Contract No. HY/2013/04 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Infrastructure Works Stage II (Southern Portion)

Contract Specific EM&A Manual

July 2015

Mott MacDonald

Our ref JFP/TK/bw/T355861/02/02/L014
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Your Ref -

Mott MacDonald

China State Construction Engineering (Hong Kong) Ltd.
27/F, China Overseas Building,
139 Hennessy Road,
Hong Kong

8 July 2015
By Email

Attn: Mr. Gary Ng – Environmental Officer

Dear Sir,

Contract No. HY/2013/04 Hong Kong-Zhuhai-Macao Bridge
Hong Kong Boundary Crossing Facilities – Infrastructure Works Stage II (Southern Portion)
Contract Specific Environmental Monitoring and Audit (EM&A) Manual

In accordance with Clause 25.29 in part 25 of the Particular Specification of this contract, we are pleased to submit the certified Contract Specific Environmental Monitoring and Audit (EM&A) Manual dated 8 July 2015 for your onward submission to the Engineer and ENPO/IEC for approval.

Yours faithfully
For MOTT MACDONALD HONG KONG LIMITED

Terence Kong
Environmental Team Leader

Encl.

cc. AECOM – Mr. Alfred Cheng (by Email)
ENPO/IEC – Mr. Raymond Dai & Mr. Y.H. Hui (By Email)

RAMBOLL ENVIRON

Ref.: HYDHZMBEEM00_0_3149L.15

9 July 2015

By Fax (3468 2076) and By Post

AECOM Asia Co. Ltd.
The PRE's Offices
5 Ying Hei Road, Tung Chung, Lantau
Hong Kong

Attention: Mr. Alfred Cheng

Dear Sir,

Re: Agreement No. CE 48/2011 (EP)
Environmental Project Office for the
HZMB Hong Kong Link Road, HZMB Hong Kong Boundary Crossing Facilities, and Tuen Mun-Chek Lap Kok Link – Investigation

Contract No. HY/2013/04 – HZMB HKBCF – Infrastructure Works Stage II (Southern Portion)
Contract Specific EM&A Manual

Reference is made to the Environmental Team's submission of Contract Specific EM&A Manual certified by the ET Leader (ET's ref.: "JFP/TK/bw/T355861/02/02/L014" dated 8 July 2015) and provided to us via e-mail on 9 July 2015.

We are pleased to inform you that we have no adverse comment on the captioned manual. We write to verify the captioned submission in accordance with Condition 1.9 of the Environmental Permit No. EP-353/2009/H.

Thank you very much for your attention and please feel free to contact the undersigned should you require further information.

Yours faithfully,
For and on behalf of
Ramboll Environ Hong Kong Limited

Raymond Dai
Independent Environmental Checker

c.c.	HyD	Mr. Matthew Fung	(By Fax: 3188 6614)
	HyD	Mr. Horace Hong	(By Fax: 3188 6614)
	Mott MacDonald	Mr. Terence Kong	(By Fax: 2827 1823)
	CSCE	Mr. Eddie Tang	(By Fax: 2459 4336)

Internal: DY, YH, SL, JM, LP, ENPO Site

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1 Introduction

1.1 Background

1.1.1 Not applicable.

Hong Kong Link Road

1.1.2 Not applicable.

1.1.3 Not applicable.

1.1.4 Not applicable.

Hong Kong Boundary Crossing Facilities

1.1.5 An application (No ESB-183/2008) for an Environmental Impact Assessment (EIA) Study Brief under Section 5(1) of the Environmental Impact Assessment Ordinance (EIAO) was submitted by Highways Department (hereafter referred to as "the Project Proponent") on 12 March 2008 with a Project Profile (No. PP-346/2008) for the Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities (HKBCF, hereafter referred to as "the Project"), which is a "Designated Project" under Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO) (Cap. 499). EPD issued an EIA Study Brief (No: ESB-183/2008) on April 2008 to the Project Proponent to carry out an EIA study.

1.1.6A An Environmental Impact Assessment (EIA) Report together with an EM&A Manual (hereafter referred to as the "approved EM&A Manual") (Register No. AEIAR-145/2009) was prepared for the Project and approved by Environmental Protection Department (EPD) on 23 October 2009.

1.1.7A An Environmental Permit (EP) for the construction and operation of the Project was first issued on 4 November 2009 and subsequently varied. The current version (No. EP-353/2009/H) was issued on 19 January 2015. These documents are available through the EIAO Register.

1.1.8A This Contract Specific Environmental Monitoring and Audit (EM&A) Manual is prepared for "Contract No. HY/2013/04 Hong Kong–Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Infrastructure Works Stage II (Southern Portion)" (hereafter referred to as "the Contract") for the Highways Department of Hong Kong Special Administrative Region (HKSAR) Government. The Contract, which is part of the HKBCF Project, was awarded to China State Construction Engineering (Hong Kong) Limited (hereafter referred to as "the Contractor") and Mott MacDonald Hong Kong Limited was appointed as the Environmental Team (ET) by the Contractor.

1.2 Purposes of the Manual

1.2.1 The purposes of this Environmental Monitoring and Audit (EM&A) Manual are to:

- Guide the setup of an EM&A programme to ensure compliance with the EIA recommendations;
- Specify the requirements for monitoring equipment;
- Propose environmental monitoring points, monitoring frequency etc.;
- Propose Action/Limit Level;
- Propose Event/Action Plan; and
- Assess the effectiveness of the recommended mitigation measures.

1.2.2 This Manual outlines the monitoring and audit programme to be undertaken during the course of the construction works for the Contract and provides systematic procedures for monitoring, auditing and minimising the associated environmental impacts. The works site areas of the Contract are shown in Figure 1.1 to 1.3.

1.2.3 Hong Kong environmental regulations and the Hong Kong Planning Standards and Guidelines (HKPSG) have served as environmental standards and guidelines in the preparation of this Manual. In addition, it has been prepared in accordance with the requirements stipulated in Annex 21 of the Technical Memorandum on the EIA Process (EIAO-TM).

1.2.4 This Manual contains the following information:

- Responsibilities of the Contractor, the Engineer or Engineer's Representative (ER), Environmental Team (ET), and the Independent Environmental Checker (IEC) under the context of EM&A;
- Role of the Environmental Protection Office (ENPO);
- Project organisation for the EM&A works;
- Programming of construction activities for the Contract;
- The basis for, and description of the broad approach underlying the EM&A programme;
- Details of the methodologies to be adopted, including all laboratories and analytical procedures, and details on quality assurance and quality control programme;
- The rationale on which the environmental monitoring data will be evaluated and interpreted;
- Definition of Action and Limit levels;
- Establishment of Event and Action plans;
- Requirements for reviewing pollution sources and working procedures required in the event of non-compliance with the environmental criteria and complaints;
- Requirements for presentation of environmental monitoring and audit data and appropriate reporting procedures; and
- Requirements for reviewing the EIA predictions and the effectiveness of mitigations measures, environmental management system and the EM&A programme.

1.2.5 For the purpose of this Manual, the ER shall refer to the Engineer as defined in the Construction Contract, in cases where the Engineer's powers have been delegated to the ER, in accordance with the Construction Contract. The ET leader, who shall be responsible for and in charge of the ET, will execute the environmental monitoring and audit requirements.

2 Project Description

2.1 Project Description

Hong Kong Link Road

2.1.1 Not applicable.

Hong Kong Boundary Crossing Facilities

2.1.2 Not applicable.

2.1.3A The Proposed works under this Contract comprise the following:

- Construction of vehicular bridge and at-grade roads at the southern portion of Hong Kong Boundary Crossing Facilities;
- Construction of associated street lighting, street furniture, road marking, road signage, box culverts and outfalls, drainage, sewerage, fresh water and flushing water supply, irrigation, landscape, electrical and mechanical (E&M), utilities and services works;
- Provisioning of civil engineering works and power supply for Traffic Control and Surveillance System (TCSS); and
- Other works which are shown on the Drawings or specified in the Specification or which may be ordered in accordance with the Contract.

2.2 Implementation Programme

2.2.1 Not applicable.

2.2.2 **Appendix A** illustrates the tentative construction programme for the Contract. All the key construction activities are shown with the tentative dates for commencement and completion.

2.2.3 Detailed EIA assessments have been conducted and presented in the EIA report. All necessary mitigation measures have been identified and recommended. The Environmental Mitigation Implementation Schedule (EMIS) is given in **Appendix B.** It specifies the extent, locations, time frame and responsibilities for the implementation of the environmental mitigation measures identified.

2.3 Concurrent Project During Construction Phase

2.3.1 Not applicable.

2.3.2 Not applicable.

2.3.3 Not applicable.

2.3.4A The advance works of the Tuen Mun – Chek Lap Kok Link (TMCLKL) such as reclamation works of the southern landfill of the TMCLKL sub-sea tunnel commenced in late 2011. The southern connection of the TMCLKL is scheduled to be completed in 2016 to tally with the commissioning of the HZMB, and the northern connection is scheduled to be completed in 2018. The

construction of Hong Kong Link Road (HKLR) commenced in 2012 and is scheduled to be completed in 2016.

2.3.4B Construction of the main bridge of the HZMB within the Guangdong waters would also be concurrent with the construction of HKBCF and southern landfall of TMCLKL. The tentative commissioning date is 2016.

2.3.4C Another scheduled concurrent project during the construction of HKBCF is the 72-hectare reclamation for Lantau Logistics Park. This was already assumed to be a concurrent project in the EIA Report.

3 Project Organisation

3.1 Project Organisation

3.1.1 The proposed Contract organization and lines of communication with respect to environmental protection works are shown in **Appendix C**.

3.1.2 The leader of the ET shall be an independent party from the Contractor and has relevant professional qualifications, or have sufficient relevant EM&A experience subject to approval of the Engineer's Representative (ER) and EPD.

3.1.3 The responsibilities of respective parties are:

3.1.3.1 The Contractor

- Employ an Environmental Team (ET) to undertake monitoring, laboratory analysis and reporting of environmental monitoring and audit;
- Provide assistance to ET, IEC and ENPO in carrying out monitoring and auditing;
- Provide site and works information upon the request of ET, IEC or ENPO within two working days of such request;
- Participate in site inspections undertaken by the ET, as required, and undertake any corrections as instructed by the Engineer;
- Submit proposals on mitigation measures in case of exceedances of Action and Limit levels in accordance with the Event and Action Plans;
- Implement measures to reduce impact where Action and Limit levels are exceeded;
- Adhere to the procedures for environmental complaint investigation as set out in Section 13 of this EM&A Manual; and
- Adhere to the agreed procedures for carrying out complaint investigation.

3.1.3.2 Environmental Team

- Set up all the required environmental monitoring stations;
- Monitor various environmental parameters as required in the EM&A Manual;
- Analyse the environmental monitoring and audit data and review the success of EM&A programme to cost-effectively confirm the adequacy of mitigation measures implemented and the validity of EIA predictions and to identify any adverse environmental impacts arising;
- To conduct environmental investigation and submit the ET Leader certified investigation report to the Contractor, IEC, ENPO and ER upon receive of environmental enquiry and/or complaint;
- Carry out site inspection to investigate and audit the Contractors' site practice, equipment and work methodologies with respect to pollution control and environmental mitigation, and take proactive actions to pre-empt problems;
- Audit and prepare audit reports on the environmental monitoring data and site environmental conditions;
- Report on the environmental monitoring and audit results to the IEC, ENPO, Contractor, the ER and EPD or its delegated representative;
- 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;
- Undertake regular on-site audits/inspections and report to the Contractor, IEC, ENPO and the ER of any potential non-compliance; and
- Follow up and close out non-compliance actions.

3.1.3.3 Engineer or Engineer's Representative

- Supervise the Contractor's activities and ensure that the requirements in the EM&A Manual are fully complied with;
- Inform the Contractor when action is required to reduce impacts in accordance with the Event and Action Plans;
- Assist the IEC and ENPO to audit the results of the EM&A works carried out by the ET; and
- Comply with the agreed Event and Action Plan in the event of any exceedance.

3.1.3.4 Independent Environmental Checker (IEC)

- Review the EM&A works performed by the ET (at not less than monthly intervals);
- Audit the monitoring activities and results (at not less than monthly intervals);
- Report the audit results to the ER and EPD in parallel;
- Review the EM&A reports (monthly and quarterly summary reports) submitted by the ET;
- Review the proposal on mitigation measures submitted by the Contractor in accordance with the Event and Action Plans;
- Check the mitigation measures that have been recommended in the EIA and this Manual, and ensure they are properly implemented in a timely manner, when necessary; and
- Report the findings of site inspections and other environmental performance reviews to ER and EPD.

3.1.3.5 Environmental Protection Office (ENPO)

Notwithstanding the above, given that the TMCLKL, HKBCF and HKLR will be constructed concurrently, an Environmental Protection Office (ENPO) or equivalent to oversee the cumulative construction projects in North Lantau area will be established by the Project Proponent. The responsibility of the ENPO would be similar to that of the IEC but should also include:

- Coordinate the monitoring and auditing works for all the on-going projects in the area in order to identify possible sources/causes of exceedances and recommend suitable remedial actions where appropriate;
- Review cumulative impacts including possible sources/causes of exceedance and recommending suitable remedial actions;
- Liaise with the mainland project teams for HZMB Zhuhai Section to identify and assess any cross-boundary cumulative impacts in order to establish suitable remedial actions where necessary; and
- Coordinate the assessment and response to complaints/enquires from locals, green groups, district councils or the public at large.

The exact responsibilities and organization of the ENPO have been defined by the Project Proponent in accordance with the relevant Environmental Permits.

3.1.4 Sufficient and suitably qualified professional and technical staff shall be employed by the respective parties to ensure full compliance with their duties and responsibilities, as required under the EM&A programme for the duration of the Project.

3.1.5 The ET Leader shall have at least 7 years of experience in conducting EM&A for infrastructure projects. His qualification shall be vetted by the ER and the IEC.

4 Environmental Submission

4.1 Introduction

4.1.1 The Contractor shall prepare the Environmental Management Plan (EMP) (including a Waste Management Plan), Construction Method Statement and obtain approval from ER, IEC and relevant authorities to encompass the recommended environmental protection / mitigation measures with respect to their latest construction methodology and programme. All environmental submission shall be certified by the ET leader before seeking the IEC's verification.

4.2 Environmental Management Plan (EMP)

4.2.1 A systematic EMP shall be set up by the Contractor to ensure effective implementation of the mitigation measures, monitoring and remedial requirements presented in the approved EIA Report, EM&A and EMIS. The ER and the IEC will audit the implementation status against the EMP and advise the necessary remedial actions required. These remedial actions shall be enforced by the ER through contractual means.

4.2.2 The EMP will define in detail how the Contractor (together with its sub-Contractors) implements the recommended mitigation measures in order to achieve the environmental performance defined in the Hong Kong environmental legislation and the EIA documentation.

4.2.3 The review of on-site environmental performance shall be undertaken by ER and IEC through a systematic checklist and audit once the construction commences. The environmental performance review programme comprises a regular assessment on the effectiveness of the EMP. Reference should be made to Environment, Transport and Works Bureau Technical Circular (Works) (ETWB TC(W)) No. 19/2005 "Environmental Management on Construction Sites" or its latest versions, and any other relevant Technical Circulars.

4.3 Waste Management Plan (WMP)

4.3.1 As part of the EMP, the Contractor shall include a WMP for the construction works under this Contract and submit to the ET, IEC and EPD for approval. Where waste generation is unavoidable, the opportunities for recycling or reusing should be maximised. If wastes cannot be recycled, recommendations for appropriate disposal routes should be provided in the WMP. A method statement for stockpiling and transportation of the excavated materials and other construction wastes should also be included in the WMP and approved before the commencement of construction. All mitigation measures arising from the approved WMP shall be fully implemented.

4.3.2 For the purpose of enhancing the management of Construction and Demolition (C&D) materials including rock, and minimising its generation at source, construction would be undertaken in accordance with the Environment, Transport and Works Bureau Technical Circular (Works) No. 33/2002 - Management of Construction and Demolition Material Including Rock, or its latest versions. The management measures stipulated in the Technical Circular should be incorporated into the WMP.

4.4 Construction Method Statement

4.4.1 In case the Contractor would like to adopt alternative construction methods or implementation schedules, it is required to submit details of methodology and equipment to the ER for approval before the work commences. Any changes in construction method shall be reflected in a revised EMP or the Contractor will be required to demonstrate the manner in which the existing EMP should accommodate the proposed changes. The Contractor may need to apply for a Further Environmental Permit (FEP) from EPD before commencement of any construction activities.

5 Air Quality

5.1 Air Quality Parameters

5.1.1 Monitoring and audit of the Total Suspended Particulates (TSP) levels shall be carried out by the ET ensure that any deteriorating air quality could be swiftly detected and timely action taken to rectify the situation.

5.1.2 1-hour and 24-hour TSP levels should be measured to indicate the impacts of construction dust on air quality. The 24-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. Upon approval of the IEC, 1-hour TSP levels can be measured by direct reading methods which are capable of producing comparable results as that by the high volume sampling method, to indicate short event impacts.

5.1.3 All relevant data including temperature, pressure, weather conditions, elapsed-time meter reading for the start and stop of the sampler, identification and weight of the filter paper, and any other local atmospheric factors affecting or affected by site conditions, etc., shall be recorded down in detail. A sample data sheet is shown in **Appendix D**.

5.2 Monitoring Equipment

5.2.1 High volume samplers (HVSs) complying with the following specifications shall be used for carrying out the 1-hour and 24-hour TSP monitoring:

a. 0.6- 1.7 m^3 per minute adjustable flow range;
b. Equipped with a timing I control device with +/- 5 minutes accuracy for 24 hours operation;
c. Installed with elapsed-time meter with +/- 2 minutes accuracy for 24 hours operation; ·
d. Capable of providing a minimum exposed area of 406 cm^2;
e. Flow control accuracy: +/- 2.5% deviation over 24-hour sampling period;
f. Equipped with a shelter to protect the filter and sampler;
g. Incorporated with an electronic mass flow rate controller or other equivalent devices;
h. Equipped with a flow recorder for continuous monitoring;
i. Provided with a peaked roof inlet;
j. Incorporated with a manometer;
k. Capable to hold and seal the filter paper to the sampler housing at horizontal position;
l. Easily changeable filter; and
m. Capable of operating continuously for 24-hour periods.

5.2.2 The ET is responsible for the provision, installation, operation, maintenance, dismantling of the monitoring equipment. They shall ensure that sufficient number of HVSs with appropriate calibration kit is available for carry out the baseline monitoring, regular impact monitoring and ad-hoc monitoring. The HVSs shall be equipped with an electronic mass flow controller and be calibrated against a traceable standard at regular intervals. All the equipment, calibration kit, filter papers, etc., shall be clearly labelled.

5.2.3 Initial calibration of dust monitoring equipment shall be conducted upon installation and thereafter at bi-monthly intervals. The transfer standard shall be traceable to the internationally recognised primary standard and be calibrated annually. The ET shall provide the relevant calibration data

and laboratory calibration certificate which should be properly document for future reference by the IEC and other concerned parties. All the data should be converted into standard temperature and pressure condition.

5.2.4 The flow-rate of the sampler before and after the sampling exercise with the filter in position shall be verified to be constant and be recorded in the data sheet as mentioned in **Appendix D**.

5.2.5 If the ET leader proposes alternative dust monitoring equipment / methodology (e.g. use a direct reading dust meter to measure 1-hour TSP levels) after the approval of this EM&A Manual, he shall seek approval from the IEC by submitting sufficient information to the IEC indicating that the instrument is capable of achieving a comparable result to the HVS. The instrument should also be calibrated regularly as specified by the equipment's manufacturer, in which the laboratory calibration certificate shall be submitted to the IEC for approval. The 1-hour sampling shall also be determined periodically by the HVS to check the validity and accuracy of the results measured by direct reading method, and the checking results shall also submitted to the IEC for approval.

5.2.6 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 items shall be observed:

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

5.2.7 In exceptional situations, the ET may propose alternative methods to obtain representative wind data upon the approval from the ER and agreement from the IEC.

5.3 Laboratory Measurement / Analysis

5.3.1 A clean laboratory with constant temperature and humidity control, and equipped with necessary measuring and conditioning instruments to handle the dust samples collected, shall be available for sample analysis, and equipment calibration and maintenance. The laboratory should be HOKLAS accredited.

5.3.2 If a site laboratory is set up or a non-HOKLAS accredited laboratory is hired for carrying out the laboratory analysis, the laboratory equipment shall be approved by the ER and the measurement procedures shall be witnessed by the IEC. Any measurement performed by the laboratory shall be demonstrated to the satisfaction of the ER and IEC. IEC shall regularly audit the measurement performed by the laboratory to ensure the accuracy of measurement results. The ET Leader shall provide the ER with one copy of the Title 40 of the Code of Federal Regulations, Chapter 1 (Part 50), for his reference. Title 40 of the Code of Federal Regulations, Chapter 1 (Part 50), Appendix B for his reference.

5.3.3 Filter paper of size 8" x 1 0" shall be labelled before sampling. It shall be a clean filter paper with no pinholes, and shall be conditioned in a humidity-controlled chamber for over 24-hours and be pre-weighed before use for the sampling.

5.3.4 After sampling, the filter paper loaded with dust shall be kept in a clean and tightly sealed plastic bag. The filter paper shall then be returned to the laboratory for reconditioning in the humidity-controlled chamber followed by accurate weighing by an electronic balance with readout down to 0.1 mg. The balance shall be regularly calibrated against a traceable standard.

5.3.5 All the collected samples shall be kept in a good condition for 6 months before disposal.

5.4 Monitoring Locations

5.4.1 **Figure 5.1** shows the locations of the proposed air quality monitoring stations. The status and locations of air quality sensitive receivers may change after issuing this EM&A Manual. If such cases exist, the ET Leader shall propose updated monitoring locations and seek approval from the ER and agreement from the IEC. The air monitoring locations are described in **Table 5.1**.

Table 5.1: Air Quality Monitoring Locations

AMS ID	Location Description
AMS6	Dragonair / CNAC (Group) Building
AMS7A	Chu Kong Air-Sea Union Transportation Company Limited

Note:

1. The monitoring results for AMS6 and AMS7A will be reported in the monthly EM&A Reports prepared for Contract Nos. HY/2010/02 and HY/2011/03 respectively.
2. The ET of this Contract should conduct impact air quality monitoring at the AMS listed in the table as part of EM&A programme according to the latest notification from ENPO when the monitoring station(s) is/are no longer covered by another ET of the HZMB project. The ET of the Contract shall communicate and share the monitoring data to the ET(s) of other works contracts if the air quality monitoring station(s) is/are as part of EM&A programme.

5.4.2 When alternative air quality monitoring locations are proposed, the proposed site should as far as practicable:

- Be at the site boundary or such locations close to the major dust emission source;
- Be close to the sensitive receptors; and
- Take into account the prevailing meteorological conditions.

5.4.3 The ET shall agree with the ER in consultation with the IEC on the position of the HVS for the installation of the monitoring equipment. When positioning the samplers, the following points shall be noted:

- A horizontal platform with appropriate support to secure the samplers against gusty wind should be provided;
- No two samplers should be placed less than 2 meters apart;
- The distance between the sampler and an obstacle, such as buildings, must be at least twice the height that the obstacle protrudes above the sampler;
- A minimum of 2 meters separation from walls, parapets and penthouses is required for rooftop samplers;
- A minimum of 2 meters separation from any supporting structure, measured horizontally is required;
- No furnace or incinerator flue is nearby;

- Airflow around the sampler is unrestricted;
- The sampler is more than 20 meters from the dripline;
- Any wire fence and gate, to protect the sampler, should not cause any obstruction during monitoring;
- Permission must be obtained to set up the samplers and to obtain access to the monitoring stations; and
- A secured supply of electricity is needed to operate the samplers.

5.4.4 The ENPO may, depending on site conditions and monitoring results, decide whether additional monitoring locations shall be included or any monitoring locations could be removed / relocated during any stage of the construction phase.

5.5 Baseline Monitoring for Fugitive Dust

5.5.1 Baseline monitoring shall be carried out at all designated monitoring locations (see **Table 5.1**) for at least 14 consecutive days prior to the commissioning of major construction works to obtain daily 24-hour TSP samples. The selected baseline monitoring stations should reflect baseline conditions at the impact stations. One hour sampling should also be done at least 3 times per day while the highest dust impact is expected.

5.5.2 During the baseline monitoring, there should not be any major construction or dust generation activities in the vicinity of the monitoring stations. Before commencing baseline monitoring, the ET shall inform the IEC of the baseline monitoring programme such that, if required, the ER can conduct on-site audit to ensure accuracy of the baseline monitoring results.

5.5.3 In case the baseline monitoring cannot be carried out at the designated monitoring locations, the ET Leader shall carry out the monitoring at alternative locations that can effectively represent the baseline conditions at the impact monitoring locations. The alternative baseline monitoring locations shall be approved by the ER and agreed with the IEC.

5.5.4 In exceptional cases, when insufficient baseline monitoring data or questionable results are obtained, the ET shall liaise with the IEC and EPD to agree on an appropriate set of data to be used as a baseline reference and submit to ER for approval.

5.5.5 Ambient conditions may vary seasonally and shall be reviewed at three month intervals. When the ambient conditions have changed and a repeat of the baseline monitoring is required to be carried out for obtaining the updated baseline levels, the monitoring should be at times when the Contractor's activities are not generating dust, at least in the proximity of the monitoring stations. Should change in ambient conditions be determined, the baseline levels and, in tum, the air quality criteria, should be revised. The revised baseline levels and air quality criteria should be agreed with the IEC and EPD.

5.5.6A It is noted that baseline monitoring was undertaken for the Project between September and November 2011 under Agreement CE No.35/2011 (EP) “Baseline Environmental Monitoring for Hong Kong–Zhuhai-Macao Bridge Hong Kong Projects – Investigation” prior to commencement of construction of the Project. The baseline monitoring results obtained under Agreement CE No.35/2011 (EP) will be adopted for this Contract.

5.6 Impact Monitoring for Fugitive Dust

5.6.1 The ET shall carry out impact monitoring during the entire construction period. For regular impact monitoring, the sampling frequency of at least once in every 6 days, shall be strictly observed at all the monitoring stations for 24-hour TSP monitoring. For 1-hour TSP monitoring, the sampling frequency of at least 3 times in every 6 days should be undertaken when the highest dust impact occurs. Before commencing impact monitoring, the ET shall inform the IEC of the impact monitoring programme such that the IEC can conduct on-site audit to ensure accuracy of the monitoring results.

5.6.2 The specific time to start and stop the 24-hour TSP monitoring shall be clearly defined for each location and be strictly followed by the ET.

5.6.3 In case of non-compliance with the air quality criteria, more frequent monitoring, as specified in the Action Plan in the following section, shall be conducted within the specified timeframe after the result is obtained. This additional monitoring shall be continued until the excessive dust emission or the deterioration in air quality is rectified, and agreed with the ER and the IEC.

5.7 Action / Limit Levels

5.7.1 The baseline monitoring results form the basis for determining the air quality criteria for impact monitoring. The ET shall compare the impact monitoring results with air quality criteria set up for 24-hour TSP and 1-hour TSP. **Table 5.2** shows the air quality criteria, namely Action and Limit levels to be used.

Table 5.2: Action / Limit Levels for Air Quality

	Action Level	Limit Level
24-hour TSP Level in $\mu g/m^3$	For baseline level ≤ 200$\mu g/m^3$, Action level = (baseline level x 1.3 + Limit Level)/2; For baseline level > 200$\mu g/m^3$, Action level = Limit level For Monitoring station AMS6 Action Level = (66.4*1.3+260)/2 = 173 $\mu g/m^3$ For Monitoring station AMS7A Action Level = (82.3*1.3+260)/2 = 183 $\mu g/m^3$	260 $\mu g/m^3$
1-hour TSP Level in $\mu g/m^3$	For baseline level ≤ 384$\mu g/m^3$, Action level = (baseline level x 1.3 + Limit level)/2; For baseline level > 384 $\mu g/m^3$, Action level = Limit level For Monitoring station AMS6 Action Level = (169.2*1.3+500)/2 = 360 $\mu g/m^3$ For Monitoring station AMS7A Action Level = (184.2*1.3+500)/2 = 370 $\mu g/m^3$	500 $\mu g/m^3$

5.8 Event and Action Plan

5.8.1 Should non-compliance of the air quality criteria occur, actions in accordance with the Action Plan in **Table 5.3** shall be carried out.

Table 5.3: Event/Action Plan for Air Quality

Event	Action			
	ET	IEC	ER	Contractor
Action Level				
Exceedance for one sample	1. Identify source, investigate the causes of	1. Check monitoring data submitted by	1. Notify Contractor.	1. Rectify any unacceptable

Event	Action			
	ET	IEC	ER	Contractor
	exceedance and propose remedial measures; 2. Inform IEC and ER; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily.	ET; 2. Check Contractor's working method.		practice; 2. Amend working methods if appropriate.
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. Supervise implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	1. Submit proposals for remedial to ER within 3 working days of notification; 2. Implement the agreed proposals; 3. Amend proposal if appropriate
Limit Level				
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. Supervise implementation 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 to ER within 3 working days of notification; 3. Implement the agreed proposals; 4. Amend proposal if appropriate.
Exceedance for two or more consecutive samples	1. Notify IEC, ER, Contractor and EPD; 2. Identify source; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine	1. Discuss amongst ER, ET and Contractor on potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consultation with the IEC, agree with the Contractor in the remedial measures to be 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

Event	Action			
	ET	IEC	ER	Contractor
	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 keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	effectiveness and advise the ER accordingly; 3. Supervise implementation of remedial measures.	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.	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.

5.9 Mitigation Measures

5.9.1 The approved EIA Report has recommended dust control measures including 8 times of watering per day. During the operation of the barging facilities, good site practices such as road surface paving, dust enclosures, wheels wash facilities would be implemented to reduce the generation of dust.

5.9.2 All the proposed mitigation measures are summarized in the Environmental Mitigation Implementation Schedule (EMIS) in **Appendix B**.

5.10A Reporting of Monitoring Data to ENPO

5.10.1 The Assignment, which involves multiple construction contracts, would be constructed concurrently with other major infrastructures such as the HKLR and TMCLKL. These interface projects will be overviewed by the ENPO. The ENPO will also oversee and coordinate the cumulative environmental issues arising from the concurrent projects.

5.10.2 To facilitate the ENPO to evaluate environmental impacts and investigate complaints, the ET Leaders shall provide the impact air quality monitoring results within one week after the monitoring event. If the 1-Hr TSP is measured by direct reading, the results shall be submitted to ENPO in the next working day. The ET Leader shall follow ENPO's requirements on the data submission format and procedure" as per the current ET's practice and enable rapid response by all concerned parties.

6 Noise

6.1 Noise Quality Parameters

6.1.1 Construction noise level shall be measured in terms of the A-weighted equivalent continuous sound pressure level (L_{eq}). $L_{eq\ 30\ min}$ shall be used as the monitoring parameter for the time period between 0700 and 1900 hours on normal weekdays. For all other time periods, $L_{eq\ 5\ min}$ shall be employed for comparison with the Noise Control Ordinance (NCO) criteria.

6.1.2 As supplementary information for data auditing, statistical results such as L_{10} and L_{90} shall also be obtained for reference. (A sample data sheet is shown in **Appendix D**).

6.2 Monitoring Equipment

6.2.1 As referred to in the Technical Memorandum (TM) issued under the NCO, sound level meters 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. Immediately prior to and following each noise measurement, the accuracy of the sound level meter shall be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements may be accepted as valid only if the calibration level from before and after the noise measurement agrees to within 1.0 dB.

6.2.2 Noise measurements should be made in accordance with standard acoustical principles and practices in relation to weather conditions.

6.2.3 The ET is responsible for the provision, installation, operation, maintenance, dismantle of the monitoring equipment. He shall ensure that sufficient noise measuring equipment and associated instrumentation are available for carrying out the baseline monitoring, regular impact monitoring and ad hoc monitoring. All the equipment and associated instrumentation shall be clearly labelled.

6.2.4A Due to rejection from Ho Yu College (NMS3) for setting up a noise monitoring station at their school, an alternative location at site boundary of the ER's site office area at Works Area WA2 (NMS3B) is proposed. The same baseline and Action and Limit levels for noise, as derived from the baseline monitoring data recorded at Ho Yu College, will be adopted for this alternative noise monitoring location.

6.3 Monitoring Locations

6.3.1 The locations of construction noise monitoring station for the Contract are presented in **Table 6.1** and **Figure 6.1**.

Table 6.1: Noise Monitoring Locations

NMS ID	Location Description
NMS2	Seaview Crescent
NMS3B	Site Boundary of Site Office Area at Works Area WA2

Note:
1. The monitoring results for NMS2 and NMS3B will be reported in the monthly EM&A Reports prepared for Contract No.

NMS ID	Location Description

HY/2010/02 respectively.

2. The ET of this Contract should conduct impact noise monitoring at the NMS listed in the table as part of EM&A programme according to the latest notification from ENPO when the monitoring station(s) is/are no longer covered by another ET of the HZMB project. The ET of the Contract shall communicate and share the monitoring data to the ET(s) of other works contracts if the noise monitoring station(s) is/are as part of EM&A programme.
3. The Action and Limit Levels for schools will be applied for alternative noise monitoring station NMS3B.

6.3.2 The ET shall select the monitoring location from the above table based on the locations of the construction activities and seek approval from ER and agreement from the IEC and EPD to the proposal. The monitoring location should be chosen based on the following criteria:

- At locations close to the major site activities which are likely to have noise impacts;
- Close to the most affected existing noise sensitive receivers; and
- For monitoring locations located in the vicinity of the sensitive receivers, care should be taken to cause minimal disturbance to the occupants during monitoring.

6.3.3 The monitoring station shall normally be at a point 1m from the exterior of the sensitive receiver building facade and be at a position 1.2m above the ground. If there is problem with access to the normal monitoring position, an alternative position may be chosen, and a correction to the measurements shall be made. For reference, a correction of +3dB(A) shall be made to the free field measurements. The ET shall agree with the IEC on the monitoring position and the corrections adopted. Once the position for the monitoring station is chosen, the baseline monitoring and the impact monitoring shall be carried out at the same position.

6.3.4 The ENPO may, depending on site conditions and monitoring results, decide whether additional monitoring locations shall be included or any monitoring locations could be removed / relocated during any stage of the construction phase.

6.4 Baseline Monitoring for Construction Noise

6.4.1 The ET shall carry out baseline noise monitoring prior to the commencement of the construction works. There shall not be any construction activities in the vicinity of the station during the baseline monitoring. Continuous baseline noise monitoring for the A-weighted levels L_{eq}, L_{10} and L_{90} shall be carried out daily for a period of at least two weeks in a sample period of 5 minutes or 30 minutes between 0700 and 1900, and 5 minutes between 1900 and 0700. A schedule on the baseline monitoring shall be submitted to the ER ·and IEC for approval before the monitoring starts.

6.4.2 In exceptional cases, when insufficient baseline monitoring data or questionable results are obtained, the ET shall liaise with the IEC and EPD to agree on an appropriate set of data to be used as a baseline reference and submit to the ER for approval.

6.4.3A It is noted that baseline monitoring was undertaken for the Project between September and November 2011 under Agreement CE No.35/2011 (EP) “Baseline Environmental monitoring for Hong Kong–Zhuhai-Macao Bridge Hong Kong Projects – Investigation” prior to the construction of the Project. The baseline monitoring results obtained under Agreement CE No.35/2011 (EP) will be adopted for this Contract.

6.5 Impact Monitoring for Construction Noise

6.5.1 During normal construction working hour (0700-1900 Monday to Saturday), monitoring of $L_{eq, 30min}$ noise levels (as six consecutive $L_{eq, 5min}$ readings) shall be carried out at the agreed monitoring location once every week in accordance with the methodology in the TM.

6.5.2 If a school exits near the construction activity, noise monitoring shall be carried out at the monitoring stations for the school during the school examination periods. The ET Leader shall liaise with the school's personnel and the Hong Kong Examinations and Assessment Authority to ascertain the exact dates and times of all examination periods during the course of the Contract.

6.5.3 In case of non-compliance with the construction noise criteria, more frequent monitoring, as specified in the Action Plan, shall be carried out. This additional monitoring shall be continued until the recorded noise levels are rectified or proved to be irrelevant to the construction activities.

6.5.4 A schedule on the compliance monitoring shall be submitted to the ER and IEC for approval before the monitoring starts.

6.6 Event and Action Plan for Construction

6.6.1 The Action and Limit levels for construction noise are defined in **Table 6.2**. Should non-compliance of the criteria occur, actions in accordance with the Action Plan in **Table 6.3** shall be taken.

Table 6.2: Action and Limit Levels for Construction Noise Monitoring

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

Note: If works are to be carried out during restricted hours, the conditions stipulated in the construction noise permit issued by the Noise Control Authority have to be followed.

*Reduce to 70 dB(A) for schools and 65 dB(A) during school examination periods.

Table 6.3: Event / Action Plan for Construction Noise Monitoring

	Action			
Event	ET	IEC	ER	Contractor
Action Level	1. Notify IEC and Contractor; 2. Identify source, investigate the causes of exceedance and proposed remedial measures; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the Contractor and formulate remedial measures; 5. Increase monitoring frequency to check mitigation measures.	1. Review the analysed results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures are properly implemented.	1. Submit noise mitigation proposals to IEC; 2. Implement noise mitigation proposals.

Event	Action ET	IEC	ER	Contractor
Limit Level	1. Inform IEC, ER, Contractor and EPD; 2. Identify source; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Inform IEC, ER and EPD the causes and actions taken for the exceedances; 7. Assess effectiveness of Contractor's remedial actions keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	1. Discuss amongst ER, ET and Contractor on potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 3. Supervise implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 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.

6.7 Mitigation Measures

6.7.1 The EIA Report has recommended construction noise control measures including the use of quiet plant and temporary noise barriers. All the proposed mitigation measures are summarised in the EMIS in **Appendix B**.

6.7.2 Not applicable.

6.7.3A The recommended noise control measures are summarized as follows:

- Good site practices and noise management techniques;
- Use of site hoarding;
- Use of movable noise barrier and full enclosure for relatively static plant;
- Use of "quiet" plant and working methods;
- Sequencing operation of construction plant equipment; and
- Rescheduling to avoid noise construction works during school examination.

6.8A Report of Monitoring Data to ENPO

6.8.1A This Assignment, which involves multiple construction contracts, will be constructed concurrently with other major infrastructures such as the HKLR and TMCLKL. These interface projects will be overviewed by the ENPO. The ENPO will also oversee and coordinate the cumulative environmental issues arising from the concurrent projects.

6.8.2A To facilitate the ENPO to evaluate environmental impacts and investigate complaints, the ET Leaders shall provide the impact noise monitoring results within one working day after the monitoring event. The ET Leader shall follow ENPO's requirement on the data submission format and procedure.

7 Sediment Quality

7.1 Summary

7.1.1 The sediment quality data has been reviewed and the findings of the site investigation for sediment quality in relation to the current study area for HKBCF is summarised in the EIA Report, there is no requirement on environmental monitoring and audit for sediment quality.

7.1.2 The requirements as recommended in ETWB TC 34/2002 Management of Dredged/Excavated Sediment shall be included in the Particular Specification as appropriate for sediment disposal.

8 Waste Management

8.1 General

8.1.1 The quantity and timing of the generation of waste during the construction phase have been estimated. Measures including the opportunity for on-site sorting, reuse excavated materials in reclamation etc, are devised in the construction methodology to minimize the surplus materials to be disposed off-site. Proper disposal of chemical waste should be via a licensed waste collector.

8.1.2 All the proposed mitigation measures are stipulated in the approved EIA Report and summarized in the EMIS in **Appendix B**.

8.1.3 The types and quantities of waste that would be generated during the operational phase have been assessed. It is anticipated that there would not be any insurmountable impacts during the operation phase. A trip-ticket system should be introduced to monitor all movements of chemical wastes which will be collected by a licensed hauler to a licensed facility for final treatment and disposal.

8.1.4 Recommendations have been made to ensure proper treatment and proper disposal of these wastes in the approved EIA Report and all the proposed mitigation measures are stipulated in the EIA Report are summarized in the EMIS in **Appendix B**.

8.1.5 EM&A requirements are required for waste management during the construction phase only and the effective management of waste arising during the construction phase will be monitored through the site audit programme. The aims of the waste audit are:

- To ensure the waste arising from the works are handled, stored, collected, transferred and disposed of in an environmentally acceptable manner; and
- To encourage the reuse and recycling of material.

8.2 Waste EM&A Requirements

8.2.1 The Contractor shall be required to pay attention to the environmental standard and guidelines and carry out appropriate waste management and obtain the relevant licence/permits for waste disposal. The ET shall ensure that the Contractor has obtained from the appropriate authorities the necessary waste disposal permits or licences including:

- Chemical Waste Permits/licences under the Waste Disposal Ordinance (Cap 354);
- Public Dumping Licence under the Land (Miscellaneous Provisions) Ordinance (Cap 28);
- Marine Dumping Permit under the Dumping at Sea Ordinance (Cap 466); and
- Effluent Discharge Licence under the Water Pollution Control Ordinance.

8.2.2 The Contractor shall refer to the relevant booklets issued by the EPD when applying for the license/permit and the ET shall refer to these booklets for auditing purposes.

8.2.3 During the site inspections and the document review procedures, the ET shall pay special attention to the issues relating to waste management and check whether the Contractor has followed the relevant contract specifications and the procedures specified under the laws of Hong Kong. In addition to the site inspections, the ET shall review the documentation procedures

prepared by the Waste Coordinator once a week to ensure proper records are being maintained and procedures undertaken in accordance with the Waste Management Plan.

8.2.4 The Contractor's waste management practices should be audited with reference to the checklist detailed in **Table 8.1**:

Table 8.1: Waste Management Checklist

Activities	Timing	Monitoring Frequency	If non-compliance, Action Required
All necessary waste disposal permits or licences have been obtained.	Before the commencement of demolition works	Once	Apply for the necessary permits/ licences prior to disposal of the waste. The ET shall ensure that corrective action has been taken.
Once licensed waste haulers are used for waste collection	Throughout the works	Weekly	The ET shall inform the ER and IEC of the non-compliance. The ER shall instruct the Contractor to use a licensed waste haulier. The Contractor shall temporarily suspend waste collection of that particular waste until a licensed waste haulier is used. Corrective action shall be undertaken within 48 hours.
Records of quantities of wastes generated, recycled and disposed are properly kept. For demolition material/waste, the number of loads for each day shall be recorded (quantity of waste can then be estimated based on average truck load. Should landfill charging be implemented, the receipts of the charge could be used for estimating the quantity).	Throughout the works	Weekly	The Contractor shall estimate the missing data based on previous records and the activities carried out. The ET shall audit the results and forward to the ER and IEC for approval.
Wastes are removed from site in a timely manner. General refuse is collected on a daily basis.	Throughout the works	Weekly	The ET shall inform the ER and IEC of the non-compliance. The ER shall instruct the Contractor to remove waste accordingly.
Waste storage areas are properly cleaned and do not cause windblown litter and dust nuisance.	Throughout the works	Weekly	The ET shall inform works the ER and IEC of the non-compliance. The ER shall instruct the Contractor to clean the storage area and/or cover the waste.
Different types of waste are segregated in different containers or skip to enhance recycling of material and proper disposal of waste	Throughout the works	Weekly	The ET shall inform the ER and IEC of the non-compliance. The ER shall instruct the Contractor to provide separate skips/ containers. The Contractor shall ensure the workers place the waste in the appropriate containers.
Chemical wastes are stored, handled and disposed of in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes, published by EPD	Throughout the works	Weekly	The ET shall inform the ER and IEC of the non-compliance. The ER shall instruct the Contractor to rectify the problems immediately. Warning shall be given to the Contractor if corrective actions are not taken within 24 hrs and the Waste Control Group of the EPD shall be identified.
Demolition material/waste in dump trucks are properly covered before leaving the site.	Throughout the works	Weekly	The ET shall inform the ER and IEC of the non-compliance. The ER shall instruct the Contractor to comply. The Contractor shall prevent trucks leaving the site until the waste are properly covered.
Wastes are disposal of at licensed sites.	Throughout the works	Weekly	The ET shall inform the ER and IEC of the non-compliance. The ER shall warn the

Activities	Timing	Monitoring Frequency	If non-compliance, Action Required
			Contractor and instruct the Contractor to ensure the wastes are disposed of at the licensed sites. Should it involve chemical waste, the Waste Control Group of EPD shall be notified.

Note :ET - Environmental Team, IEC – Independent Environmental Checker, ER – Engineer's Representative

9 Water Quality

9.1 Water Quality Parameters

9.1.1 This Contract does not involve marine works such as dredging and reclamation, only land-based construction works are anticipated. With proper implementation of recommended mitigation measures and with the conducting of regular site audits to ensure proper implementation of the mitigation measures and for compliance checking, no adverse water quality impact would be expected. No water quality monitoring will be undertaken for the Contract.

9.1.2 Prior to the commencement of the construction work, a detailed site drainage management plan should be submitted to EPD. The plan should cover measures to minimize all potential water quality impact arising from the surface runoffs of all the related constructions.

9.1.3 The guidelines outlined in the Practice Note for Professional Persons Environmental Consultative Committee (ProPECC), Construction Site Drainage (PN 1/94) should be adopted to control construction site runoff. Mitigation measures to minimise water quality impacts from construction site runoff and wastewater and sewage generated from construction activities are:

- Provision of site drainage systems over the entire construction site with sediment control facilities. Regular inspection and maintenance of the site drainage systems are required to ensure proper and efficient operation at all times.
- Sedimentation tanks or package treatment systems are required to treat the large amount of sediment-laden wastewater generated from foundation construction work, wheel washing, site runoff. Any construction activities that generate wastewater with high concentrations of suspended solid (SS) should also be collected to these facilities for proper treatment prior to disposal. Treated wastewater can be reused for vehicle washing, dust suppression and general cleaning.
- The construction programme should be properly planned to avoid soil excavation in rainy seasons. Exposed stockpiles of excavated soils or construction materials should be covered with tarpaulin or impervious sheets to avoid release of pollutants into the drainage channels.
- Sewage generated from site toilets and canteen should be collected using a temporary storage system. Chemical toilets should be provided at different locations for use by the workers on site. Licensed waste collectors should be employed for collection and disposal of the sewage. The drainage system for collection of wastewater generated from canteen, if any, should be equipped with grease trap capable of providing at least 20 minutes retention during peak flow.
- Wheel washing facilities should be installed at all site entrances/exits.
- An emergency plan should be developed by the Contractors to deal with accidental spillage of chemicals.

9.1.4 Upon completion of the HKLR / HKBCF development, stormwater drainage systems would be completed to collect stormwater generated from the whole area including new roads. Sewage generated from the HKBCF development would be treated on site to fulfill effluent limit for discharge. Additional mitigation measures would not be required.

9.1.5 Not applicable

9.1.6 Not applicable

9.1.7 Not applicable

9.1.8 Not applicable

9.1.9 Not applicable

9.1.10 As discussed in Section 2.1.3A, the construction of box culverts at the HKBCF is proposed and would be predominantly land-based. While the level of the box culverts would be partly below the high water mark, measures such as the use of cofferdam wall would be adopted as necessary to minimize the intrusion of groundwater into works areas. Where seepage of groundwater occurs, groundwater would be pumped out from works areas and discharged to the storm drainage system via silt traps. As no groundwater would be directly discharged into the drainage system and open waters, water quality impacts would not be expected. Similarly, any seepage of seawater during the construction of the last section of the box culverts near the open waters would be also pumped out from works area and discharged to the storm drainage system via silt traps. To minimize the potential water quality impact from the construction of the box culverts, good site practices regarding site runoff control as stated below shall be strictly applied to prevent site run off from entering the marine waters without appropriate treatment.

9.2 Monitoring Equipment

Not applicable

9.3 Laboratory Measurement / Analysis

Not applicable

9.4 Monitoring Locations

Not applicable

9.5 Baseline Monitoring for Water Quality

Not applicable

9.6 Efficiency of Silt Curtain and Cage Curtain

Not applicable

9.7 Impact Monitoring for Water Quality

Not applicable

9.8 Post-construction Monitoring

Not applicable

9.9 Impact Operational Phase Monitoring

Not applicable

9.10 Event and Action Plan

Not applicable

9.11 Mitigation Measures

9.11.1 The EIA Report has recommended construction and operational phase mitigation measures. All the prepared mitigation measures are summarized in the EMIS as shown in **Appendix B**.

10 Ecology

10.1 Introduction

10.1.1 Not applicable

10.1.2A While the HKBCF reclamation works are under a separate design and construction consultancy, this Contract only covers HKBCF superstructure and infrastructure works. No significant ecological impacts are anticipated from this land-based construction assignment. The implementation of recommended mitigation measures during the construction of superstructures and infrastructures are presented in the following section.

10.2 Ecological Mitigation Measures and Implementations

Marine Water Quality

10.2.1 Not applicable

10.2.2 Not applicable

10.2.3 Not applicable

10.2.4 Good Site Practices – Effluent monitoring should be incorporated to make sure that the discharged effluent form construction sites meets the relevant effluent discharge guidelines.

10.2.5 Strict enforcement on No-dumping – To avoid degrading the Chinese White Dolphin Habitat, restrictions prohibiting dumping of rubbish, food, oil, or chemicals will be strictly enforced.

10.2.6 Site runoff control – For works on land, standard site runoff control measures will be established and strictly enforced to ensure that discharge of contaminated or silt- laden runoff into North Lantau waters is minimized.

10.2.7 Spill response plan – In the event of vessels operating in the works areas transporting oil or other hazardous chemicals, an oil-spill response plan, with specific provisions for protection marine ecology and dolphins, will be formulated.

10.2.8 Not applicable

Terrestrial Disturbance

10.2.9 The impact from this minor and short-term source can be reduced by good site practices, including strictly following the permitted works hours, using quieter machines where practicable, and avoiding excessive lightings during night time.

Sedimentation from Land-based Works Areas

10.2.10 Not applicable

Marine Noise and Disturbance

1) Bored Piling

10.2.11 Not applicable

10.2.12 Not applicable

10.2.13 Not applicable

2) Sheet Piling

10.2.14 Not applicable

10.2.15 Not applicable

3) Reclamation and Works Vessel

10.2.16 Not applicable

10.2.17 Not applicable

10.2.18 Not applicable

Marine Traffic

10.2.19 Vessel speed limit control – It is known that fast-moving vessels are a threat to dolphins and porpoises, a speed limit of 10 knots will be strictly enforced within the work areas. This speed limit for vessels within the boundaries of the Sha Chau/Lung Kwu Chau Marine Park appears to be effective in protecting the dolphins from vessel collisions.

10.2.20 Skipper training – Captains of construction vessels working in the West Lantau waters and near the Brothers Islands should undergo training to learn about local dolphins and porpoises. They should be trained to be aware of the protocol for "dolphin friendly" vessel operation (reference made to Code of Conduct for Dolphin Watching Activities available from AFCD).

10.2.21 Predefined and regular routes for working vessels – Captains of all working vessels should be required to use regular travel routes, in order to minimize the chance of vessel collision. And the routes would not go through the dolphin hotspot in Brothers Islands.

Road Surface Runoff

10.2.22 Silt grease traps should be deployed to prevent a direct input of road surface runoff to the marine water.

Chemical Spillage

10.2.23 A Maritime Oil Spill Response Plan (MOSRP) has been developed by Marine Department to deal with oil spill and their potential hazard to the Hong Kong waters. The main objective of the

MOSRP is to ensure a timely and effective response to oil spillage and /or their potential treats in the Hong Kong waters.

10.2.24 Similar to the Shenzhen Western Corridor project, a contingency plan will be formulated to deal with the accidental event of the serious spillage of oil or other harmful chemicals. A contingency plan in this regard will be primarily for safety issues and water quality, but could also help to safeguard the dolphin population. Following the example of Shenzhen Western Corridor, it will be specified in the contingency plan that AFCD must be alerted by the Hong Kong Police Force or Fire Services Department in case an accident of spillage of chemical or oil is reported.

Precautionary/Enhancement Measures

10.2.25 Not applicable

10.2.26 Not applicable

10.2.27 Not applicable

10.3 Monitoring and Audit for Ecology

Not applicable

10.4 Monitoring Locations

Not applicable

10.5 Baseline Monitoring for Ecology

Not applicable

10.6 Impact Monitoring for Ecology

Not applicable

10.7 Post-construction Monitoring for Ecology

Not applicable

10.8 Event and Action Plan

Not applicable

11 Fisheries

11.1 Summary

11.1.1 The EIA report identified and assessed the potential impacts related to fisheries and marine culture.

11.1.2 The water quality monitoring and audit requirements are included in Section 9 “Water Quality”.

11.1.3 As mentioned in the EIA report, no further monitoring and audit for fisheries are required.

12 Cultural Heritage

12.1 Summary

12.1.1 The marine archaeology investigation has concluded that there is no underwater cultural heritage within the study area. No adverse impact on marine archaeological is anticipated. Hence, further investigation or mitigation measure is not required.

12.1.2 The HKBCF is located in the waters to be north-east of the Airport. It would not have any impacts on known built heritage and archaeological site. Mitigation measure is not required for built heritage and terrestrial archaeology.

13 Hazard to Life

13.1 Summary

13.1.1 The HKBCF is a newly reclaimed site, it is anticipated that blasting work will not be required during construction of the HKBCF. Therefore no explosives QRA is required and hence no mitigation measure is required.

14 Landscape & Visual Impact

14.1 Introduction

14.1.1 The EIA has recommended landscape and visual mitigation measures (refer to Section 14 of EIA Report) to be undertaken during both the construction and operation phases of the project. This section outlines the monitoring and audit of these measures.

14.2 Monitoring Details

14.2.1 The design, implementation and maintenance of landscape mitigation measures should be checked to ensure that any potential conflicts between the proposed landscape measures and any other works of the project would be resolved as early as practical without affecting the implementation of the mitigation measures.

Table 14.1: Monitoring Programme

Stage	Monitoring Task	Monitoring Report	Form of Approval	Frequency
Detailed Design	Checking of design works against the recommendations of the landscape and visual impact assessments within the EIA should be undertaken during detailed design phase, to ensure that they fulfill the intention of the mitigation measures. Any changes to the design, including design changes on site should also be checked.	Not Required	Not Required	At the end of the detailed design phase
Construction	Checking of Contractor's operations during the construction period	Report on Contractor's compliance by ET	Counter-signature report by IEC	Bi-weekly
Establishment works	Checking of the planting works during the 12-month establishment period after completion of the construction works	Report on Contractor's compliance by ET	Counter-signature report by IEC	Every 2 months
Long Term Management (10 year)	Monitoring of the long-term management of the planting works in the period up to 10 years after completion of the construction works	Report on compliance by ET or maintenance agency as appropriate	Counter-signature report by Management Agency	Annually

Note Environmental Team (ET) – employed by the Contractor

Detailed Design Phase

14.2.2 The mitigation measures, which are proposed in the EIA to mitigate the landscape and visual impacts, should be embodied into the detailed engineering design, landscape design drawings and contract documents. The Detailed Design should be checked to ensure that the measures are fully incorporated. Potential conflicts with civil engineering, geotechnical, structural, lighting, signage, drainage and underground utilities should resolved as early as practical.

14.2.3 The following mitigation measures are proposed to avoid and reduce the identified impacts.

- Minimize the footprint of project and that the quantity of landscape character units and landscape resources affected;
- Minimize temporary works areas for construction works;
- Undertake good site practices by applying hydroseeding on temporary stockpiles and reclamation areas.
- Conservation of topsoil for reuse;
- Waste Limitation by recycling of felled trees into woodchip mulch for use in landscape areas.

14.2.4 The following design measures will be developed during detailed design stage to remedy and compensate unavoidable impacts:

- Roadside planting and planting along the edge of the reclamation is proposed;
- Transplanting of mature trees in good health and amenity value where appropriate and reinstatement of areas disturbed during construction by compensatory hydro-seeding and planting;
- Protection measures for the trees to be retained during construction activities;
- Optimizing the sizes and spacing of the bridge columns;
- Fine-tuning the location of the bridge columns to avoid visually-sensitive locations;
- Measures concerning the aesthetic design of the bridge are not applicable as it is related to the HKLR Contract;
- Measures concerning the decorative urban design are not applicable as it is related to the HKLR Contract;
- Maximizing new tree, shrub and other vegetation planting to compensate tree felled and vegetation removed;
- Providing planting area around peripheral of HKBCF for tree planting screening effect;
- Providing salt-tolerant native trees along the planter strip at affected seawall and newly reclaimed coastline.
- Providing aesthetic architectural design on the related buildings (e.g. similar materials for PCB building facade to Airport buildings, roof planting and subtle materials for other facilities buildings and so on), and the related infrastructure(e.g. parapet planting and transparent cover for elevated footbridges) to provide harmonious atmosphere of the HKBCF; and
- Fine-tuning the sizes of the structural members to minimize the bulkiness of buildings and adjustment of building arrangement to minimise disturbance to surrounding vegetation in the HKBCF.
- Measures concerning the aesthetic design on the viaduct, tunnel portals, at grade roads and reclamation are not applicable as these are related to the HKLR Contract.

14.2.5 The following mitigation measures should be monitored during construction and operation phases:

Table 14.2: Mitigation Measures to be Monitored during Construction and Operation Phases

Stage	Description of Mitigation Measures
During construction phase	Mitigate both landscape and visual impacts G1. Grass-hydroseed bare soil surface and stock pile areas. G2, Add planting strip and automatic irrigation system if appropriate at some portions of bridge footbridge to screen bridge and traffic. G3. Not applicable as this concerns HKLR G4. For HKBCF, providing aesthetic architectural design on the related buildings (e.g. similar

Stage	Description of Mitigation Measures
	materials for PCB building facade to Airport buildings, roof planting and subtle materials for other facilities buildings and so on), and the related infrastructure (e.g. parapet planting and transparent cover for elevated footbridges) to provide harmonious atmosphere of the HKBCF (See Figure 14.3.1 of the EIA Report for example)
	GS. Vegetation reinstatement and upgrading to disturbed areas
	G6. Maximizing new tree shrub and other vegetation planting to compensate tree felled and vegetation removed
	G7. Providing planting area around peripheral of HKBCF for tree screening buffer effect;
	G8. Plant salt-tolerant native and shrubs etc along the planter strip at affected seawall.
	G9. Reserve of loose natural granite rocks for re-use. Provide new coastline to adopt "natural-look" by means of using armour rocks in the form of natural rock materials and planting strip area accommodating screen buffer to enhance "natural-look" of the new coastline. (See Figure 14.4.2 of the EIA Report for example)
	Mitigate visual impacts
	V1.Minimize time for construction activities during construction period.
	V2.Provide screen hoarding at the portion of the project site / works areas / storage areas near VSRs who have close low-level views to the Project during HKBCF construction.
During operation phase	Mitigate both landscape and visual impacts
	G10. Provide proper planting maintenance on the new planting areas to enhance the aesthetic degree.
	V3. Lighting design to minimize glare at night. Decorative road lighting to be considered during detailed design stage.

Note • Figure 14.3.1 – Landscape Master Plan showing the general arrangement of HKBCF with mitigation. This Plan is preliminary only and subject to further development in detailed design stage. (see Figure 14.3.1of the EIA Report)

• Figure 14.4.2 – Details of mitigation measure – G6 for the new coastline. (see Figure 14.4.2 of the EIA Report).

14.2.6 An implementation programme will be prepared as required by EIAO-TM. Reference will be made to the ETWB TC(W) No. 2/2004 on Maintenance of Vegetation and Hard Landscape Features which defines the management and maintenance responsibilities for natural vegetation and landscape works, including both softworks and hardworks, and the authorities for tree preservation and felling. The format of the preliminary arrangement of implementation programme is listed in **Table 14.3**.

Table 14.3: Proposed format for preliminary funding, implementation, management and maintenance proposal

Mitigation item	Funding and implementation (See Note)	Maintenance unit (See Note)
During Construction		
V1 and V2	Project proponent (i.e. HyD)	The Contractor
G3	Project proponent / initiating department (e.g. the relevant user department of the building)	Project proponent / initiating department (e.g. the relevant user department of the building)
G1, G2, G3, G6, G7, G8 and G9	Project proponent (i.e. HyD)	HyD / LCSD
During operation		
V3	Project proponent (i.e. HyD)	HyD
G10	Project proponent (i.e. HyD)	HyD / LCSD

Note The proposed mitigation measures and arrangements are tentative. The responsible parties are also tentative and subject to further agreements amongst the Government Departments.

Construction Phase & Establishment Period

14.2.7 The implementation of landscape construction works and subsequent maintenance operations during the 12-month Establishment Period must be supervised by qualified Landscape Resident Site Staff (Registered Landscape Architect or Professional Member of the Hong Kong Institute of Landscape Architects).

14.2.8 Measures to mitigate landscape and visual impacts during construction should be checked to ensure compliance with the intended aims of the measures.

14.2.9 The progress of the engineering works shall be regularly reviewed on site to identify the earliest practical opportunities for the landscape works to be undertaken.

Long Term Management (10 Years)

14.2.10 The planting works shall be monitored during the first 10 years of the operation phase of the project. Any areas of vegetation which is failed to establish, should be corrected by the relevant maintenance parties at the earliest opportunity. The maintenance requirement of the planting works stated under the 10-Year Management Programme is included in the monitoring requirement.

14.3 Baseline Monitoring

14.3.1 A photographic record of the site at the time of the Contractor's possession of the site shall be prepared by the Contractor and approved by the ER. The approved photographic record shall be submitted to the Project Proponent, ET, IEC and EPD for record.

14.4 Action Plan for Landscape and Visual Works

Table 14.4: Action Plan for Landscape and Visual Works

	Action			
Event	ET	IEC	ER	Contractor
Conflicts occur	Check and certify Contractor's proposed remedial design conforms to the requirements of EP and prepare checking report(s)	Check and verify ET Leader certified Contractor's proposed remedial design.	Supervise the Contractor to carry out the proposed remediation work	Propose remedial design and carry out the proposed work

15 Site Environmental Audit

15.1 Site Inspection

15.1.1 Site inspection provides an effective and direct means to initiate and enforce specified environmental protection and pollution control measures at the works area. These shall be undertaken routinely to inspect construction activities in order to ensure that appropriate environmental protection and pollution control mitigation measures are properly implemented.

15.1.2 The ET Leader shall be responsible for formulating the environmental site inspections, the deficiency and action reporting system, and for carrying out the site inspection works. Within 21 days of the construction contract commencement, he shall submit a proposal for site inspection and deficiency and action reporting procedures to the Contractor for agreement, and to the ER for approval. The ET's proposal for rectification would be made known to the IEC.

15.1.3 Regular site inspections shall be carried out at least once per week. The areas of inspection shall not be limited to the environmental situation, pollution control and mitigation measures within the site. It should also review the environmental situations outside the works area which is likely to be affected, directly or indirectly, by the site activities. The following information should be made reference in conducting the inspection:

i. EIA recommendations on environmental protection and pollution control mitigation measures;
ii. works progress and programme;
iii. individual works methodology proposals (which shall include proposal on associated pollution control measures);
iv. contract specifications on environmental protection;
v. relevant environmental protection and pollution control laws; and
vi. previous site inspection results.

15.1.4 The Contractor shall keep the ET Leader updated with all relevant information on the construction contract necessary for him to carry out the site inspections. Inspection results and associated recommendations for improvements to the environmental protection and pollution control works shall be submitted to the IEC and the Contractor within 1 working day. The Contractor shall follow the procedures and time-frame as stipulated in the environmental site inspection, and the deficiency and action reporting system formulated by the ET Leader, to report on any remedial measures subsequent to the site inspections.

15.1.5 Ad-hoc site inspections shall also be carried out if significant environmental problems are identified. Inspections may also be required subsequent to receipt of an environmental complaint, or as part of the investigation work, as specified in the Action Plan for environmental monitoring and audit.

15.2 Compliance with Legal and Contractual Requirements

15.2.1 There are contractual environmental protection and pollution control requirements as well as environmental protection and pollution control laws in Hong Kong with which construction activities must comply.

15.2.2 In order that the works comply with the contractual requirements, all works method statements submitted by the Contractor to the ER for approval shall be sent to the ET Leader for vetting to ensure sufficient environmental protection and pollution control measures have been included. The implementation schedule of mitigation measures is summarized in **Appendix B**.

15.2.3 The ET Leader shall also review the progress and programme of the works to check that relevant environmental laws have not been violated, and that any foreseeable potential for violating laws can be prevented.

15.2.4 The Contractor shall regularly copy relevant documents to the ET Leader so that checking can be carried out. The document shall at least include the updated Works Progress Reports, updated Works Programme, any application letters for different licence / permits under the environmental protection laws, and copies of all valid licences / permits. The site diary and environmental records shall be made available for the inspection by the relevant parties.

15.2.5 After reviewing the document, the ET Leader shall advise the IEC and Contractor of any non-compliance with contractual and legislative requirements on environmental protection and pollution control for them to take follow-up actions. If the ET Leader's review concludes that the current status on licence / permit application and any environmental protection and pollution control preparation works may result in potential violation of environmental protection and pollution control requirements, he shall also advise the Contractor and the ER accordingly.

15.2.6 Upon receipt of the advice, the Contractor shall undertake immediate actions to correct the situation. The ER shall follow up to ensure that appropriate action has been taken in order to satisfy contractual and legal requirements.

15.3 Environmental Complaints

15.3.1 Complaints shall be referred to the ET Leader for action. The ET Leader shall undertake the following procedures upon receipt of any complaint:

i. Log complaint and date of receipt onto the complaint database and inform the IEC immediately;
ii. Investigate the complaint to determine its validity, and assess whether the source of the problem is due to works activities;
iii. Identify mitigation measures in consultation with the IEC if a complaint is valid and due to works;
iv. Advise the Contractor if mitigation measures are required;
v. Review the Contractor's response to identify mitigation measures, and the updated situation;
vi. If the complaint is transferred from the EPD, submit interim report to the EPD on status of the complaint investigation and follow-up action within the time frame assigned by the EPD;
vii. Undertake additional monitoring and audit to verify the situation if necessary, and review that circumstances leading to the complaint do not recur;
viii. Report investigation results and subsequent actions to complainant (if the source of complaint is EPD, the results should be reported within the timeframe assigned by the EPD);

ix. Record the complaint, investigation, the subsequent actions and the results in the monthly EM&A reports; and

x. For each incident of environmental complaint received, prepare and certify the complaint investigation report. The certified complaint investigation report shall be submitted to the IEC and ER for verification.

16 Reporting

16.1 General

16.1.1 Reports can be provided in an electronic medium upon agreeing the format with the ER and EPD. This would enable a transition from a paper/historic and reactive approach to an electronic / real time proactive approach. All the monitoring data (baseline and impact) shall also be submitted on diskettes or other approved media. The formats for air quality and noise to be submitted shall be separately agreed.

16.1.2 Once the monitoring data are available (e.g. noise, dust, water quality etc) and vetted by the IEC, the ET is responsible to upload the relevant data to the dedicated website established and maintained by ENPO. The ET Leader shall follow ENPO's requirements on the data submission format and procedure.

16.1.3 Types of reports that the ET Leader shall prepare and submit include baseline monitoring report, monthly EM&A report, quarterly EM&A summary report and final EM&A review report. In accordance with Annex 21 of the EIAO-TM, a copy of the monthly, quarterly summary and final review EM&A reports shall be made available to the Director of Environmental Protection.

16.2 Baseline Monitoring Report

16.2.1 The ET Leader shall prepare and submit a Baseline Environmental Monitoring Report within 10 working days of completion of the baseline monitoring. Copies of the Baseline Environmental Monitoring Report shall be submitted to the Contractor, the IEC, the ER and EPD. The ET Leader shall liaise with the relevant parties on the exact number of copies they require. The report format and baseline monitoring data format shall be agreed with the EPD prior to submission.

16.2.2 Baseline monitoring report shall include at least the following:

i. Executive summary (about half a page);
ii. Brief project background information;
iii. Drawings showing locations of the baseline monitoring stations;
iv. Monitoring results (in both hard and diskette copies) together with the following information:
    - Monitoring methodology;
    - Name of laboratory and types of equipment used and calibration details;
    - Parameters monitored;
    - Monitoring locations;
    - Monitoring date, time, frequency and duration; and
    - Quality assurance {QA) / quality control (QC) results and detection limits;
v. Details of influencing factors, including:
    - Major activities, if any, being carried out on the site during the period;
    - Weather conditions during the period; and
    - Other factors which might affect results.
vi. Determination of the Action and Limit Levels for each monitoring parameter and statistical analysis of the baseline data, the analysis shall conclude if there is any significant difference between control and impact stations for the parameters monitored;
vii. Revisions for inclusion in the EM&A Manual; and

viii. Comments, recommendations and conclusions.

16.3 Monthly EM&A Reports

16.3.1 The results and findings of all EM&A work required in the Manual shall be recorded in the monthly EM&A reports prepared by the ET Leader. The EM&A report shall be prepared and submitted within 10 working days of the end of each reporting month, with the first report due the month after construction commences. Each monthly EM&A report shall be submitted to the following parties: the Contractor, the IEC, the ER and EPD. Before submission of the first EM&A report, the ET Leader shall liaise with the parties on the required number of copies and format of the monthly reports in both hard copy and electronic medium.

16.3.2 The ET leader shall review the number and location of monitoring stations and parameters every six months, or on as needed basis, in order to cater for any changes in the surrounding environment and the nature of works in progress.

First Monthly EM&A Report

16.3.3 The first monthly EM&A report shall include at least the following:

i. Executive summary (1-2 pages):
- Breaches of Action and Limit levels;
- Complaint log;
- Notifications of any summons and successful prosecutions;
- Reporting changes; and
- Future key issues.

ii. Basic project information:
- Project organization including key personnel contact names and telephone numbers;
- Programme;
- Management structure, and
- Works undertaken during the month.

iii. Environmental status:
- Works undertaken during the month with illustrations (such as location of works, daily excavation rate, etc); and
- Drawings showing the assignment area, any environmental sensitive receivers and the locations of the monitoring and control stations (with coordinates of the monitoring locations).

iv. A brief summary of EM&A requirements including:
- All monitoring parameters;
- Environmental quality performance limits (Action and Limit levels);
- Event-Action Plans;
- Environmental mitigation measures, as recommended in the approved EIA Report; and
- Environmental requirements in contract documents.

v. Implementation status:
- Advice on the implementation status of environmental protection and pollution control / mitigation measures, as recommended in the project EIA.

vi. Monitoring results (in both hard and diskette copies) together with the following information: ·

- Monitoring methodology;
- Name of laboratory and types of equipment used and calibration details;
- Parameters monitored;
- Monitoring locations;
- Monitoring date, time, frequency, and duration;
- Weather conditions during the period;
- Any other factors which might affect the monitoring results; and
- QA/QC results and detection limits.

vii. Report on non-compliance, complaints, and notifications of summons and successful prosecutions:

- Record of all non-compliance (exceedances) of the environmental quality performance limits (Action and Limit levels);
- Record of all complaints received (written or verbal) for each media, including locations and nature of complaints investigation, liaison and consultation undertaken, actions and follow-up procedures taken, results and summary;
- Record of all notification of summons and successful prosecutions for breaches of current environmental protection / pollution control legislation, including locations and nature of the breaches, investigation, follow-up actions taken, results and summary;
- Review of the reasons for and the implications of non-compliance, complaints, summons and prosecutions including review of pollution sources and working procedures; and
- Description of the actions taken in the event of non-compliance and deficiency reporting and any follow-up procedures related to earlier noncompliance.

viii. Others

- An account of the future key issues as reviewed from the works programme and work method statements;
- Advice on the solid and liquid waste management status;
- Comments (for example, effectiveness and efficiency of the mitigation measures) recommendations (for example, any improvement in the EM&A programme) and conclusions.

Subsequent EM&A Reports

16.3.4 Subsequent monthly EM&A reports shall include the following:

i. Executive summary (1 - 2 pages):

- Breaches of Action and Limit levels;
- Complaints log;
- Notifications of any summons and successful prosecutions;
- Reporting changes; and
- Future key issues.

ii. Basic project information:

- Project organisation including key personnel contact names and telephone numbers;
- Programme;
- Management structure; and
- Work undertaken during the month.

iii. Environmental status:

- Works undertaken during the month with illustrations (such as location of works, daily excavation rate, etc.); and
- Drawing showing the assignment area, any environmental sensitive receivers and the locations of the monitoring and control stations.

iv. Implementation status:
- Advice on the implementation status of environmental protection and pollution control / mitigation measures, as recommended in the approved EIA Report.

v. Monitoring results (in both hard and diskette copies) together with the following information:
- Monitoring methodology;
- Name of laboratory and types of equipment used and calibration details;
- Parameters monitored;
- Monitoring locations;
- Monitoring date, time, frequency, and duration;
- Weather conditions during the period;
- Any other factors which might affect the monitoring results; and
- QA / QC results and detection limits.

vi. Report on non-compliance, complaints, and notifications of summons and successful prosecutions:
- Record of all non-compliance (exceedances) of the environmental quality performance limits (Action and Limit levels);
- Record of all complaints received (written or verbal) for each media, including locations and nature of complaints investigation, liaison and consultation undertaken, actions and follow-up procedures taken, results and summary;
- Record of all notification of summons and successful prosecutions for breaches of current environmental protection / pollution control legislations, including locations and nature of the breaches, investigation, follow-up actions taken, results and summary;
- Review of the reasons for and the implications of non-compliance, complaints; summons and prosecutions including review of pollution sources and working procedures; and
- A description of the actions taken in the event of non-compliance and deficiency reporting and any follow-up procedures related to earlier noncompliance.

vii. Others
- An account of the future key issues as reviewed from the works programme and work method statements;
- Advice on the solid and liquid waste management status; and
- Comments (for example, effectiveness and efficiency of the mitigation measures), recommendations (for example, any improvement in the EM&A programme) and conclusions.

viii. Appendices
- Action and Limit levels;
- Graphical plots of trends of monitored parameters at key stations over the past four reporting periods for representative monitoring stations annotated against the following:
  a) Major activities being carried out on site during the period;
  b) Weather conditions during the period; and
  c) Any other factors that might affect the monitoring results.

- Monitoring schedule for the present and next reporting period;
- Cumulative statistics on complaints, notifications · of summons and successful prosecutions; and
- Outstanding issues and deficiencies.

16.4 Quarterly EM&A Summary Reports

16.4.1 A quarterly EM&A summary report of around 5 pages shall be produced and shall contain at least the following information:

i. Executive summary (about half a page);

ii. Basic project information including a synopsis of the assignment organization, programme, contacts of key management, and a synopsis of works undertaken during the quarter;

iii. A brief summary of EM&A requirements including:
- Monitoring parameters;
- Environmental quality performance limits (Action and Limit levels); and
- Environmental mitigation measures, as recommended in the approved EIA Report.

iv. Advice on the implementation status of environmental protection and pollution control / mitigation measures, as recommended in the approved EIA Report, summarized in the updated implementation schedule;

v. Drawings showing the assignment area, any environmental sensitive receivers and the locations of the monitoring and control stations;

vi. Graphical plots of any trends in monitored parameters over the past four months (the last month of the previous quarter and the present quarter) for representative monitoring stations annotated against:
- Major activities being carried out on site during the period;
- Weather conditions during the period; and
- Any other factors which might affect the monitoring results.

vii. Advice on the solid and liquid waste management status;

viii. A summary of non-compliance (exceedances) of the environmental quality performance limits (Action and Limit levels);

ix. A brief review of the reasons for and the implications of non-compliance, including a review of pollution sources and working procedures;

x. A summary description of actions taken in the event of non-compliance and any follow-up procedures related to earlier non-compliance;

xi. A summarized record of all complaints received (written or verbal) for each media, liaison and consultation undertaken, actions and follow-up procedures taken;

xii. Comments (for example, a review of the effectiveness and efficiency of the mitigation measures and the performance of the environmental management system, that is, of the overall EM&A programme); recommendations (for example, any improvement in the EM&A programme) and conclusions for the quarter; and

xiii. Contacts of Project Proponent and any hotline telephone number for the public to make enquiries.

16.5 Final EM&A Review Reports

16.5.1 The final EM&A report should contain at least the following:

i. Executive summary (1 - 2 pages);
ii. Drawings showing the assignment area, any environmental sensitive receivers and the locations of the monitoring and control stations;
iii. Basic project information including a synopsis of the assignment organisation, contacts of key management, and a synopsis of work undertaken during the course of the assignment or past twelve months;
iv. A brief summary of EM&A requirements including:
    - Environmental mitigation measures, as recommended in the approved EIA Report;
    - Environmental impact hypotheses tested;
    - Environmental quality performance limits (Action and Limit levels);
    - All monitoring parameters; and
    - Event-Action Plans.
v. A summary of the implementation status of environmental protection and pollution control / mitigation measures, as recommended in the approved EIA Report, summarised in the updated implementation schedule;
vi. Graphical plots and statistical analysis of the trends of monitored parameters over the course of the assignment, including the post-assignment monitoring for all monitoring stations annotated against:
    - Major activities being carried out on site during the period;
    - Weather conditions during the period; and
    - Any other factors which might affect the monitoring results.
vii. A summary of non-compliance (exceedances) of the environmental quality performance limits (Action and Limit levels);
viii. A review of the reasons for and the implications of non-compliance including review of pollution sources and working procedures as appropriate;
ix. A description of the actions taken in the event of non-compliance;
x. A summary record of all complaints received (written or verbal) for each media, liaison and consultation undertaken, actions and follow-up procedures taken;
xi. A summary record of notifications of summons and successful prosecutions for breaches of the current environmental protection / pollution control legislation, locations and nature of the breaches, investigation follow-up actions taken and results;
xii. A review of the validity of EIA predictions and identification of shortcomings in EIA recommendations;
xiii. Comments (for example, a review of the effectiveness and efficiency of the mitigation measures and of the performance of the environmental management system, that is, of the overall EM&A programme); and
xiv. Recommendations and conclusions (for example, a review of success of the overall EM&A programme to cost-effectively identify deterioration and to initiate prompt effective mitigatory action when necessary).

16.6 Data Keeping

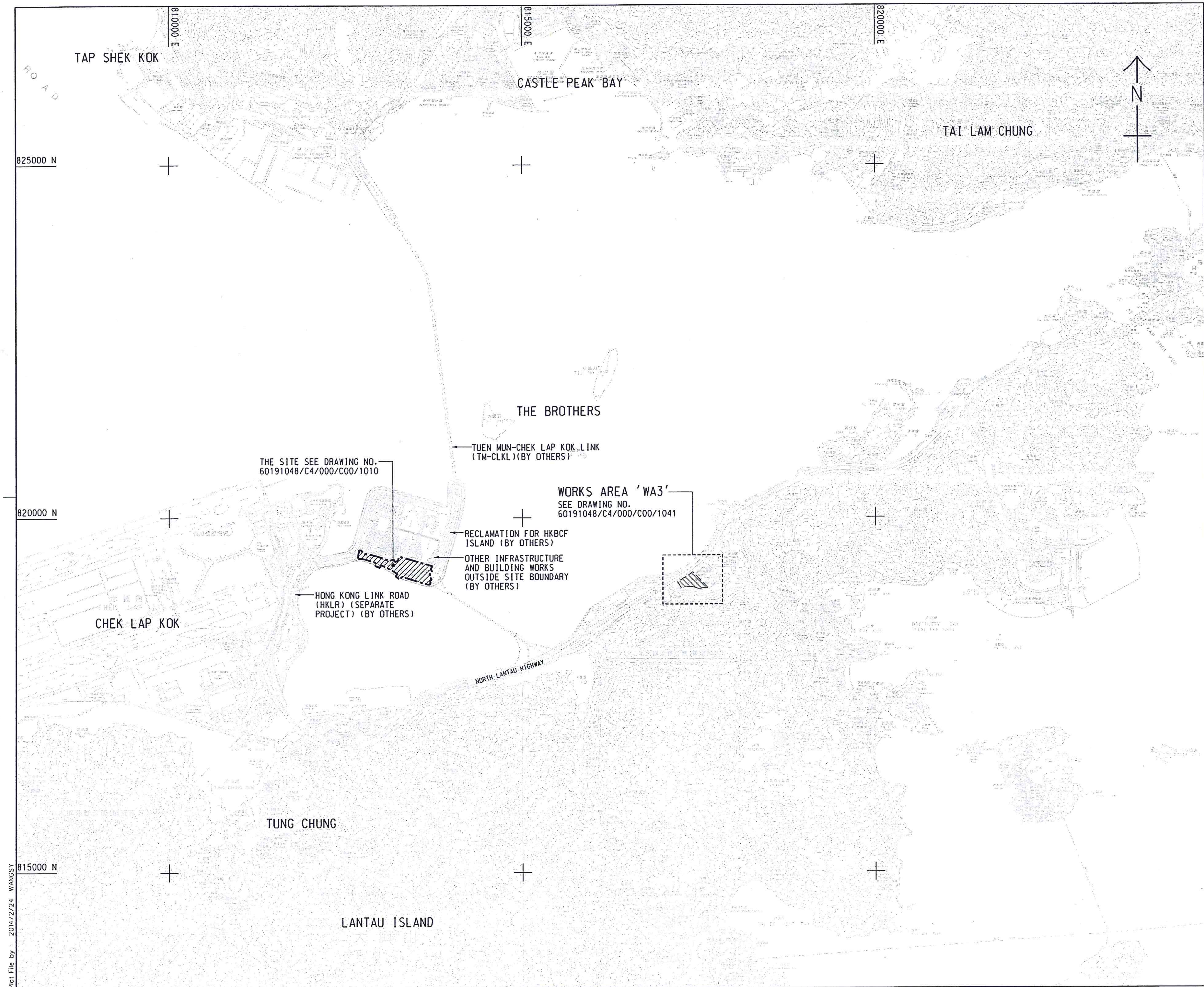
16.6.1 No site-based documents (such as monitoring field records, laboratory analysis records, site inspection forms, etc.) are required to be included in the monthly EM&A reports. However, any

such document shall be well kept by the ET Leader and be ready for inspection upon request. All relevant information shall be clearly and systematically recorded in the document. Monitoring data shall also be recorded in magnetic media form, and the software copy must be available upon request. Data format shall be agreed with EPD. All documents and data shall be kept for at least one year following completion of the construction contract.

16.7 Interim Notifications of Environmental Quality Limit Exceedances

16.7.1 With reference to the Event and Action Plan, when the environmental quality performance limits are exceeded, the ET leader shall immediately notify the IEC and EPD, as appropriate. The notification shall be followed up with advice to IEC and EPD on the results of the investigation, proposed actions and success of the actions taken, with any necessary follow-up proposals. A sample template for the interim notifications is presented in **Appendix E**.

Figure 1.1: Site Layout Plan



NOTES:

1. COORDINATES ARE RELATED TO HONG KONG METRIC GRID (1980).
2. DIMENSIONS ARE IN MILLIMETER AND CHAINAGE ARE IN METRES UNLESS OTHERWISE SHOWN.

LEGEND:

SITE BOUNDARY

WORKS AREA

REV. 修訂	DESCRIPTION 內容摘要	CHECKED 複核 D.E.	CHECKED 複核 P.E.	DATE 日期
-	TENDER DRAWING	BWCW	SCI	FEB.14

路政署
HIGHWAYS DEPARTMENT
港珠澳大橋香港工程管理處
Hong Kong-Zhuhai-Macao Bridge Hong Kong Project Management Office

HONG KONG-ZHUHAI-MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- INFRASTRUCTURE WORKS STAGE II (SOUTHERN PORTION)

SITE LOCATION PLAN

AECOM
Rogers Stirk Harbour + Partners
BURO HAPPOLD ATKINS ADI
Aedas

DRG.NO. 圖紙編號 60191048/C4/000/C00/1000

DESIGNED BY 設計: BWCW	CONTRACT NO. 合約編號: HY/2013/04	P. Dir. APPROVED 批准人: TKH
DRAWN BY 繪圖: WSY	STATUS 階段:	
SCALE 比例: A1 1 : 25000		
DIMENSIONS ARE IN 尺寸單位: METRES		

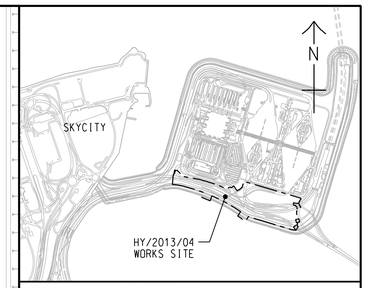
Plot File by : 2014/2/24 WANGSY
P:\PROJECTS\60191048\DRAWING\CONTRACT\C4\1000\C4_000_C00_1000.dgn

Figure 1.2: Layout Plan of the Main Works Site

812800 E
813200 E
813600 E
820000 N
819600 N
819400 N

BRIDGE D1
BRIDGE D8
BOX CULVERT C
DEPRESSED ROAD DRAINAGE
PUMP HOUSE CUM SWITCH ROOM
BRIDGE D9a
BRIDGE D14a
BRIDGE D10
BRIDGE D14b
BRIDGE D9b
BRIDGE D11
BRIDGE D9c
BRIDGE D16N
BRIDGE D16S
BRIDGE D15
BRIDGE D13
BRIDGE D12a
BRIDGE D12b
BOX CULVERT D
M.J.

A



LOCATION PLAN
SCALE 1 : 25000

LEGEND:

- SITE BOUNDARY
- AT-GRADE WORKS LIMIT
- M.J. — MOVEMENT JOINT
- BRIDGE
- BUILDING/FACILITIES
- AT-GRADE ROAD
- BOX CULVERT

REV. 修訂	DESCRIPTION 內容摘要	DRAWN 繪圖	CHECKED 複核	DATE 日期
B	WORKING DRAWING	BWCW	SCI	APR.15
A	TENDER ADDENDUM NO. 3	BWCW	SCI	MAY.14
–	TENDER DRAWING	BWCW	SCI	FEB.14

路政署 HIGHWAYS DEPARTMENT
港珠澳大橋香港工程管理處 Hong Kong - Zhuhai - Macao Bridge Hong Kong Project Management Office

HONG KONG-ZHUHAI-MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- INFRASTRUCTURE WORKS STAGE II (SOUTHERN PORTION)

GENERAL ARRANGEMENT

AECOM
Rogers Stirk Harbour + Partners
BURO HAPPOLD ATKINS ADI
Aedas

DRG.NO. 圖紙編號 60191048/C4/000/C00/1002B

DESIGNED BY 設計	BWCW	CONTRACT NO. 合約編號	HY/2013/04
DRAWN BY 繪圖	WSY	P. Dir. APPROVED 批准人	TKH
SCALE 比例	A1 1 : 2000	STATUS 階段	WORKING DRAWING
DIMENSIONS ARE IN 尺寸單位	METRES	© COPYRIGHT RESERVED 版權所有	

Plot File by : 2014/5/7 WANGSY

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Figure 1.3: Layout Plan of Works Area WA3

SETTING OUT POINT

POINT	EASTING	NORTHING
301	817467.265	819162.683
302	817314.741	819069.828
303	817327.338	819049.295
304	817440.865	819117.811
305	817340.825	819027.314
306	817387.350	819023.403
307	817387.861	819043.396
308	817466.133	819091.047
309	817469.783	819087.181
310	817513.449	819113.764
311	817347.717	819016.082
312	817620.269	819000.620
313	817445.362	819013.131
314	817450.595	819032.307
315	817495.828	819059.595
316	817522.110	819075.388
317	817566.404	819028.472
318	817568.506	819008.526
319	817531.155	819001.066
320	817533.346	818991.306

A

817200 E

817400 E

817600 E

819200 N

819000 N

NORTH LANTAU HIGHWAY

CHEUNG TUNG ROAD

WORKS AREA OCCUPIED BY CONTRACT NO. HY/2011/03

WORKS AREA OCCUPIED BY CONTRACT NO. HY/2011/09

WORKS AREA OCCUPIED BY CONTRACT NO. HY/2013/02

WORKS AREA OCCUPIED BY CONTRACT NO. HY/2013/01

WORKS AREA OCCUPIED BY CONTRACT NO. HY/2013/03

10m WIDE COMMON ACCESS TO BE MAINTAINED BY CONTRACT NO. HY/2010/02

WORKS AREA OCCUPIED BY CONTRACT NO. HY/2010/02

10m WIDE COMMON ACCESS TO BE CONSTRUCTED AND INITIALLY MAINTAINED BY CONTRACT NO. HY/2013/01. UPON COMMENCEMENT OF CONTRACT NO. HY/2013/03. THE MAINTENANCE RESPONSIBILITY SHALL BE TRANSFERRED FROM CONTRACT NO. HY/2013/01 TO CONTRACT NO. HY/2013/03.

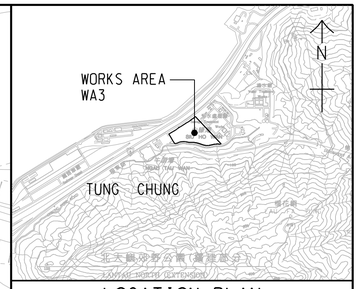
WORKS AREA OCCUPIED BY CONTRACT NO. HY/2013/04

WORKS AREA OCCUPIED BY CONTRACT NO. HY/2014/05

301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320

小濠灣污水處理廠
Siu Ho Wan Sewage Treatment Works

N



LOCATION PLAN
SCALE 1 : 25000

NOTES:

1. COORDINATES ARE RELATED TO HONG KONG METRIC GRID (1980).
2. DIMENSIONS ARE IN MILLIMETER AND CHAINAGE ARE IN METRES UNLESS OTHERWISE SHOWN.

LEGEND:

- WORKS AREA BOUNDARY
- PORTION 3.1
- PORTION 3.2
- PORTION 3.3
- PORTION 3.4
- PORTION 3.5
- PORTION 3.6
- PORTION 3.7
- PORTION 3.8
- PORTION 3.9
- PORTION 3.10 (A)

REV. 修訂	DESCRIPTION 內容摘要	DES. 設計 / CHECKED 查核	DATE 日期
B	WORKING DRAWING	BWCW SCI	APR.15
A	TENDER ADDENDUM NO. 2	BWCW SCI	APR.14
-	TENDER DRAWING	BWCW SCI	FEB.14

路政署 HIGHWAYS DEPARTMENT
港珠澳大橋香港工程管理處 Hong Kong - Zhuhai - Macao Bridge Hong Kong Project Management Office

HONG KONG-ZHUHAI-MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- INFRASTRUCTURE WORKS STAGE II (SOUTHERN PORTION)

WORKS AREA WA3

AECOM
Rogers Stirk Harbour + Partners
BURO HAPPOLD ATKINS ADI
Aedas

DRG.NO. 圖紙編號 60191048/C4/000/C00/1041B

DESIGNED BY 設計: BWCW	CONTRACT NO. 合約編號: HY/2013/04	P. Dir. APPROVED 批准人: TKH
DRAWN BY 繪圖: WSY	STATUS 階段: WORKING DRAWING	
SCALE 比例: A1 1 : 1000		
DIMENSIONS ARE IN 尺寸單位: METRES	© COPYRIGHT RESERVED 版 權 所 有	

Plot File by : 2014/4/11 WANGSY

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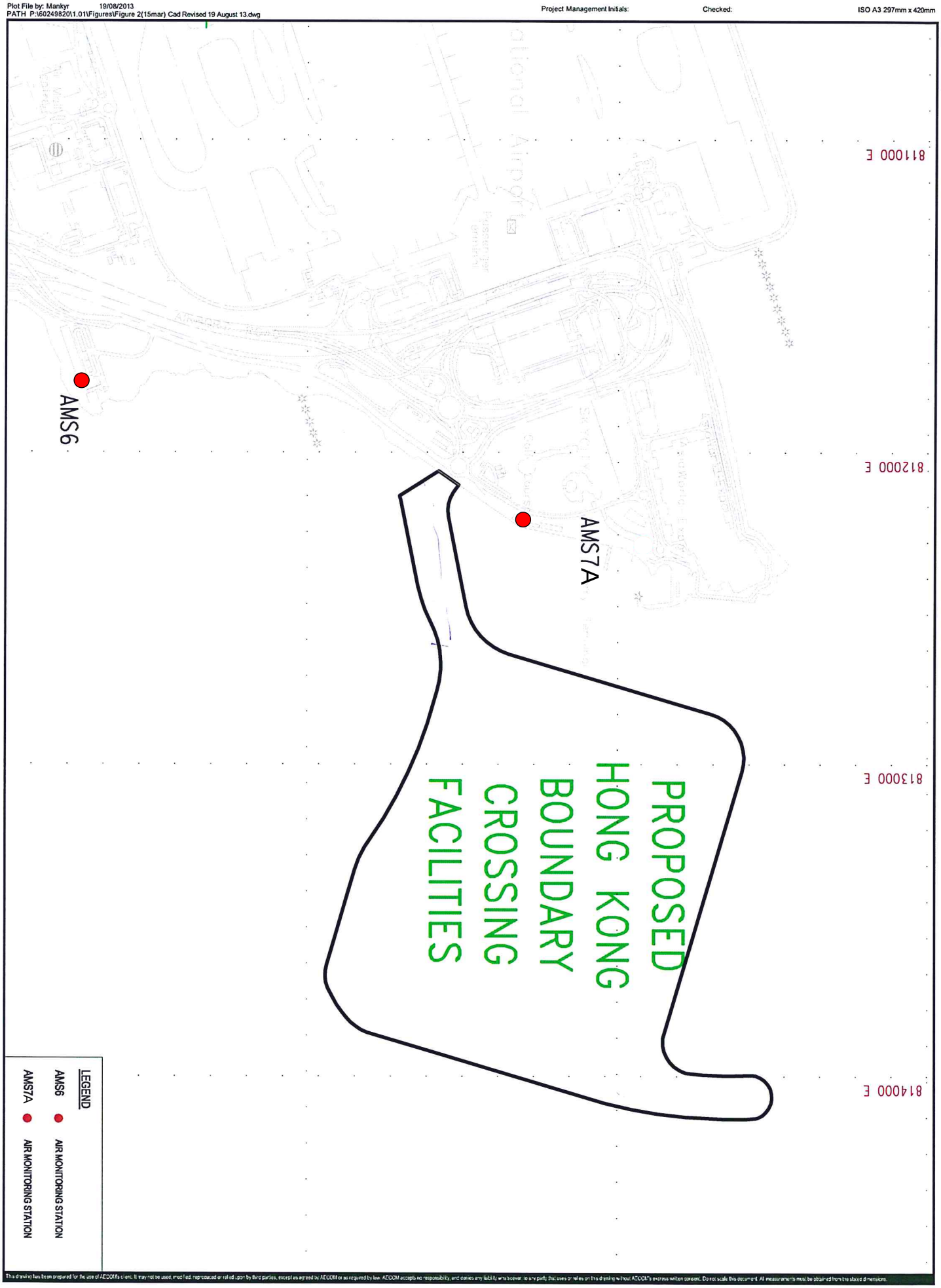
Figure 5.1: Location of Air Monitoring Stations



AGREEMENT NO. CE 13/2010(EE)
HZMB HONG KONG BOUNDARY CROSSING FACILITIES (SUPERSTRUCTURE & INFRASTRUCTURE) – DESIGN AND CONSTRUCTION
Project No.: – Date: Aug 2013

AIR QUALITY AND NOISE MONITORING STATIONS

AECOM

Figure 4-1

Figure 6.1: Location of Noise Monitoring Stations

Plot File by: LAMMCL 15/03/2012
PATH P:\60249820\M1.01\CAD\Drawing\Figure\Figure 2(15mar).dwg

Project Management Initials: Checked:

ISO A3 297mm x 420mm

817000 N

818000 N

819000 N

811000 E

812000 E

813000 E

814000 E

PROPOSED HONG KONG BOUNDARY CROSSING FACILITIES

NMS2- Sea View Cresent

NMS3B - Site Boundary of Site Office Area at Works Area WA2

LEGEND

NMS2 and NMS3B NOISE MONITORING STATIONS

AGREEMENT NO. CE 13/2010(EE)
HZMB HONG KONG BOUNDARY CROSSING FACILITIES (SUPERSTRUCTURE & INFRASTRUCTURE) – DESIGN AND CONSTRUCTION
Project No.: – Date: JUL 2013

AIR QUALITY AND NOISE MONITORING STATIONS

AECOM

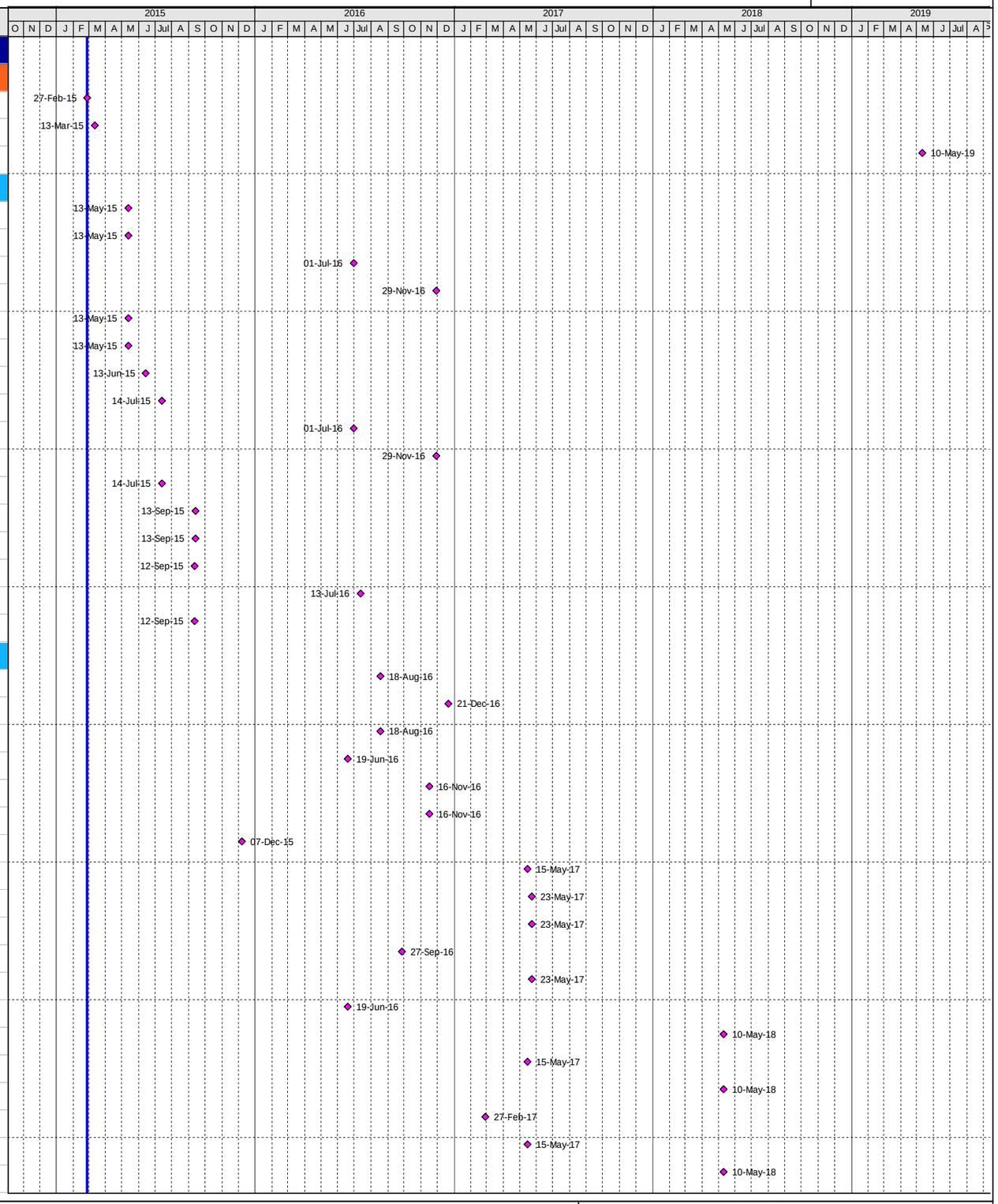
Figure 5-1

Appendices

Appendix A. Tentative Construction Programme

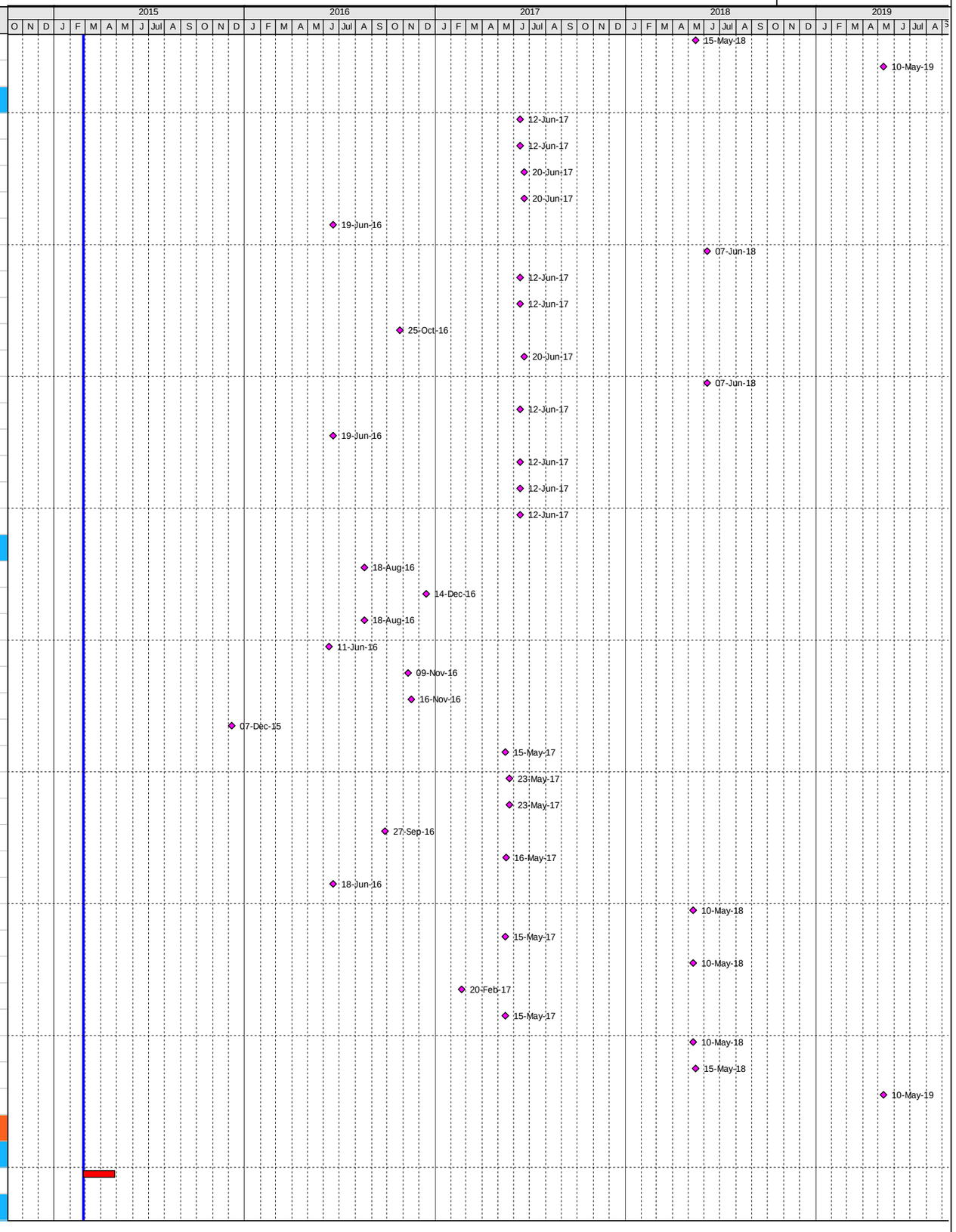
HY/2013/04 - Hong Kong Boundary Crossing Facilities Infrastructure Works Stage II (Southern Portion)

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float	Calendar	Remarks
Hong Kong Boundary Crossing Facilities - Infrastructure Works Stage II (Southern Portion) WC							
Contract Key Dates							
CON.KD.0005	Letter of Acceptance (LOA)	0	27-Feb-15*		0	CAL 1 - 7 day	
CON.KD.0010	Commencement Date	0	13-Mar-15		0	CAL 1 - 7 day	14 days from LOA
CON.KD.0020	Completion of the whole of the Works (1520)	0		10-May-19	0	CAL 1 - 7 day	
Possession Dates							
CON.PD.1010	Site Possession of Portion A1 (61)	0	13-May-15*		0	CAL 1 - 7 day	
CON.PD.1020	Site Possession of Portion A2 (61)	0	13-May-15*		0	CAL 1 - 7 day	
CON.PD.1030	Site Possession of Portion A3 (476)	0	01-Jul-16*		0	CAL 1 - 7 day	
CON.PD.1040	Site Possession of Portion A4 (627)	0	29-Nov-16*		0	CAL 1 - 7 day	
CON.PD.1050	Site Possession of Portion A5 (61)	0	13-May-15*		0	CAL 1 - 7 day	
CON.PD.1060	Site Possession of Portion A6 (61)	0	13-May-15*		0	CAL 1 - 7 day	
CON.PD.1070	Site Possession of Portion B1 (92)	0	13-Jun-15*		0	CAL 1 - 7 day	
CON.PD.1080	Site Possession of Portion B2 (123)	0	14-Jul-15*		0	CAL 1 - 7 day	
CON.PD.1090	Site Possession of Portion B3 (476)	0	01-Jul-16*		0	CAL 1 - 7 day	
CON.PD.1100	Site Possession of Portion B4 (627)	0	29-Nov-16*		0	CAL 1 - 7 day	
CON.PD.1130	Site Possession of Portion B5 (123)	0	14-Jul-15*		0	CAL 1 - 7 day	
CON.PD.1140	Site Possession of Portion C1 (184)	0	13-Sep-15*		0	CAL 1 - 7 day	
CON.PD.1150	Site Possession of Portion C2 (184)	0	13-Sep-15*		0	CAL 1 - 7 day	
CON.PD.1160	Site Possession of Portion D1 (183)	0	12-Sep-15*		0	CAL 1 - 7 day	
CON.PD.1170	Site Possession of Portion D2 (488)	0	13-Jul-16*		0	CAL 1 - 7 day	
CON.PD.1180	Site Possession of Portion D3 (183)	0	12-Sep-15*		0	CAL 1 - 7 day	
Contractual Key Dates - Stage / Section Completion of the Works							
CON.FOT.KD01	KD01 - Achievement of Stage 1A (525)	0		18-Aug-16*	0	CAL 1 - 7 day	
CON.FOT.KD02	KD02 - Achievement of Stage 1B (650)	0		21-Dec-16*	0	CAL 1 - 7 day	
CON.FOT.KD03	KD03 - Achievement of Stage 2 (525)	0		18-Aug-16*	0	CAL 1 - 7 day	
CON.FOT.KD04	KD04 - Achievement of Stage 3 (465)	0		19-Jun-16*	0	CAL 1 - 7 day	
CON.FOT.KD05	KD05 - Achievement of Stage 4 (615)	0		16-Nov-16*	0	CAL 1 - 7 day	
CON.FOT.KD06	KD06 - Achievement of Stage 5 (615)	0		16-Nov-16*	0	CAL 1 - 7 day	
CON.FOT.KD07	KD07 - Achievement of Stage 6 (270)	0		07-Dec-15*	0	CAL 1 - 7 day	
CON.FOT.KD08	KD08 - Completion of Section I of the Works (795)	0		15-May-17*	0	CAL 1 - 7 day	
CON.FOT.KD09	KD09 - Completion of Section II of the Works (803)	0		23-May-17*	0	CAL 1 - 7 day	
CON.FOT.KD10	KD10 - Completion of Section III of the Works (803)	0		23-May-17*	0	CAL 1 - 7 day	
CON.FOT.KD11	KD11 - Completion of Section IV of the Works (565)	0		27-Sep-16*	0	CAL 1 - 7 day	
CON.FOT.KD12	KD12 - Completion of Section V of the Works (803)	0		23-May-17*	0	CAL 1 - 7 day	
CON.FOT.KD13	KD13 - Completion of Section VI of the Works (465)	0		19-Jun-16*	0	CAL 1 - 7 day	
CON.FOT.KD14	KD14 - Completion of Section VII of the Works (1155)	0		10-May-18*	0	CAL 1 - 7 day	
CON.FOT.KD15	KD15 - Completion of Section VIIIA of the Works (795)	0		15-May-17*	0	CAL 1 - 7 day	
CON.FOT.KD16	KD16 - Completion of Section VIIIB of the Works (1155)	0		10-May-18*	0	CAL 1 - 7 day	
CON.FOT.KD17	KD17 - Achievement of Stage 7 (718)	0		27-Feb-17*	0	CAL 1 - 7 day	
CON.FOT.KD17A	KD17A - Completion of Section VIIIC of the Works (795)	0		15-May-17*	0	CAL 1 - 7 day	
CON.FOT.KD18	KD18 - Completion of Section VIIID of the Works (1155)	0		10-May-18*	0	CAL 1 - 7 day	



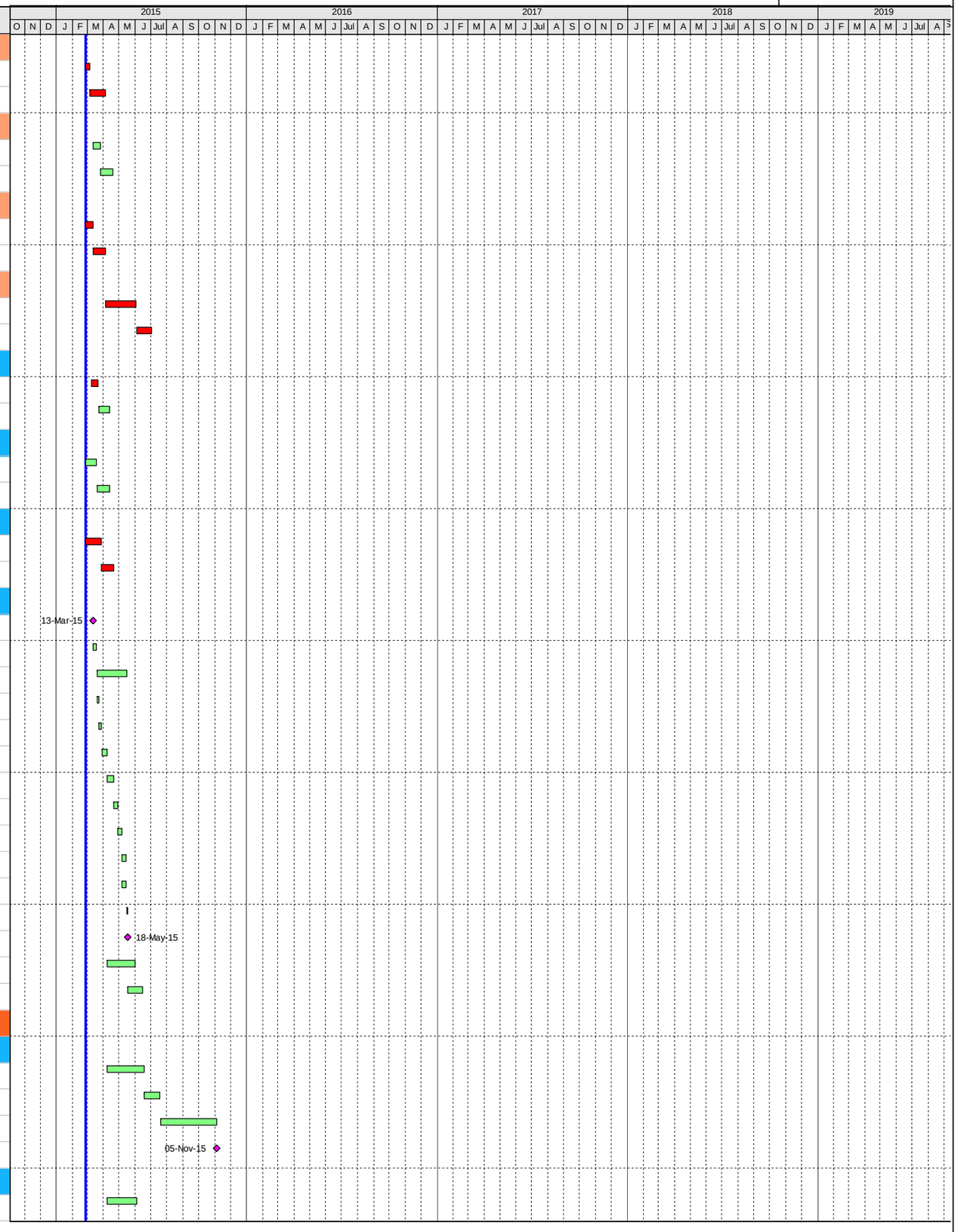
HY/2013/04 - Hong Kong Boundary Crossing Facilities Infrastructure Works Stage II (Southern Portion)

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float	Calendar	Remarks
CON.FOT.KD19	KD19 - Completion of Section IXA of the Works (1160)	0		15-May-18*	0	CAL 1 - 7 day	
CON.FOT.KD20	KD20 - Completion of Section IXB of the Works (1520)	0		10-May-19*	0	CAL 1 - 7 day	
Contractual Handover Dates to Employer							
CON.HD.1190	Handover of Portion A1 (KD8+28 days)	0		12-Jun-17*	0	CAL 1 - 7 day	
CON.HD.1200	Handover of Portion A2 (KD8+28 days)	0		12-Jun-17*	0	CAL 1 - 7 day	
CON.HD.1210	Handover of Portion A3 (KD9+28 days)	0		20-Jun-17*	0	CAL 1 - 7 day	
CON.HD.1220	Handover of Portion A4 (KD10+28 days)	0		20-Jun-17*	0	CAL 1 - 7 day	
CON.HD.1240	Handover of Portion A5 (KD13+0 days)	0		19-Jun-16*	0	CAL 1 - 7 day	
CON.HD.1250	Handover of Portion A6 (KD14+28 days)	0		07-Jun-18*	0	CAL 1 - 7 day	
CON.HD.1260	Handover of Portion B1 (KD8+28 days)	0		12-Jun-17*	0	CAL 1 - 7 day	
CON.HD.1270	Handover of Portion B2 (KD8+28 days)	0		12-Jun-17*	0	CAL 1 - 7 day	
CON.HD.1280	Handover of Portion B3 (KD11+28 days)	0		25-Oct-16*	0	CAL 1 - 7 day	
CON.HD.1290	Handover of Portion B4 (KD12+28 days)	0		20-Jun-17*	0	CAL 1 - 7 day	
CON.HD.1300	Handover of Portion B5 (KD14+28days)	0		07-Jun-18*	0	CAL 1 - 7 day	
CON.HD.1310	Handover of Portion C1 (KD8+28 days)	0		12-Jun-17*	0	CAL 1 - 7 day	
CON.HD.1320	Handover of Portion C2 (KD13+0 days)	0		19-Jun-16*	0	CAL 1 - 7 day	
CON.HD.1330	Handover of Portion D1 (KD8+28 days)	0		12-Jun-17*	0	CAL 1 - 7 day	
CON.HD.1340	Handover of Portion D2 (KD8+28 days)	0		12-Jun-17*	0	CAL 1 - 7 day	
CON.HD.1350	Handover of Portion D3 (KD8+28 days)	0		12-Jun-17*	0	CAL 1 - 7 day	
Contractor Planned Completion: Key Dates - Stage / Section Completion of the Works							
CON.SC.KD01	KD01 - Achievement of Stage 1A (525)	0		18-Aug-16*	0	CAL 2 - 6 day	
CON.SC.KD02	KD02 - Achievement of Stage 1B (650)	0		14-Dec-16*	0	CAL 2 - 6 day	
CON.SC.KD03	KD03 - Achievement of Stage 2 (525)	0		18-Aug-16*	0	CAL 2 - 6 day	
CON.SC.KD04	KD04 - Achievement of Stage 3 (465)	0		11-Jun-16*	0	CAL 2 - 6 day	
CON.SC.KD05	KD05 - Achievement of Stage 4 (615)	0		09-Nov-16*	0	CAL 2 - 6 day	
CON.SC.KD06	KD06 - Achievement of Stage 5 (615)	0		16-Nov-16*	0	CAL 2 - 6 day	
CON.SC.KD07	KD07 - Achievement of Stage 6 (270)	0		07-Dec-15*	0	CAL 2 - 6 day	
CON.SC.KD08	KD08 - Completion of Section I of the Works (795)	0		15-May-17*	0	CAL 2 - 6 day	
CON.SC.KD09	KD09 - Completion of Section II of the Works (803)	0		23-May-17*	0	CAL 2 - 6 day	
CON.SC.KD10	KD10 - Completion of Section III of the Works (803)	0		23-May-17*	0	CAL 2 - 6 day	
CON.SC.KD11	KD11 - Completion of Section IV of the Works (565)	0		27-Sep-16*	0	CAL 2 - 6 day	
CON.SC.KD12	KD12 - Completion of Section V of the Works (803)	0		16-May-17*	0	CAL 2 - 6 day	
CON.SC.KD13	KD13 - Completion of Section VI of the Works (465)	0		18-Jun-16*	0	CAL 2 - 6 day	
CON.SC.KD14	KD14 - Completion of Section VII of the Works (1155)	0		10-May-18*	0	CAL 2 - 6 day	
CON.SC.KD15	KD15 - Completion of Section VIIIA of the Works (795)	0		15-May-17*	0	CAL 2 - 6 day	
CON.SC.KD16	KD16 - Completion of Section VIIIB of the Works (1155)	0		10-May-18*	0	CAL 2 - 6 day	
CON.SC.KD17	KD17 - Achievement of Stage 7 (718)	0		20-Feb-17*	0	CAL 2 - 6 day	
CON.SC.KD17A	KD17A - Completion of Section VIIIC of the Works (795)	0		15-May-17*	0	CAL 2 - 6 day	
CON.SC.KD18	KD18 - Completion of Section VIIID of the Works (1155)	0		10-May-18*	0	CAL 2 - 6 day	
CON.SC.KD19	KD19 - Completion of Section IXA of the Works (1160)	0		15-May-18*	0	CAL 2 - 6 day	
CON.SC.KD20	KD20 - Completion of Section IXB of the Works (1520)	0		10-May-19*	0	CAL 2 - 6 day	
Preliminaries and General Requirements							
Insurance							
CON.PR.1010	Arrange and Secure Professional Indemnity Insurances and submit copy to Engineer	60	27-Feb-15	27-Apr-15*	0	CAL 1 - 7 day	within 60 days
Programme							

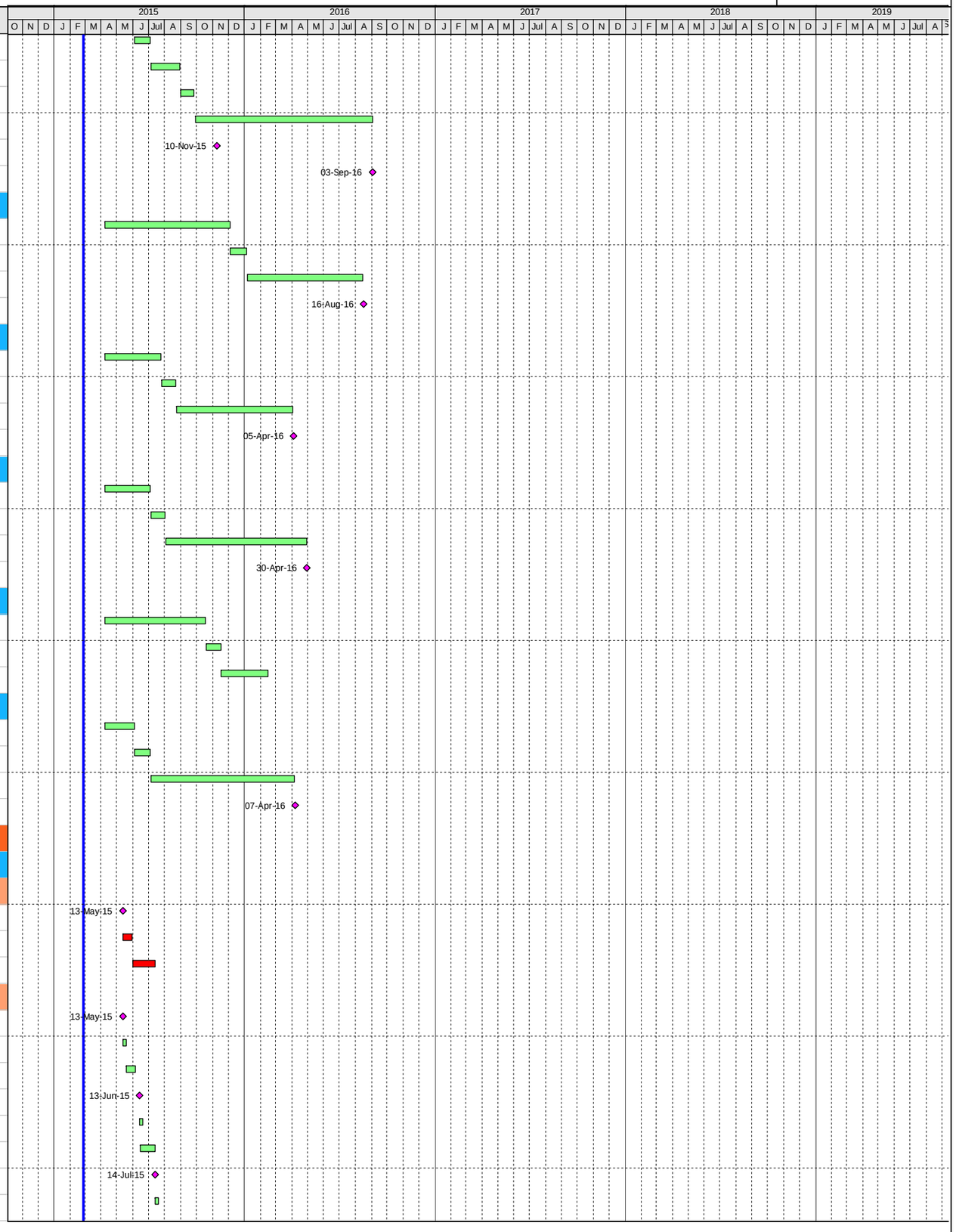


HY/2013/04 - Hong Kong Boundary Crossing Facilities Infrastructure Works Stage II (Southern Portion)

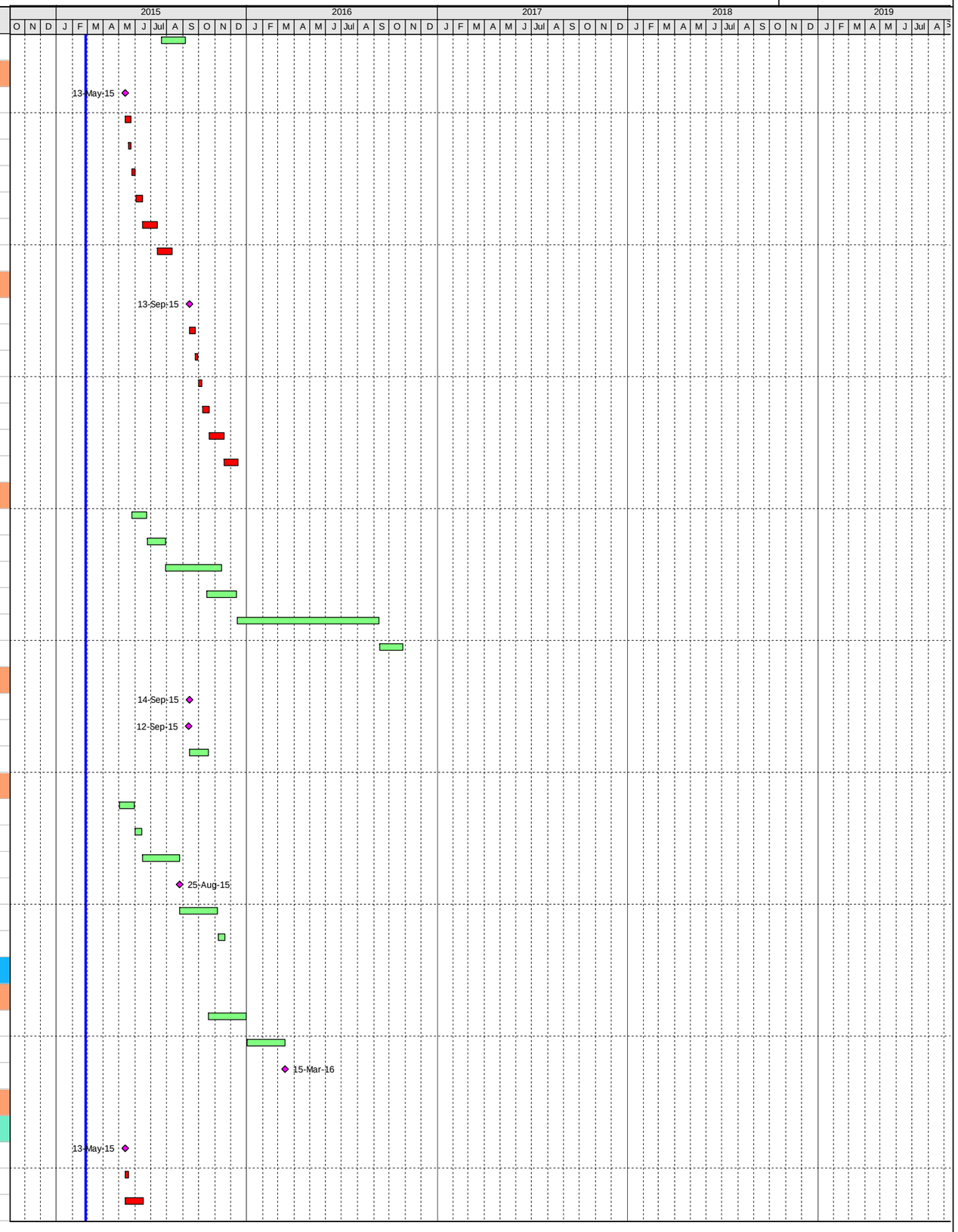
Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float	Calendar	Remarks
Initial Works Programme							
CON.PR.1020.10	Prepare & Submit Initial Works Programme (IWP)	7	27-Feb-15	05-Mar-15	0	CAL 1 - 7 day	7 days from LOA
CON.PR.1020.20	Engineer's Approval	30	06-Mar-15	04-Apr-15	0	CAL 1 - 7 day	
Provisional Programme for Piling Works							
CON.PR.1030.10	Prepare Detailed Piling Schedule (refer to IWP)	14	13-Mar-15	26-Mar-15	9	CAL 1 - 7 day	
CON.PR.1030.20	Engineer's Approval	24	27-Mar-15	19-Apr-15	9	CAL 1 - 7 day	
3 Months Rolling Programme							
CON.PR.1040.10	Prepare 3 Months Rolling Programme	14	27-Feb-15	12-Mar-15	0	CAL 1 - 7 day	14 days from LOA
CON.PR.1040.20	Engineer's Approval	24	13-Mar-15	05-Apr-15	0	CAL 1 - 7 day	
Detailed Works Programme							
CON.PR.1050.10	Prepare Detailed Works Programme (DWP)	60	05-Apr-15	03-Jun-15	0	CAL 1 - 7 day	
CON.PR.1050.20	Engineer's Approval	30	04-Jun-15	03-Jul-15*	0	CAL 1 - 7 day	
Safety & Health							
CON.PR.1060.10	Draft Safety Plan	14	09-Mar-15	22-Mar-15*	0	CAL 1 - 7 day	14 days from LOA
CON.PR.1060.20	Finalized Safety Plan	21	23-Mar-15	12-Apr-15	30	CAL 1 - 7 day	35 days from LOA
Environmental Management Plan							
CON.PR.1080.10	Draft Envirionmental Management Plan	21	27-Feb-15	19-Mar-15	30	CAL 1 - 7 day	21 days from LOA
CON.PR.1080.20	Finalized EMP	24	20-Mar-15	12-Apr-15	30	CAL 1 - 7 day	45 days from LOA
Sub-Contractor Management Plan							
CON.PR.1080.50	Prepare Sub-Contractor Management Plan	30	27-Feb-15	28-Mar-15	0	CAL 1 - 7 day	30 days from LOA
CON.PR.1080.60	Engineer's Approval	24	29-Mar-15	21-Apr-15*	0	CAL 1 - 7 day	
Temporary Facilities							
CON.PR.0130	Site Possession / Access to Works Area WA3	0	13-Mar-15		10	CAL 2 - 6 day	
CON.PR.0140	Survey / Setting Out	6	13-Mar-15	19-Mar-15	10	CAL 2 - 6 day	
CON.PR.0150	Engineer's Principal Site Office	45	20-Mar-15	16-May-15	11	CAL 2 - 6 day	
CON.PR.0150.10	Site Formation	3	20-Mar-15	23-Mar-15	10	CAL 2 - 6 day	
CON.PR.0150.20	Foundation	5	24-Mar-15	28-Mar-15	10	CAL 2 - 6 day	
CON.PR.0150.30	Base Slab	5	30-Mar-15	08-Apr-15	10	CAL 2 - 6 day	
CON.PR.0150.40	Structural Steel Erection	10	09-Apr-15	20-Apr-15	10	CAL 2 - 6 day	
CON.PR.0150.50	Roof and Wall Cladding	7	21-Apr-15	28-Apr-15	10	CAL 2 - 6 day	
CON.PR.0150.60	Internal Partition	6	29-Apr-15	06-May-15	10	CAL 2 - 6 day	
CON.PR.0150.70	Building Services	8	07-May-15	15-May-15	10	CAL 2 - 6 day	
CON.PR.0150.80	Fit-Out and Office Furnitures	8	07-May-15	15-May-15	10	CAL 2 - 6 day	
CON.PR.0150.90	T&C	2	16-May-15	18-May-15	10	CAL 2 - 6 day	
CON.PR.0150.95	Handover to Engineer	0		18-May-15*	10	CAL 2 - 6 day	
CON.PR.0160	Contractor's Site Office	45	08-Apr-15	01-Jun-15	11	CAL 2 - 6 day	
CON.PR.0170	External Works - Paving, Drainage and Fencing	24	18-May-15	15-Jun-15*	11	CAL 2 - 6 day	
Procurement							
Bridge Bearings							
PROC.MA.1610	Detailed Design / Shop Drawings and Materials Submission	60	08-Apr-15	18-Jun-15	31	CAL 2 - 6 day	
PROC.MA.1615	Engineer's Review / Approval	24	19-Jun-15	18-Jul-15	31	CAL 2 - 6 day	
PROC.MA.1650	Production / Manufacturing / Facbrication	90	20-Jul-15	04-Nov-15	31	CAL 2 - 6 day	
PROC.MA.1670	Materials Delivery (first delivery)	0	05-Nov-15		31	CAL 2 - 6 day	
Precast Concrete - Segments							
PROC.MA.1760	Moulds Detailed Design Preparation / Submission	48	08-Apr-15	04-Jun-15	11	CAL 2 - 6 day	



Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float	Calendar	Remarks
PROC.MA.1765	Engineer's Review / Approval	24	05-Jun-15	04-Jul-15	11	CAL 2 - 6 day	
PROC.MA.1770	Mould Fabrication	48	06-Jul-15	29-Aug-15	11	CAL 2 - 6 day	
PROC.MA.1780	Cast Prototype / Inspection and Approval	24	31-Aug-15	26-Sep-15	11	CAL 2 - 6 day	
PROC.MA.2570	Production of Precast Segments (1101 nos @ 4 segments/ day)	276	29-Sep-15	02-Sep-16	11	CAL 2 - 6 day	1101 nos @ 4 segments / day
PROC.MA.2590	Materials Delivery (First Delivery)	0	10-Nov-15		11	CAL 2 - 6 day	
PROC.MA.2650	Materials Delivery (Last Delivery)	0	03-Sep-16		25	CAL 2 - 6 day	
E&M Works and Building Services for Pump House and Switch Room (Design,Supply and Install)							
PROC.SC.1285	Detailed Design and Material/ Equipment Submisison & Statutory Approval (FSD/EMSD)	200	08-Apr-15	04-Dec-15	83	CAL 2 - 6 day	
PROC.SC.1287	Engineer's Review / Approval	24	05-Dec-15	05-Jan-16	83	CAL 2 - 6 day	
PROC.SC.1290	Procurement and Manufacturing of Materials	180	06-Jan-16	15-Aug-16	83	CAL 2 - 6 day	
PROC.SC.1300	Materials Delivery (first delivery)	0	16-Aug-16		83	CAL 2 - 6 day	
Steel Structures for Sign Gantry / High Mast Structure & Other Signages							
PROC.MA.1990	Detailed Design / Material Submission	90	08-Apr-15	25-Jul-15	23	CAL 2 - 6 day	
PROC.MA.1995	Engineer's Review / Approval	24	27-Jul-15	22-Aug-15	23	CAL 2 - 6 day	
PROC.MA.2010	Manufacture of Steel Structures	180	24-Aug-15	02-Apr-16	23	CAL 2 - 6 day	
PROC.MA.2020	Material Delivery (first delivery)	0	05-Apr-16		23	CAL 2 - 6 day	
Roads and Bridge Lighting							
PROC.MA.2840	Lighting Arrangement Detailed Design / Material Submission and Approval (within 12 weeks)	72	08-Apr-15	04-Jul-15	139	CAL 2 - 6 day	
PROC.MA.2845	Engineer's Review / Approval	24	06-Jul-15	01-Aug-15	139	CAL 2 - 6 day	
PROC.MA.2850	Manufacture of Road and Bridge Lighting	220	03-Aug-15	29-Apr-16	139	CAL 2 - 6 day	
PROC.MA.2860	Material Delivery (first delivery)	0	30-Apr-16		139	CAL 2 - 6 day	
Irrigation System							
PROC.SC.1180	Detailed Design / Material Submission	160	08-Apr-15	17-Oct-15	98	CAL 2 - 6 day	
PROC.SC.1185	Engineer's Review / Approval	24	19-Oct-15	16-Nov-15	98	CAL 2 - 6 day	
PROC.SC.1190	Procurement and Shipment of Irrigation Materials/Equipment	72	17-Nov-15	15-Feb-16	98	CAL 2 - 6 day	
Soft Landscaping							
PROC.SC.2760	Propose Nursery for Landscape Materials	48	08-Apr-15	04-Jun-15	166	CAL 2 - 6 day	
PROC.SC.2780	Joint Inspection and Engineer's approval	24	05-Jun-15	04-Jul-15	166	CAL 2 - 6 day	
PROC.SC.2790	Landscape Materials Growing	224	06-Jul-15	06-Apr-16	166	CAL 2 - 6 day	
PROC.SC.2810	Materials Delivery (first delivery)	0	07-Apr-16		166	CAL 2 - 6 day	
Construction / Installation							
Initial Works / Site Establishment & Maintenance Works							
Mobilisation and Site Establlishment							
CONS.A1.0100	Site Possession / Access to Portion A1, A2, A5 & A6	0	13-May-15		0	CAL 2 - 6 day	
CONS.A1.0110	Mobilisation, Site Clearing and Site Set-up	15	13-May-15	30-May-15	0	CAL 2 - 6 day	
CONS.A1.0120	Install Temporary Facilities / Hygiene Facilities	36	01-Jun-15	14-Jul-15*	0	CAL 2 - 6 day	
Gates and Haul Road Construction							
CONS.A1.1010	Site Possession / Access to Portion A1	0	13-May-15		18	CAL 2 - 6 day	
CONS.A1.1020	Survey/ Setting Out	6	13-May-15	19-May-15	18	CAL 2 - 6 day	
CONS.A1.1030	Construct Gate 1 at Haul Road	14	20-May-15	05-Jun-15	18	CAL 2 - 6 day	
CONS.B1.1010	Site Possession / Access to Portion B1	0	13-Jun-15		12	CAL 2 - 6 day	
CONS.B1.1020	Mobilisation, Site Survey and Setting Out	6	13-Jun-15	19-Jun-15	12	CAL 2 - 6 day	
CONS.B1.1030	Construct Gate 3 and Temporary Haul Road	22	16-Jun-15	13-Jul-15	12	CAL 2 - 6 day	
CONS.B2.1010	Site Possession / Access to Portion B2 & B5	0	14-Jul-15		6	CAL 2 - 6 day	
CONS.B2.1020	Site Survey / Setting out	6	14-Jul-15	20-Jul-15	6	CAL 2 - 6 day	

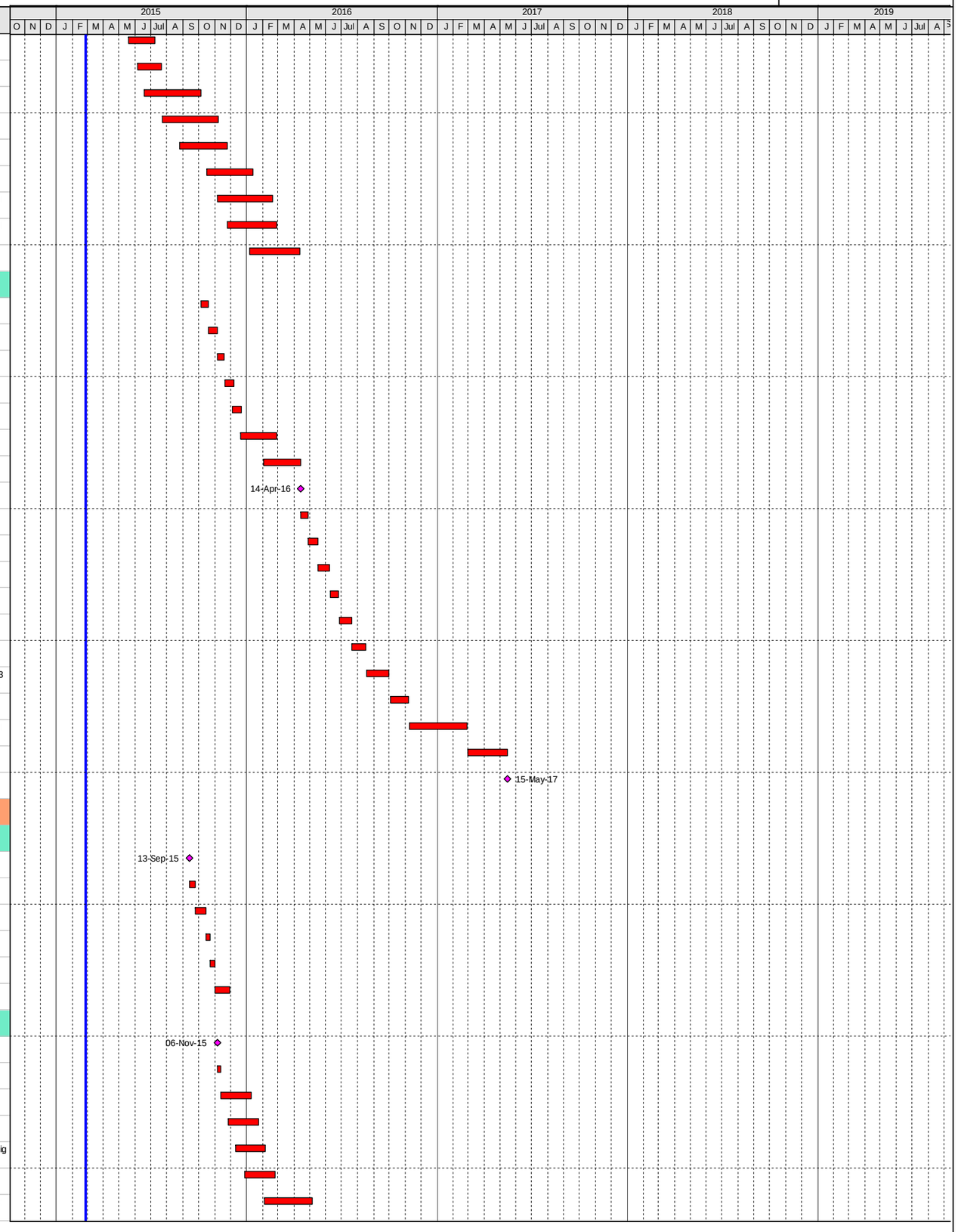


Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float	Calendar	Remarks
CONS.B2.1030	Construct Temporary Haul Road	41	21-Jul-15	05-Sep-15	6	CAL 2 - 6 day	
Preliminary Bored Pile and Load Testing at Abutment A1101							
CONS.A1.0180	Commence Preliminary Bored Pile at Abutment A1101	0	13-May-15		2	CAL 1 - 7 day	
CONS.A1.0190	Mobilise Plant & Set-up Support	12	13-May-15	24-May-15	2	CAL 1 - 7 day	
CONS.A1.0195.10	Predrilling to Preliminary Bored Pile	5	20-May-15	24-May-15	2	CAL 1 - 7 day	
CONS.A1.0195.20	GI Report and Verification / Agreement to Founding Level	8	25-May-15	01-Jun-15	2	CAL 1 - 7 day	
CONS.A1.0200	Preliminary Bored Piling - Abutment A1101 (1 no. 2000mm dia x 42m)	14	02-Jun-15	15-Jun-15	2	CAL 1 - 7 day	1 no. x 14 days / 1 rig
CONS.A1.0210	Pile Curing	28	16-Jun-15	13-Jul-15	2	CAL 1 - 7 day	
CONS.A1.0220	Pile Load Testing & Submit Report	28	14-Jul-15	10-Aug-15	2	CAL 1 - 7 day	
Preliminary Bored Pile and Load Testing at Abutment A106							
CONS.A1.0400	Commence Preliminary Bored Pile at Abutment A106	0	13-Sep-15		0	CAL 1 - 7 day	
CONS.A1.0410	Mobilise Plant & Set-up Support	12	13-Sep-15	24-Sep-15	0	CAL 1 - 7 day	
CONS.A1.0415.10	Predrilling to Preliminary Bored Pile	5	25-Sep-15	29-Sep-15	0	CAL 1 - 7 day	
CONS.A1.0415.20	GI Report and Verification / Agreement to Founding Level	8	30-Sep-15	07-Oct-15	0	CAL 1 - 7 day	
CONS.A1.0420	Preliminary Bored Piling - Abutment A106 (1 no. 2000mm dia x 52m)	14	08-Oct-15	21-Oct-15	0	CAL 1 - 7 day	1 no. x 14 days / 1 rig
CONS.A1.0430	Pile Curing	28	22-Oct-15	18-Nov-15	0	CAL 1 - 7 day	
CONS.A1.0440	Pile Load Testing and Submit Report	28	19-Nov-15	16-Dec-15	0	CAL 1 - 7 day	
Treatment for Bored Piling Excavated Materials							
CONS.EX.1010	Set-up Stockpile for Excavated Marine Mud	24	26-May-15	23-Jun-15	63	CAL 2 - 6 day	
CONS.EX.1020	Pilot Test for Marine Mud Treatment	30	24-Jun-15	29-Jul-15	63	CAL 2 - 6 day	
CONS.EX.1030	Solidification / Stabilisation / Approval Method	90	30-Jul-15	14-Nov-15	63	CAL 2 - 6 day	
CONS.EX.1040	Set-up Treatment Facilities and Storage Yard	48	17-Oct-15	12-Dec-15	63	CAL 2 - 6 day	
CONS.EX.1050	Full Scale Solidification / Stabilization Treatment and Verification Testing	220	14-Dec-15	10-Sep-16	63	CAL 2 - 6 day	
CONS.EX.1060	Decommissioning of Treatment Facilities	36	12-Sep-16	27-Oct-16	63	CAL 2 - 6 day	
Site Set Up at Portion C1							
CONS.C1.1010	Site Possession / Access to Portion C1 and C2	0	14-Sep-15		15	CAL 2 - 6 day	
CONS.C1.1020	Site Possession / Access to Portion D1 and D3	0	12-Sep-15		16	CAL 2 - 6 day	
CONS.C1.1030	Site Set-Up	30	14-Sep-15	20-Oct-15	15	CAL 2 - 6 day	
Barging Point for Materials / Segments Delivery							
CONS.BP.5010	Prepare Design and Submit Proposal for an Alternative Barging Point	24	02-May-15	30-May-15	7	CAL 2 - 6 day	
CONS.BP.5020	Engineer's Review and Approval (AIP)	12	01-Jun-15	13-Jun-15	7	CAL 2 - 6 day	
CONS.BP.5040	Statutory Approval - MD Vetting, Site Inspection and Approval	60	15-Jun-15	25-Aug-15	7	CAL 2 - 6 day	
CONS.BP.5050	Marine Department Issues Permit / Consent	0		25-Aug-15	7	CAL 2 - 6 day	
CONS.BP.5060	Construct Barging Point	60	26-Aug-15	06-Nov-15	7	CAL 2 - 6 day	
CONS.BP.5070	Test and Commission	12	07-Nov-15	20-Nov-15	7	CAL 2 - 6 day	
Box Culverts							
Statutory for Box Culvert Outfall Construction							
CONS.OF.1010	Prepare Documents for Statutory Submission to Marine Department	60	20-Oct-15	31-Dec-15	33	CAL 2 - 6 day	
CONS.OF.1020	MD Vetting, Site Inspection and Approval	60	02-Jan-16	15-Mar-16	33	CAL 2 - 6 day	
CONS.OF.1030	Marine Department Issues Permit / Consent	0		15-Mar-16	33	CAL 2 - 6 day	
Box Culvert D (Portion A1 & B1)							
Box Culvert D - (15 bays)							
CONS.A1.1040	Access to Portion A1 (Interface with Contract 03)	0	13-May-15		0	CAL 2 - 6 day	
CONS.A1.1045	Survey / Setting Out	6	13-May-15	19-May-15	0	CAL 2 - 6 day	
CONS.A1.1050	Mobilisation and Plant Set Up	30	13-May-15	17-Jun-15	0	CAL 2 - 6 day	



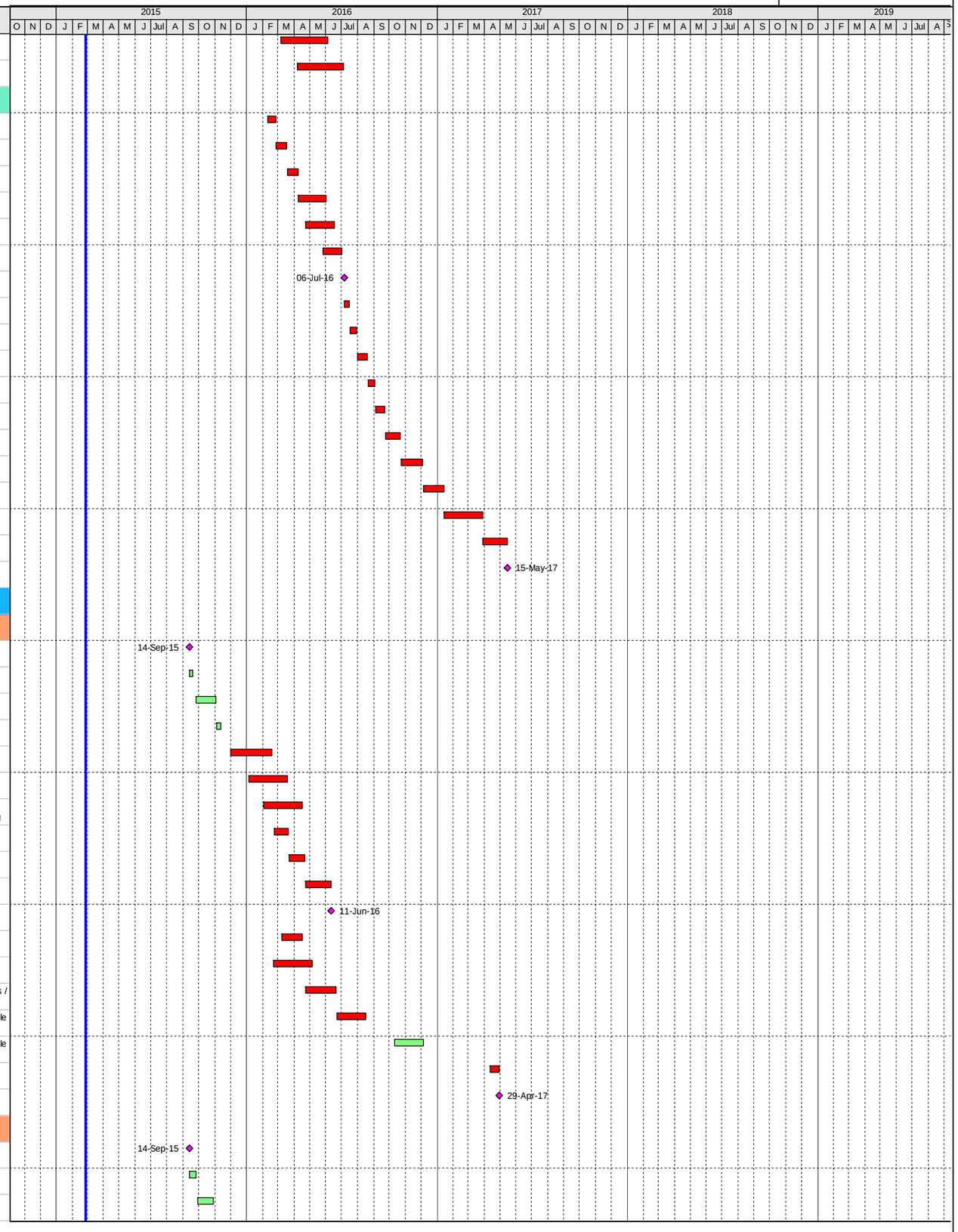
HY/2013/04 - Hong Kong Boundary Crossing Facilities Infrastructure Works Stage II (Southern Portion)

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float	Calendar	Remarks
CONS.A1.1055.10	Predrilling at Portion A1 (30 nos)	40	20-May-15	08-Jul-15	0	CAL 2 - 6 day	30 nos x 5d / 4 rigs
CONS.A1.1055.20	GI Report and Verification / Agreement to Founding Level	38	06-Jun-15	22-Jul-15	0	CAL 2 - 6 day	
CONS.A1.1060	Box Culvert D - Bored Piling Works (30 nos. 1200-1800mm dia x 63m + 0.65m Rock Socket)	90	18-Jun-15	05-Oct-15	0	CAL 2 - 6 day	30 nos x 18d / 6 rigs
CONS.A1.1065	Pile Testing / Interface Coring Test	90	23-Jul-15	07-Nov-15	0	CAL 2 - 6 day	
CONS.A1.1070	Install Dewatering Wells + Pump Test + Open Cut Excavation to formation	76	25-Aug-15	24-Nov-15	0	CAL 2 - 6 day	
CONS.A1.1090	Pile Trimming and Pile Caps (15 nos)	72	17-Oct-15	13-Jan-16	0	CAL 2 - 6 day	15 Pilecaps x 8 days / 2 WF
CONS.A1.1095.10	Box Culvert - Base Slab, Wall & Top Slab - Part 1 (8 bays)	86	06-Nov-15	20-Feb-16	0	CAL 2 - 6 day	8 bays (Base Slab 8d,Walls10d & Top Slab 12 days)
CONS.A1.1095.20	Box Culvert - Base Slab, Wall & Top Slab - Part 2 (7 bays)	76	25-Nov-15	27-Feb-16	1	CAL 2 - 6 day	7 bays (Base Slab 8d,Walls10d & Top Slab 12 days)
CONS.A1.1100	Backfill / Reinstate and Connect UU and Road Works SOL101 and SOL102	76	07-Jan-16	12-Apr-16	1	CAL 2 - 6 day	
Box Culvert D - (3 bays and Outfall)							
CONS.B1.1150	Divert / Shift Haul Road to North	12	06-Oct-15	19-Oct-15	0	CAL 2 - 6 day	
CONS.B1.1160	Remove Rock Armour	14	20-Oct-15	05-Nov-15	0	CAL 2 - 6 day	
CONS.B1.1170	Construct Piling Platform	12	06-Nov-15	19-Nov-15	0	CAL 2 - 6 day	
CONS.B1.1180.10	Predrilling (6 nos)	15	20-Nov-15	07-Dec-15	0	CAL 2 - 6 day	6 nos x 5 days / 2 rigs
CONS.B1.1180.20	GI Report and Verification / Agreement to Founding Level	15	04-Dec-15	21-Dec-15	0	CAL 2 - 6 day	
CONS.B1.1190	Box Culvert D - Bored Piling (6 nos 1200-1800mm dia x 63m +0.65m Rock Socket)	54	21-Dec-15	27-Feb-16	0	CAL 2 - 6 day	6 nos x 18 days / 2 rigs
CONS.B1.1200	Pile Testing / Interface Coring Test	54	03-Feb-16	13-Apr-16	0	CAL 2 - 6 day	
CONS.B1.2110	Commence Works on Box Culvert Outfall	0	14-Apr-16		0	CAL 2 - 6 day	
CONS.B1.2115	Divert/Shift Haul Road (on top of completed box culvert)	12	14-Apr-16	27-Apr-16	0	CAL 2 - 6 day	
CONS.B1.2130	Remove Piling Platform	14	28-Apr-16	16-May-16	0	CAL 2 - 6 day	
CONS.B1.2140	Install Seawall Block & Rockfill near Seawall	20	17-May-16	08-Jun-16	0	CAL 2 - 6 day	
CONS.B1.2150	General Fill	14	10-Jun-16	25-Jun-16	0	CAL 2 - 6 day	
CONS.B1.2180	Sheet Piling Works	20	27-Jun-16	20-Jul-16	0	CAL 2 - 6 day	
CONS.B1.2190	Install Dewatering Wells and Carry Out Pumping Test	24	21-Jul-16	17-Aug-16	0	CAL 2 - 6 day	
CONS.B1.2200	ELS Works (2 levels of Strut)	36	18-Aug-16	30-Sep-16	0	CAL 2 - 6 day	Soft Excavation 600m3 /100m3 / day + 2 levels of struts at 12
CONS.B1.2210	Pile Trimming and Construction of Pile Caps	30	03-Oct-16	07-Nov-16	0	CAL 2 - 6 day	3 pilecaps x 8 days
CONS.B1.2220	Construct Box Culvert Outfall & Connect Drainage	90	08-Nov-16	27-Feb-17	0	CAL 2 - 6 day	3 bays (Base Slab 8d,Walls10d & Top Slab 12 days)
CONS.B1.2230	Backfill, Remove Seawall Blocks & Reinstate Rock Armour	60	28-Feb-17	15-May-17	0	CAL 2 - 6 day	
CONS.B1.2240	Complete Box Culvert D	0		15-May-17	0	CAL 2 - 6 day	
Box Culvert C (Portion C1)							
Prelimnary Driven Piles and Load Testing							
CONS.C1.0450	Commence Preliminary Driven H Pile at Box Culvert C	0	13-Sep-15		0	CAL 1 - 7 day	
CONS.C1.0460	Mobilise Plant & Set-up Support	12	13-Sep-15	24-Sep-15	0	CAL 1 - 7 day	
CONS.C1.0470.10	Predrilling (4 nos)	20	25-Sep-15	14-Oct-15	0	CAL 1 - 7 day	4 nos x 5 days / Pile - 1 rig
CONS.C1.0470.20	GI Report and Verification / Agreement to Founding Level	8	15-Oct-15	22-Oct-15	0	CAL 1 - 7 day	
CONS.C1.0480	Preliminary Driven H Pile (4 nos)	10	23-Oct-15	01-Nov-15	0	CAL 1 - 7 day	4 nos x 2.5 days / Pile - 1 rig
CONS.C1.0500	Pile Load Testing and Submit Report	28	02-Nov-15	29-Nov-15	0	CAL 1 - 7 day	
Box Culvert C - Bay 4-8							
CONS.C1.1040	Commence Box Culvert C at Portion C1	0	06-Nov-15		0	CAL 2 - 6 day	
CONS.C1.1045	Survey / Setting Out	6	06-Nov-15	12-Nov-15	0	CAL 2 - 6 day	
CONS.C1.1055.10	Predrilling (56 nos)	47	13-Nov-15	09-Jan-16	0	CAL 2 - 6 day	56 nos x 5 days / 6 Rig
CONS.C1.1055.20	GI Report and Verification / Agreement to Founding Level	47	27-Nov-15	23-Jan-16	0	CAL 2 - 6 day	
CONS.C1.1060	Driven H Piling Works (56 nos x 2.5 days per Pile / 3 rigs)	47	11-Dec-15	06-Feb-16	0	CAL 2 - 6 day	56 nos x 2.5 Days / 3 Driving Rig
CONS.C1.1070	Excavate and Install Dewatering Wells+ Pump Test	47	28-Dec-15	24-Feb-16	0	CAL 2 - 6 day	
CONS.C1.1090	Pile Trimming and Construction of Pile Caps	72	04-Feb-16	06-May-16	0	CAL 2 - 6 day	14 Pile Caps x 8 days / 2 Work fronts



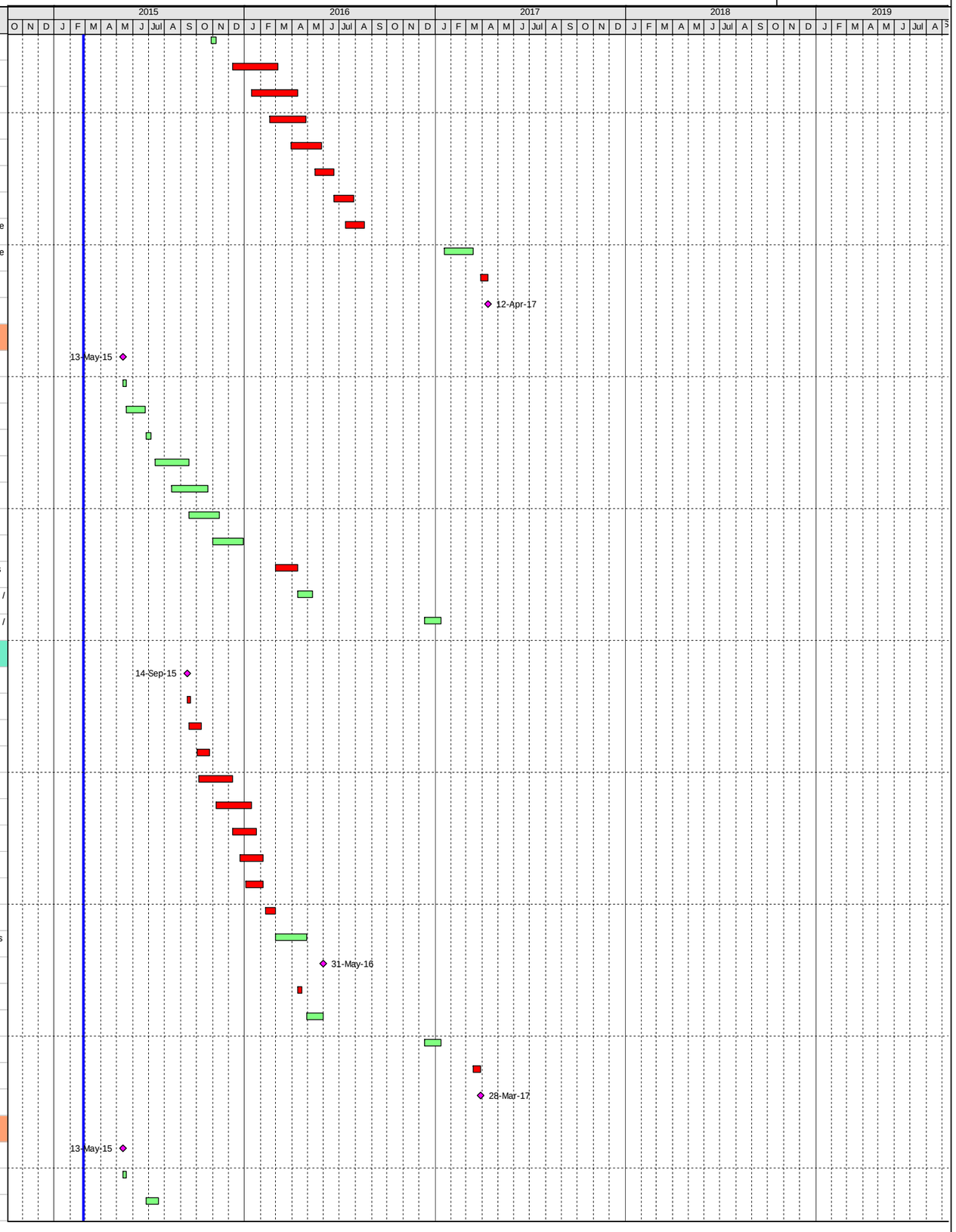
HY/2013/04 - Hong Kong Boundary Crossing Facilities Infrastructure Works Stage II (Southern Portion)

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float	Calendar	Remarks
CONS.C1.1100	Construct Box Culvert & Drainage Connection (5 bays)	72	07-Mar-16	04-Jun-16	0	CAL 2 - 6 day	76m or 5 Bays
CONS.C1.1110	Backfill	72	08-Apr-16	05-Jul-16	0	CAL 2 - 6 day	
Box Culvert C - Bay 1-3 and Outfall							
CONS.C1.1120	Divert / Shift Haul Road to North	14	11-Feb-16	26-Feb-16	2	CAL 2 - 6 day	
CONS.C1.1150	Remove Rock Armour	18	27-Feb-16	18-Mar-16	2	CAL 2 - 6 day	
CONS.C1.1160	Construct Piling Plaform	14	19-Mar-16	08-Apr-16	2	CAL 2 - 6 day	
CONS.C1.1170.10	Predrilling (36 nos)	45	09-Apr-16	02-Jun-16	2	CAL 2 - 6 day	36 nos x 5 days / 4 rigs
CONS.C1.1170.20	GI Report and Verification / Agreement to Founding Level	45	23-Apr-16	17-Jun-16	2	CAL 2 - 6 day	
CONS.C1.1180	Piling Driving Works - Driven H-Pile (36 nos)	30	27-May-16	02-Jul-16	2	CAL 2 - 6 day	36 nos x 2.5 days / 3 rigs
CONS.C1.8480	Commence Box Culvert C Outfall	0	06-Jul-16		0	CAL 2 - 6 day	
CONS.C1.8485	Divert /Shift Haul Road to North (on top of completed box culvert)	10	06-Jul-16	16-Jul-16	0	CAL 2 - 6 day	
CONS.C1.8490	Remove Piling Platform	12	18-Jul-16	30-Jul-16	0	CAL 2 - 6 day	
CONS.C1.8500	Seawall Block Installation near Seawall	18	01-Aug-16	20-Aug-16	0	CAL 2 - 6 day	
CONS.C1.8510	General Fill	12	22-Aug-16	03-Sep-16	0	CAL 2 - 6 day	
CONS.C1.8530	Sheet Piling	14	05-Sep-16	22-Sep-16	0	CAL 2 - 6 day	
CONS.C1.8540	Dewatering Wells + Pump Test	24	23-Sep-16	22-Oct-16	0	CAL 2 - 6 day	
CONS.C1.8550	ELS Works (2 layers of Strut)	36	24-Oct-16	03-Dec-16	0	CAL 2 - 6 day	
CONS.C1.8560	Pile Trimming and Construction of Pile Caps (9 Pilecaps)	32	05-Dec-16	13-Jan-17	0	CAL 2 - 6 day	9 Pile caps x 8 days / 2 WF
CONS.C1.8570	Construct Box Culvert + Outfall & Drainage Connection (38m or 3 bays)	60	14-Jan-17	28-Mar-17	0	CAL 2 - 6 day	3 bays
CONS.C1.8580	Backfill & Remove Sea Wall Blocks and Reinstate Rock Armour	35	29-Mar-17	15-May-17	0	CAL 2 - 6 day	
CONS.C1.8590	Complete Box Culvert C	0		15-May-17	0	CAL 2 - 6 day	
Bridge Works							
Bridge D1 in Portion C1, D1 and D3 (Interface with Contract HY/2013/03)							
CONS.C1.1130	Access to Portion C1, D1 & D3	0	14-Sep-15		9	CAL 2 - 6 day	
CONS.C1.1140	Survey / Setting Out	6	14-Sep-15	19-Sep-15	9	CAL 2 - 6 day	
CONS.C1.2200.10	Predrilling (17 nos)	30	26-Sep-15	03-Nov-15	4	CAL 2 - 6 day	17 nos x 5 days / 3 rigs
CONS.C1.2200.20	GI Report and Verification / Agreement to Founding Level	8	04-Nov-15	12-Nov-15	16	CAL 2 - 6 day	
CONS.C1.2210	D1 Bored Piling (17 nos. 1800-2000mm dia x 52m) (2 nos + 0.8m Rock Socket)	62	02-Dec-15	18-Feb-16	0	CAL 2 - 6 day	2 x 18 days and 15 nos x 14 days / 4 rigs
CONS.C1.2215	Pile Testing	62	05-Jan-16	19-Mar-16	0	CAL 2 - 6 day	
CONS.C1.2220	Pile Trimming + Pile Caps (6 nos)	58	02-Feb-16	16-Apr-16	0	CAL 2 - 6 day	2 nos x 12 days + 4 nos x 8 days + 1 x 10 days + trimming
CONS.C1.2225.10	Construct Pier 508 (Column + Pier head & Bearings) (KD4)	24	23-Feb-16	21-Mar-16	0	CAL 2 - 6 day	1 nos x 12 days
CONS.C1.2225.20	Pier P508 Curing	24	22-Mar-16	22-Apr-16	0	CAL 2 - 6 day	
CONS.C1.2225.30	Bearing Installation, Final Inspection and Handover	40	23-Apr-16	11-Jun-16	0	CAL 2 - 6 day	
CONS.C1.2226	Achievement of KD4 (465)	0		11-Jun-16	0	CAL 2 - 6 day	
CONS.C1.2230	Construct Abutment A106	30	09-Mar-16	16-Apr-16	0	CAL 2 - 6 day	1 no
CONS.C1.2240	Pier Columns + Pier Head & Bearings P101-P105	60	22-Feb-16	06-May-16	0	CAL 2 - 6 day	5 nos x 12 days
CONS.C1.2250	Bridge D1 - Erect Precast Segments + Stitching + Stressing (6 spans)	48	23-Apr-16	21-Jun-16	0	CAL 2 - 6 day	96 segments, 6 spans x 8 days / span
CONS.C1.2260	D1 Bridge Ancillary - Parapet/TCSS, Railing, MJ, Drainage & Bridge Lighting	48	22-Jun-16	17-Aug-16	1	CAL 2 - 6 day	288m / 3 moulds @ 5 days cycle / 10m bay
CONS.C1.2265	D1 Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting, Signages	48	11-Oct-16	05-Dec-16	21	CAL 2 - 6 day	288m / 4 moulds @ 5 days cycle / 10m bay
CONS.C1.2270	D1 Final Asphalt Paving + Road Markings	12	13-Apr-17	29-Apr-17	0	CAL 2 - 6 day	
CONS.C1.2280	Completion of Bridge D1	0		29-Apr-17	11	CAL 2 - 6 day	
Bridge D8							
CONS.C1.2285	Site Possession / Access to Portion C1	0	14-Sep-15		26	CAL 2 - 6 day	
CONS.C1.2288	Survey / Setting Out	12	14-Sep-15	26-Sep-15	26	CAL 2 - 6 day	
CONS.C1.2290.10	Predrilling (10 nos)	25	29-Sep-15	29-Oct-15	26	CAL 2 - 6 day	10 nos x 5 days / 2 rigs

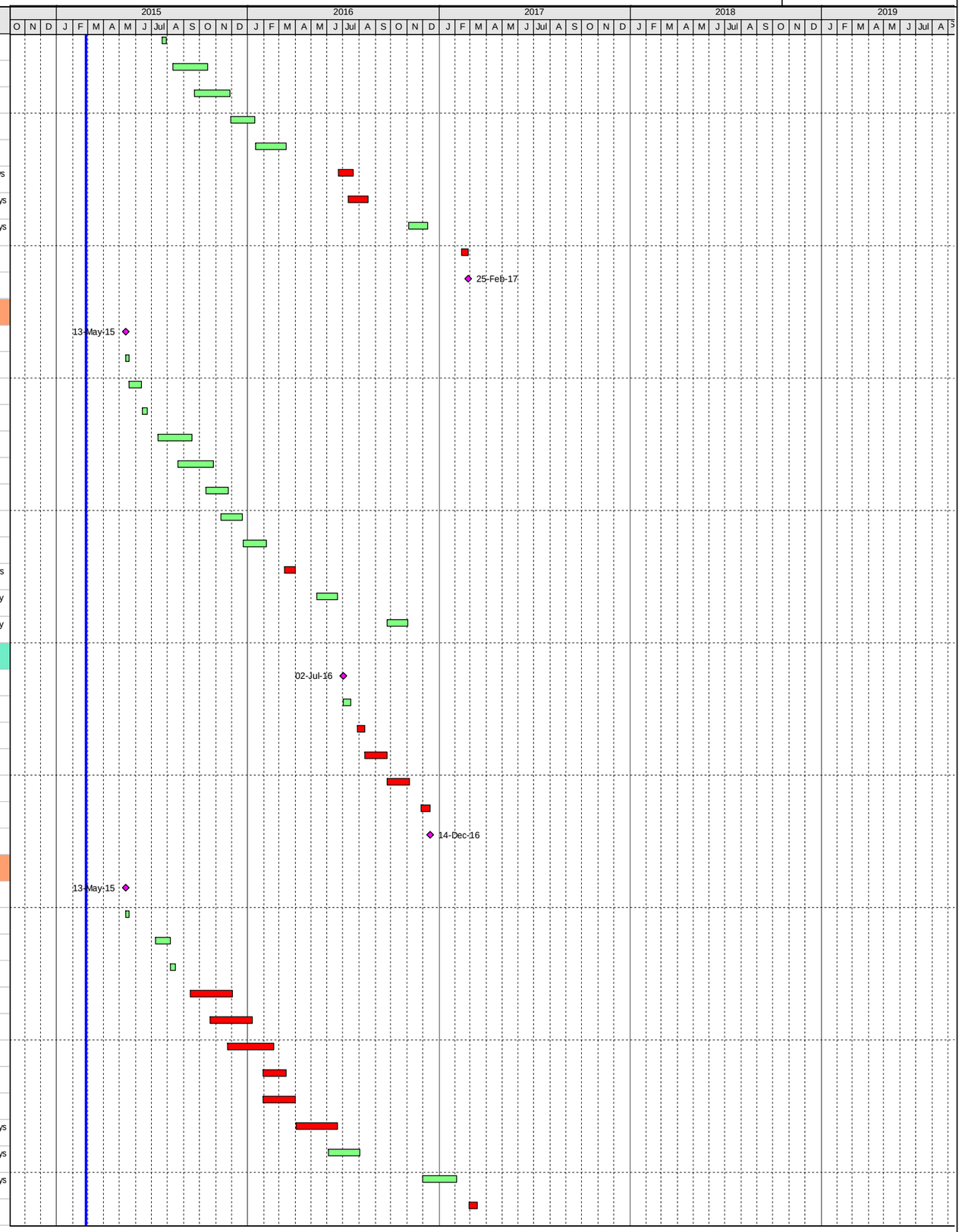


HY/2013/04 - Hong Kong Boundary Crossing Facilities Infrastructure Works Stage II (Southern Portion)

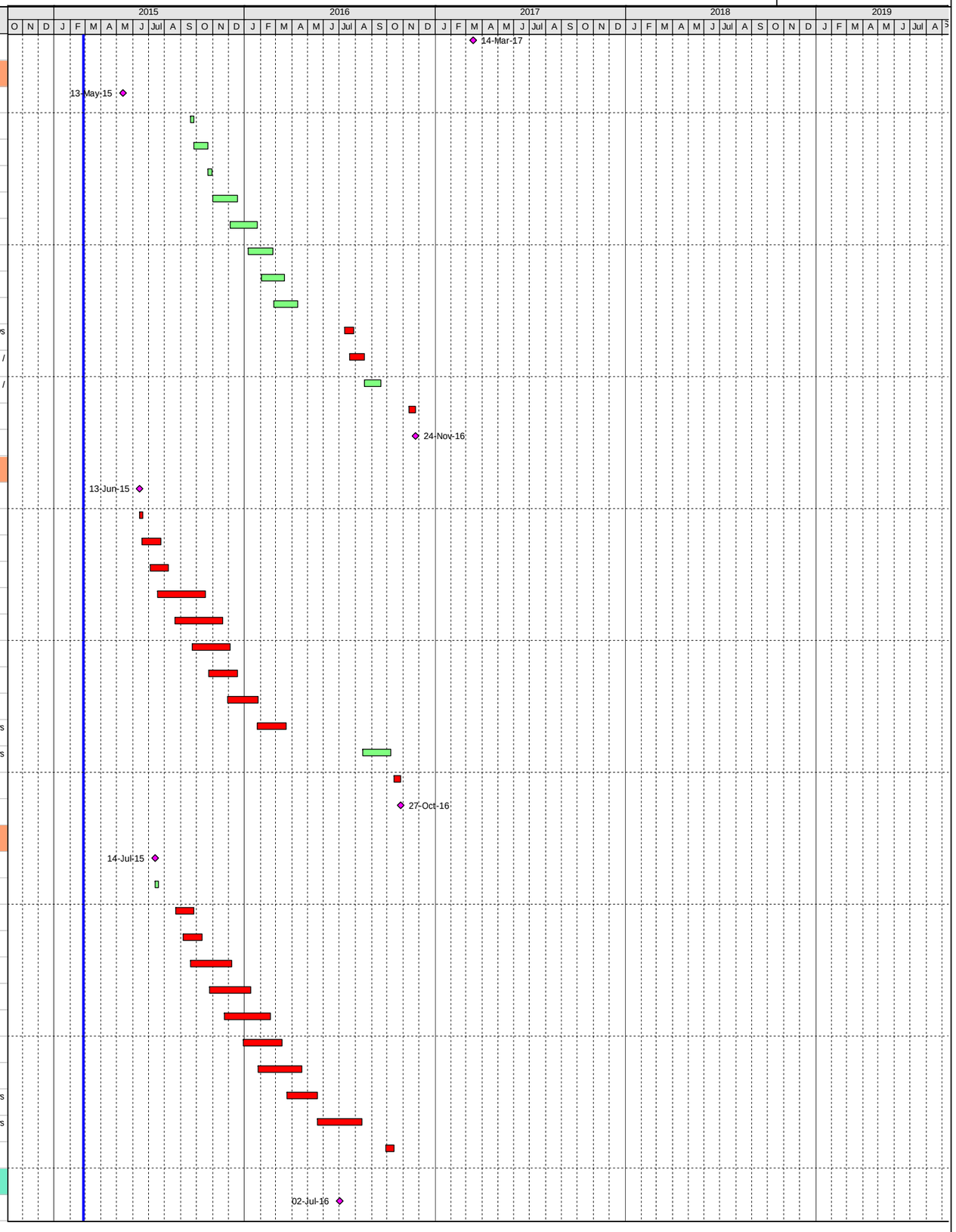
Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float	Calendar	Remarks
CONS.C1.2290.20	GI Report and Verification / Agreement to Founding Level	8	30-Oct-15	07-Nov-15	26	CAL 2 - 6 day	
CONS.C1.2300	D8 Bored Piling (10 nos.2000mm dia x 52m)	70	09-Dec-15	05-Mar-16	0	CAL 2 - 6 day	10 nos x 14 days / 2 rigs
CONS.C1.2305	Pile Testing	70	14-Jan-16	12-Apr-16	0	CAL 2 - 6 day	
CONS.C1.2310	Pile Trimming + Pile Caps (5 nos)	56	19-Feb-16	28-Apr-16	0	CAL 2 - 6 day	5 nos x 8 days + 6 days trimming
CONS.C1.2315	Pier Columns + Pier Head & Bearings	48	31-Mar-16	28-May-16	0	CAL 2 - 6 day	4 nos x 12 days
CONS.C1.2320	Construct Abutment A801	30	16-May-16	20-Jun-16	0	CAL 2 - 6 day	1 no
CONS.C1.2340	Bridge D8 - Erect Precast Segments + Stitching + Stressing (4 spans)	32	21-Jun-16	28-Jul-16	0	CAL 2 - 6 day	62 Segments, 4 spans x 8 days / span
CONS.C1.2350	D8 Bridge Ancillary - Parapet/TCSS, Railing, MJ, Drainage & Bridge Lighting	32	13-Jul-16	18-Aug-16	0	CAL 2 - 6 day	186m / 3 moulds @ 5 days cycle / 10m bay
CONS.C1.2355	D8 Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting, Signages	46	18-Jan-17	15-Mar-17	11	CAL 2 - 6 day	186m / 2 moulds @ 5 days cycle / 10m bay
CONS.C1.2360	D8 Final Asphalt Paving + Road Markings	12	29-Mar-17	12-Apr-17	0	CAL 2 - 6 day	
CONS.C1.2370	Completion of Bridge D8	0		12-Apr-17	23	CAL 2 - 6 day	
Bridge D9a in Portion A1 & A5							
CONS.A5.2010	Site Possession / Access to Portion A1 & A5 (61 days)	0	13-May-15		16	CAL 2 - 6 day	
CONS.A5.2015	Suvey / Setting out	6	13-May-15	19-May-15	16	CAL 2 - 6 day	
CONS.A5.2020.10	Predrilling - Portion A1 & A5 (12 nos)	30	20-May-15	25-Jun-15	16	CAL 2 - 6 day	12 nos x 5d / 2 rigs
CONS.A5.2020.20	GI Report and Verification / Agreement to Founding Level	8	26-Jun-15	06-Jul-15	16	CAL 2 - 6 day	
CONS.A5.2030	D9a Bored Piling (12 nos.1800-2200mm dia x 47m)	56	14-Jul-15	16-Sep-15	10	CAL 2 - 6 day	12 nos x 14 d / 3 rigs
CONS.A5.2035	Pile Testing	56	15-Aug-15	22-Oct-15	15	CAL 2 - 6 day	
CONS.A5.2040	Pile Trimming + Pile Caps (2 nos)	48	17-Sep-15	14-Nov-15	15	CAL 2 - 6 day	2 pile caps
CONS.A5.2050	Pier Columns + Pier Head & Bearings (4 nos. P904-P907)	48	02-Nov-15	29-Dec-15	15	CAL 2 - 6 day	4 nos x 12 days
CONS.A5.2065	Bridge D9a - Erect Precast Segments + Stitching + Stressing (4 spans)	32	01-Mar-16	11-Apr-16	0	CAL 2 - 6 day	58 Segments, 4 Spans x 8 days / span
CONS.A5.2070	D9a Bridge Ancillary - Parapet/TCSS, Railing, MJ, Drainage, Bridge Lighting, & Sign Gantry	25	12-Apr-16	11-May-16	44	CAL 2 - 6 day	85m / 2 moulds @ 5 days cycle / 10m bay
CONS.A5.2080	D9a Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting, Signages	25	12-Dec-16	12-Jan-17	49	CAL 2 - 6 day	85m / 2 moulds @ 5 days cycle / 10m bay
Bridge D9a in Portion C1 & C2							
CONS.C2.3010	Site Possession / Access to Portion C1 & C2 (184 days)	0	14-Sep-15		0	CAL 2 - 6 day	
CONS.C2.3015	Survey / Setting Out	6	14-Sep-15	19-Sep-15	0	CAL 2 - 6 day	
CONS.C2.3020.10	Predrilling - Portion C1 & C2 (8 nos)	20	16-Sep-15	10-Oct-15	0	CAL 2 - 6 day	8 nos x 5d / 2 rigs
CONS.C2.3020.20	GI Report and Verification / Agreement to Founding Level	20	02-Oct-15	26-Oct-15	0	CAL 2 - 6 day	
CONS.C2.3030	D9a in Portion C1 & C2 Bored Piling (8 nos.1800-2200mm dia x 47m)	56	05-Oct-15	09-Dec-15	0	CAL 2 - 6 day	8 nos x 14 d / 2 rigs
CONS.C2.3035	Pile Testing	56	07-Nov-15	14-Jan-16	0	CAL 2 - 6 day	
CONS.C2.3040	Pile Trimming + Pile Caps (3 nos)	36	10-Dec-15	23-Jan-16	0	CAL 2 - 6 day	
CONS.C2.3050	Pier Columns + Pier Head & Bearings (3 nos P902, P903 +P805)	36	24-Dec-15	06-Feb-16	0	CAL 2 - 6 day	3 nos x 12d
CONS.C2.3070	Construct Abutment A901	30	04-Jan-16	06-Feb-16	0	CAL 2 - 6 day	1 no
CONS.C2.3080	Bridge D9a (C1 & C2) - Erect Precast Segments + Stitching + Stressing (2 spans)	16	11-Feb-16	29-Feb-16	0	CAL 2 - 6 day	30 segments, 2 spans, A901-P903 x 8 days / span
CONS.C2.3085	D9a (C1 & C2) Bridge Ancillary - Parapet/TCSS, Railing, MJ, Drainage, Bridge Lighting, & Sign Gantry	48	01-Mar-16	29-Apr-16	15	CAL 2 - 6 day	87.5m / 2 Steel Mould @ 5 days cycle / 10m bay
CONS.C2.3095	Completion of Works in Section VI (KD13)	0		31-May-16	15	CAL 2 - 6 day	
CONS.C2.3100	Bridge D9a (C1 & C2) - Erect Precast Segments + Stitching + Stressing (1 span)	8	12-Apr-16	20-Apr-16	2	CAL 2 - 6 day	16 segments, 1 span, P903-P805 x 8 days
CONS.C2.3110	D9a Bridge Ancillary - Parapet/TCSS, Railing, MJ, Drainage, Bridge Lighting, & Sign Gantry	25	30-Apr-16	31-May-16	15	CAL 2 - 6 day	46m / 1 Steel Moulds @ 5 days cylce / 10m bay
CONS.C2.3115	D9a Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting, Signages	25	12-Dec-16	12-Jan-17	49	CAL 2 - 6 day	46m / 1 Steel Moulds @ 5 days cylce / 10m bay
CONS.C2.3120	D9a Final Asphalt Paving + Road Markings	12	15-Mar-17	28-Mar-17	0	CAL 2 - 6 day	
CONS.C2.3130	Completion of Bridge D9a	0		28-Mar-17	35	CAL 2 - 6 day	
Bridge D9b							
CONS.A1.1105	Access to Portion A1	0	13-May-15		63	CAL 2 - 6 day	
CONS.A1.1108	Survey / Setting Out	6	13-May-15	19-May-15	63	CAL 2 - 6 day	
CONS.A1.1110.10	Predrilling (8 nos incl. 4 nos for P910)	20	26-Jun-15	20-Jul-15	33	CAL 2 - 6 day	8 nos x 5 days / 2 rig



Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float	Calendar	Remarks
CONS.A1.1110.20	GI Report and Verification / Agreement to Founding Level	8	21-Jul-15	29-Jul-15	33	CAL 2 - 6 day	
CONS.A1.1120	D9b Bored Piling (8 nos. 2000mm dia x 49m) including 4 for P910	56	11-Aug-15	16-Oct-15	23	CAL 2 - 6 day	8 nos x 14 days / 2 rig
CONS.A1.1125	Pile Testing	56	22-Sep-15	28-Nov-15	77	CAL 2 - 6 day	
CONS.A1.1130	Pile Trimming + Pile Caps	38	30-Nov-15	15-Jan-16	77	CAL 2 - 6 day	4 nos x 8d + 6d Trimming
CONS.A1.1140	Pier Columns + Pier Head & Bearings (4 nos. P908 & P909 + P910 x2)	48	16-Jan-16	15-Mar-16	77	CAL 2 - 6 day	4 nos x 12 days
CONS.A1.1160	Bridge D9b - Erect Precast Segments + Stitching + Stressing (3 spans)	24	22-Jun-16	20-Jul-16	0	CAL 2 - 6 day	44 Segments, 3 spans x 8 days / span
CONS.A1.1170	D9b Bridge Ancillary - Parapet/TCSS, Railing, MJ, Drainage & Bridge Lighting	33	12-Jul-16	18-Aug-16	0	CAL 2 - 6 day	132m / 2 steel moulds @ 5 days cycle / 10m bay
CONS.A1.1175	D9b Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting, Signages	33	03-Nov-16	10-Dec-16	19	CAL 2 - 6 day	132m / 2 steel moulds @ 5 days cycle / 10m bay
CONS.A1.1180	D9b Final Asphalt Paving + Road Markings	12	13-Feb-17	25-Feb-17	0	CAL 2 - 6 day	
CONS.A1.1190	Bridge D9b complete	0		25-Feb-17	61	CAL 2 - 6 day	
Bridge D9c							
CONS.A1.1192	Site Possession / Access to Portion A1 & A2	0	13-May-15		26	CAL 2 - 6 day	
CONS.A1.1194	Survey / Setting Out	6	13-May-15	19-May-15	26	CAL 2 - 6 day	
CONS.A1.1200.10	Predrilling (8 nos)	20	20-May-15	12-Jun-15	26	CAL 2 - 6 day	8 nos x 5 days / 2 rigs
CONS.A1.1200.20	GI Report and Verification / Agreement to Founding Level	8	13-Jun-15	23-Jun-15	26	CAL 2 - 6 day	
CONS.A1.1210	D9c Bored Piling (8 nos. 2000mm dia x 62m)	56	14-Jul-15	16-Sep-15	10	CAL 2 - 6 day	8 nos x 14 days / 2 rigs
CONS.A1.1215	Pile Testing	56	20-Aug-15	27-Oct-15	10	CAL 2 - 6 day	
CONS.A1.1220	Pile Trimming + Pile Caps (3 nos)	36	13-Oct-15	24-Nov-15	26	CAL 2 - 6 day	3 nos x 8 days + 6 days for Trimming
CONS.A1.1230	Pier Columns + Pier Head & Bearings	36	11-Nov-15	22-Dec-15	26	CAL 2 - 6 day	3 nos x 12 days
CONS.A1.1240	Bridge D9c - Construct Deck (Cast in Situ) (1 span, P910 to P911)	36	23-Dec-15	05-Feb-16	26	CAL 2 - 6 day	1 span (cast in-situ)
CONS.A1.1250	Bridge D9c - Erect Precast Segments Pier P911 to Pier P913 + Stitching + Stressing (2 spans)	16	11-Mar-16	01-Apr-16	0	CAL 2 - 6 day	28 segments, 2 spans x 8 days / span
CONS.A1.1260	D9c Bridge Ancillary - Parapet/TCSS, Railing, MJ, Drainage & Bridge Lighting	32	12-May-16	20-Jun-16	44	CAL 2 - 6 day	126m / 2 Steel moulds @ 7 day cycle/ 10m bay
CONS.A1.1270	D9c Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting, Signages	32	24-Sep-16	02-Nov-16	19	CAL 2 - 6 day	126m / 2 Steel moulds @ 7 day cycle/ 10m bay
Bridge D9c in Portion A3 (Interface with Contract HY/2012/07)							
CONS.A3.1010	Site Possession / Access to Portion A3	0	02-Jul-16		11	CAL 2 - 6 day	
CONS.A3.1020	Mob/ Survey / Setting Out	12	02-Jul-16	15-Jul-16	11	CAL 2 - 6 day	
CONS.A3.1030	Bridge D9c (A3) - Erect Precast Segments Pier P913 to Contract Interface + Stitching + Stressing (1 span)	12	29-Jul-16	11-Aug-16	0	CAL 2 - 6 day	14 segments, 1 span x 8 days
CONS.A3.1040	D9c Bridge Ancillary - Parapet/TCSS, Railing, MJ, Drainage & Bridge Lighting	35	12-Aug-16	23-Sep-16	0	CAL 2 - 6 day	41m 1 Steel Moulds @ 5 days cycle / 10m bay
CONS.A3.1045	D9c Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting, Signages	35	24-Sep-16	05-Nov-16	0	CAL 2 - 6 day	41m 1 Steel Moulds @ 5 days cycle / 10m bay
CONS.A3.1050	Final Asphalt Paving + Road Markings	15	28-Nov-16	14-Dec-16	0	CAL 2 - 6 day	
CONS.A3.1060	Completion of Works in Stage 1B (KD2)	0		14-Dec-16	0	CAL 2 - 6 day	
Bridge D10							
CONS.A1.1284	Site Possession / Access to Portion A1	0	13-May-15		64	CAL 2 - 6 day	
CONS.A1.1286	Survey / Setting Out	6	13-May-15	19-May-15	64	CAL 2 - 6 day	
CONS.A1.1290.10	Predrilling (16 nos)	25	09-Jul-15	06-Aug-15	24	CAL 2 - 6 day	14 nos x 5d / 2 rigs
CONS.A1.1290.20	GI Report and Verification / Agreement to Founding Level	8	07-Aug-15	15-Aug-15	24	CAL 2 - 6 day	
CONS.A1.1300	D10 Bored Piling (14 nos 1800-2200mm dia x 57m) (42m for Abutment)	66	14-Sep-15	02-Dec-15	0	CAL 2 - 6 day	14 nos x 14 days / 3 rigs
CONS.A1.1305	Pile Testing	66	22-Oct-15	09-Jan-16	0	CAL 2 - 6 day	
CONS.A1.1310	Pile Trimming + Pile Caps	70	24-Nov-15	19-Feb-16	0	CAL 2 - 6 day	8 nos x 8 days + 6 days trimming
CONS.A1.1315	Abutment A1004	36	30-Jan-16	15-Mar-16	0	CAL 2 - 6 day	
CONS.A1.1320	Pier Columns + Pier Head & Bearings	48	30-Jan-16	01-Apr-16	0	CAL 2 - 6 day	8 nos x 12 days / 2 Teams
CONS.A1.1340	Bridge D10 - Erect Precast Segments + Stitching + Stressing (8 spans)	64	02-Apr-16	20-Jun-16	0	CAL 2 - 6 day	109 segments, 8 spans x 8 days / span
CONS.A1.1350	D10 Bridge Ancillary - Parapet/TCSS, Railing, MJ, Drainage, Bridge Lighting, & Sign Gantry	50	03-Jun-16	02-Aug-16	14	CAL 2 - 6 day	195m / 2 Steel Moulds @ 5 days cycle / 10m bay
CONS.A1.1355	D10 Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting, Signages	50	01-Dec-16	03-Feb-17	19	CAL 2 - 6 day	195m / 2 Steel Moulds @ 5 days cycle / 10m bay + median
CONS.A1.1360	D10 Final Asphalt Paving + Road Markings	14	27-Feb-17	14-Mar-17	0	CAL 2 - 6 day	

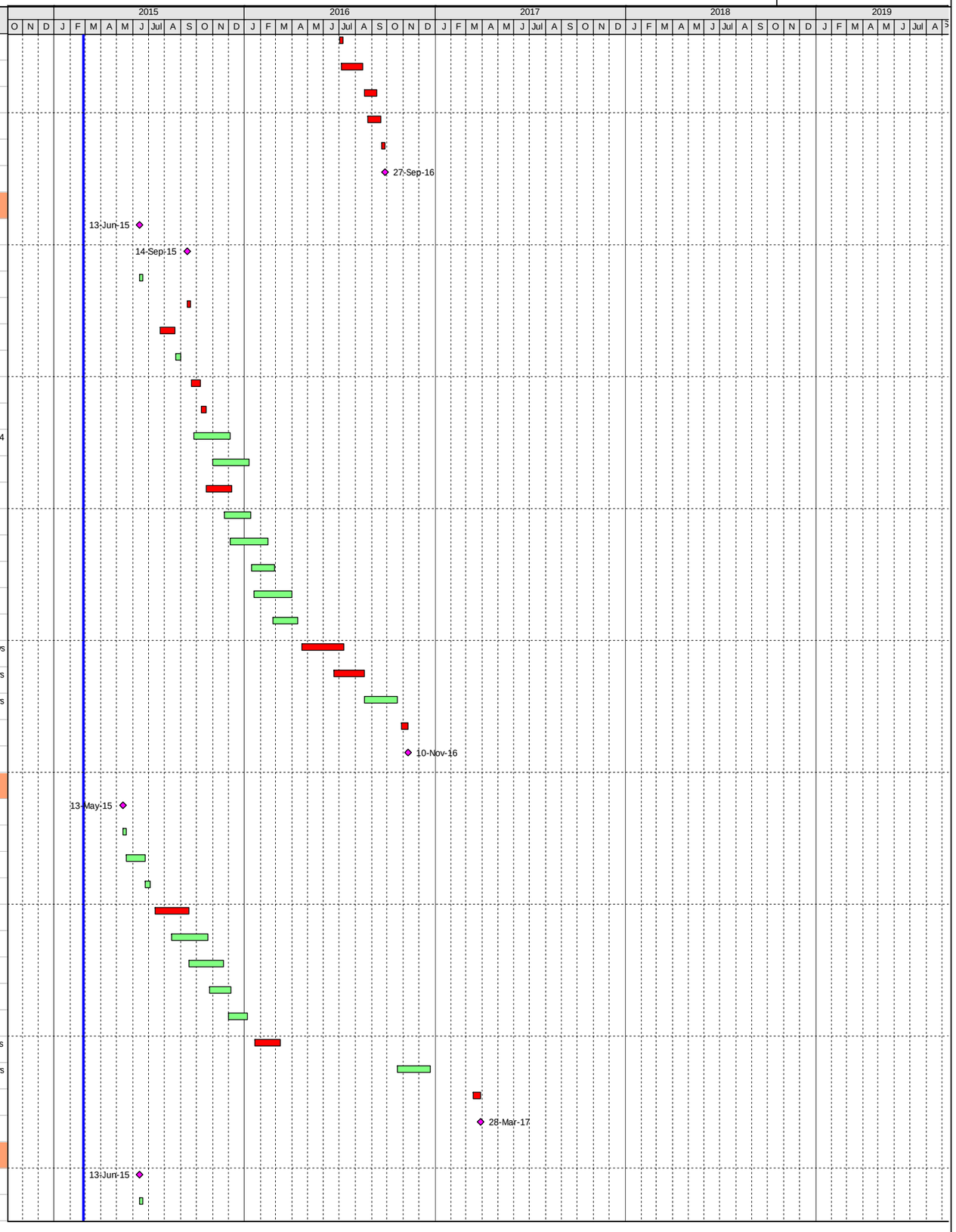


Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float	Calendar	Remarks
CONS.A1.1370	Bridge D10 complete	0		14-Mar-17	47	CAL 2 - 6 day	
Bridge D11							
CONS.A1.1375	Site Possession / Access to Portion A1 (61d)	0	13-May-15		118	CAL 2 - 6 day	
CONS.A1.1378	Survey / Setting Out	6	19-Sep-15	25-Sep-15	10	CAL 2 - 6 day	
CONS.A1.1380.10	Predrilling (4 nos)	20	26-Sep-15	22-Oct-15	10	CAL 2 - 6 day	7 nos x 5 days / 2 rigs
CONS.A1.1380.20	GI Report and Verification / Agreement to Founding Level	8	23-Oct-15	31-Oct-15	10	CAL 2 - 6 day	
CONS.A1.1390	D11 Bored Piling (3 nos. 2000mm dia x 65) (52m for abutment)	42	02-Nov-15	19-Dec-15	10	CAL 2 - 6 day	3 nos x 14 days / 1 rig
CONS.A1.1395	Pile Testing	42	04-Dec-15	25-Jan-16	72	CAL 2 - 6 day	
CONS.A1.1400	Pile Trimming + Pile Caps (4 nos)	38	09-Jan-16	25-Feb-16	72	CAL 2 - 6 day	4 nos x 8 days + 6 days for Trimming
CONS.A1.1405	Abutment A1101	36	02-Feb-16	17-Mar-16	90	CAL 2 - 6 day	
CONS.A1.1410	Pier Columns + Pier Head & Bearings (3 nos, P1102 & P910 x 2)	36	26-Feb-16	12-Apr-16	72	CAL 2 - 6 day	3 nos x 12 days
CONS.A1.1430	Bridge D11 - Erect Precast Segments + Stitching + Stressing (2 spans)	16	11-Jul-16	28-Jul-16	0	CAL 2 - 6 day	31 Segements, 2 spans x 8 days /span
CONS.A1.1440	D11 Bridge Ancillary - Parapet/TCSS, Railing, MJ, Drainage, Bridge Lighting, & Sign Gantry	25	21-Jul-16	18-Aug-16	0	CAL 2 - 6 day	93m / 2 steel moulds @ 5 days / cycle / 10m bay
CONS.A1.1445	D11 Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting, Signages	25	19-Aug-16	19-Sep-16	23	CAL 2 - 6 day	93m / 2 steel moulds @ 5 days / cycle / 10m bay
CONS.A1.1450	D11 Final Asphalt Paving + Road Markings	12	11-Nov-16	24-Nov-16	0	CAL 2 - 6 day	
CONS.A1.1460	Bridge D11 complete	0		24-Nov-16	135	CAL 2 - 6 day	
Bridge D12a							
CONS.B1.1835	Site Possession / Access to Portion B1	0	13-Jun-15		0	CAL 2 - 6 day	
CONS.B1.1837	Site Survey and Setting Out	6	13-Jun-15	19-Jun-15	0	CAL 2 - 6 day	
CONS.B1.1840.10	Predrilling (17 nos)	30	18-Jun-15	24-Jul-15	0	CAL 2 - 6 day	17 nos x 5 days / 3 rigs
CONS.B1.1840.20	GI Report and Verification / Agreement to Founding Level	30	04-Jul-15	07-Aug-15	0	CAL 2 - 6 day	
CONS.B1.1850	D12a Bored Piling (17 nos. 2000mm dia x 60m + 1.0m Rock Socket)	77	18-Jul-15	17-Oct-15	0	CAL 2 - 6 day	17 nos x 18 days / 4 rigs
CONS.B1.1855	Pile Testing	77	20-Aug-15	20-Nov-15	0	CAL 2 - 6 day	
CONS.B1.1860	Pile Trimming + Pile Caps	60	23-Sep-15	04-Dec-15	0	CAL 2 - 6 day	3 nos x 14 days + 1 x 8 days + 10 days trimming
CONS.B1.1880	Pier Columns + Pier Head & Bearings	48	24-Oct-15	18-Dec-15	0	CAL 2 - 6 day	7 nos x 12 days / 2 Teams
CONS.B1.1890	Bridge D12a - Erect Precast Segments + Stitching + Stressing (6 spans)	48	30-Nov-15	27-Jan-16	0	CAL 2 - 6 day	95 Segments, 6 spans x 8 days / span
CONS.B1.1900	D12a Bridge Ancillary - Parapet/TCSS, Railing, MJ, Drainage, Bridge Lighting, & Sign Gantry	45	26-Jan-16	21-Mar-16	0	CAL 2 - 6 day	171m / 2 steel moulds @ 5 days cycle / 10m bay
CONS.B1.1905	D12a Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting, Signages	45	15-Aug-16	08-Oct-16	3	CAL 2 - 6 day	171m / 2 steel moulds @ 5 days cycle / 10m bay
CONS.B1.1910	D12a Final Asphalt Paving + Road Markings	12	14-Oct-16	27-Oct-16	0	CAL 2 - 6 day	
CONS.B1.1920	Bridge D12a complete	0		27-Oct-16	159	CAL 2 - 6 day	
Bridge D12b							
CONS.B2.2015	Site Possession / Access to Portion B2 & B5	0	14-Jul-15		31	CAL 2 - 6 day	
CONS.B2.2018	Site Survey / Setting out	6	14-Jul-15	20-Jul-15	31	CAL 2 - 6 day	
CONS.B2.2020.10	Predrilling (18 nos)	30	22-Aug-15	25-Sep-15	0	CAL 2 - 6 day	18 nos x 5 days / 3 rigs
CONS.B2.2020.20	GI Report and Verification / Agreement to Founding Level	30	05-Sep-15	12-Oct-15	0	CAL 2 - 6 day	
CONS.B2.2030	D12b Bored Piling (18 nos. 2000mm dia x 64m + 3.3m Rock Socket)	65	19-Sep-15	07-Dec-15	0	CAL 2 - 6 day	18 nos x 18 days / 5 rigs
CONS.B2.2035	Pile Testing	65	26-Oct-15	12-Jan-16	0	CAL 2 - 6 day	
CONS.B2.2040	Pile Trimming + Pile Caps	72	23-Nov-15	20-Feb-16	0	CAL 2 - 6 day	9 nos x 8 days + 6 days trimming
CONS.B2.2060	Pier Columns + Pier Head & Bearings	60	30-Dec-15	12-Mar-16	0	CAL 2 - 6 day	9 nos x 12 days / 2 teams
CONS.B2.2070	Bridge D12b - Erect Precast Segments + Stitching + Stressing (8 spans)	64	28-Jan-16	19-Apr-16	0	CAL 2 - 6 day	127 Segments, 8 spans x 8 days/ span
CONS.B2.2080	D12b Bridge Ancillary - Parapet/TCSS, Railing, MJ, Drainage, Bridge Lighting, & Sign Gantry	45	22-Mar-16	19-May-16	0	CAL 2 - 6 day	182m / 2 steel moulds @ 5 days cycle / 10m bay
CONS.B2.2085	D12b Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting, Signages	72	20-May-16	13-Aug-16	0	CAL 2 - 6 day	566m / 4 steel moulds @ 5 days cycle / 10m bay
CONS.B2.2090	Final Paving, Road Markings and Signages	12	28-Sep-16	13-Oct-16	0	CAL 2 - 6 day	
Bridge D12b (cast in-situ) in Portion B3 (Interface with Contract HY/2012/07)							
CONS.B3.2110	Site Possession/Access to Portion B3	0	02-Jul-16		0	CAL 2 - 6 day	



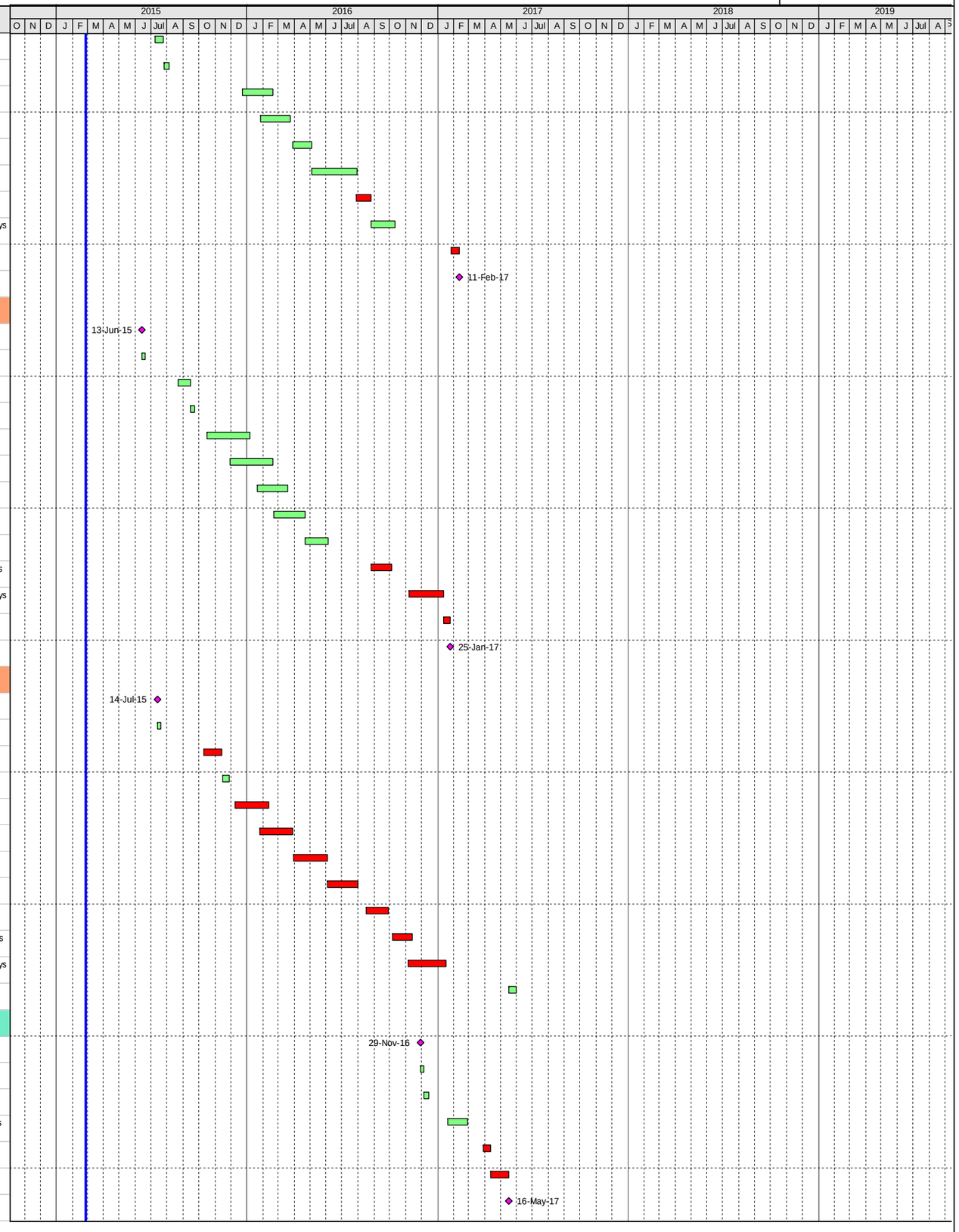
HY/2013/04 - Hong Kong Boundary Crossing Facilities Infrastructure Works Stage II (Southern Portion)

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float	Calendar	Remarks
CONS.B3.2120	Survey / Setting Out	6	02-Jul-16	08-Jul-16	0	CAL 2 - 6 day	
CONS.B3.2130	Bridge D12b (Portion B3) - Construct Deck (cast-in-situ) Pier P1210/P1214 interface with Other Contract	36	05-Jul-16	15-Aug-16	0	CAL 2 - 6 day	1 span (cast in-situ)
CONS.B3.2140	D12b Bridge Ancillary - Parapet/TCSS, Railing, MJ, Drainage, Bridge Lighting, & Sign Gantry	21	18-Aug-16	10-Sep-16	0	CAL 2 - 6 day	41m / 1 steel mould @ 5 days cycle / 10m bay
CONS.B3.2145	D12b Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting, Signages	21	24-Aug-16	19-Sep-16	0	CAL 2 - 6 day	41m / 1 steel mould @ 5 days cycle / 10m bay
CONS.B3.2150	D12b Final Paving, Road Markings and Signages	7	20-Sep-16	27-Sep-16	0	CAL 2 - 6 day	
CONS.B3.2160	Completion of Section IV (KD11) Works within Portion B3 including Bridge D12b	0		27-Sep-16	0	CAL 2 - 6 day	
Bridge D13 in Portion B1 and Portion C1							
CONS.B1.1925	Site Possession / Access to Portion B1	0	13-Jun-15		27	CAL 2 - 6 day	
CONS.B1.1926	Site Possession / Access to Portion C1	0	14-Sep-15		0	CAL 2 - 6 day	
CONS.B1.1928	Site Survey / Setting out Portion B1	6	13-Jun-15	19-Jun-15	27	CAL 2 - 6 day	
CONS.B1.1929	Site Survey / Setting out Portion C1	6	14-Sep-15	19-Sep-15	0	CAL 2 - 6 day	
CONS.B1.1930.10	Predrilling (15 nos) in Portion B1	25	24-Jul-15	21-Aug-15	0	CAL 2 - 6 day	15 nos x 5 days / 3 rigs
CONS.B1.1930.20	GI Report and Verification / Agreement to Founding Level - B1	8	22-Aug-15	31-Aug-15	37	CAL 2 - 6 day	
CONS.B1.1932.10	Predrilling (6 nos) in Portion C1	15	21-Sep-15	09-Oct-15	0	CAL 2 - 6 day	6 nos x 5 days / 2 rigs
CONS.B1.1932.20	GI Report and Verification / Agreement to Founding Level - C1	8	10-Oct-15	19-Oct-15	0	CAL 2 - 6 day	
CONS.B1.1940	D13 Bored Piling (15 nos. 1800-2000mm dia x 52m) 4nos + 0.8m Rock Socket - Portion B1	57	26-Sep-15	04-Dec-15	15	CAL 2 - 6 day	4 nos x 18 days and 11 nos x 14 days / 4 rigs
CONS.B1.1942	Pile Testing B1	57	02-Nov-15	09-Jan-16	15	CAL 2 - 6 day	
CONS.B1.1946	D13 Bored Piling (6 nos. 1800-2000mm dia x 47m-52m) - Portion C1	42	20-Oct-15	08-Dec-15	0	CAL 2 - 6 day	6 nos x 14 days / 2 rigs
CONS.B1.1948	Pile Testing C1	42	23-Nov-15	13-Jan-16	28	CAL 2 - 6 day	
CONS.B1.1950	Pile Trimming + Pile Caps - Portion B1	56	05-Dec-15	15-Feb-16	15	CAL 2 - 6 day	5 nos x 10 days +6 days trimming
CONS.B1.1952	Pile Trimming + Pile Caps - Portion C1	36	14-Jan-16	27-Feb-16	28	CAL 2 - 6 day	3 nos x 10 days +6 days trimming
CONS.B1.1954	Pier Columns + Pier Head & Bearings	56	20-Jan-16	31-Mar-16	15	CAL 2 - 6 day	9 nos x 12 days / 2 teams
CONS.B1.1960	Construct Abutment A1301 + A1307 - Portion C1	36	25-Feb-16	11-Apr-16	7	CAL 2 - 6 day	2 nos x 2 work fronts
CONS.B1.1980	Bridge D13 - Erect Precast Segments + Stitching + Stressing (9 spans)	66	20-Apr-16	09-Jul-16	0	CAL 2 - 6 day	129 Segments, 9 spans x 8 days /span
CONS.B1.1990	D13 Bridge Ancillary - Parapet/TCSS, Railing, MJ, Drainage, Bridge Lighting, & Sign Gantry	50	21-Jun-16	18-Aug-16	0	CAL 2 - 6 day	293m / 3 steel moulds @ 5 days cycle / 10m bay
CONS.B1.1995	D13 Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting, Signages	50	19-Aug-16	20-Oct-16	6	CAL 2 - 6 day	293m / 3 steel moulds @ 5 days cycle / 10m bay
CONS.B1.2000	D13 Final Asphalt Paving, Road Markings & Signages	12	28-Oct-16	10-Nov-16	0	CAL 2 - 6 day	
CONS.B1.2010	Completion of Bridge D13	0		10-Nov-16	147	CAL 2 - 6 day	
Bridge D14a							
CONS.A1.1464	Commence Bridge D14a / Portion A1	0	13-May-15		9	CAL 2 - 6 day	
CONS.A1.1466	Survey / Setting Out	6	13-May-15	19-May-15	9	CAL 2 - 6 day	
CONS.A1.1470.10	Predrilling (12 nos)	30	19-May-15	24-Jun-15	9	CAL 2 - 6 day	12 nos x 5 days / 2 rigs
CONS.A1.1470.20	GI Report and Verification / Agreement to Founding Level	8	25-Jun-15	04-Jul-15	9	CAL 2 - 6 day	
CONS.A1.1480	D14a Bored Piling (12 nos. 2000mm dia x 62m) 47m for Abutment	56	14-Jul-15	16-Sep-15	2	CAL 2 - 6 day	12 nos x 14 days / 3 rigs
CONS.A1.1485	Pile Testing	56	15-Aug-15	22-Oct-15	24	CAL 2 - 6 day	
CONS.A1.1490	Pile Trimming + Pile Caps	54	17-Sep-15	21-Nov-15	24	CAL 2 - 6 day	6 nos x 8 days + 6 days trimming
CONS.A1.1510	Pier Columns + Pier Head & Bearings	36	26-Oct-15	05-Dec-15	24	CAL 2 - 6 day	6 nos x 12 / 2 WF
CONS.A1.1515	Construct Abutment A1401	30	01-Dec-15	07-Jan-16	11	CAL 2 - 6 day	
CONS.A1.1520	Bridge D14a - Erect Precast Segments + Stitching + Stressing (5 spans)	40	21-Jan-16	10-Mar-16	0	CAL 2 - 6 day	75 Segments / 5 spans x 8 days / span
CONS.A1.1530	D14a Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting & Signages	55	21-Oct-16	23-Dec-16	63	CAL 2 - 6 day	428m / 4 steel moulds @ 5 days / cycle / 10m bay
CONS.A1.1540	D14a Final Asphalt Paving + Road Markings	12	15-Mar-17	28-Mar-17	0	CAL 2 - 6 day	
CONS.A1.1550	Bridge D14a complete	0		28-Mar-17	35	CAL 2 - 6 day	
Bridge D14b in Portion A1 and Portion B1							
CONS.B1.1654	Access to Portion B1	0	13-Jun-15		57	CAL 2 - 6 day	
CONS.B1.1656	Survey / Setting Out	6	13-Jun-15	19-Jun-15	57	CAL 2 - 6 day	



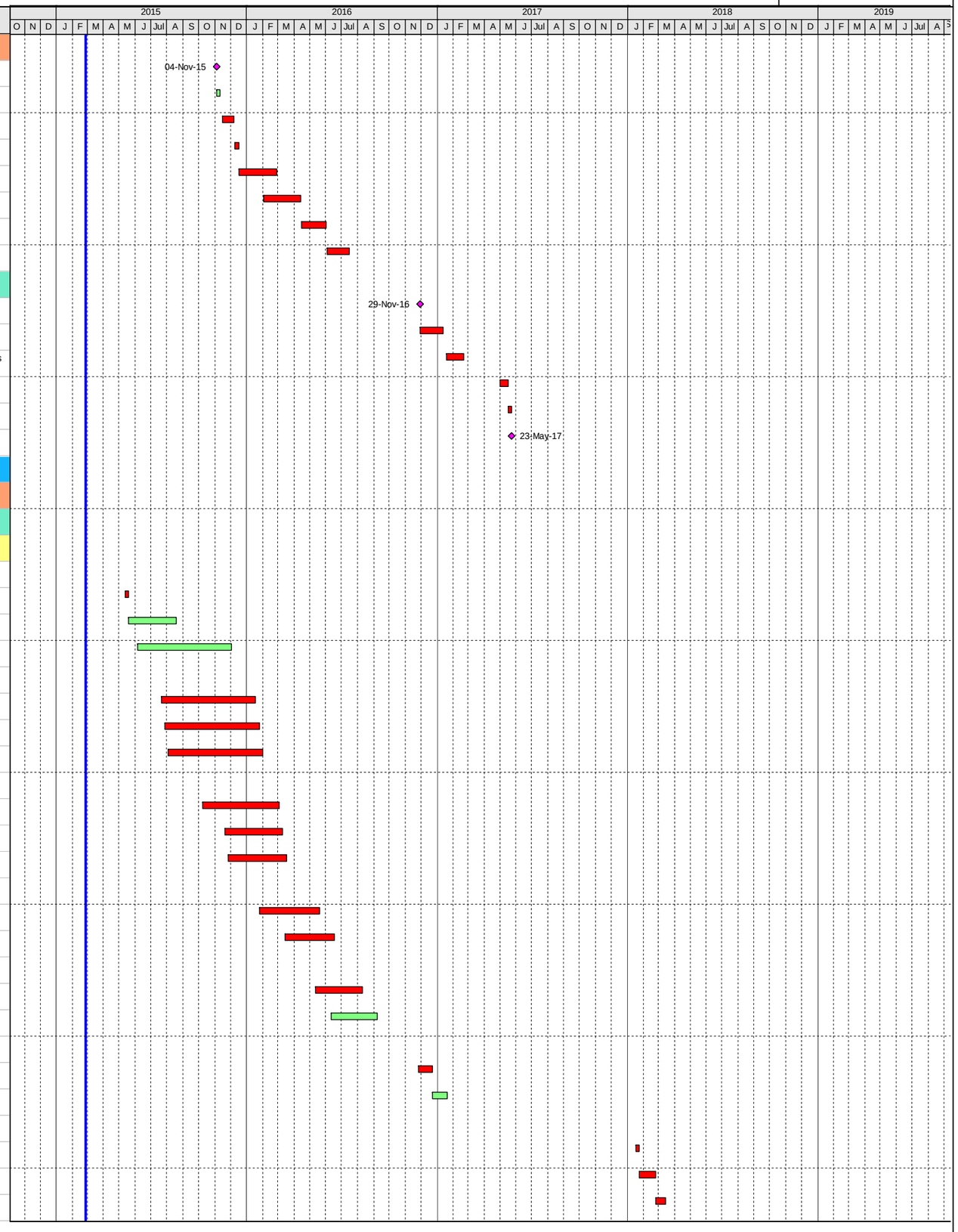
HY/2013/04 - Hong Kong Boundary Crossing Facilities Infrastructure Works Stage II (Southern Portion)

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float	Calendar	Remarks
CONS.B1.1660.10	Predrilling (6 nos)	15	09-Jul-15	25-Jul-15	43	CAL 2 - 6 day	6 nos x 5 days / 2 rigs
CONS.B1.1660.20	GI Report and Verification / Agreement to Founding Level	8	27-Jul-15	04-Aug-15	127	CAL 2 - 6 day	
CONS.B1.1670	D14b Bored Piling (6 nos. 2000-2200mm dia x 62m) (2nos +2.3m Rock Socket)	46	23-Dec-15	20-Feb-16	10	CAL 2 - 6 day	2 nos x 18 days + 4 nos x 14 days / 2 rigs
CONS.B1.1675	Pile Testing / Coring Test for Socket Bored Pile	46	28-Jan-16	24-Mar-16	10	CAL 2 - 6 day	
CONS.B1.1680	Pile Trimming + Pile Caps	30	29-Mar-16	04-May-16	10	CAL 2 - 6 day	3 nos x 8 days + 6 days trimming
CONS.B1.1690	Pier Columns + Pier Head & Bearings	72	05-May-16	30-Jul-16	10	CAL 2 - 6 day	6 nos x 12
CONS.B1.1710	Bridge D14b - Erect Precast Segments + Stitching + Stressing (3 spans)	24	29-Jul-16	25-Aug-16	0	CAL 2 - 6 day	49 Segments @ 3 spans x 8 days / span
CONS.B1.1720	D14b Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting & Signages	36	26-Aug-16	11-Oct-16	21	CAL 2 - 6 day	284m / 4 steel moulds @ 5 days / cycle / 10m bay
CONS.B1.1730	D14b Final Asphalt Paving + Road Markings	12	26-Jan-17	11-Feb-17	0	CAL 2 - 6 day	
CONS.B1.1740	Bridge D14b complete	0		11-Feb-17	73	CAL 2 - 6 day	
Bridge D14c							
CONS.B1.1744	Site Possession / Access to Portion B1	0	13-Jun-15		72	CAL 2 - 6 day	
CONS.B1.1746	Survey / Setting Out	6	13-Jun-15	19-Jun-15	72	CAL 2 - 6 day	
CONS.B1.1750.10	Predrilling (11 nos)	20	22-Aug-15	14-Sep-15	20	CAL 2 - 6 day	11 nos x 5 days / 3 rigs
CONS.B1.1750.20	GI Report and Verification / Agreement to Founding Level	8	15-Sep-15	23-Sep-15	41	CAL 2 - 6 day	
CONS.B1.1760	D14c Bored Piling (11 nos. 2000-2200mm dia x 67m + 2.3m Rock Socket)	66	17-Oct-15	06-Jan-16	23	CAL 2 - 6 day	11 nos x 18 days / 3 rigs
CONS.B1.1765	Pile Testing	66	30-Nov-15	20-Feb-16	23	CAL 2 - 6 day	
CONS.B1.1770	Pile Trimming + Pile Caps	48	21-Jan-16	19-Mar-16	23	CAL 2 - 6 day	3 nos x 12 days + 6 days trimming
CONS.B1.1790	Pier Columns + Pier Head & Bearings	48	22-Feb-16	21-Apr-16	23	CAL 2 - 6 day	4 nos x 12 days
CONS.B1.1795	Bridge D14c - Construct Deck (cast in-situ) Pier P1409 to P1410	36	22-Apr-16	04-Jun-16	23	CAL 2 - 6 day	1 span (cast in-situ)
CONS.B1.1800	Bridge D14c - Erect Precast Segments + Stitching + Stressing (4 spans)	32	26-Aug-16	05-Oct-16	0	CAL 2 - 6 day	60 Segments, 4 spans x 8 days / span
CONS.B1.1810	D14c Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting & Signages	54	07-Nov-16	11-Jan-17	0	CAL 2 - 6 day	428m / 4 steel moulds @ 5 days / cycle / 10m bay
CONS.B1.1820	D14c Final Asphalt Paving + Road Markings	12	12-Jan-17	25-Jan-17	0	CAL 2 - 6 day	
CONS.B1.1830	Bridge D14c complete	0		25-Jan-17	85	CAL 2 - 6 day	
Bridge D15							
CONS.B5.2104	Site Possession/Access to Portion B5	0	14-Jul-15		68	CAL 2 - 6 day	
CONS.B5.2106	Survey/ Site Setting Out	6	14-Jul-15	20-Jul-15	68	CAL 2 - 6 day	
CONS.B5.2110.10	Predrilling (11 nos)	30	10-Oct-15	14-Nov-15	0	CAL 2 - 6 day	11 nos x 5 days / 2 rigs
CONS.B5.2110.20	GI Report and Verification / Agreement to Founding Level	12	16-Nov-15	28-Nov-15	8	CAL 2 - 6 day	
CONS.B5.2120	D15 Bored Piling (11 nos. 2000mm dia x 65m + 3.3m Rock Socket)	50	09-Dec-15	11-Feb-16	0	CAL 2 - 6 day	11 nos x 18 days / 4 rigs
CONS.B5.2125	Pile Testing	50	25-Jan-16	29-Mar-16	0	CAL 2 - 6 day	
CONS.B5.2130	Pile Trimming + Pile Caps	54	30-Mar-16	03-Jun-16	0	CAL 2 - 6 day	4 nos x 12 days + 6 days for trimming
CONS.B5.2140	Pier Columns + Pier Head & Bearings	48	04-Jun-16	01-Aug-16	0	CAL 2 - 6 day	4 nos x 12 days
CONS.B5.2150	Bridge D15 - Construct Deck (cast in-situ) Pier P1501/P1502-1503	36	16-Aug-16	28-Sep-16	0	CAL 2 - 6 day	1 span x 36 days (cast in-situ)
CONS.B5.2160	Bridge D15 - Erect Precast Segments + Stictching + Stressing (4 spans)	32	06-Oct-16	12-Nov-16	0	CAL 2 - 6 day	64 Segments, 4 Spans x 8 days / span
CONS.B5.2170	D15 Bridge Ancillary - Parapet/TCSS, Railing, MJ, Drainage, Bridge Lighting, & Sign Gantry	60	05-Nov-16	17-Jan-17	0	CAL 2 - 6 day	450m / 4 steel moulds @ 5 days cycle / 10m bay
CONS.B5.2180	D15 Final Asphalt Paving, Road Markings and Signages	12	17-May-17	31-May-17	280	CAL 2 - 6 day	
Bridge D15 in Portion B4 (Interface with Contract HY/2012/07)							
CONS.B4.2170	Site Possession/Access to Portion B4	0	29-Nov-16		25	CAL 2 - 6 day	
CONS.B4.2180	Survey / Site Setting Out	6	29-Nov-16	05-Dec-16	25	CAL 2 - 6 day	
CONS.B4.2190	Bridge D15 - Erect Precast Segments on Falseworks at Portion B4 Interface (1 span)	8	06-Dec-16	14-Dec-16	25	CAL 2 - 6 day	14 segments, 1 Span x 8 days
CONS.B4.2200	D15 Bridge Ancillary - Parapet/TCSS, Railing, MJ, Drainage, Bridge Lighting, & Sign Gantry	30	20-Jan-17	27-Feb-17	25	CAL 2 - 6 day	84m / 2 steel moulds @ 5 days cycle / 10m bay
CONS.B4.2210	D15 Final Asphalt Paving, Road Markings and Signages	12	29-Mar-17	12-Apr-17	0	CAL 2 - 6 day	
CONS.B4.2220	Inspection and Handover	24	13-Apr-17	16-May-17	0	CAL 2 - 6 day	
CONS.B4.2230	Completion of Section V (KD12) Works within Portion B4 including Bridge D15	0		16-May-17	0	CAL 2 - 6 day	



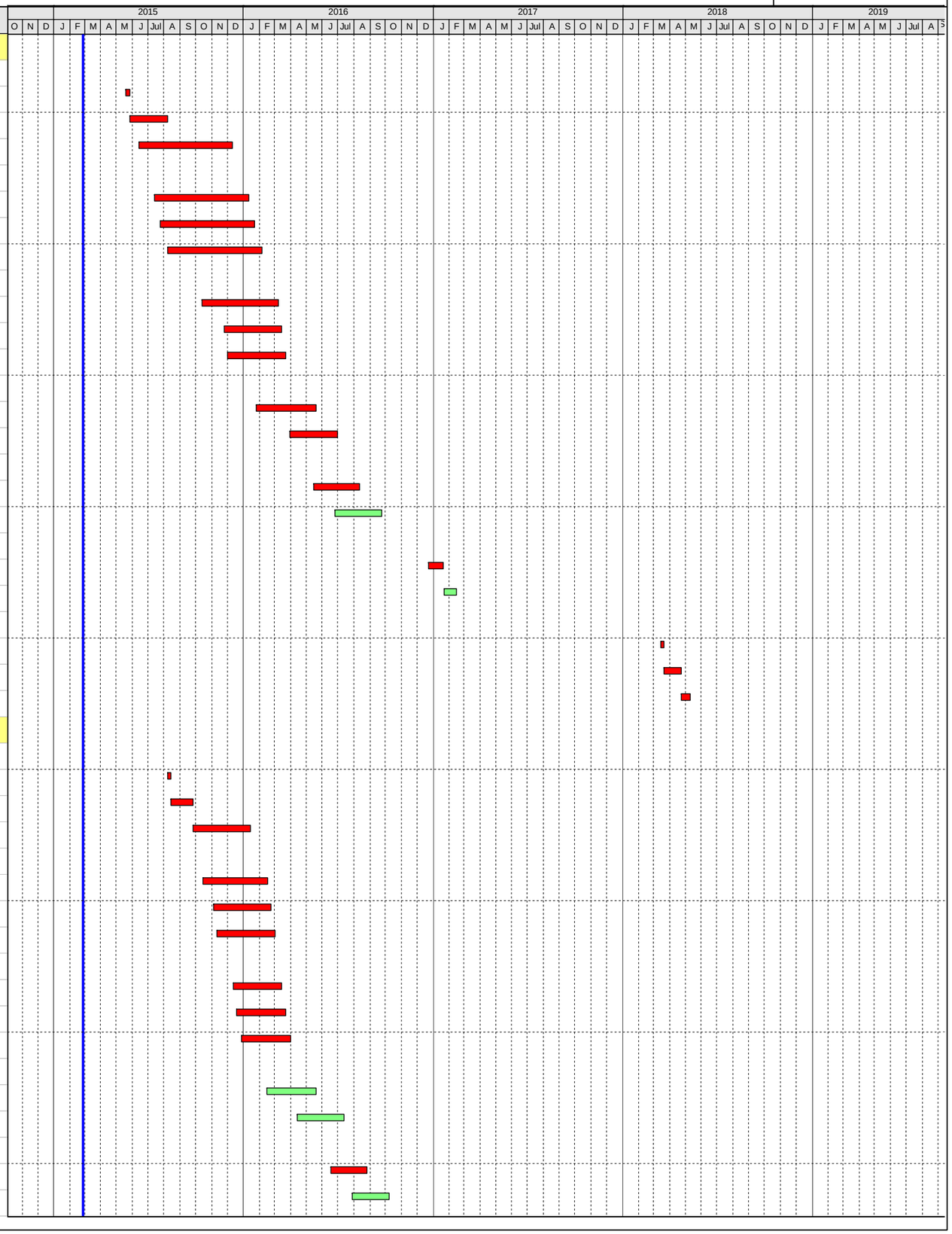
HY/2013/04 - Hong Kong Boundary Crossing Facilities Infrastructure Works Stage II (Southern Portion)

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float	Calendar	Remarks
Bridge D16S and D16N and Abutment A1601 in Portion A6							
CONS.A4.2230	Commence Works for Abutment A1601	0	04-Nov-15		4	CAL 2 - 6 day	
CONS.A4.2240	Survey / Site Setting Out	6	04-Nov-15	10-Nov-15	4	CAL 2 - 6 day	
CONS.A4.2250.10	Predrilling (4 nos)	20	16-Nov-15	08-Dec-15	0	CAL 2 - 6 day	4 nos x 5 d / 1 rig
CONS.A4.2250.20	GI Report and Verification / Agreement to Founding Level	8	09-Dec-15	17-Dec-15	0	CAL 2 - 6 day	
CONS.A4.2260	D16N&S Bored Piling (4 nos x 1800mm dia)	56	18-Dec-15	27-Feb-16	0	CAL 2 - 6 day	4 nos x 14 days / 1 rig
CONS.A4.2265	Pile Testing	56	02-Feb-16	14-Apr-16	0	CAL 2 - 6 day	
CONS.A4.2270	Pile Trimming + Pile Caps	40	15-Apr-16	02-Jun-16	0	CAL 2 - 6 day	
CONS.A4.2280	Construct Abutment A1601	36	03-Jun-16	16-Jul-16	0	CAL 2 - 6 day	
Bridge D16S and D16N in Portion A4							
CONS.A4.2285	Site Possession / Site Access to Portion A4	0	29-Nov-16		0	CAL 2 - 6 day	
CONS.A4.2290	Bridge D16S & D16N - Construct Deck (cast in-stu)	36	29-Nov-16	12-Jan-17	0	CAL 2 - 6 day	1 span cast in-situ 36 days
CONS.A4.2300	D16N & D16S Bridge Ancillary - Parapet, MJ, Drainage, Bridge Lighting, TCSS & Signages	26	18-Jan-17	20-Feb-17	0	CAL 2 - 6 day	38m / 1 steel moulds @ 5 days cycle / 10m bay
CONS.A4.2310	Final Asphalt Paving, Road Markings and Signages	12	02-May-17	16-May-17	0	CAL 2 - 6 day	
CONS.A4.2320	Inspection and Handover of Bridge D16	6	17-May-17	23-May-17	0	CAL 2 - 6 day	
CONS.A4.2330	Completion of Bridge D16N and D16S	0		23-May-17	0	CAL 2 - 6 day	
Road Works, Drainage and U/G Utilities							
Road Works (East of Box Culvert D)							
Road Formation and Drainage System							
Road SOL 101 / 109 / 114							
Road Formation and Drainage System							
CONS.RW.1010	Survey/ Road Setting Out	6	13-May-15	19-May-15	0	CAL 2 - 6 day	
CONS.RW.1020	Road Formation to Sub-grade (Cut & Fill)	75	20-May-15	18-Aug-15	7	CAL 2 - 6 day	
CONS.RW.1030	Excavate to invert level and install Drainage System (Drain Pipes & Catchpit/Manholes) + Testing & Interface Connection	150	06-Jun-15	03-Dec-15	12	CAL 2 - 6 day	
Installation of Underground Utilities							
CONS.RW.1060	Excavate and Install Fresh WM / Valves & fittings + Testing, Cleaning & Flushing and Interface Connection	150	21-Jul-15	18-Jan-16	0	CAL 2 - 6 day	
CONS.RW.1070	Excavate and Install Common Telecom Ducting and Telecom Ducting by Others	150	28-Jul-15	25-Jan-16	0	CAL 2 - 6 day	
CONS.RW.1080	Excavate and Install ELV/ LV Ducting and Pillar Box for TCSS and Road Lighting	150	04-Aug-15	01-Feb-16	0	CAL 2 - 6 day	
Kerbing and Footings for Railing, Fencing, Signages and Road Lighting							
CONS.RW.1090	Excavate and Construct Footings for Road Lightings / Railing / Fencing and Signages	120	08-Oct-15	03-Mar-16	0	CAL 2 - 6 day	
CONS.RW.1100	Road Formation to Sub-base	90	20-Nov-15	10-Mar-16	0	CAL 2 - 6 day	
CONS.RW.1110	Construct Precast Road Kerbings	90	27-Nov-15	17-Mar-16	0	CAL 2 - 6 day	
Road Works to Road Base and Base Course							
CONS.RW.2140	Road Formation to Road Base	90	26-Jan-16	19-May-16	0	CAL 2 - 6 day	
CONS.RW.2150	Road Formation to Base Course	75	15-Mar-16	17-Jun-16	2	CAL 2 - 6 day	
Installation of Railing and Fencing + Road Lighting and Signages							
CONS.RW.2220	Install Road Railing and Fencing	75	12-May-16	10-Aug-16	2	CAL 2 - 6 day	
CONS.RW.2830	Install Road Ligting and Signages	75	11-Jun-16	07-Sep-16	7	CAL 2 - 6 day	
Final Paving and Road Markings							
CONS.RW.2690	Final Road Paving (Wearing Course)	24	25-Nov-16	22-Dec-16	1	CAL 2 - 6 day	
CONS.RW.2720	Road Markings and Road Signages	22	23-Dec-16	20-Jan-17	13	CAL 2 - 6 day	
Portion A6 - Final Paving and Road Markings							
CONS.RW.2930	Road Clearing	6	17-Jan-18	23-Jan-18	0	CAL 2 - 6 day	
CONS.RW.2970	Final Road Paving (Wearing Course)	24	24-Jan-18	23-Feb-18	0	CAL 2 - 6 day	Note: Late Final Paving due to Site Logistics related to
CONS.RW.2980	Road Markings and Road Signages	16	24-Feb-18	14-Mar-18	0	CAL 2 - 6 day	

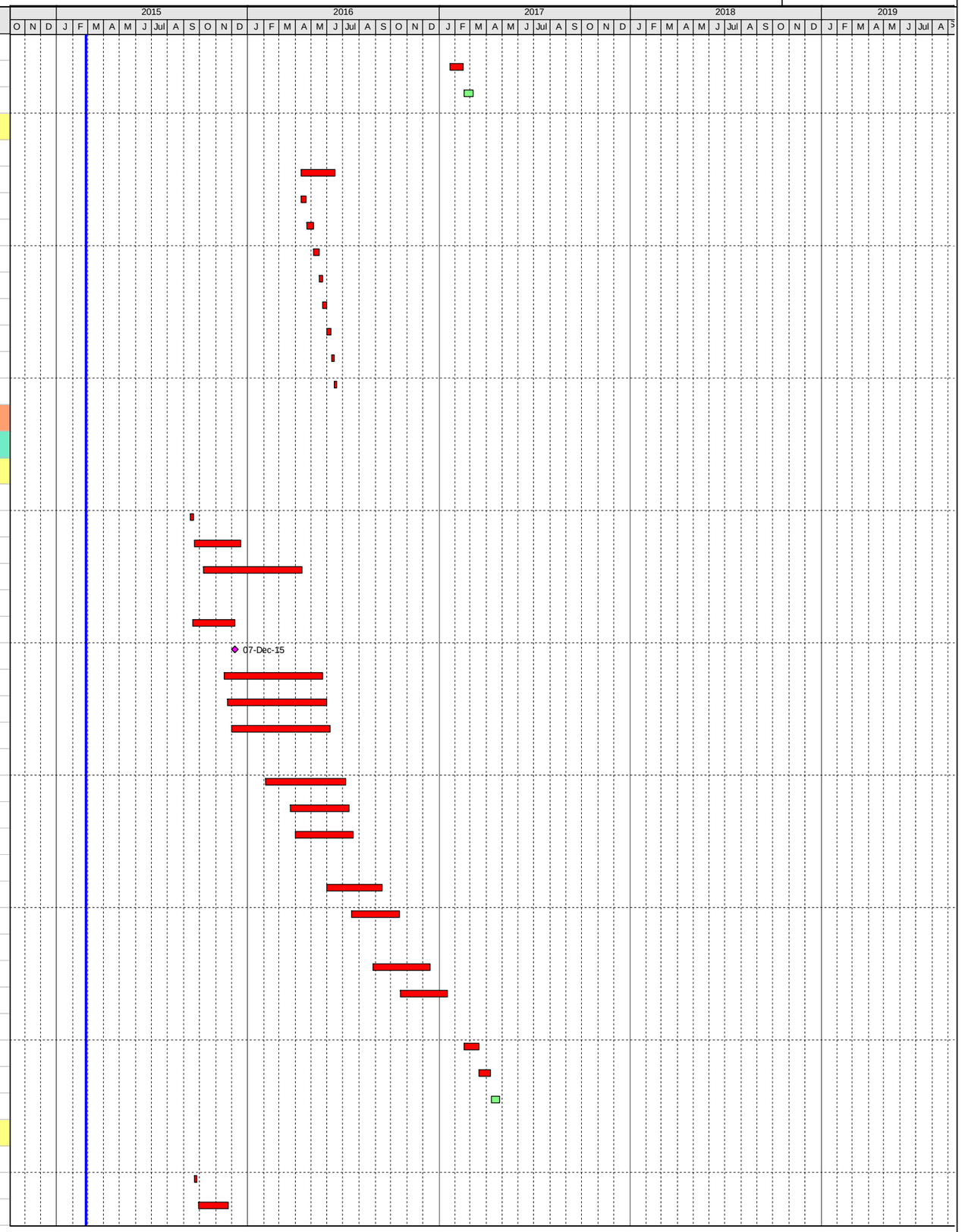


HY/2013/04 - Hong Kong Boundary Crossing Facilities Infrastructure Works Stage II (Southern Portion)

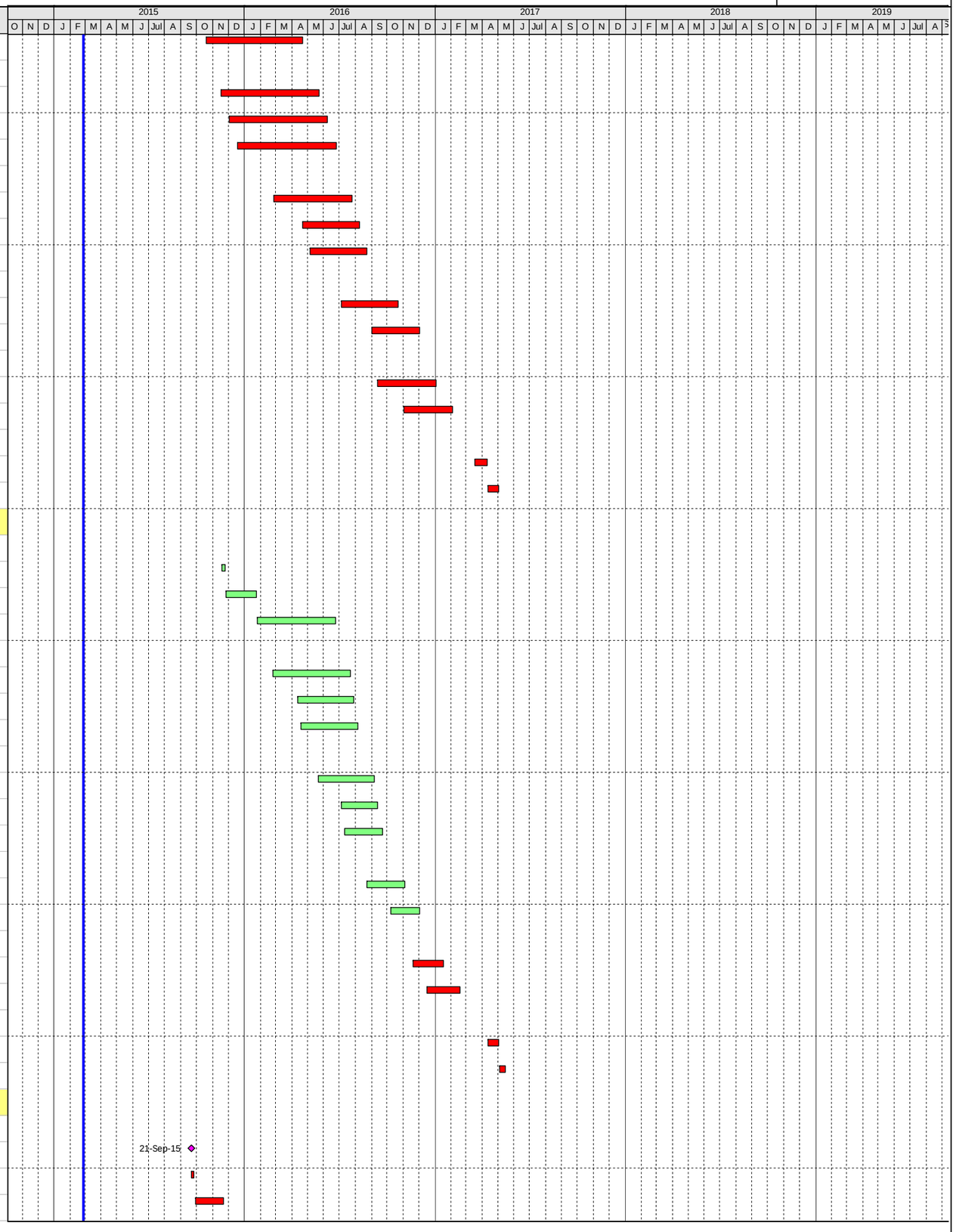
Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float	Calendar	Remarks
Road SOL 102							
Road Formation and Drainage System							
CONS.RW.1970	Survey/ Road Setting Out	6	20-May-15	27-May-15	0	CAL 2 - 6 day	
CONS.RW.1980	Road Formation to Sub-grade (Cut & Fill)	60	28-May-15	07-Aug-15	0	CAL 2 - 6 day	
CONS.RW.1990	Excavate to invert level and install Drainage System (Drain Pipes & Catchpit/Manholes) + Testing & Interface Connection	150	13-Jun-15	10-Dec-15	0	CAL 2 - 6 day	
Installation of Underground Utilities							
CONS.RW.2890	Excavate and Install Fresh WM / Valves & fittings + Testing, Cleaning & Flushing and Interface Connection	150	14-Jul-15	11-Jan-16	0	CAL 2 - 6 day	
CONS.RW.2900	Excavate and Install Common Telecom Ducting and Telecom Ducting by Others	150	25-Jul-15	22-Jan-16	0	CAL 2 - 6 day	
CONS.RW.2910	Excavate and Install ELV/ LV Ducting and Pillar Box for TCSS and Road Lighting	150	08-Aug-15	05-Feb-16	0	CAL 2 - 6 day	
Kerbing and Footings for Railing, Fencing, Signages and Road Lighting							
CONS.RW.2080	Excavate and Construct Footings for Road Lightings / Railing / Fencing and Signages	120	13-Oct-15	08-Mar-16	0	CAL 2 - 6 day	
CONS.RW.2090	Road Formation to Sub-base	90	25-Nov-15	15-Mar-16	0	CAL 2 - 6 day	
CONS.RW.2100	Construct Precast Road Kerbings	90	02-Dec-15	22-Mar-16	0	CAL 2 - 6 day	
Road Works to Road Base and Base Course							
CONS.RW.2170	Road Formation to Road Base	90	26-Jan-16	19-May-16	0	CAL 2 - 6 day	
CONS.RW.2180	Road Formation to Base Course	75	31-Mar-16	30-Jun-16	0	CAL 2 - 6 day	
Installation of Railing and Fencing + Road Lighting and Signages							
CONS.RW.2240	Install Road Railing and Fencing	75	16-May-16	12-Aug-16	0	CAL 2 - 6 day	
CONS.RW.2840	Install Road Ligting and Signages	75	25-Jun-16	23-Sep-16	7	CAL 2 - 6 day	
Final Paving and Road Markings							
CONS.RW.2700	Final Road Paving (Wearing Course)	22	23-Dec-16	20-Jan-17	1	CAL 2 - 6 day	
CONS.RW.2730	Road Markings and Road Signages	18	21-Jan-17	14-Feb-17	13	CAL 2 - 6 day	
Portion A6 - Final Paving and Road Markings							
CONS.RW.2790	Road Clearing	6	15-Mar-18	21-Mar-18	0	CAL 2 - 6 day	
CONS.RW.2920	Final Road Paving (Wearing Course)	24	22-Mar-18	23-Apr-18	0	CAL 2 - 6 day	Note: Late Final Paving due to Site Logistics related to
CONS.RW.2990	Road Markings and Road Signages	14	24-Apr-18	10-May-18	0	CAL 2 - 6 day	
Road SOL 107 / 113							
Road Formation and Drainage System							
CONS.RW.2000	Survey/ Road Setting Out	6	08-Aug-15	14-Aug-15	0	CAL 2 - 6 day	
CONS.RW.2010	Road Formation to Sub-grade (Cut & Fill)	36	15-Aug-15	25-Sep-15	0	CAL 2 - 6 day	
CONS.RW.2020	Excavate to invert level and install Drainage System (Drain Pipes & Catchpit/Manholes) + Testing & Interface Connection	90	26-Sep-15	15-Jan-16	0	CAL 2 - 6 day	
Installation of Underground Utilities							
CONS.RW.2040	Excavate and Install Fresh WM / Valves & fittings + Testing, Cleaning & Flushing and Interface Connection (3 lines)	100	15-Oct-15	16-Feb-16	0	CAL 2 - 6 day	
CONS.RW.2050	Excavate and Install Flush WM / Valves & fittings + Testing, Cleaning & Flushing and Interface Connection (1 line)	90	04-Nov-15	23-Feb-16	0	CAL 2 - 6 day	
CONS.RW.2060	Excavate and Install ELV/ LV Ducting and Pillar Box for TCSS	90	11-Nov-15	01-Mar-16	0	CAL 2 - 6 day	
Kerbing and Footings for Railing, Fencing, Signages and Road Lighting							
CONS.RW.2110	Excavate and Construct Footings for Road Lightings / Railing / Fencing and Signages	75	12-Dec-15	15-Mar-16	0	CAL 2 - 6 day	
CONS.RW.2120	Road Formation to Sub-base	75	19-Dec-15	22-Mar-16	0	CAL 2 - 6 day	
CONS.RW.2130	Construct Precast Road Kerbings	75	29-Dec-15	01-Apr-16	0	CAL 2 - 6 day	
Road Works to Road Base and Base Course							
CONS.RW.2200	Road Formation to Road Base	75	16-Feb-16	19-May-16	14	CAL 2 - 6 day	
CONS.RW.2210	Road Formation to Base Course	75	13-Apr-16	13-Jul-16	14	CAL 2 - 6 day	
Installation of Railing and Fencing + Road Lighting and Signages							
CONS.RW.2260	Install Road Railing and Fencing	60	17-Jun-16	26-Aug-16	0	CAL 2 - 6 day	
CONS.RW.2850	Install Road Ligting and Signages	60	28-Jul-16	08-Oct-16	7	CAL 2 - 6 day	



Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float	Calendar	Remarks
	Final Paving and Road Markings						
CONS.RW.2710	Final Road Paving (Wearing Course)	20	21-Jan-17	16-Feb-17	1	CAL 2 - 6 day	
CONS.RW.2740	Road Markings and Road Signages	16	17-Feb-17	07-Mar-17	11	CAL 2 - 6 day	
	Road SOL 108 / 106						
	Adjacent to Road SOL 108 / 106 and Abutment A901						
CONS.RW.2070	Excavate and Install Common Telecom Ducting and Telecom Ducting by Others + Backfilling	53	12-Apr-16	15-Jun-16	0	CAL 2 - 6 day	
CONS.RW.2160	Road Formation to subgrade + Drainage System	10	12-Apr-16	22-Apr-16	0	CAL 2 - 6 day	
CONS.RW.2190	Install TCSS/LV/ELV Ducting	10	23-Apr-16	05-May-16	0	CAL 2 - 6 day	
CONS.RW.2230	Excavate and Construct footing for Railing and Road lighting	8	06-May-16	16-May-16	0	CAL 2 - 6 day	
CONS.RW.2250	Road formation to Subbase	6	17-May-16	23-May-16	0	CAL 2 - 6 day	
CONS.RW.2370	Construct Precast Road Kerbings	6	24-May-16	30-May-16	0	CAL 2 - 6 day	
CONS.RW.2380	Road formation to Road base and Base course	8	31-May-16	08-Jun-16	0	CAL 2 - 6 day	
CONS.RW.2390	Install Road Lighting, Railing and Signages	4	10-Jun-16	14-Jun-16	0	CAL 2 - 6 day	
CONS.RW.2400	Final Road Paving and Road markings (KD13 - Completion of Section VI)	4	15-Jun-16	18-Jun-16	0	CAL 2 - 6 day	
	Road Works (West of Box Culvet D)						
	Road Formation and Drainage System						
	Road SOL 101 / 105						
	Road Formation and Drainage System						
CONS.RW.2270	Survey/ Road Setting Out	6	14-Sep-15	19-Sep-15	0	CAL 2 - 6 day	
CONS.RW.2280	Road Formation to Sub-grade (Cut & Fill)	75	21-Sep-15	19-Dec-15	2	CAL 2 - 6 day	
CONS.RW.2290	Excavate to invert level and install Drainage System (Drain Pipes & Catchpit/Manholes) + Testing & Interface Connection	150	09-Oct-15	13-Apr-16	2	CAL 2 - 6 day	
	Installation of Underground Utilities						
CONS.RW.2295	Excavate and Install HV Cable Ducting on Carriageway	66	18-Sep-15	07-Dec-15	0	CAL 2 - 6 day	
CONS.RW.2300	Handover area to CLP for HV Cable Laying	0		07-Dec-15	0	CAL 2 - 6 day	
CONS.RW.2310	Excavate and Install Fresh WM / Valves & fittings + Testing, Cleaning & Flushing and Interface Connection	150	17-Nov-15	23-May-16	0	CAL 2 - 6 day	
CONS.RW.2320	Excavate and Install Common Telecom Ducting and Telecom Ducting by Others	150	24-Nov-15	30-May-16	0	CAL 2 - 6 day	
CONS.RW.2330	Excavate and Install ELV/ LV Ducting and Pillar Box for TCSS	150	01-Dec-15	06-Jun-16	0	CAL 2 - 6 day	
	Kerbing and Footings for Railing, Fencing, Signages and Road Lighting						
CONS.RW.2340	Excavate and Construct Footings for Road Lightings / Railing / Fencing and Signages	120	05-Feb-16	06-Jul-16	0	CAL 2 - 6 day	
CONS.RW.2350	Road Formation to Sub-base	90	22-Mar-16	13-Jul-16	0	CAL 2 - 6 day	
CONS.RW.2360	Construct Precast Road Kerbings	90	01-Apr-16	20-Jul-16	0	CAL 2 - 6 day	
	Road Works to Road Base and Base Course						
CONS.RW.2570	Road Formation to Road Base	90	31-May-16	14-Sep-16	2	CAL 2 - 6 day	
CONS.RW.2580	Road Formation to Base Course	75	18-Jul-16	17-Oct-16	2	CAL 2 - 6 day	
	Installation of Railing and Fencing + Road Lighting and Signages						
CONS.RW.2630	Install Road Railing and Fencing	90	27-Aug-16	14-Dec-16	0	CAL 2 - 6 day	
CONS.RW.2860	Install Road Lighting and Signages	75	19-Oct-16	17-Jan-17	0	CAL 2 - 6 day	
	Final Paving and Road Markings						
CONS.RW.2660	Final Road Paving (Wearing Course)	24	18-Feb-17	17-Mar-17	0	CAL 2 - 6 day	
CONS.RW.2750	Road Markings and Road Signages	18	18-Mar-17	08-Apr-17	2	CAL 2 - 6 day	
CONS.RW.2780	Cleaning and Rectification Works	12	10-Apr-17	26-Apr-17	14	CAL 2 - 6 day	
	Road SOL 102 /106/111						
	Road Formation and Drainage System						
CONS.RW.2410	Survey/ Road Setting Out	6	21-Sep-15	26-Sep-15	0	CAL 2 - 6 day	
CONS.RW.2420	Road Formation to Sub-grade (Cut & Fill)	48	29-Sep-15	25-Nov-15	0	CAL 2 - 6 day	

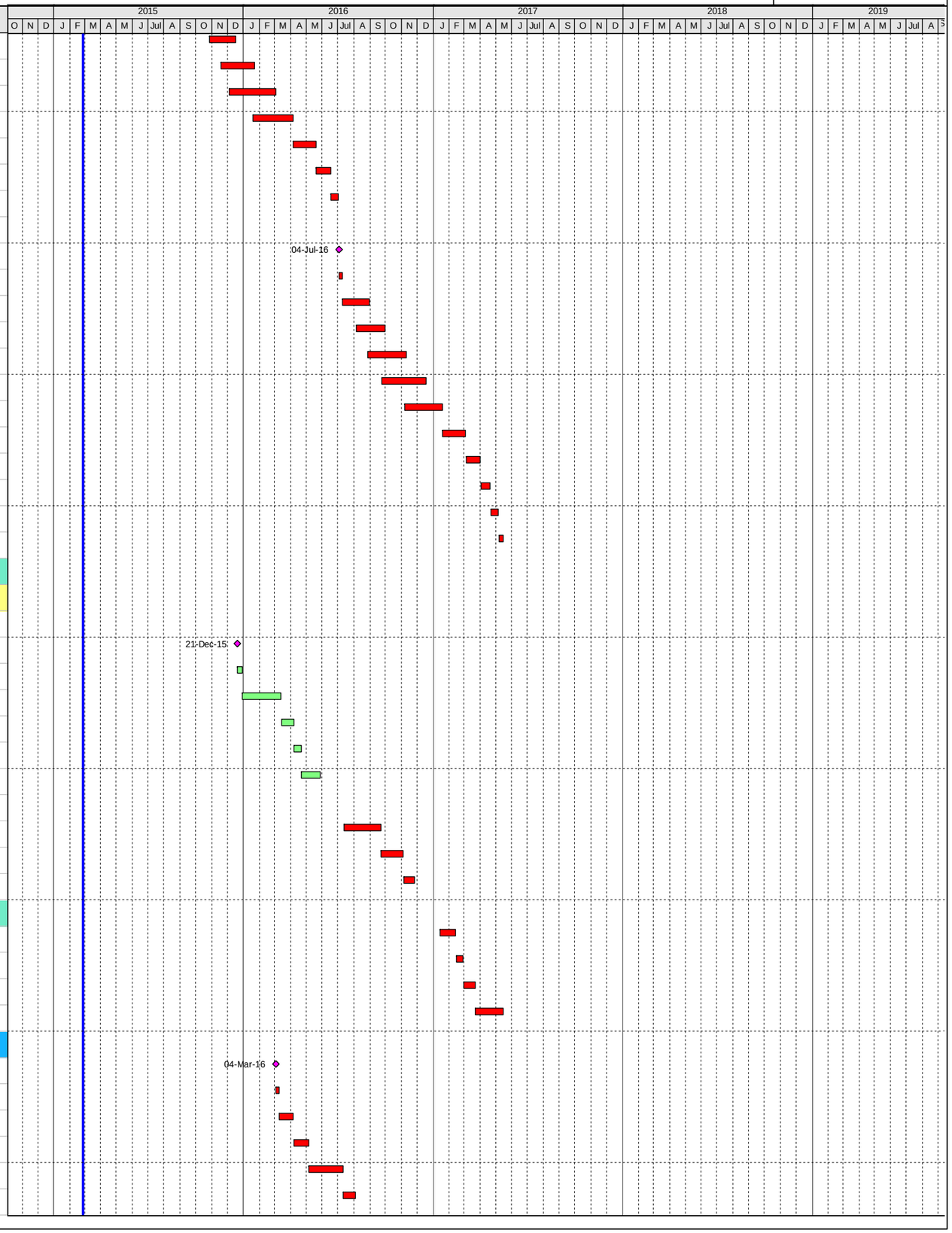


Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float	Calendar	Remarks
CONS.RW.2430	Excavate to invert level and install Drainage System (Drain Pipes & Catchpit/Manholes) + Testing & Interface Connection	150	19-Oct-15	22-Apr-16	0	CAL 2 - 6 day	
Installation of Underground Utilities							
CONS.RW.2940	Excavate and Install Fresh WM / Valves & fittings + Testing, Cleaning & Flushing and Interface Connection	150	17-Nov-15	23-May-16	0	CAL 2 - 6 day	
CONS.RW.2950	Excavate and Install Common Telecom Ducting and Telecom Ducting by Others	150	03-Dec-15	08-Jun-16	0	CAL 2 - 6 day	
CONS.RW.2960	Excavate and Install ELV/ LV Ducting and Pillar Box for TCSS	150	19-Dec-15	25-Jun-16	0	CAL 2 - 6 day	
Kerbing and Footings for Railing, Fencing, Signages and Road Lighting							
CONS.RW.2510	Excavate and Construct Footings for Road Lightings / Railing / Fencing and Signages	120	27-Feb-16	25-Jul-16	0	CAL 2 - 6 day	
CONS.RW.2520	Road Formation to Sub-base	90	21-Apr-16	08-Aug-16	0	CAL 2 - 6 day	
CONS.RW.2530	Construct Precast Road Kerbings	90	06-May-16	22-Aug-16	0	CAL 2 - 6 day	
Road Works to Road Base and Base Course							
CONS.RW.2590	Road Formation to Road Base	90	05-Jul-16	21-Oct-16	0	CAL 2 - 6 day	
CONS.RW.2600	Road Formation to Base Course	75	02-Sep-16	02-Dec-16	0	CAL 2 - 6 day	
Installation of Railing and Fencing + Road Lighting and Signages							
CONS.RW.2640	Install Road Railing and Fencing	90	13-Sep-16	03-Jan-17	0	CAL 2 - 6 day	
CONS.RW.2870	Install Road Lighting and Signages	75	02-Nov-16	03-Feb-17	0	CAL 2 - 6 day	
Final Paving and Road Markings							
CONS.RW.2670	Final Road Paving (Wearing Course)	20	18-Mar-17	11-Apr-17	0	CAL 2 - 6 day	
CONS.RW.2760	Road Markings and Road Signages	14	12-Apr-17	02-May-17	0	CAL 2 - 6 day	
Road SOL 104							
Road Formation and Drainage System							
CONS.RW.2440	Survey/ Road Setting Out	6	19-Nov-15	25-Nov-15	11	CAL 2 - 6 day	
CONS.RW.2450	Road Formation to Sub-grade (Cut & Fill)	48	26-Nov-15	23-Jan-16	11	CAL 2 - 6 day	
CONS.RW.2460	Excavate to invert level and install Drainage System (Drain Pipes & Catchpit/Manholes) + Testing & Interface Connection	120	25-Jan-16	23-Jun-16	11	CAL 2 - 6 day	
Installation of Underground Utilities							
CONS.RW.2470	Excavate and Install Fresh WM / Valves & fittings + Testing, Cleaning & Flushing and Interface Connection (3 lines)	120	25-Feb-16	22-Jul-16	11	CAL 2 - 6 day	
CONS.RW.2480	Excavate and Install Flush WM / Valves & fittings + Testing, Cleaning & Flushing and Interface Connection (1 line)	90	12-Apr-16	29-Jul-16	11	CAL 2 - 6 day	
CONS.RW.2490	Excavate and Install ELV/ LV Ducting and Pillar Box for TCSS	90	19-Apr-16	05-Aug-16	11	CAL 2 - 6 day	
Kerbing and Footings for Railing, Fencing, Signages and Road Lighting							
CONS.RW.2540	Excavate and Construct Footings for Road Lightings / Railing / Fencing and Signages	90	21-May-16	05-Sep-16	24	CAL 2 - 6 day	
CONS.RW.2550	Road Formation to Sub-base	60	05-Jul-16	12-Sep-16	48	CAL 2 - 6 day	
CONS.RW.2560	Construct Precast Road Kerbings	60	12-Jul-16	21-Sep-16	48	CAL 2 - 6 day	
Road Works to Road Base and Base Course							
CONS.RW.2610	Road Formation to Road Base	60	23-Aug-16	04-Nov-16	24	CAL 2 - 6 day	
CONS.RW.2620	Road Formation to Base Course	48	07-Oct-16	02-Dec-16	24	CAL 2 - 6 day	
Installation of Railing and Fencing + Road Lighting and Signages							
CONS.RW.2650	Install Road Railing and Fencing	48	19-Nov-16	17-Jan-17	0	CAL 2 - 6 day	
CONS.RW.2880	Install Road Lighting and Signages	48	17-Dec-16	17-Feb-17	0	CAL 2 - 6 day	
Final Paving and Road Markings							
CONS.RW.2680	Final Road Paving (Wearing Course)	14	12-Apr-17	02-May-17	0	CAL 2 - 6 day	
CONS.RW.2770	Road Markings and Road Signages	10	04-May-17	15-May-17	0	CAL 2 - 6 day	
Road SOL 107 (Depressed Road)							
Stage 1- Depressed Road Works (West Side 1st Half)							
CONS.C1.5010	Commence Works on Depressed Road (1st half on the West side)	0	21-Sep-15		0	CAL 2 - 6 day	
CONS.C1.5020	Survey / Setting out	6	21-Sep-15	26-Sep-15	0	CAL 2 - 6 day	
CONS.C1.5030	Excavate to formation level	45	29-Sep-15	21-Nov-15	0	CAL 2 - 6 day	

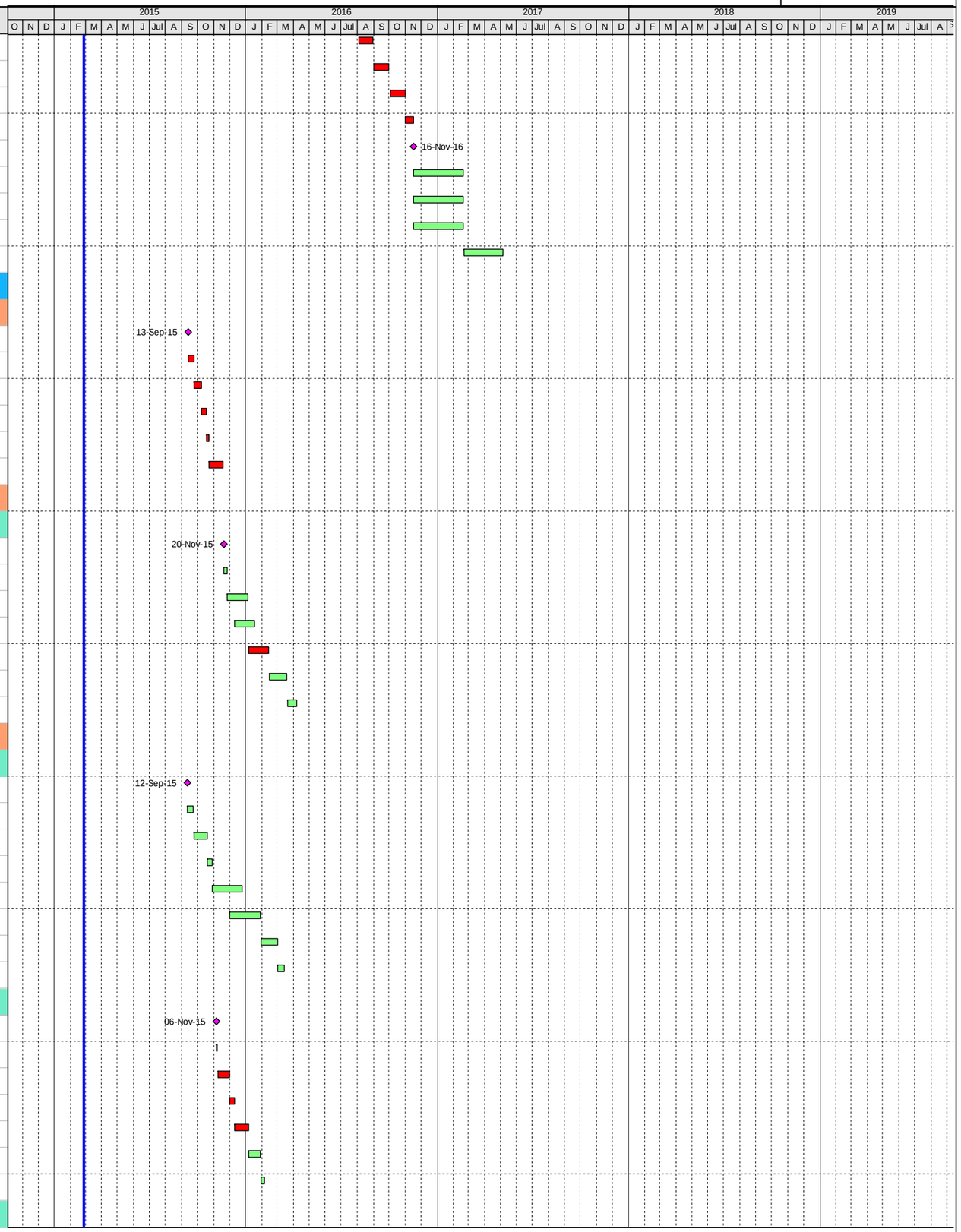


HY/2013/04 - Hong Kong Boundary Crossing Facilities Infrastructure Works Stage II (Southern Portion)

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float	Calendar	Remarks
CONS.C1.5040	Excavate and install Drainage Pipes and Construct Manholes & Backfill	45	27-Oct-15	17-Dec-15	0	CAL 2 - 6 day	
CONS.C1.5050	Excavate and Install Fresh Water Mains & Flush Water Main + Hydrotest, Clean & Flushing and Connection	54	18-Nov-15	22-Jan-16	0	CAL 2 - 6 day	
CONS.C1.5060	Construct U-Structure - Base Slab and Walls	72	04-Dec-15	03-Mar-16	0	CAL 2 - 6 day	
CONS.C1.5070	Construct Plain ad Ribbed Finishes to Walls	60	19-Jan-16	05-Apr-16	0	CAL 2 - 6 day	
CONS.C1.5080	Backfill and Compaction	36	06-Apr-16	19-May-16	0	CAL 2 - 6 day	
CONS.C1.5090	Construct Footing for Road Lighting and Signages	24	20-May-16	17-Jun-16	0	CAL 2 - 6 day	
CONS.C1.5100	Install Ducting and Drawpits for Road Lighting	12	18-Jun-16	02-Jul-16	0	CAL 2 - 6 day	
Stage 2 - Depressed Road (East Side 2nd Half) Interface with Bridge D14a, D9a & D10							
CONS.C1.8670	Commence Works on Depressed Road (2nd Half on the East Side)	0	04-Jul-16		0	CAL 2 - 6 day	
CONS.C1.8680	Survey / Setting out	6	04-Jul-16	09-Jul-16	0	CAL 2 - 6 day	
CONS.C1.8690	Excavate to formation level	45	09-Jul-16	30-Aug-16	0	CAL 2 - 6 day	interface with erection of segments at D14a and D10
CONS.C1.8700	Excavate and install Drainage Pipes and Construct Manholes & Backfill	45	06-Aug-16	29-Sep-16	0	CAL 2 - 6 day	
CONS.C1.8710	Excavate and Install Fresh Water Mains & Flush Water Main + Hydrotest, Clean & Flushing and Connection	60	27-Aug-16	09-Nov-16	0	CAL 2 - 6 day	
CONS.C1.8720	Construct U-Structure - Base Slab and Walls	72	23-Sep-16	17-Dec-16	0	CAL 2 - 6 day	
CONS.C1.8730	Construct Plain ad Ribbed Finishes to Walls	60	07-Nov-16	18-Jan-17	0	CAL 2 - 6 day	
CONS.C1.8740	Backfill and Compaction	36	19-Jan-17	04-Mar-17	0	CAL 2 - 6 day	
CONS.C1.8750	Construct Footing for Road Lighting and Signages	24	06-Mar-17	01-Apr-17	0	CAL 2 - 6 day	
CONS.C1.8760	Install Ducting and Drawpits for Road Lighting	12	03-Apr-17	20-Apr-17	0	CAL 2 - 6 day	
CONS.C1.8770	Install Road Lighting and Signages + Cabling and Termination	12	21-Apr-17	06-May-17	0	CAL 2 - 6 day	
CONS.C1.8780	Road Paving and Road Markings	7	08-May-17	15-May-17	0	CAL 2 - 6 day	
Under Ground Utilties (Power, Water & Telecom)							
Work in Portion D1 and D2							
Sewage Rising main							
CONS.RM.1010	Commence Works on Rising Main	0	21-Dec-15		36	CAL 2 - 6 day	
CONS.RM.1020	Site Survey / Setting Out Sewerage Alignment	6	21-Dec-15	29-Dec-15	36	CAL 2 - 6 day	
CONS.RM.1030	Excavate to Invert Level & Install 2 Sewage Rising Main DN100 CHC & CHD	60	30-Dec-15	12-Mar-16	36	CAL 2 - 6 day	
CONS.RM.1040	Construct Thrust Block	18	14-Mar-16	07-Apr-16	36	CAL 2 - 6 day	
CONS.RM.1050	Gravity Flow Testing	12	08-Apr-16	21-Apr-16	36	CAL 2 - 6 day	
CONS.RM.1060	Backfill	30	22-Apr-16	28-May-16	36	CAL 2 - 6 day	
CLP Cables and Telecom Crossing at Portion D2 and D1							
CONS.RW.2800	Excavate and Install Common Telecom Ducting and Telecom Ducting by Telecom Companies	60	13-Jul-16	22-Sep-16	0	CAL 2 - 6 day	
CONS.RW.2810	Excavate and Install CLP 11kv Cables	36	22-Sep-16	04-Nov-16	0	CAL 2 - 6 day	
CONS.RW.2820	Backfill and reinstate ground	18	05-Nov-16	25-Nov-16	0	CAL 2 - 6 day	
Portion A1 and A2 - Sub-Base Area							
CONS.A1.4430	Demobilisation of Temporary Facilities on Site	24	13-Jan-17	13-Feb-17	0	CAL 2 - 6 day	
CONS.A1.4440	Site Survey / Site Clearing	12	14-Feb-17	27-Feb-17	0	CAL 2 - 6 day	
CONS.A1.4450	Area to Formation Level	20	28-Feb-17	22-Mar-17	0	CAL 2 - 6 day	
CONS.A1.4460	Sub-Base Material Topping (Area 29,963 m2 x 100mm thk Subbase)	40	23-Mar-17	15-May-17	0	CAL 2 - 6 day	
Pump House cum Switch Room							
CONS.C1.5110	Commence Pump House Cum Switch Room (2B+ GF)	0	04-Mar-16		0	CAL 2 - 6 day	
CONS.C1.5120	Mobilisation / Survey/ Setting Out	6	04-Mar-16	10-Mar-16	0	CAL 2 - 6 day	
CONS.C1.5125	Sheet Piling	20	10-Mar-16	06-Apr-16	0	CAL 2 - 6 day	
CONS.C1.5130	Install Dewatering Wells + Pump Test	24	07-Apr-16	05-May-16	0	CAL 2 - 6 day	
CONS.C1.5140	ELS Works to Formation level (Basement 2)	54	06-May-16	11-Jul-16	0	CAL 2 - 6 day	
CONS.C1.5150	Blinding, Waterproofing and Base Slab	20	12-Jul-16	03-Aug-16	0	CAL 2 - 6 day	

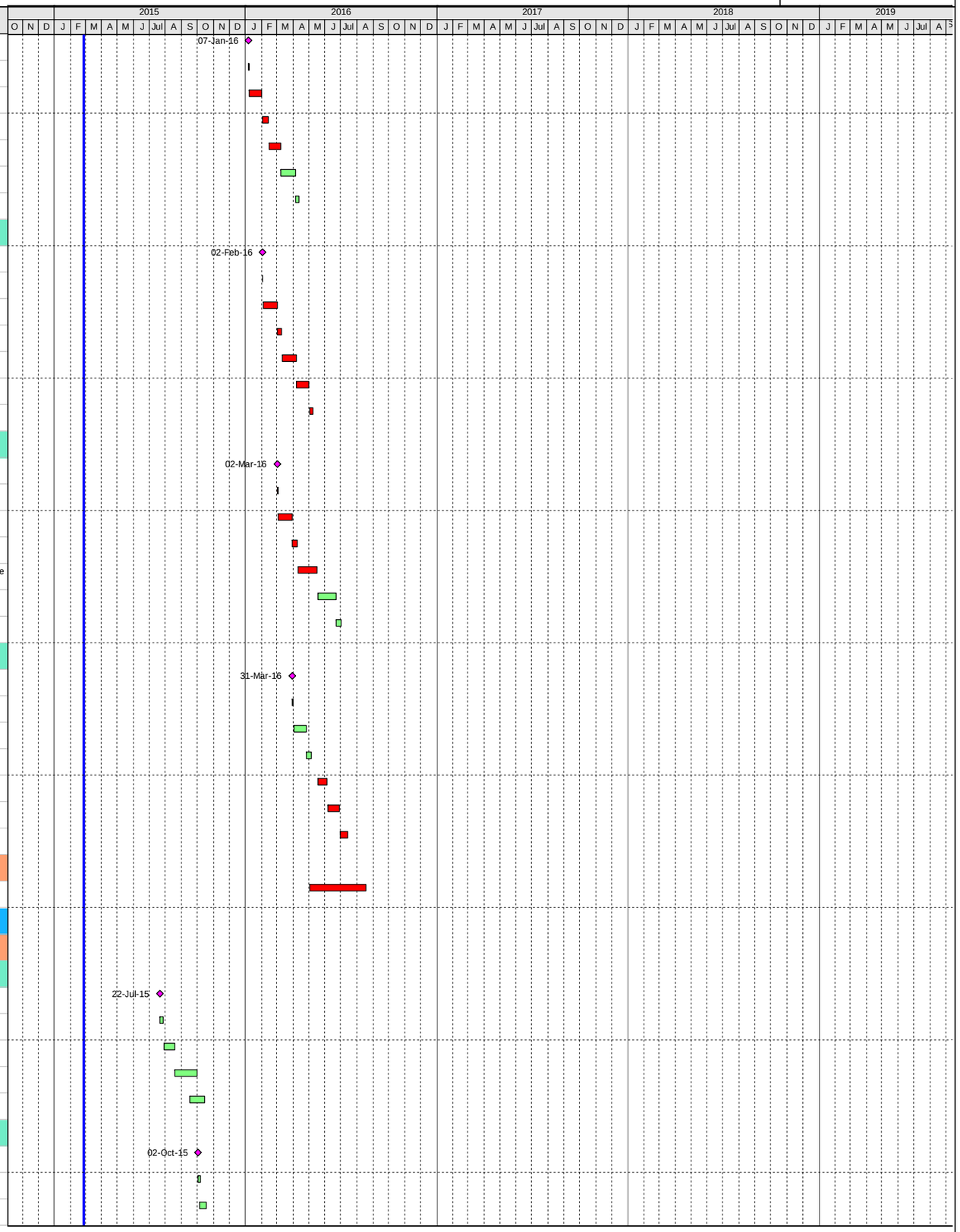


Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float	Calendar	Remarks
CONS.C1.5160	Construct Walls and Slab to Upper Basement	24	04-Aug-16	31-Aug-16	0	CAL 2 - 6 day	
CONS.C1.5170	Construct Walls and Slab to Ground Level	24	01-Sep-16	30-Sep-16	0	CAL 2 - 6 day	
CONS.C1.5200	Construct Walls and Roof Slab	24	03-Oct-16	31-Oct-16	0	CAL 2 - 6 day	Linked to KD6
CONS.C1.5205	ABWF & Building Services Works to Pump House / Switch Room	14	01-Nov-16	16-Nov-16	0	CAL 2 - 6 day	
CONS.C1.5210	Achievement of Stage 5 (KD6) / Interface with C3	0		16-Nov-16	0	CAL 2 - 6 day	
CONS.C1.5215	Building Services Installation	75	17-Nov-16	18-Feb-17	7	CAL 2 - 6 day	
CONS.C1.5220	MEP Installation for Pump House/Switch Room (By C3)	75	17-Nov-16	18-Feb-17	7	CAL 2 - 6 day	
CONS.C1.5235	ABWF Works + External Works	75	17-Nov-16	18-Feb-17	7	CAL 2 - 6 day	
CONS.C1.5240	T&C and Statutory Permits/Certifcation (FS, BD)	60	20-Feb-17	06-May-17	7	CAL 2 - 6 day	
Sign Gantry							
Prelimnary Driven H Piles and Load Testing							
CONS.C1.0510	Commence Preliminary Driven H Pile for Sign Gantry	0	13-Sep-15		0	CAL 1 - 7 day	
CONS.C1.0520	Mobilise Plant & Set-up Support	12	13-Sep-15	24-Sep-15	0	CAL 1 - 7 day	
CONS.C1.0530.10	Pre-drilling (2 nos)	10	25-Sep-15	08-Oct-15	0	CAL 2 - 6 day	2 nos x 5 days
CONS.C1.0530.20	GI Report and Verification / Agreement to Founding Level	8	09-Oct-15	17-Oct-15	0	CAL 2 - 6 day	
CONS.C1.0540	Preliminary Driven H Pile (2 nos)	5	18-Oct-15	22-Oct-15	0	CAL 1 - 7 day	2 nos x 2.5 days / Pile - 1 rig
CONS.C1.0550	Pile Load Testing and Submit Report	28	23-Oct-15	19-Nov-15	0	CAL 1 - 7 day	
Sign Gantry Footings at Grade in Portion A1							
DS303 (Driven H Pile)							
CONS.A1.4360	Commence Foundation / Footing for Sign Gantry	0	20-Nov-15		10	CAL 2 - 6 day	
CONS.A1.4370	Mobilise Plant + Survey / Setting Out	6	20-Nov-15	26-Nov-15	10	CAL 2 - 6 day	
CONS.A1.4380.10	Predrilling (12 nos)	30	27-Nov-15	04-Jan-16	10	CAL 2 - 6 day	12 nos x 5 days / 2 rigs
CONS.A1.4380.20	GI Report and Verification / Agreement to Founding Level	30	11-Dec-15	18-Jan-16	10	CAL 2 - 6 day	
CONS.A1.4390	Piling Works - Driven H Pile (12 nos)	30	07-Jan-16	13-Feb-16	2	CAL 2 - 6 day	12 nos x 2.5 d / Driven H-Pile
CONS.A1.4410	Excavation, Pile Trimming + Cast Pile Caps (3 nos)	30	15-Feb-16	19-Mar-16	20	CAL 2 - 6 day	
CONS.A1.4420	Backfill Foundation	12	21-Mar-16	07-Apr-16	20	CAL 2 - 6 day	
Sign Gantry Footing at Grade in Portion C1 & Portion D1							
DS302 (610mm dia. Prebored H Pile)							
CONS.D1.3380	Commence Foundation / Footing for Sign Gantry	0	12-Sep-15		14	CAL 2 - 6 day	
CONS.D1.3390	Mobilisation/ Survey / Setting Out	10	12-Sep-15	23-Sep-15	14	CAL 2 - 6 day	
CONS.D1.3400.10	Predrilling for Prebored H Pile (8 nos)	20	24-Sep-15	19-Oct-15	14	CAL 2 - 6 day	8 nos x 5 days / 2 rigs
CONS.D1.3400.20	GI Report and Verification / Agreement to Founding Level	8	20-Oct-15	29-Oct-15	36	CAL 2 - 6 day	
CONS.D1.3410	Pre-bored Socket H-Pile (8 nos)	48	30-Oct-15	24-Dec-15	36	CAL 2 - 6 day	8 nos x 6 days / Pile - 1 rig
CONS.D1.3420	Pile Testing	48	02-Dec-15	29-Jan-16	36	CAL 2 - 6 day	
CONS.D1.3430	Excavation, Pile Trimming + Pile Caps (2 nos)	24	30-Jan-16	01-Mar-16	36	CAL 2 - 6 day	
CONS.D1.3440	Backfill Foundation	12	02-Mar-16	15-Mar-16	36	CAL 2 - 6 day	
GT408 (Driven H Pile)							
CONS.C1.4010	Commence Foundation / Footing for Sign Gantry	0	06-Nov-15		0	CAL 2 - 6 day	
CONS.C1.4020	Survey / Setting Out	2	06-Nov-15	07-Nov-15	0	CAL 2 - 6 day	
CONS.C1.4030.10	Predrilling (8 nos)	20	09-Nov-15	01-Dec-15	0	CAL 2 - 6 day	8 nos x 5 days / 2 rigs
CONS.C1.4030.20	GI Report and Verification / Agreement to Founding Level	8	02-Dec-15	10-Dec-15	0	CAL 2 - 6 day	
CONS.C1.4040	Piling Works - Driven H Pile (8 nos)	20	11-Dec-15	06-Jan-16	0	CAL 2 - 6 day	8 nos x 2.5 days
CONS.C1.4060	Excavation, Pile Trimming + Cast Pile Caps (2 nos)	20	07-Jan-16	29-Jan-16	66	CAL 2 - 6 day	
CONS.C1.4070	Backfill Foundation	6	30-Jan-16	05-Feb-16	66	CAL 2 - 6 day	
DS44 (Driven H Pile)							

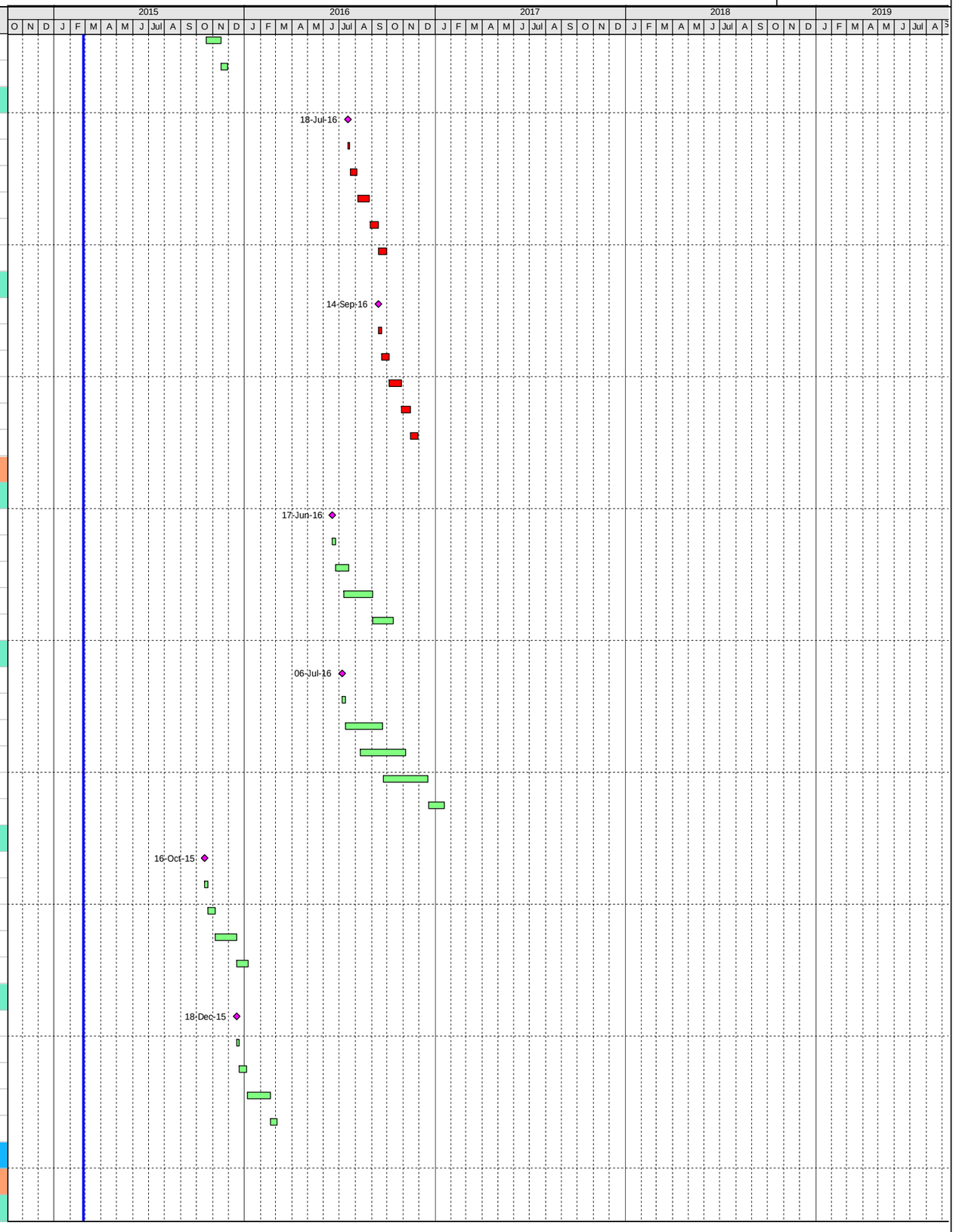


HY/2013/04 - Hong Kong Boundary Crossing Facilities Infrastructure Works Stage II (Southern Portion)

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float	Calendar	Remarks
CONS.C1.4080	Commence Foundation / Footing for Sign Gantry	0	07-Jan-16		0	CAL 2 - 6 day	
CONS.C1.4090	Survey / Setting Out	2	07-Jan-16	08-Jan-16	0	CAL 2 - 6 day	
CONS.C1.4100.10	Predrilling (8 nos)	20	09-Jan-16	01-Feb-16	0	CAL 2 - 6 day	8 nos x 5 days / 2 rigs
CONS.C1.4100.20	GI Report and Verification / Agreement to Founding Level	8	02-Feb-16	13-Feb-16	2	CAL 2 - 6 day	
CONS.C1.4110	Piling Works - Driven H Pile (8 nos)	20	15-Feb-16	08-Mar-16	2	CAL 2 - 6 day	8 nos x 2.5 days
CONS.C1.4130	Excavation, Pile Trimming + Cast Pile Caps (2 nos)	20	09-Mar-16	05-Apr-16	16	CAL 2 - 6 day	
CONS.C1.4140	Backfill Foundation	6	06-Apr-16	12-Apr-16	16	CAL 2 - 6 day	
DS261 (Driven H Pile)							
CONS.C1.4150	Commence Foundation / Footing for Sign Gantry	0	02-Feb-16		0	CAL 2 - 6 day	
CONS.C1.4160	Survey / Setting Out	2	02-Feb-16	03-Feb-16	0	CAL 2 - 6 day	
CONS.C1.4170.10	Predrilling (8 nos)	20	04-Feb-16	01-Mar-16	0	CAL 2 - 6 day	8 nos x 5 days / 2 rigs
CONS.C1.4170.20	GI Report and Verification / Agreement to Founding Level	8	02-Mar-16	10-Mar-16	0	CAL 2 - 6 day	
CONS.C1.4180	Piling Works - Driven H Pile (8 nos)	20	11-Mar-16	07-Apr-16	0	CAL 2 - 6 day	8 nos x 2.5 days
CONS.C1.4200	Excavation, Pile Trimming + Cast Pile Caps (2 nos)	20	08-Apr-16	30-Apr-16	0	CAL 2 - 6 day	
CONS.C1.4210	Backfill Foundation	6	03-May-16	09-May-16	0	CAL 2 - 6 day	
ADS301 (Driven H Pile)							
CONS.C1.4220	Commence Foundation / Footing for Sign Gantry	0	02-Mar-16		0	CAL 2 - 6 day	
CONS.C1.4230	Survey / Setting Out	2	02-Mar-16	03-Mar-16	0	CAL 2 - 6 day	
CONS.C1.4240.10	Predrilling (12 nos)	20	04-Mar-16	30-Mar-16	0	CAL 2 - 6 day	12 nos x 5 days / 3 rigs
CONS.C1.4240.20	GI Report and Verification / Agreement to Founding Level	8	31-Mar-16	09-Apr-16	0	CAL 2 - 6 day	
CONS.C1.4250	Piling Works - Driven H Pile (12 nos)	30	11-Apr-16	17-May-16	0	CAL 2 - 6 day	12 nos x 2.5 days / Driven H-Pile
CONS.C1.4270	Excavation, Pile Trimming + Cast Pile Caps (3 nos)	30	18-May-16	22-Jun-16	8	CAL 2 - 6 day	
CONS.C1.4280	Backfill Foundation	8	23-Jun-16	02-Jul-16	8	CAL 2 - 6 day	
FADS303 (Driven H Pile)							
CONS.C1.4290	Commence Foundation / Footing for Sign Gantry	0	31-Mar-16		8	CAL 2 - 6 day	
CONS.C1.4300	Survey / Setting Out	2	31-Mar-16	01-Apr-16	8	CAL 2 - 6 day	
CONS.C1.4310.10	Predrilling (8 nos)	20	02-Apr-16	26-Apr-16	8	CAL 2 - 6 day	8 nos x 5 days / 2 rigs
CONS.C1.4310.20	GI Report and Verification / Agreement to Founding Level	8	27-Apr-16	06-May-16	8	CAL 2 - 6 day	
CONS.C1.4320	Piling Works - Driven H Pile (8 nos)	16	18-May-16	04-Jun-16	0	CAL 2 - 6 day	8 nos x 2.5 days
CONS.C1.4340	Excavation, Pile Trimming + Cast Pile Caps (2 nos)	20	06-Jun-16	29-Jun-16	0	CAL 2 - 6 day	
CONS.C1.4350	Backfill Foundation	12	30-Jun-16	14-Jul-16	0	CAL 2 - 6 day	
Erection of Sign Gantry and High Mast for TCSS Works							
CONS.C1.4360	Erection of Sign Gantry & High Mast Structure and Associated Conduits for TCSS Works	90	03-May-16	18-Aug-16	0	CAL 2 - 6 day	KD1 and KD3
Retaining Walls							
Retaining Walls in Portion A1 & Portion A6							
RW11 (42m / 3 bays)							
CONS.A1.3320	Commence RW11 Retaining Wall (42m / 3 bays)	0	22-Jul-15		7	CAL 2 - 6 day	
CONS.A1.3330	Survey / Setting Out	6	22-Jul-15	28-Jul-15	7	CAL 2 - 6 day	
CONS.A1.3340	Excavate to formation level (open cut / slope)	18	29-Jul-15	18-Aug-15	7	CAL 2 - 6 day	
CONS.A1.3350	Cast Base & Wall Stem 3 bays (ribbed finish to 1m below F.G.L)	36	19-Aug-15	30-Sep-15	7	CAL 2 - 6 day	3 bays x 12 days
CONS.A1.3360	Backfill to final ground level	24	16-Sep-15	15-Oct-15	7	CAL 2 - 6 day	
RW14A (29m / 2 bays)							
CONS.A1.3380	Commence RW14a Retaining Wall (29m / 2 bays)	0	02-Oct-15		11	CAL 2 - 6 day	
CONS.A1.3390	Survey / Setting Out	5	02-Oct-15	07-Oct-15	11	CAL 2 - 6 day	
CONS.A1.3400	Excavate to formation level (open cut / slope)	12	05-Oct-15	17-Oct-15	11	CAL 2 - 6 day	



Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float	Calendar	Remarks
CONS.A1.3410	Cast Base & Wall Stem 2 bays (ribbed finish to 1m below F.G.L)	24	19-Oct-15	16-Nov-15	11	CAL 2 - 6 day	2 bays x 12 days
CONS.A1.3420	Backfill to final ground level	12	17-Nov-15	30-Nov-15	11	CAL 2 - 6 day	
RW16N (15m / 1 bay)							
CONS.A1.3440	Commence RW16n Retaining Wall (29m / 2 bays)	0	18-Jul-16		0	CAL 2 - 6 day	
CONS.A1.3450	Survey / Setting Out	4	18-Jul-16	21-Jul-16	0	CAL 2 - 6 day	
CONS.A1.3460	Excavate to formation level (open cut / slope)	12	22-Jul-16	04-Aug-16	0	CAL 2 - 6 day	
CONS.A1.3470	Cast Base & Wall Stem 1 bay (ribbed finish to 1m below F.G.L)	20	05-Aug-16	27-Aug-16	0	CAL 2 - 6 day	1 bay x 18 days
CONS.A1.3480	Install U/G Utilities - TCSS, ELV & LV Ducting	14	29-Aug-16	13-Sep-16	0	CAL 2 - 6 day	
CONS.A1.3490	Backfill to final ground level	12	14-Sep-16	29-Sep-16	0	CAL 2 - 6 day	
RW16S (15m / 1 bay)							
CONS.A1.3500	Commence RW16s Retaining Wall (29m / 2 bays)	0	14-Sep-16		0	CAL 2 - 6 day	
CONS.A1.3510	Survey / Setting Out	4	14-Sep-16	20-Sep-16	0	CAL 2 - 6 day	
CONS.A1.3520	Excavate to formation level (open cut / slope)	12	20-Sep-16	04-Oct-16	0	CAL 2 - 6 day	
CONS.A1.3530	Cast Base & Wall Stem 1 bay (ribbed finish to 1m below F.G.L)	20	05-Oct-16	28-Oct-16	0	CAL 2 - 6 day	1 bay x 12 days
CONS.A1.3540	Install U/G Utilities - TCSS, ELV & LV Ducting & Draw Pits	14	29-Oct-16	14-Nov-16	0	CAL 2 - 6 day	
CONS.A1.3550	Backfill to final ground level	12	15-Nov-16	28-Nov-16	0	CAL 2 - 6 day	
Retaining Walls in Portion C1							
RW1 (51m / 4 bays)							
CONS.C2.3140	Commence RW1 Retaining Wall	0	17-Jun-16		32	CAL 2 - 6 day	
CONS.C2.3150	Survey / Setting Out	6	17-Jun-16	23-Jun-16	32	CAL 2 - 6 day	
CONS.C2.3160	Excavate to formation level (open cut / slope)	20	24-Jun-16	18-Jul-16	80	CAL 2 - 6 day	
CONS.C2.3170	Cast Base & Wall Stem 4 bays (ribbed finish to 1m below F.G.L)	48	09-Jul-16	02-Sep-16	80	CAL 2 - 6 day	4 bays x 12 days
CONS.C2.3180	Backfill to final ground level and Reinstate Roads	30	03-Sep-16	12-Oct-16	80	CAL 2 - 6 day	
RW1a (176m / 11 bays)							
CONS.C2.3200	Commence RW1a Retaining Wall	0	06-Jul-16		23	CAL 2 - 6 day	
CONS.C2.3210	Survey / Setting Out	6	06-Jul-16	12-Jul-16	23	CAL 2 - 6 day	
CONS.C2.3220	Excavate to formation level (open cut / slope)	60	13-Jul-16	22-Sep-16	23	CAL 2 - 6 day	
CONS.C2.3230	Cast Base & Wall Stem (ribbed finish to 1m below F.G.L)	72	10-Aug-16	05-Nov-16	23	CAL 2 - 6 day	11 bays x 12 days / 2 WF
CONS.C2.3240	Backfill to final ground level and Reinstate Roads	72	23-Sep-16	17-Dec-16	23	CAL 2 - 6 day	
CONS.C2.3250	Install Railing for RW1 and RW1a	24	19-Dec-16	18-Jan-17	23	CAL 2 - 6 day	
RW8 (35m / 3 bays)							
CONS.C2.3320	Commence RW8 Retaining Wall	0	16-Oct-15		7	CAL 2 - 6 day	
CONS.C2.3330	Survey / Setting Out	5	16-Oct-15	22-Oct-15	7	CAL 2 - 6 day	
CONS.C2.3340	Excavate to formation level (open cut / slope)	12	23-Oct-15	05-Nov-15	7	CAL 2 - 6 day	
CONS.C2.3350	Cast Base & Wall Stem 3 bays (ribbed finish to 1m below F.G.L)	36	06-Nov-15	17-Dec-15	7	CAL 2 - 6 day	3 bays x 12 days
CONS.C2.3360	Backfill to final ground level & Reinstate Road	16	18-Dec-15	08-Jan-16	40	CAL 2 - 6 day	
RW13 (40m / 3 bays)							
CONS.C2.3260	Commence RW13 Retaining Wall	0	18-Dec-15		7	CAL 2 - 6 day	
CONS.C2.3270	Survey / Setting Out	3	18-Dec-15	21-Dec-15	7	CAL 2 - 6 day	
CONS.C2.3280	Excavate to formation level (open cut / slope)	10	22-Dec-15	05-Jan-16	7	CAL 2 - 6 day	
CONS.C2.3290	Cast Base & Wall Stem 3 bays (ribbed finish to 1m below F.G.L)	36	06-Jan-16	19-Feb-16	7	CAL 2 - 6 day	3 bays x 12 days
CONS.C2.3300	Backfill to final ground level and Reinstate Road	12	20-Feb-16	04-Mar-16	7	CAL 2 - 6 day	
Landscaping and Irrigation System							
Landscaping - Water Meter W04							
Zone AC4							



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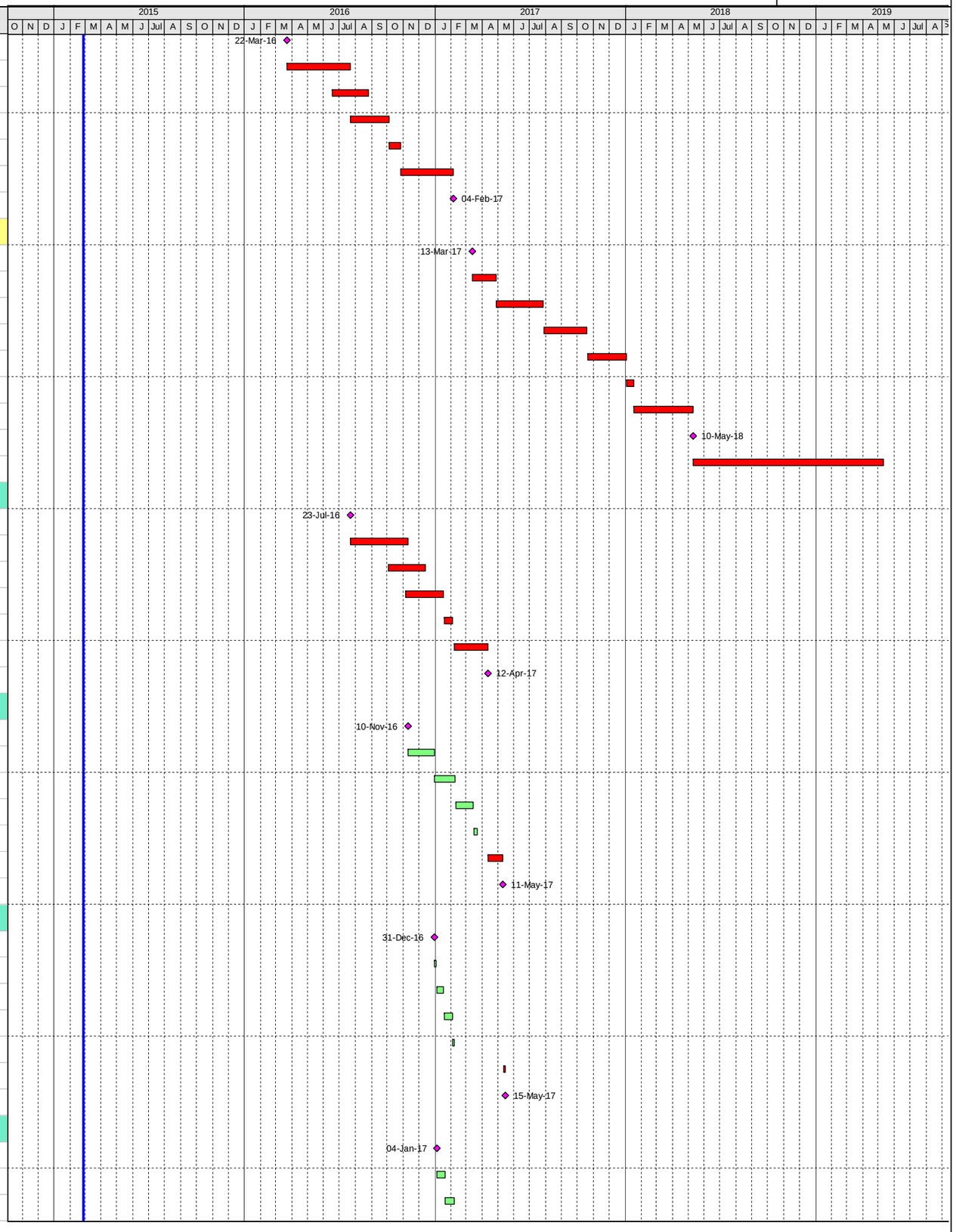
Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float	Calendar	Remarks
CONS.A1.8120	Commence Landscape Works in Zone AC4	0	22-Mar-16		0	CAL 2 - 6 day	Area 32,410 m2
CONS.A1.8130	Top Soil to Landscaped Areas (600mm)	98	22-Mar-16	22-Jul-16	0	CAL 2 - 6 day	19,446 m3 / 200 m3 / day
CONS.A1.8140	Install Irrigation System Main Lines (900mm dia)	60	17-Jun-16	26-Aug-16	0	CAL 2 - 6 day	
CONS.A1.8150	Install Lateral Irrigation Pipes & Sprinklers	60	23-Jul-16	04-Oct-16	0	CAL 2 - 6 day	
CONS.A1.8160	Irrigation Coverage Test	18	05-Oct-16	26-Oct-16	0	CAL 2 - 6 day	
CONS.A1.8170	Soft Landscaping - Shrubs Planting / Ground Cover	81	27-Oct-16	04-Feb-17	0	CAL 2 - 6 day	Area 32,410 m2 / 10 m2 / manday / 40 workers
CONS.A1.8180	Complete Landscape Works Zone AC4	0		04-Feb-17	0	CAL 2 - 6 day	KD8
Landscape Softworks in Portion A6 and B5							
CONS.A1.8590	Commence Landscape Works in Zone AC4 in Portion A6 & B5	0	13-Mar-17*		0	CAL 2 - 6 day	Area 13,890 m2
CONS.A1.8595	Clearing of unsuitable materials	36	13-Mar-17	27-Apr-17	0	CAL 2 - 6 day	
CONS.A1.8600	Top Soil to Landscaped Areas	74	28-Apr-17	27-Jul-17	0	CAL 2 - 6 day	8,334 m3 / 100 m3 / day
CONS.A1.8610	Install Irrigation System Main Lines (900mm dia)	70	28-Jul-17	19-Oct-17	0	CAL 2 - 6 day	
CONS.A1.8620	Install Lateral Irrigation Pipes & Sprinklers	60	20-Oct-17	02-Jan-18	0	CAL 2 - 6 day	
CONS.A1.8630	Irrigation Coverage Test	12	03-Jan-18	16-Jan-18	0	CAL 2 - 6 day	
CONS.A1.8640	Soft Landscaping - Shrubs Planting / Ground Cover	90	17-Jan-18	10-May-18	0	CAL 2 - 6 day	Area 13,890 m2 / 10 m2 / manday / 20 workers
CONS.A1.8650	Complete Landscape Works Zone AC4 (KD16)	0		10-May-18	0	CAL 2 - 6 day	KD14
CONS.A1.8660	Establishment Works for Landscape Softworks in Portion A6 and B5	365	11-May-18	10-May-19	0	CAL 1 - 7 day	KD16
Zone BC4							
CONS.A1.8200	Commence Landscape Works in Zone BC4	0	23-Jul-16		1	CAL 2 - 6 day	Area 22,400 m2
CONS.A1.8210	Top Soil to Landscaped Areas	90	23-Jul-16	09-Nov-16	1	CAL 2 - 6 day	13,440 m3 / 150m3 / day
CONS.A1.8220	Install Irrigation System Main Lines (900mm dia)	60	03-Oct-16	12-Dec-16	1	CAL 2 - 6 day	
CONS.A1.8230	Install Lateral Irrigation Pipes & Sprinklers	60	05-Nov-16	17-Jan-17	1	CAL 2 - 6 day	
CONS.A1.8240	Irrigation Coverage Test	12	18-Jan-17	03-Feb-17	1	CAL 2 - 6 day	
CONS.A1.8250	Soft Landscaping - Shrubs Planting / Ground Cover	56	06-Feb-17	12-Apr-17	0	CAL 2 - 6 day	Area 22,400 m2 / 10 m2 / manday / 40 workers
CONS.A1.8260	Complete Landscape Works in Zone BC4	0		12-Apr-17	0	CAL 2 - 6 day	
Zone CC4							
CONS.A1.8280	Commence Landscape Works in Zone CC4	0	10-Nov-16		17	CAL 2 - 6 day	Area 7000 m2
CONS.A1.8290	Top Soil to Landscaped Areas	42	10-Nov-16	30-Dec-16	17	CAL 2 - 6 day	4200 m3 / 100 m2 / day
CONS.A1.8300	Install Irrigation System Main Lines (900mm dia)	30	31-Dec-16	08-Feb-17	17	CAL 2 - 6 day	
CONS.A1.8310	Install Lateral Irrigation Pipes & Sprinklers	30	09-Feb-17	15-Mar-17	17	CAL 2 - 6 day	
CONS.A1.8320	Irrigation Coverage Test	6	16-Mar-17	22-Mar-17	17	CAL 2 - 6 day	
CONS.A1.8330	Soft Landscaping - Shrubs Planting / Ground Cover	20	13-Apr-17	11-May-17	0	CAL 2 - 6 day	7000 m2 / 10 m2 / 30 Workers
CONS.A1.8340	Complete Landscape Works in Zone CC4	0		11-May-17	0	CAL 2 - 6 day	
Zone DC4							
CONS.A1.8360	Commence Landscape Works in DC4	0	31-Dec-16		37	CAL 2 - 6 day	Area 130 m2
CONS.A1.8370	Top Soil to Landscaped Areas	2	31-Dec-16	03-Jan-17	37	CAL 2 - 6 day	78 m3
CONS.A1.8380	Install Irrigation System Main Lines (900mm dia)	12	04-Jan-17	17-Jan-17	75	CAL 2 - 6 day	
CONS.A1.8390	Install Lateral Irrigation Pipes & Sprinklers	12	18-Jan-17	03-Feb-17	75	CAL 2 - 6 day	
CONS.A1.8400	Irrigation Coverage Test	2	04-Feb-17	06-Feb-17	75	CAL 2 - 6 day	
CONS.A1.8410	Soft Landscaping - Shrubs Planting / Ground Cover	3	12-May-17	15-May-17	0	CAL 2 - 6 day	130 m2 / 10 m2 / 5 workers
CONS.A1.8420	Complete Landscape Works in Portion C1 (West Section)	0		15-May-17	0	CAL 2 - 6 day	
Zone EC4							
CONS.A1.8440	Commence Landscape Works in Zone EC4	0	04-Jan-17		37	CAL 2 - 6 day	Area 2300 m2
CONS.A1.8450	Top Soil to Landscaped Areas	14	04-Jan-17	19-Jan-17	37	CAL 2 - 6 day	1380 m3 / 100 m3 / day
CONS.A1.8460	Install Irrigation System Main Lines	12	20-Jan-17	06-Feb-17	37	CAL 2 - 6 day	



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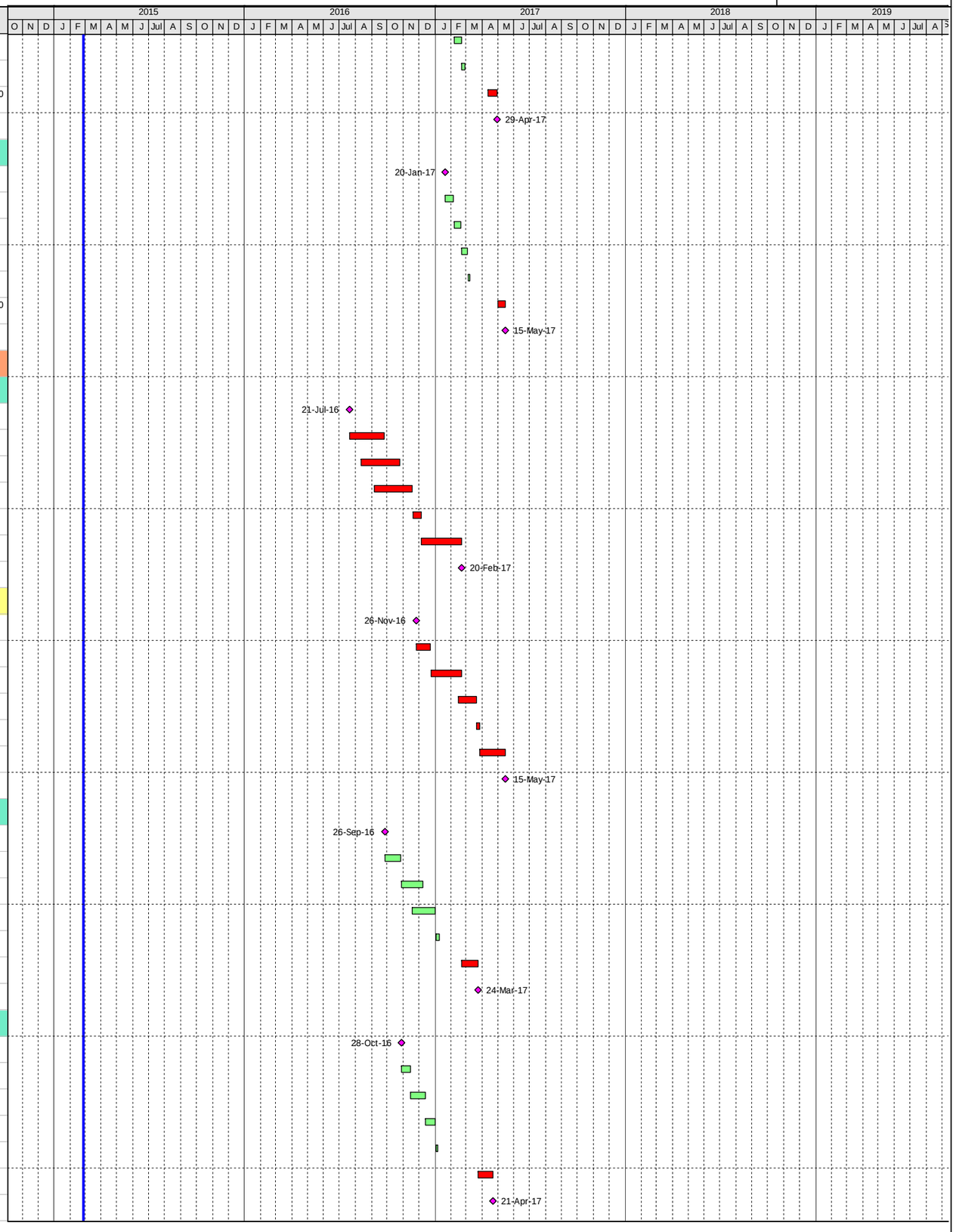
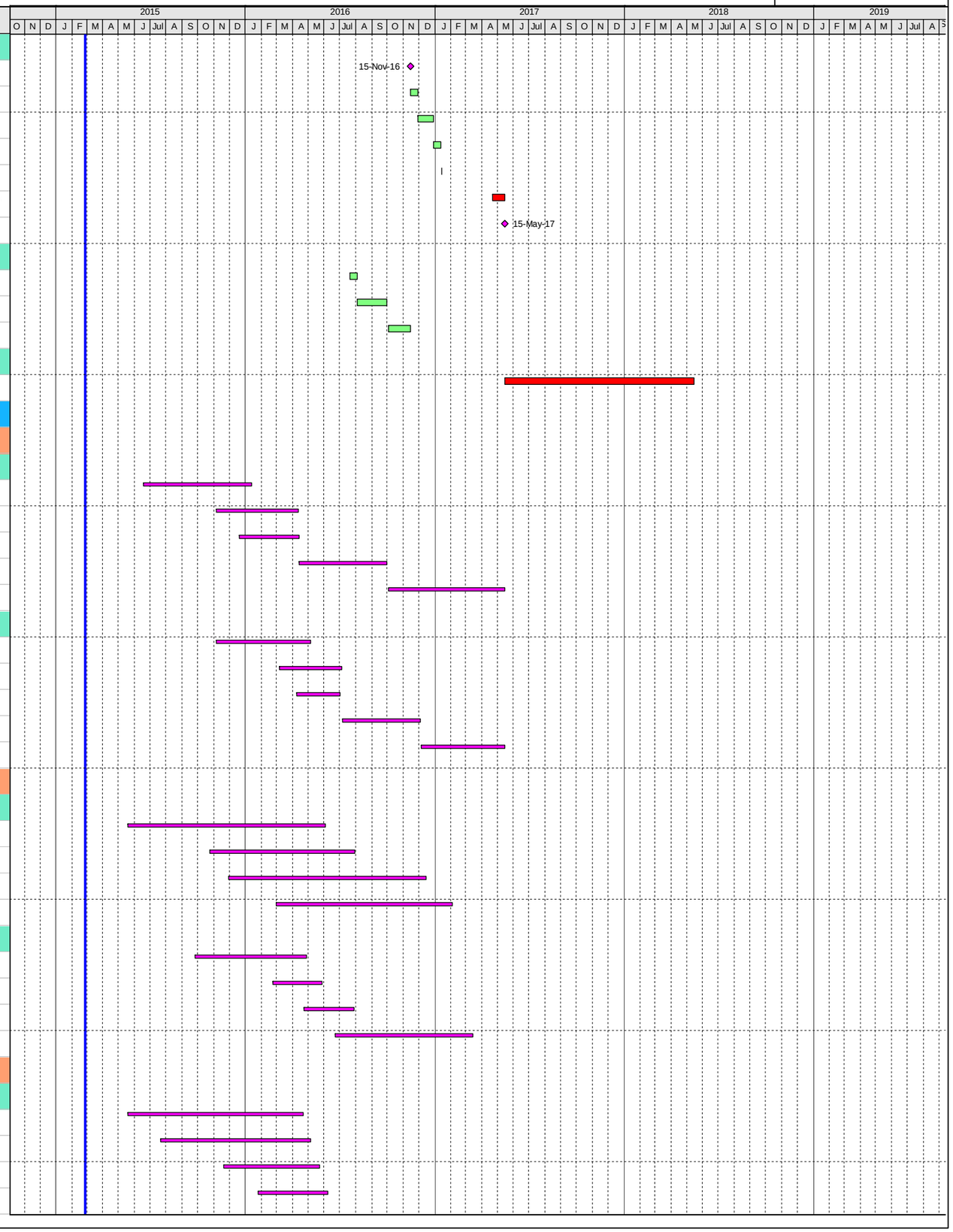
Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float	Calendar	Remarks
CONS.A1.8470	Install Lateral Irrigation Pipes & Sprinklers	12	07-Feb-17	20-Feb-17	37	CAL 2 - 6 day	
CONS.A1.8480	Irrigation Coverage Test	6	21-Feb-17	27-Feb-17	37	CAL 2 - 6 day	
CONS.A1.8490	Soft Landscaping - Shrubs Planting / Ground Cover	12	13-Apr-17	29-Apr-17	0	CAL 2 - 6 day	2300 m2 / 10 m2 / manday / 20 workers
CONS.A1.8500	Complete Landscape Works in Portion C1 (West Section)	0		29-Apr-17	0	CAL 2 - 6 day	
Zone FC4							
CONS.A1.8520	Commence Landscape Works in Zone FC4	0	20-Jan-17		41	CAL 2 - 6 day	Area 1800 m2
CONS.A1.8530	Top Soil to Landscaped Areas	11	20-Jan-17	04-Feb-17	41	CAL 2 - 6 day	1080 m3 / 100 m3 /day
CONS.A1.8540	Install Irrigation System Main Lines (900mm dia)	12	06-Feb-17	18-Feb-17	41	CAL 2 - 6 day	
CONS.A1.8550	Install Lateral Irrigation Pipes & Sprinklers	12	20-Feb-17	04-Mar-17	41	CAL 2 - 6 day	
CONS.A1.8560	Irrigation Coverage Test	3	06-Mar-17	08-Mar-17	41	CAL 2 - 6 day	
CONS.A1.8570	Soft Landscaping - Shrubs Planting / Ground Cover	11	02-May-17	15-May-17	0	CAL 2 - 6 day	1800 m2 / 10 m2 / manday / 20 workers
CONS.A1.8580	Complete Landscape Works in Zone FC4	0		15-May-17	0	CAL 2 - 6 day	
Landscaping - Water Meter W02							
Zone BC4							
CONS.C1.8200	Commence Landscape Works	0	21-Jul-16		0	CAL 2 - 6 day	Area 15,470 m2
CONS.C1.8210	Top Soil to Landscaped Areas	55	21-Jul-16	24-Sep-16	0	CAL 2 - 6 day	9,282 m3 / 200 m3 / day
CONS.C1.8220	Install Irrigation Main Line + Construct Swale	60	12-Aug-16	25-Oct-16	0	CAL 2 - 6 day	
CONS.C1.8230	Install Lateral Irrigation Pipes / Sprinklers	60	06-Sep-16	18-Nov-16	0	CAL 2 - 6 day	
CONS.C1.8240	Irrigation Coverage Test	14	19-Nov-16	05-Dec-16	0	CAL 2 - 6 day	
CONS.C1.8250	Soft Landscaping - Shrubs Planting / Ground Cover	60	06-Dec-16	20-Feb-17	0	CAL 2 - 6 day	15,470 m2 / 10m2 / day / 26 workers
CONS.C1.8260	Complete Landscape Works in Zone BC4 W02	0		20-Feb-17	0	CAL 2 - 6 day	
Zone BC4 in Portion D1							
CONS.C1.8600	Commence Landscape Works in Portion D1	0	26-Nov-16		0	CAL 2 - 6 day	Area 2,730 m2
CONS.C1.8610	Top Soil to Landscaped Areas	24	26-Nov-16	23-Dec-16	0	CAL 2 - 6 day	1638 m3 / 100 m3 / day
CONS.C1.8620	Install Irrigation Main Line + Construct Swale	44	24-Dec-16	20-Feb-17	0	CAL 2 - 6 day	
CONS.C1.8630	Install Lateral Irrigation Pipes / Sprinklers	30	14-Feb-17	20-Mar-17	0	CAL 2 - 6 day	
CONS.C1.8640	Irrigation Coverage Test	6	21-Mar-17	27-Mar-17	0	CAL 2 - 6 day	
CONS.C1.8650	Soft Landscaping - Shrubs Planting / Ground Cover	36	28-Mar-17	15-May-17	0	CAL 2 - 6 day	2730 m2 / 10m2 / day / 10 workers
CONS.C1.8660	Complete Landscape Works in Portion D1 of Zone BC4 W02	0		15-May-17	0	CAL 2 - 6 day	
Zone CC4							
CONS.C1.8270	Commence Landscape Works in Zone CC4	0	26-Sep-16		33	CAL 2 - 6 day	Area 4,200 m2
CONS.C1.8280	Top Soil to Landscaped Areas	26	26-Sep-16	27-Oct-16	33	CAL 2 - 6 day	2,520 m3 / 100 m3 / day
CONS.C1.8290	Install Irrigation Main Line	36	28-Oct-16	08-Dec-16	33	CAL 2 - 6 day	
CONS.C1.8300	Install Lateral Irrigation Pipes / Sprinklers	36	18-Nov-16	31-Dec-16	33	CAL 2 - 6 day	
CONS.C1.8310	Irrigation Coverage Test	6	03-Jan-17	09-Jan-17	33	CAL 2 - 6 day	
CONS.C1.8320	Soft Landscaping - Shrubs Planting / Ground Cover	28	21-Feb-17	24-Mar-17	0	CAL 2 - 6 day	4,200 m2 /10 m2 / 15 workers
CONS.C1.8330	Complete Landscape Works in Zone	0		24-Mar-17	0	CAL 2 - 6 day	
Zone EC4							
CONS.C1.8340	Commence Landscape Works	0	28-Oct-16		64	CAL 2 - 6 day	Area 2,400 m2
CONS.C1.8350	Top Soil to Landscaped Areas	15	28-Oct-16	14-Nov-16	64	CAL 2 - 6 day	1,440 m3 / 100 m3 / day
CONS.C1.8360	Install Irrigation Main Line	24	15-Nov-16	12-Dec-16	64	CAL 2 - 6 day	
CONS.C1.8370	Install Lateral Irrigation Pipes / Sprinklers	15	13-Dec-16	31-Dec-16	64	CAL 2 - 6 day	
CONS.C1.8380	Irrigation Coverage Test	3	03-Jan-17	05-Jan-17	64	CAL 2 - 6 day	
CONS.C1.8390	Soft Landscaping - Shrubs Planting / Ground Cover	20	25-Mar-17	21-Apr-17	0	CAL 2 - 6 day	2400 m2 / 10 m2 / 12 workers
CONS.C1.8400	Complete Landscape Works in Zone EC4 W02	0		21-Apr-17	0	CAL 2 - 6 day	



Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float	Calendar	Remarks
Zone FC4							
CONS.C1.8410	Commence Landscape Works	0	15-Nov-16		76	CAL 2 - 6 day	Area 1,800 m2
CONS.C1.8420	Top Soil to Landscaped Areas	12	15-Nov-16	28-Nov-16	76	CAL 2 - 6 day	1080 m3 / 100 m3 / day
CONS.C1.8430	Install Irrigation Main Line	24	29-Nov-16	28-Dec-16	76	CAL 2 - 6 day	
CONS.C1.8440	Install Lateral Irrigation Pipes / Sprinklers	12	29-Dec-16	12-Jan-17	76	CAL 2 - 6 day	
CONS.C1.8450	Irrigation Coverage Test	2	13-Jan-17	14-Jan-17	76	CAL 2 - 6 day	
CONS.C1.8460	Soft Landscaping - Shrubs Planting / Ground Cover	18	22-Apr-17	15-May-17	0	CAL 2 - 6 day	1800 m2 / 10 m2 / 10 workers
CONS.C1.8470	Complete Landscape Works in Zone FC4 W02	0		15-May-17	0	CAL 2 - 6 day	
Irrigation Water Tanks and Booster Pumps							
CONS.C1.8790	Identify and Agree location with Engineer	12	21-Jul-16	03-Aug-16	4	CAL 2 - 6 day	
CONS.C1.8800	Construct Irrigation Water Tanks and Booster Pump Chamber	48	04-Aug-16	30-Sep-16	4	CAL 2 - 6 day	
CONS.C1.8810	MEP Works - Electrical and Mechanical Installation + T&C	36	03-Oct-16	14-Nov-16	4	CAL 2 - 6 day	
Establishment Period (1 year)							
CONS.C1.8190	Establishment of Landscape Works	365	16-May-17	15-May-18	0	CAL 1 - 7 day	
Executive Summary							
Box Culverts							
Box Culvert D							
BCD.ES.1010	Box Cullvert D - Bored Piling, Testing + Pile caps (Bay 1-15)	172	18-Jun-15	13-Jan-16	0	CAL 2 - 6 day	
BCD.ES.1020	Box Cullvert D - RC Box Structure + Backfilling (Bay 1-15)	126	06-Nov-15	12-Apr-16	1	CAL 2 - 6 day	
BCD.ES.1030	Box Cullvert D - Bored Piling + Pile Testing (Bay 1-3)	89	21-Dec-15	13-Apr-16	0	CAL 2 - 6 day	
BCD.ES.1040	Box Cullvert D - Cofferdam + ELS (Bay 1-3 + Outflow)	140	14-Apr-16	30-Sep-16	0	CAL 2 - 6 day	
BCD.ES.1050	Box Cullvert D - Pile Caps+ RC Box Structure (Bay 1-3 + Outflow)	180	03-Oct-16	15-May-17	0	CAL 2 - 6 day	
Box Culvert C							
BCC.ES.2010	Box Culvert C - Driven H Pile + Pile caps (Bay 4-9)	146	06-Nov-15	06-May-16	0	CAL 2 - 6 day	
BCC.ES.2020	Box Culvert C - Construct RC Box Structure (Bay 4-9)	96	07-Mar-16	05-Jul-16	0	CAL 2 - 6 day	
BCC.ES.2030	Box Culvert C - Driven H Pile + Load Testing (Bay 1-3)	69	09-Apr-16	02-Jul-16	2	CAL 2 - 6 day	
BCC.ES.2040	Box Cullvert C - Cofferdam + ELS (Bay 1-3 + Outflow)	126	06-Jul-16	03-Dec-16	0	CAL 2 - 6 day	
BCC.ES.2050	Box Cullvert C - Pilecaps + RC Box Structure (Bay 1-3 + Outflow)	127	05-Dec-16	15-May-17	0	CAL 2 - 6 day	
Bridge Works							
Bridges in Portion A & B							
BRG.ES.1010	Bridges in Portion A & B - Bored Piling + Pilecaps	309	20-May-15	03-Jun-16	0	CAL 2 - 6 day	
BRG.ES.1020	Bridges in Portion A & B - Column / Pier Head + Bearings	227	24-Oct-15	30-Jul-16	10	CAL 2 - 6 day	
BRG.ES.1030	Bridges in Portion A & B - Decking / Segments Erection + Stitching	309	30-Nov-15	14-Dec-16	25	CAL 2 - 6 day	
BRG.ES.1040	Bridges in Portion A & B - Parapet + Ancillary Works	274	01-Mar-16	03-Feb-17	19	CAL 2 - 6 day	
Bridges in Portion C & D							
BRG.ES.2010	Bridges in Portion C & D - Bored Piling + Pilecaps	172	26-Sep-15	28-Apr-16	0	CAL 2 - 6 day	
BRG.ES.2020	Bridges in Portion C & D - Column, Pier Head + Bearings	77	23-Feb-16	28-May-16	0	CAL 2 - 6 day	
BRG.ES.2030	Bridges in Portion C & D - Decking / Segments Erection + Stitching	79	23-Apr-16	28-Jul-16	0	CAL 2 - 6 day	
BRG.ES.2040	Bridges in Portion C & D - Parapet + Ancillary Works	218	22-Jun-16	15-Mar-17	11	CAL 2 - 6 day	
Road Works							
Road Works - East of Box Culvert D							
RDE.ES.1010	Road Works East of Box Culvert D - Road Formation + Drainage	275	20-May-15	22-Apr-16	0	CAL 2 - 6 day	
RDE.ES.1020	Road Works East of Box Culvert D - U/G Utilities	235	21-Jul-15	05-May-16	0	CAL 2 - 6 day	
RDE.ES.1030	Road Works East of Box Culvert D - Road Formation to Sub-base + Kerbing	147	20-Nov-15	23-May-16	0	CAL 2 - 6 day	
RDE.ES.1040	Road Works East of Box Culvert D - Road Formation to Base Course	107	26-Jan-16	08-Jun-16	0	CAL 2 - 6 day	



HY/2013/04 - Hong Kong Boundary Crossing Facilities Infrastructure Works Stage II (Southern Portion)

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float	Calendar	Remarks
RDE.ES.1050	Road Works East of Box Culvert D - Final Paving + Road Marking & Signages	428	25-Nov-16	10-May-18	0	CAL 2 - 6 day	
Road Works - West of Box Culvert D							
RDW.ES.2010	Road Works West of Box Culvert D - Road Formation + Drainage	228	14-Sep-15	23-Jun-16	11	CAL 2 - 6 day	
RDW.ES.2020	Road Works West of Box Culvert D - U/G Utilities	212	17-Nov-15	05-Aug-16	11	CAL 2 - 6 day	
RDW.ES.2030	Road Works West of Box Culvert D - Road Formation to Sub-base + Kerbing	148	22-Mar-16	21-Sep-16	48	CAL 2 - 6 day	
RDW.ES.2040	Road Works West of Box Culvert D - Road Formation to Base Course	154	31-May-16	02-Dec-16	24	CAL 2 - 6 day	
RDW.ES.2050	Road Works West of Box Culvert D - Final Paving + Road Marking & Signages	68	18-Feb-17	15-May-17	0	CAL 2 - 6 day	
Sign Gantry							
SGW.ES.1010	Sign Gantry - Driven H-Pile	213	14-Sep-15	04-Jun-16	0	CAL 2 - 6 day	
SGW.ES.1020	Sign Gantry - Pile caps	140	07-Jan-16	29-Jun-16	0	CAL 2 - 6 day	
SGW.ES.1030	Sign Gantry - Erection of Sign Gantry	90	03-May-16	18-Aug-16	0	CAL 2 - 6 day	
Retaining Walls							
Retaining Walls in Portion A (East)							
RWW.ES.1040	Retaining Walls in Portion A - Excavation	358	22-Jul-15	04-Oct-16	0	CAL 2 - 6 day	
RWW.ES.1050	Retaining Walls in Portion A - Construct Base + Wall Stem	354	19-Aug-15	28-Oct-16	0	CAL 2 - 6 day	
RWW.ES.1060	Retaining Walls in Portion A - Backfill and Reinstate Road	356	16-Sep-15	28-Nov-16	0	CAL 2 - 6 day	
Retaining Walls in Portion C (West)							
RWW.ES.1010	Retaining Walls in Portion C - Excavation	81	17-Jun-16	22-Sep-16	23	CAL 2 - 6 day	
RWW.ES.1020	Retaining Walls in Portion C - Construct Base + Wall Stem	99	09-Jul-16	05-Nov-16	23	CAL 2 - 6 day	
RWW.ES.1030	Retaining Walls in Portion C - Backfill and Reinstate Road	87	03-Sep-16	17-Dec-16	23	CAL 2 - 6 day	
Irrigation and Landscape							
Landscape Works - Water Meter O4							
LSW.ES.1010	Irrigation & Landscape Works WM04 - Top Soil	397	22-Mar-16	27-Jul-17	0	CAL 2 - 6 day	
LSW.ES.1020	Irrigation & Landscape Works WM04 - Install Irrigation Lines (Main & Lateral)	459	17-Jun-16	02-Jan-18	0	CAL 2 - 6 day	
LSW.ES.1030	Irrigation & Landscape Works WM04 - Soft Landscaping Works (AC4 to FC4)	453	27-Oct-16	10-May-18	0	CAL 2 - 6 day	
Landscape Works - Water Meter 02							
LSW.ES.2010	Irrigation & Landscape Works WM02 - Top Soil	130	21-Jul-16	23-Dec-16	0	CAL 2 - 6 day	
LSW.ES.2020	Irrigation & Landscape Works WM02 - Install Irrigation Lines (Main & Lateral)	179	12-Aug-16	20-Mar-17	0	CAL 2 - 6 day	
LSW.ES.2030	Irrigation & Landscape Works WM02 - Soft Landscaping Works (BC4 to FC4)	126	06-Dec-16	15-May-17	0	CAL 2 - 6 day	

Appendix B. Environmental Mitigation Implementation Schedule

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?
Air Quality							
S.5.5.6.1	A1	1) The Contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation	Good construction site practices to control the dust impact at the nearby sensitive receivers to within the relevant criteria.	Contractor	All construction sites	Construction Stage	To control the dust impact to within the HKAQO and EIAO-TM criteria (Ref. 1-hr and 24-hr TSP levels are 500 μgm^{-3} and 260 $\mu gm^{-3,}$ respectively)
S5.5.6.2	A2	2) Proper watering of exposed spoil should be undertaken throughout the construction phase: • Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading; • Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads; • A stockpile of dusty material should not be extend beyond the pedestrian barriers, fencing or traffic cones. • The load of dusty materials on a vehicle leaving a construction site should be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle; • Where practicable, vehicle washing facilities with high pressure water jet should be provided at every discernible or designated vehicle exit point. The area where vehicle washing takes place and the road section between the washing facilities and the exit point should be paved with	Good construction site practices to control the dust impact at the nearby sensitive receivers to within the relevant criteria.	Contractor	All construction sites	Construction Stage	To control the dust impact to within the HKAQO and EIAO-TM criteria (Ref. 1-hr and 24-hr TSP levels are 500 μgm^{-3} and 260 μgm^{-3}, respectively)

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?
		concrete, bituminous materials or hardcores;					
S5.5.6.2	A2	• When there are open excavation and reinstatement works, hoarding of not less than 2.4m high should be provided as far as practicable along the site boundary with provision for public crossing. Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction period; • The portion of any road leading only to construction site that is within 30m of a vehicle entrance or exit should be kept clear of dusty materials; • Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation takes place should be sprayed with water or a dust suppression chemical continuously; • Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet; • Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding; • Any skip hoist for material transport should be totally enclosed by impervious sheeting; • Every stock of more than 20 bags of	Good construction site practices to control the dust impact at the nearby sensitive receivers to within the relevant criteria.	Contractor	All construction sites	Construction Stage	To control the dust impact to within the HKAQO and EIAO-TM criteria (Ref. 1-hr and 24-hr TSP levels are 500 μgm^{-3} and 260 μgm^{-3}, respectively)

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?
		cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides					
S5.5.6.2	A2	• Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed; • Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system; and • Exposed earth should be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shotcrete or other suitable surface stabiliser within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies.	Good construction site practices to control the dust impact at the nearby sensitive receivers to within the relevant criteria.	Contractor	All construction sites	Construction Stage	To control the dust impact to within the HKAQO and EIAO-TM criteria (Ref. 1-hr and 24-hr TSP levels are 500 μgm^{-3} and 260 μgm^{-3}, respectively)
S5.5.6.3	A3	3) The Contractor should undertake proper watering on all exposed spoil (with at least 8 times per day) throughout the construction phase.	Control Construction Dust	Contractor	All construction sites	Construction Stage	To control the dust impact
S5.5.6.4	A4	4) Engineer to incorporate the controlled measures into the Particular Specification (PS) for the civil work. The PS should also draw the Contractor's attention to the relevant latest Practice Notes issued by EPD.	Control Construction Dust	Engineer	All construction sites	Design Stage	Air Pollution Control (Construction Dust) Regulation
S5.5.6.4	A5	5) Implement regular dust monitoring under EM&A programme during the construction stage.	Monitor the 24 hr and 1hr TSP levels at the representative dust monitoring stations to ensure	Contractor	Selected representative dust monitoring station	Construction Stage	• Air Pollution Control (Construction Dust) Regulation • To control the

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?
			compliance with relevant criteria throughout the construction period.				dust impact to within the HKAQO and EIAO-TM criteria (Ref. 1-hr and 24-hr TSP levels are 500 μgm^{-3} and 260 μgm^{-3}, respectively)
S5.5.7.1	A6	The following mitigation measures should be adopted to prevent fugitive dust emissions for concrete batching plant: • Loading, unloading, handling, transfer or storage of any dusty materials should be carried out in totally enclosed system; • All dust-laden air or waste gas generated by the process operations should be properly extracted and vented to fabric filtering system to meet the emission limits for TSP; • Vents for all silos and cement/pulverised fuel ash (PFA) weighing scale should be fitted with fabric filtering system; • The materials which may generate airborne dusty emissions should be wetted by water spray system; • All receiving hoppers should be enclosed on three sides up to 3m above unloading point; • All conveyor transfer points should be totally enclosed; • All access and route roads within the premises should be paved and wetted; and • Vehicle cleaning facilities should be provided and used by all concrete trucks before leaving the premises to wash off any dust on the wheels and/or body.	Monitor the 24 hr and 1hr TSP levels at the representative dust monitoring stations to ensure compliance with relevant criteria throughout the construction period.	Contractor	Selected representative dust monitoring station	Construction Stage	• Air Pollution Control (Construction Dust) Regulation • To control the dust impact to within the HKAQO and EIAO-TM criteria (Ref. 1-hr and 24-hr TSP levels are 500 μgm^{-3} and 260 μgm^{-3}, respectively)
S5.5.2.7	A7	The following mitigation measures should	Control construction	Contractor	All construction sites	Construction Stage	Air Pollution

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?
		be adopted to prevent fugitive dust emissions at barging point: • All road surface within the barging facilities will be paved; • Dust enclosures will be provided for the loading ramp; • Vehicles will be required to pass through designated wheels wash facilities; and • Continuous water spray at the loading points.	dust				Control (Construction Dust) Regulation
Construction Noise (Air borne)							
S6.4.10	N1	1) Use of good site practices to limit noise emissions by considering the following: • only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme; • machines and plant (such as trucks, cranes) 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, where possible, be orientated so that the noise is directed away from nearby NSRs; • silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works; • mobile plant should be sited as far away from NSRs as possible and practicable; • material stockpiles, mobile container site officer and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.	Control construction airborne noise by means of good site practices	Contractor	All construction sites	Construction Stage	Noise Control Ordinance
S6.4.11	N2	2) Install temporary hoarding located on the	Reduce the	Contractor	All construction sites	Construction Stage	• Noise Control

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?
		site boundaries between noisy construction activities and NSRs. The conditions of the hoardings shall be properly maintained throughout the construction period.	construction noise levels at low-level zone of NSRs through partial screening.				Ordinance • Annex 5, EIAO-TM
S6.4.12	N3	3) Install movable noise barriers (typically density @14kg/m^2), acoustic mat or full enclosure close to noisy plants including air compressor, generators, saw.	Screen the noisy plant items to be used at all construction sites	Contractor	For plant items listed in Appendix 6D of the EIA report at all construction sites	Construction Stage	• Noise Control Ordinance • Annex 5, EIAO-TM • 75 dB(A) for residential premises • The movable barrier should achieve at least 5dB(A) and the full enclosure should be designed to achieve 10dB(A)
S6.4.13	N4	4) Select “Quiet plants” which comply with the BS 5228 Part 1 or TM standards.	Reduce the noise levels of plant items	Contractor	For plant items listed in Appendix 6D of the EIA report at all construction sites	Construction Stage	• Noise Control Ordinance • Annex 5, EIAO-TM
S6.4.14	N5	5) Sequencing operation of construction plants where practicable.	Operate sequentially within the same work site to reduce the construction airborne noise	Contractor	All construction sites where practicable	Construction Stage	• Noise Control Ordinance • Annex 5, EIAO-TM
	N6	6) Implement a noise monitoring under EM&A programme.	Monitor the construction noise levels at the selected representative locations	Contractor	Selected representative noise monitoring station	Construction Stage	• Noise Control Ordinance • Annex 5, EIAO-TM • 75 dB(A) for residential premises

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?
Sediment							
S7.3	S1	1) The requirements as recommended in ETWB TC(W) 34/2002 Management of Dredged/Excavated Sediment shall be included in the Particular Specification as appropriate.	Develop sediment disposal arrangement	Engineer	All construction sites	Design Stage	• Waste Disposal Ordinance • ETWB TC(W) 34/2002
Waste Management (Construction Noise)							
S8.3.8	WM1	Construction and Demolition Material The following mitigation measures should be implemented in handling the waste: • Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement; • Carry out on-site sorting; • Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate; • Adopt 'Selective Demolition' technique to demolish the existing structures and facilities with a view to recovering broken concrete effectively for recycling purpose, where possible; • Implement a trip-ticket system for each works contract to ensure that the disposal of C&D materials are properly documented and verified; and • Implement an enhanced W aste Management Plan similar to ETWB TC(W) No. 19/2005 – "Environmental Management on Construction Sites" to encourage on-site sorting of C&D materials and to minimize their generation during the course of construction. • In addition, disposal of the C&D materials onto any sensitive locations such as agricultural lands, etc. should be avoided. The Contractor shall propose the final	Good site practice to minimize the waste generation and recycle the C&D materials as far as practicable so as to reduce the amount for final disposal	Contractor	All construction sites	Construction Stage	• Land (Miscellaneous Provisions) Ordinance • Waste Disposal Ordinance • ETWB TC(W) 19/2005

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?
		disposal sites to the Project Proponent and get its approval before implementation.					
S8.3.9-S8.3.11	WM2	C&D Waste • Standard formwork or pre-fabrication should be used as far as practicable in order to minimise the arising of C&D materials. The use of more durable formwork or plastic facing for the construction works should be considered. Use of wooden hoardings should not be used, as in other projects. Metal hoarding should be used to enhance the possibility of recycling. The purchasing of construction materials will be carefully planned in order to avoid over ordering and wastage. • The Contractor should recycle as much of the C&D materials as possible on-site. Public fill and C&D waste should be segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal. Where practicable, concrete and masonry can be crushed and used as fill. Steel reinforcement bar can be used by scrap steel mills. Different areas of the sites should be considered for such segregation and storage.	Good site practice to minimize the waste generation and recycle the C&D materials as far as practicable so as to reduce the amount for final disposal	Contractor	All construction sites	Construction Stage	• Land (Miscellaneous Provisions) Ordinance • Waste Disposal Ordinance • ETWB TC(W) 19/2005
S8.2.12-S8.3.15	WM3	Chemical Waste • Chemical waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, should be handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. • Containers used for the storage of chemical wastes should be suitable for the substance they are holding, resistant to	Control the chemical waste and ensure proper storage, handling and disposal	Contractor	All construction sites	Construction Stage	• Waste Disposal (Chemical Waste General) Regulation • Code of Practice on the Packaging, Labelling and Storage of Chemical Waste

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?
		corrosion, maintained in a good condition, and securely closed; have a capacity of less than 450 liters unless the specification has been approved by the EPD; and display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the regulation. • The storage area for chemical wastes should be clearly labelled and used solely for the storage of chemical waste; enclosed on at least 3 sides; have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20 % of the total volume of waste stored in that area, whichever is the greatest; have adequate ventilation; covered to prevent rainfall entering; and arranged so that incompatible materials are adequately separated. • Disposal of chemical waste should be via a licensed waste collector; be to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Centre which also offers a chemical waste collection service and can supply the necessary storage containers; or be to a reuser of the waste, under approval from the EPD.					
S8.3.16	WM4	Sewage • Adequate numbers of portable toilets should be provided for the workers. The portable toilets should be maintained in a state, which will not deter the workers from utilizing these portable toilets. Night soil should be collected by licensed collectors regularly.	Proper handling of sewage from worker to avoid odour, pest and litter impacts	Contractor	All construction sites	Construction Stage	Waste Disposal Ordinance
S8.3.17	WM5	General Refuse • General refuse generated on-site should	Minimize production of the general refuse and avoid	Contractor	All construction sites	Construction Stage	Waste Disposal Ordinance

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?
		be stored in enclosed bins or compaction units separately from construction and chemical wastes. • A reputable waste collector should be employed by the Contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimize odour, pest and litter impacts. Burning of refuse on construction sites is prohibited by law. • Aluminium cans are often recovered from the waste stream by individual collectors if they are segregated and made easily accessible. Separate labelled bins for their deposit should be provided if feasible. • Office wastes can be reduced through the recycling of paper if volumes are large enough to warrant collection. Participation in a local collection scheme should be considered by the Contractor. In addition, waste separation facilities for paper, aluminium cans, plastic bottles etc., should be provided. • Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedure, including reduction, reuse and recycling of wastes.	odour, pest and litter impacts				
Water Quality (Construction Phase)							
S9.11.1.7	W2	Land Works General construction activities on land should also be governed by standard good working practice. Specific measures to be written into the works contracts should include: • wastewater from temporary site facilities should be controlled to prevent direct discharge to surface or marine waters;	To control construction water quality	Contractor	Land-based works areas	Construction Stage	EIAO-TM

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?
		• sewage effluent and discharges from on-site kitchen facilities shall be directed to Government sewer in accordance with the requirements of the W PCO or collected for disposal offsite. The use of soakaways shall be avoided; • storm drainage shall be directed to storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sediment basins. Channels, earth bunds or sand bag barriers should be provided on site to properly direct stormwater to such silt removal facilities. Catchpits and perimeter channels should be constructed in advance of site formation works and earthworks; • silt removal facilities, channels and manholes shall be maintained and any deposited silt and grit shall be removed regularly, including specifically at the onset of and after each rainstorm; • temporary access roads should be surfaced with crushed stone or gravel; • rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities; • measures should be taken to prevent the washout of construction materials, soil, silt or debris into any drainage system; • open stockpiles of construction materials (e.g. aggregates and sand) on site should be covered with tarpaulin or similar fabric during rainstorms; • manholes (including any newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials					

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?
		or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers; • discharges of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system; • all vehicles and plant should be cleaned before they leave the construction site to ensure that no earth, mud or debris is deposited by them on roads. A wheel washing bay should be provided at every site exit; • wheel wash overflow shall be directed to silt removal facilities before being discharged to the storm drain; • the section of construction road between the wheel washing bay and the public road should be surfaced with crushed stone or coarse gravel; • wastewater generated from concreting, plastering, internal decoration, cleaning work and other similar activities, shall be screened to remove large objects; • vehicle and plant servicing areas, vehicle wash bays and lubrication facilities shall be located under roofed areas. The drainage in these covered areas shall be connected to foul sewers via a petrol interceptor in accordance with the requirements of the W PCO or collected for off site disposal; • the Contractors shall prepare an oil / chemical cleanup plan and ensure that leakages or spillages are contained and cleaned up immediately; • waste oil should be collected and stored for recycling or disposal, in accordance with the Waste Disposal Ordinance;				

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?
		• all fuel tanks and chemical storage areas should be provided with locks and be sited on sealed areas. The storage areas should be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank; and • surface run-off from bunded areas should pass through oil/grease traps prior to discharge to the stormwater system.					
Ecology (Construction Phase)							
S10.7	E4	Watering to reduce dust generation; prevention of siltation of freshwater habitats; Site runoff should be desilted, to reduce the potential for suspended sediments, organics and other contaminants to enter streams and standing freshwater	Prevent Sedimentation from Land-based works areas	Contractor	Land-based works areas	During construction	TM-Water
S10.7	E5	Good site practices, including strictly following the permitted works hours, using quieter machines where practicable, and avoiding excessive lightings during night time	Prevent disturbance to terrestrial fauna and habitats	Contractor	Land-based works areas	During construction	
S10.7	E8	• Control vessel speed • Skipper training • Predefined and regular routes for working vessels; avoid Brother Islands.	Minimise marine traffic disturbance on dolphins	Contractor	Marine Traffic	During construction	
Fisheries							
S11.7	F4	• Maritime Oil Spill Response Plan (MOSRP); • Contingency plan.	Minimise impacts on marine water quality impacts	Marine Department	HKBCF	During Operation	
Landscape & Visual (Detailed Design Phase)							
S14.3.3.1	LV1	General design measures include: • Roadside planting and planting along the edge of the HKBCF Island is proposed; • Transplanting of mature trees in good health and amenity value where appropriate	Minimise visual & landscape impact	Detailed designer	HKBCF	Design Stage	

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?
		and reinstatement of areas disturbed during construction by compensatory hydro-seeding and planting; • Protection measures for the trees to be retained during construction activities; • Optimizing the sizes and spacing of the bridge columns; Fine-tuning the location of the bridge columns to avoid visually-sensitive locations; • Maximizing new tree, shrub and other vegetation planting to compensate tree felled and vegetation removed; • Providing planting area around peripheral of HKBCF for tree planting screening effect; • Providing salt-tolerant native trees along the planter strip at affected seawall and newly reclaimed coastline; • For HKBCF, providing aesthetic architectural design on the related buildings (e.g. similar materials for PCB building facade to Airport buildings, roof planting and subtle materials for other facilities buildings and so on), and the related infrastructure (e.g. parapet planting and transparent cover for elevated footbridges) to provide harmonious atmosphere of the HKBCF; and • Fine-tuning the sizes of the structural members to minimize the bulkiness of buildings and adjustment of building arrangement to minimise disturbance to surrounding vegetation in the HKBCF.					
Landscape & Visual (Construction Phase)							
S14.3.3.3	LV2	Mitigate both Landscape and Visual Impacts G1. Grass-hydroseed bare soil surface and stock pile areas. G2. Add planting strip and automatic	Minimise visual & landscape impact	Contractor	HKBCF	Construction Stage	

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?
		irrigation system if appropriate at some portions of bridge footbridge to screen bridge and traffic. G3. Not applicable as this is for HKLR. G4. For HKBCF, providing aesthetic architectural design on the related buildings (e.g. similar materials for PCB building facade to Airport buildings, roof planting and subtle materials for other facilities buildings and so on), and the related infrastructure (e.g. parapet planting and transparent cover for elevated footbridges) to provide harmonious atmosphere of the HKBCF G5. Vegetation reinstatement and upgrading to disturbed areas G6. Maximizing new tree shrub and other vegetation planting to compensate tree felled and vegetation removed G7. Providing planting area around peripheral of HKBCF for tree planting screening effect; G8. Plant salt-tolerant native and shrubs etc along the planter strip at affected seawall. G9. Reserve of loose natural granite rocks for re-use. Provide new coastline to adopt “natural-look” by means of using armour rocks in the form of natural rock materials and planting strip area accommodating screen buffer to enhance “natural-look” of the new coastline.				
S14.3.3.3	LV3	<u>Mitigate Visual Impacts</u> V1.Minimize time for construction activities during construction period. V2.Provide screen hoarding at the portion of the project site / works areas / storage areas near VSRs who have close low-level views to the Project during HKBCF					

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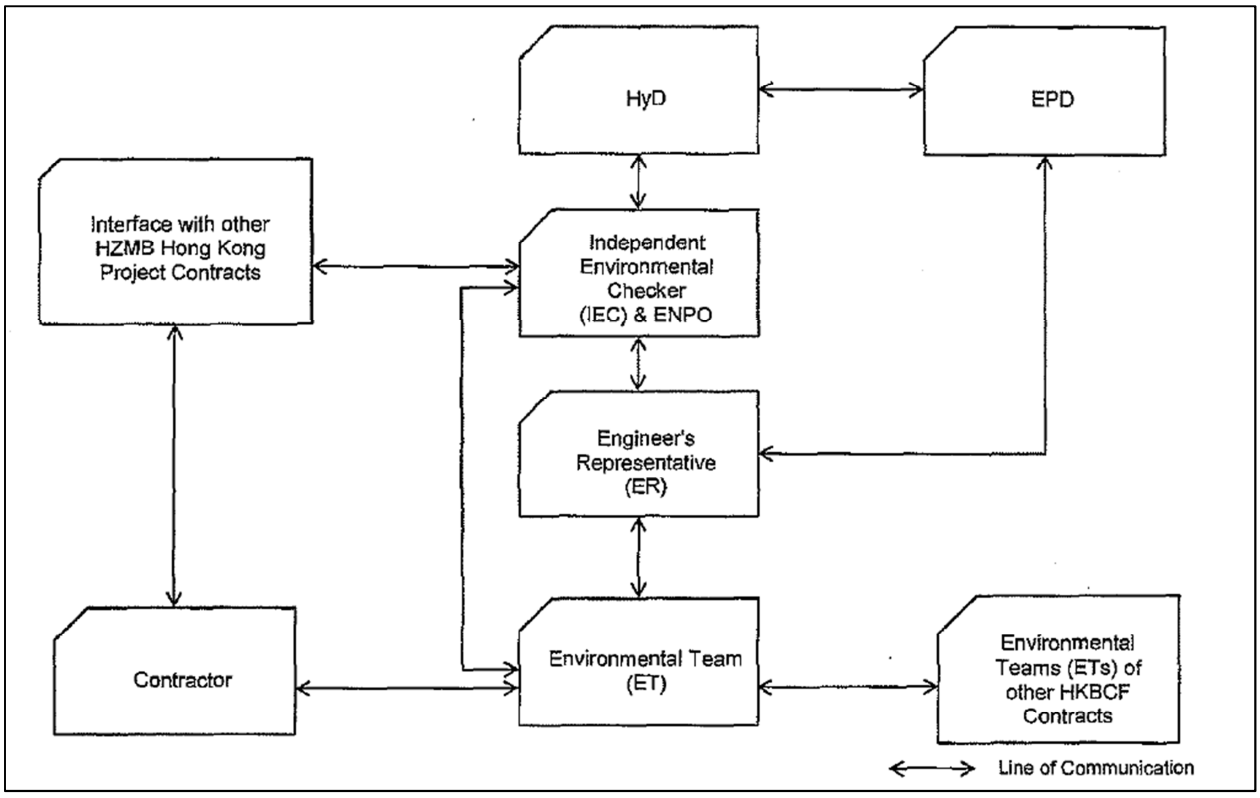
		construction.					
EM&A							
S15.2.2	EM1	An Independent Environmental Checker needs to be employed as per the EM&A Manual.	Control EM&A Performance	Project Proponent	All construction sites	Construction stage	• EIAO Guidance Note No.4/2002 • EIAO-TM
S15.5 - S15.6	EM2	1) An Environmental Team needs to be employed as per the EM&A Manual. 2) Prepare a systematic Environmental Management Plan to ensure effective implementation of the mitigation measures. 3) An environmental impact monitoring needs to be implementing by the Environmental Team to ensure all the requirements given in the EM&A Manual are fully complied with.	Perform environmental monitoring & auditing	Contractor	All construction sites	Construction stage	• EIAO Guidance Note No.4/2002 • EIAO-TM

Appendix C. Project Organization for Environmental Works

Project Organisation for Environmental Works



Appendix D. Sample Data Sheet for Monitoring

Data Sheet for TSP Monitoring

Monitoring Location		
Details of Location		
Sampler Identification		
Date & Time of Sampling		
Elapsed-time Meter Reading	Start (min.)	
	Stop (min.)	
Total Sampling Time (min.)		
Weather Conditions		
Site Conditions		
Initial Flow Rate, Qsi	Pi (mmHg)	
	Ti (C)	
	Hi (in.)	
	Qsi (Std. m^3)	
Final Flow Rate, Qsf	Pf (mmHg)	
	Tf (C)	
	Hf (in.)	
	Qsf (Std. m^3)	
Average Flow Rate (Std. m^3)		
Total Volume (Std. m^3)		
Filter Identification No.		
Initial Wt. of Filter (g)		
Final Wt. of Filter (g)		
Measured TSP Level ($\mu g/m^3$)		

	Name & Designation	Signature	Date
Field Operator :			
Laboratory Staff :			
Checked by :			

Noise Monitoring Field Record Sheet

Monitoring Location		
Description of Location		
Date of Monitoring		
Measurement Start Time (hh:mm)		
Measurement Time Length(min.)		
Noise Meter Model/Identification		
Calibrator Model/Identification		
Measurement Results	L_{90} (dB(A))	
	L_{10} (dB(A))	
	Leq (dB(A))	
Major Construction Noise Source(s) During Monitoring		
Other Noise Source(s) During Monitoring		
Remarks		

Name & Designation Signature Date

Recorded By :

Checked By :

Appendix E. Sample Template for Interim Notification of Exceedance

Sample Template for Interim Notifications of Environmental Quality Limits Exceedances

Incident Report on Action Level or Limit Level Non-compliance

Project	
Date	
Time	
Monitoring Location	
Parameter	
Action & Limit Levels	
Measured Level	
Possible reason for Action or Limit Level Non-compliance	
Actions taken / to be taken	
Remarks	

Location Plan

Prepared by :

Designation :

Signature :

Date :