feb-16 A	-77
19.846	19B2 Architect Review Piling Record and Load Test Under Tower	12	01-Mar-16 A	14-Mar-16	-77
19.382	19B2 - Start to construct Pilecaps at Portion B2	0	15-Mar-16		-77
19.848	19B2 Submit Piling Record & Load Test Outside Tower	18	05-Apr-16	26-Apr-16	-92
19.870	19B2b - H Piles Outside Tower adjacent to CEDD subway (49 no)	14	05-Apr-16	21-Apr-16	-103
19.850	19B2 Architect Review Piling Record and Load Test Outside Tower	12	19-Apr-16	04-May-16	-92
19.852	19B2 Submit Piling Record & Load Test for piles Outside Tower adjacent to CEDD subway	18	16-May-16	04-Jun-16	-89
19.854	19B2 Architect Review Piling Record and Load Test Outside Tower	12	06-Jun-16	20-Jun-16	-89
19 - Foundations Portion A1		47	25-Jan-16 A	05-May-16	-80
19.856	19A1 - H Piles Outside Tower (240 no)	23	25-Jan-16 A	29-Mar-16	-80
19.858	19A1 Submit Piling Record & Load Test Outside Tower	18	29-Mar-16	20-Apr-16	-80
19.860	19A1 Architect Review Piling Record and Load Test Outside Tower	12	20-Apr-16	05-May-16	-80
19.620	19A1 - Start to construct Pilecaps at Portion A1	0	05-May-16		-80
19 - Foundations Portion A2		56	25-Jan-16 A	09-May-16	-63
19.862	19A2 - H Piles Outside Tower (260 no)	24	25-Jan-16 A	01-Apr-16	-63
19.864	19A2 Submit Piling Record & Load Test Outside Tower	18	01-Apr-16	23-Apr-16	-63
19.866	19A2 Architect Review Piling Record and Load Test Outside Tower	12	23-Apr-16	09-May-16	-63
19.630	19A2 - Start to construct Pilecaps at Portion A2	0	09-May-16		-63
19 - Substructures		112	18-Jan-16 A	22-Jul-16	-73
19 - Substructures Portion C1		81	11-Mar-16	21-Jun-16	-60
19.118	19C1 - Excavation down to FL	19	11-Mar-16	06-Apr-16	-60
19.120	19C1 - Prepare Pile heads and construct pilecaps	71	23-Mar-16	21-Jun-16	-60
19 - Substructures Portion C2		79	24-Mar-16	02-Jul-16	-74
19.220	19C2 - Excavation down to FL	19	24-Mar-16	19-Apr-16	-74
19.222	19C2 - Prepare Pile heads and construct pilecaps	69	09-Apr-16	02-Jul-16	-74
19 - Substructures Portion B1		69	18-Jan-16 A	26-May-16	-50
19.374	19B1 - Excavation down to FL	28	18-Jan-16 A	16-Mar-16	-37
19.376	19B1 - Prepare Pile heads and construct pilecaps	65	19-Jan-16 A	26-May-16	-50
19 - Substructures Portion B2		67	24-Feb-16 A	05-Jul-16	-84
19.384	19B2 - Excavation down to FL	29	24-Feb-16 A	21-May-16	-92
19.386	19B2 - Prepare Pile heads and construct pilecaps	67	27-Feb-16 A	05-Jul-16	-84
19 - Substructures Portion A1		64	05-May-16	22-Jul-16	-80
19.622	19A1 - Excavation down to FL	20	05-May-16	30-May-16	-80
19.624	19A1 - Prepare Pile heads and construct pilecaps	58	12-May-16	22-Jul-16	-80
19 - Substructures Portion A2		51	09-May-16	11-Jul-16	-63
19.632	19A2 - Excavation down to FL	15	09-May-16	27-May-16	-63
19.634	19A2 - Prepare Pile heads and construct pilecaps	45	17-May-16	11-Jul-16	-63
19 - RC Structures		118	30-Jan-16 A	17-Aug-16	-54
19 - PTB Ground Floor		93	30-Jan-16 A	19-Jul-16	-71
19 - PTB G/F Portion C1		60	23-Apr-16	06-Jul-16	-60
19.122	19C1 - Construct Columns up to MF	60	23-Apr-16	06-Jul-16	-60
19.128	19C1 - Construct RC Structures up to GF (GL17-18/PN-PM) (Genset Rm)	15	10-May-16	27-May-16	-60



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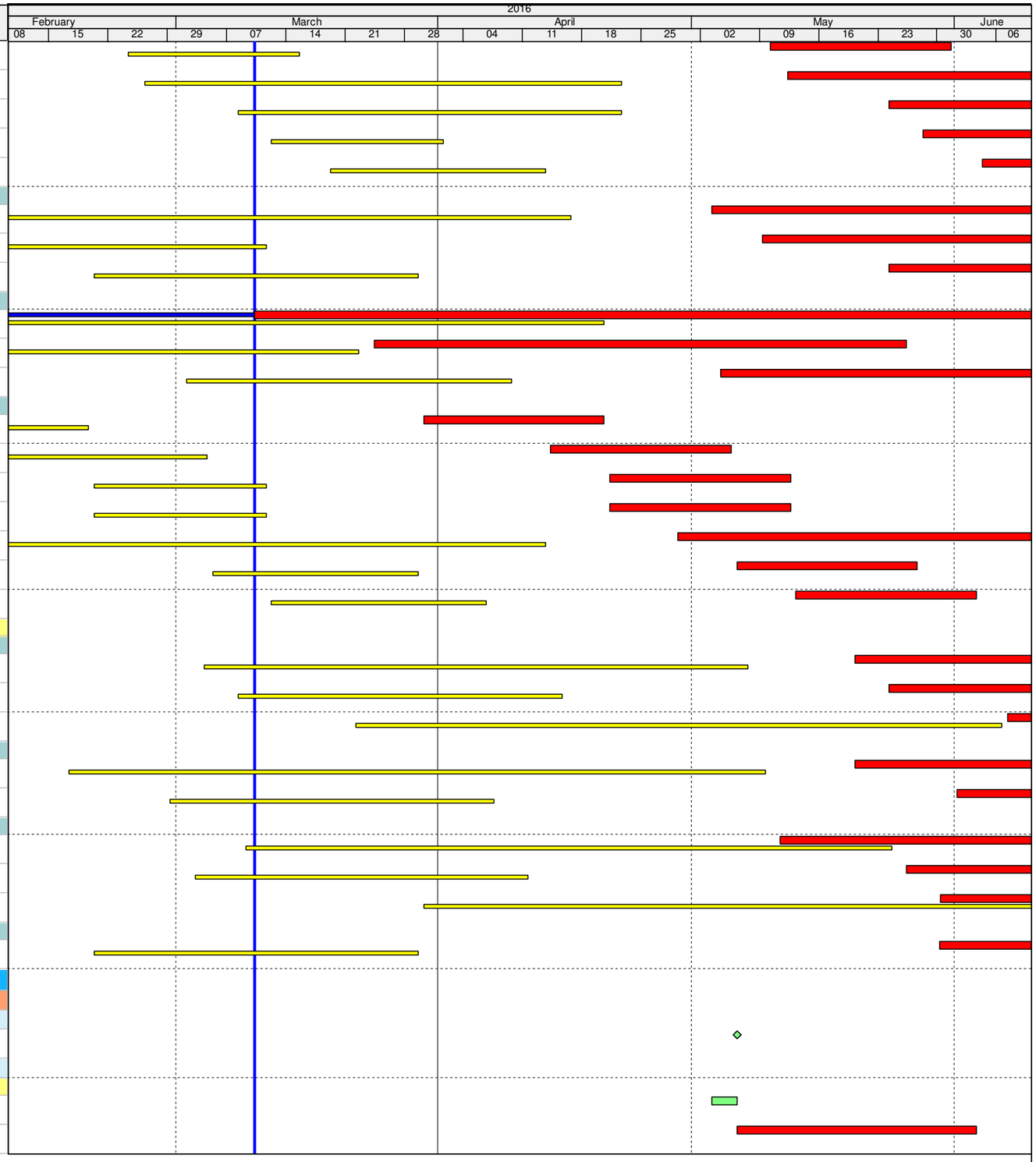
19.172	19C1 - Construct RC Structures up to GF slabs (GL13-15/PO) (DG Store)	18	10-May-16	31-May-16	-60
19.124	19C1 - Construct RC Structures up to GF Slabs (GL8-11/G10-E) (Pump Rm & Tank)	45	12-May-16	06-Jul-16	-60
19.126	19C1 - Construct RC Structures up to GF Slabs (GL14-17/PM-E) (Tx Rm)	36	24-May-16	06-Jul-16	-60
19.130	19C1 - Construct RC Structures up to +20.225 (GL17-18/PN-PM) (Genset Rm)	15	28-May-16	15-Jun-16	-60
19.174	19C1 - Construct RC Structures up to +17.575 (GL13-15/PO) (DG Store)	18	04-Jun-16	25-Jun-16	-60
19 - PTB G/F Portion C2		62	03-May-16	16-Jul-16	-74
19.258	19C2 - Construct Columns up to MF	62	03-May-16	16-Jul-16	-74
19.256	19C2 - Construct RC Structures up to GF Slabs (GL14-18/G7-G5) (Pump Rm & Tank)	30	09-May-16	14-Jun-16	-74
19.266	19C2 - Construct RC Structures up to GF Slabs (GL8-11/G7-G5) (Chiller Rm & L/UL area)	30	24-May-16	28-Jun-16	-74
19 - PTB G/F Portion B1		74	30-Jan-16 A	10-Jun-16	-40
19.530	19B1 - Construct Columns up to MF	62	30-Jan-16 A	10-Jun-16	-40
19.528	19B1 - Construct RC Structures up to GF Slabs (GLP9-1/PK-PF) (Store Rm/Toilet/Lobby)	48	24-Mar-16	26-May-16	-49
19.532	19B1 - Construct RC Structures up to +19.425 (GLP9-1/PK-PF) (Store Rm/Toilet/Lobby)	30	04-May-16	10-Jun-16	-49
19 - PTB G/F Portion B2		91	30-Mar-16	19-Jul-16	-79
19.544	19B2 - Construct RC Structures up to GF Slabs (GLP8-1/G4-G3) (Toilet)	18	30-Mar-16	20-Apr-16	-48
19.402	19B2 - Construct RC Structures up to GF slabs (GL8-9/PA) (Tank & Pump Rm)	18	14-Apr-16	05-May-16	-48
19.552	19B2 - Construct RC Structures up to GF Slabs (GLP11-4/PPB-PA) (Genset Rm)	18	21-Apr-16	12-May-16	-48
19.542	19B2 - Construct RC Structures up to +19.425 Slabs (GLP8-1/G4-G3) (Toilet)	18	21-Apr-16	12-May-16	-48
19.546	19B2 - Construct Columns up to MF	66	29-Apr-16	19-Jul-16	-79
19.404	19B2 - Construct RC Structures up to +18.725 (GL8-9/PA) (Tank & Pump Rm)	18	06-May-16	27-May-16	-48
19.400	19B2 - Construct RC Structures up to +20.225 Slabs (GLP11-4/PPB-PA) (Genset Rm)	18	13-May-16	03-Jun-16	-48
19 - PTB Mezzanine Floor		82	11-May-16	17-Aug-16	-54
19 - PTB M/F Portion C1		75	20-May-16	17-Aug-16	-60
19.132	19C1 - Construct RC Structures up to MF Slabs	51	20-May-16	20-Jul-16	-60
19.176	19C1 - Erect Structural Steel Platform	30	24-May-16	28-Jun-16	-60
19.134	19C1 - Construct Columns up to 1F	60	07-Jun-16	17-Aug-16	-60
19 - PTB M/F Portion C2		66	20-May-16	06-Aug-16	-74
19.268	19C2 - Construct RC Structures up to MF Slabs	66	20-May-16	06-Aug-16	-74
19.270	19C2 - Erect Structural Steel Platform	30	01-Jun-16	07-Jul-16	-74
19 - PTB M/F Portion B1		77	11-May-16	12-Aug-16	-49
19.540	19B1 - Construct RC Structures up to MF Slabs	60	11-May-16	23-Jul-16	-49
19.556	19B1 - Erect Structural Steel Platform	30	26-May-16	02-Jul-16	-66
19.534	19B1 - Construct Columns up to 1F	62	30-May-16	12-Aug-16	-49
19 - PTB M/F Portion B2		30	30-May-16	05-Jul-16	-79
19.558	19B2 - Erect Structural Steel Platform	30	30-May-16	05-Jul-16	-79
Associated Buildings		204	24-Nov-15 A	22-Jul-16	91
02 HKPF Building and Observation Tower		51	03-May-16	04-Jul-16	-113
02 - Milestones		0	06-May-16	06-May-16	-113
02.MS10	HKPF Building & Observation Tower Construction Works Start	0	06-May-16		-113
02 - HKPF Building		51	03-May-16	04-Jul-16	-113
02 - Foundations		51	03-May-16	04-Jul-16	-113
02.102	02 - Mobilisation	3	03-May-16	06-May-16	-113
02.104	02 - Install Driven H-piles (64 nos)	24	06-May-16	03-Jun-16	-113



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

3 Months Lookahead Works Programme

Progress to 10-Mar-16

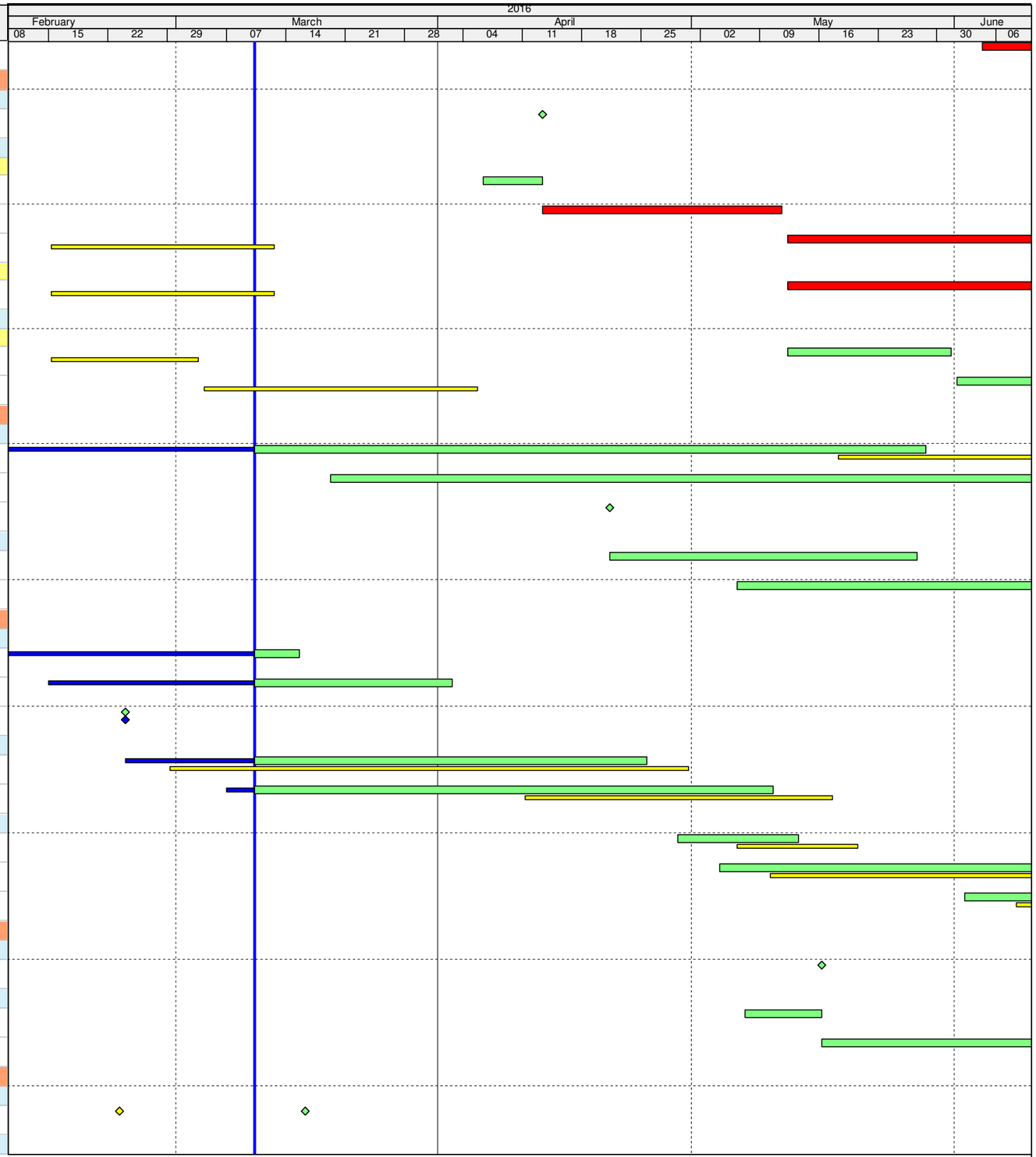
Project ID: H2634-P9
Baseline: Works Programme Rev 1A

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

Page 8 of 11

Progress Update			
Date	Revision	Checked	A
10-Mar-16	Progress update		

Activity ID	Activity Name	Dur	Start	Finish	Finish Variance
02.106	02 - Proof drilling & Loading test	24	04-Jun-16	04-Jul-16	-113
03 Fire Station and Drill Tower		70	06-Apr-16	29-Jun-16	-70
03 - Milestones		0	13-Apr-16	13-Apr-16	-70
03.MS10	Fire Station & Drill Tower Construction Works Start	0	13-Apr-16		-70
03 Fire Station		54	06-Apr-16	10-Jun-16	-70
03 - Foundations		54	06-Apr-16	10-Jun-16	-70
03.102	03 - Mobilisation	6	06-Apr-16	13-Apr-16	-71
03.104	03 - Install driven H-piles (75 nos)	24	13-Apr-16	11-May-16	-70
03.106	03 - Proof drilling & Loading test	24	12-May-16	10-Jun-16	-70
03 - Structures		24	12-May-16	10-Jun-16	-70
03.200	03 - Excavation down to FL (GL A-C/3-7)	24	12-May-16	10-Jun-16	-70
03 Drill Tower		40	12-May-16	29-Jun-16	-70
03 - Foundations		40	12-May-16	29-Jun-16	-70
03.124	03 - Install Driven H-piles (15 nos)	16	12-May-16	31-May-16	-70
03.126	03 - Proof drilling & Loading test	24	01-Jun-16	29-Jun-16	-70
04 Cargo Examination Building (Inbound)		100	18-Dec-15 A	22-Jul-16	91
04 - Foundations		91	18-Dec-15 A	18-Jun-16	43
04.106	04 - Install driven H-piles (542 nos)	46	18-Dec-15 A	28-May-16	36
04.108	04 - Proof drilling / Loading Test	72	19-Mar-16	18-Jun-16	43
04.110	04 - Start to construct the pilecaps	0	21-Apr-16		91
04 - Pilecaps / Tie Beams		76	21-Apr-16	22-Jul-16	91
04.112	04 - Excavation down to FL	30	21-Apr-16	27-May-16	91
04.114	04 - Construct pilecaps and tie beams	64	06-May-16	22-Jul-16	91
05 Cargo Examination Building (Outbound)		180	24-Nov-15 A	23-Jun-16	5
05 - Foundations		168	24-Nov-15 A	02-Apr-16	-50
05.106	05 - Install driven H-piles (289 nos)	40	24-Nov-15 A	15-Mar-16	-61
05.108	05 - Proof drilling & Loading test	72	15-Feb-16 A	02-Apr-16	-50
05.110	05 - Start to construct the pilecaps	0	24-Feb-16 A		-19
05 - Pilecaps / Tie Beams		54	24-Feb-16 A	10-May-16	5
05.114	05 - Construct pilecaps and tie beams	50	24-Feb-16 A	25-Apr-16	5
05.116	05 - Backfilling	30	07-Mar-16 A	10-May-16	5
05 - RC Structures		45	29-Apr-16	23-Jun-16	5
05.118	05 - Consturct LG/F 50mm thk concrete w/miremesh	12	29-Apr-16	13-May-16	5
05.120	05 - Construct G/F beams	36	04-May-16	16-Jun-16	5
05.122	05 - Install precast planking and cast the G/F slabs	18	02-Jun-16	23-Jun-16	5
06 Fixed X-ray Vehicle Inspection System (FXRVIS) Buildings (Inbo		30	07-May-16	13-Jun-16	48
06 - Milestones		0	16-May-16	16-May-16	48
06.MS10	Fixed X-ray Vehicle Inspection System (FXRVIS) Buildings (Inbound) Construction Works Start	0	16-May-16		48
06 - Foundations		30	07-May-16	13-Jun-16	48
06.110	06 - Mobilisation	6	07-May-16	16-May-16	48
06.112	06 - Install driven H-piles (92 nos)	24	16-May-16	13-Jun-16	48
07 Fixed X-ray Vehicle Inspection System (FXRVIS) Buildings (Outb		96	16-Mar-16	14-Jul-16	3
07 - Milestones		0	16-Mar-16	16-Mar-16	-19
07.MS10	Fixed X-ray Vehicle Inspection System (FXRVIS) Buildings (Outbound) Construction Works Start	0	16-Mar-16		-19
07 - Foundations		48	16-Mar-16	18-May-16	-19



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

3 Months Lookahead Works Programme

Progress to 10-Mar-16

Project ID: H2634-P9
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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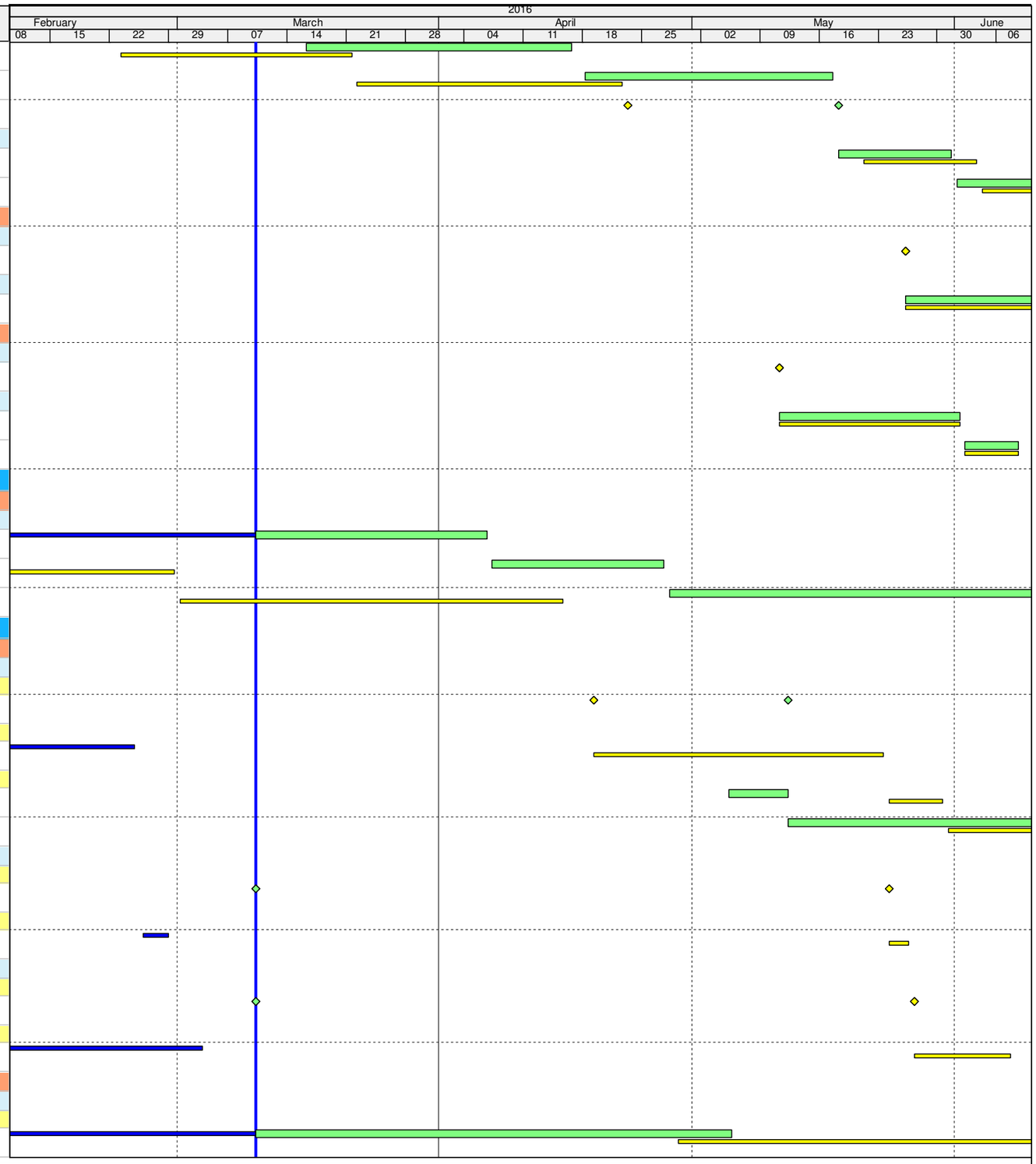
Progress Update			
Date	Revision	Checked	A
10-Mar-16	Progress update		

Activity ID	Activity Name	Dur	Start	Finish	Finish Variance
07.112	07 - Install driven H-piles (84 nos)	24	16-Mar-16	16-Apr-16	-19
07.114	07 - Proof drilling / Loading Test	24	18-Apr-16	17-May-16	-19
07.116	07 - Start to construct pilecaps	0	18-May-16		-19
07 - Structures		48	18-May-16	14-Jul-16	3
07.200	07 - Excavation down to FL (Main bldg)	12	18-May-16	31-May-16	3
07.202	07 - Construct pilecaps and tie beams	36	01-Jun-16	14-Jul-16	3
10 GV Kiosk (Inbound)		18	26-May-16	16-Jun-16	0
10 - Milestones		0	26-May-16	26-May-16	0
10.MS10	GV Kiosk (Inbound) Construction Works Start	0	26-May-16		0
10 - Foundations		18	26-May-16	16-Jun-16	0
10.168	10 - Open cut excavation down to formation level -2.4	18	26-May-16	16-Jun-16	0
11 GV Kiosk (Outbound)		24	11-May-16	08-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		24	11-May-16	08-Jun-16	0
11.168	11 - Open cut excavation down to formation level -2.4	18	11-May-16	01-Jun-16	0
11.170	11 - Plate load test	6	02-Jun-16	08-Jun-16	0
Other Associated Buildings for C&ED		130	19-Oct-15 A	11-Jun-16	-46
09 MXRVSS (Outbound)		130	19-Oct-15 A	11-Jun-16	-46
09 - Structures		130	19-Oct-15 A	11-Jun-16	-46
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	-46
09.212	09 - Construct Roof RC Strutrures	36	28-Apr-16	11-Jun-16	-46
External Civil Works		202	16-Dec-15 A	09-Sep-16	99
37-40 Elevated Walkways		115	02-Jan-16 A	29-Jun-16	15
37 Elevated Walkway E1		115	02-Jan-16 A	29-Jun-16	15
37 - Milestones		0	12-May-16	12-May-16	-19
37.MS10	Elevated Walkway E1 Construction Works Start	0	12-May-16		-19
37 - SI Works		28	02-Jan-16 A	25-Feb-16 A	70
37.100	37 - Site Investigation (11 nos)	28	02-Jan-16 A	25-Feb-16 A	70
37 - Foundations		45	05-May-16	29-Jun-16	15
37.104	37 - Mobilisation	6	05-May-16	12-May-16	15
37.106	37 - Install driven of H-piles (39 nos)	39	12-May-16	29-Jun-16	15
39 Elevated Walkway E3		13	26-Feb-16 A	10-Mar-16	61
39 - Milestones		0	10-Mar-16	10-Mar-16	58
39.MS10	Elevated Walkway E3 Construction Works Start	0	10-Mar-16		58
39 - SI Works		3	26-Feb-16 A	29-Feb-16 A	70
39.100	39 - Site investigation (1 nos)	3	26-Feb-16 A	29-Feb-16 A	70
40 Elevated Walkway E4		23	13-Jan-16 A	10-Mar-16	71
40 - Milestones		0	10-Mar-16	10-Mar-16	61
40.MS10	Elevated Walkway E4 Construction Works Start	0	10-Mar-16		61
40 - SI Works		10	13-Jan-16 A	04-Mar-16 A	76
40.100	40 - Site investigation (4 nos)	10	13-Jan-16 A	04-Mar-16 A	76
Vehicular Bridges		202	16-Dec-15 A	09-Sep-16	99
Bridge 1		111	30-Jan-16 A	09-Sep-16	67
B1 - Foundations		72	30-Jan-16 A	03-Jun-16	67
B1.106	B1 - Construction of Bored Piles	72	30-Jan-16 A	05-May-16	67



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

3 Months Lookahead Works Programme

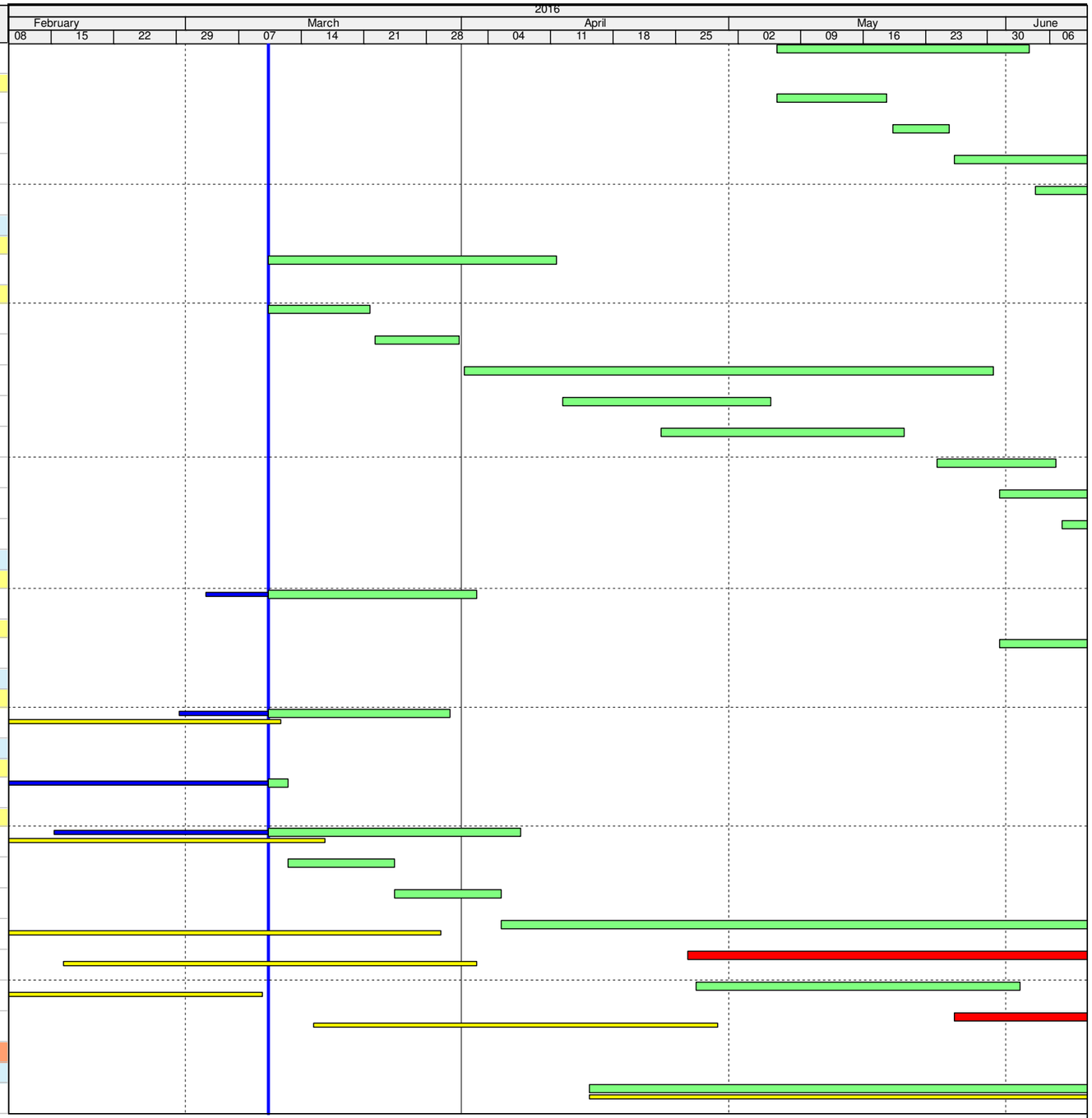
Progress to 10-Mar-16

Project ID: H2634-P9
Baseline: Works Programme Rev 1A

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

Progress Update			
Date	Revision	Checked	A
10-Mar-16	Progress update		

Activity ID	Activity Name	Dur	Start	Finish	Finish Variance
B1.108	B1 - Core test, full core, sonic test	24	06-May-16	03-Jun-16	67
B1 - Pilecaps / Piers / Abutment / Retaining Walls / Portal		106	06-May-16	09-Sep-16	67
B1.110	B1 - Excavation for retaining wall / abutment	10	06-May-16	18-May-16	67
B1.112	B1 - Plate Load test	6	19-May-16	25-May-16	67
B1.116	B1 - Construction of Retaining walls 1AW1-1AW10, 1BW1-1BW8	90	26-May-16	09-Sep-16	67
B1.114	B1 - Excavation for Pilecaps	30	04-Jun-16	11-Jul-16	67
Bridge 2		120	10-Mar-16	05-Aug-16	129
B2 - Foundations		24	10-Mar-16	11-Apr-16	129
B2.108	B2 - Core test, full core, sonic test	24	10-Mar-16	11-Apr-16	129
B2 - Pilecaps / Piers / Abutment / Retaining Walls / Portal		120	10-Mar-16	05-Aug-16	129
B2.110	B2 - Excavation for retaining wall	10	10-Mar-16	21-Mar-16	129
B2.112	B2 - Plate Load test	6	22-Mar-16	31-Mar-16	129
B2.116	B2 - Construction of Retaining walls 2W1A-2W3A, 2W1B-2W3B	48	01-Apr-16	30-May-16	129
B2.114	B2 - Excavation for Pilecaps & Abutment	20	12-Apr-16	05-May-16	129
B2.122	B2 - Construct Pilecaps 2P1-2P2	22	23-Apr-16	20-May-16	129
B2.124	B2 - Construct Piers 2P1-2P2	12	24-May-16	06-Jun-16	129
B2.126	B2 - Construction of RW 2W4-2W6	30	31-May-16	06-Jul-16	129
B2.171	B2 - Install Bearings	50	07-Jun-16	05-Aug-16	129
Bridge 3		74	03-Mar-16 A	11-Jun-16	129
B3 - Foundations		24	03-Mar-16 A	02-Apr-16	159
B3.104	B3 - Core test, full core, sonic test	24	03-Mar-16 A	02-Apr-16	159
B3 - Pilecaps / Piers / Abutment / Retaining Walls / Portal		10	31-May-16	11-Jun-16	129
B3.106	B3 - Excavation for retaining wall	10	31-May-16	11-Jun-16	129
Bridge 4		24	29-Feb-16 A	30-Mar-16	-13
B4 - Foundations		24	29-Feb-16 A	30-Mar-16	-13
B4.104	B4 - Core test, full core, sonic test	24	29-Feb-16 A	30-Mar-16	-13
Bridge 5		148	16-Dec-15 A	08-Jul-16	-56
B5 - Foundations		24	16-Dec-15 A	12-Mar-16	-44
B5.104	B5 - Core test, full core, sonic test	24	16-Dec-15 A	12-Mar-16	-44
B5 - Pilecaps / Piers / Abutment / Retaining Walls / Portal		94	15-Feb-16 A	08-Jul-16	-56
B5.110	B5 - Excavation for Pilecaps	48	15-Feb-16 A	07-Apr-16	-15
B5.106	B5 - Excavation for retaining wall / abutment	10	12-Mar-16	24-Mar-16	-68
B5.108	B5 - Plate Load test	6	24-Mar-16	05-Apr-16	-68
B5.112	B5 - Construction of Retaing walls 5W10A-5W7A, 5W10B-5W7B	64	05-Apr-16	22-Jun-16	-68
B5.118	B5 - Construct Pilecaps 5P1-5P8	38	26-Apr-16	11-Jun-16	-56
B5.116	B5 - Construct Abutment A5 and Install bearing	30	27-Apr-16	02-Jun-16	-67
B5.120	B5 - Construct Piers 5P1-5P8	36	26-May-16	08-Jul-16	-56
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 10-Mar-16

Project ID: H2634-P9
Baseline: Works Programme Rev 1A

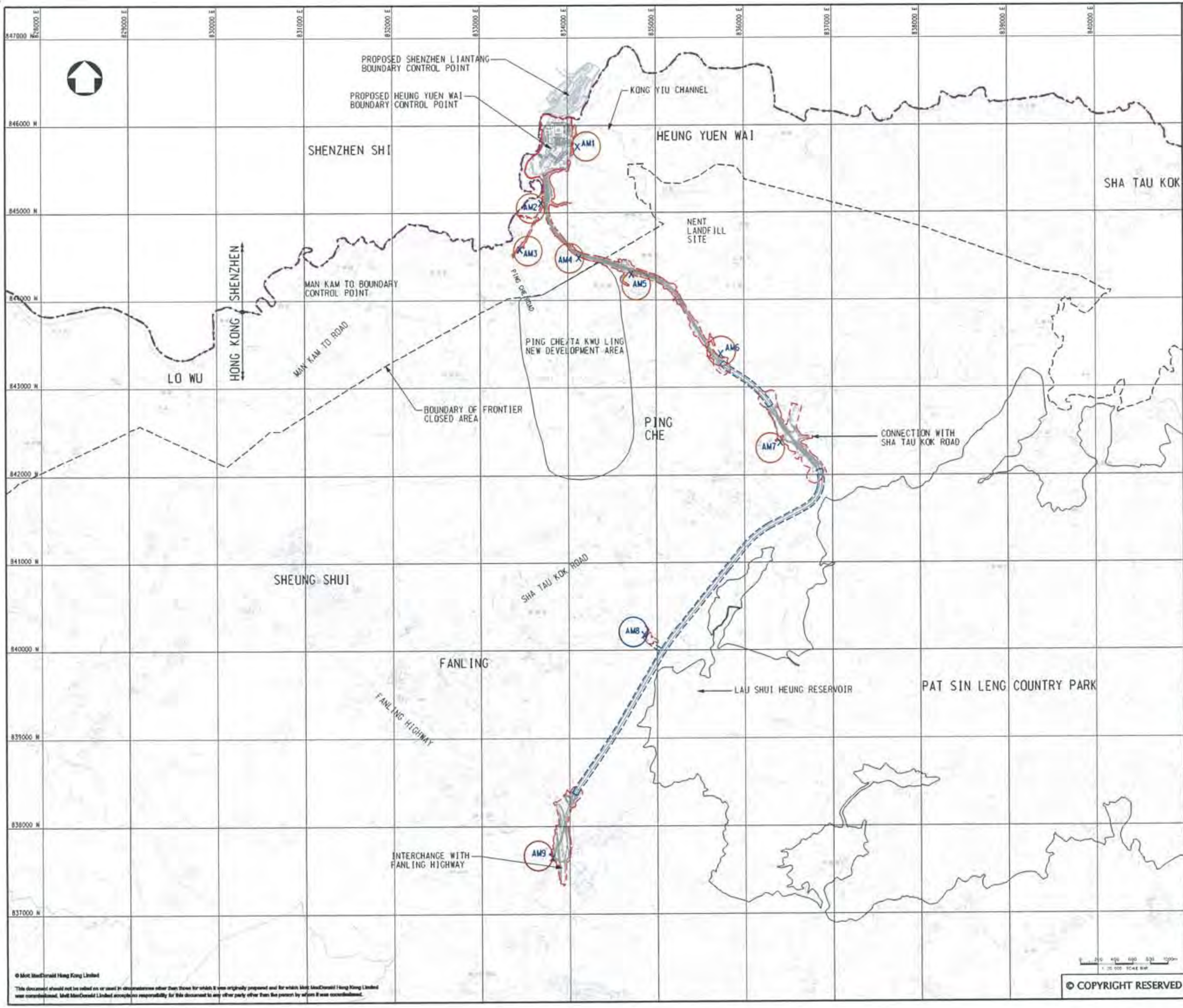
Layout: 3 Month Lookahead Works Programme
Filter: TASK filter: Date range DD-1M to DD+3M.

Page 11 of 11

Progress Update			
Date	Revision	Checked	A
10-Mar-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	WT

Mott MacDonald

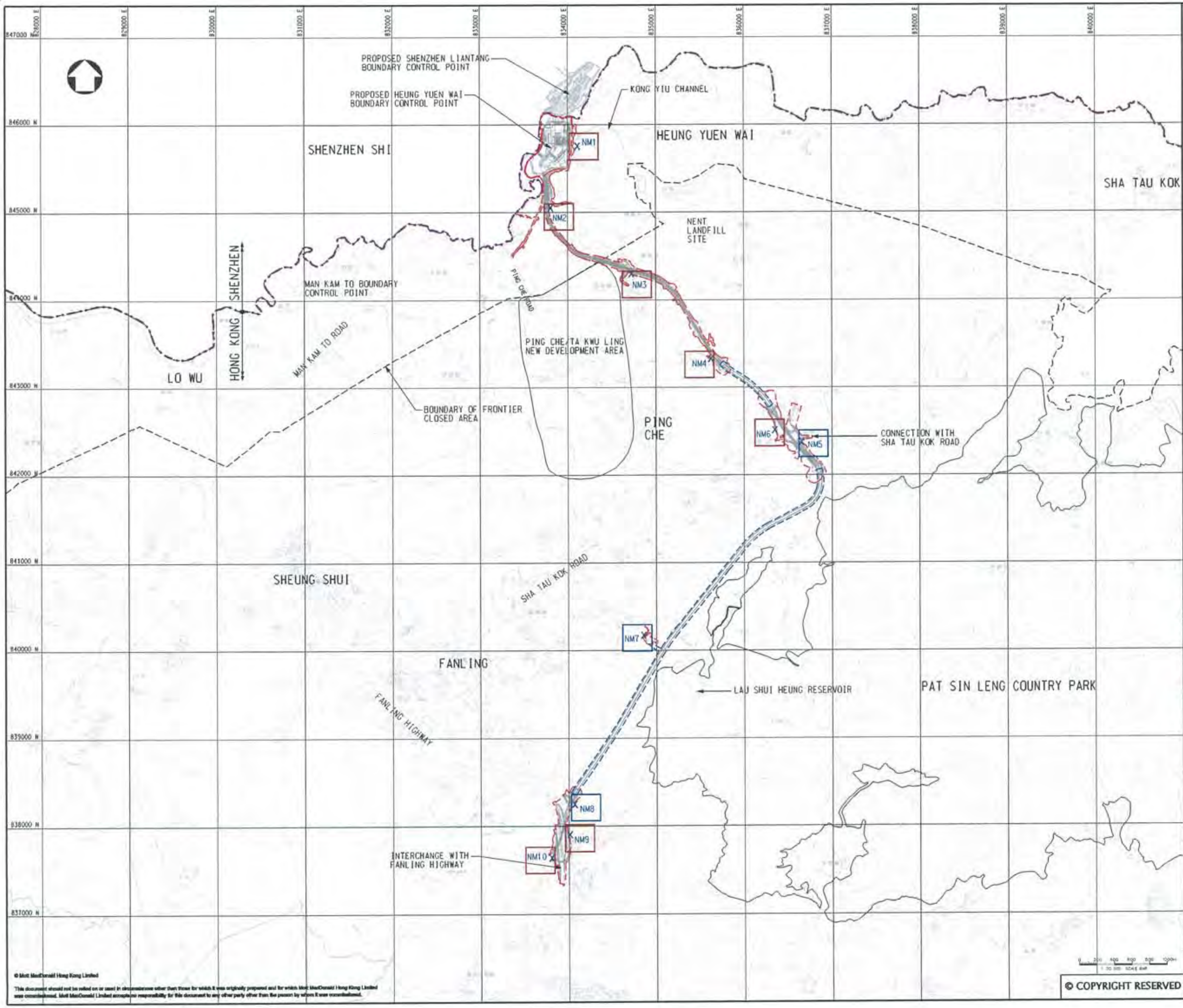
Client: CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

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	WT
Scale at A1	1:20000	Project	255228
Status	PRE	Rev	P1

Drawing No: FIGURE 2.1



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

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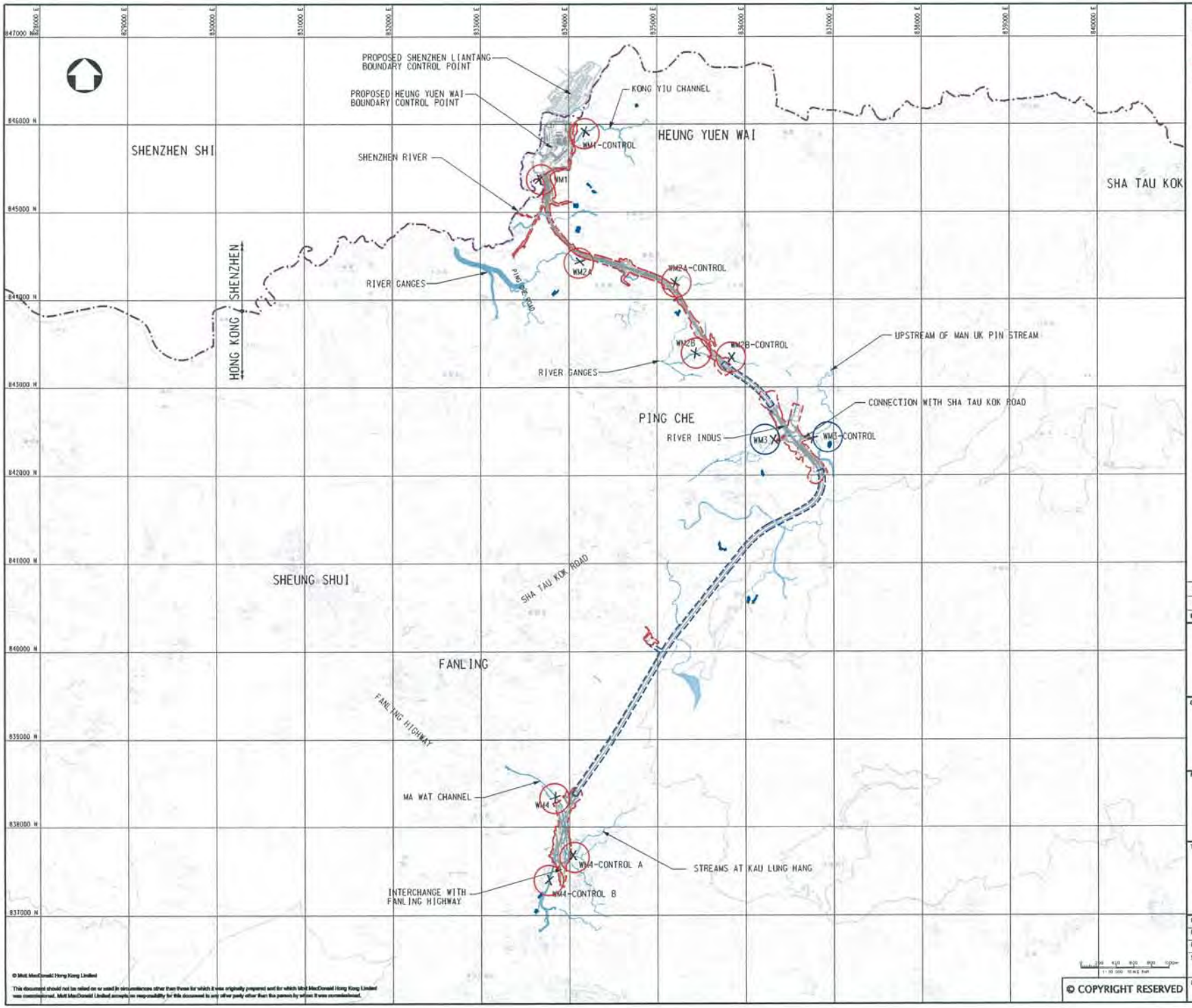
Client: CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

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

Title: PROPOSED LOCATION OF CONSTRUCTION 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



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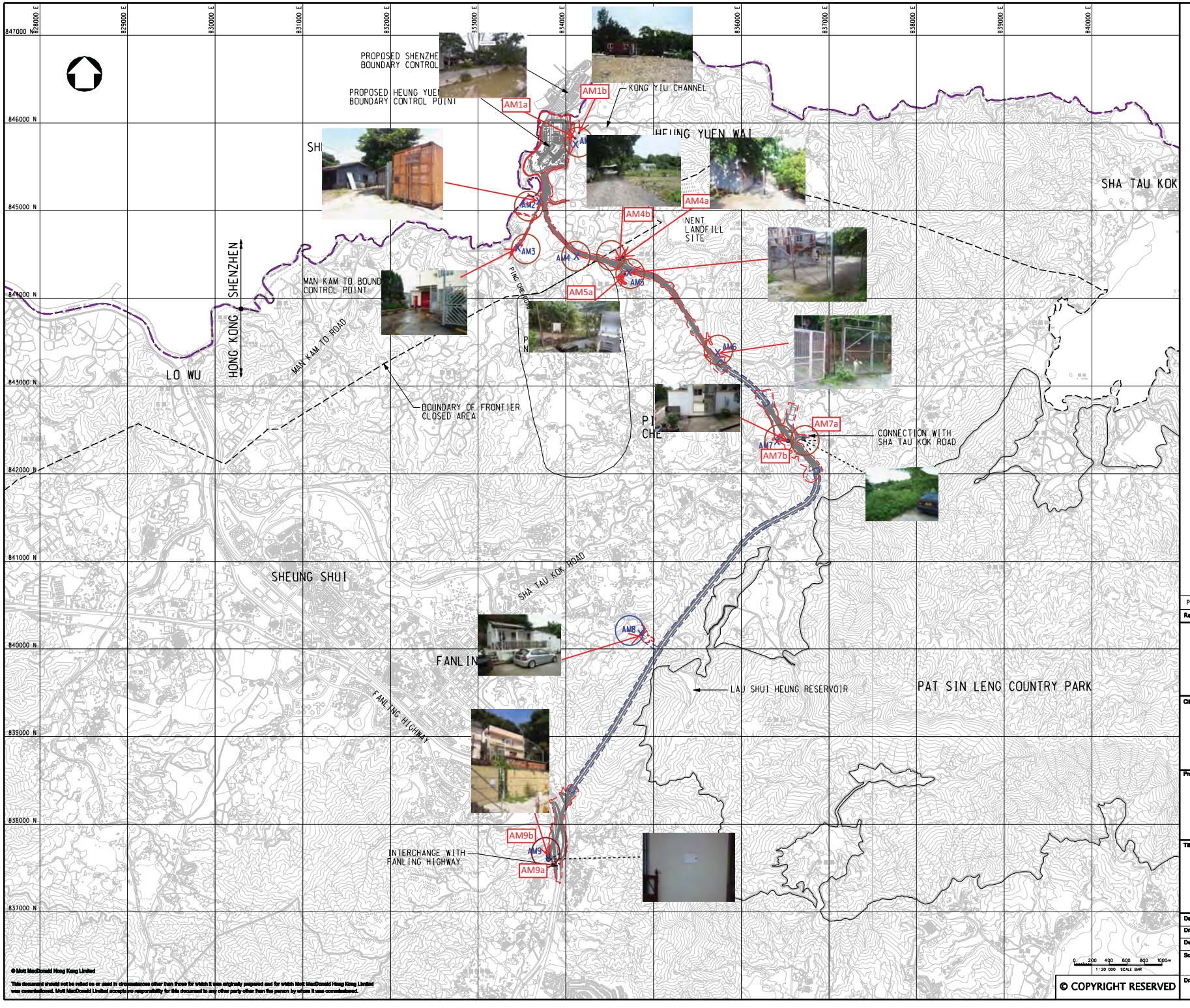
Project: AGREEMENT NO. CE45/2008(CE) LIANTANG/HEUNG YUEN WAI BOUNDARY CONTROL POINT AND ASSOCIATED WORKS

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

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

Mott MacDonald
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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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Drawing No	FIGURE 2.1			Rev	P1

0 200 400 600 800 1000m
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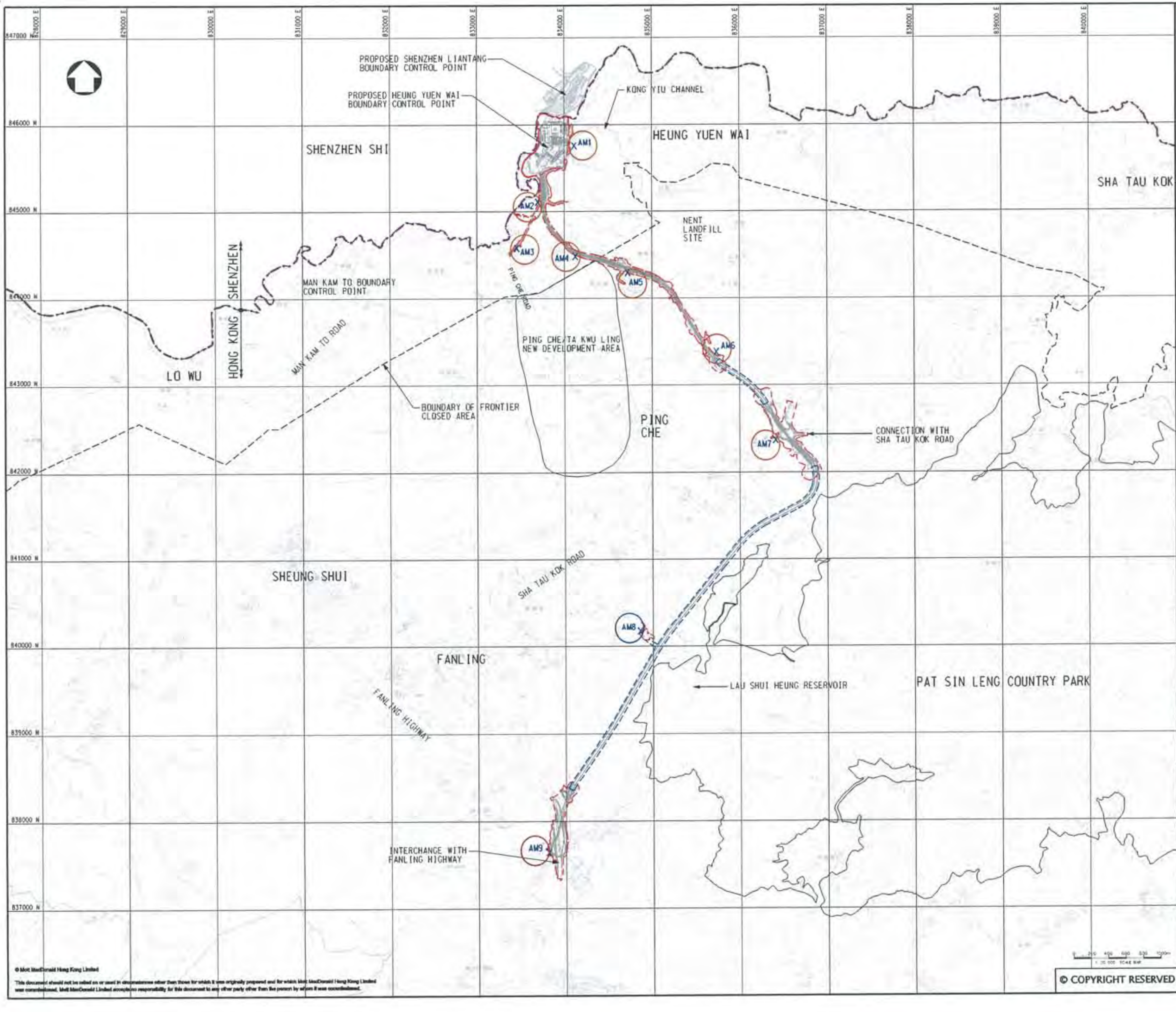

LEGEND:
- BOUNDARY OF HKSAR
- WORKS AREA (ABOVE GROUND)
- WORKS AREA (TUNNEL)
- X AIR MONITORING STATIONS

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

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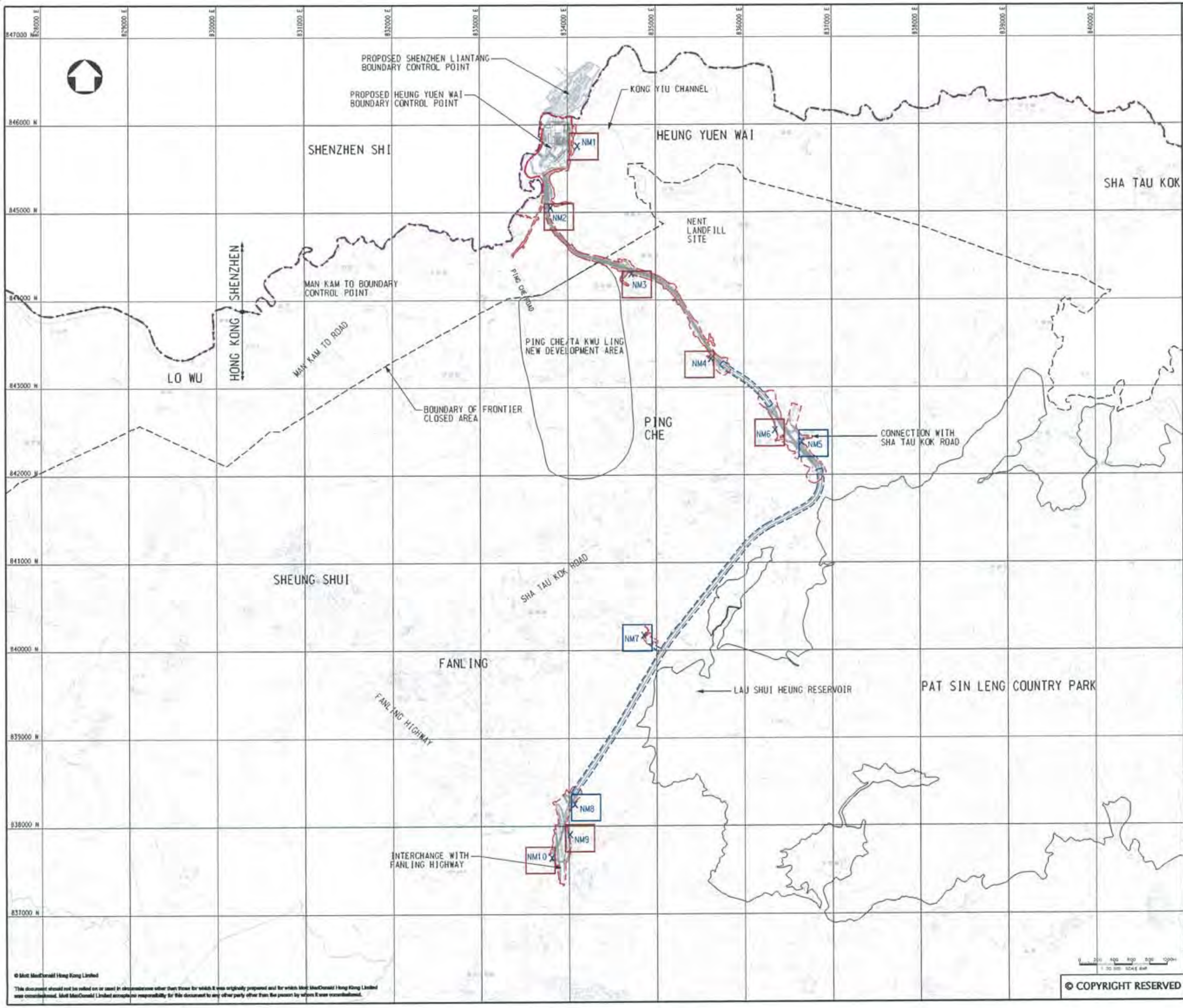
Client: CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

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	WT	
Scale at A1	1:20000	Project	255228	Status: PRE
Drawing No	FIGURE 2.1			Rev: P1



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

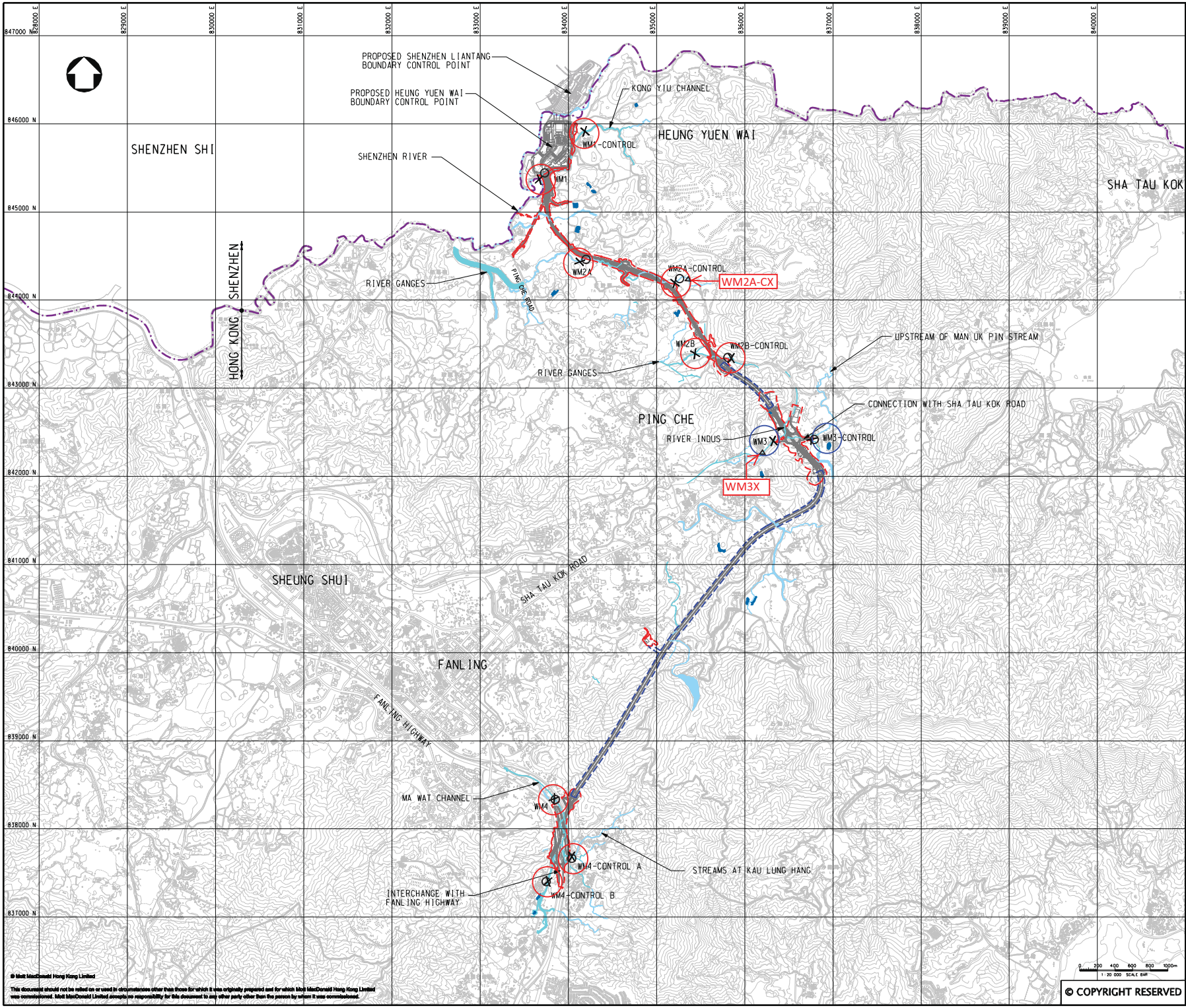
Mott MacDonald

Client: CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

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



LEGEND:

- BOUNDARY OF HKSAR
- LAND REQUIREMENT LIMIT (ABOVE GROUND)
- LAND REQUIREMENT LIMIT (TUNNEL)
- X — Water Quality Monitoring Location Recommended in EM&A Manual
- O — Alternative Water Quality Monitoring Location for EM&A Programme
- △ — New Proposed Water Quality Monitoring Location in November 2015

Station ID[1]	Location recommended in EM&A Manual[2] Coordinates[2]		Location found during site visit[3] Coordinates[3]	
	Easting[2]	Northing[2]	Easting[3]	Northing[3]
WM1[2]	833668.635[2]	845371.097[2]	833679[3]	845421[3]
WM1-Control[2]	834185.480[2]	845916.662[2]	834185[3]	845917[3]
WM2A[2]	834132.193[2]	844432.910[2]	834204[3]	844471[3]
WM2A-Control[2]	835205.329[2]	844200.151[2]	835270[3]	844243[3]
WM2B[2]	835434.744[2]	843394.606[2]	835433[3]	843397[3]
WM2B-Control[2]	835845.878[2]	843343.625[2]	835835[3]	843351[3]
WM3[2]	836323.622[2]	842404.977[2]	836324[3]	842407[3]
WM3-Control[2]	836763.419[2]	842425.507[2]	836763[3]	842400[3]
WM4[2]	833840.783[2]	838344.842[2]	833850[3]	838338[3]
WM4-Control A[2]	834038.937[2]	837668.995[2]	834028[3]	837695[3]
WM4-Control B[2]	833769.123[2]	837406.936[2]	833760[3]	837395[3]

New Proposed Water Quality Monitoring Location in November 2015		
Location ID	Easting	Northing
WM2A-C (Original)	0835270	0844243
WM2A-Cx (Proposed)	0835377	0844188
WM3(Original)	0836324	0842407
WM3x(Proposed)	0836206	0842270

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

Mott MacDonald
20/F Two Landmark East
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Kwun Tong, Kowloon
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W www.mottmac.com.hk

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	MING		Coordination	EC	
Dwg.Chk.	HC		Approved	HT	
Scale at A1	1:20000	Project	255228	Status	PRE
Drawing No	Appendix C	CAD file	u:\255228\REPORT\ENV\EM&A\DWS\FIG 4-1.dgn	Rev	P2

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

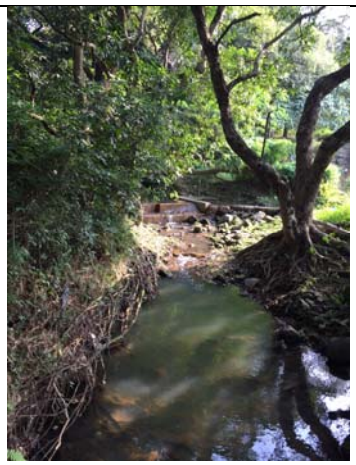
Photographic Records for Water Quality Monitoring Location

Alternative Location of WM1

Alternative Location of WM1 – Control (WM1-C)

Alternative Location of WM2A

Alternative Location of WM2-Control (WM2-C)



Alternative Location of WM2- Control X (WM2-CX)

Location of WM2B-Control (WM2B-C)

Location of WM2B

Location of WM3-Control (WM3-C)

Location of WM3

Alternative Location of WM3X

Location of WM4–Control A (WM4-CA)

Location of WM4–Control B (WM4-CB)

Location of WM4

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:	23/2/2016
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 :

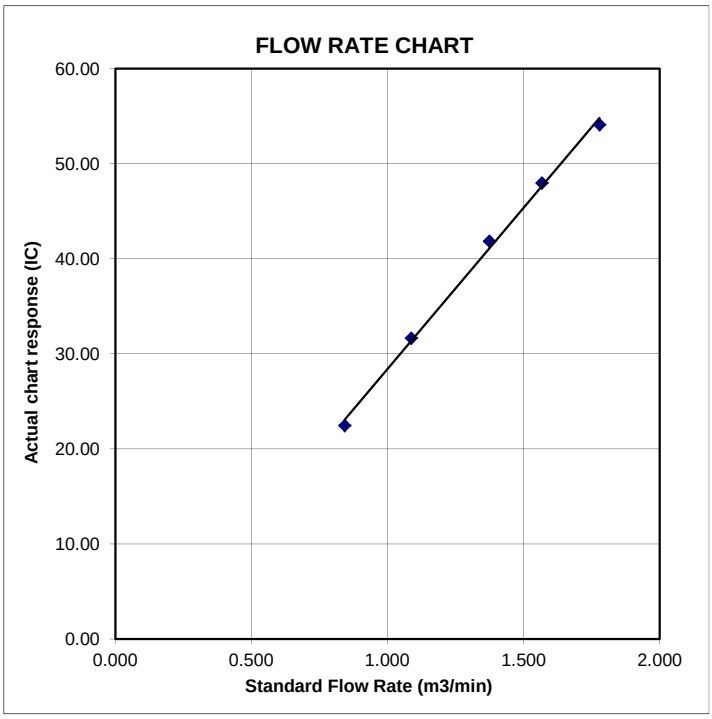
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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]

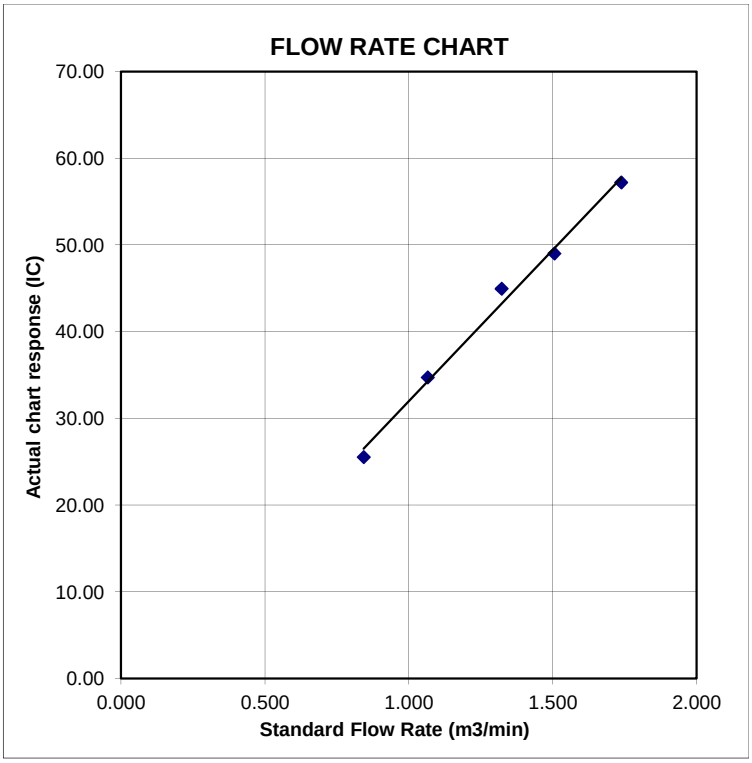
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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 :

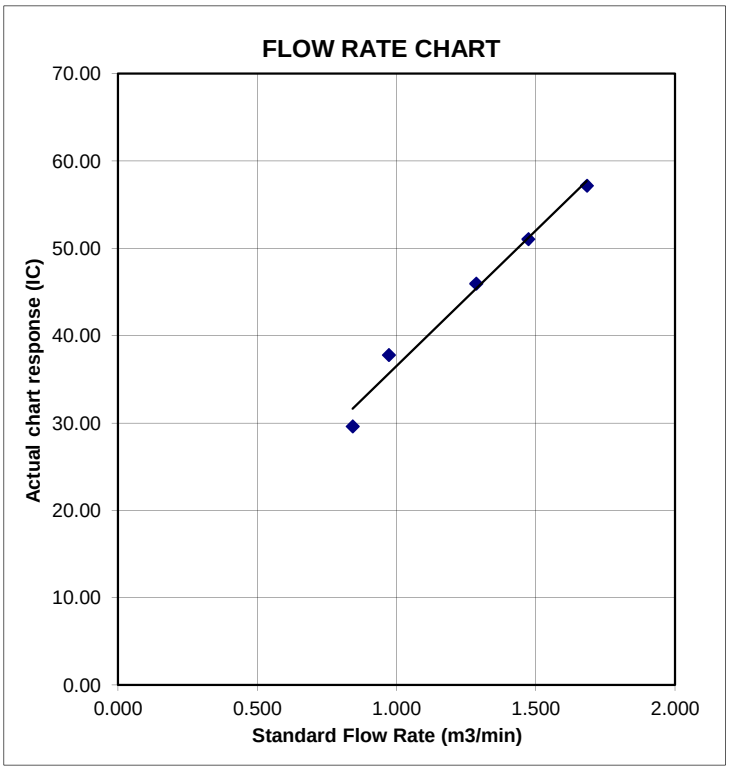
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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 :

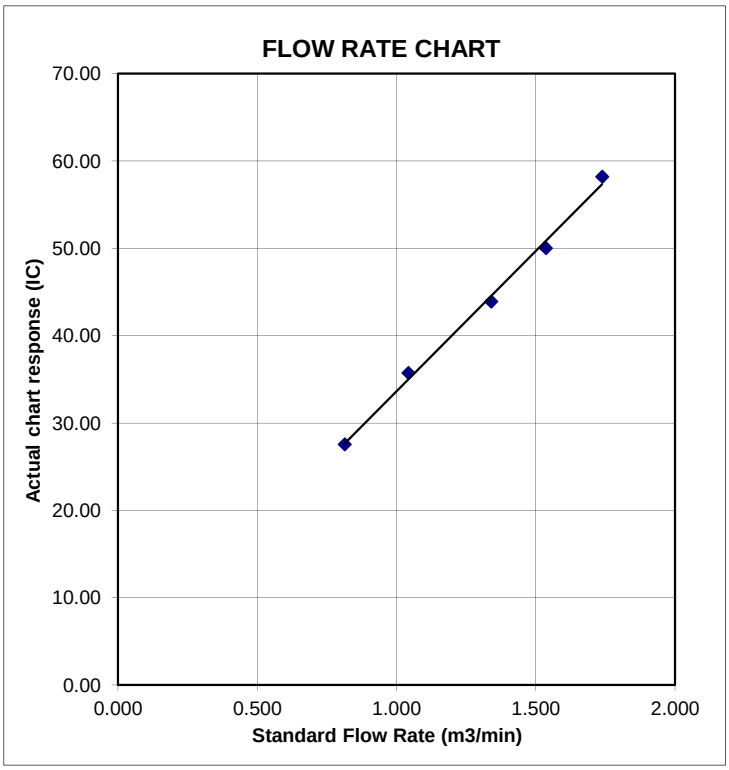
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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)

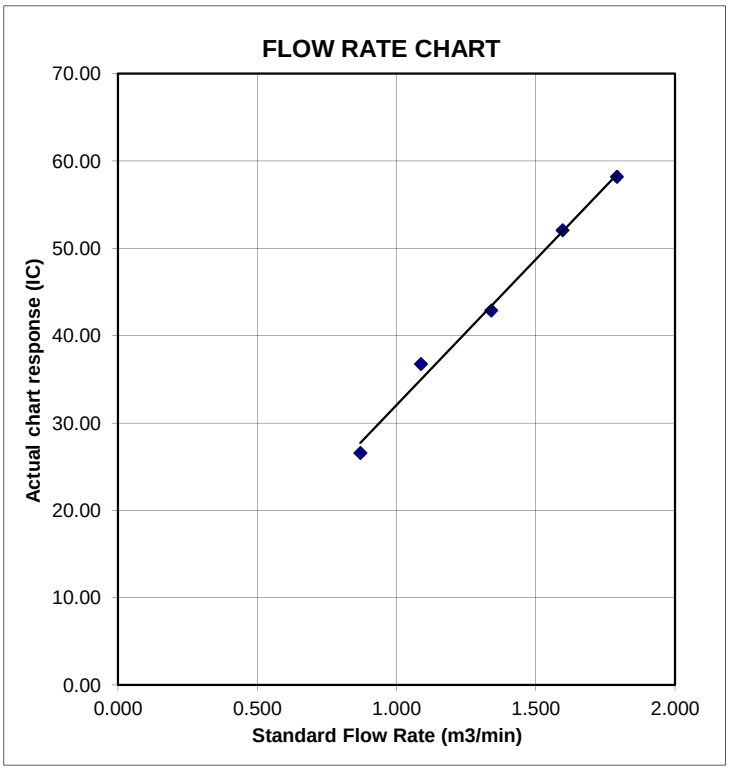
m = sampler slope

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 :

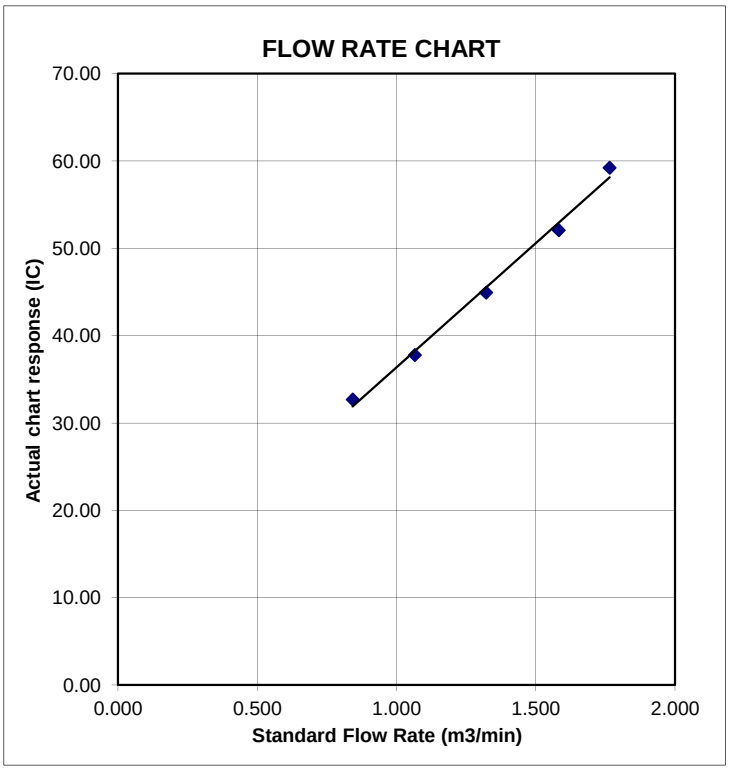
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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 :

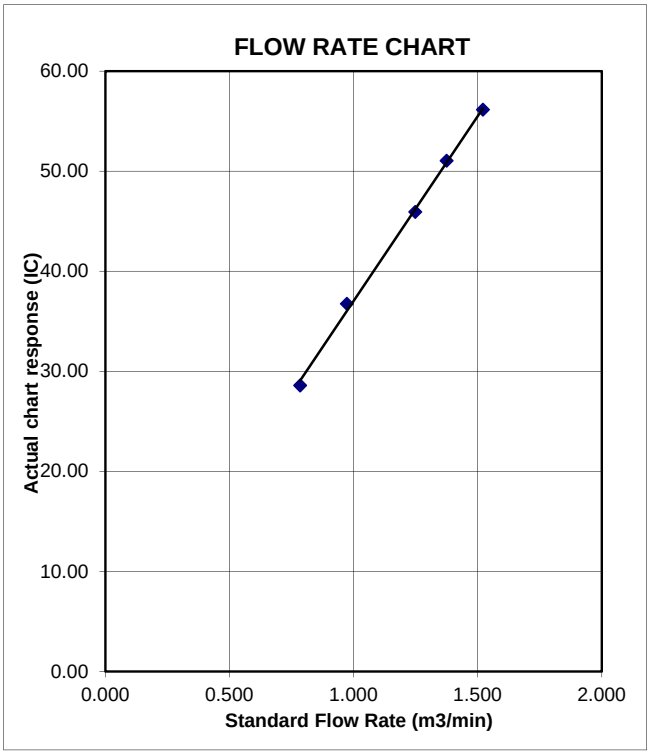
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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 :

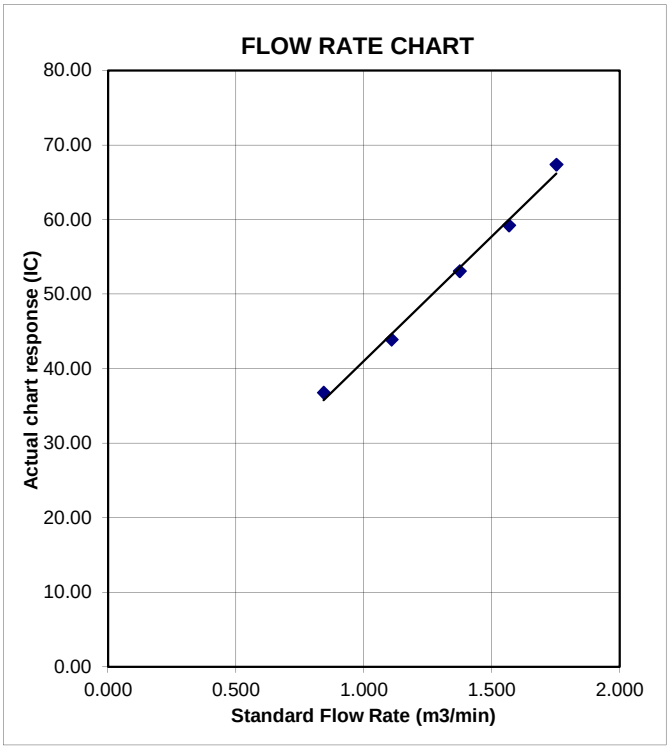
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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 :

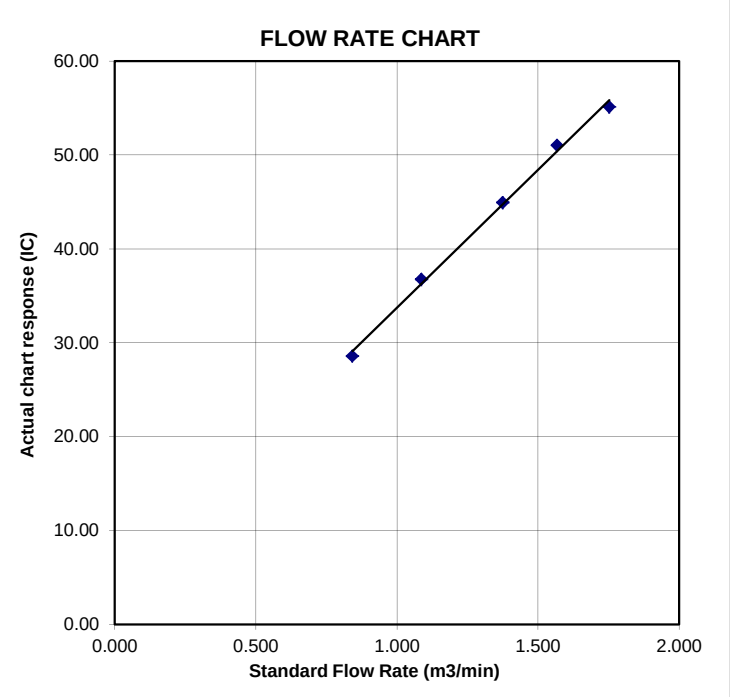
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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)

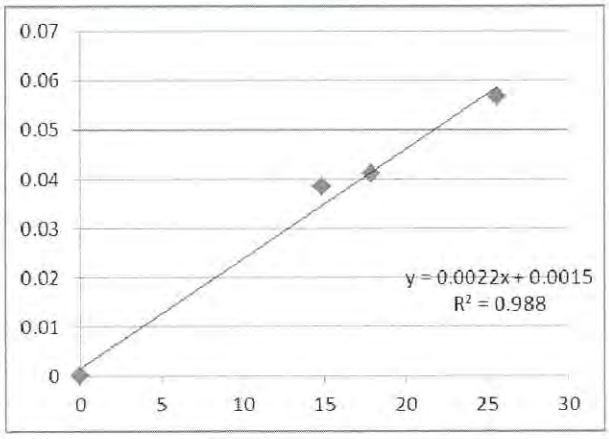
Sensitivity Adjustment Scale Setting (After Calibration) 602 (CPM)

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)

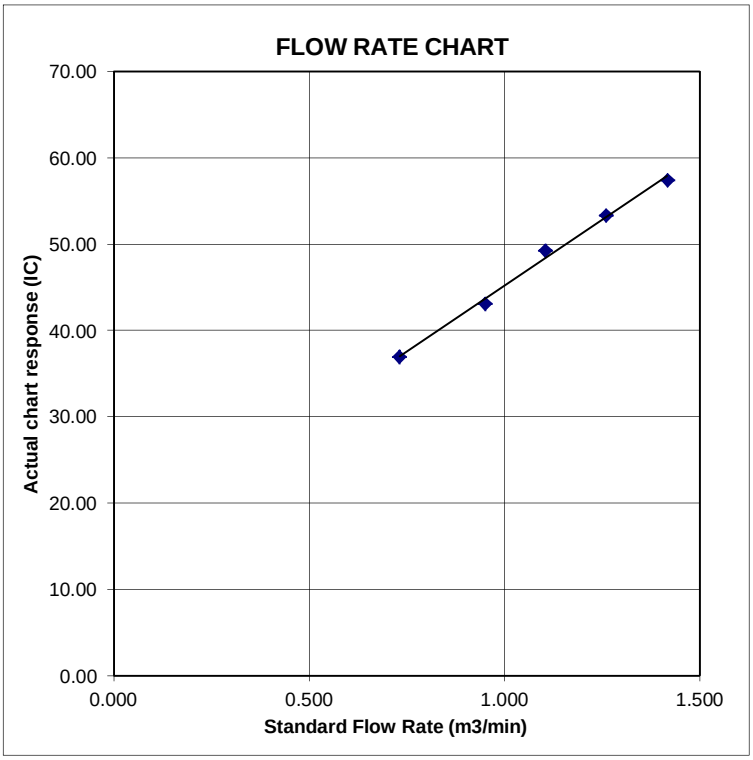
m = sampler slope

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)

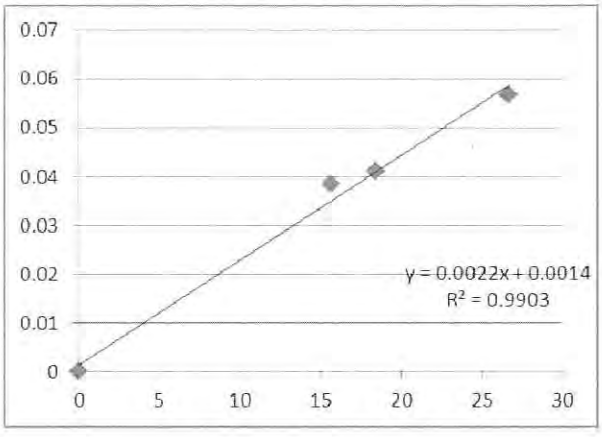
Sensitivity Adjustment Scale Setting (After Calibration) 701 (CPM)

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)

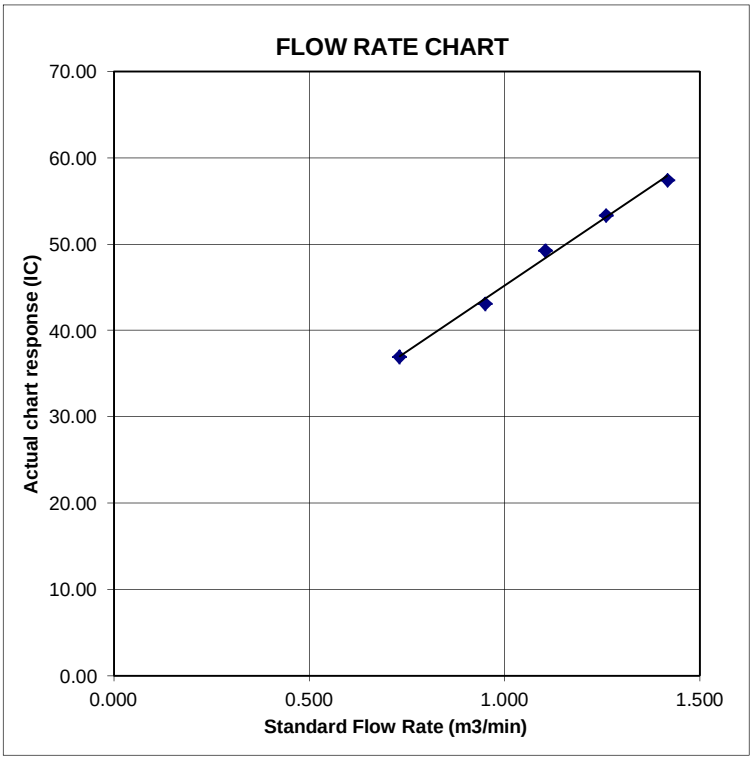
m = sampler slope

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)

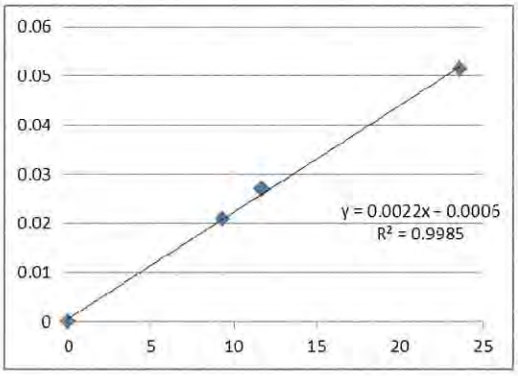
Sensitivity Adjustment Scale Setting (After Calibration) 596 (CPM)

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]

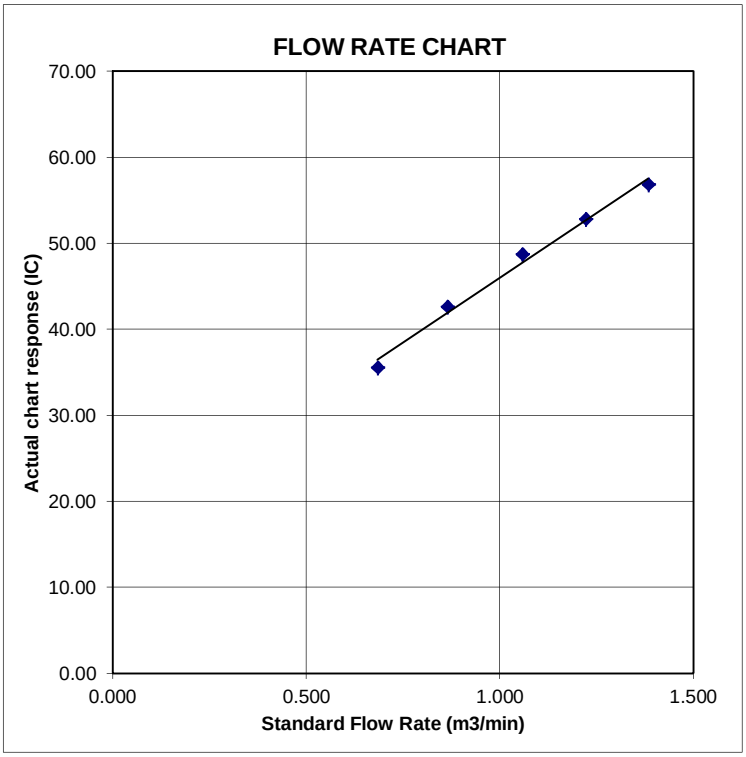
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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)

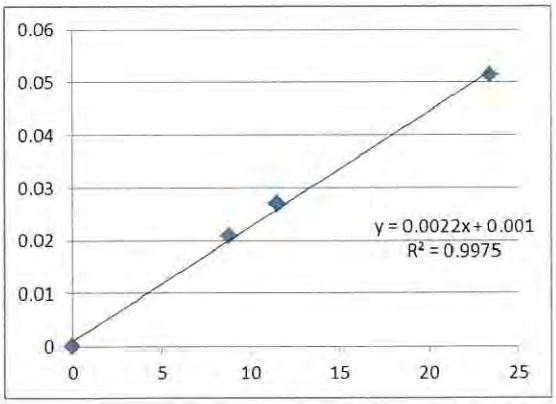
Sensitivity Adjustment Scale Setting (After Calibration) 540 (CPM)

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]

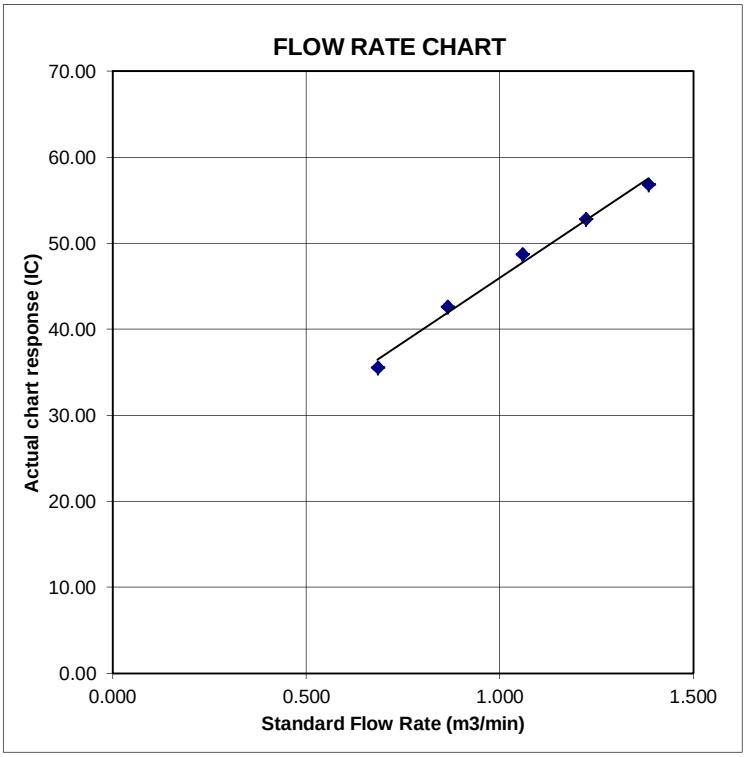
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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)

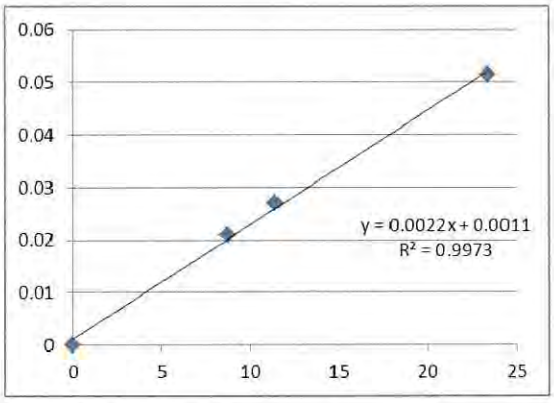
Sensitivity Adjustment Scale Setting (After Calibration) 661 (CPM)

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]

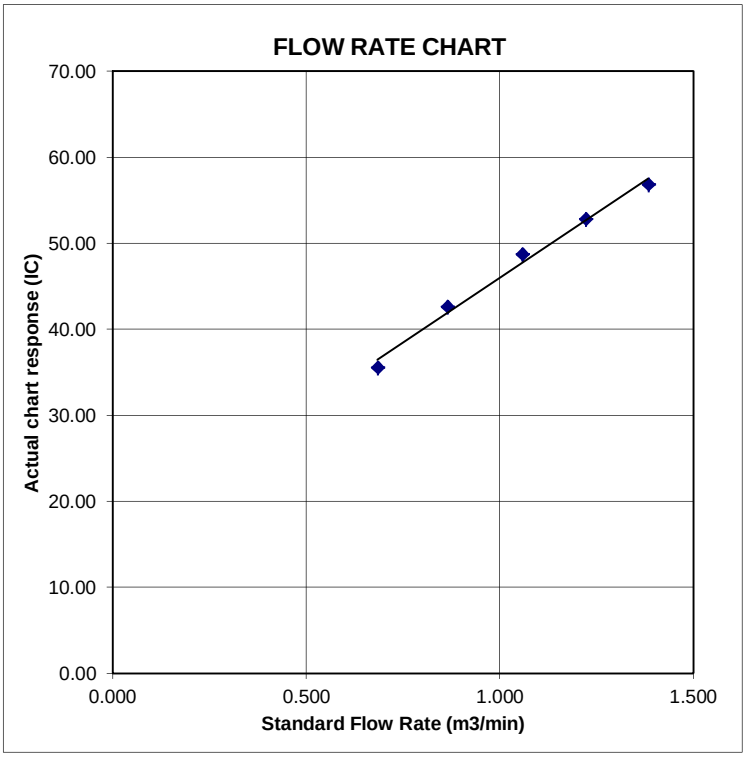
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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)

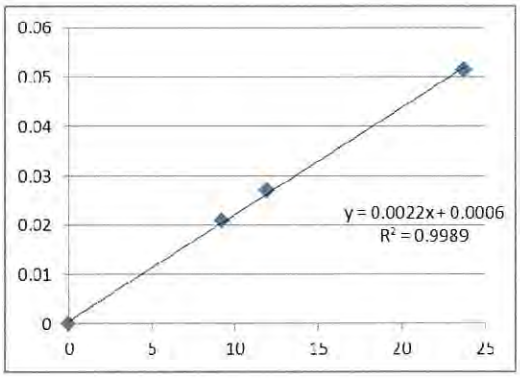
Sensitivity Adjustment Scale Setting (After Calibration) 648 (CPM)

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]

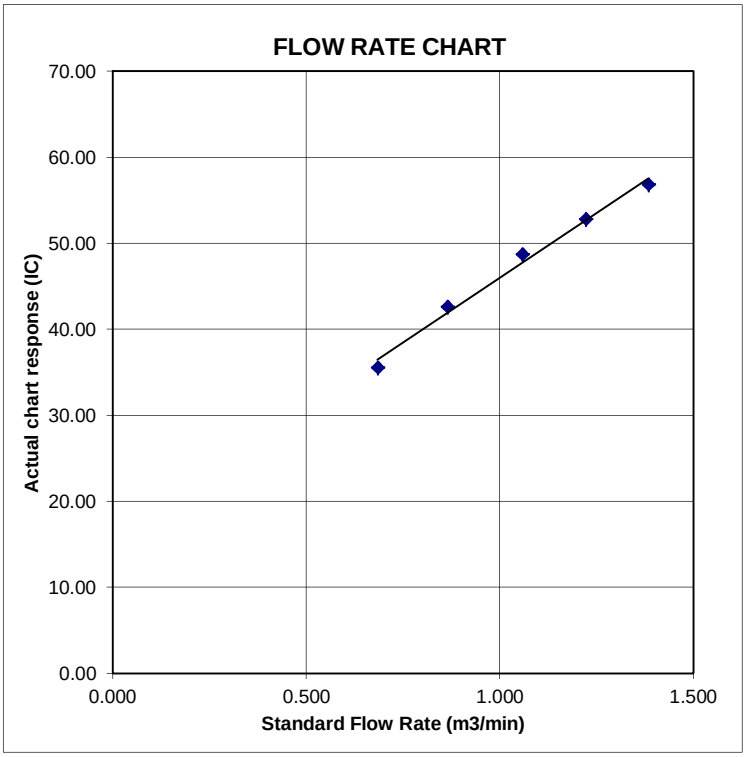
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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)

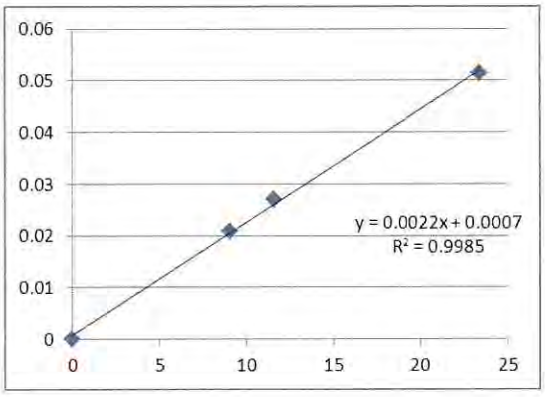
Sensitivity Adjustment Scale Setting (After Calibration) 585 (CPM)

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]

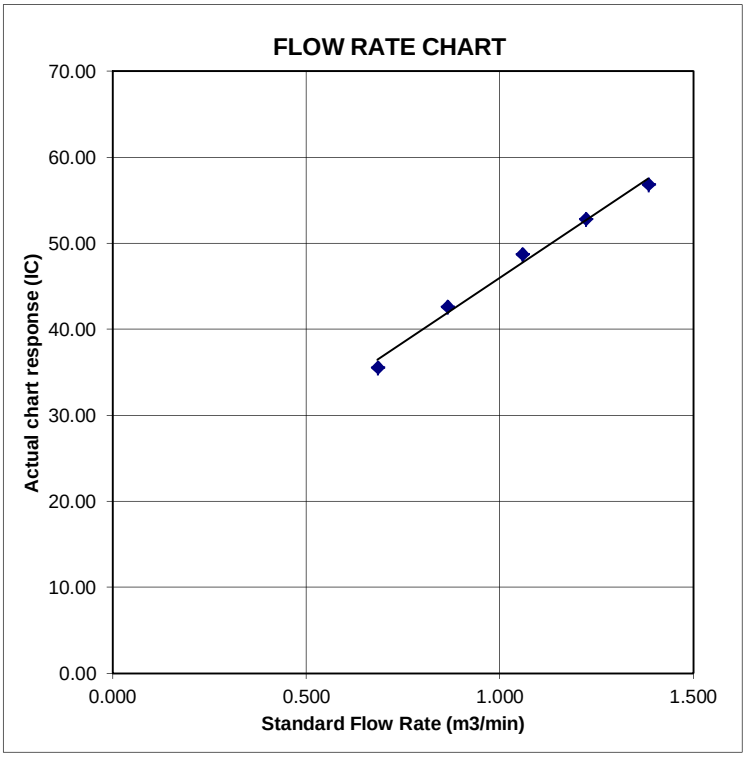
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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

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.

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
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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)

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.

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

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

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

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

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)

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.

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

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. : 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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Sun Creation Engineering Limited
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

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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

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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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

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
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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. : 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.

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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

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. : 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

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 -
Greater China & Hong Kong

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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	MR BEN TAM	**WORK ORDER:**	HK1610840
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:	16/03/2016
		DATE OF ISSUE:	23/03/2016

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.:	550A
Serial No.:	16A104433
Equipment No.:	--
Date of Calibration:	23 March, 2016

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

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

Work Order: HK1610840
Sub-Batch: 0
Date of Issue: 23/03/2016
Client: ACTION UNITED ENVIRO SERVICES

Equipment Type: Dissolved Oxygen Meter
Brand Name: YSI
Model No.: 550A
Serial No.: 16A104433
Equipment No.: --
Date of Calibration: 23 March, 2016 Date of next Calibration: 23 June, 2016

Parameters:

Dissolved Oxygen **Method Ref: APHA (21st edition), 4500O: G**

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
2.43	2.37	-0.06
5.50	5.40	-0.10
8.89	8.75	-0.14
	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)
12	11.3	-0.7
22	21.7	-0.3
43	42.5	-0.5
	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
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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	MR BEN TAM	**WORK ORDER:**	HK1600633
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:	06/01/2016
		DATE OF ISSUE:	08/01/2016

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:	Turbidity
Equipment Type:	Turbidimeter
Brand Name:	HACH
Model No.:	2100Q
Serial No.:	12060C018266
Equipment No.:	--
Date of Calibration:	07 January, 2016

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

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

Work Order: HK1600633
Sub-batch: 0
Date of Issue: 08/01/2016
Client: ACTION UNITED ENVIRO SERVICES

Equipment Type: Turbidimeter
Brand Name: HACH
Model No.: 2100Q
Serial No.: 12060C018266
Equipment No.: --
Date of Calibration: 07 January, 2016

Parameters:

Turbidity

Method Ref: APHA 21st Ed. 2130B

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.00	--
40	43.7	+9.3
400	404	+1.0
	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

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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	MR BEN TAM	**WORK ORDER:**	HK1549776
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:	24/12/2015
		DATE OF ISSUE:	04/01/2016

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:	pH and Temperature
Description:	pH Meter
Brand Name:	AZ
Model No.:	8685
Serial No.:	1118396
Equipment No.:	--
Date of Calibration:	04 January, 2016

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

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

Work Order: HK1549776
Sub-batch: 0
Date of Issue: 04/01/2016
Client: ACTION UNITED ENVIRO SERVICES

Description: pH Meter
Brand Name: AZ
Model No.: 8685
Serial No.: 1118396
Equipment No.: --
Date of Calibration: 04 January, 2016 Date of next Calibration: 04 April, 2016

Parameters:

pH Value

Method Ref: APHA (21st edition), 4500H:B

Expected Reading (pH Unit)	Displayed Reading (pH Unit)	Tolerance (pH unit)
4.0	4.0	0.00
7.0	7.0	0.00
10.0	9.8	-0.20
	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)
11	10.3	-0.7
23	22.0	-1.0
42	40.9	-1.1
	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

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 – 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				C2 & C3 (*)
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

(*) Water monitoring will be conducted at WM4, WM4-CA and WM4-CB only.

	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 – April 2016

Date		Dust Monitoring		Noise Monitoring	Water Quality
		1-hour TSP	24-hour TSP		
Fri	1-Apr-16				
Sat	2-Apr-16	C2&C6	C3&C5&C7&SSC505		C2 & C3&C5& SSC505& C6
Sun	3-Apr-16				
Mon	4-Apr-16				
Tue	5-Apr-16	C3&C5&C7&SSC505	C2&C6	C3&C5&C7&SSC505	C2 & C3&C5& SSC505& C6
Wed	6-Apr-16				
Thu	7-Apr-16				C2 & C3&C5& SSC505& C6
Fri	8-Apr-16	C2&C6	C3&C5&C7&SSC505	C2&C6	
Sat	9-Apr-16				C2 & C3&C5& SSC505& C6
Sun	10-Apr-16				
Mon	11-Apr-16	C3&C5&C7&SSC505	C2&C6	C3&C5&C7&SSC505	C2 & C3&C5& SSC505& C6
Tue	12-Apr-16				
Wed	13-Apr-16				
Thu	14-Apr-16	C2&C6	C3&C5&C7&SSC505	C2&C6	C2 & C3&C5& SSC505& C6
Fri	15-Apr-16				
Sat	16-Apr-16	C3&C5&C7&SSC505	C2&C6		C2 & C3&C5& SSC505& C6
Sun	17-Apr-16				
Mon	18-Apr-16				C2 & C3&C5& SSC505& C6
Tue	19-Apr-16				
Wed	20-Apr-16	C2&C6	C3&C5&C7&SSC505	C2&C6	C2 & C3&C5& SSC505& C6
Thu	21-Apr-16				
Fri	22-Apr-16	C3&C5&C7&SSC505	C2&C6	C3&C5&C7&SSC505	C2 & C3&C5& SSC505& C6
Sat	23-Apr-16				
Sun	24-Apr-16				
Mon	25-Apr-16				
Tue	26-Apr-16	C2&C6	C3&C5&C7&SSC505	C2&C6	C2 & C3&C5& SSC505& C6
Wed	27-Apr-16				
Thu	28-Apr-16	C3&C5&C7&SSC505	C2&C6	C3&C5&C7&SSC505	C2 & C3&C5& SSC505& C6
Fri	29-Apr-16				
Sat	30-Apr-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															
5-Mar-16	29179	11214.97	11239.10	1447.80	44	44	44.0	20.8	1016.7	1.47	2130	2.8658	3.0896	0.2238	105
11-Mar-16	29188	11239.10	11263.24	1448.40	38	39	38.5	11.9	1022.6	1.33	1924	2.8756	2.9365	0.0609	32
17-Mar-16	29216	11263.24	11287.32	1444.80	28	30	29.0	15.3	1014.3	1.03	1491	2.9243	2.9494	0.0251	17
23-Mar-16	29226	11287.32	11311.44	1447.20	32	32	32.0	18.4	1012.8	1.12	1616	2.9009	2.9449	0.0440	27
29-Mar-16	29255	11311.44	11335.60	1449.60	47	47	47.0	17.7	1021.4	1.57	2277	2.8720	3.0108	0.1388	61
AM2 - Village House near Lin Ma Hang Road															
5-Mar-16	29177	6762.62	6786.45	1429.80	36	36	36.0	20.8	1016.7	1.12	1608	2.8797	3.0200	0.1403	87
11-Mar-16	29187	6786.45	6810.29	1430.40	32	33	32.5	11.9	1022.6	1.04	1488	2.8785	3.0129	0.1344	90
17-Mar-16	29217	6810.29	6834.19	1434.00	30	30	30.0	15.3	1014.3	0.96	1374	2.9245	2.9771	0.0526	38
23-Mar-16	29227	6834.19	6857.86	1420.20	36	38	37.0	18.4	1012.8	1.16	1641	2.8859	2.9696	0.0837	51
29-Mar-16	29257	6857.86	6881.61	1425.00	45	45	45.0	17.7	1021.4	1.39	1987	2.8734	3.0593	0.1859	94
AM3 - Ta Kwu Ling Fire Service Station of Ta Kwu Ling Village															
5-Mar-16	29718	7875.00	7899.00	1440.00	49	49	49.0	20.8	1016.7	1.42	2041	2.8792	3.0297	0.1505	74
11-Mar-16	29189	7899.00	7923.01	1440.60	38	39	38.5	11.9	1022.6	1.10	1582	2.8533	3.0099	0.1566	99
17-Mar-16	29215	7923.01	7946.99	1438.80	48	48	48.0	15.3	1014.3	1.40	2011	2.8986	2.9545	0.0559	28
23-Mar-16	29225	7946.99	7970.99	1440.00	48	48	48.0	18.4	1012.8	1.39	1999	2.8904	2.9514	0.0610	31
29-Mar-16	29258	7970.99	7994.99	1440.00	46	46	46.0	17.7	1021.4	1.33	1917	2.8385	3.0527	0.2142	112
AM4 - House no. 10B1 Nga Yiu Ha Village															
3-Mar-16	29123	9858.75	9882.75	1440.00	32	32	32.0	22.4	1023.2	0.96	1381	2.8450	2.9398	0.0948	69
9-Mar-16	29128	9882.75	9906.75	1440.00	38	39	38.5	20.8	1012.5	1.16	1670	2.8460	2.9028	0.0568	34
15-Mar-16	29193	9906.75	9930.76	1440.60	32	32	32.0	14.8	1017.1	0.97	1396	2.8892	2.9876	0.0984	71
19-Mar-16	29219	9930.76	9954.75	1439.40	36	36	36.0	22.4	1013	1.08	1553	2.8964	2.9875	0.0911	59
24-Mar-16	29230	9954.75	9978.75	1440.00	39	39	39.0	15.3	1020.3	1.19	1716	2.9079	2.9548	0.0469	27
30-Mar-16	29259	9978.75	10002.75	1440.00	40	40	40.0	20	1018.3	1.21	1746	2.8635	3.0637	0.2002	115
AM5a - Ping Yeung Village House															
3-Mar-16	29124	7697.05	7721.05	1440.00	31	31	31.0	22.4	1023.2	0.98	1408	2.8646	2.9552	0.0906	64
9-Mar-16	29186	7721.05	7745.05	1440.00	28	29	28.5	20.8	1012.5	0.90	1296	2.8719	2.9175	0.0456	35
15-Mar-16	29194	7745.05	7769.07	1441.20	30	30	30.0	14.8	1017.1	0.96	1378	2.8642	2.9459	0.0817	59
19-Mar-16	29220	7769.07	7793.06	1439.40	32	32	32.0	22.4	1013.0	1.00	1444	2.8908	2.9577	0.0669	46
24-Mar-16	29231	7793.06	7817.06	1440.00	26	26	26.0	15.3	1020.3	0.83	1202	2.8875	2.9233	0.0358	30
30-Mar-16	29260	7817.06	7841.06	1440.00	28	28	28.0	20	1818.3	1.17	1690	2.8640	3.0027	0.1387	82
AM6 - Wo Keng Shan Village House															
3-Mar-16	29125	6268.47	6292.47	1440.00	30	30	30.0	18.7	1021.9	0.79	1141	2.8335	2.9674	0.1339	117

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)	
9-Mar-16	29127	6292.47	6316.47	1440.00	33	34	33.5	20.8	1012.5	0.91	1307	2.8560	2.9227	0.0667	51
15-Mar-16	29192	6316.47	6340.48	1440.60	34	34	34.0	14.8	1017.1	0.94	1355	2.8902	3.0567	0.1665	123
19-Mar-16	29221	6340.48	6364.47	1439.40	34	34	34.0	22.4	1013.0	0.92	1327	2.9160	3.0300	0.1140	86
24-Mar-16	29232	6364.47	6388.47	1440.00	34	34	34.0	15.3	1020.3	0.94	1355	2.9030	2.9420	0.0390	29
30-Mar-16	29261	6388.47	6412.04	1414.20	28	28	28.0	20.0	1018.3	0.72	1014	2.8754	3.0038	0.1284	127
AM7b - Loi Tung Village House															
4-Mar-16	29126	15301.10	15325.10	1440.00	30	32	31.0	20.2	1018.1	0.85	1218	2.8498	2.8993	0.0495	41
10-Mar-16	29195	15325.10	15349.10	1440.00	24	24	24.0	13.4	1019.5	0.66	954	2.8720	2.8933	0.0213	22
16-Mar-16	29213	15349.10	15373.10	1440.00	28	28	28.0	15.3	1015	0.77	1107	2.8999	2.9626	0.0627	57
22-Mar-16	29224	15373.10	15397.10	1440.00	30	30	30.0	16.6	1013.4	0.82	1183	2.8909	2.9264	0.0355	30
24-Mar-16	29253	15397.10	15421.10	1440.00	20	20	20.0	15.3	1020.3	0.55	792	2.8871	2.9095	0.0224	28
30-Mar-16	29262	15421.10	15445.10	1440.00	27	28	27.5	20	1018.3	0.75	1080	2.8595	2.9999	0.1404	130
AM8 - Po Kat Tsai Village No. 4															
4-Mar-16	29176	9171.50	9195.52	1441.20	38	38	38.0	20.2	1018.1	0.92	1326	2.8885	2.9251	0.0366	28
10-Mar-16	29191	9195.52	9219.52	1440.00	30	30	30.0	13.4	1019.5	0.69	993	2.8919	2.9252	0.0333	34
16-Mar-16	29214	9219.52	9243.51	1439.40	36	36	36.0	15.3	1015	0.87	1248	2.9166	2.9407	0.0241	19
22-Mar-16	29228	9243.51	9267.51	1440.00	36	36	36.0	16.6	1013.4	0.86	1244	2.8871	2.9148	0.0277	22
24-Mar-16	29254	9267.51	9291.50	1439.40	42	42	42.0	15.3	1020.2	1.05	1516	2.8769	2.9058	0.0289	19
30-Mar-16	29263	9291.50	9315.51	1440.60	37	37	37.0	20	1018.3	0.89	1283	2.8624	2.9527	0.0903	70
AM9b - Nam Wa Po Village House No. 80															
5-Mar-16	29057	16648.32	16672.34	1441.20	38	38	38.0	20.8	1016.7	1.16	1667	2.7994	2.8573	0.0579	35
11-Mar-16	29190	16672.34	16696.34	1440.00	46	46	46.0	11.9	1022.6	1.46	2103	2.8755	2.9275	0.0520	25
17-Mar-16	29218	16696.34	16720.34	1440.00	24	24	24.0	15.3	1014.3	0.68	983	2.8877	2.9104	0.0227	23
23-Mar-16	29229	16720.34	16744.33	1439.40	29	29	29.0	18.4	1012.8	0.85	1223	2.8904	2.9363	0.0459	38
29-Mar-16	29256	16744.33	16768.33	1440.00	28	29	28.5	17.7	1021.4	0.84	1206	2.8705	2.9493	0.0788	65

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																					
1-Mar-16	11:27	57.0	59.5	46.5	55.8	59.5	48.0	51.7	54.5	47.0	50.2	52.5	47.0	57.3	61.0	47.0	54.7	54.5	47.0	55	NA
7-Mar-16	13:10	58.5	56.5	45.0	54.5	54.5	46.0	51.3	50.5	46.5	55.9	55.0	47.0	55.3	54.0	48.0	53.0	55.5	48.0	55	NA
12-Mar-16	10:04	62.9	67.9	55.0	61.9	66.3	55.0	64.3	67.7	56.3	62.1	66.4	54.5	66.0	67.3	53.8	63.5	67.1	54.2	64	NA
18-Mar-16	9:52	68.3	70.7	59.2	65.1	67.5	55.5	61.3	64.6	55.1	61.7	65.0	53.7	65.3	69.5	56.2	68.3	70.7	59.2	66	NA
24-Mar-16	13:41	54.0	56.6	50.2	53.7	55.6	50.7	53.4	56.0	50.5	56.5	57.0	50.2	53.7	55.8	50.6	53.0	55.1	50.4	54	NA
30-Mar-16	14:00	66.3	71.6	54.5	64.1	69.8	52.9	62.6	68.3	51.7	62.1	67.4	52.2	63.0	64.0	54.9	62.4	68.0	52.0	64	NA
NM2 - Village House near Lin Ma Hang Road																					
1-Mar-16	11:22	60.3	61.3	52.7	67.2	63.5	50.1	57.1	61.4	49.1	55.6	59.0	47.7	56.2	58.5	46.6	58.3	62.8	46.5	61	NA
7-Mar-16	14:07	63.2	65.5	54.5	71.3	74.5	57.5	69.3	73.5	57.0	70.1	71.5	58.0	62.6	66.0	51.5	60.5	63.5	50.5	68	NA
12-Mar-16	11:07	61.3	65.2	52.1	62.6	66.3	53.9	62.8	66.8	55.2	62.7	66.6	54.0	62.6	66.3	52.8	62.6	66.1	54.9	62	NA
18-Mar-16	10:27	64.3	67.5	55.2	66.4	68.1	55.0	67.7	69.7	55.7	60.2	63.1	53.7	60.2	59.8	52.4	56.8	60.2	53.3	64	NA
24-Mar-16	13:01	54.4	56.7	50.4	56.3	59.0	50.7	55.1	57.8	51.1	53.8	56.7	50.5	57.7	59.9	50.4	54.5	57.9	50.3	56	NA
30-Mar-16	13:19	63.0	64.2	54.9	60.2	63.2	54.3	56.6	58.5	53.7	58.5	61.1	53.8	57.6	59.5	54.7	59.5	62.0	54.9	60	NA
NM3 - Ping Yeung Village House																					
5-Mar-16	11:20	59.2	62.0	52.5	61.0	64.5	51.5	56.0	58.5	50.5	55.2	55.0	49.5	55.7	54.5	50.5	54.0	54.0	50.0	58	NA
10-Mar-16	14:45	63.9	66.4	56.9	61.7	63.2	55.1	58.1	60.0	54.8	60.1	62.1	53.9	61.6	62.5	54.5	60.4	63.4	57.3	61	NA
16-Mar-16	10:36	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
21-Mar-16	11:04	64.3	66.7	55.4	59.3	60.4	55.1	62.0	63.7	55.7	60.3	62.5	54.1	62.0	63.1	54.7	60.5	63.1	57.0	62	NA
29-Mar-16	9:45	61.0	62.9	56.6	61.5	63.4	56.5	61.9	63.7	56.2	60.8	62.4	56.0	61.1	62.8	56.6	61.0	62.8	56.1	61	NA
NM4 - Wo Keng Shan Village House																					
5-Mar-16	10:14	65.2	67.6	59.7	63.9	61.9	57.0	61.2	60.5	55.9	63.4	66.6	57.8	62.6	62.8	57.8	63.9	65.4	58.4	64	NA
10-Mar-16	14:00	61.5	61.8	58.8	64.7	64.1	59.3	62.4	62.1	59.1	66.3	66.1	59.1	65.0	68.5	59.2	62.1	62.9	58.5	64	NA
16-Mar-16	9:19	56.7	56.5	48.5	57.9	61.5	49.0	50.2	52.0	47.5	57.7	60.5	48.0	60.3	58.0	47.5	56.6	58.0	48.0	57	NA
21-Mar-16	13:11	61.7	62.3	58.9	65.1	65.9	59.7	63.1	64.3	59.8	65.4	68.7	59.3	62.1	63.0	58.9	62.0	63.1	58.8	63	NA
29-Mar-16	10:25	61.9	60.3	55.1	61.0	63.4	56.0	61.5	62.8	55.8	60.8	63.7	56.0	61.1	62.8	55.1	61.0	62.4	56.1	61	NA
NM5– Ping Yeung Village House (façade facing northeast)																					
5-Mar-16	10:25	51.4	53.5	48.5	53.0	53.5	49.0	52.8	56.5	48.5	49.7	51.0	47.5	51.4	53.5	48.0	51.6	53.5	48.5	52	NA
11-Mar-16	9:18	62.5	64.0	59.5	62.0	63.0	59.5	62.0	63.0	60.0	61.3	63.0	59.0	62.8	66.0	59.5	63.8	65.0	60.0	62	NA
17-Mar-16	15:17	51.6	53.8	48.4	51.4	53.6	48.6	50.0	52.7	46.0	50.5	52.6	46.4	50.9	53.5	46.9	51.0	53.2	47.0	51	NA
23-Mar-16	13:03	52.3	54.7	49.1	53.6	55.8	49.4	53.0	55.4	49.2	50.6	52.7	48.6	53.9	56.3	49.4	54.3	56.8	49.3	53	NA
29-Mar-16	11:15	51.5	55.0	44.8	50.6	53.7	45.0	51.1	54.5	44.9	52.5	56.0	44.8	50.6	53.8	45.6	51.9	55.8	45.4	51	NA
NM6 – Tai Tong Wu Village House 2																					

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
5-Mar-16	9:42	52.0	54.0	47.5	52.4	55.5	47.0	53.0	56.0	47.0	51.6	54.0	46.0	56.8	59.0	51.0	51.2	53.0	47.0	53	NA
11-Mar-16	9:59	56.6	58.0	54.5	55.8	57.5	53.5	55.5	56.5	54.0	64.7	58.5	54.5	57.2	59.0	54.5	56.7	58.5	54.0	59	NA
17-Mar-16	14:38	59.3	62.4	50.3	59.5	61.8	52.1	63.0	66.9	53.2	57.2	60.4	50.1	58.4	61.2	52.8	59.1	61.4	51.9	60	NA
23-Mar-16	13:44	59.4	62.7	50.6	63.7	67.5	53.6	62.1	66.3	52.9	61.3	65.7	52.6	58.4	61.4	52.8	59.5	61.7	52.1	61	NA
29-Mar-16	14:47	59.4	62.6	53.9	60.1	62.9	45.7	63.7	65.4	50.3	62.1	63.6	47.6	59.7	62.7	52.1	59.9	63.1	53.0	61	NA
NM7 – Po Kat Tsai Village																					
5-Mar-16	13:09	57.7	59.5	53.0	65.3	62.0	52.0	58.0	58.5	52.0	55.9	58.0	52.0	56.5	57.0	51.5	54.2	55.5	52.5	60	NA
11-Mar-16	13:05	65.8	69.0	57.5	64.1	67.5	56.5	62.2	63.0	57.0	63.8	65.0	56.0	64.5	67.0	55.5	67.7	70.5	55.5	65	NA
17-Mar-16	13:53	60.6	59.8	52.8	61.2	61.6	52.5	58.5	58.1	51.4	57.5	57.0	52.0	59.7	60.1	51.9	53.4	55.1	51.7	59	NA
23-Mar-16	14:35	59.1	58.7	51.6	59.7	61.1	51.6	53.6	55.7	51.7	55.6	57.8	52.0	59.7	60.1	51.8	61.1	63.4	53.0	59	NA
29-Mar-16	14:01	61.0	62.9	56.6	62.1	63.3	56.7	62.9	63.8	56.8	64.7	65.9	57.0	62.5	64.1	56.8	63.3	64.1	56.9	63	NA
NM8 - Village House, Tong Hang																					
1-Mar-16	13:46	59.8	62.4	53.5	60	62.7	54	66.7	69	56.5	63.7	64.6	55.9	60.6	62.4	55.8	61.3	65.2	55.9	63	NA
7-Mar-16	13:42	56.2	58.5	47.5	53.5	55.5	47.5	54.6	54.5	46.5	53.8	55.5	48	52.4	54.5	47	51.9	54	47	54	NA
12-Mar-16	10:37	58.8	63	50.5	53.2	56	49	54.5	57	48.5	53.2	56	49	56.9	60	50.5	55.8	58.5	50	56	NA
18-Mar-16	13:43	55.3	57	50.5	58.2	60.5	50.5	55.3	56.5	51.5	54.5	56.5	51	54.7	57	51	57.4	60	51.5	56	NA
24-Mar-16	10:36	58.4	61	51.8	61.6	64.1	53.3	57.7	61.1	50.3	56.4	59.3	50.3	58.9	60.7	51.3	61.8	63.8	50.9	60	NA
30-Mar-16	10:21	62.1	66.4	51.9	63.3	67	52.2	63	66.8	52.3	62.5	66.7	52.3	62.8	67.1	52.5	64.4	68.5	53.1	63	NA
NM9 - Village House, Kiu Tau Village																					
1-Mar-16	13:00	60.2	63.7	55.9	64.3	68.0	55.6	59.5	63.3	54.7	58.9	61.0	55.6	60.4	65.0	55.2	61.7	66.6	55.8	61	NA
7-Mar-16	13:00	61.9	62.0	52.0	60.2	60.5	53.5	58.6	59.5	53.0	62.6	64.5	53.4	59.0	60.0	52.5	55.3	57.0	51.0	60	NA
12-Mar-16	9:55	58.5	59.5	57.0	60.0	61.5	57.5	59.0	60.5	57.0	59.9	61.5	57.5	60.2	62.0	57.5	60.6	63.0	57.5	60	NA
18-Mar-16	13:00	62.7	61.0	51.5	53.5	54.5	51.0	63.2	62.0	53.0	55.4	56.0	52.0	53.4	55.0	50.5	65.3	67.0	51.0	61	NA
24-Mar-16	11:30	56.0	58.5	52.2	56.8	58.5	52.5	55.4	57.8	51.6	55.4	57.6	52.4	54.9	57.7	50.1	55.6	59.7	50.2	56	NA
30-Mar-16	10:40	61.8	62.5	58.5	63.0	64.7	58.6	63.1	65.7	58.5	63.7	65.9	58.1	62.6	64.7	58.5	63.1	64.5	58.5	63	NA
NM10 - Nam Wa Po Village House No. 80																					
1-Mar-16	11:06	56.9	59.1	53.6	56.9	59.2	54.2	56.9	59.7	53.9	55.0	56.9	51.9	57.8	59.9	53.7	59.1	61.3	55.6	57	60
7-Mar-16	9:17	61.7	62.5	48.0	52.4	52.0	47.5	60.8	59.5	48.5	58.5	55.5	48.5	55.7	56.5	47.0	48.8	50.0	46.0	58	61
12-Mar-16	9:14	60.2	61.0	58.5	59.7	60.5	58.0	59.7	61.0	58.0	60.4	62.0	58.5	60.4	62.0	58.5	60.7	62.0	58.5	60	63
18-Mar-16	9:21	67.3	70.0	59.5	62.7	65.0	59.0	63.0	65.0	59.0	62.9	65.0	59.0	63.1	65.5	58.0	61.9	63.5	57.0	64	67
24-Mar-16	13:18	57.9	60.1	54.5	60.4	62.7	54.1	58.8	61.3	55.0	57.9	58.6	54.1	58.4	60.5	53.8	58.5	61.0	55.3	59	62
30-Mar-16	11:24	57.7	59.8	55.2	56.6	58.8	54.6	57.8	60.1	55.3	58.1	60.5	55.7	57.3	59.5	55.3	58.5	60.3	55.8	58	61

Water Quality Monitoring Data for Contract 5, 6 and SS C505

Date	2-Mar-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM1-C	12:13	0.37	20.1	20.1	10.22	10.2	112.6	112.7	11.1	11.6	6.7	6.7	4	4.5
			20.1		10.25		112.8		12.0		6.7		5	
WM1	12:30	0.41	20.3	20.3	8.56	8.6	95.9	529.5	30.6	31.1	6.5	6.5	38	37.5
			20.3		8.63		963.0		31.5		6.5		37	

Date	4-Mar-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM1-C	11:20	0.17	19.6	19.6	9.42	9.4	103.1	103.2	9.1	9.1	6.4	6.4	3	2.5
			19.6		9.43		103.3		9.2		6.4		2	
WM1	11:35	0.25	20.5	20.5	7.97	8.0	88.5	88.6	145.0	**146.0**	6.4	6.4	185	**185.5**
			20.5		7.98		88.7		147.0		6.4		186	

Date	5-Mar-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM1-C	11:38	0.20							11.4	11.2			5	5.0
									10.9				5	
WM1	11:30	0.23							30.9	31.2			23	23.0
									31.4				23	

Date	7-Mar-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM1-C	12:17	0.21	20.4	20.4	7.36	7.4	82.4	82.5	11.4	11.6	6	6.0	9	9.0
			20.4		7.37		82.6		11.7		6		9	
WM1	12:01	0.22	20.8	20.8	4.92	4.9	55.6	55.7	37.8	38.1	5.5	5.5	26	25.5
			20.8		4.93		55.8		38.4		5.5		25	

Date	9-Mar-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM1-C	10:45	0.31	22.7	22.9	6.68	6.7	78.8	78.5	22.5	23.0	5.6	5.8	11	11.0
			23.1		6.72		78.1		23.5		5.9		11	
WM1	11:00	0.29	23.4	23.4	5.14	5.2	50.6	50.7	82.6	**82.7**	5.6	5.7	51	51.0
			23.4		5.16		50.8		82.8		5.7		51	

Date	10-Mar-16															
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM1-C	13:14	0.31							47.4	47.2		#DIV/0!	35	35.0
									47.0				35	
WM1	13:03	0.27							350.0	**352.0**		#DIV/0!	196	**196.0**
									354.0				196	

Date	11-Mar-16													
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM1-C	9:50	0.24	12.9	12.9	9.23	9.2	87.6	87.6	8.1	8.1	7.4	7.3	6	6.5
			12.9		9.24		87.5		8.1		7.2		7	
WM1	10:08	0.31	12.6	12.6	8.56	8.6	80.5	80.6	27.6	28.0	6.4	6.4	44	42.5
			12.6		8.56		80.6		28.4		6.4		41	

Date	12-Mar-16													
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM1-C	11:37	0.37							10.3	10.3			5	5.0
									10.2				5	
WM1	11:27	0.37							27.8	28.1			26	26.0
									28.4				26	

Date	14-Mar-16													
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM1-C	10:20	0.37	15.4	15.4	9.25	9.2	92.5	92.2	40.8	41.1	7.3	7.3	24	23.5
			15.4		9.2		91.9		41.4		7.3		23	
WM1	10:37	0.39	16	16.0	7.81	7.8	79.1	79.2	47.0	47.4	6.6	6.6	27	27.5
			16		7.84		79.3		47.7		6.6		28	

Date	16-Mar-16													
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM1-C	12:15	0.29	16.5	16.6	8.38	8.4	86.5	87.0	13.3	13.1	5.8	5.9	9	9.0
			16.7		8.47		87.4		12.8		5.9		9	
WM1	12:30	0.27	16.5	16.5	8.25	8.2	84.5	84.4	38.7	38.8	5.7	5.7	41	42.0
			16.5		8.24		84.3		38.9		5.7		43	

Date	18-Mar-16															
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM1-C	10:00	0.37	21.2	21.2	7.3	7.3	83.0	83.3	12.1	12.3	6.9	6.9	7	6.5
			21.2		7.32		83.5		12.4		6.9		6	
WM1	10:40	0.39	21.5	21.5	6.95	6.9	79.1	79.0	29.7	30.0	6.4	6.4	17	17.0
			21.5		6.92		78.8		30.2		6.4		17	

Date	21-Mar-16															
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM1-C	9:39	0.47	18.5	18.5	8.21	8.2	87.6	87.5	385.0	389.0	5.9	5.9	191	193.5
			18.5		8.2		87.4		393.0		5.9		196	
WM1	9:55	0.39	18.3	18.3	8.04	8.0	85.6	85.7	364.0	367.0	6	6.0	210	206.0
			18.3		8.05		85.8		370.0		6		202	

Date	23-Mar-16															
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM1-C	9:48	0.39	20.1	20.1	7.66	7.7	83.8	84.1	33.3	33.4	6.5	6.5	22	23.0
			20.1		7.68		84.3		33.4		6.5		24	
WM1	9:57	0.39	20.5	20.5	7.95	8.0	88.4	88.5	47.8	47.5	6.1	6.1	37	37.5
			20.5		7.97		88.6		47.2		6.1		38	

Date	29-Mar-16															
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM1-C	10:09	0.36	17.7	17.7	8.9	8.9	93.4	93.2	92.5	92.6	9.6	9.6	95	97.0
			17.7		8.87		93.0		92.7		9.6		99	
WM1	10:47	0.39	17.8	17.8	9.02	9.0	95.0	95.2	93.8	94.0	9.4	9.4	69	71.5
			17.8		9.04		95.3		94.1		9.4		74	

Date	31-Mar-16															
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM1-C	13:27	0.29	23.5	23.5	8.77	8.8	103.1	103.5	10.5	10.6	9	9.0	7	7.0
			23.5		8.79		103.8		10.7		9		7	
WM1	13:46	0.37	22.8	22.8	8.14	8.2	94.7	94.8	25.0	25.9	8.8	8.8	30	29.5
			22.8		8.17		94.9		26.8		8.8		29	

Water Quality Monitoring Data for Contract 2 and 3

Date	2-Mar-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM4-CA	14:40	0.13	21.4	21.6	6.66	6.6	75.3	75.2	90.0	90.5	6.7	6.7	34	33.5
			21.7		6.63		75.0		90.9		6.7		33	
WM4-CB	14:55	0.25	22.9	22.9	5.02	5.1	60.9	60.9	12.9	13.1	6.6	6.6	9	9.0
			22.9		5.11		60.8		13.3		6.6		9	
WM4	14:25	0.36	22.7	22.7	5.68	5.6	65.8	65.1	28.9	29.1	6.6	6.6	25	24.5
			22.7		5.56		64.3		29.2		6.6		24	

Date	4-Mar-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM4-CA	15:15	0.24	22.3	22.3	8.59	8.6	98.7	98.8	14.9	14.9	6.5	6.5	4	5.0
			22.3		8.61		98.9		14.8		6.5		6	
WM4-CB	15:35	0.26	23.2	23.2	7.04	7.1	82.1	82.2	14.9	15.1	6.1	6.1	13	13.5
			23.2		7.06		82.3		15.3		6.1		14	
WM4	15:05	0.31	24	24.0	7.67	7.7	91.3	91.5	26.2	26.8	6.1	6.1	18	18.5
			24		7.69		91.7		27.3		6.1		19	

Date	7-Mar-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM4-CA	13:52	0.19	20.3	20.3	6.31	6.3	70.5	70.6	11.0	11.2	6.4	6.4	9	8.5
			20.3		6.34		70.7		11.4		6.4		8	
WM4-CB	14:05	0.22	20.9	20.9	4.14	4.2	47.1	47.2	33.2	33.3	6.0	6.0	43	42.0
			20.9		4.16		47.3		33.4		6.0		41	
WM4	13:40	0.27	21.6	21.6	5.09	5.1	58.7	58.8	20.1	20.5	6.0	6.0	26	26.5
			21.6		5.11		58.8		20.9		6.0		27	

Date	9-Mar-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM4-CA	14:05	0.15	22.9	22.9	4.98	4.9	56.3	56.1	11.4	11.5	6.2	6.2	8	9.0
			22.9		4.88		55.8		11.5		6.2		10	
WM4-CB	14:21	0.27	22.1	22.1	4.09	4.1	46.8	46.4	45.1	45.2	6	6.0	33	33.0
			22.1		4.03		46.0		45.3		6		33	
WM4	13:53	0.23	22.2	22.2	4.75	4.8	55.3	55.4	20.7	20.7	6	6.0	20	19.5
			22.2		4.77		55.5		20.6		6		19	

Date	11-Mar-16															
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM4-CA	13:59	0.26	14.9	14.9	10.38	10.4	102.5	102.6	28.2	28.4	6.4	6.4	12	11.5
			14.9		10.41		102.7		28.5		6.4		11	
WM4-CB	14:15	0.31	16.2	16.2	7.54	7.5	77.3	77.1	21.8	22.0	6	6.0	20	20.0
			16.2		7.47		76.8		22.1		6		20	
WM4	13:46	0.29	14.9	14.9	9.63	9.7	96.0	96.4	27.7	27.8	6.5	6.5	18	18.5
			14.9		9.7		96.7		27.8		6.5		19	

Date	14-Mar-16															
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM4-CA	13:35	0.19	16.7	16.7	9.5	9.5	97.1	97.2	14.4	14.6	6.1	6.1	6	6.5
			16.7		9.52		97.3		14.8		6.1		7	
WM4-CB	13:54	0.24	17.3	17.3	6.52	6.5	68.2	68.3	20.3	20.6	5.9	5.9	29	29.0
			17.3		6.53		68.4		20.8		5.9		29	
WM4	13:25	0.28	17.3	17.3	8.29	8.3	86.2	86.0	22.3	21.8	6	6.0	17	17.0
			17.3		8.25		85.7		21.2		6		17	

Date	16-Mar-16															
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM4-CA	14:35	0.28	17.4	17.4	8.92	9.4	93.0	93.2	OVERRANGE	OVERRANGE	6.1	6.1	52	50.5
			17.4		9.94		93.3		OVERRANGE		6.1		49	
WM4-CB	14:55	0.29	17.4	17.4	6.03	6.0	62.9	62.9	37.1	37.6	5.8	5.8	51	51.0
			17.4		6.01		62.8		38.0		5.8		51	
WM4	14:23	0.27	17.4	17.4	7.45	7.4	77.8	77.8	34.6	34.7	5.9	5.9	29	29.0
			17.4		7.44		77.7		34.8		5.9		29	

Date	18-Mar-16															
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM4-CA	14:11	0.19	22	22.0	7.78	7.8	89.1	89.3	28.6	29.0	6.7	6.7	14	14.5
			22		7.8		89.5		29.3		6.7		15	
WM4-CB	14:28	0.27	22.3	22.3	5.74	5.8	66.0	66.2	29.6	29.9	6.4	6.4	25	25.5
			22.3		5.76		66.3		30.1		6.4		26	
WM4	14:03	0.30	22.4	22.4	7.05	7.1	81.5	81.7	23.1	23.2	6.6	6.6	21	21.5
			22.4		7.07		81.8		23.3		6.6		22	

Date	21-Mar-16															
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM4-CA	13:31	0.24	18.9	18.9	8.59	8.6	92.7	92.6	25.5	25.7	6	6.0	20	20.5
			18.9		8.61		92.5		25.9		6		21	
WM4-CB	13:50	0.37	19.2	19.2	7.3	7.3	78.9	79.2	48.9	49.1	5.8	5.8	36	35.5
			19.2		7.34		79.4		49.2		5.8		35	
WM4	13:00	0.41	18.6	18.6	7.57	7.6	80.9	81.1	88.8	**89.1**	5.9	5.9	72	**70.5**
			18.6		7.6		81.3		89.4		5.9		69	

Date	22-Mar-16															
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM4-CA	11:03	0.27							20.4	20.4			9	9.0
									20.3				9	
WM4-CB	11:20	0.37							30.4	30.5			18	18.0
									30.6				18	
WM4	10:49	0.39							34.9	35.1			20	20.0
									35.2				20	

Date	23-Mar-16															
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM4-CA	11:35	0.21	19	19.0	8.24	8.3	88.8	89.0	18.4	18.6	5.6	5.6	8	7.5
			19		8.27		89.1		18.7		5.6		7	
WM4-CB	11:56	0.37	19.6	19.6	5.85	5.9	63.7	63.8	28.0	28.6	5.5	5.5	25	26.0
			19.6		5.87		63.9		29.1		5.5		27	
WM4	11:25	0.36	19.7	19.7	7.42	7.4	80.7	80.9	32.7	33.1	5.5	5.5	24	24.0
			19.7		7.46		81.1		33.4		5.5		24	

Date	25-Mar-16															
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM4-CA	9:50	0.21	15.4	15.4	9.63	8.2	97.0	97.4	8.4	8.2	7.3	7.3	4	3.5
			15.4		6.72		97.7		7.9		7.3		3	
WM4-CB	10:10	0.37	16.8	16.8	8.66	8.5	88.5	87.4	17.6	16.8	6.5	6.5	16	15.5
			16.8		8.37		86.3		15.9		6.5		15	
WM4	9:30	0.36	15.2	15.2	9.66	9.4	95.5	93.4	16.2	16.5	7.2	7.2	11	12.0
			15.2		9.07		91.3		16.7		7.2		13	

Date	29-Mar-16															
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM4-CA	14:15	0.27	20.8	20.8	8.86	8.9	99.0	99.2	125.0	127.0	9.3	9.3	89	86.5
			20.8		8.87		99.3		129.0		9.3		84	
WM4-CB	14:43	0.31	21.5	21.5	7.14	7.1	80.9	81.1	44.3	44.7	8.7	8.7	26	25.0
			21.5		7.15		81.2		45.1		8.7		24	
WM4	14:05	0.37	21.8	21.8	8.26	8.3	94.1	94.4	39.2	**39.0**	8.9	8.9	28	29.0
			21.8		8.3		94.7		38.8		8.9		30	

Date	31-Mar-16															
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM4-CA	9:51	0.19	19.8	19.8	9.23	9.3	101.0	101.4	6.8	6.8	9.5	9.5	7	7.5
			19.8		9.27		101.7		6.8		9.5		8	
WM4-CB	10:17	0.29	21.4	21.4	6.8	6.8	76.9	77.1	19.0	19.3	8.7	8.7	42	42.5
			21.4		6.84		77.3		19.6		8.7		43	
WM4	9:35	0.23	20.6	20.6	7.87	7.9	87.5	87.7	15.1	15.7	8.9	8.9	28	28.0
			20.6		7.9		87.9		16.3		8.9		28	

Water Quality Monitoring Data for Contract 6

Date	2-Mar-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2A-C	11:20	0.23	17.5	17.5	8.6	8.6	90.1	90.2	9.6	9.4	9.50	9.5	<2	<2
			17.5		8.61		90.3		9.2		9.50		<2	
WM2A	11:50	0.11	19.2	19.2	9.71	9.7	104.0	104.0	9.5	9.8	6.90	6.9	6	5.5
			19.2		9.63		103.9		10.1		6.90		5	

Date	4-Mar-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2A-C	12:00	0.25	19.5	19.5	8.01	8.0	88.7	88.8	21.5	21.8	6.30	6.3	11	12.0
			19.5		8.04		88.8		22.0		6.30		13	
WM2A	10:59	0.13	20.6	20.6	9.03	9.0	102.2	102.4	4.9	4.9	6.30	6.3	<2	2.0
			20.6		9.02		102.6		4.9		6.30		2	

Date	7-Mar-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2A-C	11:15	0.21	19.9	19.9	6.17	6.2	68.2	68.3	7.8	7.8	5.70	5.7	6	5.0
			19.9		6.19		68.3		7.8		5.70		4	
WM2A	11:35	0.13	21	21.0	6.31	6.3	71.8	71.8	13.2	13.4	5.60	5.6	6	5.5
			21		6.32		71.8		13.6		5.60		5	

Date	9-Mar-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2A-C	11:40	0.23	21.2	21.2	5.7	5.7	65.1	65.3	30.1	30.3	5.60	5.6	14	15.0
			21.2		5.73		65.4		30.4		5.60		16	
WM2A	11:24	0.19	22.2	22.2	6.32	6.3	73.3	73.6	14.3	14.5	5.70	5.7	10	10.0
			22.2		6.37		73.8		14.7		5.70		10	

Date	11-Mar-16															
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM2A-C	10:50	0.24	14.4	14.4	8.78	8.8	86.3	86.3	15.9	16.1	6.00	6.0	8	7.0
			14.4		8.74		86.3		16.3		6.00		6	
WM2A	10:30	0.27	14.5	14.5	9.32	9.4	91.5	91.8	194.0	**198.5**	6.40	6.4	165	**164.5**
			14.5		9.41		92.1		203.0		6.40		164	

Date	12-Mar-16															
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM2A-C	11:00	0.37							10.1	10.4			6	6.0
									10.6				6	
WM2A	11:13	0.17							12.5	12.8			11	11.0
									13.1				11	

Date	14-Mar-16															
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM2A-C	11:35	0.33	16.9	16.9	8.44	8.4	87.2	87.1	18.9	19.2	6.10	6.1	6	6.0
			16.9		8.43		86.9		19.5		6.10		6	
WM2A	11:18	0.16	16.1	16.1	10.07	10.1	102.1	102.4	12.8	13.0	6.40	6.4	2	2.5
			16.1		10.09		102.6		13.2		6.40		3	

Date	16-Mar-16															
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM2A-C	10:30	0.23	16.8	16.8	8.39	8.4	86.5	86.8	8.6	8.6	5.60	5.6	<2	<2
			16.8		8.43		87.1		8.6		5.60		<2	
WM2A	10:48	0.21	16.2	16.2	8.39	8.4	92.5	92.4	14.7	14.9	5.60	5.6	12	12.5
			16.2		8.43		92.3		15.0		5.60		13	

Date	18-Mar-16															
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM2A-C	11:25	0.26	20.9	20.9	7.8	7.8	87.3	87.4	19.3	19.7	6.00	6.0	10	9.5
			20.9		7.82		87.5		20.1		6.00		9	
WM2A	11:02	0.23	22.1	22.1	8.65	8.6	98.8	98.7	23.2	23.6	6.20	6.2	11	11.5
			22.1		8.63		98.6		23.9		6.20		12	

Date	21-Mar-16													
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM2A-C	11:10	0.34	18.3	18.3	8.31	8.3	99.5	99.4	41.2	41.6	5.80	5.8	17	18.0
			18.3		8.34		99.3		41.9		5.80		19	
WM2A	10:32	0.19	19.1	19.1	8.59	8.6	93.1	93.3	23.9	23.6	6.00	6.0	10	9.5
			19.1		8.63		93.4		23.3		6.00		9	

Date	23-Mar-16													
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM2A-C	10:50	0.31	20.1	20.1	7.77	7.8	85.7	85.8	26.6	27.3	5.80	5.8	5	5.0
			20.1		7.79		85.9		27.9		5.80		5	
WM2A	10:30	0.19	20.1	20.1	7.81	7.8	86.3	86.5	29.6	29.7	5.90	5.9	10	10.5
			20.1		7.84		86.6		29.8		5.90		11	

Date	29-Mar-16													
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM2A-C	11:36	0.21	18.5	18.5	8.74	8.8	93.5	93.6	8.2	8.4	8.20	8.4	<2	2.0
			18.5		8.77		93.7		8.5		8.50		<2	
WM2A	11:07	0.18	19.3	19.3	9.47	9.5	102.5	102.7	11.6	11.8	11.60	11.8	5	4.5
			19.3		9.48		102.9		12.0		12.00		4	

Date	31-Mar-16													
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM2A-C	12:41	0.27	21.2	21.2	8.27	8.3	93.2	93.6	5.0	5.1	9.20	9.2	2	2.0
			21.2		8.31		93.9		5.2		9.20		<2	
WM2A	13:05	0.17	23.3	23.3	9.3	9.3	109.3	109.4	8.7	8.9	8.90	8.9	4	5.0
			23.3		9.32		109.5		9.0		8.90		6	

Date	1-Mar-16															
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2B-C	9:15	0.03							2.8	2.6			8	8.0
									2.5				8	
WM2B	9:30	0.06							10.8	10.6			11	11.0
									10.4				11	

Date	2-Mar-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2B-C	10:57	0.02	19.4	19.4	6.37	6.4	69.6	69.5	3.5	3.5	6.40	6.4	<2	2.0
			19.4		6.34		69.3		3.6		6.40		2	
WM2B	11:10	0.02	19.8	19.8	6.34	7.8	104.1	104.3	overrange	**overange**	6.00	6.0	1380	**1355.0**
			19.8		9.35		104.5		overrange		6.00		1330	

Date	3-Mar-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2B-C	9:20	0.02							4.0	3.9			3	3.0
									3.8					
WM2B	9:30	0.04							20.8	**20.7**			21	**21.0**
									20.5					

Date	4-Mar-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2B-C	12:10	0.01	21.6	21.6	7.52	7.5	85.1	85.2	9.8	9.5	6.30	6.3	<2	<2
			21.6		7.54		85.3		9.3		6.30		<2	
WM2B	10:21	0.01	22.6	22.6	8.02	8.1	101.4	101.5	24.0	**24.1**	6.40	6.4	10	10.5
			22.6		8.11		101.6		24.1		6.40		11	

Date	5-Mar-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2B-C	11:04	0.01							2.6	2.6			<2	<2
									2.6				<2	
WM2B	10:55	0.01							40.4	**40.2**			10	10.0
									40.0				10	

Date	7-Mar-16															
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM2B-C	10:47	0.01	20.9	20.9	6.31	6.3	70.9	70.8	3.9	4.0	6.50	6.5	<2	<2
			20.9		6.3		70.7		4.0		6.50		<2	
WM2B	11:03	0.01	21.4	21.4	6.28	6.3	71.7	71.8	7.7	7.7	6.00	6.0	7	6.5
			21.4		6.3		71.9		7.7		6.00		6	

Date	8-Mar-16													
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM2B-C	11:00	0.01							3.9	4.0			4	4.0
									4.0					
WM2B	11:10	0.02							220.0	**221.5**			138	**138.0**
									223.0					

Date	9-Mar-16													
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM2B-C	12:03	0.01	23.2	23.2	5.92	6.0	69.4	69.5	5.0	5.0	6.00	6.0	6	5.5
			23.2		6		69.5		5.0		6.00		5	
WM2B	11:52	0.02	22.7	22.7	6.29	6.3	73.9	74.0	14.9	**14.9**	5.80	5.8	11	12.0
			22.7		6.3		74.0		14.9		5.80		13	

Date	10-Mar-16													
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM2B-C	14:00	0.02							5.2	5.2			6	6.0
									5.2					
WM2B	14:19	0.02							27.5	**27.3**			16	**16.0**
									27.1					

Date	11-Mar-16													
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM2B-C	11:16	0.01	19.7	19.7	8.4	8.4	91.9	92.1	5.1	5.1	6.10	6.1	2	2.0
			19.7		8.41		92.3		5.1		6.10		<2	
WM2B	11:04	0.02	14.7	14.7	9.96	10.0	98.4	98.9	87.3	**87.6**	5.70	5.7	71	**70.0**
			14.7		10.01		99.4		87.8		5.70		69	

Date	12-Mar-16															
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2B-C	10:49	0.01							9.5	9.4			12	12.0
									9.3					
WM2B	10:38	0.01							10.4	10.6			6	6.0
									10.8					

Date	14-Mar-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2B-C	11:55	0.01	19.8	19.8	8.7	8.7	94.7	94.8	15.6	15.7	6.20	6.2	<2	<2
			19.8		8.71		94.9		15.7		6.20		<2	
WM2B	11:45	0.02	17.2	17.2	9.84	9.9	101.9	102.1	44.6	**45.1**	5.70	5.7	68	**69.0**
			17.2		9.88		102.3		45.5		5.70		70	

Date	15-Mar-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2B-C	11:37	0.01							5.6	5.6			<2	<2
									5.6				<2	
WM2B	11:25	0.01							18.7	**19.0**			10	10.0
									19.2				10	

Date	16-Mar-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2B-C	10:10	0.01	20.9	20.9	7.62	7.6	85.2	85.1	5.7	5.9	6.50	6.5	3	3.0
			20.9		7.6		85.0		6.2		6.50		3	
WM2B	10:20	0.02	17.2	17.2	9.57	9.6	99.6	99.7	106.0	**108.0**	5.60	5.6	47	**48.5**
			17.2		9.58		99.7		110.0		5.60		50	

Date	17-Mar-16															
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM2B-C	11:14	0.01							7.8	7.8			9	9.0
									7.8				9	
WM2B	11:03	0.01							9.1	9.1			9	9.0
									9.2				9	

Date	18-Mar-16															
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM2B-C	11:48	0.01	22.1	22.1	7.26	7.3	83.4	83.6	6.2	6.3	7.10	7.1	3	3.5
			22.1		7.29		83.7		6.3		7.10		4	
WM2B	11:35	0.01	22.3	22.3	8.33	8.3	96.0	95.9	9.4	9.4	7.20	7.2	4	4.0
			22.3		8.29		95.7		9.3		7.20		4	

Date	21-Mar-16															
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM2B-C	11:45	0.01	20.1	20.1	8.04	8.1	96.1	96.4	6.7	6.7	6.20	6.2	5	5.0
			20.1		8.07		96.7		6.7		6.20		5	
WM2B	11:35	0.02	18.4	18.4	9.36	9.4	88.8	88.9	281.0	**284.0**	5.80	5.8	92	**179.0**
			18.4		9.35		89.0		287.0		5.80		266	

Date	22-Mar-16															
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM2B-C	10:24	0.02							6.3	6.3			3	3.0
									6.3					
WM2B	10:11	0.02							50.3	**50.0**			52	**52.0**
									49.7				52	

Date	23-Mar-16															
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM2B-C	13:16	0.02	20.5	20.5	8.01	8.0	89.4	89.6	49.5	49.8	6.60	6.6	36	35.5
			20.4		8.05		89.7		50.1		6.60		35	
WM2B	13:05	0.02	20.3	20.3	8.36	8.4	92.6	92.8	448.0	**452.0**	6.30	6.3	290	**301.5**
			20.3		8.38		92.9		456.0		6.30		313	

Date	24-Mar-16															
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2B-C	11:11	0.02							21.3	20.8			9	9.0
									20.2				9	
WM2B	11:24	0.02							123.0	**124.0**			160	**160.0**
									125.0				160	

Date	29-Mar-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2B-C	12:05	0.01	21.6	21.6	7.6	7.6	86.2	86.6	6.0	6.0	9.50	9.5	<2	<2
			21.6		7.63		86.9		6.0		9.50		<2	
WM2B	11:57	0.02	19.7	19.7	9.06	9.1	102.2	102.4	11.1	11.2	9.30	9.3	5	5.0
			19.7		9.09		102.5		11.2		9.30		5	

Date	31-Mar-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM2B-C	12:29	0.01	22.3	22.3	7.68	7.7	88.4	88.6	3.3	3.2	9.40	9.4	<2	<2
			22.3		7.71		88.7		3.2		9.40		<2	
WM2B	12:15	0.01	24.8	24.8	8.97	9.0	108.1	108.0	9.2	9.2	9.10	9.1	10	10.5
			24.8		8.94		107.8		9.2		9.10		11	

Water Quality Monitoring Data for Contract 2 and 6

Date	2-Mar-16													
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM3-C	10:30	0.03	20.7	20.7	6.92	6.9	76.8	76.4	8.1	8.3	6.20	6.3	7	6.5
			20.7		6.9		76.0		8.5		6.30		6	
WM3	10:16	0.23	17.9	17.9	7.28	7.2	77.2	77.1	11.7	12.0	6.20	6.2	12	12.5
			17.9		7.2		77.0		12.2		6.10		13	

Date	4-Mar-16													
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM3-C	12:55	0.01	22.6	22.6	9.98	10.0	115.2	115.3	19.3	19.0	6.40	6.4	12	11.5
			22.6		10		115.3		18.7		6.40		11	
WM3	12:30	0.10	20.6	20.6	9.27	9.3	102.7	102.8	16.5	16.8	5.90	5.9	10	11.0
			20.6		9.31		102.9		17.1		5.90		12	

Date	7-Mar-16													
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM3-C	10:25	0.06	22.1	22.1	5.66	5.6	64.8	64.5	12.9	12.8	6.00	6.0	21	21.0
			22.1		5.62		64.2		12.7		6.00		21	
WM3	10:12	0.21	20.9	20.9	6.64	6.6	74.2	74.1	7.3	7.4	6.10	6.2	11	11.5
			20.9		6.6		74.0		7.6		6.20		12	

Date	9-Mar-16													
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM3-C	12:23	0.02	21.9	21.9	4.71	4.7	54.5	54.6	11.6	11.8	5.70	5.7	16	16.5
			21.9		4.74		54.7		12.0		5.70		17	
WM3	12:33	0.16	20.9	20.9	5.19	5.2	59.2	59.3	13.0	13.1	5.80	5.8	15	15.5
			20.9		5.21		59.3		13.1		5.80		16	

Date	11-Mar-16													
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM3-C	11:32	0.06	15.8	15.8	10.31	10.3	103.9	104.0	15.7	16.2	6.00	6.0	27	26.5
			15.8		10.34		104.0		16.7		6.00		26	
WM3	12:00	0.17	16.3	16.3	8.73	8.7	89.1	89.3	16.7	16.8	6.30	6.3	25	25.5
			16.3		8.75		89.4		16.9		6.30		26	

Date	14-Mar-16															
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM3-C	12:10	0.23	17.3	17.3	8.33	8.3	86.7	86.7	39.8	40.1	5.80	5.8	52	51.5
			17.3		8.3		86.6		40.3		5.80		51	
WM3	12:25	0.16	19.2	19.2	8.79	8.8	95.1	95.0	19.3	19.5	5.70	5.7	13	13.5
			19.2		8.77		94.9		19.6		5.70		14	

Date	16-Mar-16															
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM3-C	10:00	0.21	18.6	18.6	8.81	8.8	84.1	84.1	35.7	36.1	6.40	6.4	12	13.0
			18.6		8.8		84.0		36.4		6.40		14	
WM3	9:44	0.19	16.5	16.5	8.21	8.2	94.3	94.1	12.8	13.2	6.20	6.2	15	15.5
			16.5		8.2		93.9		13.6		6.20		16	

Date	18-Mar-16															
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM3-C	13:32	0.09	22.6	22.6	8.07	8.1	93.3	93.3	6.4	6.5	6.50	6.5	8	8.0
			22.6		8.06		93.2		6.6		6.50		8	
WM3	13:13	0.21	20.7	20.7	7.59	7.6	84.4	84.3	13.1	13.2	6.60	6.6	12	12.0
			20.7		7.56		84.1		13.3		6.60		12	

Date	21-Mar-16															
Location	Time	Depth (m)	Temp (oC)		DO (mg/L)		DO (%)		Turbidity (NTU)		pH		SS(mg/L)	
WM3-C	11:58	0.24	19.8	19.8	8.81	8.8	80.7	80.9	28.2	28.9	5.60	5.6	40	41.5
			19.8		8.83		81.0		29.5		5.60		43	
WM3	12:10	0.19	18.4	18.4	7.56	7.6	80.7	80.9	31.9	32.0	5.70	5.7	21	21.0
			18.4		7.58		81.1		32.0		5.70		21	

Date	23-Mar-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM3-C	13:32	0.09	20.2	20.2	7.81	7.9	86.4	86.9	36.1	34.7	6.00	6.0	45	47.0
			20.2		7.91		87.3		33.2		6.00		49	
WM3	14:00	0.20	19.7	19.7	7.94	8.0	86.7	87.0	38.1	38.5	6.10	6.1	25	25.5
			19.7		7.98		87.3		38.9		6.10		26	

Date	29-Mar-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM3-C	12:25	0.02	21.2	21.2	8.32	8.3	90.8	91.0	5.3	4.9	9.10	9.1	7	7.0
			21.2		8.35		91.1		4.6		9.10		7	
WM3	12:41	0.07	19.7	19.7	7.99	8.0	89.7	89.8	71.9	**72.1**	8.90	8.9	109	**109.0**
			19.7		7.98		89.8		72.3		8.90		109	

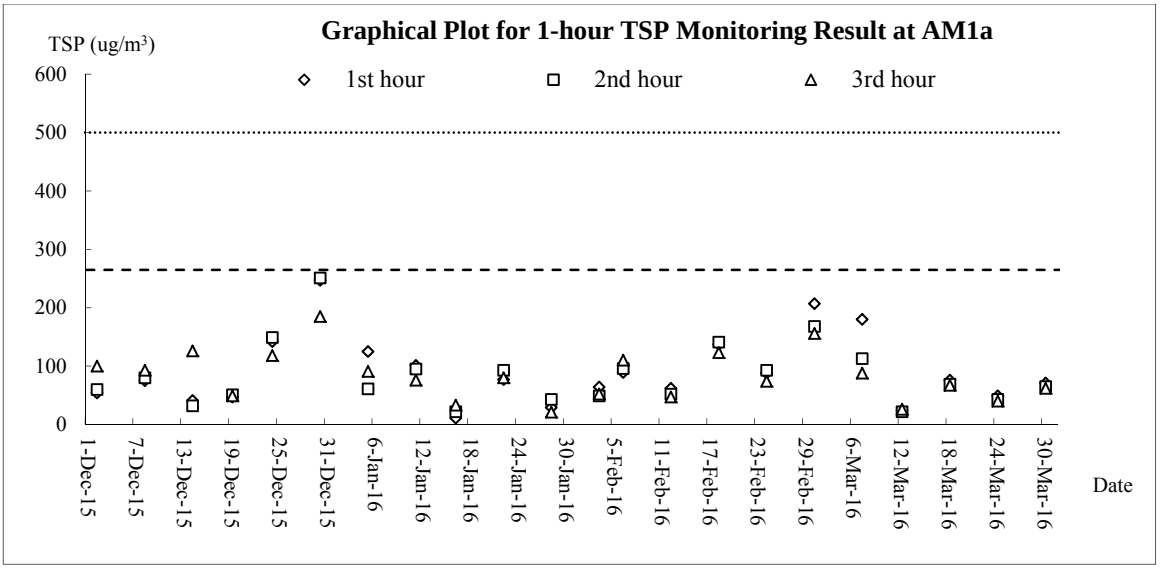
Date	30-Mar-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM3-C	12:43	0.09							5.5	5.2			6	6.5
									4.9				7	
WM3	12:35	0.20							125.0	**121.5**			56	**54.5**
									118.0				53	

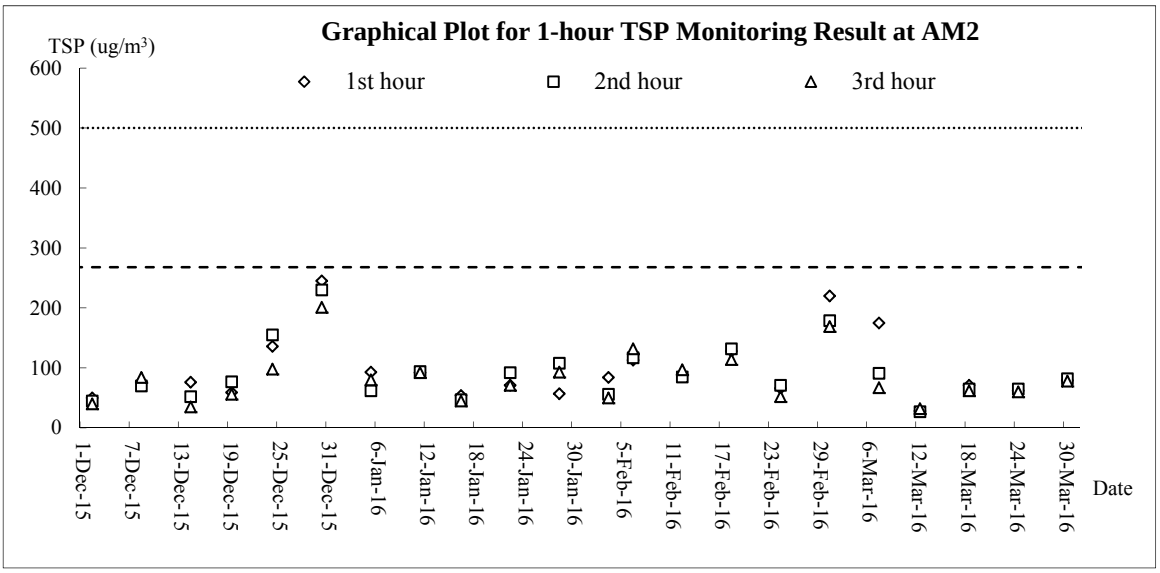
Date	31-Mar-16													
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DO (%)**		**Turbidity (NTU)**		**pH**		**SS(mg/L)**	
WM3-C	10:58	0.01	23.7	23.7	8.2	8.2	97.0	97.0	2.8	2.6	8.50	8.5	14	14.0
			23.7		8.22		96.9		2.4		8.50		14	
WM3	10:43	0.21	21.1	21.1	8.41	8.4	94.5	94.8	34.3	**35.3**	8.90	8.9	16	**16.0**
			21.1		8.47		95.0		36.2		8.90		16	

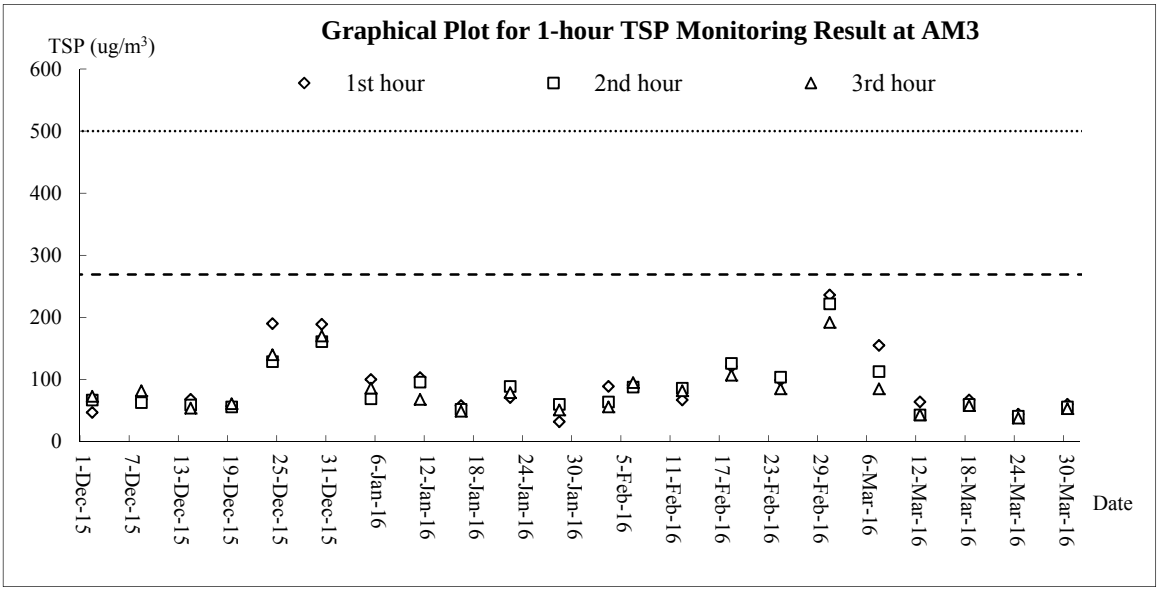
Appendix J

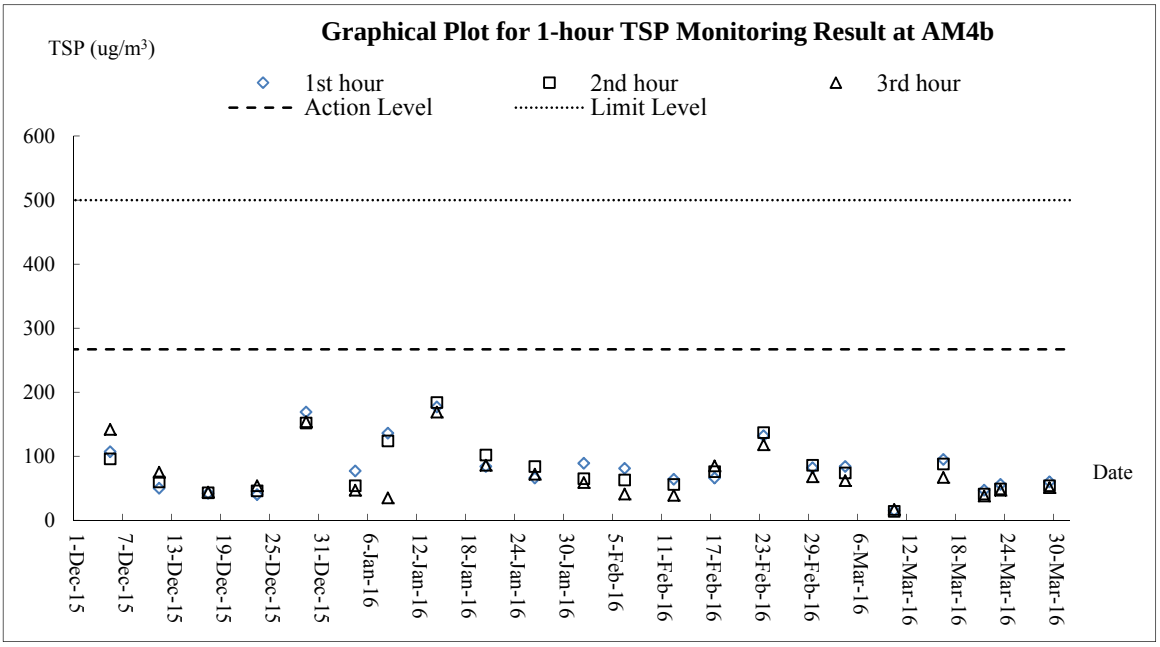
Graphical Plots for Monitoring Result

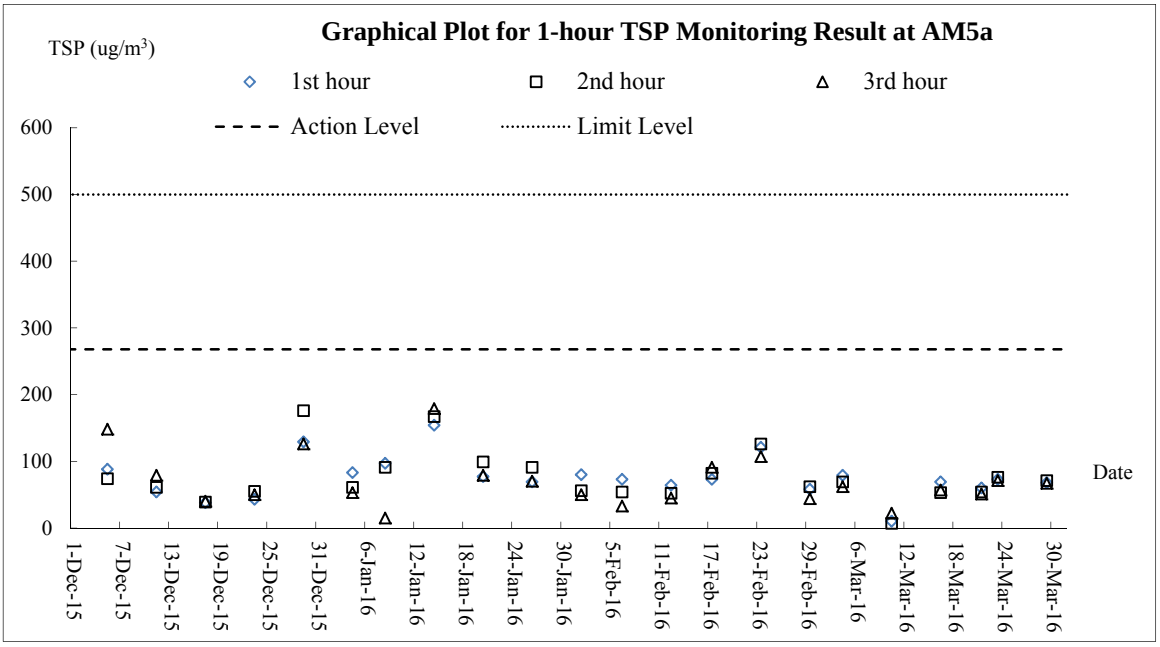
Air Quality – 1-hour TSP

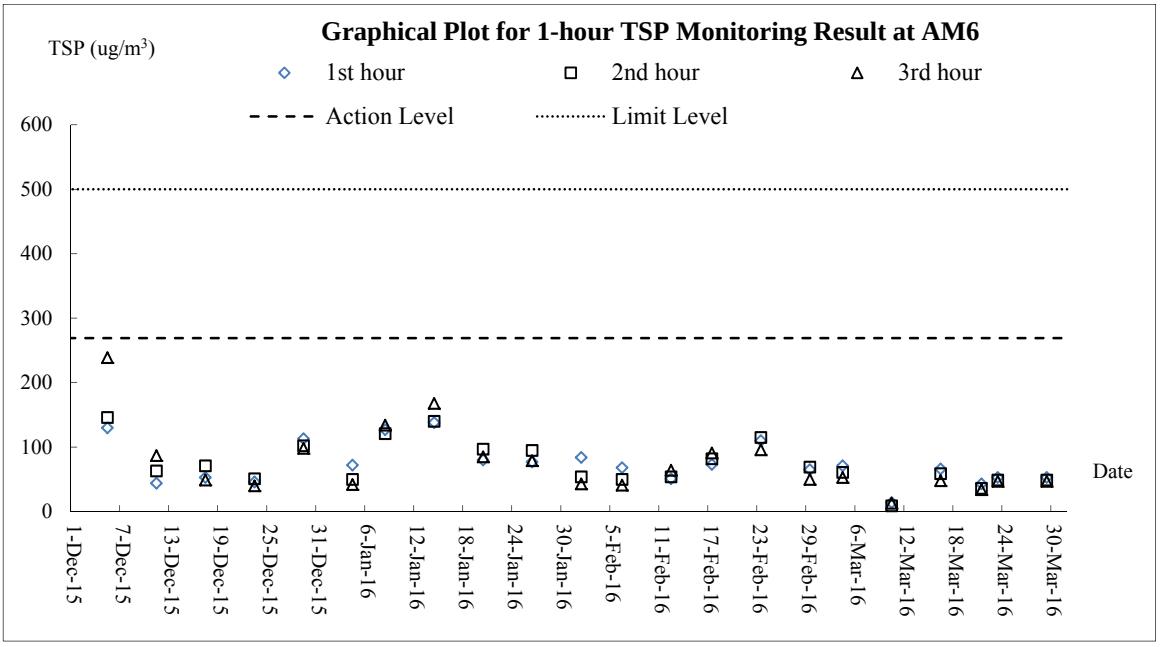


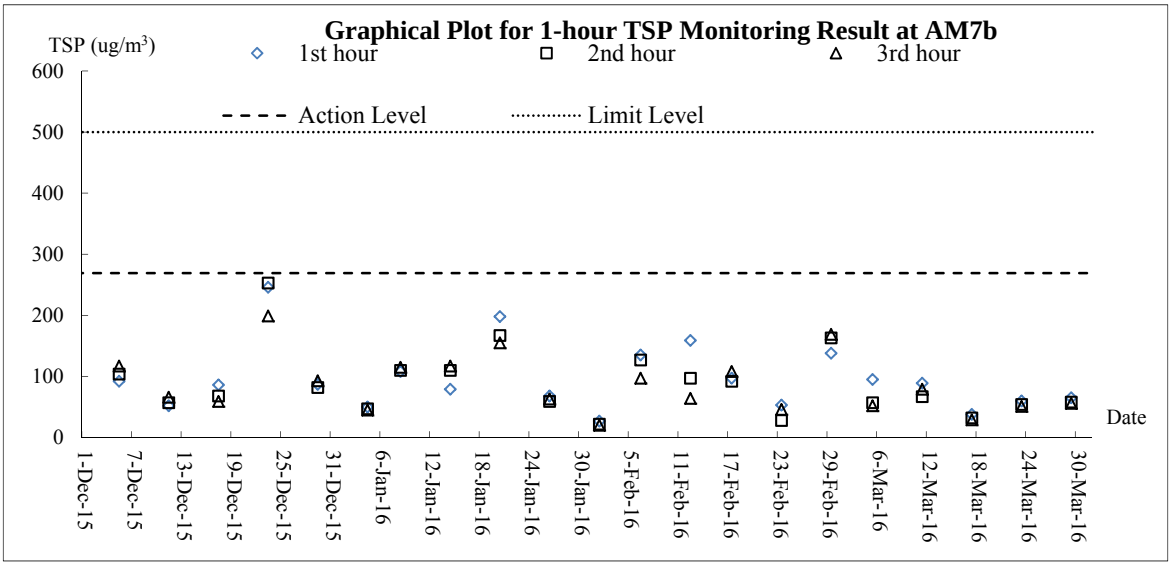


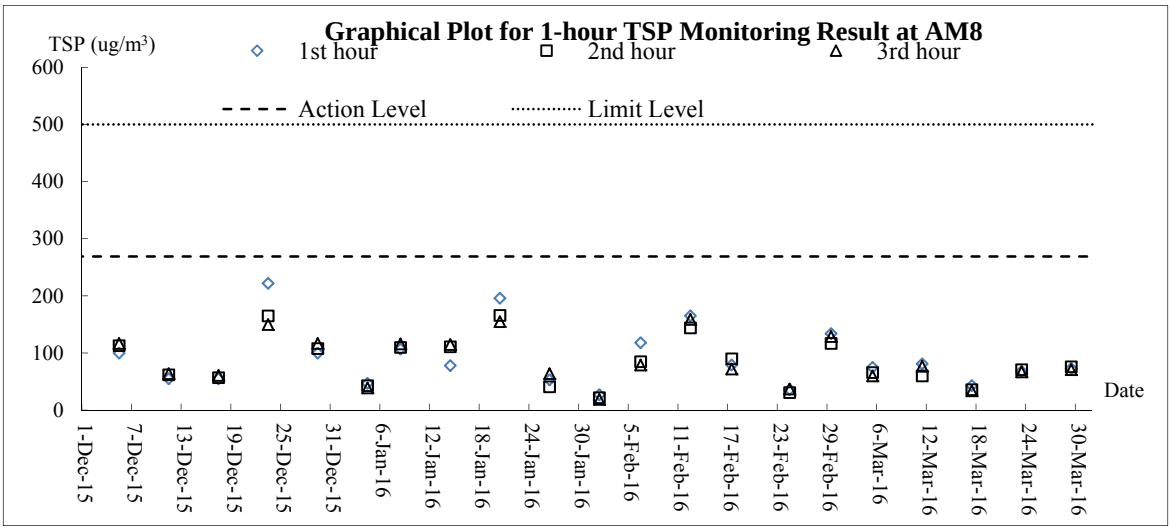


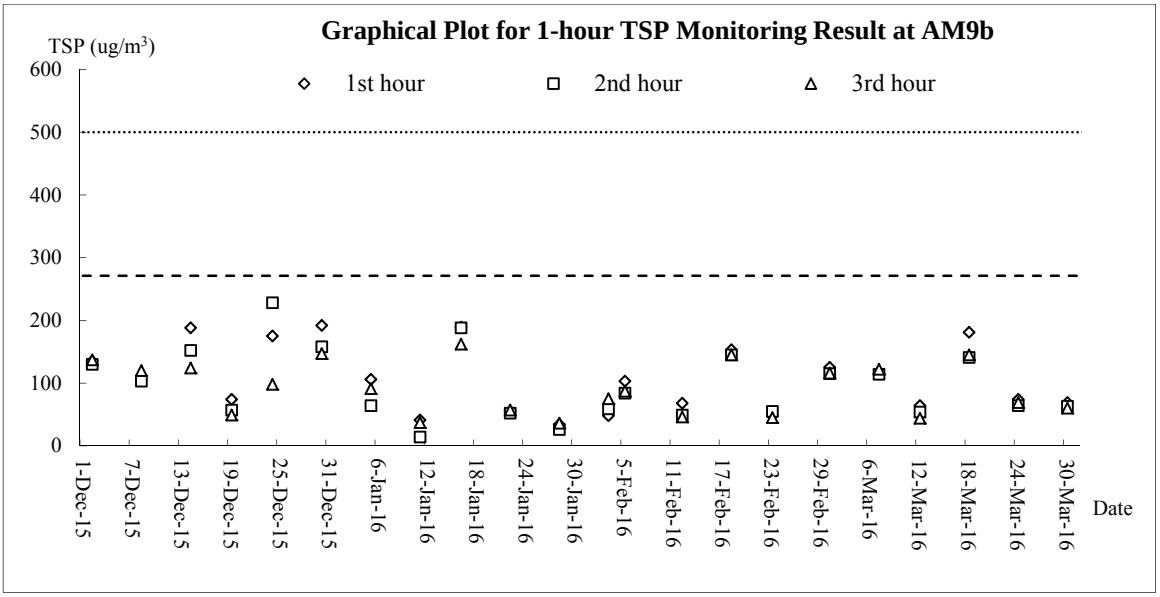

Graphical Plot for 1-hour TSP Monitoring Result at AM4b
TSP (ug/m³)
1st hour
2nd hour
3rd hour
Action Level
Limit Level
600
500
400
300
200
100
0
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16
6-Mar-16
12-Mar-16
18-Mar-16
24-Mar-16
30-Mar-16
Date


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
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
6-Mar-16
12-Mar-16
18-Mar-16
24-Mar-16
30-Mar-16
Date

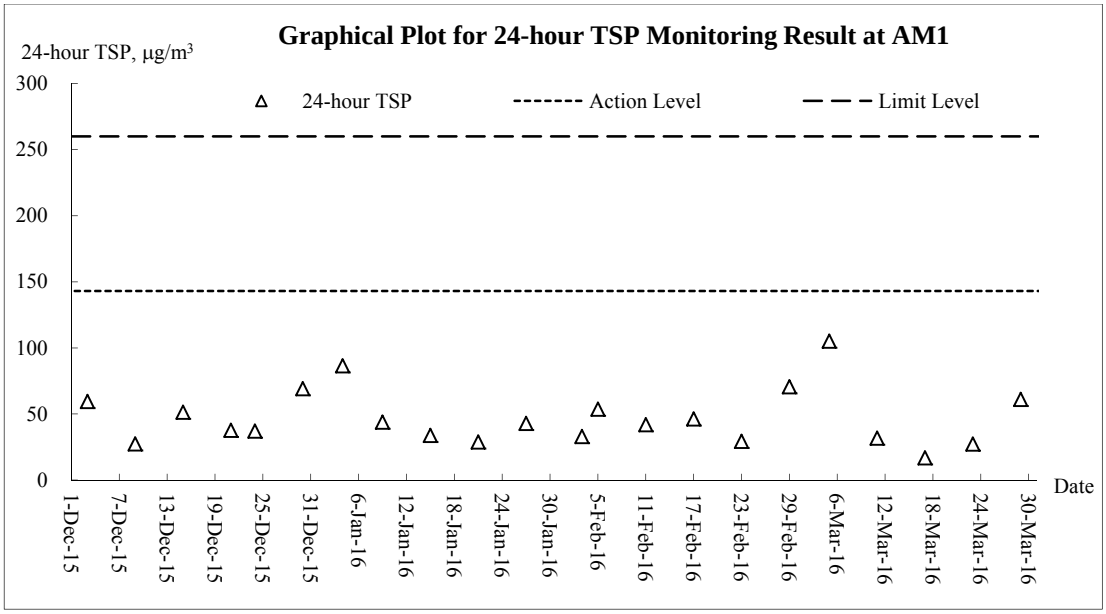

Graphical Plot for 1-hour TSP Monitoring Result at AM6
TSP (ug/m³)
1st hour
2nd hour
3rd hour
Action Level
Limit Level
600
500
400
300
200
100
0
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16
6-Mar-16
12-Mar-16
18-Mar-16
24-Mar-16
30-Mar-16
Date

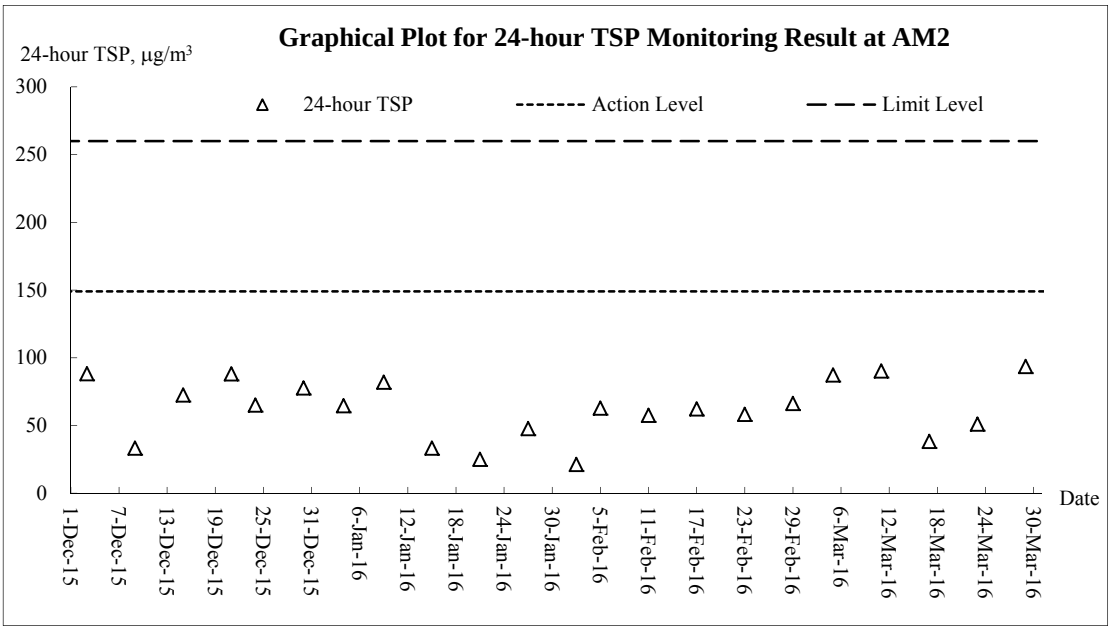

Graphical Plot for 1-hour TSP Monitoring Result at AM7b
TSP (ug/m³)
1st hour
2nd hour
3rd hour
Action Level
Limit Level
600
500
400
300
200
100
0
Date
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16
6-Mar-16
12-Mar-16
18-Mar-16
24-Mar-16
30-Mar-16

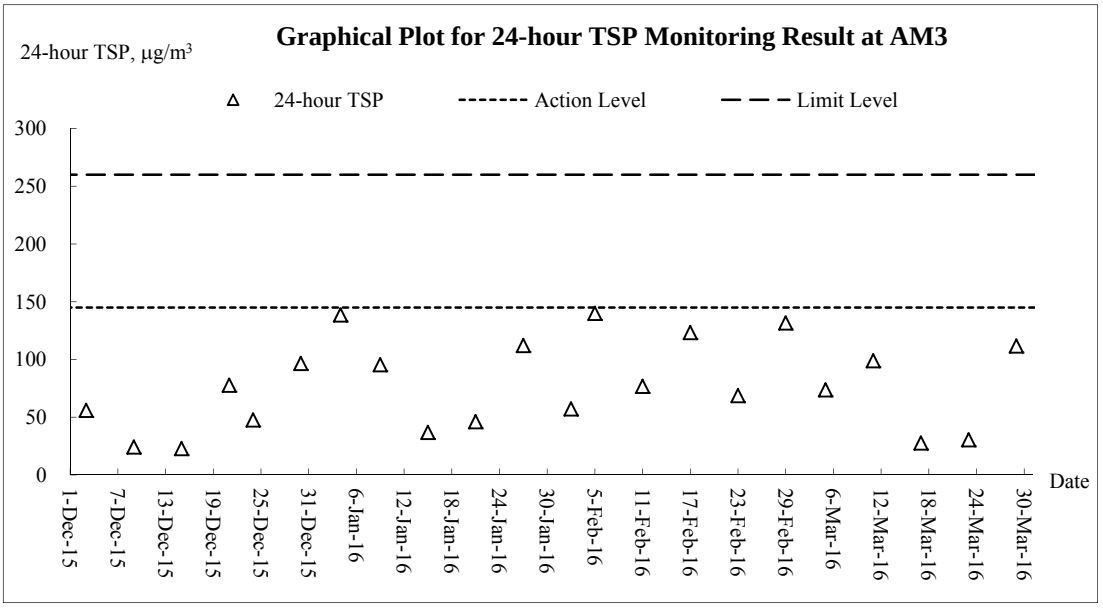

Graphical Plot for 1-hour TSP Monitoring Result at AM8
TSP (ug/m³)
1st hour
2nd hour
3rd hour
Action Level
Limit Level
600
500
400
300
200
100
0
Date
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16
6-Mar-16
12-Mar-16
18-Mar-16
24-Mar-16
30-Mar-16

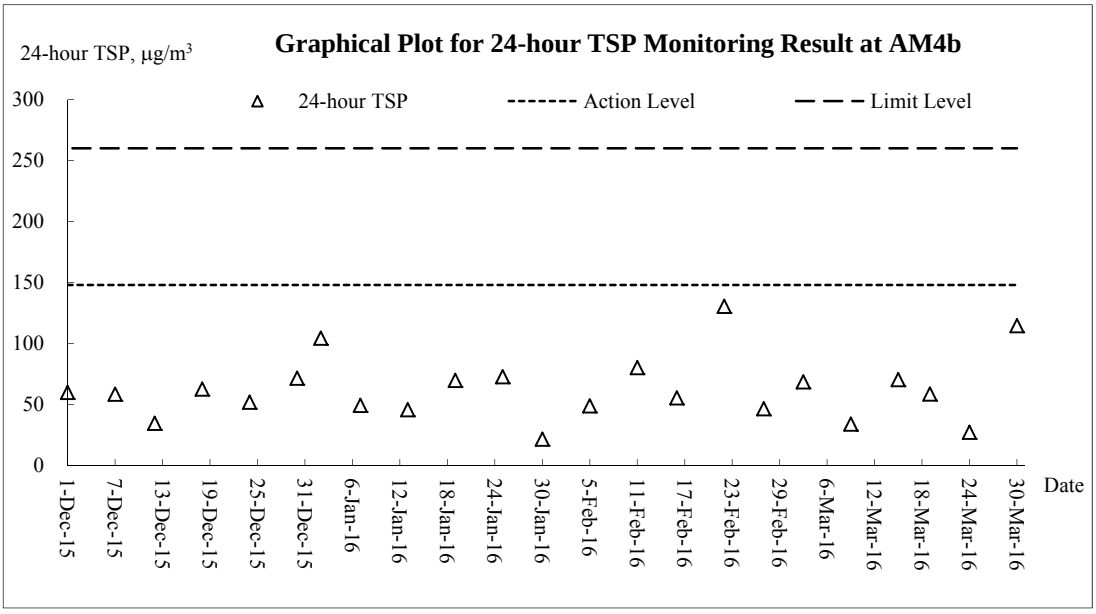

Graphical Plot for 1-hour TSP Monitoring Result at AM9b
TSP (ug/m³)
1st hour
2nd hour
3rd hour
600
500
400
300
200
100
0
Date
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16
6-Mar-16
12-Mar-16
18-Mar-16
24-Mar-16
30-Mar-16

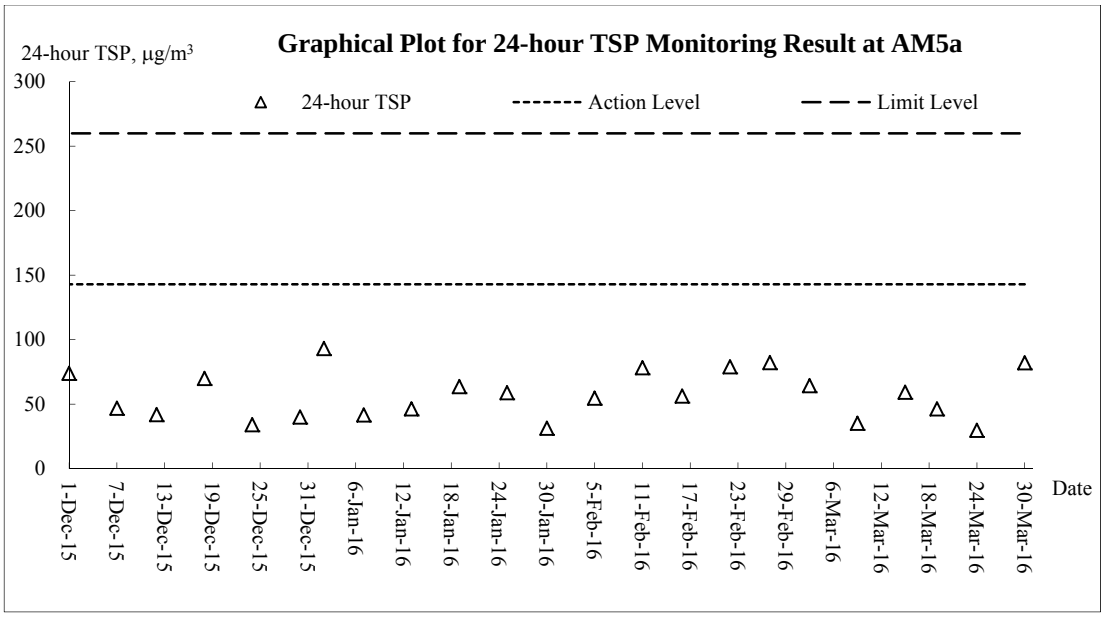
Air Quality – 24-hour TSP

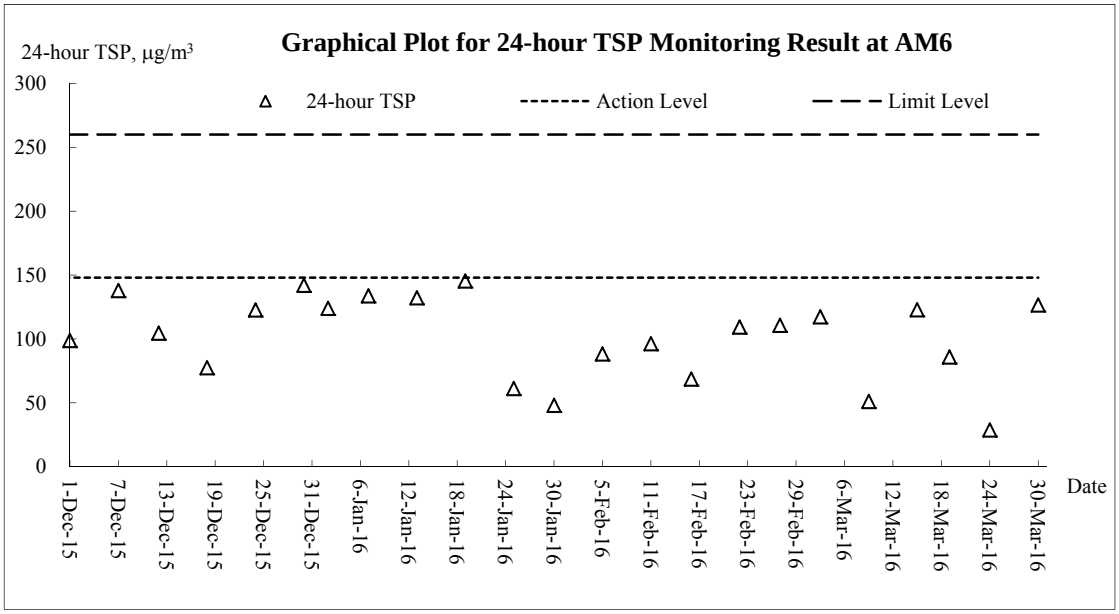


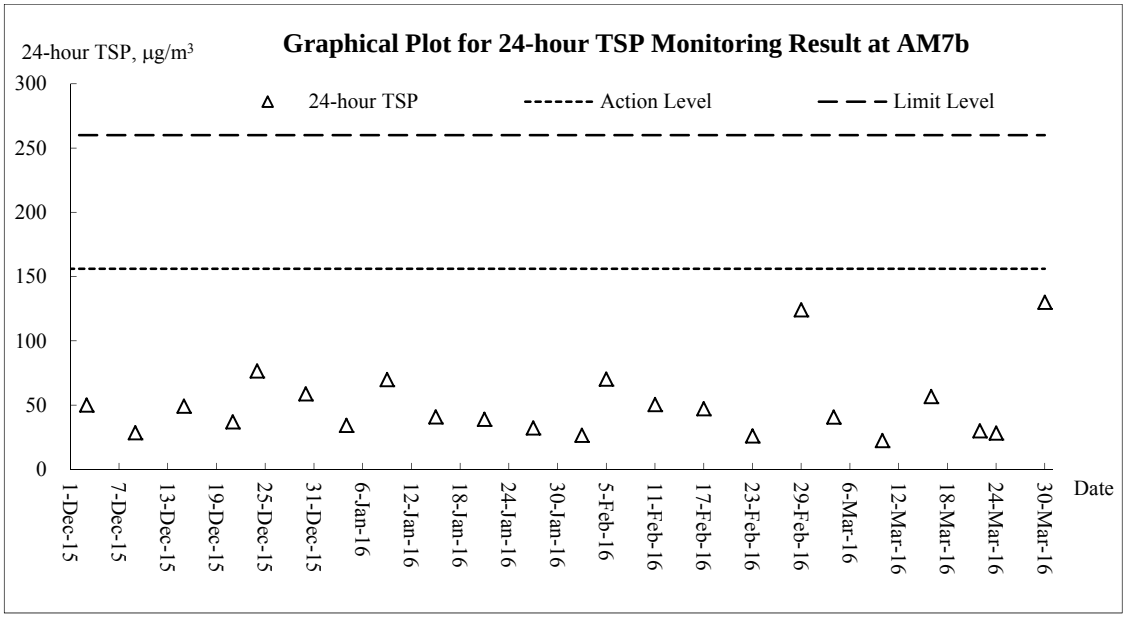


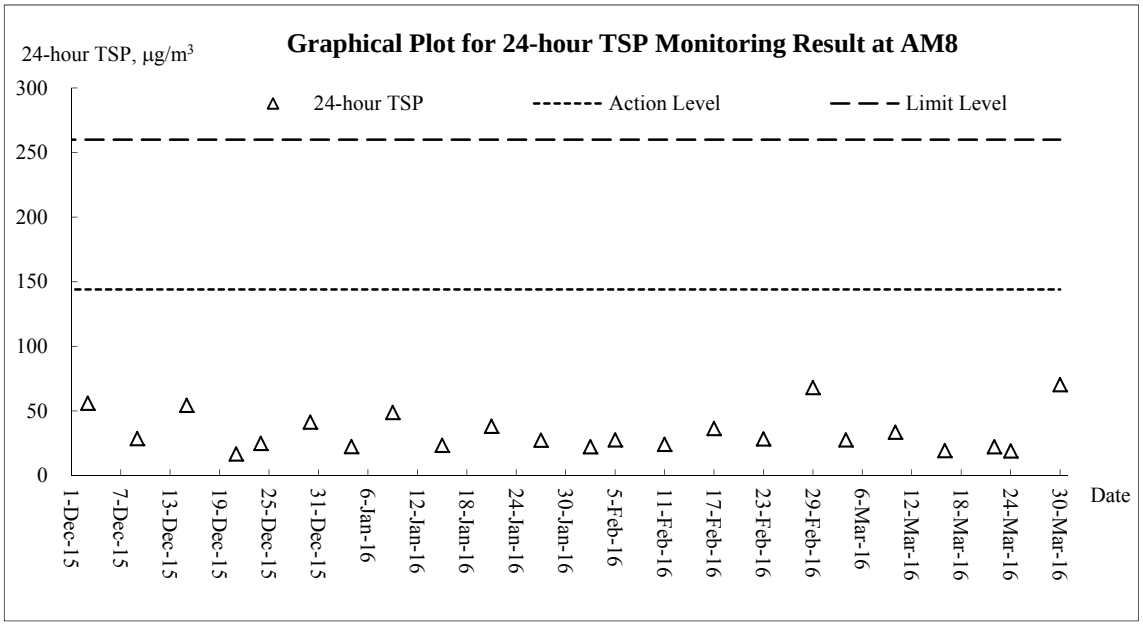


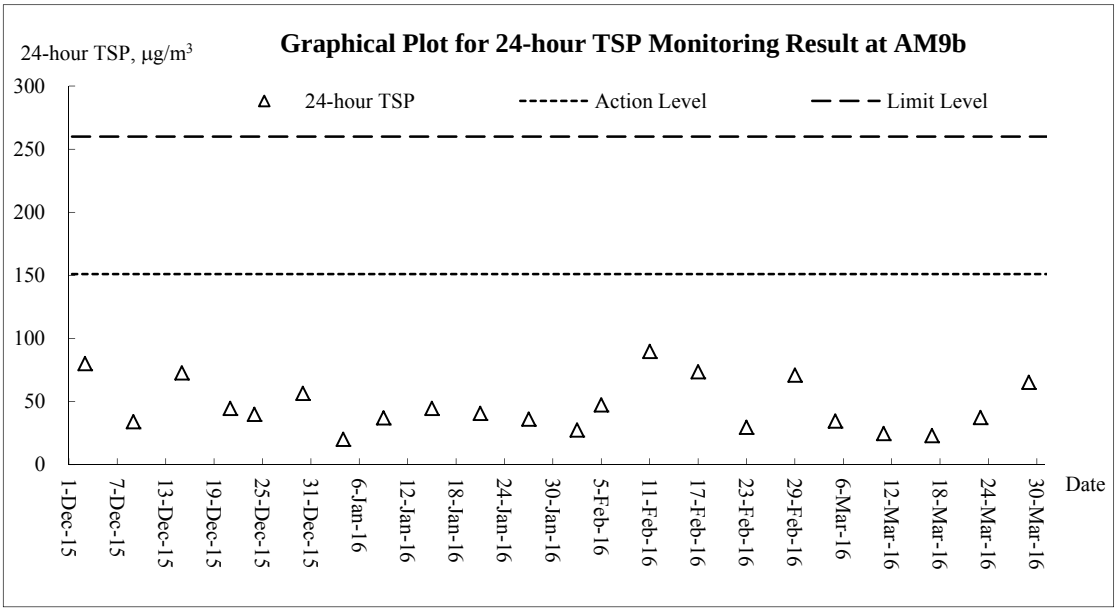

Graphical Plot for 24-hour TSP Monitoring Result at AM4b
24-hour TSP, µg/m³
24-hour TSP
Action Level
Limit Level
300
250
200
150
100
50
0
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16
6-Mar-16
12-Mar-16
18-Mar-16
24-Mar-16
30-Mar-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-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
6-Mar-16
12-Mar-16
18-Mar-16
24-Mar-16
30-Mar-16
Date

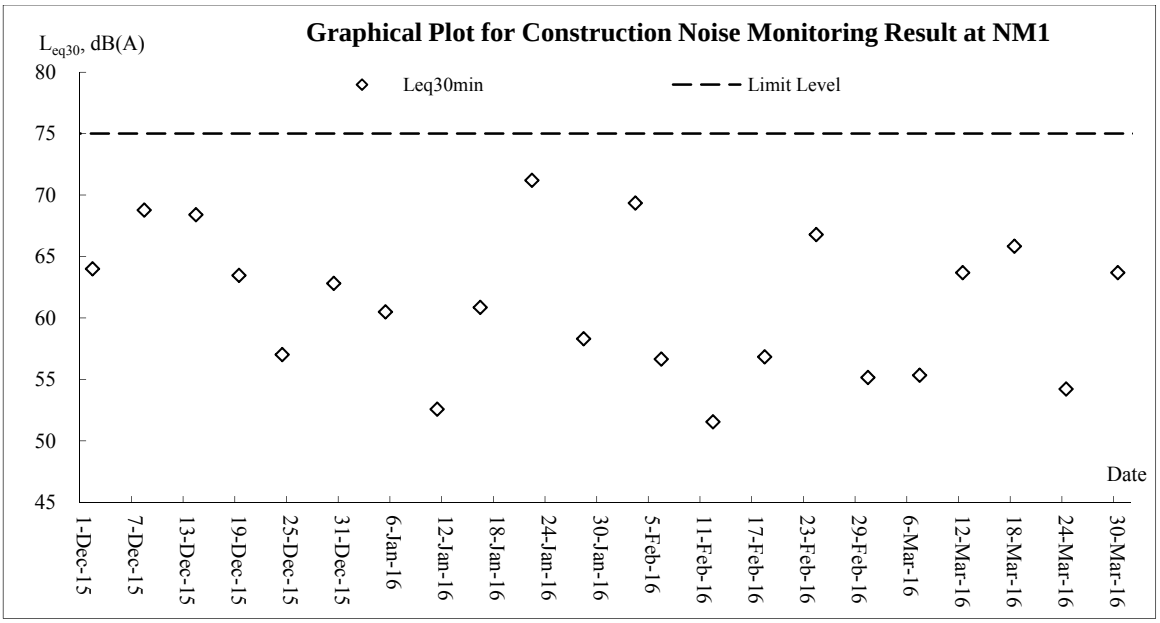

Graphical Plot for 24-hour TSP Monitoring Result at AM6
24-hour TSP, µg/m³
24-hour TSP
Action Level
Limit Level
300
250
200
150
100
50
0
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16
6-Mar-16
12-Mar-16
18-Mar-16
24-Mar-16
30-Mar-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-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
6-Mar-16
12-Mar-16
18-Mar-16
24-Mar-16
30-Mar-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-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
6-Mar-16
12-Mar-16
18-Mar-16
24-Mar-16
30-Mar-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-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
6-Mar-16
12-Mar-16
18-Mar-16
24-Mar-16
30-Mar-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-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
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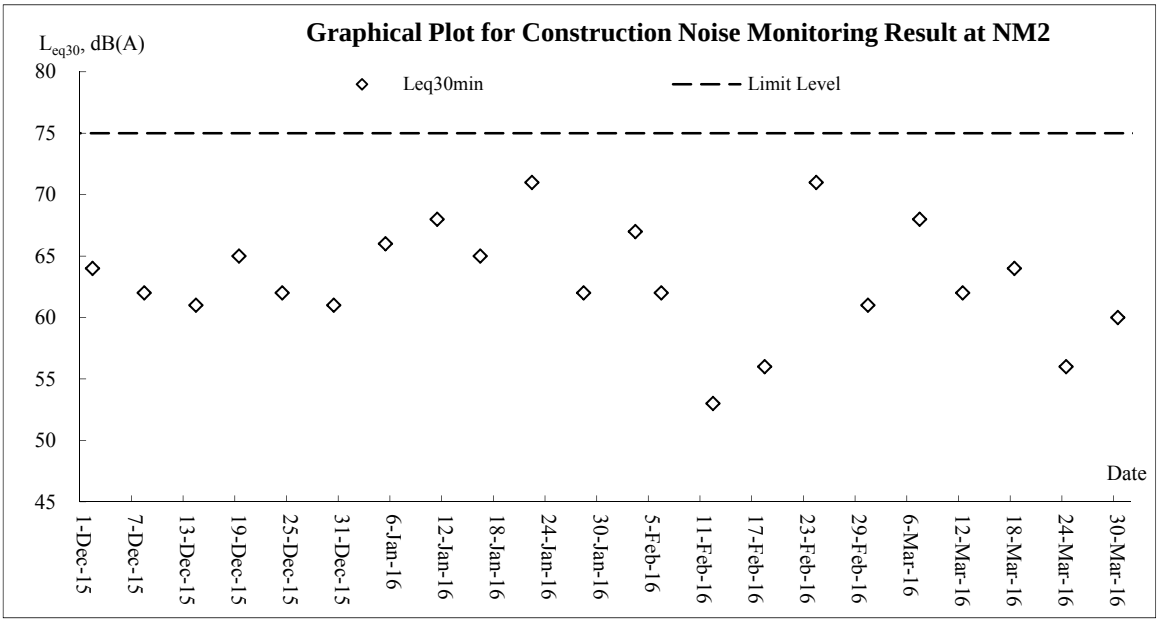
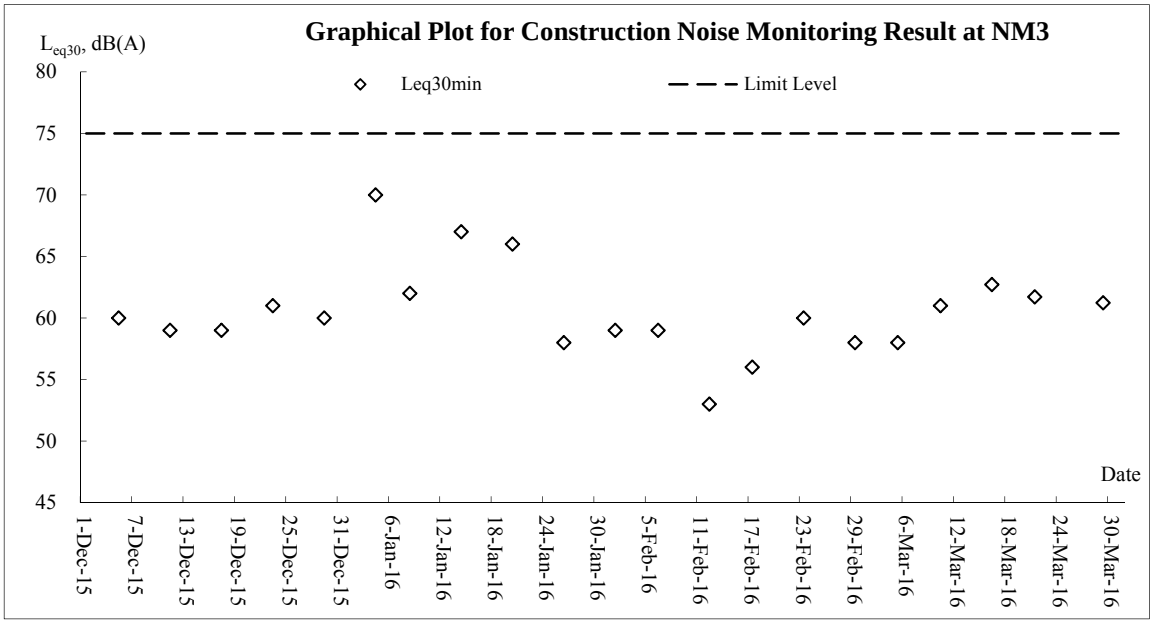
24-Mar-16
30-Mar-16


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-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
6-Mar-16
12-Mar-16
18-Mar-16
24-Mar-16
30-Mar-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
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
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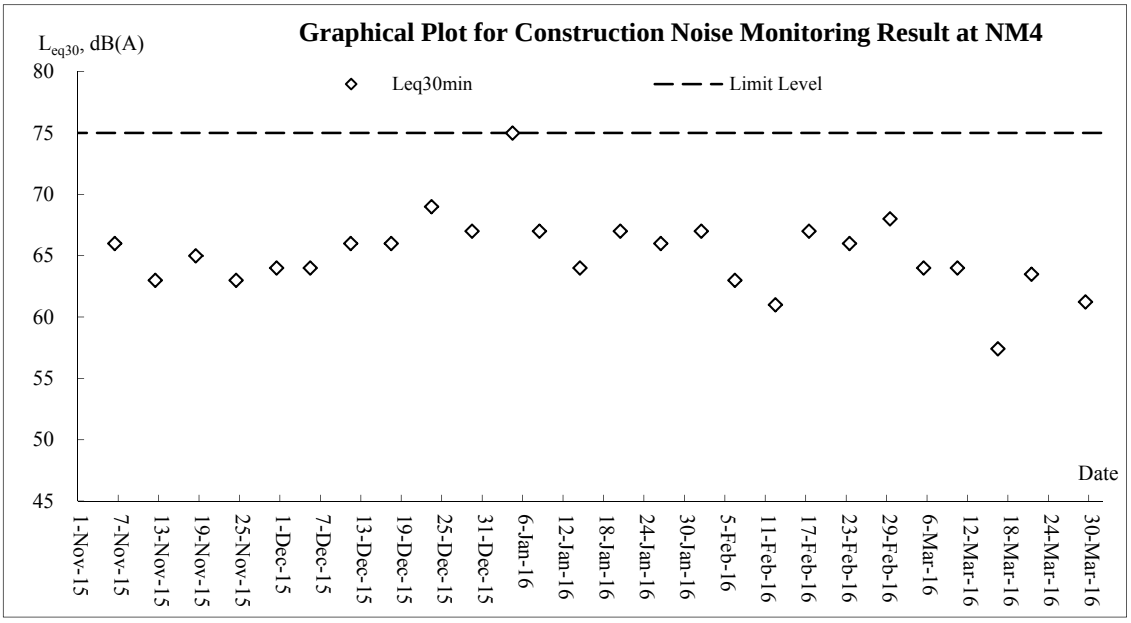
24-Mar-16
30-Mar-16


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
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12-Mar-16
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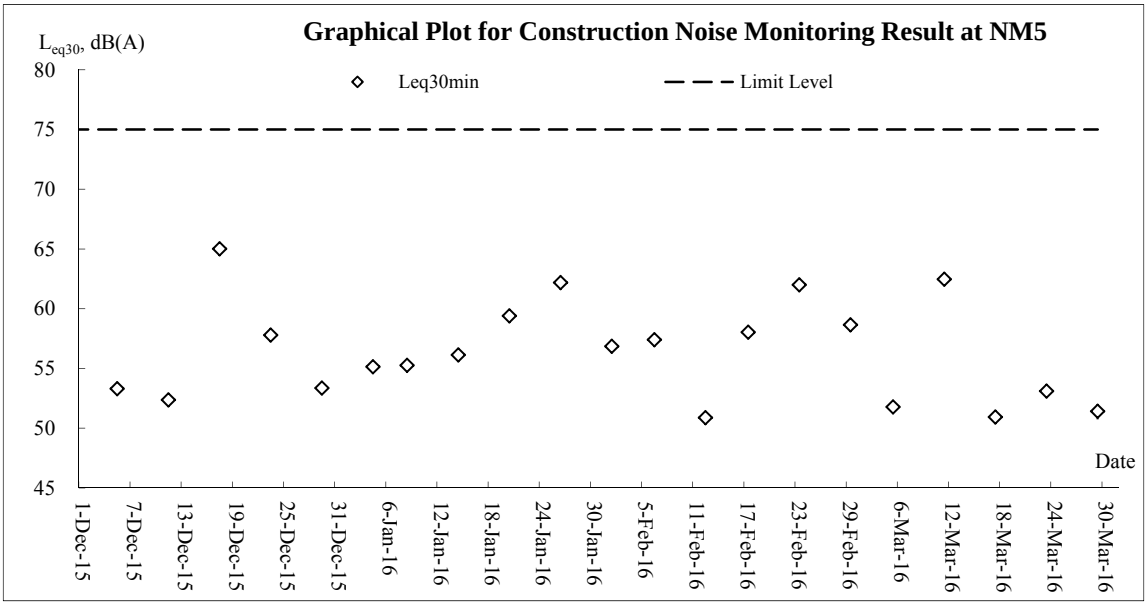
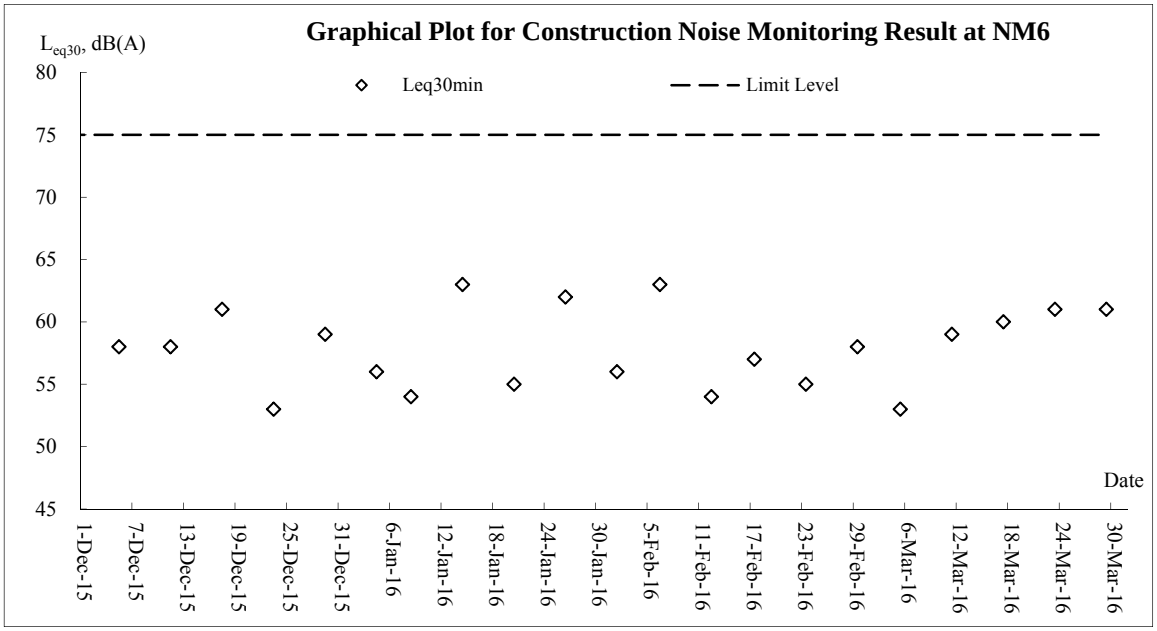
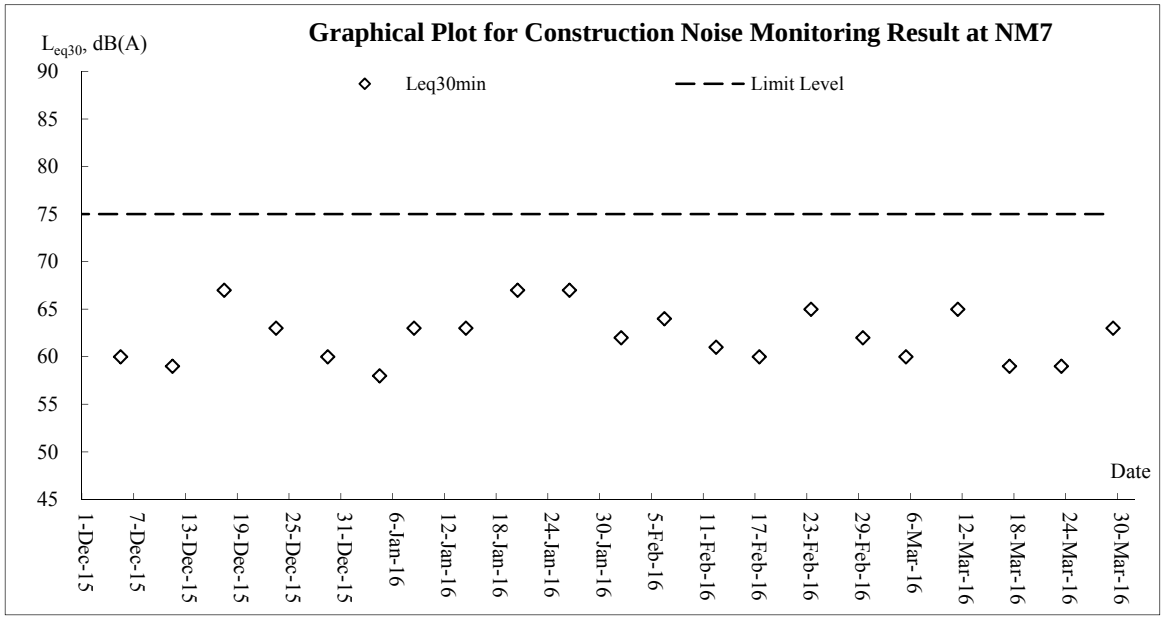
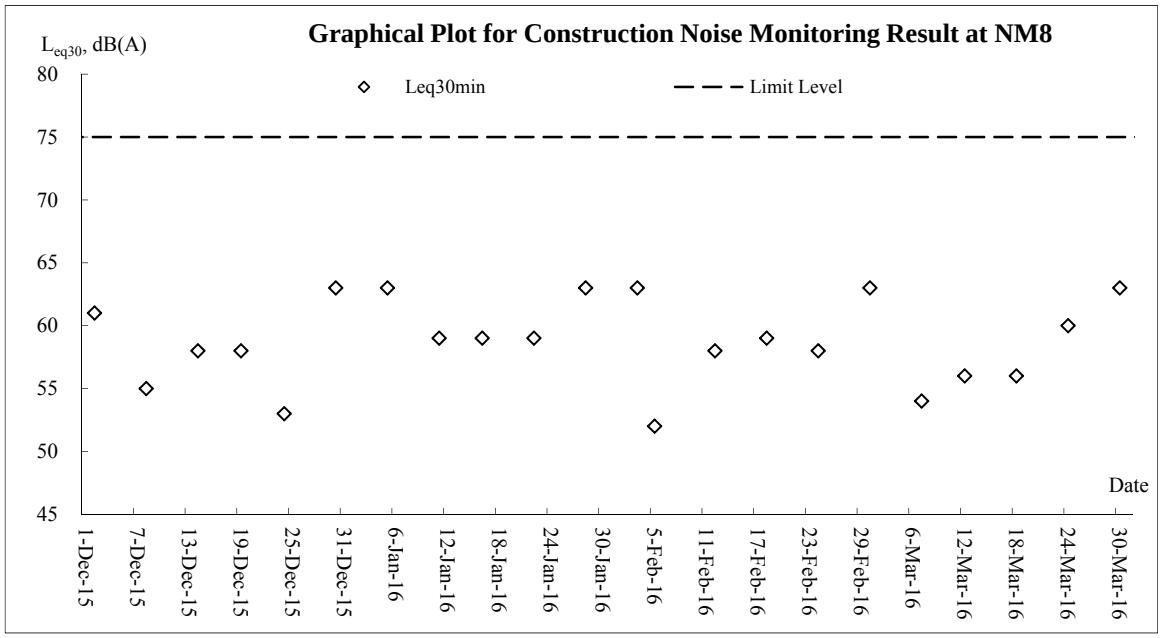
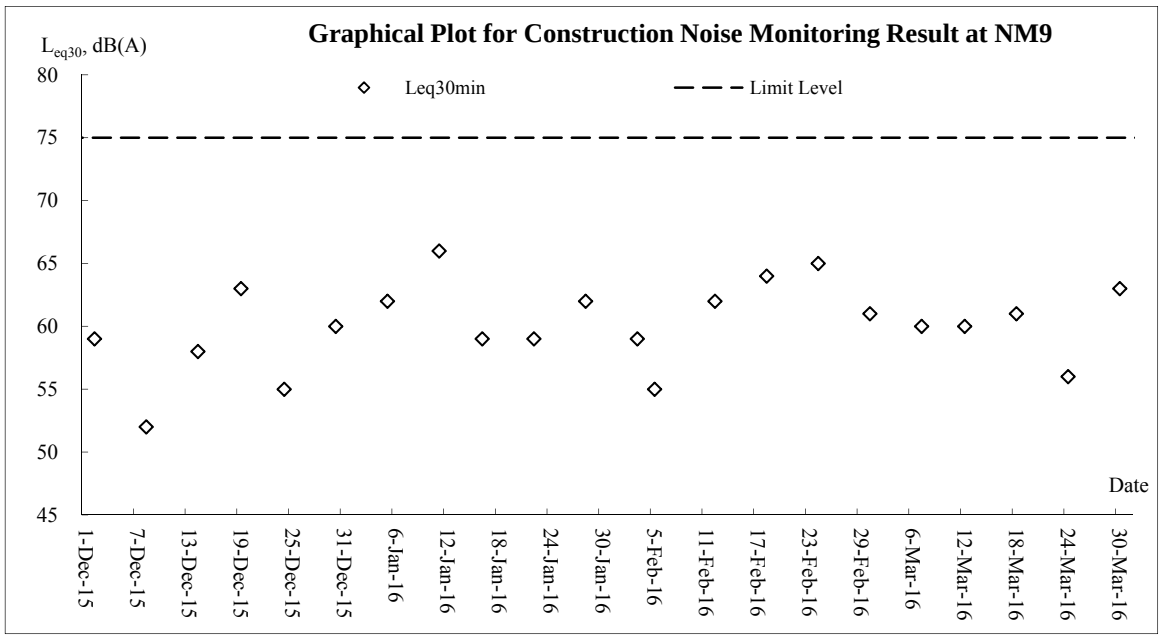
24-Mar-16
30-Mar-16

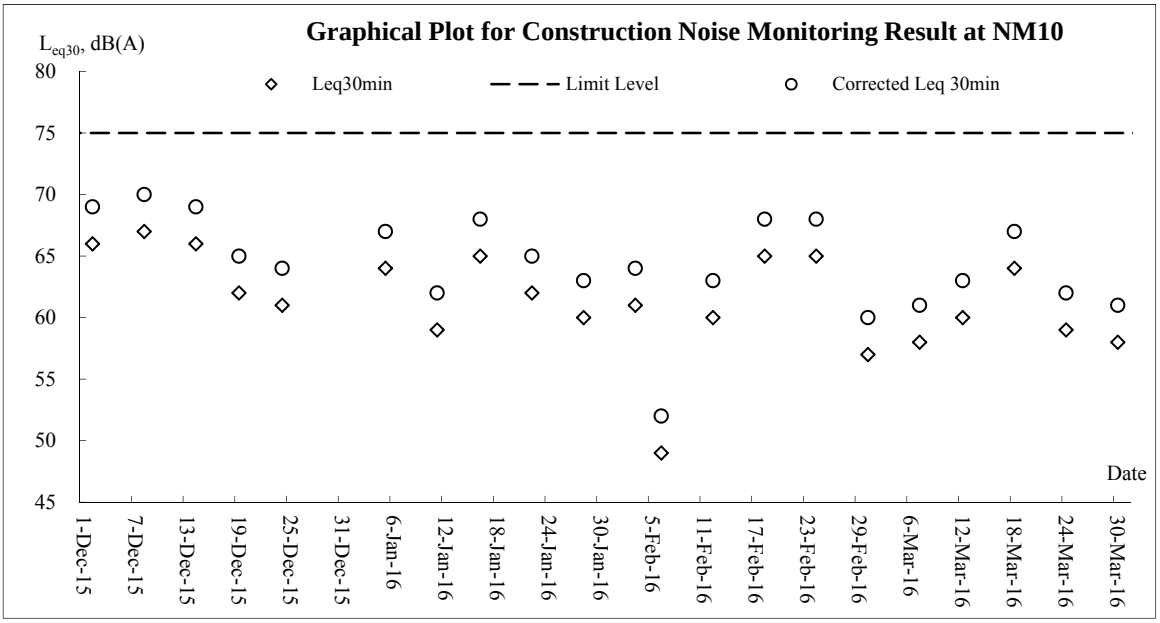

Graphical Plot for Construction Noise Monitoring Result at NM5
L_{eq30}, dB(A)
Leq30min
Limit Level
80
75
70
65
60
55
50
45
Date
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16
6-Mar-16
12-Mar-16
18-Mar-16
24-Mar-16
30-Mar-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-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
6-Mar-16
12-Mar-16
18-Mar-16
24-Mar-16
30-Mar-16

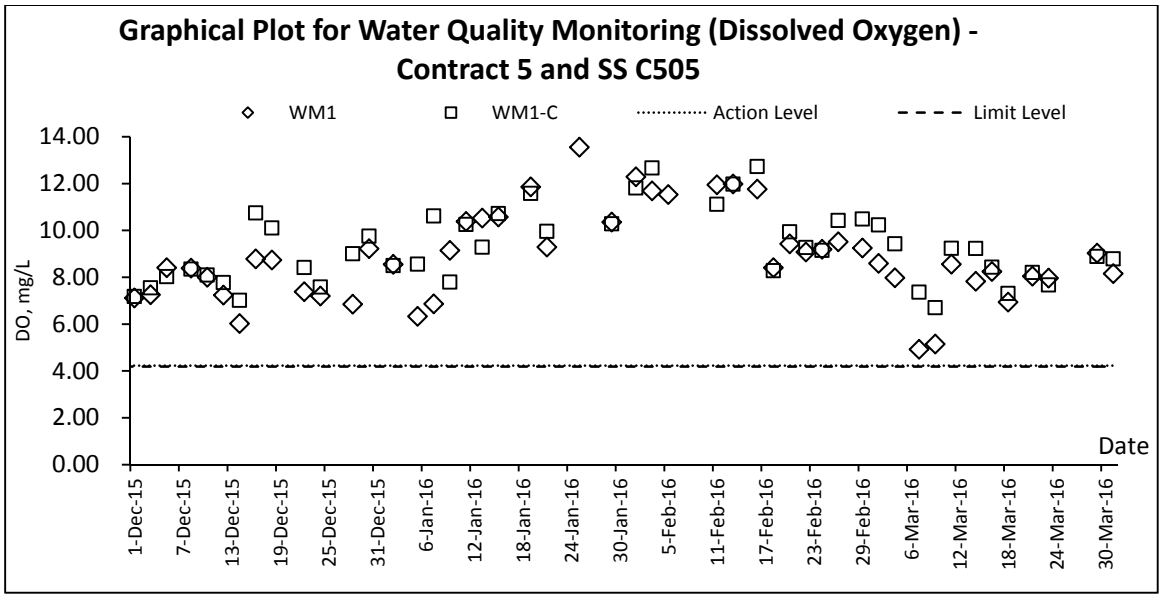

Graphical Plot for Construction Noise Monitoring Result at NM7
L_{eq30}, dB(A)
Leq30min
Limit Level
90
85
80
75
70
65
60
55
50
45
Date
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16
6-Mar-16
12-Mar-16
18-Mar-16
24-Mar-16
30-Mar-16

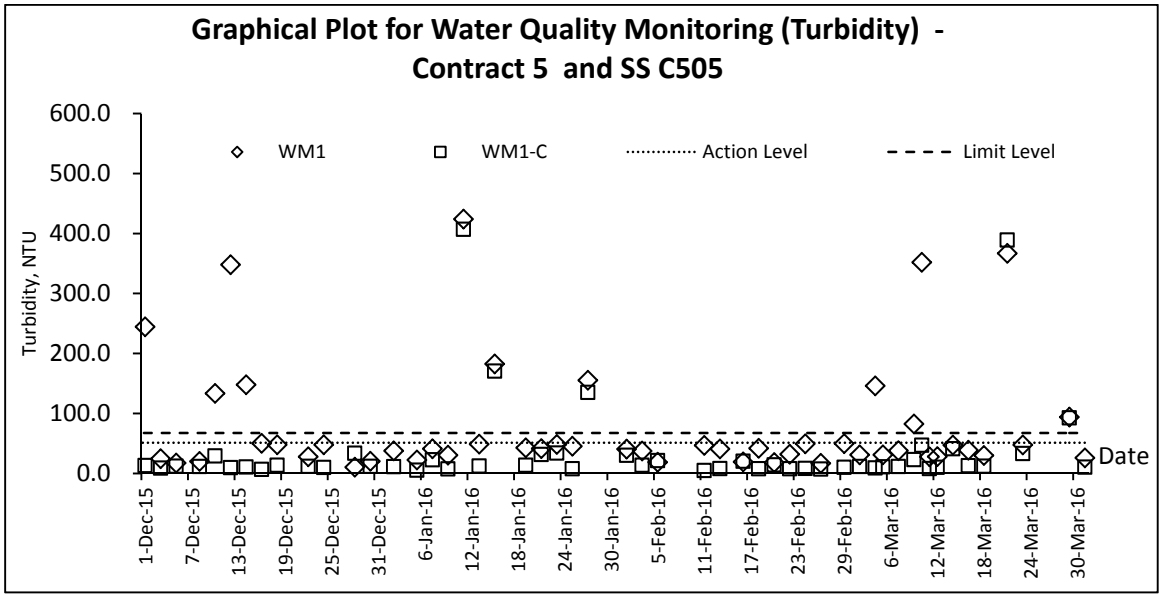

Graphical Plot for Construction Noise Monitoring Result at NM8
L_{eq30}, dB(A)
Leq30min
Limit Level
80
75
70
65
60
55
50
45
Date
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16
6-Mar-16
12-Mar-16
18-Mar-16
24-Mar-16
30-Mar-16

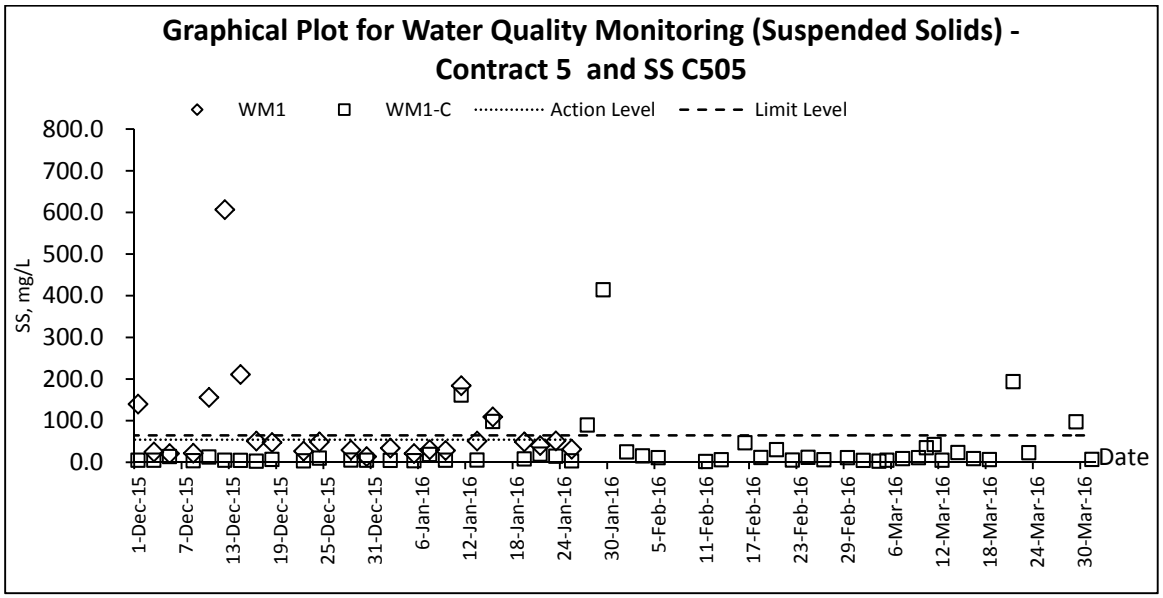

Graphical Plot for Construction Noise Monitoring Result at NM9
L_{eq30}, dB(A)
Leq30min
Limit Level
80
75
70
65
60
55
50
45
Date
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16
6-Mar-16
12-Mar-16
18-Mar-16
24-Mar-16
30-Mar-16

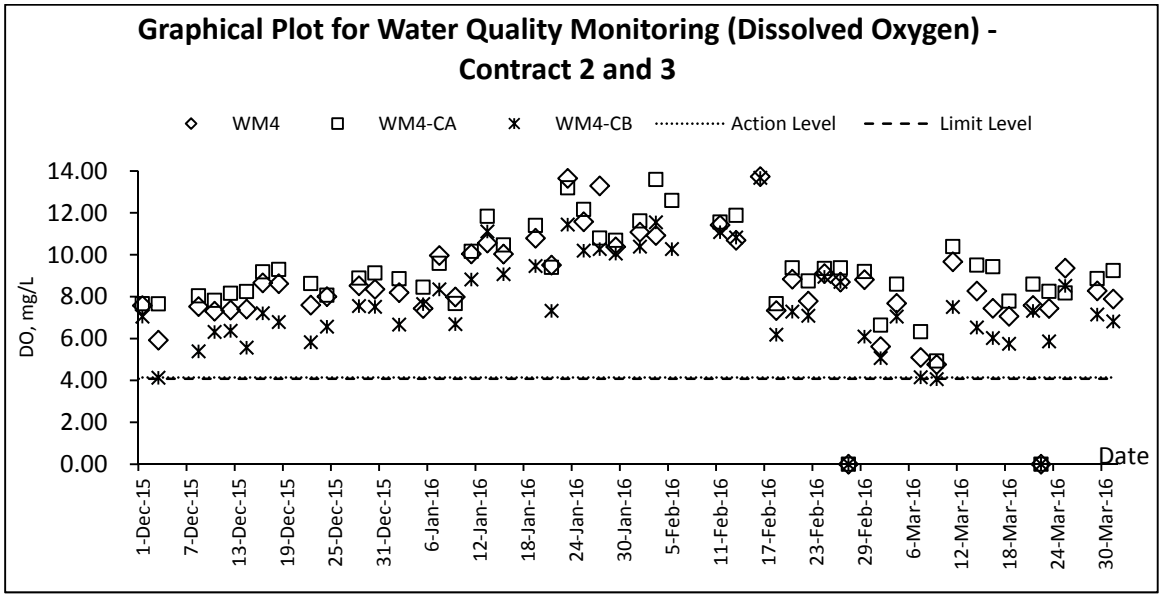

Graphical Plot for Construction Noise Monitoring Result at NM10
L_{eq30}, dB(A)
Leq30min
Limit Level
Corrected Leq 30min
80
75
70
65
60
55
50
45
Date
1-Dec-15
7-Dec-15
13-Dec-15
19-Dec-15
25-Dec-15
31-Dec-15
6-Jan-16
12-Jan-16
18-Jan-16
24-Jan-16
30-Jan-16
5-Feb-16
11-Feb-16
17-Feb-16
23-Feb-16
29-Feb-16
6-Mar-16
12-Mar-16
18-Mar-16
24-Mar-16
30-Mar-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-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
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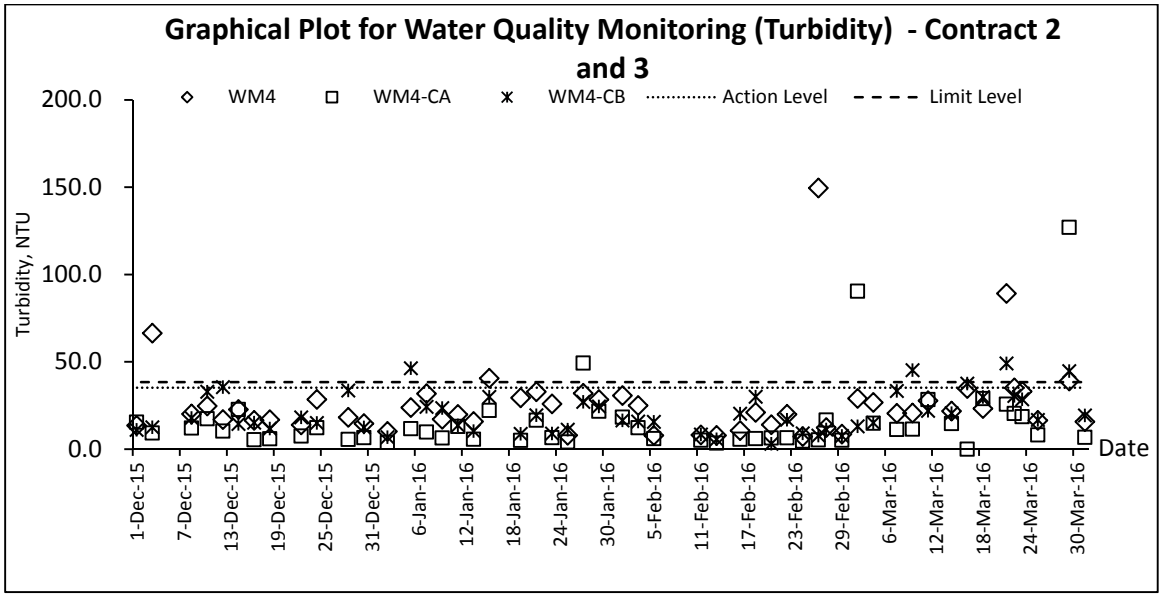
29-Feb-16
6-Mar-16
12-Mar-16
18-Mar-16
24-Mar-16
30-Mar-16


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-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
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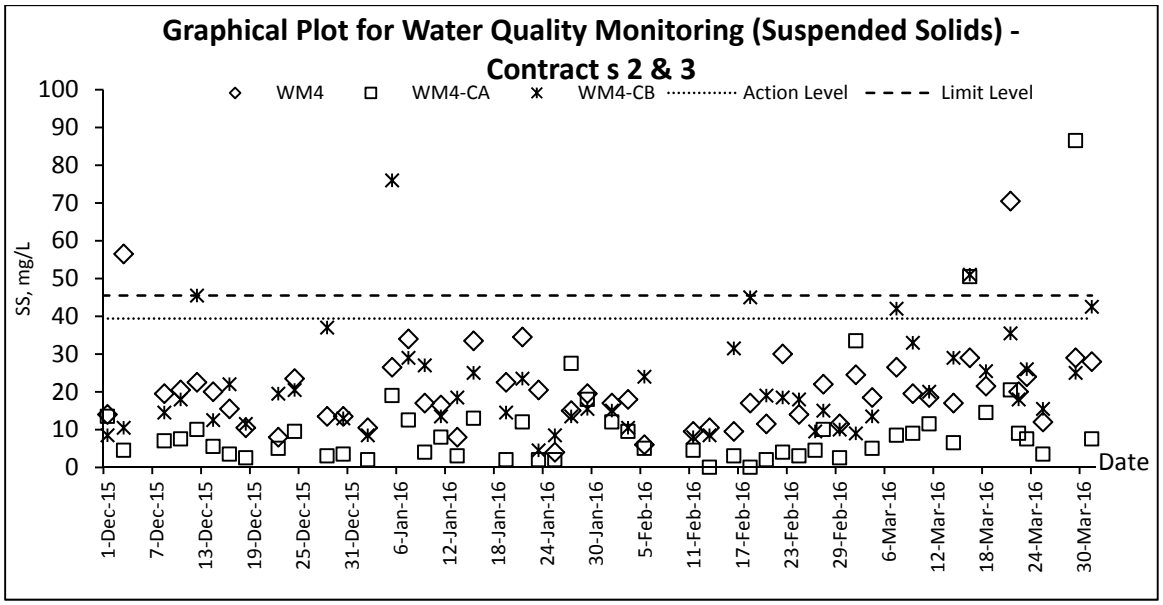
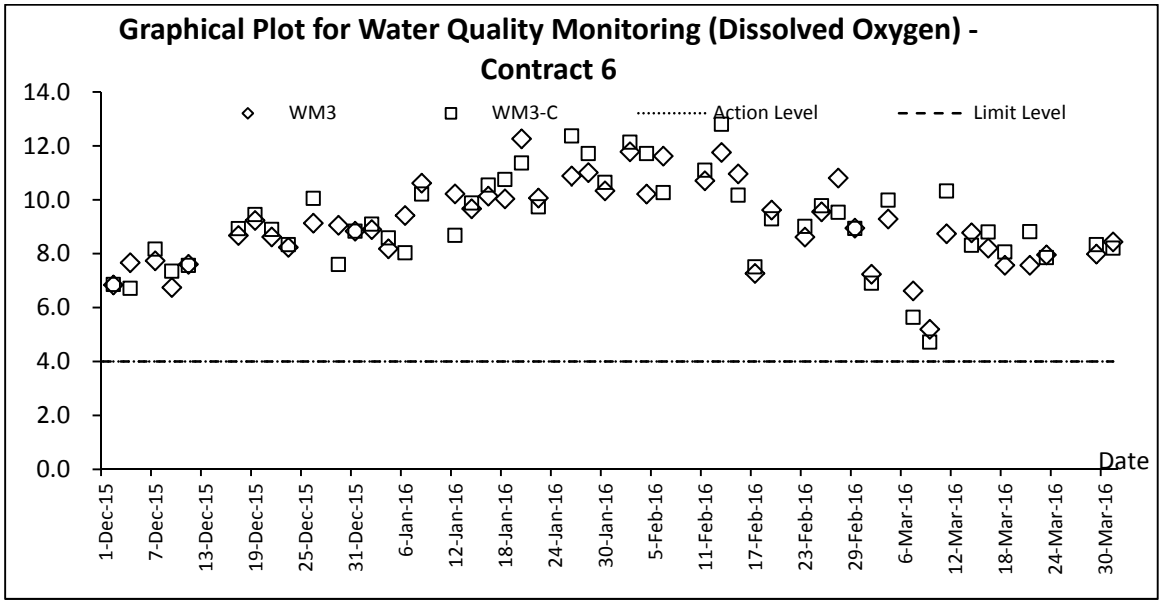
6-Mar-16
12-Mar-16
18-Mar-16
24-Mar-16
30-Mar-16


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-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
6-Mar-16
12-Mar-16
18-Mar-16
24-Mar-16
30-Mar-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-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
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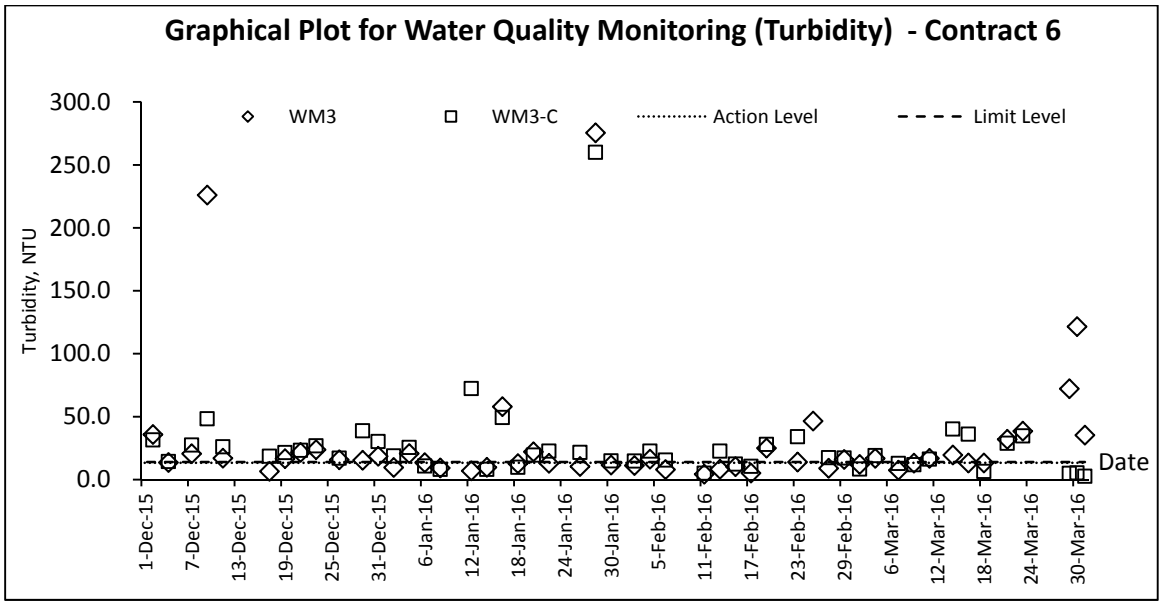
18-Mar-16
24-Mar-16
30-Mar-16


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-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
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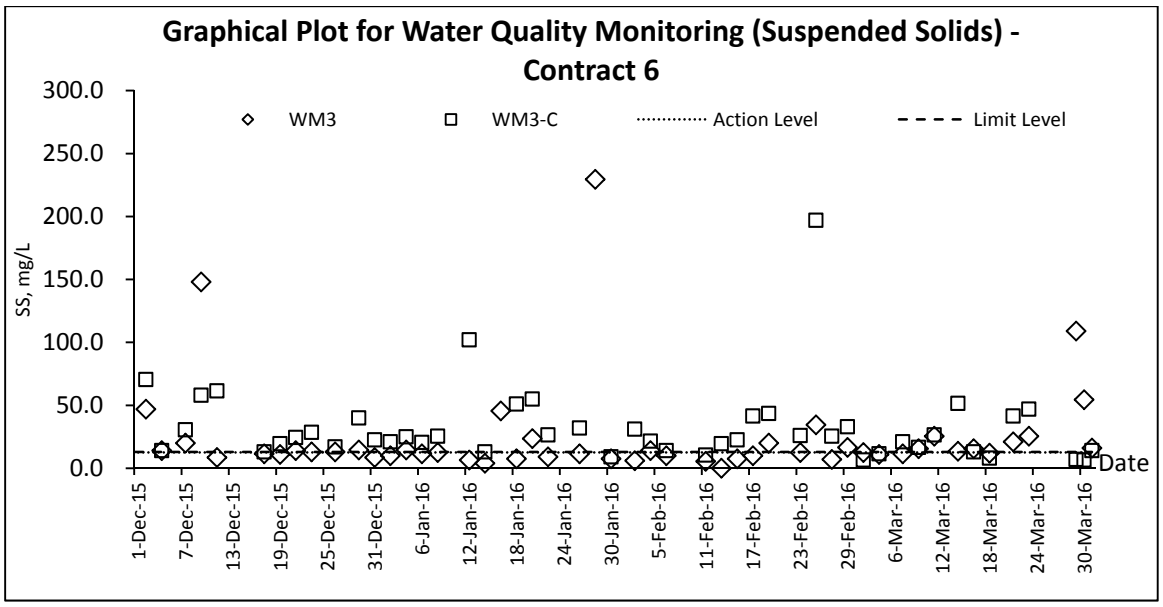
18-Mar-16
24-Mar-16
30-Mar-16


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-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
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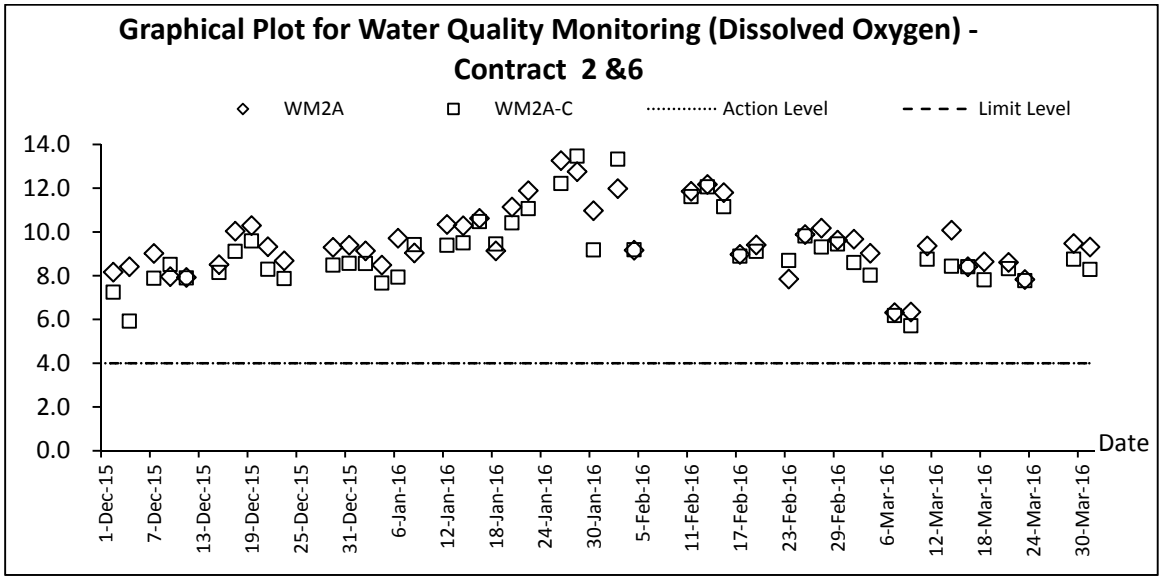
24-Mar-16
30-Mar-16


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-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
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6-Mar-16
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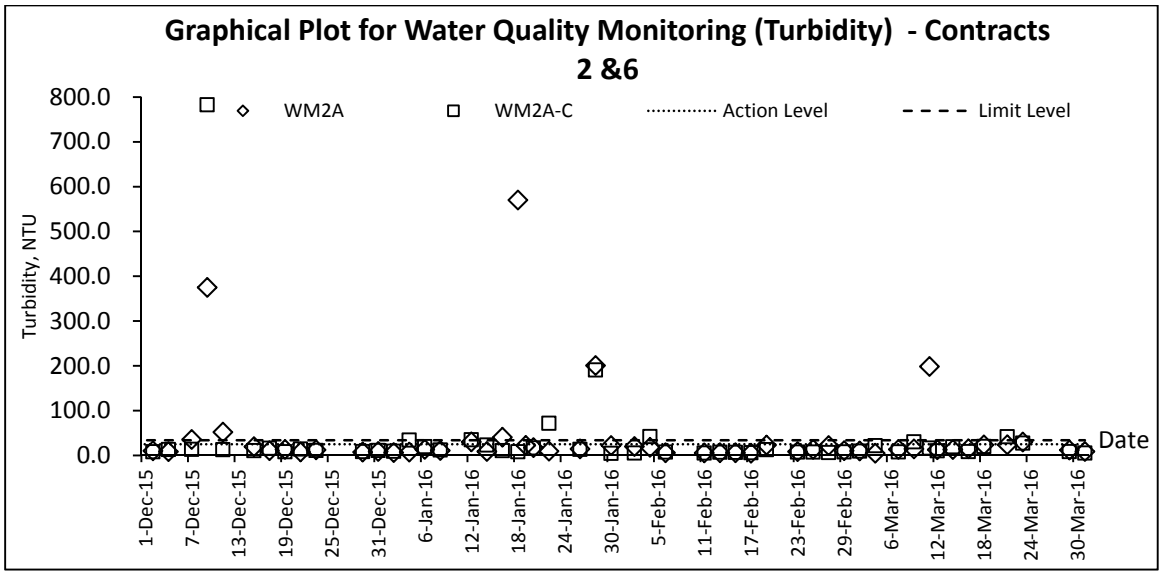
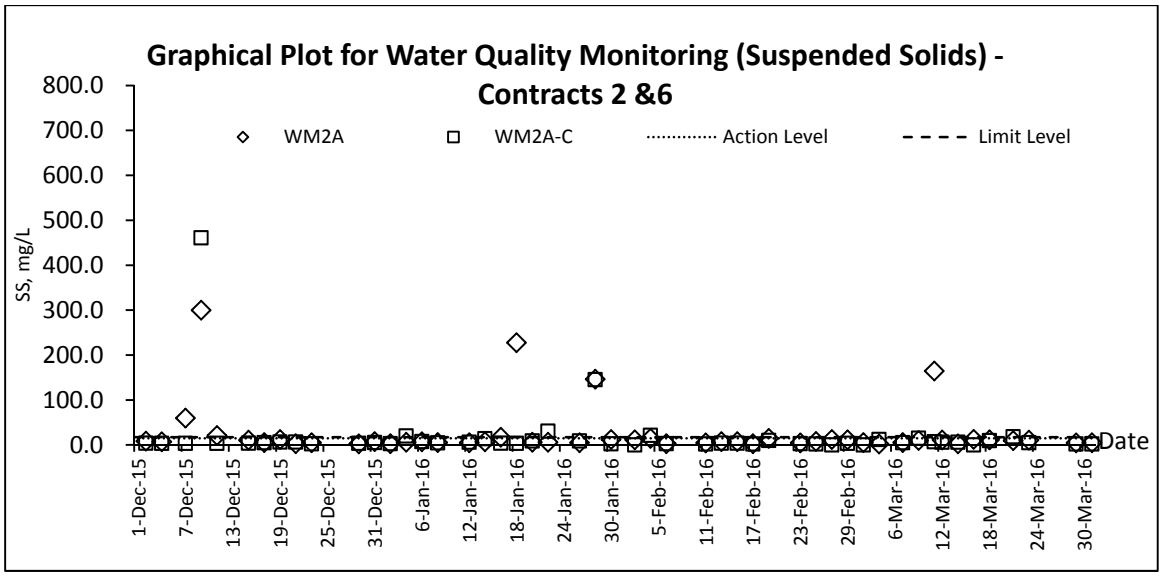
18-Mar-16
24-Mar-16
30-Mar-16


Graphical Plot for Water Quality Monitoring (Turbidity) - Contracts 2 &6
WM2A
WM2A-C
Action Level
Limit Level
Turbidity, NTU
800.0
700.0
600.0
500.0
400.0
300.0
200.0
100.0
0.0
Date
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
6-Mar-16
12-Mar-16
18-Mar-16
24-Mar-16
30-Mar-16


Graphical Plot for Water Quality Monitoring (Suspended Solids) - Contracts 2 &6
WM2A
WM2A-C
Action Level
Limit Level
SS, mg/L
800.0
700.0
600.0
500.0
400.0
300.0
200.0
100.0
0.0
Date
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
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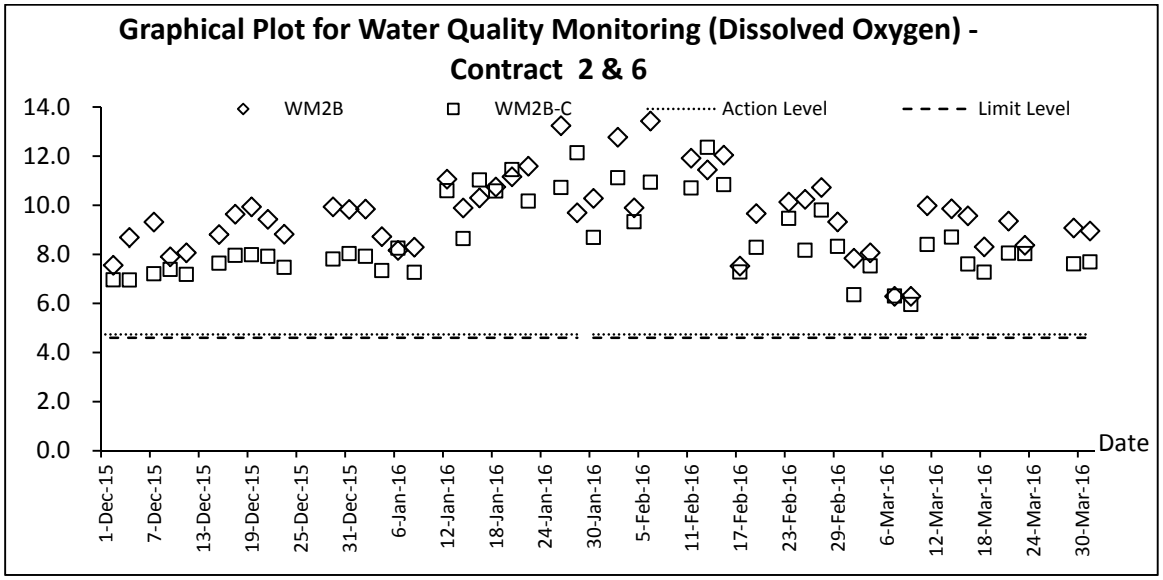
18-Mar-16
24-Mar-16
30-Mar-16


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-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
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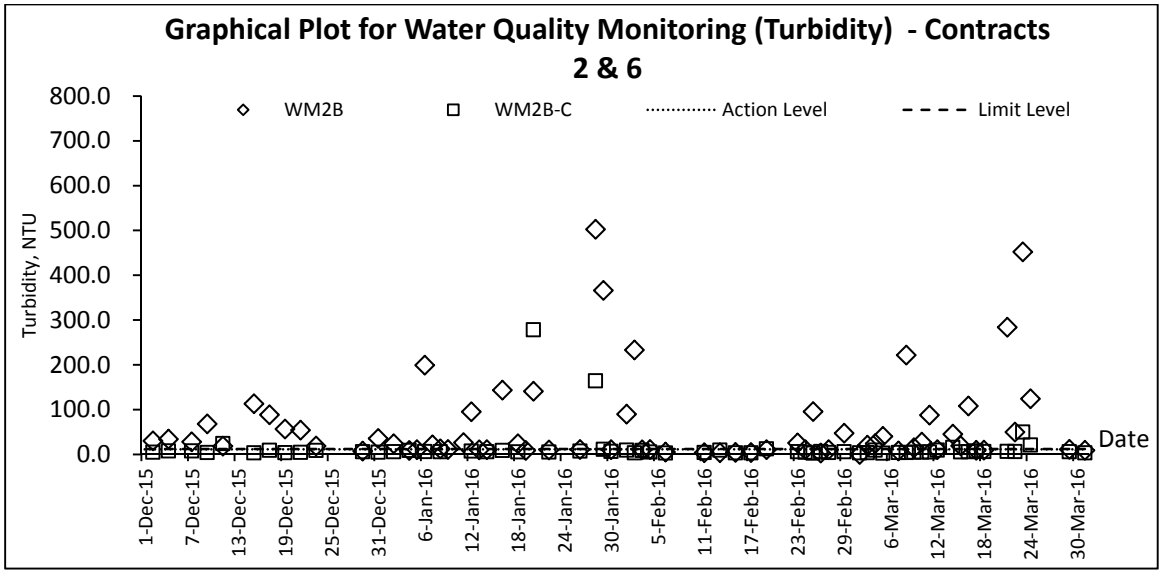
24-Mar-16
30-Mar-16


Graphical Plot for Water Quality Monitoring (Turbidity) - Contracts 2 & 6
WM2B
WM2B-C
Action Level
Limit Level
Turbidity, NTU
800.0
700.0
600.0
500.0
400.0
300.0
200.0
100.0
0.0
Date
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
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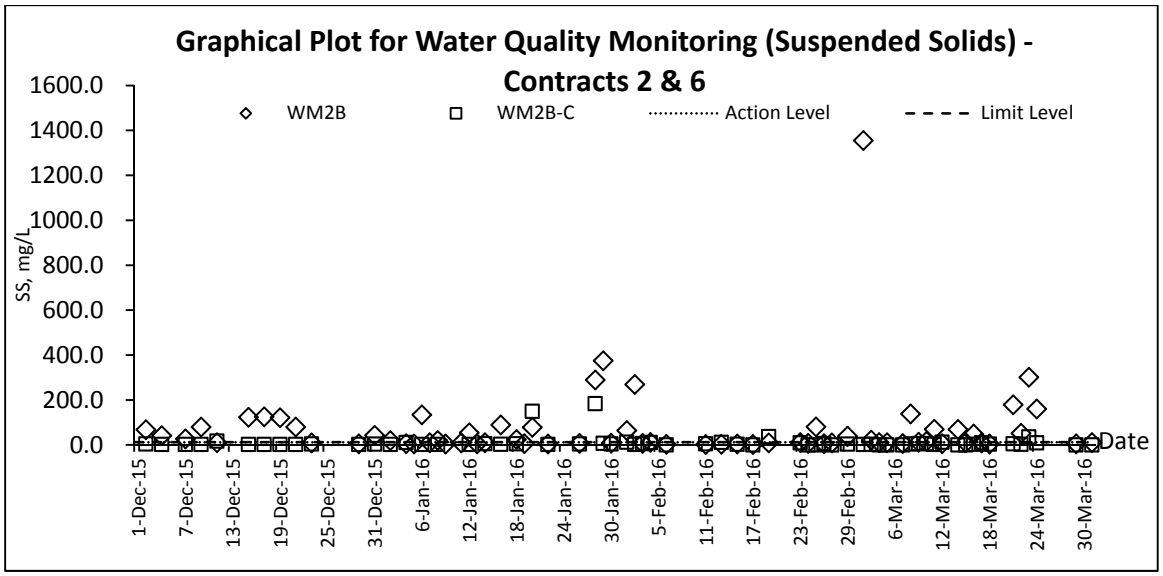
24-Mar-16
30-Mar-16


Graphical Plot for Water Quality Monitoring (Suspended Solids) - Contracts 2 & 6
WM2B
WM2B-C
Action Level
Limit Level
SS, mg/L
1600.0
1400.0
1200.0
1000.0
800.0
600.0
400.0
200.0
0.0
Date
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
6-Mar-16
12-Mar-16
18-Mar-16
24-Mar-16
30-Mar-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-Mar-16	Tue	Mainly fine.Moderate easterly winds.	0	17.6	10.5	63.5	E/SE
2-Mar-16	Wed	Mainly fine.Moderate easterly winds.	0	17.1	9.1	55.5	E/SE
3-Mar-16	Thu	Fine. Dry in the afternoon. Light to moderate easterly winds.	0	18.2	7.2	71	E
4-Mar-16	Fri	Mainly cloudy. Sunny intervals during the day. Light to moderate easterly winds.	0	19.6	6	77	E
5-Mar-16	Sat	Mainly cloudy with a few fog and light rain patches.	Trace	21.4	13.3	79	E
6-Mar-16	Sun	Mainly cloudy with a few fog and light rain patches.	0	21.8	4.5	75	S/SW
7-Mar-16	Mon	Mainly cloudy with a few fog and light rain patches.	0.2	18.3	8	88.2	E
8-Mar-16	Tue	Fresh northerly winds, occasionally strong offshore and on high ground at first.	0	20.7	8.7	85.7	E/SE
9-Mar-16	Wed	Mainly cloudy with a few fog and light rain patches.	15.5	20.4	6.4	89.7	E/SE
10-Mar-16	Thu	Mainly cloudy with a few fog and light rain patches.	16.8	12.9	12	81.2	N
11-Mar-16	Fri	Moderate to fresh easterly winds	0.1	10.1	25	77	NE
12-Mar-16	Sat	Cloudy to overcast with occasional rain	0.1	12.2	36	87	E
13-Mar-16	Sun	Mainly fine. Moderate easterly winds.	6.8	16.2	6	90.5	N/NW
14-Mar-16	Mon	Fine. Dry in the afternoon. Light to moderate easterly winds.	0.8	14.3	6.2	75.5	N
15-Mar-16	Tue	Mainly cloudy. Sunny intervals during the day. Light to moderate easterly winds.	Trace	14.4	3.2	75	E
16-Mar-16	Wed	Moderate to fresh easterly winds	1.1	15.2	10.6	83.3	E/SE
17-Mar-16	Thu	Cloudy to overcast with occasional rain	2.2	17.3	14	90.5	E
18-Mar-16	Fri	Fine. Dry in the afternoon. Light to moderate easterly winds.	Trace	21.3	9	85.5	E/SE
19-Mar-16	Sat	Mainly cloudy with a few fog and light rain patches.	Trace	23.5	12.5	94	E
20-Mar-16	Sun	Moderate to fresh easterly winds	0.3	20.4	15.5	76	E/SE
21-Mar-16	Mon	Moderate to fresh easterly winds	59.6	18	15	85.7	E/SE
22-Mar-16	Tue	Cloudy to overcast with occasional rain	1.7	17.3	16.3	90	E/SE
23-Mar-16	Wed	Cloudy to overcast with occasional rain	8.7	19.9	8.9	90	E/SE
24-Mar-16	Thu	Cloudy to overcast with occasional rain	33.4	15	6.5	90	E/NE
25-Mar-16	Fri	Moderate to fresh easterly winds	1.4	13	19.4	75	NE
26-Mar-16	Sat	Moderate to fresh easterly winds	0	13.9	13.4	68	E
27-Mar-16	Sun	Moderate to fresh easterly winds	0	16.1	14.6	58	NE
28-Mar-16	Mon	Mainly cloudy with coastal fog.	0	15.7	7.4	58	E/SE
29-Mar-16	Tue	Light to moderate southeasterly winds.	Trace	17.5	6.5	59.5	SE
30-Mar-16	Wed	Light to moderate southeasterly winds.	Trace	21.1	6.5	70	E
31-Mar-16	Thu	Mainly cloudy with coastal fog.	0	22.5	6	74.5	SW

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	26.2000	0.0000	0.0000	1.2320	0.1247
February	55.6715	0.0000	1.0145	38.3484	16.3085	0.9343	8.3800	0.9800	0.0000	1.4080	0.1089
March	34.1616	0.0000	0.3100	29.3514	4.5003	0.9272	0.0000	0.0000	0.0000	11.7920	0.0682
April	0.0000										
May	0.0000										
June	0.0000										
Half-year total	162.0360	0.0000	1.9727	99.5059	60.5574	2.6299	34.5800	0.9800	0.0000	14.4320	0.3018
July	0.0000										
August	0.0000										
September	0.0000										
October	0.0000										
November	0.0000										
December	0.0000										
Yearly Total	162.0360	0.0000	1.9727	99.5059	60.5574	2.6299	34.5800	0.9800	0.0000	14.4320	0.3018

(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	162.0360	0.0000	1.9727	99.5059	60.5574	2.6299	34.5800	0.9800	0.0000	14.4320	0.3018
2017											
2018											
Total	1158.4225	0.0000	25.5248	1019.1167	113.7810	12.8036	51.9200	5.3410	1.5070	41.5040	3.7323

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	1.084	0.417	0.000	0.000	1.084	0.831	0.000	0.000	0.001	0.000	0.090
Apr											
May											
Jun											
Sub-total	4.739	1.321	0.050	0.000	4.689	2.772	0.001	0.000	0.001	0.000	0.315
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
Total	4.739	1.321	0.050	0.000	4.689	2.772	0.001	0.000	0.001	0.000	0.315

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	0	0	0	0	0	0.1785	0	0	0	0	0.055
APRIL											
MAY											
JUN											
Sub Total	0	0	0	0	0	0.5545	0	0	0	0	0.16
JUL											
AUG											
SEP											
OCT											
NOV											
DEC											
Total	0	0	0	0	0	0.55	0	0	0	0	0.16

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	43.764	0	6.438	12.034	25.292	3.288	0	0	0.007	0	0.042
Apr											
May											
Jun											
Sub-total	177.125	0	19.034	64.015	94.076	41.088	0	0.097	0.007	0	1.076
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
Total	346.348	0	37.568	80.799	227.981	48.337	0	0.391	0.007	32.28	4.152

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.

Appendix I

MONTHLY SUMMARY WASTE FLOW TABLE

Name of Department: CEDD

Contract Title: Liantang/ Heung Yuen Wai Boundary Control Point
Site Formation and Infrastructure Works – Contract 7

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 Inert 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	Plastic (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m^3)	(in '000m3)	(in '000m3)	(in '000m3)	(in '000m3)	(in '000m3)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m3)
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	0	0	0	0	0.135	0	0	0	0	0	0.005
Apr											
May											
June											
Sub-total	0	0	0	0	0.295	0	0	0	0	0	0.005
July											
Aug											
Sept											
Oct											
Nov											
Dec											
Total	0	0	0	0	0.295	0	0	0	0	0	0.005

Notes: (1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
(2) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.

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	0.793	0	0	0	0.793
Apr					
May					
Jun					
Sub-total	2.451	0	0	0	2.451
Jul					
Aug					
Sep					
Oct					
Nov					
Dec					
Total	2.451	0	0	0	2.451

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	0	0	52.752	52.752	0.044	0.044	0	0	0	0	0.05	0.05	0.059
Apr													
May													
Jun													
Sub-total	0	0	57.4824	57.4824	0.0626	0.0626	0	0	0	0	0.071	0.071	0.195
Jul													
Aug													
Sep													
Oct													
Nov													
Dec													
Total	0	0	57.4824	57.4824	0.0626	0.0626	0	0	0	0	0.071	0.071	0.195

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					
50kg of glass bottles were sent to *Action Health* for recycling	2kg of cans and 44kg 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**	**16 March 2016**
Our Ref	TCS00694/13/300/**F0180a**	**No of Pages**	9 **(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 2 and 3 March 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/F0153 dated 2 March 2016, TCS00694/13/300/F0157 dated 3 March 2016 and TCS00694/13/300/F0173 dated 11 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

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		2 March 2016	
Location		WM2B	
Time		11:10	
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 Levels	**WM2B-C**	3.5	2
	WM2B	**Over ranged**	**1335.0**
Exceedance		**Limit Level**	**Limit Level**
Investigation Results, Recommendations & Mitigation Measures		1. According to the site record from the monitoring team during monitoring on 2 March 2016, muddy water was observed at WM2B and throughout the open channel. It is suspected that the muddy water was came from the construction site of North Portal. 2. As advised by CCKJV, construction activities carried out on 2 March 2016 at North Portal (upstream of WM2B) were bored piling and slope work. In normal practice, the wastewater generated from bored piling was recirculated to the nearest AquaSed for treatment and no discharge would be made as far as practicable. However, a pipe carrying wastewater from bored piling to the nearest AquaSed was burst on 2 March 2016 morning and the untreated wastewater were getting into the open channel accidently. 3. CCKJV has immediate halted the bored piling work until the damaged pipe was replaced. Channel clearing was immediately carried out and muddy water in the open channel was pumped back to the AquaSed for treatment and recirculated for bored piling. However, the silt cumulated at the river bed was difficult to remove completely. During channel clearing, part of the muddy water was flowing out of the site and detected at WM2B. 4. It is considered that the exceedances were related to the pipe burst accident. CCKJV was advised to check the condition of connected pipe more frequently and ensure the wastewater treatment a facility is in proper function. 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. Additional monitoring was conducted on 3 March 2016 and turbidity and SS exceedances were triggered too. Although the exceedances were concluded as not project related, CCKJV should continue 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 :	16 March 2016

Photo Record

Photo 1
Muddy water was observed at WM2B and throughout the open channel on 2 March 2016.

Photo 2
The water samples collected at WM2B on 2 March 2016 was turbid.

Photo 3
A pipe carrying wastewater from bored piling to the nearest AquaSed was burst on 2 March 2016 morning and the untreated wastewater water were getting into the open channel accidently.

Photo 4
The muddy water in the open channel was pumped back to the AquaSed for treatment and recirculated for bored piling.

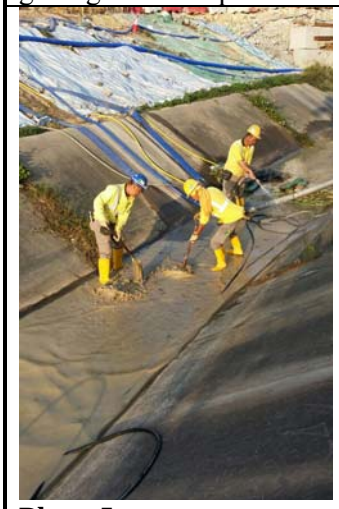


Photo 5
Channel clearing was immediately carried out and muddy water in the open channel was pumped back to the AquaSed for treatment and recirculated for bored piling.

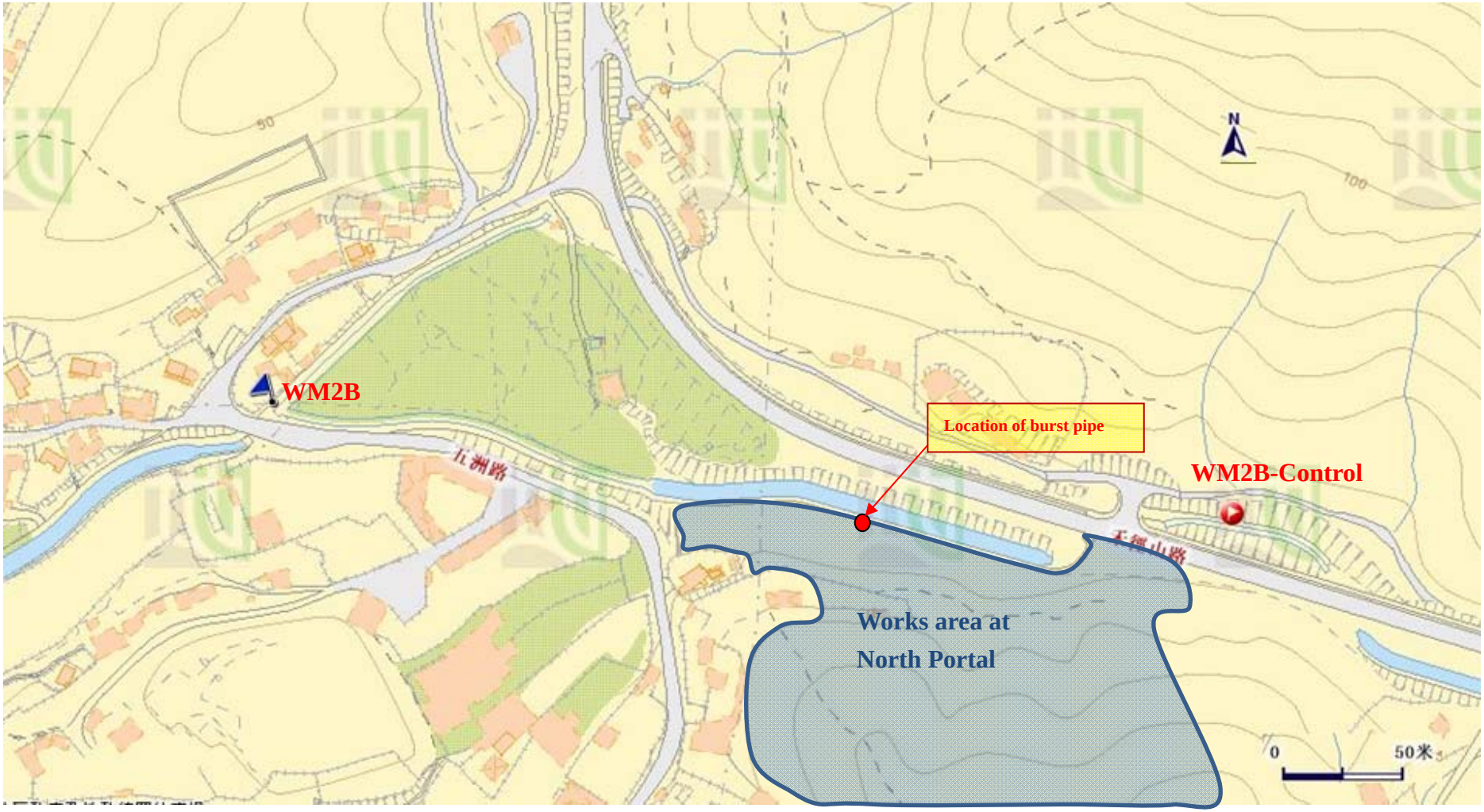


Figure 1 Location Map for Water Quality Monitoring Locations WM2B and WM2B-Control

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		3 March 2016	
Location		WM2B	
Time		9:30	
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 Levels	**WM2B-C**	3.9	3.0
	WM2B	**20.7**	**21.0**
Exceedance		**Limit Level**	**Limit Level**
Investigation Results, Recommendations & Mitigation Measures		1. According to the site information provided from the CCKJV, construction activities carried out on 3 March 2016 at North Portal (upstream of WM2B) were 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 3 March 2016, very shallow water was measured at WM2B and the water depth was around 0.04m. (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 CCKJV, 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. Moreover, the slopes adjacent to channel were covered with tarpaulin sheet and hydro-seeding was carried out on the stabilized slope to minimize muddy runoff. 4. There were no rains recorded on 3 March 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. Additional monitoring was carried out on 4 March 2016 and turbidity exceedance was triggered too. Although the exceedance was concluded as not project related, CCKJV should continue 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 :	16 March 2016

Photo Record

	
Photo 1 During water sampling on 3 March 2016, shallow water was observed at WM2B and the water quality at WM2B was visually clear.	**Photo 2** The water samples collected at WM2B on 3 March 2016 was visually clear.

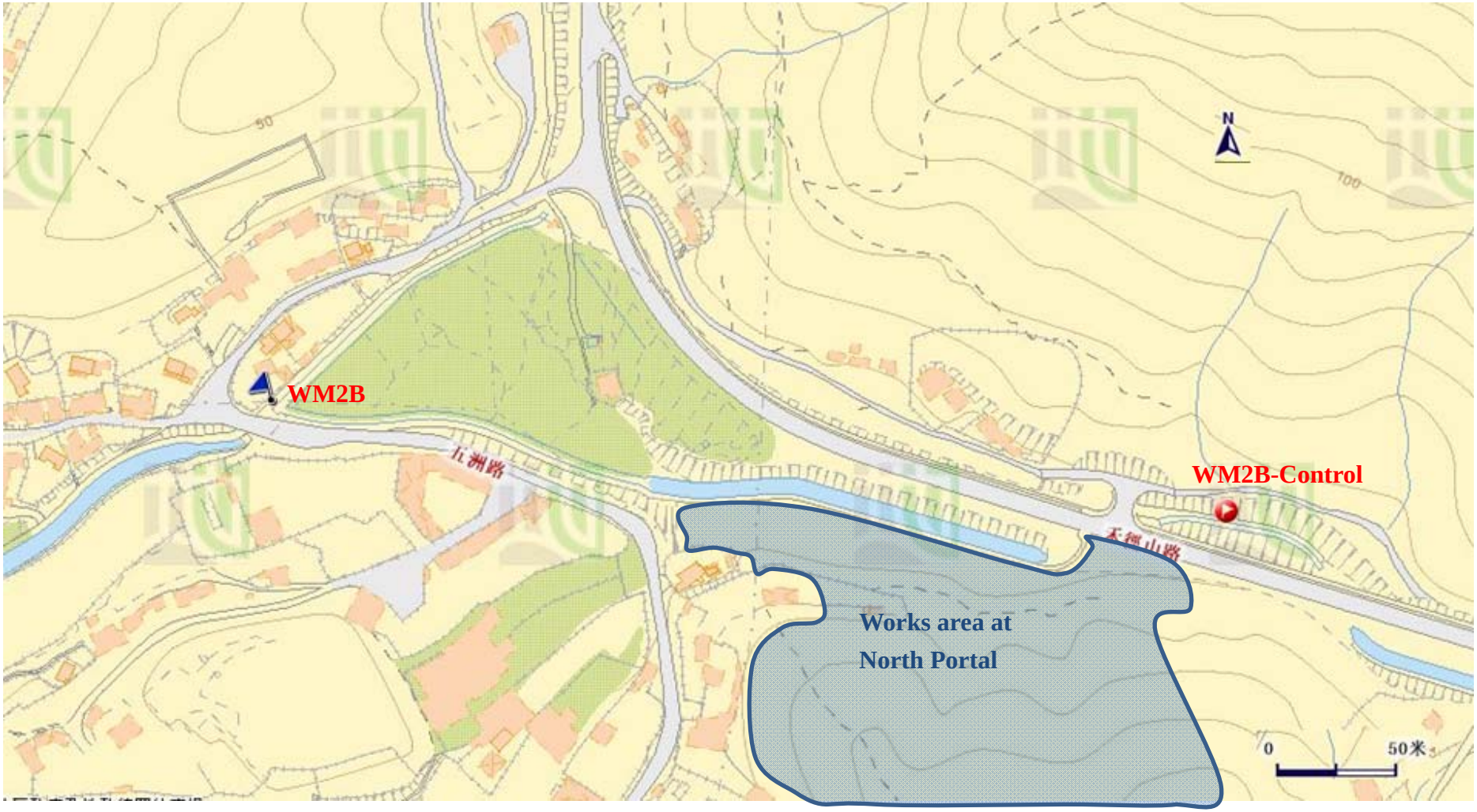


Figure 1 Location Map for Water Quality Monitoring Locations WM2B and WM2B-Control

AUES

Fax Cover Sheet

To	**Mr. Vincent Chan**	**Fax No**	**By e-mail**
Company	**CRBC-CEC-Kaden JV**		
cc			
From	**Nicola Hon**	**Date**	**16 March 2016**
Our Ref	TCS00694/13/300/**F0181a**	**No of Pages**	8 **(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 4 and 5 March 2016**		

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Dear Sir,

Further to the Notification of Exceedance (NOE) ref.: TCS00694/13/300/F0158 dated 4 March 2016 and TCS00694/13/300/F0163 dated 7 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
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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		4 March 2016
Location		WM2B
Time		10:21
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 Levels	**WM2B-C**	9.5
	WM2B	**24.1**
Exceedance		**Limit Level**
Investigation Results, Recommendations & Mitigation Measures		1. According to the site information provided from the CCKJV, construction activities carried out on 4 March 2016 at North Portal (upstream of WM2B) were 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 4 March 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 pile works was recirculated to the AquaSed for treatment and discharge would be made when the effluent is overflow from the AquaSed. Since discharge license was not yet granted for the Contract, self-monitoring for the effluent quality would be conducted by the Contractor if discharge is required to ensure the discharge effluent complied with the relevant requirements. According to the self-monitoring record by the Contractor on 4 March 2016 the treated water in the AquaSed was visually acceptable. (Photo 3) 4. There were no rains recorded on 4 March 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. Additional monitoring was carried out on 5 March 2016 and turbidity exceedances were triggered. CCKJV should continue 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 : 16 March 2016

Photo Record

Photo 1
During water sampling on 4 March 2016, shallow water was observed at WM2B and the water quality at WM2B was visually clear.

Photo 2
The water samples collected at WM2B on 4 March 2016 was visually clear.

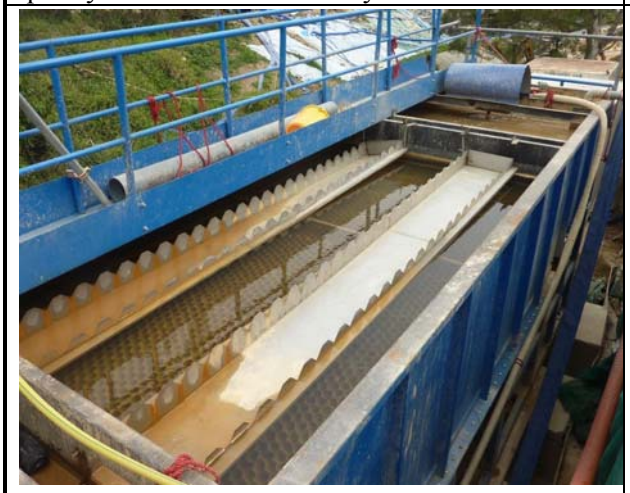

Photo 3
The treated water in the AquaSed was visually clear on 4 March 2016.

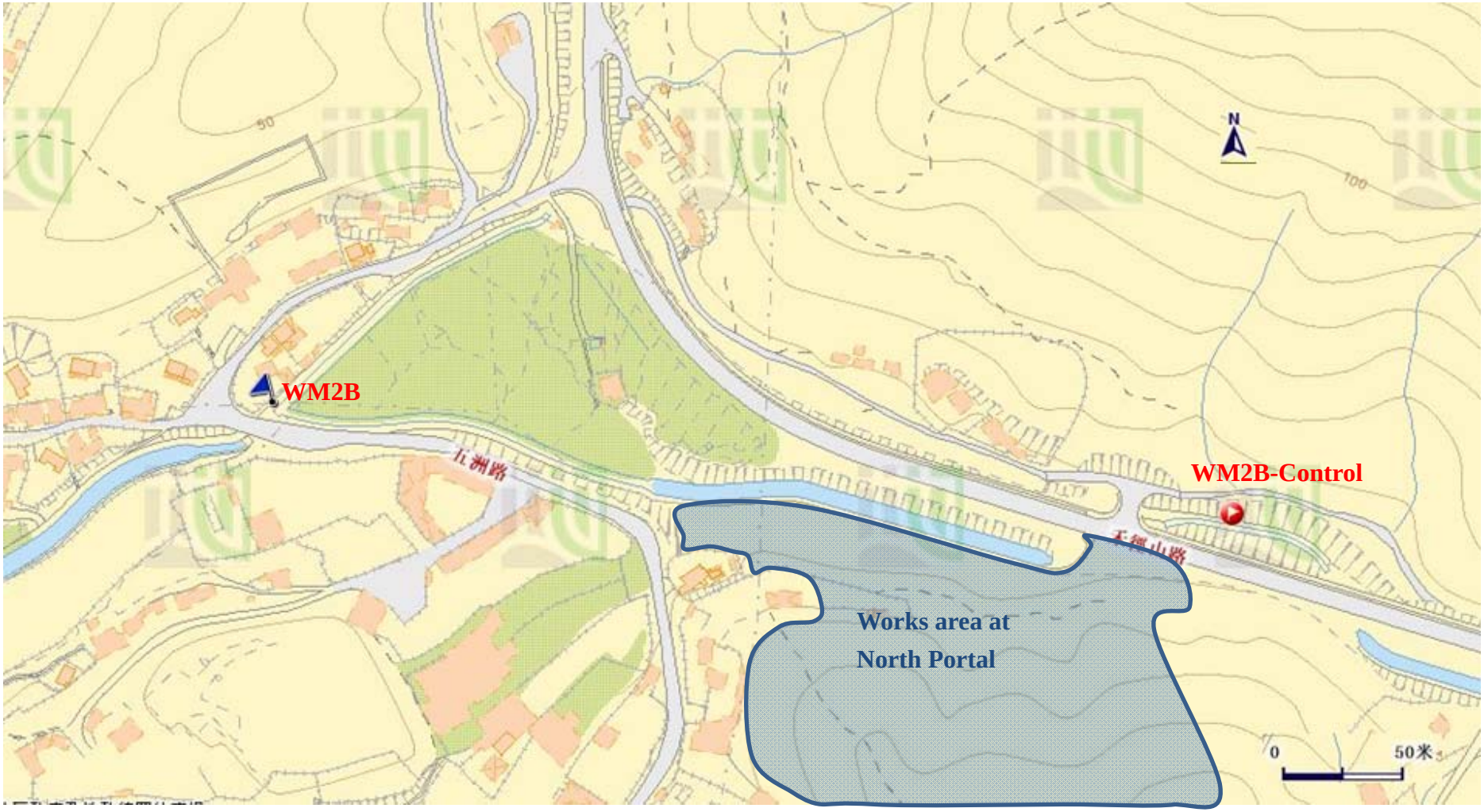

Figure 1 Location Map for Water Quality Monitoring Locations WM2B and WM2B-Control

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		5 March 2016
Location		WM2B
Time		10:55
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 Levels	**WM2B-C**	2.6
	WM2B	**40.2**
Exceedance		**Limit Level**
Investigation Results, Recommendations & Mitigation Measures		1. According to the site information provided from the CCKJV, construction activities carried out on 5 March 2016 at North Portal (upstream of WM2B) were 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 5 March 2016, very shallow water was measured at WM2B and the water depth was around 0.01m. (Photo 1) The water flowing in the channel and the samples collected at WM2B was slightly turbid. (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 CCKJV, channel clearing was carried out on 5 March 2016 to remove the silt cumulated at the channel bed. The turbid water in the open channel was pumped back to the AquaSed for treatment and recirculated for bored piling. However, the silt cumulated at the river bed was difficult to remove completely. During channel clearing, sand bag barrier was provided in the channel to prevent the turbid water flowing further downstream, however, part of the turbid water was flowing out of the site and detected at WM2B. (Photo 3) 4. In our investigation, it is considered that the exceedance was due to the channel cleaning. CCKJV should to ensure the turbid water at the adjacent open channel was entirely blocked by the sand bag barrier or other means to prevent it flowing further downstream before carry out the channel cleaning. 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. Additional monitoring was carried out on 7 March 2016 no exceedances were triggered. However, CCKJV is reminded continue 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 :	16 March 2016

Photo Record

Photo 1

During water sampling on 5 March 2016, shallow water was observed at WM2B and the water quality at WM2B was slightly turbid.

Photo 2

The water samples collected at WM2B on 5 March 2016 was slightly turbid.

Photo 3

Channel cleaning at the open channel was carried on 5 March 2016.

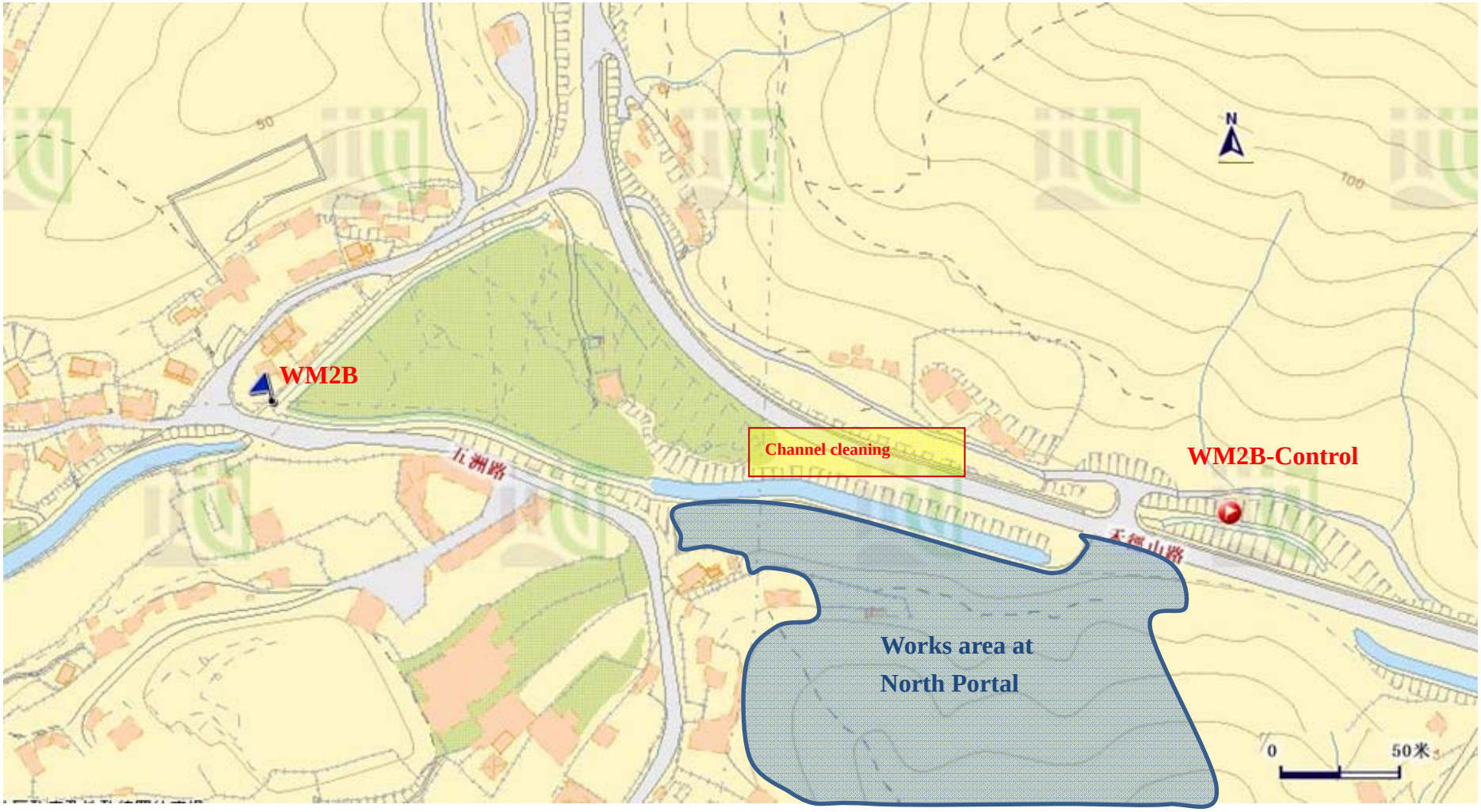

Figure 1 Location Map for Water Quality Monitoring Locations WM2B and WM2B-Control

AUES

Fax Cover Sheet

To	Mr. Edwin Au	**Fax No**	**2403 1162**
Company	**Sang Hing Civil – Richwell Machinery JV**		
cc			
From	**Nicola Hon**	**Date**	**23 March 2016**
Our Ref	TCS00694/13/300/**F0183a**	**No of Pages**	6 **(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 WM1 on 4 and 9 March 2016 (Contract 5)**		

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 following Notification of Exceedance (NOE) ref.:

TCS00694/13/300/F0162 dated 7 March 2016
TCS00694/13/300/F0170 dated 9 March 2016
TCS00694/13/300/F0175 dated 11 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. Kelvin Lee (ER, AECOM)	Fax:	2674 7732
	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		4 March 2016	9 March 2016	4 March 2016	9 March 2016
Location		WM1			
Time		11:35	11:00	11:35	11:00
Parameter		Turbidity (NTU)		Suspended Solids (mg/L)	
Action Level		51.3 AND 120% of upstream control station of the same day		54.5 AND 120% of upstream control station of the same day	
Limit Level		67.6 AND 130% of upstream control station of the same day		64.9 AND 130% of upstream control station of the same day	
Measured Levels	**WM1-C**	9.1	23.0	2.5	11.0
	WM1	**146.0**	**82.7**	**185.5**	**51.0**
Exceedance		**Limit Level**	**Limit Level**	**Limit Level**	**NO exceedance**
Investigation Results, Recommendations & Mitigation Measures		1. According to the site information provided from the SRJV, construction activities carried out on 4 and 9 March 2016 were construction of u-channel and bituminous laying at Lin Ma Hang Road. (Figure 1) No wastewater was generated from the abovementioned work and no construction activities were conducted at Boundary Control Point (BCP) which near Kong Yiu Kong. 2. According to the site record from the monitoring team during monitoring on 4 March 2016, turbid water was observed at WM1 whereas the water quality at WM1-C was visually clear. (Photo 1 to 3) On 9 March 2016, slightly turbid water was observed at both WM1-C and WM1. (Photo 4 to 6) 3. During site inspection by the RE, IEC, SRJV and ET on 1 and 8 March 2016, no adverse water quality impact was observed. (Photo 7 & 8) Moreover, there were no wastewater generation activities carried out and no discharge made into the river course. In our investigation, it is considered that the exceedances were unlikely due to the Contract. 4. According to the Event and Action, the monitoring frequency at WM1 has been increase to daily due to the limit level exceedance recorded until no exceedances were triggered in consecutive days. Additional monitoring was carried out on 5 and 10 March 2016 in which turbidity and SS exceedances were triggered on 10 March 2016. SRJV should continue 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 :	23 March 2016

Photo Record

Photo 1
During water sampling on 4 March 2016, turbid water was observed at WM1.

Photo 2
During water sampling on 4 March 2016, the water quality at WM1-C was visually clear

Photo 3
The water samples collected at WM1 on 4 March 2016 were slightly turbid.

Photo 4
During water sampling on 9 March 2016, slightly turbid water was observed at WM1.

	
Photo 5 During water sampling on 9 March 2016, the water quality at WM1-C was slightly turbid.	**Photo 6** The water samples collected at both WM1-C and WM1 on 9 March 2016 were slightly turbid.
	
Photo 7 During site inspection on 1 March 2016, construction of u-channel was observed. No adverse water quality impact was noted.	**Photo 8** During site inspection on 8 March 2016, construction of u-channel was observed. No adverse water quality impact was noted.

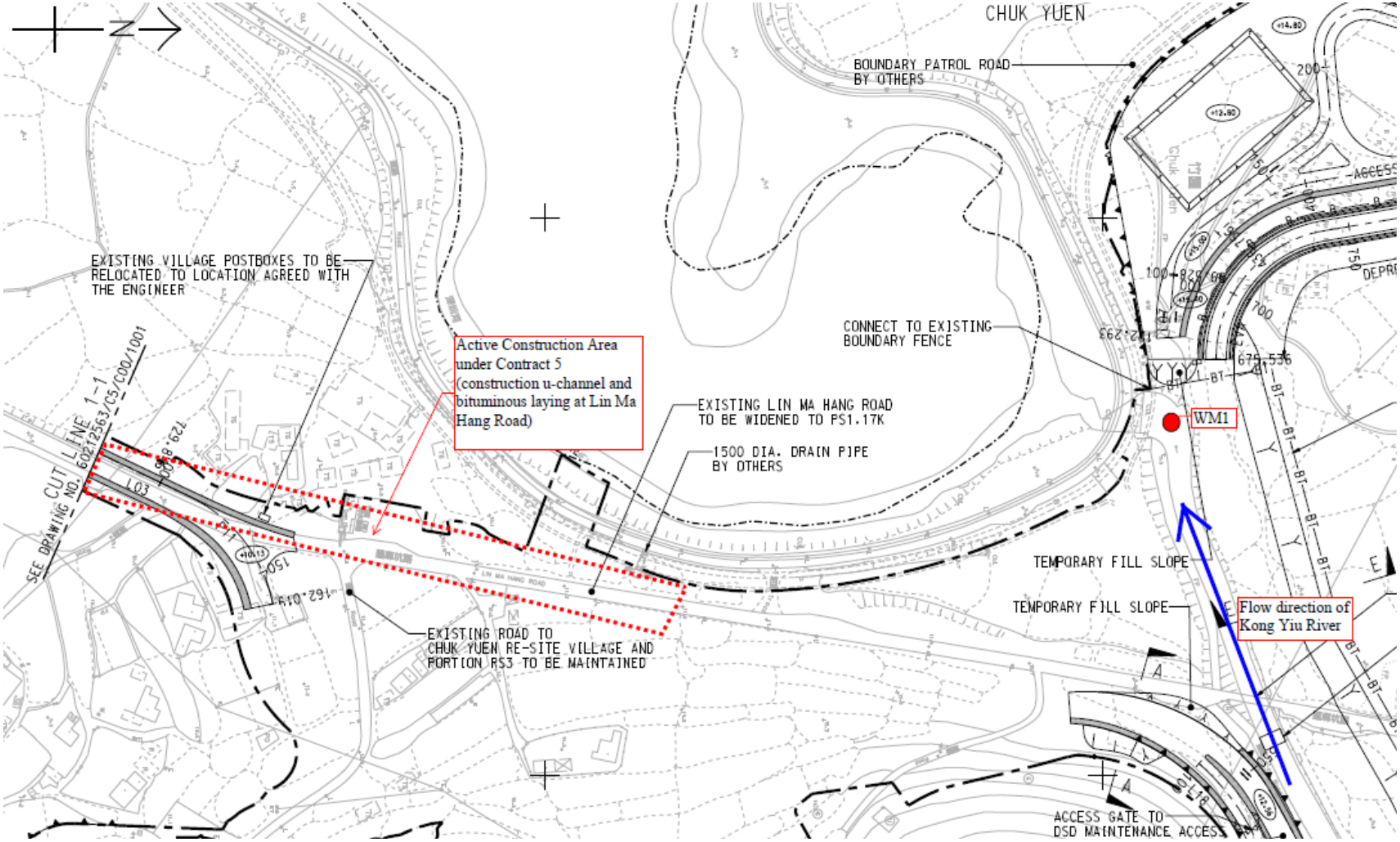

Figure 1 Location Map

AUES

Fax Cover Sheet

To	**Mr. Vincent Chan**	**Fax No**	**By e-mail**
Company	**CRBC-CEC-Kaden JV**		
cc			
From	**Nicola Hon**	**Date**	**23 March 2016**
Our Ref	TCS00694/13/300/**F0184b**	**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 WM1 on 4 and 9 March 2016 (Contract 6)**		

Dear Sir,

Further to the following Notification of Exceedance (NOE) ref.:

TCS00694/13/300/F0161 dated 7 March 2016
TCS00694/13/300/F0171 dated 9 March 2016
TCS00694/13/300/F0174 dated 11 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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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		4 March 2016	9 March 2016	4 March 2016	9 March 2016
Location		WM1			
Time		11:35	11:00	11:35	11:00
Parameter		Turbidity (NTU)		Suspended Solids (mg/L)	
Action Level		51.3 AND 120% of upstream control station of the same day		54.5 AND 120% of upstream control station of the same day	
Limit Level		67.6 AND 130% of upstream control station of the same day		64.9 AND 130% of upstream control station of the same day	
Measured Levels	**WM1-C**	9.1	23.0	2.5	11.0
	WM1	**146.0**	**82.7**	**185.5**	**51.0**
Exceedance		**Limit Level**	**Limit Level**	**Limit Level**	**NO exceedance**
Investigation Results, Recommendations & Mitigation Measures		1. According to the site information provided from the CCKJV, construction activities carried out on 4 and 9 March 2016 at Boundary Control Point (BCP) which upstream of WM1 was bored piling. The monitoring locations and works area are shown in Figure 1. 2. According to the site record from the monitoring team during monitoring on 4 March 2016, turbid water was observed at WM1 whereas the water quality at WM1-C was visually clear. (Photo 1 to 3) On 9 March 2016, slightly turbid water was observed at both WM1-C and WM1. (Photo 4 to 6) Moreover, during the course of sampling on 4 and 9 March 2016, turbid water was observed at upstream of the works area of Contract 6. (Photo 7 & 8) 3. As advised by the Contractor, the wastewater generated from the bored pile works was recirculated to the AquaSed for treatment and discharge would be made when the effluent is overflow from the AquaSed. (Photo 9) Since discharge license was not yet granted for the Contract, self-monitoring for the effluent quality would be conducted by the Contractor if discharge is required to ensure the discharge effluent complied with the relevant requirements. 4. Since turbid water was observed at upstream of the site area of Contract 6, it is considered that the exceedances were unlikely due to the Contract. 5. According to the Event and Action, the monitoring frequency at WM1 has been increase to daily due to the limit level exceedance recorded until no exceedances were triggered in consecutive days. Additional monitoring was carried out on 5 and 10 March 2016 in which turbidity and SS exceedances were triggered on 10 March 2016. CCKJV should continue 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 : 23 March 2016

Photo Record

Photo 1
During water sampling on 4 March 2016, turbid water was observed at WM1.

Photo 2
During water sampling on 4 March 2016, the water quality at WM1-C was visually clear

Photo 3
The water samples collected at WM1 on 4 March 2016 were slightly turbid.

Photo 4
During water sampling on 9 March 2016, slightly turbid water was observed at WM1.

Photo 5
During water sampling on 9 March 2016, the water quality at WM1-C was slightly turbid.

Photo 6
The water samples collected at both WM1-C and WM1 on 9 March 2016 were slightly turbid.

Photo 7
During water sampling on 4 March 2016, turbid water was observed at upstream of the works area of Contract 6. (works area of Contract 6 is after the Bridge)

Photo 8
During water sampling on 9 March 2016, turbid water was observed at upstream of the works area of Contract 6. (works area of Contract 6 is after the Bridge)

Photo 9
The wastewater generated from the bored pile works was recirculated to the AquaSed for treatment and discharge would be made when the effluent is overflow from the AquaSed.

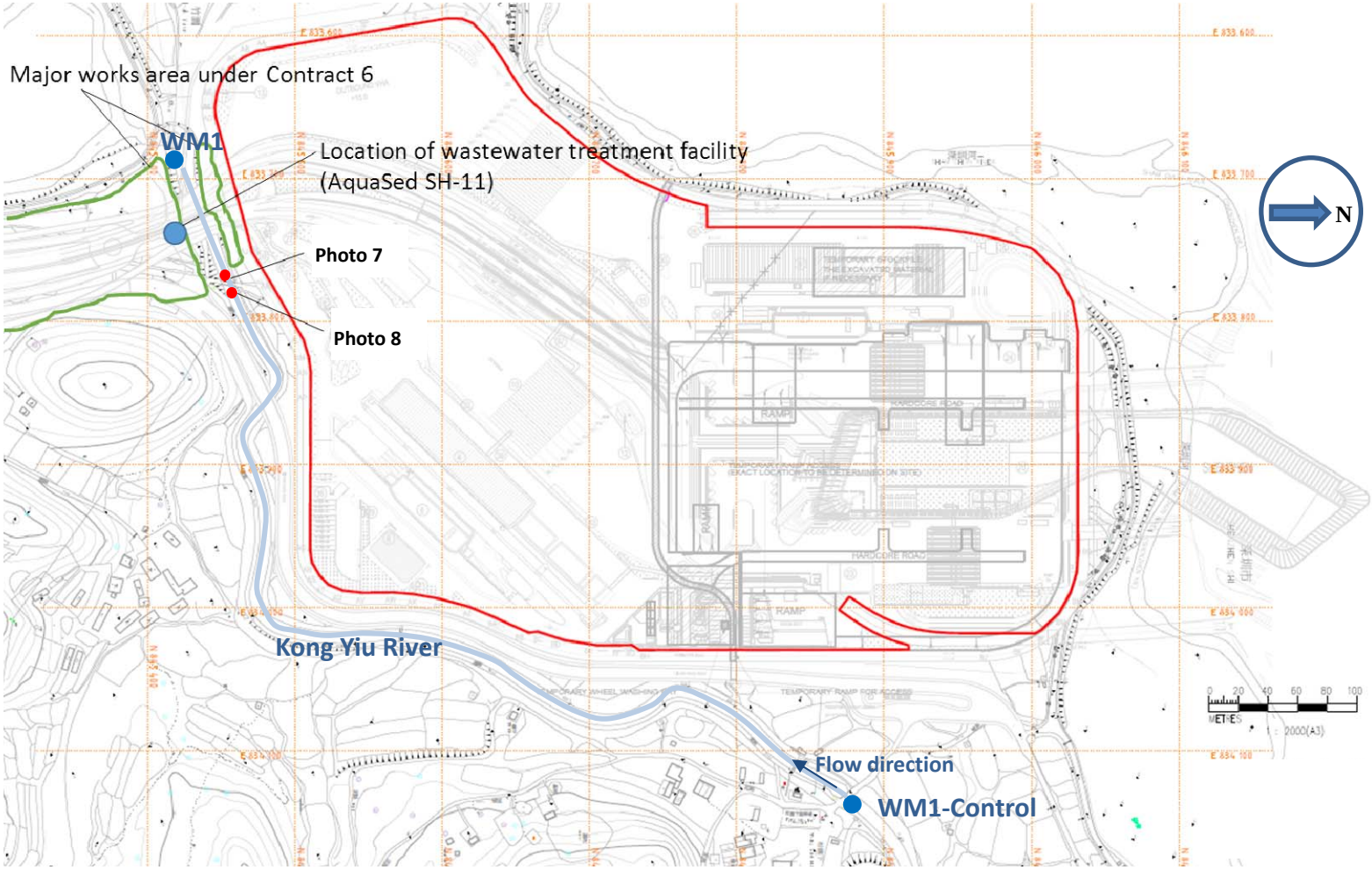

Figure 1 Location Map for Water Quality Monitoring Locations WM1 and WM1-C

AUES

Fax Cover Sheet

To	Mr. Jon Kitching	**Fax No**	2743 1600
Company	**Leighton Contractors (Asia) Limited**		
cc			
From	**Nicola Hon**	**Date**	**15 March 2016**
Our Ref	TCS00769/15/300/**F0066**	**No of Pages**	8 **(Incl. cover sheet)**

RE **Architectural Services Department (ArchSD) Contract No: SS C505 Construction of Liantang/Heung Yuen Wai Boundary Control Point (BCP) – BCP Buildings and Associated Facilities**

Investigation Report for Exceedance of Water Quality Monitoring at Location WM1 on 4 and 9 March 2016

Dear Sir,

Further to the Notification of Exceedance (NOE) ref. of following:-

TCS00769/15/300/F0056 dated 7 March 2016
TCS00769/15/300/F0062 dated 9 March 2016
TCS00769/15/300/F0064 dated 11 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. William WL Cheng (ASD)		By e-mail
	Mr. Justin Cheung (Ronald Lu)		By e-mail
	Mr. Antony Wong (IEC, SMEC)		By e-mail
	Mr. Simon Leung (ER, AECOM)	Fax:	2674 7732

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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			
Contract		SS C505			
Monitoring Location		WM1			
Date		4 March 2016	9 March 2016	4 March 2016	9 March 2016
Time		11:35	11:00	11:35	11:00
Parameter		Turbidity (NTU)		Suspended Solids (mg/L)	
Action Level		51.3 AND 120% of upstream control station of the same day		54.5 AND 120% of upstream control station of the same day	
Limit Level		67.6 AND 130% of upstream control station of the same day		64.9 AND 130% of upstream control station of the same day	
Measured levels	**WM1-C**	9.1	23.0	2.5	11.0
	WM1	**146.0**	**82.7**	**185.5**	**51.0**
Exceedance		**Limit Level**	**Limit Level**	**Limit Level**	**NO exceedance**

Investigation Results, Recommendations & Mitigation Measures

1. According to the site information provided by the Contractor, the major construction activities carried out on 4 and 9 March 2016 included excavation, formwork erection, soil compaction, driven pile and bored piling which are illustrated in Figure 1. It is noted that the majority active construction area were not closed to Kong Yiu River. (Figure 2)
2. According to the field data record by ET on 4 and 9 March 2016, cloudy water was observed at WM1 whereas the water quality at WM1-C was visually clear. (Photo 1 to 6)
3. In view of the construction activities on 4 and 9 March 2016 and confirmed by the Contractor, wastewater was generated during the bored piling work only and the wastewater was recirculated for the piling work used. If water discharge is required, they will follow the temporary site drainage plan in which wastewater would be diverted to the perimeter channel and then collected to the wastewater treatment plant for treatment before discharge. (Figure 3) It is noted that the discharge point connecting public drainage was located at the west of the site and the discharge water would not flow to WM1 and its upstream. (Figure 3)
4. During site inspection on 2 and 9 March 2016, it was observed that the perimeter channel and the wastewater treatment facilities were in proper function. (Photo 7 & 9) The effluent from the AquaSed on 2 March 2016 was visually clear whereas no discharge was made on 9 March 2016. (Photo 8 & 10) Moreover, no major water impact was observed during site inspection on 2 and 9 March 2016.
5. In view of the topography of the construction site, the formation level of the site is lower than the roads bounding the site (around 2m height difference), it is considered that the wastewater generated on-site is not likely flowing out of the site boundary. (Photo 11) As advised by the Contractor, around 90% of treated water is reused on-site (water spread for dust suppression) whereas the rest of the treatment wastewater would be discharge off site at the approval discharge point.

	6. There were no exceedances triggered in the subsequent monitoring result after 5 and 7 March 2016 and 11 and 12 March 2016. According to the above investigation, it is considered that the exceedances were not likely related to the works under the Contract.
Action to be taken	The Contractor is reminded to 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 : 15 March 2016

Photo 1
Cloudy water was observed at WM1 on 4 March 2016.

Photo 2
Clear water was observed at WM1-C on 4 March 2016.

Photo 3
The water collected at WM1 on 4 March 2016 was slightly cloudy.

Photo 4
Cloudy water was observed at WM1 on 9 March 2016.

Photo 5
Clear water was observed at WM1-C on 9 March 2016.

Photo 6
The water collected at WM1 on 9 March 2016 was slightly cloudy.

Photo 7
During site inspection on 2 March 2016, the perimeter channel was in proper function.

Photo 8
During site inspection on 2 March 2016, it was observed that the effluent from the AquaSed was visually clear.

Photo 9
During site inspection on 9 March 2016, the perimeter channel was in proper function.

Photo 10
During site inspection on 9 March 2016, there was no discharge observed from the wastewater treatment system.

Photo 11
Temporary drainage channel has been constructing at the periphery of the site and the formation level of the site is lower than the roads bounding the site

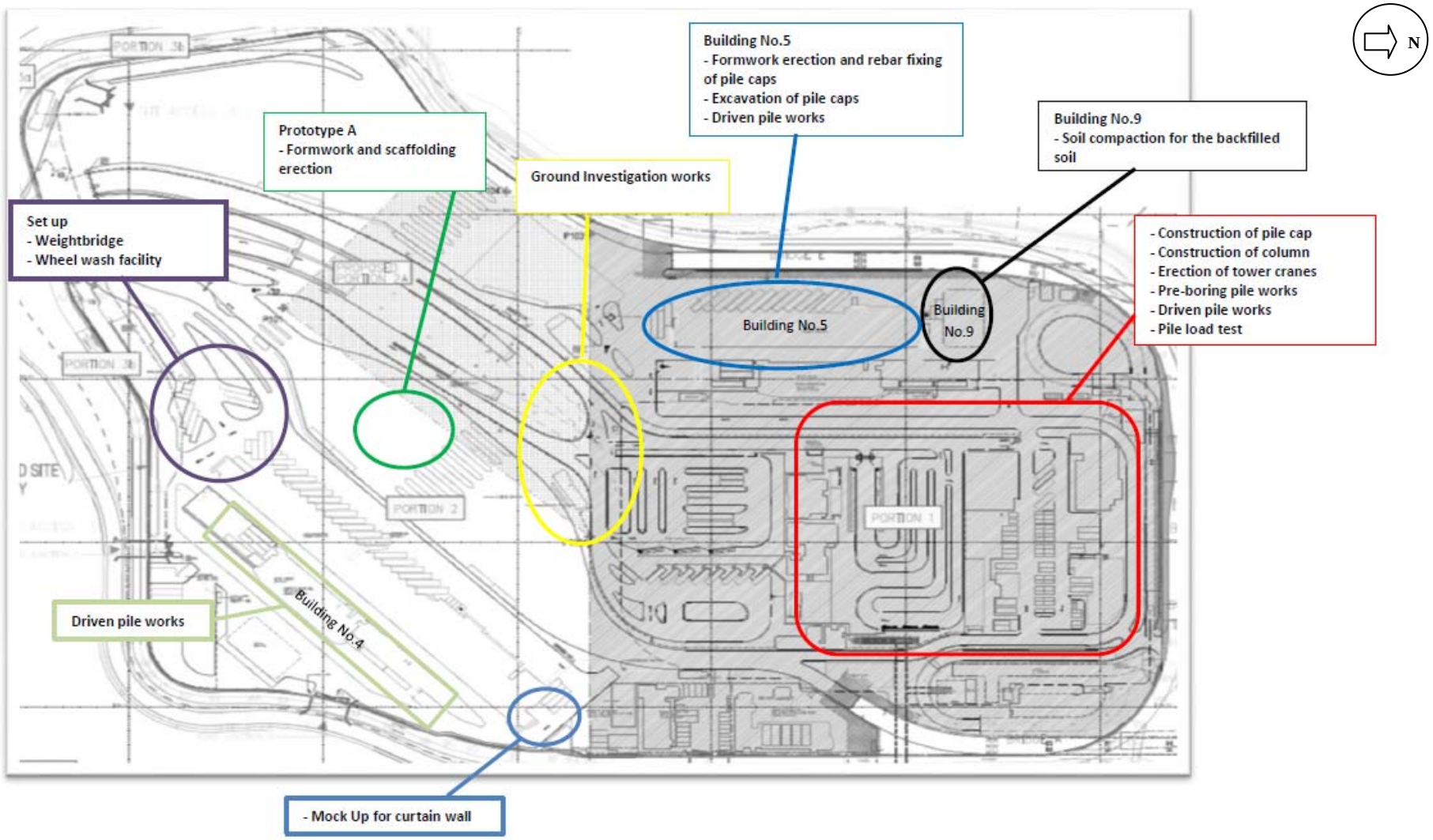

Figure 1 Locaiton Map of Construciton Activities on 4 and 9 March 2016

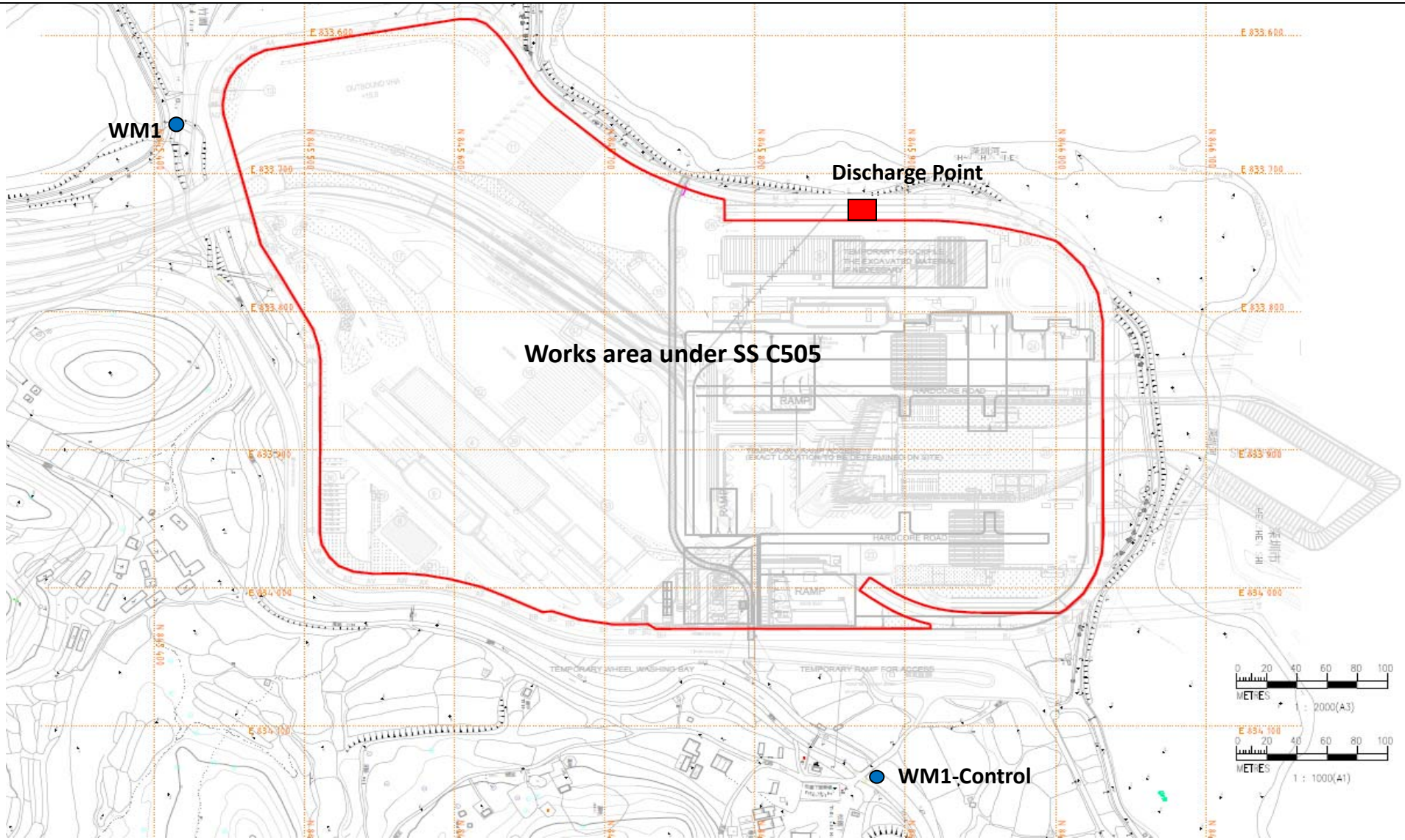

Figure 2 Locaiton Map of Water Monitoring Location

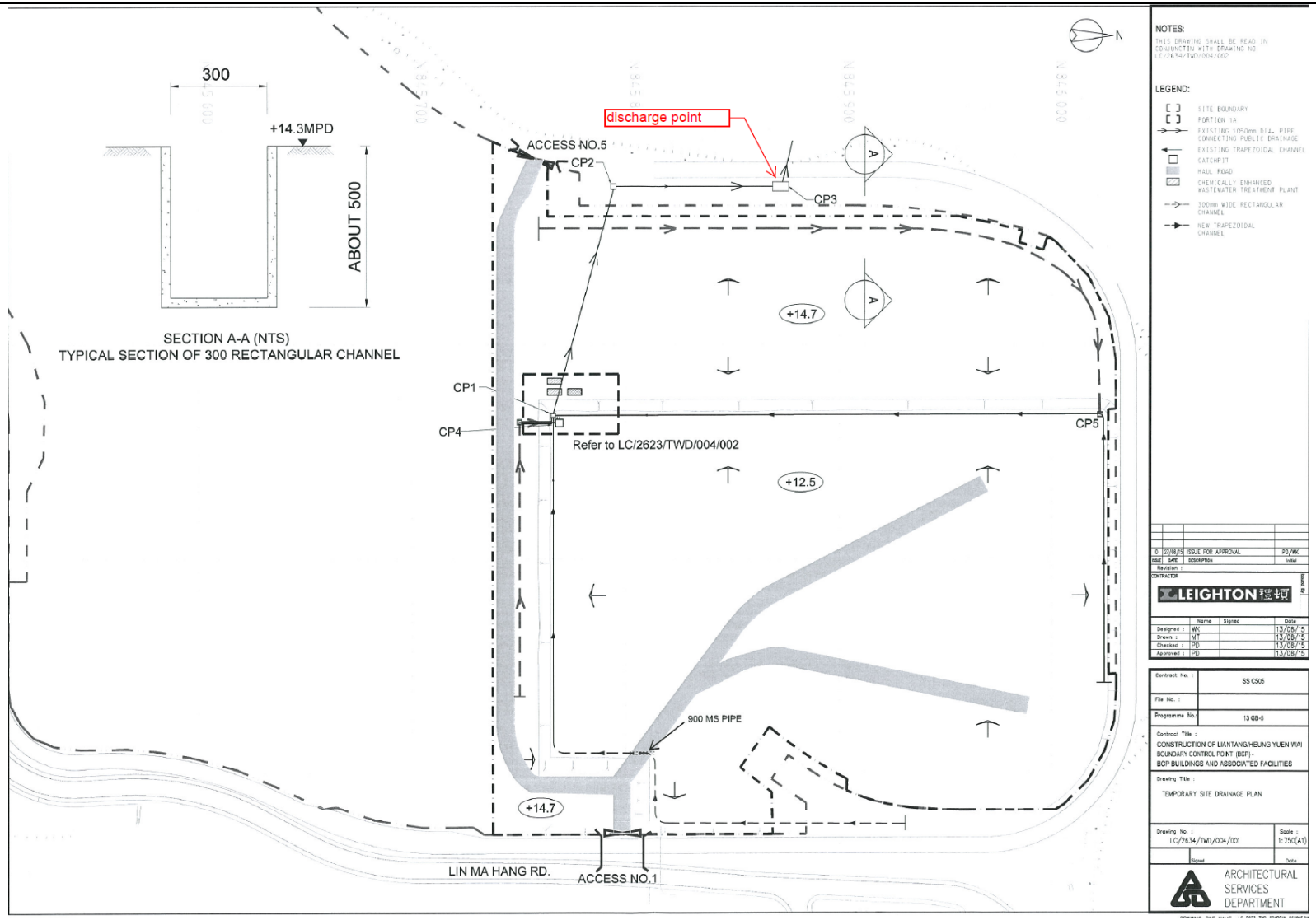

Figure 3 Temporary Site Drainage Plan

AUES

Fax Cover Sheet

To	**Mr. Vincent Chan**	**Fax No**	**By e-mail**
Company	**CRBC-CEC-Kaden JV**		
cc			
From	**Nicola Hon**	**Date**	**17 March 2016**
Our Ref	TCS00694/13/300/**F0190**	**No of Pages**	6 **(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 8, 9 and 10 March 2016**		

Dear Sir,

Further to the Notification of Exceedance (NOE) ref. of following:

TCS00694/13/300/F0168 dated 9 March 2016
TCS00694/13/300/F0169 dated 10 March 2016
TCS00694/13/300/F0176 dated 11 March 2016.
TCS00694/13/300/F0185 dated 16 March 2016.
TCS00694/13/300/F0186 dated 16 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

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		8 March 2016	9 March 2016	10 March 2016	8 March 2016	9 March 2016	10 March 2016
Location		WM2B					
Time		11:10	11:52	14:19	11:10	11:52	14:19
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 Levels	**WM2B-C**	4.0	5.0	5.2	4.0	5.5	6.0
	WM2B	**221.5**	**14.9**	**27.3**	**138.0**	**12.0**	**16.0**
Exceedance		**Limit Level**	**Limit Level**	**Limit Level**	**Limit Level**	**Action Level**	**Limit Level**

Investigation Results, Recommendations & Mitigation Measures

1. According to the site information provided from the CCKJV, construction activities carried out on 8 to 10 March 2016 at North Portal (upstream of WM2B) were 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 8 March 2016, very shallow water was measured at WM2B and the water depth was around 0.02m. (Photo 1) The water flowing in the channel and the samples collected at WM2B was slightly turbid. (Photo 2) On 9 and 10 March 2016, very shallow water was measured at WM2B and the water depth was around 0.02m and the water flowing in the open channel was visually clear. (Photo 3 to 5) 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 CCKJV, desilting of the open channel adjacent to the site was carried out during 8 to 10 March 2016 to remove the silt cumulated at the channel bed. (Photo 6) During the process of desilting, the turbid water inside in channel was blocked by the bar screen and sand bag barriers to prevent it flowing further downstream. Then, the turbid water in the open channel was pumped to the AquaSed for treatment and recirculated to the desilting works. The performance AquaSed was regularly checked by CCKJV to ensure it functioned properly. (Photo 7)
4. During site inspection on 10 March 2016, it was observed that desilting of open channel still carrying out. (Photo 8 & 9) Although stacks of sand bag barrier were provided in the channel to block the turbid water, it only retarded the flow rate and some of the turbid water was flowing out of the site and detected at WM2B. In our investigation, it is considered that the exceedance was due to the channel desilting. To enhance the mitigation measures, the Contractor was advised to provide more power pumps to facilitate the desilting work and minimize the amount of turbid water flowing out

	of the site. 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. Additional monitoring was carried out on 11 March 2016 and turbidity and SS exceedances were triggered. CCKJV should continue 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 :	17 March 2016

Photo Record

Photo 1
During water sampling on 8 March 2016, shallow water was observed at WM2B and the water quality at WM2B was slightly turbid.

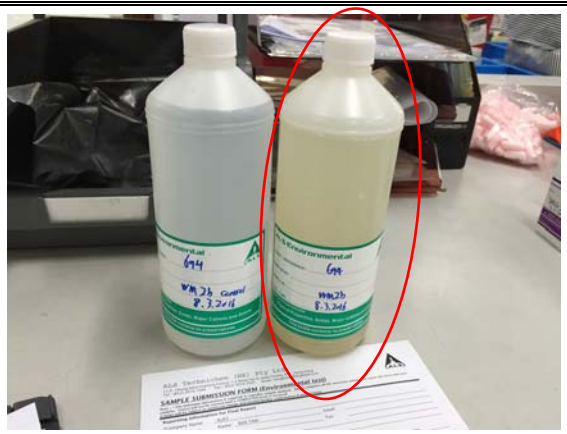

Photo 2
The water samples collected at WM2B on 8 March 2016 was slightly turbid.

Photo 3
During water sampling on 9 March 2016, shallow water was observed at WM2B and the water quality at WM2B was visually clear.

Photo 4
The water samples collected at WM2B on 9 March 2016 was visually clear.

Photo 5
During water sampling on 10 March 2016, shallow water was observed at WM2B and the water quality at WM2B was visually clear.

Photo 6
Desilting of open channel was carried on 8 March 2016. The turbid water was blocked by the bar screen to prevent it flowing further downstream.

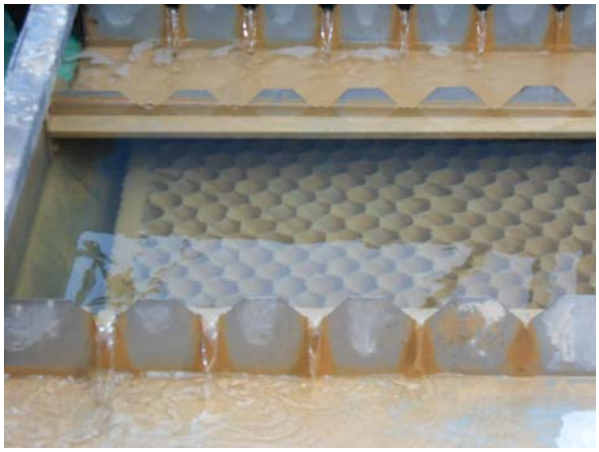

Photo 7
CCKJV was regularly checked the performance AquaSed to ensure it functioned properly. (8 March 2016)

Photo 8
During site inspection on 10 March 2016, it was observed that desilting of open channel was carried out.

Photo 9
During site inspection on 10 March 2016, it was observed desilting work at upstream portion was completed

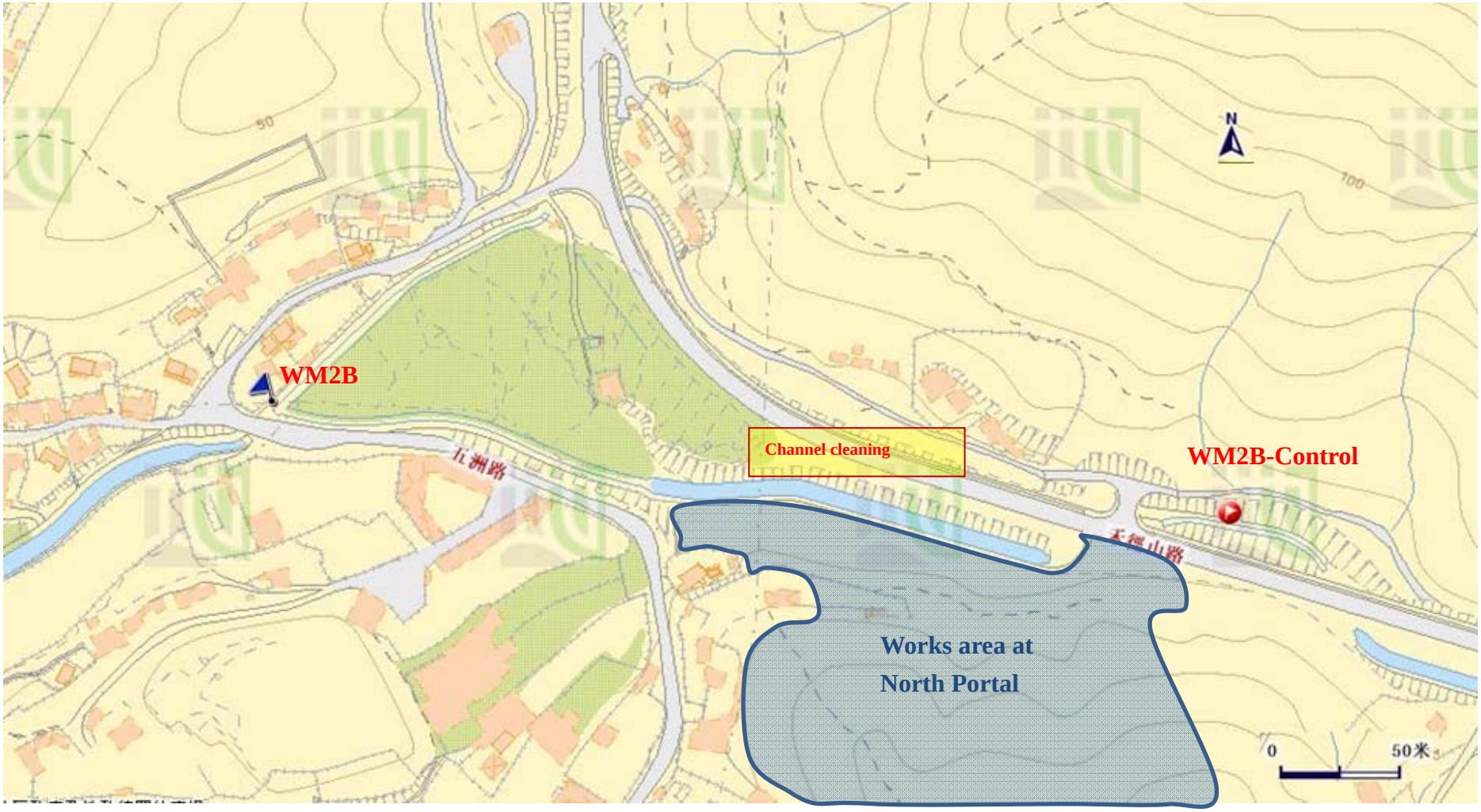

Figure 1 Location Map for Water Quality Monitoring Locations WM2B and WM2B-Control

AUES **Fax Cover Sheet**

To	**Mr. Vincent Chan**	**Fax No**	**By e-mail**
Company	**CRBC-CEC-Kaden JV**		
cc			
From	**Nicola Hon**	**Date**	**24 March 2016**
Our Ref	TCS00694/13/300/**F0192**	**No of Pages**	9 **(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 Locations WM2A and WM2B on 11 March 2016**		

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Dear Sir,

Further to the Notification of Exceedance (NOE) ref.: TCS00694/13/300/F0179 dated 11 March 2016 and TCS00694/13/300/F0187 dated 16 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

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		11 March 2016	
Location		WM2B	
Time		11:04	
Parameter		Turbidity (NTU)	Suspended Solids (SS)
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 Levels	**WM2B-C**	5.1	2.0
	WM2B	**87.6**	**70.0**
Exceedance		**Limit Level**	**Limit Level**
Investigation Results, Recommendations & Mitigation Measures		1. According to the site information provided from the CCKJV, construction activities carried out on 11 March 2016 at North Portal (upstream of WM2B) were 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 11 March 2016, very shallow water was measured at WM2B and the water depth was around 0.02m and the samples collected at WM2B was slightly turbid. (Photo 1 & 2) 3. As advised by the Contractor, desilting of the open channel adjacent to the site was carried out on 10 March 2016. On 11 March 2016, the remaining turbid water caused by to the desilting work in the open channel was blocked by the bar screen to prevent it flow to further downstream. The turbid water was then pumped to the AquaSed for treatment and recirculated to the bored piling work. However, the water recirculation pump was detached from the water pipe accidentally and causing overflow of turbid water through the bar screen to downstream. (Photo 3 and 4) Although stack of sand bag barrier was provided after the screen bar, some turbid water was flowing to further downstream and detected at WM2B. 4. The Contractor immediately fixed the detached recirculation pump and water pipe and the function of the recirculation pump was back to normal in the afternoon. It is concluded that the exceedances were a single incident. 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. Additional monitoring was carried out on 12 March 2016 and no exceedance was triggered. Nevertheless, CCKJV should continue 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 : 24 March 2016

Photo Record

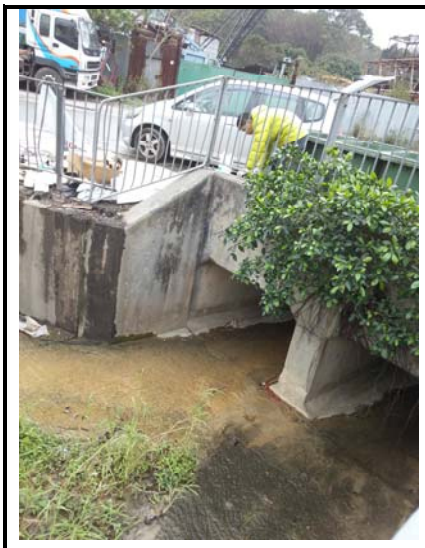

Photo 1
During water sampling on 11 March 2016, shallow water was observed at WM2B and the water quality at WM2B was slightly turbid.

Photo 2
The water samples collected at WM2Bon 11 March 2016 was slightly turbid.

Photo 3
On 11 March 2016, the water recirculation pump was detached from the water pipe accidentally and causing overflow of turbid water through the bar screen to downstream.

Photo 4
On 11 March 2016, the water recirculation pump was detached from the water pipe accidentally and causing overflow of turbid water through the bar screen to downstream.

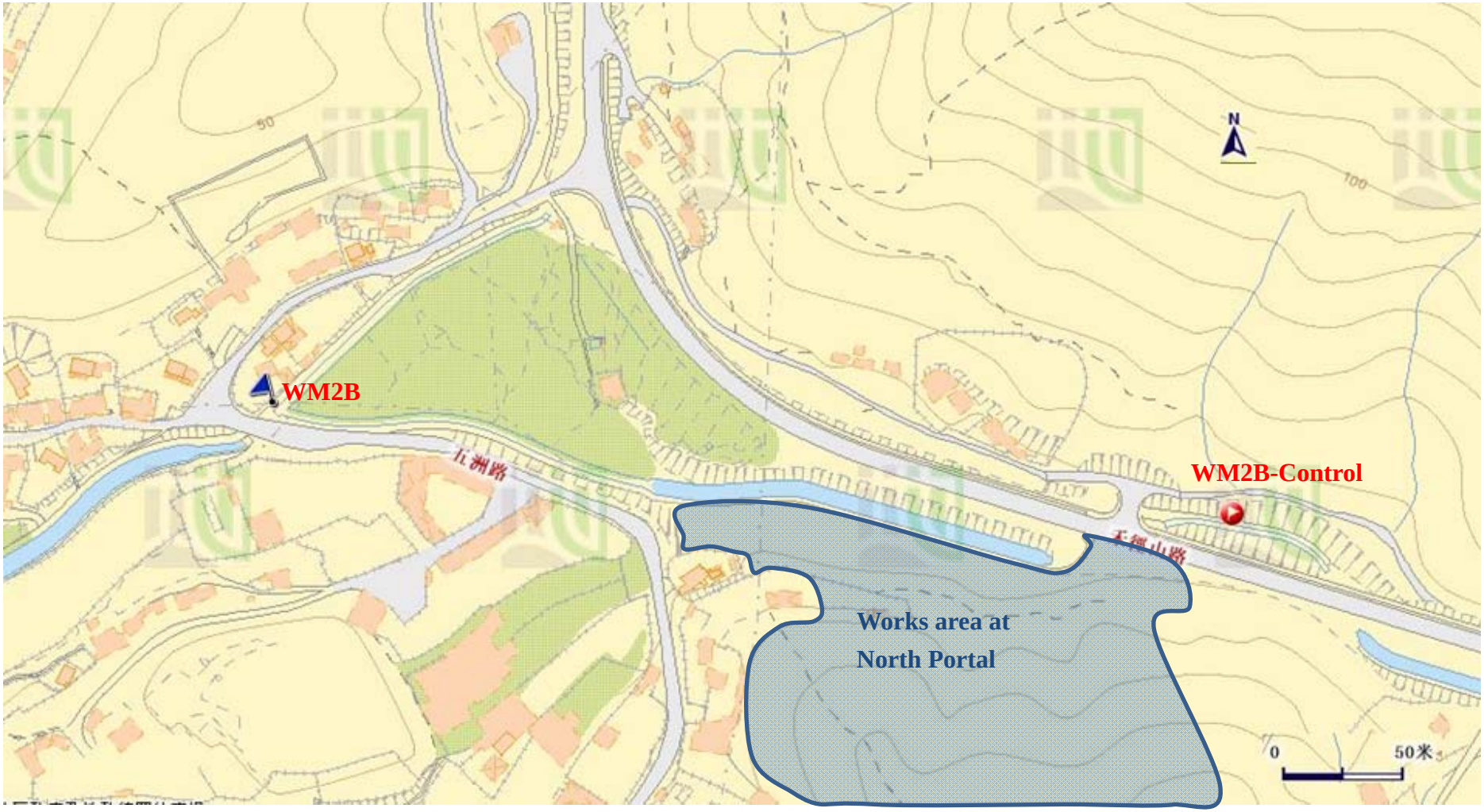

Figure 1 Location Map for Water Quality Monitoring Locations WM2B and WM2B-Control

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		11 March 2016	
Location		WM2A	
Time		10:30	
Parameter		Turbidity (NTU)	Suspended Solids (mg/L)
Action Level		11.4 AND 120% of upstream control station of the same day	11.6 AND 120% of upstream control station of the same day
Limit Level		12.3 AND 130% of upstream control station of the same day	17.3 AND 130% of upstream control station of the same day
Measured Levels	**WM2A-C**	16.1	7.0
	WM2A	**198.5**	**164.5**
Exceedance		**Limit Level**	**Limit Level**
Investigation Results, Recommendations & Mitigation Measures		1. According to the site information provided from the CCKJV, construction activities carried out on 11 March 2016 at Bridge D (upstream of WM2A) were mainly piling works. The monitoring locations and works area are shown in Figure 1. 2. According to the site record from the monitoring team during monitoring on 11 March 2016, turbid water was observed at WM2A (Photo 1 & 2). 3. As water mitigation measures, wastewater treatment facilities including one AquaSed and three series of sedimentation tank have been installed for piling work. (Photo 3 and 4) As advised by the Contractor, the wastewater generated from piling was recirculated and discharge could be made when water overflow from the AquaSed. Since discharge license was not yet granted for the Contract, self-monitoring for the effluent quality would be conducted by the Contractor if discharge is required to ensure the discharge effluent complied with the relevant requirements. 4. According to the photo record from the monitoring team on 11 March 2016, the condition of the water quality besides of Ping Yuen River of Bridge D was normal and no turbid water was observed. (Photo 5) Moreover, concrete block and sand bag act as a bund was provided at the area of the piling works besides of Ping Yuen River of Bridge D. (Photo 6) CCKJV advised that the construction of concrete bund will be continuously constructed along the piling area. 5. Since there were no trails of turbid water discharge from the construction site, it is considered that exceedances were unlikely due to the Contract. 6. According to the Event and Action, the monitoring frequency at WM2A has been increase to daily due to the limit level exceedance recorded until no exceedances were triggered in consecutive days. There were no exceedance triggered at WM2A for monitoring on 12 and 14 March 2016. Nevertheless, the Contractor should continue to 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 : 24 March 2016

Photo Record

Photo 1

During water sampling on 11 March 2016, turbid water was observed at WM2A.

Photo 2

The water samples collected at WM2A on 11 March 2016 was turbid.

Photo 3

Wastewater treatment facilities was installed for piling work at Bridge D.

Photo 4

Wastewater treatment facilities was installed for piling work at Bridge D. Moreover, concrete block and sand bag act as a bund was provided at the area of the piling works besides of Ping Yuen River of Bridge D.

	
Photo 5 According to the photo record from the monitoring team on 11 March 2016, the condition of the water quality besides of Ping Yuen River of Bridge D was normal and no turbid water was observed.	**Photo 6** According to the photo record from the monitoring team on 11 March 2016, the condition of the water quality besides of Ping Yuen River of Bridge D was normal and no turbid water was observed. Moreover, concrete block and sand bag act as a bund was provided at the area of the piling works besides of Ping Yuen River of Bridge D.

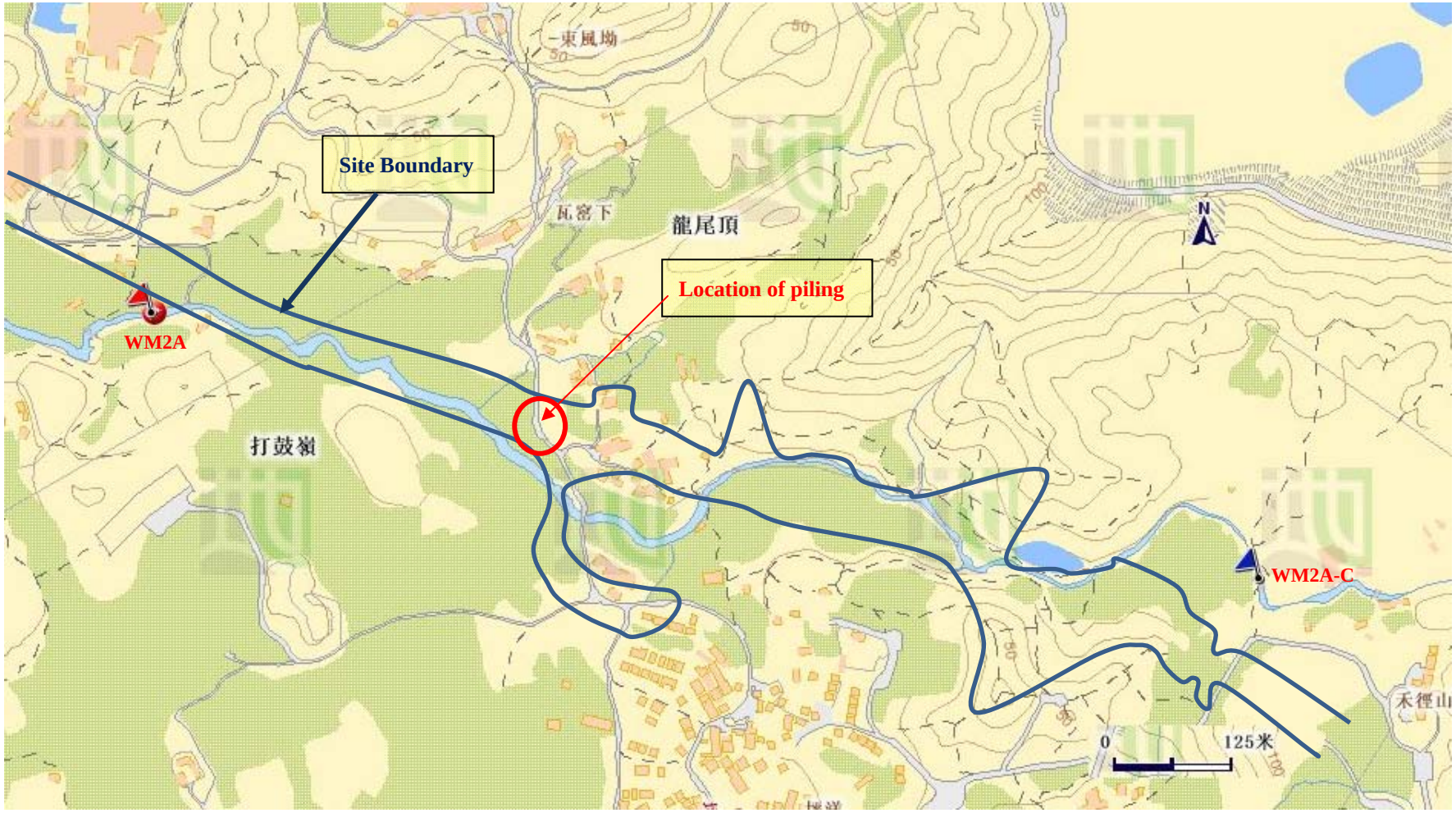

Figure 1 Location Map for Water Quality Monitoring Locations WM2A and WM2A-Control

AUES

Fax Cover Sheet

To	Mr. Edwin Au	**Fax No**	**2403 1162**
Company	**Sang Hing Civil – Richwell Machinery JV**		
cc			
From	**Nicola Hon**	**Date**	**24 March 2016**
Our Ref	TCS00694/13/300/**F0197**	**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 WM1 on 10 March 2016 (Contract 5)**		

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Dear Sir,

Further to the following Notification of Exceedance (NOE) ref.:

TCS00694/13/300/F0162 dated 7 March 2016
TCS00694/13/300/F0170 dated 9 March 2016
TCS00694/13/300/F0175 dated 11 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. Kelvin Lee (ER, AECOM)	Fax:	2674 7732
	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		10 March 2016	
Location		WM1	
Time		13:03	
Parameter		Turbidity (NTU)	Suspended Solids (mg/L)
Action Level		51.3 AND 120% of upstream control station of the same day	54.5 AND 120% of upstream control station of the same day
Limit Level		67.6 AND 130% of upstream control station of the same day	64.9 AND 130% of upstream control station of the same day
Measured Levels	**WM1-C**	47.2	35.0
	WM1	**352.0**	**196.0**
Exceedance		**Limit Level**	**Limit Level**
Investigation Results, Recommendations & Mitigation Measures		1. According to the site information provided from the SRJV, construction activities carried out on 10 March 2016 were construction of u-channel and bituminous laying at Lin Ma Hang Road. (Figure 1) No wastewater was generated from the abovementioned work and no construction activities were conducted at Boundary Control Point (BCP) which near Kong Yiu Kong. 2. According to the site record from the monitoring team during monitoring on 10 March 2016, turbid water was observed at WM1 abd the water quality at WM1-C was slightly turbid. (Photo 1 & 2) 3. During site inspection by the RE, IEC, SRJV and ET on 8 and 15 March 2016, no adverse water quality impact was observed. (Photo 7 & 8) Moreover, there were no wastewater generation activities carried out and no discharge made into the river course. In our investigation, it is considered that the exceedances were unlikely due to the Contract. 4. According to the Event and Action, the monitoring frequency at WM1 has been increase to daily due to the limit level exceedance recorded until no exceedances were triggered in consecutive days. Additional monitoring was carried out on 11 and 12 March 2016 and no exceedance was recorded. However, SRJV should continue 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 : 24 March 2016

Photo Record

 **Photo 1** During water sampling on 10 March 2016, turbid water was observed at WM1.	 **Photo 2** During water sampling on 10 March 2016, the water quality at WM1-C was slightly turbid.
 **Photo 3** During site inspection on 8 March 2016, construction of u-channel was observed. No adverse water quality impact was noted.	 **Photo 4** During site inspection on 15 March 2016, construction of u-channel was observed. No adverse water quality impact was noted.

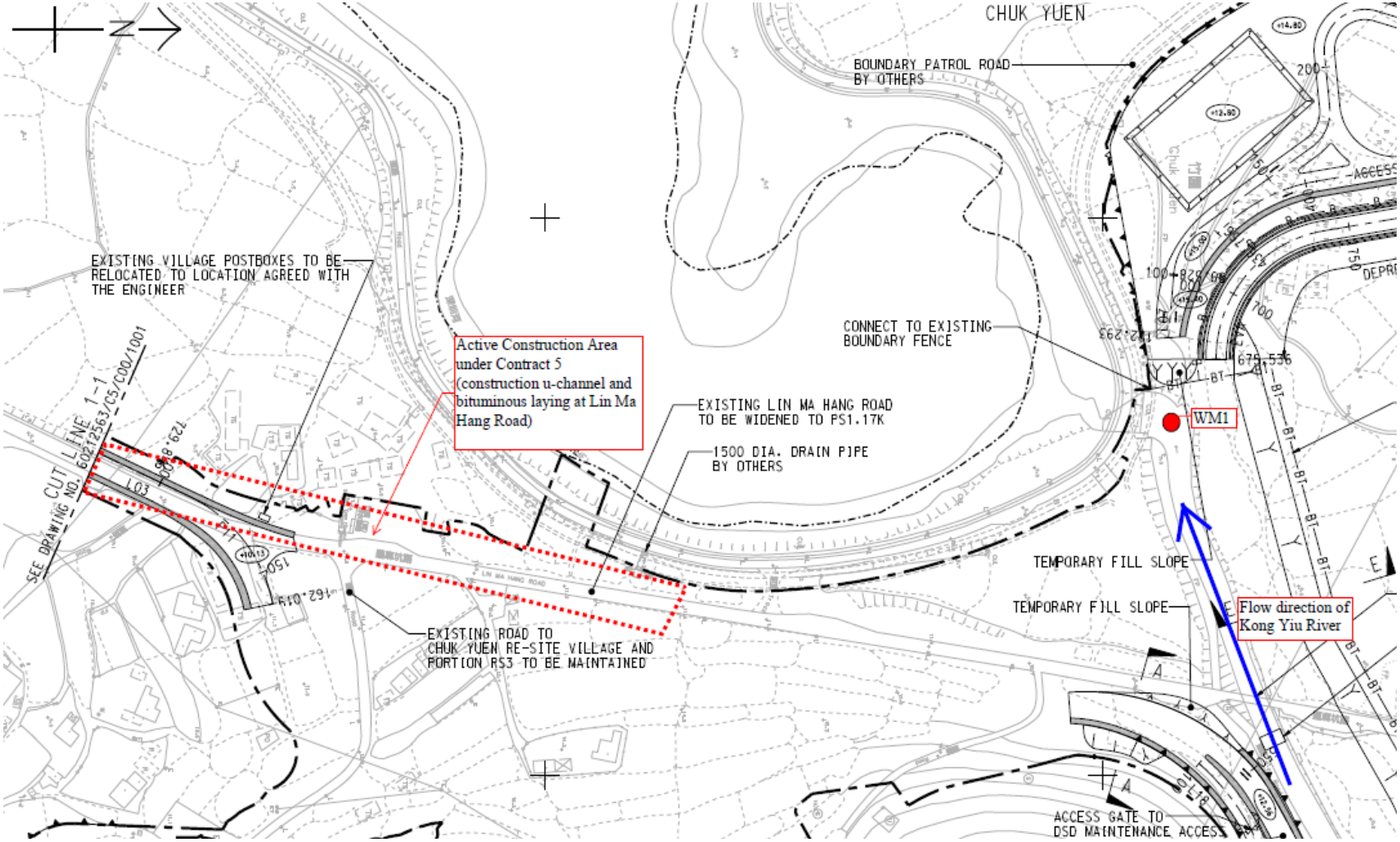

Figure 1 Location Map

AUES

Fax Cover Sheet

To	**Mr. Vincent Chan**	**Fax No**	**By e-mail**
Company	**CRBC-CEC-Kaden JV**		
cc			
From	**Nicola Hon**	**Date**	**24 March 2016**
Our Ref	TCS00694/13/300/**F0198**	**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 WM1 on 10 March 2016 (Contract 6)**		

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Dear Sir,

Further to the following Notification of Exceedance (NOE) ref.:

TCS00694/13/300/F0161 dated 7 March 2016
TCS00694/13/300/F0171 dated 9 March 2016
TCS00694/13/300/F0174 dated 11 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

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		10 March 2016	
Location		WM1	
Time		13:03	
Parameter		Turbidity (NTU)	Suspended Solids (mg/L)
Action Level		51.3 AND 120% of upstream control station of the same day	54.5 AND 120% of upstream control station of the same day
Limit Level		67.6 AND 130% of upstream control station of the same day	64.9 AND 130% of upstream control station of the same day
Measured Levels	**WM1-C**	47.2	35.0
	WM1	**352.0**	**196.0**
Exceedance		**Limit Level**	**Limit Level**
Investigation Results, Recommendations & Mitigation Measures		1. According to the site information provided from the CCKJV, construction activities carried out on 10 March 2016 at Boundary Control Point (BCP) which upstream of WM1 was bored piling. The monitoring locations and works area are shown in Figure 1. 2. According to the site record from the monitoring team during monitoring on 10 March 2016, turbid water was observed at WM1 whereas the water quality at WM1-C was slightly turbid clear. (Photo 1 & 2) Moreover, during the course of sampling on 10 March 2016, turbid water was observed at upstream of the works area of Contract 6. (Photo 3) 3. As advised by the Contractor, the wastewater generated from the bored pile works was recirculated to the AquaSed for treatment and discharge would be made when the effluent is overflow from the AquaSed. Since discharge license was not yet granted for the Contract, self-monitoring for the effluent quality would be conducted by the Contractor if discharge is required to ensure the discharge effluent complied with the relevant requirements. 4. During site inspection by the RE, IEC, Contractor and ET on 10 March 2016, the effluent of the AquaSed was inspected and the effluent quality is visually clear. (Photo 4) Moreover, turbid water was observed at upstream of the works area of Contract 6 as well. In our investigation, it is considered that the exceedances were unlikely due to the Contract. 5. According to the Event and Action, the monitoring frequency at WM1 has been increase to daily due to the limit level exceedance recorded until no exceedances were triggered in consecutive days. Additional monitoring was carried out on 11 and 12 March 2016 and no exceedance was recorded. However, CCKJV should continue 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 : 24 March 2016

Photo Record

Photo 1
During water sampling on 10 March 2016, turbid water was observed at WM1.

Photo 2
During water sampling on 10 March 2016, the water quality at WM1-C was slightly turbid.

Photo 3
During water sampling on 10 March 2016, turbid water was observed at upstream of the works area of Contract 6. (works area of Contract 6 is after the Bridge)

Photo 4
During site inspection by the RE, IEC, Contractor and ET on 10 March 2016, the effluent of the AquaSed was inspected and the effluent quality is visually clear.

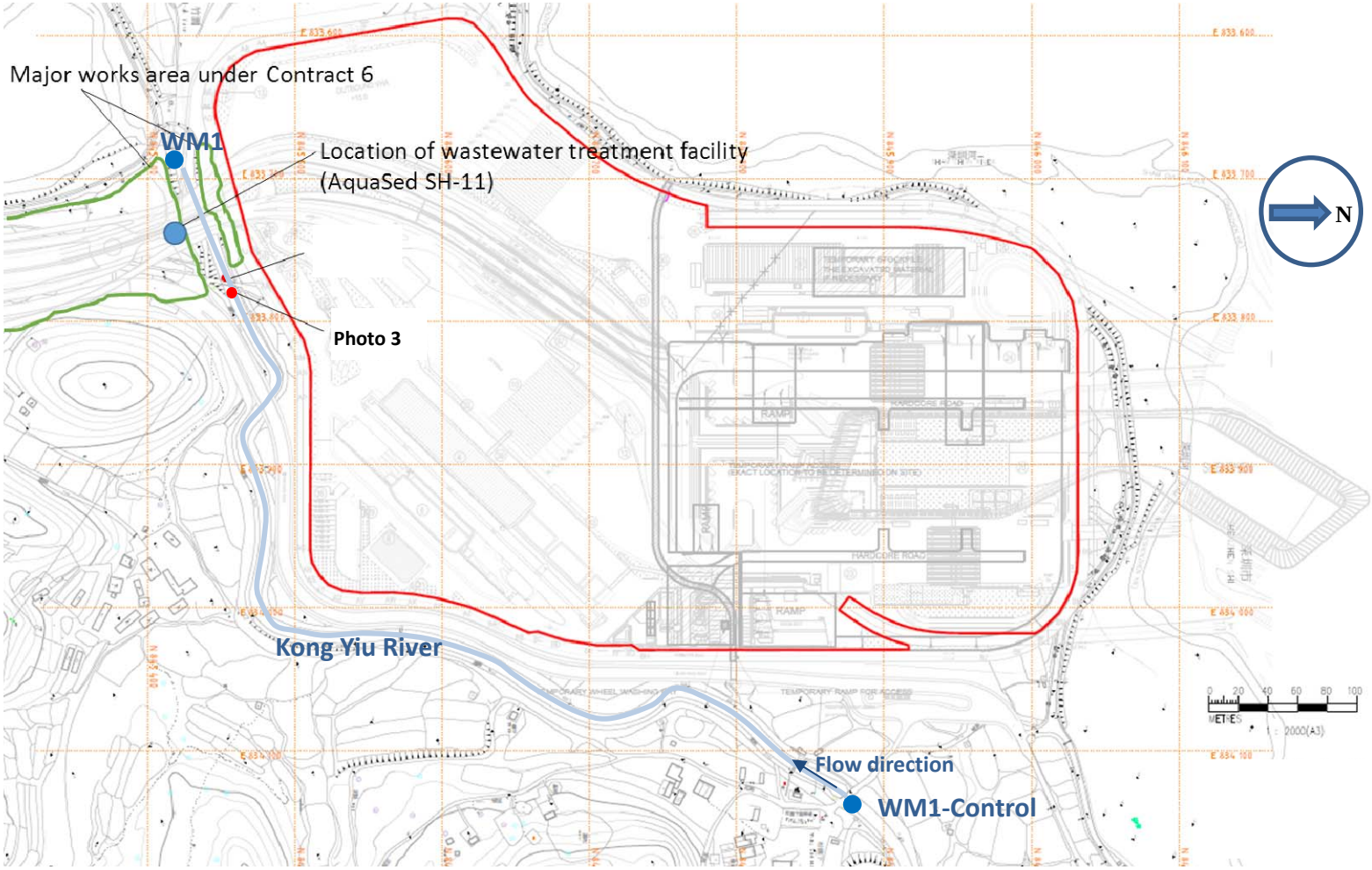

Figure 1 Location Map for Water Quality Monitoring Locations WM1 and WM1-C

AUES

Fax Cover Sheet

To	Mr. Jon Kitching	**Fax No**	2743 1600
Company	**Leighton Contractors (Asia) Limited**		
cc			
From	**Nicola Hon**	**Date**	**29 March 2016**
Our Ref	TCS00769/15/300/**F0073**	**No of Pages**	7 **(Incl. cover sheet)**

RE **Architectural Services Department (ArchSD) Contract No: SS C505 Construction of Liantang/Heung Yuen Wai Boundary Control Point (BCP) – BCP Buildings and Associated Facilities**

Investigation Report for Exceedance of Water Quality Monitoring at Location WM1 on10 March 2016

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Dear Sir,

Further to the Notification of Exceedance (NOE) ref. of following:-

TCS00769/15/300/F0065 dated 11 March 2016
TCS00769/15/300/F0072 dated 29 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. William WL Cheng (ASD)		By e-mail
	Mr. Justin Cheung (Ronald Lu)		By e-mail
	Mr. Antony Wong (IEC, SMEC)		By e-mail
	Mr. Simon Leung (ER, AECOM)	Fax:	2674 7732

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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	
Contract		SS C505	
Monitoring Location		WM1	
Date		10 March 2016	
Time		13:03	
Parameter		Turbidity (NTU)	Suspended Solids (mg/L)
Action Level		51.3 AND 120% of upstream control station of the same day	54.5 AND 120% of upstream control station of the same day
Limit Level		67.6 AND 130% of upstream control station of the same day	64.9 AND 130% of upstream control station of the same day
Measured levels	**WM1-C**	47.2	35.0
	WM1	**325.0**	**196.0**
Exceedance		**Limit Level**	**Limit Level**
Investigation Results, Recommendations & Mitigation Measures		1. According to the site information provided by the Contractor, the major construction activities carried out on 10 March 2016 included excavation, formwork erection, soil compaction, driven pile and bored piling and site investigation which are illustrated in Figure 1. It is noted that the majority active construction area were not closed to Kong Yiu River. (Figure 2) 2. According to the field data record by ET on 10 March 2016, turbid water was observed at WM1 whereas the water quality at WM1-C was slightly turbid clear. (Photo 1 & 2) 3. In view of the construction activities on 10 March 2016 and confirmed by the Contractor, wastewater was generated during the bored piling work only and the wastewater was recirculated for the piling work used. If water discharge is required, they will follow the temporary site drainage plan in which wastewater would be diverted to the perimeter channel and then collected to the wastewater treatment plant for treatment before discharge. (Figure 3) It is noted that the discharge point connecting public drainage was located at the west of the site and the discharge water would not flow to WM1 and its upstream. (Figure 3) 4. During site inspection on 9 March 2016, it was observed that the perimeter channel and the wastewater treatment facilities were in proper function and there were no discharge was made on 9 March 2016. (Photo 3 & 4) Moreover, no major water impact was observed during site inspection on 9 March 2016. 5. In view of the topography of the construction site, the formation level of the site is lower than the roads bounding the site (around 2m height difference), it is considered that the wastewater generated on-site is not likely flowing out of the site boundary. (Photo 5) As advised by the Contractor, around 90% of treated water is reused on-site (water spread for dust suppression) whereas the rest of the treatment wastewater would be discharge off site at the approval discharge point. 6. According to the above investigation, it is considered that the exceedances were not likely related to the works under the Contract.	

	7. According to the Event and Action, the monitoring frequency at WM1 has been increase to daily due to the limit level exceedance recorded until no exceedances were triggered in consecutive days. Additional monitoring was carried out on 11 and 12 March 2016 and no exceedance was recorded. However, the Contractor should continue fully implement the water mitigation measures as recommended in the implementation schedule for environmental mitigation measures in the EM&A Manual.
Action to be taken	The Contractor is reminded to 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 : 29 March 2016

Photo 1
During water sampling on 10 March 2016, turbid water was observed at WM1.

Photo 2
During water sampling on 10 March 2016, the water quality at WM1-C was slightly turbid.

Photo 3
During site inspection on 9 March 2016, the perimeter channel was in proper function.

Photo 4
During site inspection on 9 March 2016, there was no discharge observed from the wastewater treatment system.

Photo 5
Temporary drainage channel has been constructing at the periphery of the site and the formation level of the site is lower than the roads bounding the site

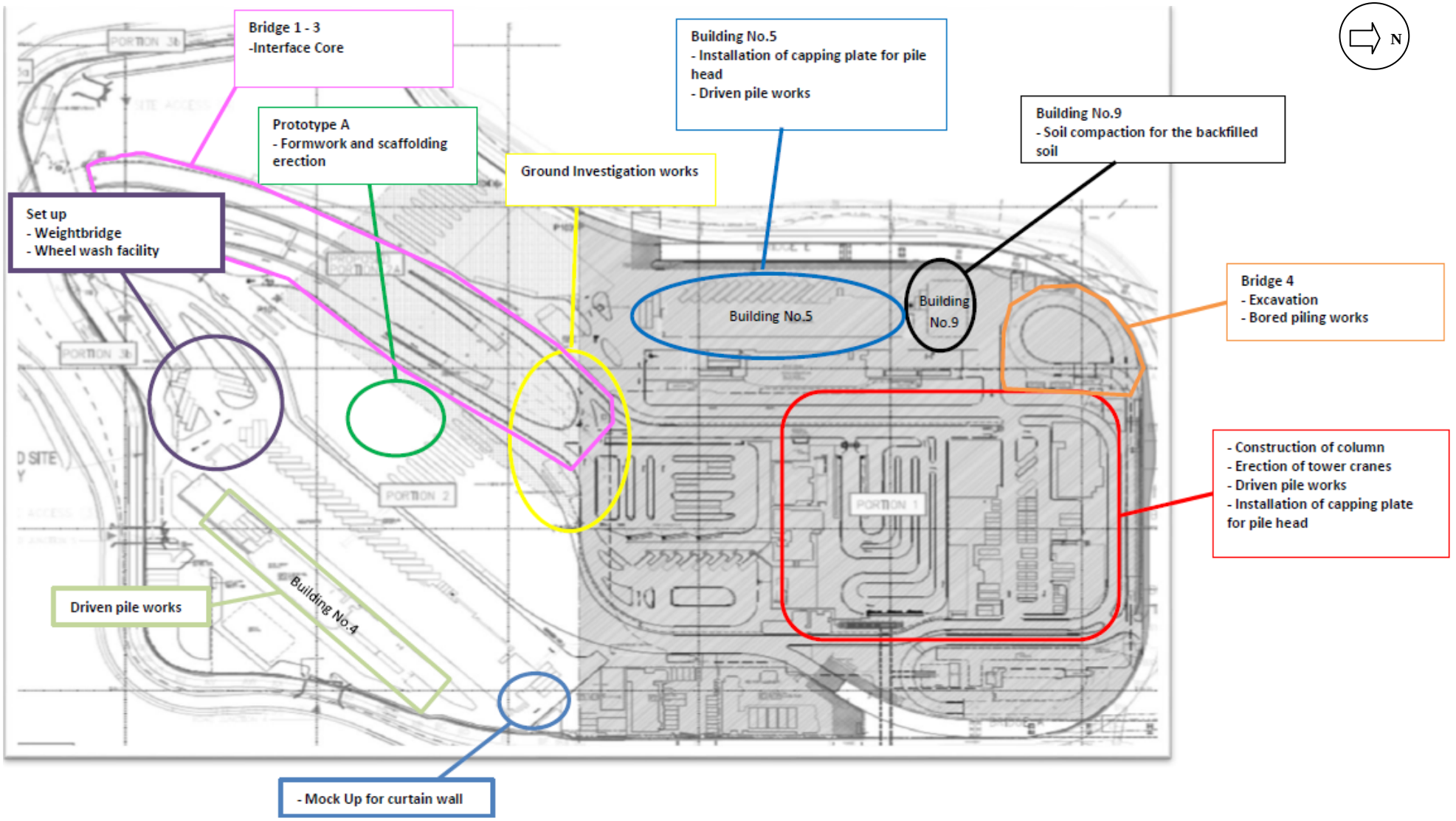

Figure 1 Locaiton Map of Construciton Activities on 10 March 2016

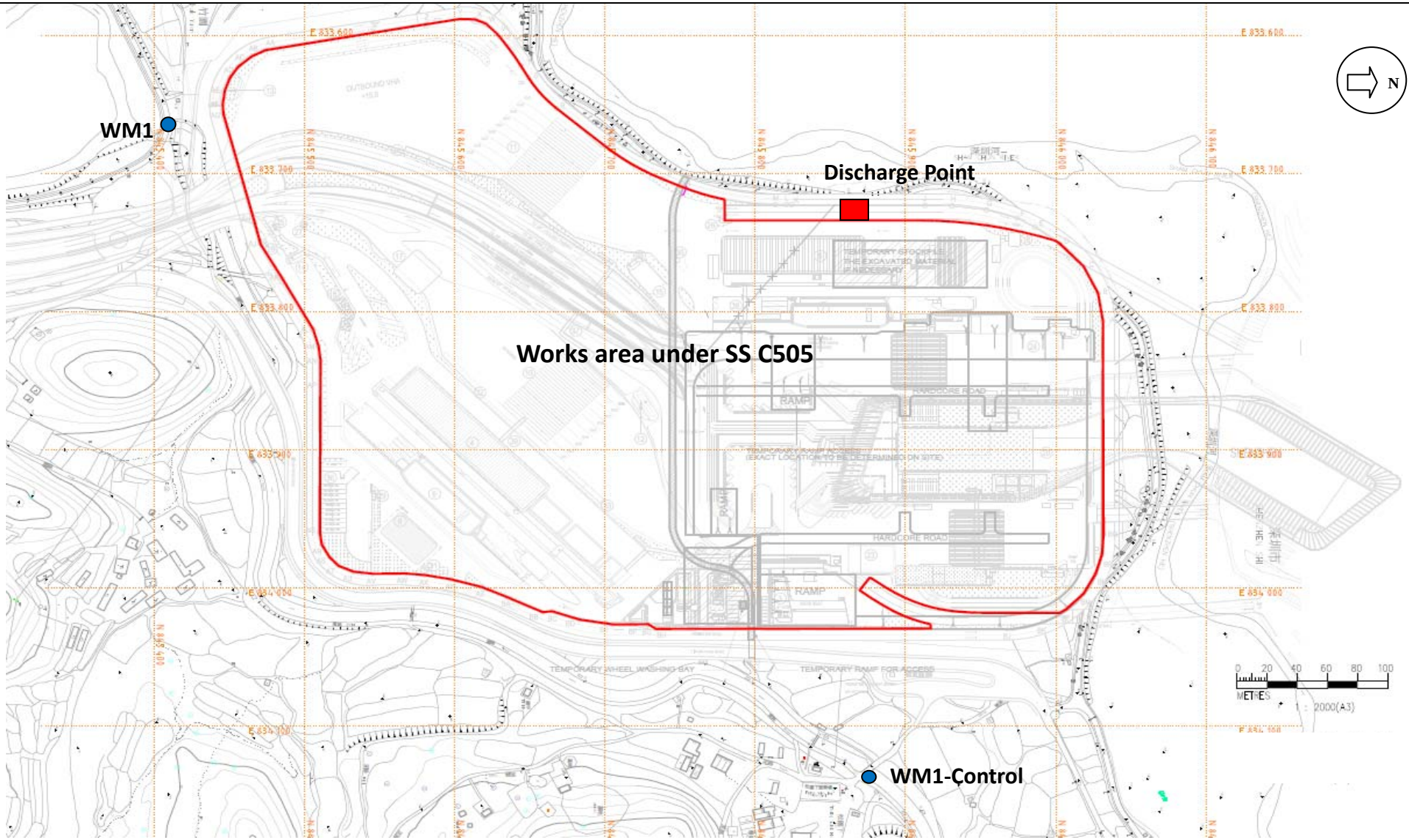

Figure 2 Locaiton Map of Water Monitoring Location

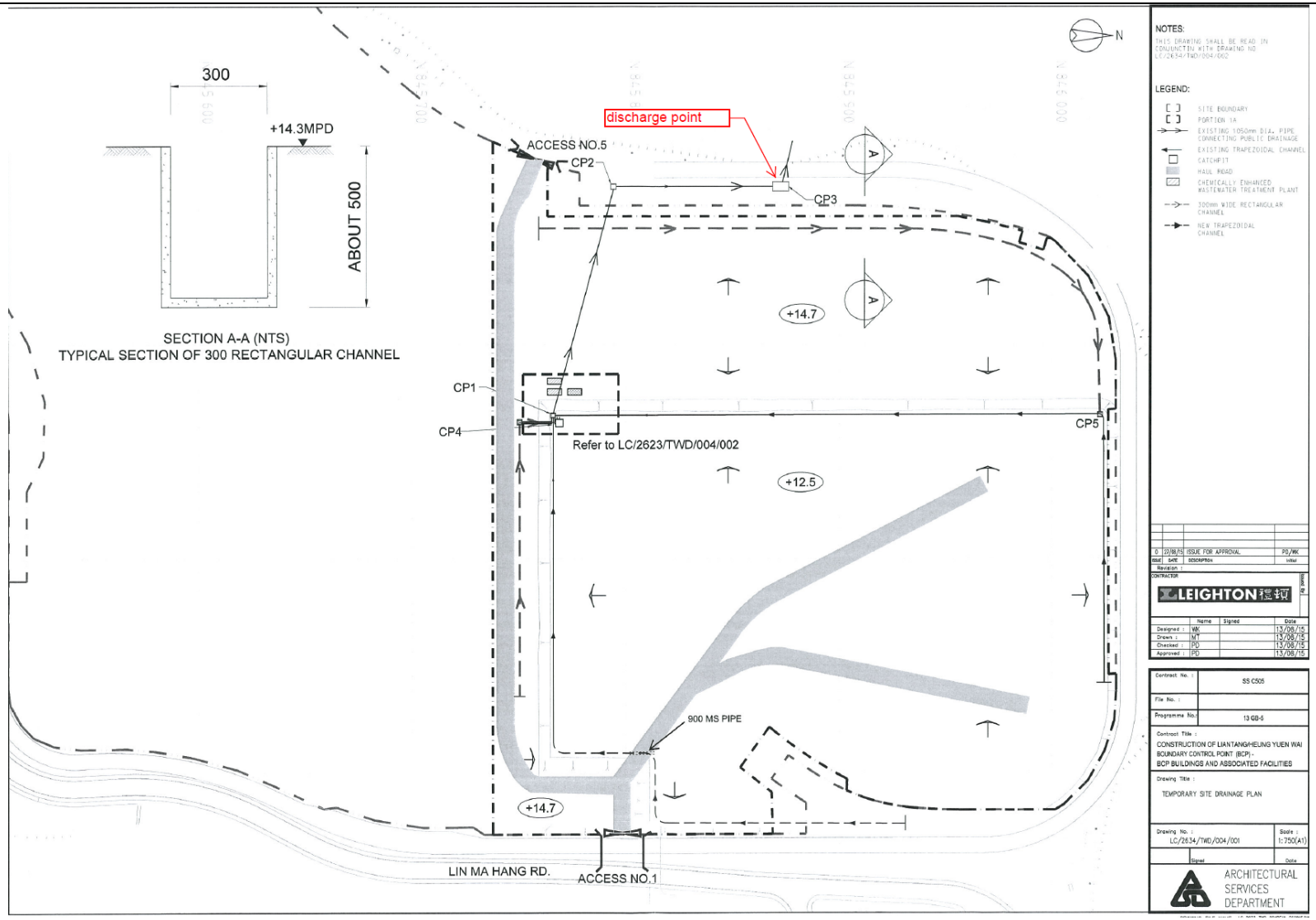

Figure 3 Temporary Site Drainage Plan

AUES

Fax Cover Sheet

To	**Mr. Vincent Chan**	**Fax No**	**By e-mail**
Company	**CRBC-CEC-Kaden JV**		
cc			
From	**Nicola Hon**	**Date**	**31 March 2016**
Our Ref	TCS00694/13/300/**F0207**	**No of Pages**	6 **(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 14, 15 and 16 March 2016**		

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Dear Sir,

Further to the Notification of Exceedance (NOE) ref. of following:

TCS00694/13/300/F0182 dated 15 March 2016
TCS00694/13/300/F0191 dated 17 March 2016
TCS00694/13/300/F0203 dated 31 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

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		14 March 2016	15 March 2016	16 March 2016	14 March 2016	15 March 2016	16 March 2016
Location		WM2B					
Time		11:45	11:25	10:20	11:45	11:25	10:20
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 Levels	**WM2B-C**	15.7	5.6	5.9	<2	<2	3.0
	WM2B	**45.1**	**19.0**	**108.0**	**69.0**	10.0	**48.5**
Exceedance		**Limit Level**	**Limit Level**	**Limit Level**	**Limit Level**	**NO exceedance**	**Limit Level**
Investigation Results, Recommendations & Mitigation Measures		1. According to the site information provided from the CCKJV, construction activities carried out on 14 to 16 March 2016 at North Portal (upstream of WM2B) were 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 on 14 and 15 March 2016, very shallow water was measured at WM2B and the water depth was around 0.01-0.02m. (Photo 1 & 3) It was observed that the water flowing in the channel and the water samples collected at WM2B was visually clear. (Photo 2 & 4) Since the water sampling was carried out at the bridge over the drainage channel at shallow water, the water sample could not avoid inclusion of the loose sediment and debris. On 16 March 2016, the water sampling was conducted after shower and it was observed that the water flowing in the open channel was slightly turbid due to stir up of sediment at the river bed during rain. (Photo 5 & 6) 3. As advised by the Contractor, self-monitoring for the treated water in the wastewater treatment facilities was conducted and effluent was visually clear. (Photo 7) As water mitigation measures, sump pits with temporary channel were constructed under the slopes to divert the site runoff for temporary storage and primarily desilting before divert to the AquaSed. Moreover, the slopes adjacent to channel were covered with tarpaulin sheet or hard paved to minimise muddy runoff during rain. 4. 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. Additional monitoring was carried out on 17 and 18 March 2016 and no exceedances were triggered. Nevertheless, CCKJV should continue 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 :	31 March 2016

Photo Record

Photo 1
During water sampling on 14 March 2016, shallow water was observed at WM2B and the water quality at WM2B was visually clear.

Photo 2
The water samples collected at WM2B on 14 March 2016 was visually clear.

Photo 3
During water sampling on 15 March 2016, shallow water was observed at WM2B and the water quality at WM2B was visually clear.

Photo 4
The water samples collected at WM2B on 15 March 2016 was visually clear.

Photo 5
During water sampling on 16 March 2016, shallow water was observed at WM2B and the water quality at WM2B was slightly turbid.

Photo 6
The water samples collected at WM2B on 16 March 2016 was slightly turbid.

Photo 7
The effluent of the AquaSed was visually clear.

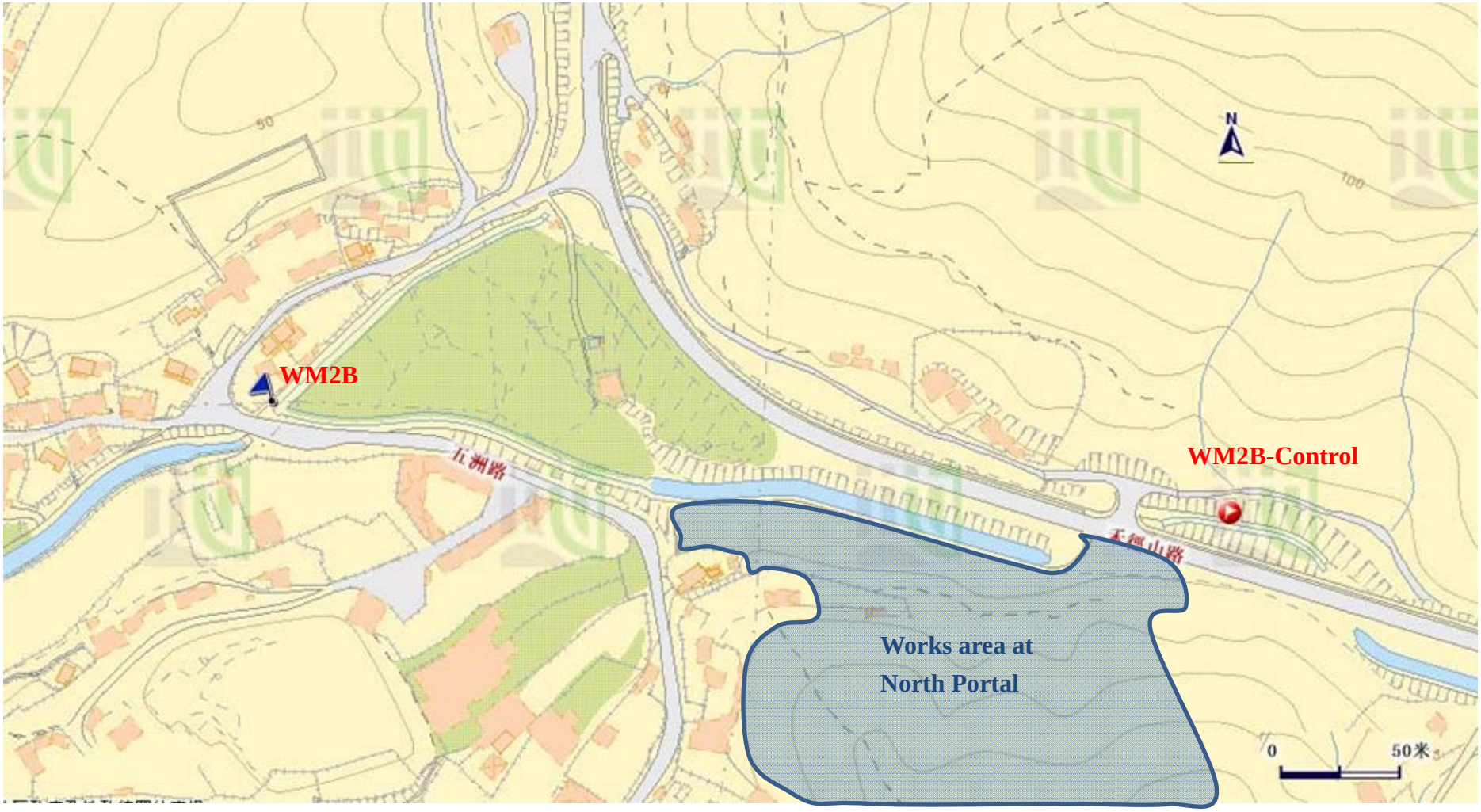

Figure 1 Location Map for Water Quality Monitoring Locations WM2B and WM2B-Control

AUES

Fax Cover Sheet

To	Mr. Daniel Ho	**Fax No**	**2638 7077**
Company	**Chun Wo Construction Ltd**		
cc			
From	**Nicola Hon**	**Date**	**1 April 2016**
Our Ref	TCS00670/13/300/**F0211**	**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 21 March 2016 (Contract 3)**		

Dear Mr. Ho,

Further to the Notification of Exceedance (NOE) ref.: TCS00670/13/300/F0195 dated 22 March 2016 and TCS00670/13/300/F0205 dated 31 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

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Kwai Chung, New Territories.
Tel (852) 2959-6059 Fax (852) 2959-6079

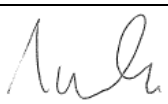
Agreement No. CE 45/2008
Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works

Investigation Report on Action or Limit Level Non-compliance

Project		CE 45/2008	
Date		21 March 2016	
Location		**WM4**	
Time		13:00	
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	**WM4-CA**	25.7	20.5
	WM4-CB	49.1	35.5
	WM4	**89.1**	**70.5**
Exceedance		**Limit Level**	**Limit Level**
Investigation Results, Recommendations & Mitigation Measures		1. According to the site diary provided by the Contractor, construction works carried out on 21 March 2016 included pre-drilling and no wastewater was generated. Surface runoff of the site was all diverted to the wastewater treatment facilities for de-silting prior to discharge. 2. According to the site record from the monitoring team on 21 March 2016, turbid water was observed at both impact and control station WM4, WM4-CA and WM4-CB under the influence of rain (Photo 1 to 4 and Figure 1) 3. As advised by the Contractor, muddy water flowed from other upstream location which was not under monitored by the Contract was observed on 21 March 2016. (Photo 5 &6) It is considered that the exceedances were due to the stir up of sediment during rain and external muddy water from upstream and not related to the works under the Contract. 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 22 and 23 March 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 : 1 April 2016

Photo Record

Photo 1
Turbid water was observed at WM4 on 21 March 2016.

Photo 2
Turbid water was observed at WM4-CA on 21 March 2016.

Photo 3
Turbid water was observed at WM4-CB on 21 March 2016.

Photo 4
The water samples collected at WM4, WM4-CA and WM4-C were turbid.

Photo 5
Turbid water flowed from upstream was observed on 21 March 2016.

Photo 6
Turbid water flowed from upstream affecting the water quality throughout the river course as observed on 21 March 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.

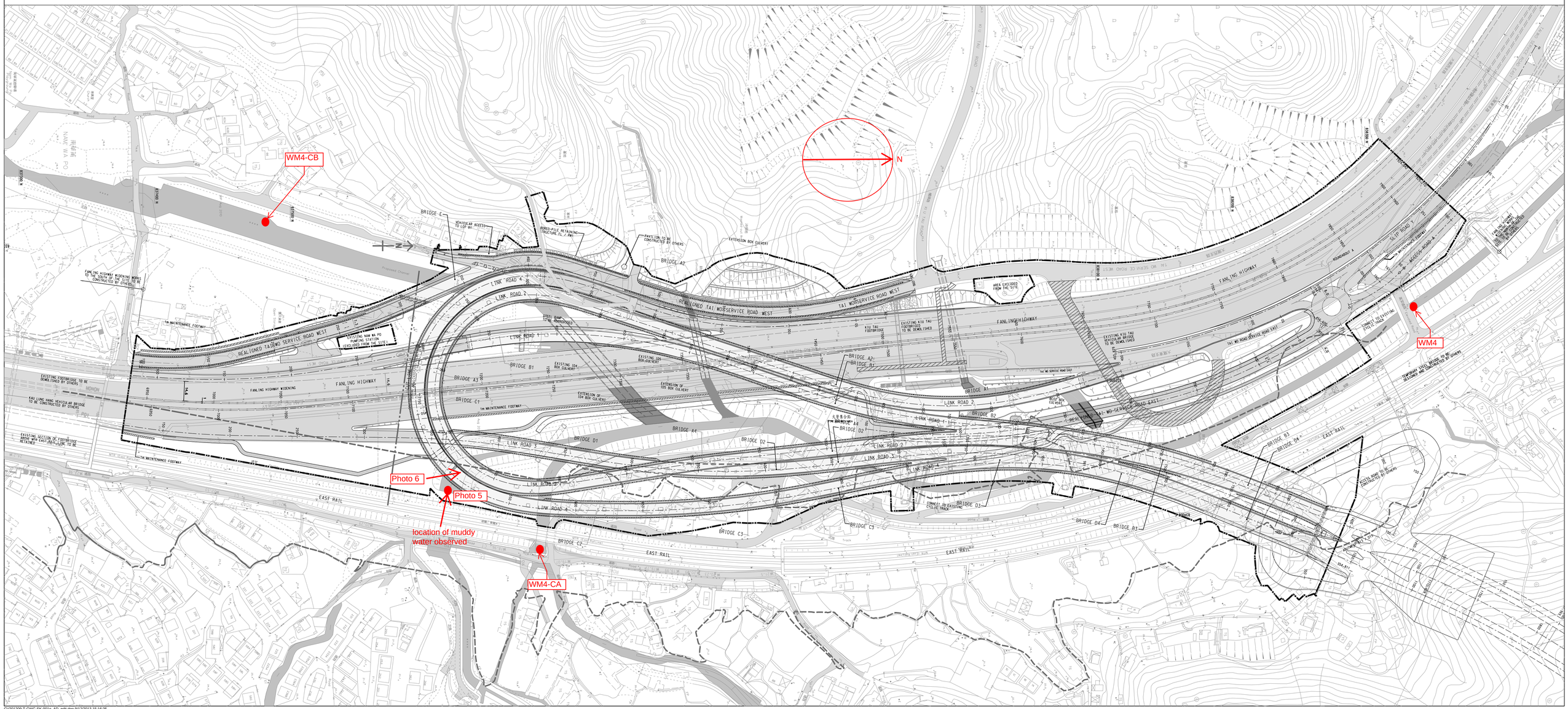


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Figure 1. Location of Water Quality Monitoring Location

AUES

Fax Cover Sheet

To	**Mr. Roger Lee**	**Fax No**	**2717 3299**
Company	**Dragages Hong Kong Limited**		
cc			
From	**Nicola Hon**	**Date**	**1 April 2016**
Our Ref	TCS00697/13/300/**F0212**	**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 21 March 2016 (Contract 2)

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Dear Mr. Lee,

Further to the Notification of Exceedance (NOE) ref.: TCS00670/13/300/F0196 dated 22 March 2016 and TCS00670/13/300/F0206 dated 31 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

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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		21 March 2016	
Location		**WM4**	
Time		13:00	
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	**WM4-CA**	25.7	20.5
	WM4-CB	49.1	35.5
	WM4	**89.1**	**70.5**
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 21 March 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 21 March 2016. 2. According to the site record from the monitoring team on 21 March 2016, turbid water was observed at both impact and control station WM4, WM4-CA and WM4-CB under the influence of rain (Photo 1 to 4 and Figure 1) 3. As advised by the Contractor of C3, muddy water flowed from other upstream location which was not under monitored by the Contract was observed on 21 March 2016. (Photo 5 &6) It is considered that the exceedances were due to the stir up of sediment during rain and external muddy water from upstream and not related to the works under the Contract. 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 22 and 23 March 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 : 1 April 2016

Photo Record

Photo 1
Turbid water was observed at WM4 on 21 March 2016.

Photo 2
Turbid water was observed at WM4-CA on 21 March 2016.

Photo 3
Turbid water was observed at WM4-CB on 21 March 2016.

Photo 4
The water samples collected at WM4, WM4-CA and WM4-C were turbid.

Photo 5
Turbid water flowed from upstream was observed on 21 March 2016.

Photo 6
Turbid water flowed from upstream affecting the water quality throughout the river course as observed on 21 March 2016.

AUES

Fax Cover Sheet

To	**Mr. Vincent Chan**	**Fax No**	**By e-mail**
Company	**CRBC-CEC-Kaden JV**		
cc			
From	**Nicola Hon**	**Date**	**7 April 2016**
Our Ref	TCS00694/13/300/**F0220**	**No of Pages**	6 **(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 21 and 22 March 2016**		

Dear Sir,

Further to the Notification of Exceedance (NOE) ref. of following:

TCS00694/13/300/F0194 dated 22 March 2016
TCS00694/13/300/F0204 dated 31 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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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		21 March 2016	22 March 2016	21 March 2016	22 March 2016
Location		WM2B			
Time		11:35	10:11	11:35	10:11
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 Levels	**WM2B-C**	6.7	6.3	5.0	3.0
	WM2B	**284.0**	**179.0**	**50.0**	232.0
Exceedance		**Limit Level**	**Limit Level**	**Limit Level**	**Limit Level**
Investigation Results, Recommendations & Mitigation Measures		1. According to the site information provided from the CCKJV, construction activities carried out on 21 and 22 March 2016 at North Portal (upstream of WM2B) was pile cap installation work only. The monitoring locations and works area are shown in Figure 1. 2. According to the site record from the monitoring team on 21 and 22 March 2016, very shallow water was measured at WM2B and the water depth was around 0.02m. (Photo 1&3) The water sampling was conducted during rain and it was observed that the water flowing in the open channel was slightly turbid due to stir up of sediment and cumulated silt at the river bed during rain. (Photo 2 & 4) 3. As advised by the Contractor, self-monitoring for the treated water in the wastewater treatment facilities was conducted and effluent was visually clear. (Photo 5 & 6) As water mitigation measures, sump pit was constructed near the pile cap area to collect the possible runoff and wastewater generated from the works before divert to the AquaSed for proper treatment. Moreover, hydro-seeding and shotcreting were applied on the stabilized slopes which adjacent to existing open channel to minimise muddy runoff during rain. (Photo 7 & 8) 4. Apart from the disturbance of cumulated silt at the river bed during rain, it was observed trails of muddy runoff from the public road surface into the existing channel due to rain. (Photo 1 & 3 & Figure 1) It is considered that the exceedances were likely related to cumulated silt at the river bed and 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. Additional monitoring was carried out on 23 and 24 March 2016 and exceedances of turbidity and SS were triggered. CCKJV should continue 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 :	7 April 2016

Photo Record

Photo 1
During water sampling on 21 March 2016, shallow water was observed at WM2B and the water quality at WM2B was turbid.

Photo 2
The water samples collected at WM2B on 21 March 2016 was turbid.

Photo 3
During water sampling on 22 March 2016, shallow water was observed at WM2B and the water quality at WM2B was slightly turbid.

Photo 4
The water samples collected at WM2B on 21 March 2016 was slightly turbid.

Photo 5
The effluent of the AquaSed was visually clear.

Photo 6
The effluent of the AquaSed was visually clear.

Photo 7
Sump pit was constructed near the pile cap area to collect the possible runoff and wastewater generated from the works before divert to the AquaSed for proper treatment.

Photo 8
Hydro-seeding and shotcreting were applied on the stabilized slopes which adjacent to existing open channel to minimise muddy runoff during rain.

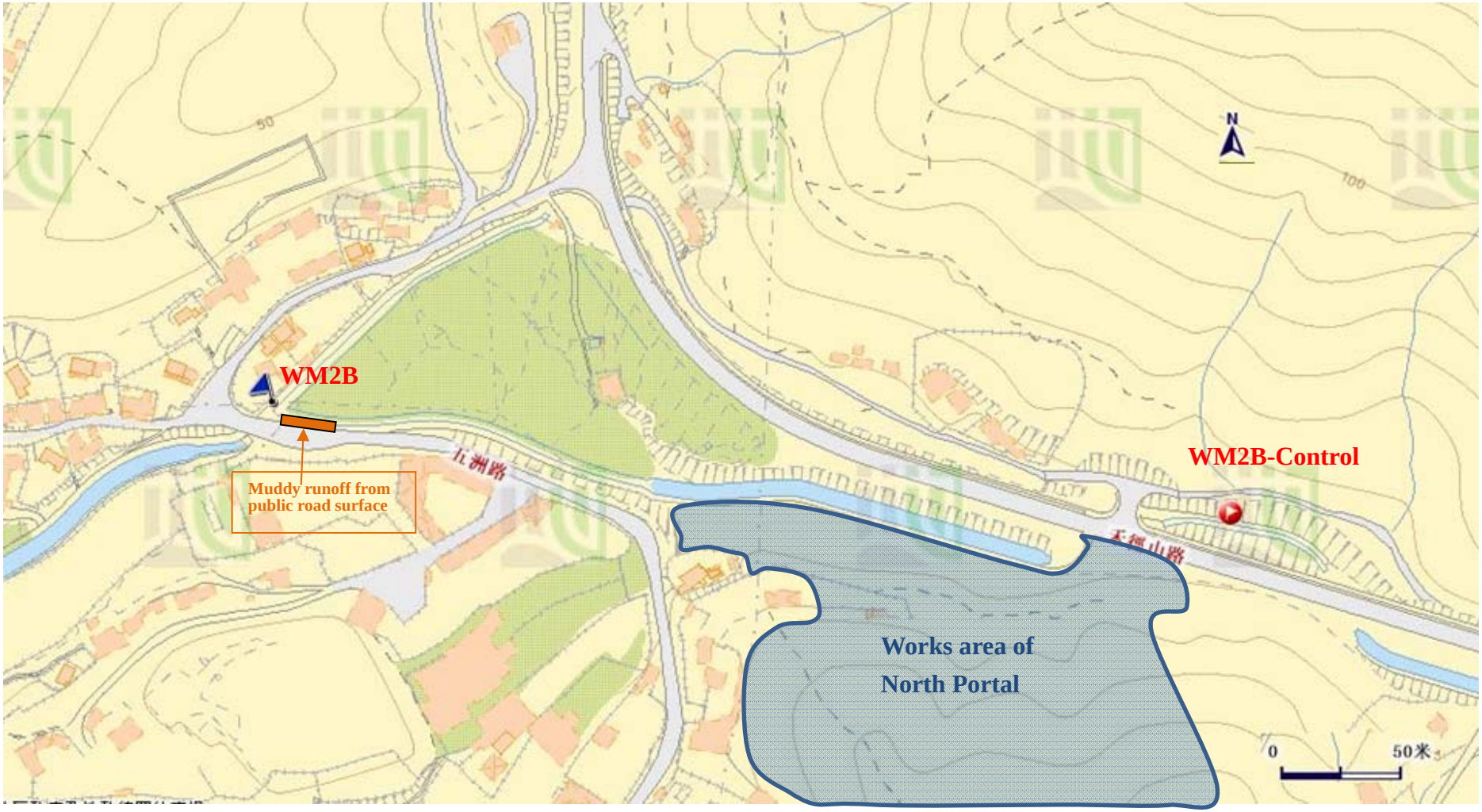

Figure 1 Location Map for Water Quality Monitoring Locations WM2B and WM2B-Control

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.

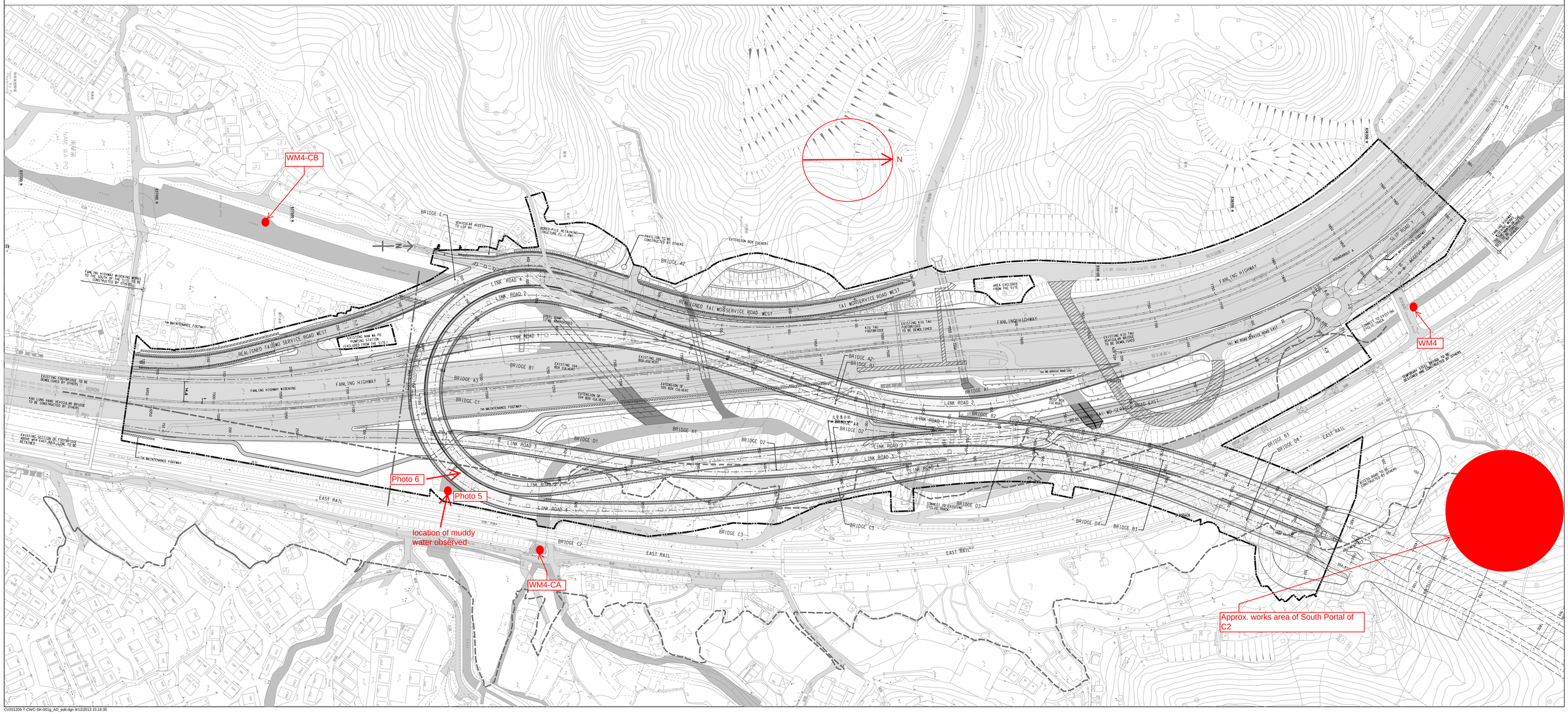

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Figure 1. Location of Water Quality Monitoring Location

AUES

Fax Cover Sheet

To	**Mr. Vincent Chan**	**Fax No**	**By e-mail**
Company	**CRBC-CEC-Kaden JV**		
cc			
From	**Nicola Hon**	**Date**	**7 April 2016**
Our Ref	TCS00694/13/300/**F0221**	**No of Pages**	6 **(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 and 24 March 2016**		

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Dear Sir,

Further to the Notification of Exceedance (NOE) ref. of following:

TCS00694/13/300/F0199 dated 24 March 2016
TCS00694/13/300/F0219 dated 6 April 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		23 March 2016	24 March 2016	23 March 2016	24 March 2016
Location		WM2B			
Time		13:05	11:24	13:05	11:24
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 Levels	**WM2B-C**	49.8	20.8	35.5	9.0
	WM2B	**452.0**	**301.5**	**124.0**	**160.0**
Exceedance		**Limit Level**	**Limit Level**	**Limit Level**	**Limit Level**
Investigation Results, Recommendations & Mitigation Measures		1. According to the site information provided from the CCKJV, construction activities carried out on 23 and 24 March 2016 at North Portal (upstream of WM2B) was pile cap installation work only. The monitoring locations and works area are shown in Figure 1. 2. According to the site record from the monitoring team on 23 and 24 March 2016, very shallow water was measured at WM2B and the water depth was around 0.02m. (Photo 1&3) The water sampling was conducted during rain and it was observed that the water flowing in the open channel was slightly turbid due to stir up of sediment and cumulated silt at the river bed during rain. (Photo 2 & 4) 3. As advised by the Contractor, self-monitoring for the treated water in the wastewater treatment facilities was conducted and effluent was visually clear. As water mitigation measures, sump pit was constructed near the pile cap area to collect the possible runoff and wastewater generated from the works before divert to the AquaSed for proper treatment. Moreover, hydro-seeding and shotcreting were applied on the stabilized slopes which adjacent to existing open channel to minimise muddy runoff during rain. (Photo 6 & 7) 4. Apart from the disturbance of cumulated silt at the river bed during rain, it was observed trails of muddy runoff from the public road surface into the existing channel due to rain. (Photo 1 & 3 & Figure 1) It is considered that the exceedances were likely related to cumulated silt at the river bed and 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. Additional monitoring was carried out on 29 and 30 March 2016 and no exceedances were triggered. Nevertheless, CCKJV should continue 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 :	7 April 2016

Photo Record

Photo 1
During water sampling on 23 March 2016, shallow water was observed at WM2B and the water quality at WM2B was turbid.

Photo 2
The water samples collected at WM2B on 23 March 2016 was turbid.

Photo 3
During water sampling on 24 March 2016, shallow water was observed at WM2B and the water quality at WM2B was slightly turbid.

Photo 4
The water samples collected at WM2B on 24 March 2016 was slightly turbid.

Photo 5
Sump pit was constructed near the pile cap area to collect the possible runoff and wastewater generated from the works before divert to the AquaSed for proper treatment.

Photo 6
Hydro-seeding and shotcreting were applied on the stabilized slopes which adjacent to existing open channel to minimise muddy runoff during rain.

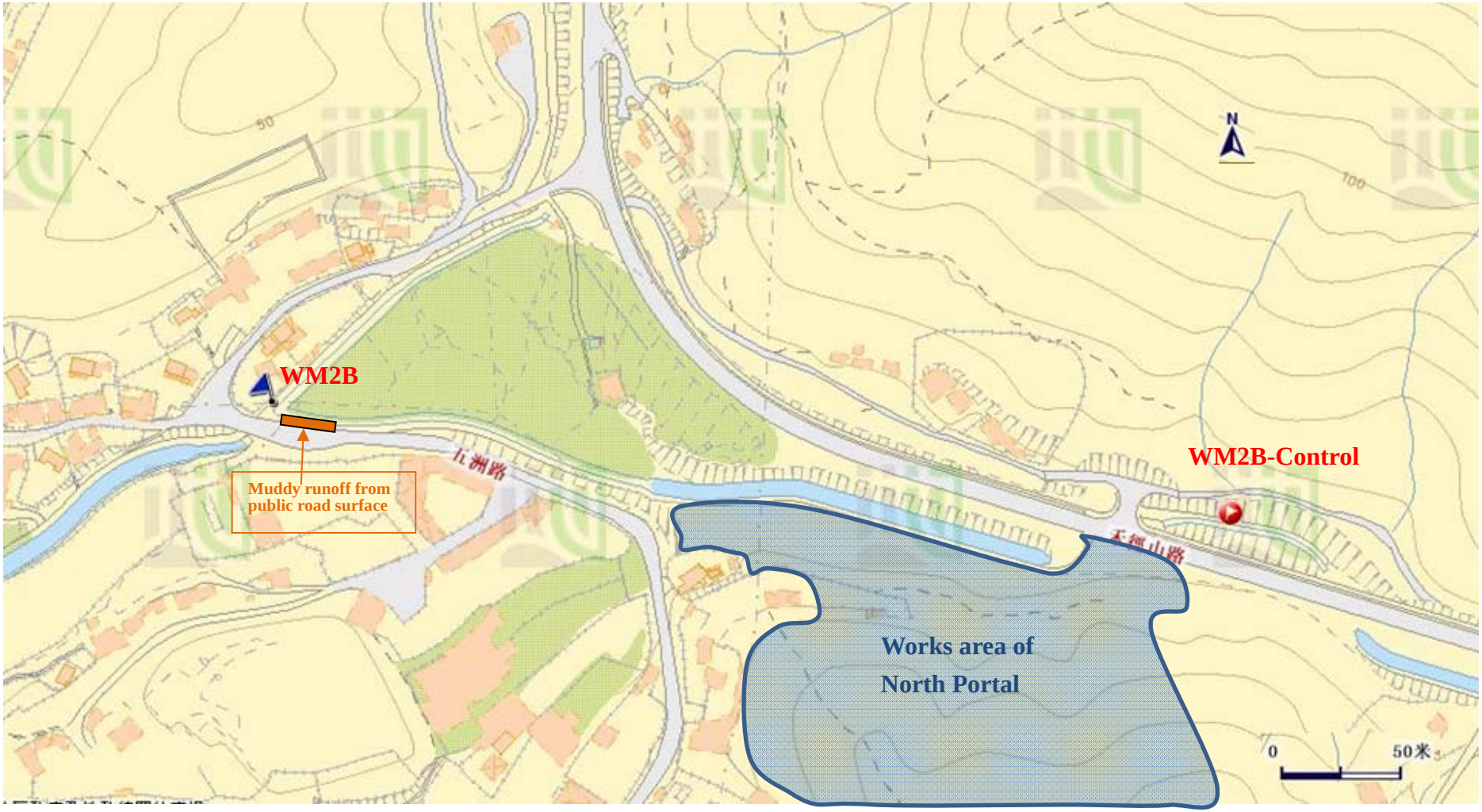

Figure 1 Location Map for Water Quality Monitoring Locations WM2B and WM2B-Control

AUES

Fax Cover Sheet

To	**Mr. Vincent Chan**	**Fax No**	**By e-mail**
Company	**CRBC-CEC-Kaden JV**		
cc			
From	**Nicola Hon**	**Date**	**13 April 2016**
Our Ref	TCS00694/13/300/**F0229a**	**No of Pages**	6 **(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 WM3 on 29, 30 and 31 March 2016**		

Dear Sir,

Further to the Notification of Exceedance (NOE) ref.:

TCS00694/13/300/F0201 dated 29 March 2016
TCS00694/13/300/F0208 dated 31 March 2016.
TCS00694/13/300/F0224 dated 7 April 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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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 Mar 16	30 Mar 16	31 Mar 16	29 Mar 16	30 Mar 16	31 Mar 16
Location		WM3					
Time		12:41	12:35	10:43	12:41	12:35	10:43
Parameter		Turbidity (NTU)			Suspended Solids (mg/L)		
Action Level		13.4 AND 120% of upstream control station of the same day			12.6 AND 120% of upstream control station of the same day		
Limit Level		14.0 AND 130% of upstream control station of the same day			12.9 AND 130% of upstream control station of the same day		
Measured Level	**WM3-C**	4.9	5.2	2.6	7.0	6.5	14.0
	WM3	**72.1**	**121.5**	**35.3**	**109.0**	**54.5**	**16.0**
Exceedance		**Limit Level**	**Limit Level**	**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), the main construction activities carried out on 29 to 31 March 2016 at upstream of WM3 was bored pile works. 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 to 31 March 2016, the water quality at WM3 was slightly turbid. (Photo 1 to 3) 3. As water mitigation measures, CCKJV has been set up a temporary drainage channel to divert wastewater from bored pile work and wheel washing bay to the wastewater treatment facilities and they area under normal operation. The effluent from wastewater treatment facilities was mainly recirculated in the wheel washing basin and bored pile work and the excess water would be discharged to the nullah which connected to Ng Tung River. CCKJV would check the performance of discharge water every day to ensure it complied with the relevant standard. No adverse water impact was recorded during site inspection in late March 2016. 4. Upon the exceedance recorded on 29 March 2016, the ET has been liaison with CCKJV to investigate the possible source of turbid water. CCKJV and ET has inspected the treated effluent discharged into nullah which connected to Ng Tung River on 29, 30 March 2016, it was observed that the effluent quality was visually clear. Though some silt cumulated at nullah bed was observed on 31 March 2016, the water flowing in the nullah was visually clear. (Photo 4 to 6) 5. As advised by CCKJV, discharge of turbid water and accumulated silt was observed from an unknown outfall which located at between the works area of C6 and WM3. (Photo 7 to 9) There were no exceedances triggered in the additional monitoring result on 1 April 2016 when turbid discharge from the unknown outfall was not observed. It is considered that the turbid water detected at WM3 was related to the turbid discharge from the unknown outfall and unlikely due to the works under Contract 6.					
Action to be taken		The Contractor is reminded to 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 :	12 April 2016

Photo Record

Photo 1
Muddy water was observed at WM3 on 29 March 2016

Photo 2
Muddy water was observed at WM3 on 29 March 2016

Photo 3
Muddy water was observed at WM3 on 31 March 2016

Photo 4
The effluent in the nullah which connected to Ng Tung River was visually clear on 29 March 2016.

Photo 5
The effluent in the temporary channel which connected to the discharge nullah and Ng Tung River was visually clear on 30 March 2016.

Photo 6
Though some silt cumulated at nullah bed was observed on 31 March 2016, the water flowing in the nullah was visually clear.

Photo 7
Discharge of turbid water and accumulated silt was observed from an unknown outfall which located at between the works area of C6 and WM3 on 29 March 2016.

Photo 8
Discharge of turbid water and accumulated silt was observed from an unknown outfall which located at between the works area of C6 and WM3 on 30 March 2016.

Photo 9
Discharge of turbid water and accumulated silt was observed from an unknown outfall which located at between the works area of C6 and WM3 on 31 March 2016.

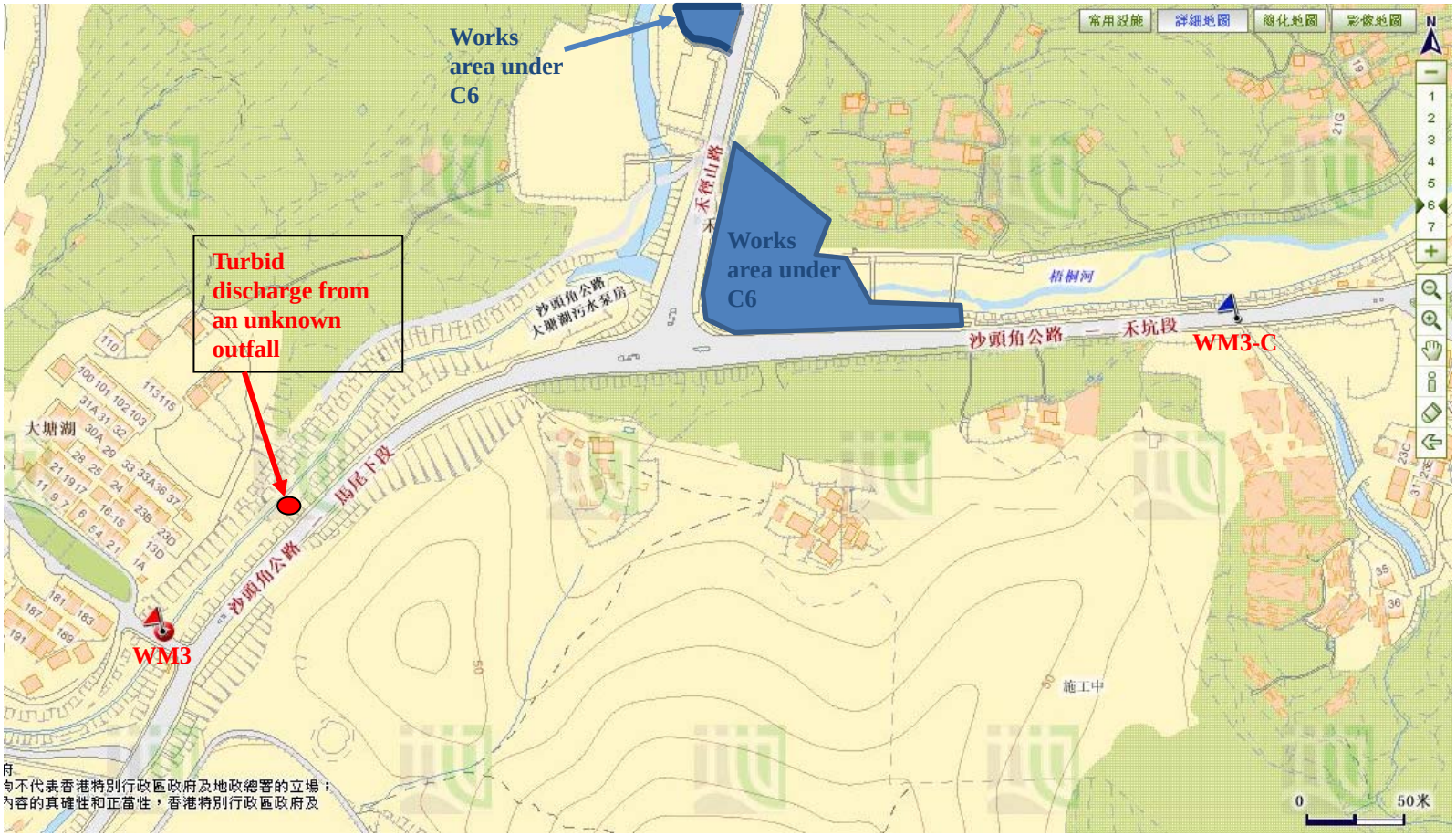

Figure 1 Location Map for Works Area under Contract 6 and Water Quality Monitoring Location

AUES

Fax Cover Sheet

To	**Mr. Roger Lee**	**Fax No**	**2717 3299**
Company	**Dragages Hong Kong Limited**		
cc			
From	**Nicola Hon**	**Date**	**12 April 2016**
Our Ref	TCS00697/13/300/**F0230**	**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 WM3 on 29, 30 and 31 March 2016 (Contract 2)**		

Dear Mr. Lee,

Further to the Notification of Exceedance (NOE) ref.:

TCS00694/13/300/F0200 dated 29 March 2016
TCS00694/13/300/F0209 dated 31 March 2016.
TCS00694/13/300/F0225 dated 7 April 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

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Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works
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Exceedance		**Limit Level**	**Limit Level**	**Limit Level**	**Limit Level**	**Limit Level**	**Limit Level**
Investigation Results, Recommendations & Mitigation Measures		1. According to the site information provided from the Contractor of C2 (DHK), construction activities carried out on 29 to 31 March 2016 at admin building was building foundation works (rebar fixing and concreting) and no discharge was made. The works area under C2 and the water monitoring location WM3C and WM3 are shown in Figure 1. 2. According to the site record from the monitoring team during monitoring on 29 to 31 March 2016, the water quality at WM3 was slightly turbid. (Photo 1 to 3) 3. During weekly site inspection on 1 April 2016, it was observed that building foundation works was carried out at Admin Building and the site area was mostly hard paved. (Photo 4) Temporary drainage system and water treatment system was properly implemented. Inspection was carried out at the discharge nullah outside the site boundary and no adverse water impact was observed (Photo 5) 4. As advised by the Contractor of C6, discharge of turbid water and accumulated silt was observed from an unknown outfall which located at between the works area of C2/ C6 and WM3. (Photo 6 to 8) There were no exceedances triggered in the additional monitoring result on 1 April 2016 when turbid discharge from the unknown outfall was not observed. It is considered that the turbid water detected at WM3 was related to the turbid discharge from the unknown outfall and unlikely due to the works under Contract 2.					
Action to be taken		The Contractor is reminded to 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 : 12 April 2016

Photo Record

Photo 1
Muddy water was observed at WM3 on 29 March 2016

Photo 2
Muddy water was observed at WM3 on 29 March 2016

Photo 3
Muddy water was observed at WM3 on 31 March 2016

Photo 4
During weekly site inspection on 1 April 2016, it was observed that building foundation works was carried out at Admin Building and the site area was mostly hard paved.

Photo 5
Inspection was carried out at the discharge nullah outside the site boundary and no adverse water impact was observed

Photo 6
Discharge of turbid water and accumulated silt was observed from an unknown outfall which located at between the works area of C6 and WM3 on 29 March 2016.

	
Photo 7 Discharge of turbid water and accumulated silt was observed from an unknown outfall which located at between the works area of C6 and WM3 on 30 March 2016.	**Photo 8** Discharge of turbid water and accumulated silt was observed from an unknown outfall which located at between the works area of C6 and WM3 on 31 March 2016.

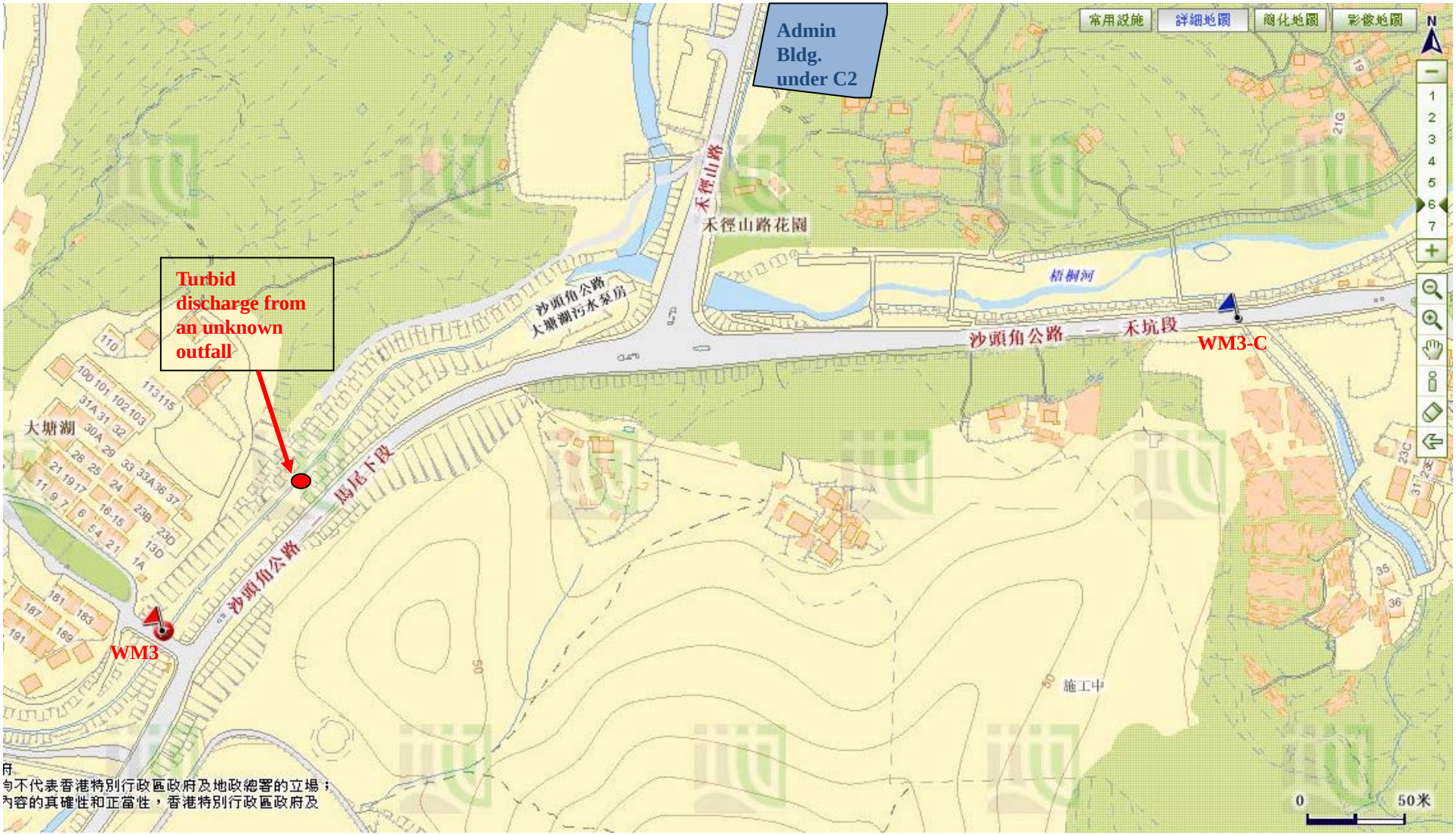

Figure 1 Location Map for Works Area under Contract 2 and Water Quality Monitoring Location