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MONTHLY EM&A REPORT

March 2016

| Client | : | Civil Engineering and Development Department, HKSAR |
|---------------|-------|---|
| Contract No. | : | KLN/2015/07 |
| Contract Name | : | Environmental Monitoring Works for Contract KL/2014/03 – Kai Tak Development – Stage 3 Infrastructure Works for Developments at the Southern Part of the Former Runway |
| Report No. | : | 0405/15/ED/0382C |
| EP-337/2009 | | Distributor Roads Serving the Planned Kai Tak elopment Area |
| EP-339/2009/A | Build | ommissioning of the Remaining Parts (Ex-GFS Jing, Radar Station and Hong Kong Aviation Club) e former Kai Tak Airport |
| EP-451/2013 | Trun | k Road T2 |

| Prepared by | : | Cyrus C. Y. Lai |
|--------------|---|---|
| Reviewed by | : | Vincent C. T. Chan |
| Certified by | : | Colin K. L. Yung |
| | | Environmental Team Leader MateriaLab Consultants Limit |



Ref.: CEDKTDS3EM00_0_0055L.16

15 April 2016

By Post and Email

Hyder-Meinhardt Joint Venture 20/F., AXA Tower, Landmark East, 100 How Ming Street, Kwun Tong, Kowloon, Hong Kong

Attention: Mr. Wong W K, Chris

Dear Mr. Wong,

Re: Contract No. KL/2014/03 – Kai Tak Development – Stage 3 Infrastructure Works for Developments at the Southern Part of the Former Runway <u>Monthly EM&A Report for March 2016</u>

Reference is made to the Environmental Team's submission of the Monthly EM&A Report for March 2016 (Report No. 0405/15/ED/0382C) we received by e-mail on 15 April 2016.

Please be informed that we have no adverse comment on the captioned report. We hereby verify the captioned submission according to Condition 3.3 of EP-337/2009, Condition 3.3 of EP-339/2009/A and Condition 3.4 of EP-451/2013.

Thank you for your attention. Please do not hesitate to contact us should you have any queries.

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

Apple Ster

F. C. Tsang Independent Environmental Checker

| c.c. | CEDD |
|------|---------|
| | Materia |
| | CRBC |

DAttn.:Ms. Amy ChuriaLabAttn.:Mr. Colin K. L. YungCAttn.:Mr. Arnold Chan

Fax: 2369 4980 Fax: 2450 8032 Fax: 2283 1689

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EXECUTIVE SUMMARY

- i. The Civil Engineering and Development Department HKSAR has appointed MateriaLab Consultants Limited (MCL) to undertake the Environmental Team services for the Project and implement the EM&A works.
- ii. This Monthly EM&A report presents the environmental monitoring and audit works for the period between 26 February 2016 and 31 March 2016. As informed by the Contractor, major activities in the reporting periods were:
 - Setting up RE site office at Portion WA1;
 - Carrying out ground investigation and pre-drilling;
 - Carrying out Condition Survey;
 - Construction of guide walls at Zone 1;
 - Setting up Silo Tanks and Bentonite Pools for SUS;
 - Construction of H piles at Zone 1:
 - Installation of ground monitoring instruments at Zone 1;
 - Demolition of foundation at Zone 4;
 - Construction of hoarding along Shing Fung Road & Shing Cheong Road;
 - Setting up stockpiling area for drying of slurry and Bentonite at Portion E; and
 - Tree felling at Portion X.

Breaches of the Action and Limit Levels

iii. Total 3 no. of Action Level exceedances were recorded. Exceedances were recorded for 24-hr TSP Action Levels at KTD1a and KTD2a on 1 March 2016 and at KTD2a on 30 March 2016. No Limit Level exceedance for 24-hr TSP and no Action and Limit Level exceedance for construction noise were recorded.

Complaint, Notification of Summons and Successful Prosecution

iv. No environmental complaint and no notification of summons and successful prosecution were received in the reporting month.

Reporting Changes

v. This is the first EM&A Monthly report and there is no reporting changes.

Future Key Issues

vi. The key issues to be considered in the coming reporting month include:

Potential environmental impacts arising from the above construction activities are mainly associated with construction dust, construction noise, water quality, waste management and landscape and visual impact.

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1. INTRODUCTION

1.1 Background

- The Kai Tak Development is located in the south-eastern part of Kowloon Peninsula of the 1.1.1 HKSAR, comprising the apron and runway areas of the former Kai Tak Airport and existing waterfront areas at To Kwa Wan, Ma Tau Kok, Kowloon Bay, Kwun Tong and Cha Kwo Ling.
- 1.1.2 Contract No. KL/2014/03 is the works package to construct an approximately 420m long supporting underground structure (SUS) underneath Shing Cheong Road and Cheung Yip Street. The EM&A programme under this Contract is governed by three EPs (EP-337/2009, EP-339/2009/A and EP-451/2013) and two EM&A Manuals (AEIAR-130/2009 and AEIAR-174/2013). The Works to be executed under this Contract and corresponding EPs include but not be limited to the following main items:

EP-451/2013 – Trunk Road T2

(i) Construction of approximately 420m long supporting underground structure (SUS) including diaphragm walls, barrettes, piled foundation, top and bottom slabs, end wall and adits underneath Shing Cheong Road and Cheung Yip Street;

EP-337/2009 – New Distributor Roads Serving the Planned Kai Tak Development

- Widening and re-alignment of Cheung Yip Street of approximately 330m long and (ii) associated footpaths;
- Demolition, reconstruction and widening of Shing Cheong Road of approximately 410m (iii) long and associated footpaths;
- Construction of drainage outfall and modification of existing seawall; (iv)
- Construction of ancillary works including surface drainage, sewerage, water, fire (v) fighting, street lighting, street furniture, road marking, road signage, utilities and services, irrigation and landscape works.

EP-339/2009/A – Decommissioning of the Remaining Parts (Ex-GFS Building, Radar Station and Hong Kong Aviation Club) of the former Kai Tak Airport

Demolition of RADAR Tower and guard house; (vi)

Other works not covered by any EP

- Construction of two subways between Phase II of New Acute Hospital (Site A) and (vii) Hong Kong Children's Hospital (Site C), and between Phase I of New Acute Hospital (Site B) and Site C:
- Construction of District Cooling System (DCS) along Cheung Yip Street and Shing (viii) Cheong Road
- 1.1.3 The location and boundary of the site is shown in **Figure 1**.
- 1.1.4 This Monthly EM&A report is required under EP-337/2009 Condition 3.3, EP-339/2009/A Condition 3.3 and EP-451/2013 Condition 3.4. It is to report the results and findings of the EM&A programme required in the EM&A Manuals.
- 1.1.5 This is the first monthly EM&A Report which summaries the impact monitoring results and audit findings for the Project within the period between 26 February 2016 and 31 March 2016.

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1.2 Project Organization

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- 1.2.1 The project proponent was the Civil Engineering and Development Department, HKSAR (CEDD). Hyder Meinhardt Joint Venture (HMJV) was commissioned by CEDD as the Engineer for the Project. Ramboll Environ Hong Kong Limited was commissioned as the Independent Environmental Checker (IEC). China Road and Bridge Corporation (Hong Kong) (CRBC) was appointed as the main contractor for the construction works under the contract KL/2014/03. MateriaLab Consultants Limited (MCL) was appointed as the Environmental Team (ET) by CEDD to implement the EM&A programme for the Project.
- 1.2.2 The organization structure is shown in **Appendix B**. The key personnel contact names and numbers for the Project are summarized in **Table 1.1**.

| Party | Position | Name | Telephone | Fax |
|---|---|-----------------------------|-----------|-----------|
| Project Proponent (CEDD) | Co-ordinator | Ms. Amy Chu | 3106 3172 | 2369 4980 |
| Engineer's Representative (HMJV) | Chief Resident Engineer | Mr. W. K., Chris Wong | 2911 2233 | 2805 5028 |
| IEC (Ramboll Environ Hong Kong Limited) | Independent Environmental Checker | Mr. F. C. Tsang | 3465 2888 | 3465 2899 |
| Main Contractor (CPPC) | Site Agent | Mr. Chan See Wai, Arnold | 9380 4110 | 2283 1689 |
| Main Contractor (CRBC) | Environmental Officer | Mr. Wong Tan Tat | 9492 5918 | 2283 1689 |
| ET (MCL) | Environmental Team Leader | Mr. Colin Yung | 3565 4114 | 3565 4160 |

 Table 1.1
 Contact Information of Key Personnel

1.3 Construction Programme and Activities

- 1.3.1 The construction of the Project commenced in February 2016 and is expected to complete in 2020. The construction programme is shown in **Appendix A**.
- 1.3.2 A summary of the major construction activities undertaken in the reporting period were:
 - Setting up RE site office at Portion WA1;
 - · Carrying out ground investigation and pre-drilling;
 - Carrying out Condition Survey;
 - Construction of guide walls at Zone 1;
 - Setting up Silo Tanks and Bentonite Pools for SUS;
 - Construction of H piles at Zone 1;
 - · Installation of ground monitoring instruments at Zone 1;
 - Demolition of foundation at Zone 4;
 - Construction of hoarding along Shing Fung Road & Shing Cheong Road;
 - Setting up stockpiling area for drying of slurry and Bentonite at Portion E; and
 - Tree felling at Portion X.

1.4 Inter-relationship with the environmental protection/ mitigation measures with the construction programme

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- 1.4.1 According to the construction activities in the construction programme mentioned in Section 1.3.2, the following environmental protection/ mitigation measures including Air Quality Impact, Construction Noise Impact, Water Quality Impact, Chemical and Waste Management, Landscape and Visual Impact shall be implemented:
 - Sufficient watering of the works site with the active dust emitting activities;
 - Limitation of the speed for vehicles on unpaved site roads;
 - Properly cover the stockpiles;
 - Good maintenance to the plant and equipment;
 - Use of quieter plant and Quality Powered Mechanical Equipment (QPME);
 - Use of acoustic fabric and noise barrier:

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- Using the approved Non-road Mobile Machineries (NRMMs);
- Proper storage and handling of chemical;
- Appropriate desilting/ sedimentation devices provided on site for treatment before discharge;
- Onsite waste sorting and implementation of trip ticket system;
- Training of the site personnel in proper waste management and chemical waste handling procedures:
- Proper storage of the construction materials;
- Erection of decorative screen hoarding;
- Strictly following the Environmental Permits and Licenses; .
- Provide sufficient mitigation measures as recommended in Approved EIA Reports

1.5 Status of Environmental Licences, Notifications and Permits

A summary of the relevant environmental licenses, permits and/or notifications on 1.5.1 environmental protection for this Contract is presented in Table 1.2.

| Table 1.2 Relevant Environmental Licenses, Fermits and/or Notifications | | | | |
|--|---|--|--|--|
| Environmental License / Permit / Notification | Reference Number | Valid From | Valid Till | |
| Environmental Permit | EP-337/2009 EP-339/2009/A EP-451/2013 | 23 April 2009 18 June 2009 19 September 2009 | Not Applicable Not Applicable Not Applicable | |
| Notification pursuant to Air Pollution (Construction Dust) Regulation | 395601 | 16 November 2015 | Not Applicable | |
| Billing Account for Waste Disposal | A/C No.: 7023814 | 30 November 2015 | Not Applicable | |
| Construction Noise Permit | GW-RE0070-16 | 11 February 2016 | 7 May 2016 | |
| Construction Noise Permit | GW-RE0213-16 | 21 March 2016 | 20 September 2016 | |
| Wastewater Discharge License | WT00023125-2015 | 6 January 2016 | 31 January 2021 | |
| Chemical Waste Producer License | 5213-247-C1232-12 | 23 November 2015 | Not Applicable | |

| Table 1.2 | Relevant Environmental Licenses, | Permits and/or Notifications |
|-----------|----------------------------------|------------------------------|
| | | |

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2. **AIR QUALITY**

2.1 **Monitoring Requirement**

In accordance with the approved EM&A Manuals, 24-hour Total Suspended Particulates (TSP) level at the designated air quality monitoring station is required. Impact 24-hour TSP monitoring should be carried out at least once every 6 days. In case of complaints, 1-hour TSP monitoring should be carried out at least 3 times per 6 days when the highest dust impacts are likely to occur. The Action and Limit Levels of the air quality monitoring are given in Appendix С.

2.2 **Monitoring Equipment**

The 24-hour TSP air quality monitoring was performed using High Volume Air Samplers (HVS) located at each of the designated monitoring station. Portable TSP Monitors would be used in case of complaints for 1-hour TSP monitoring.

Table 2.1 summarizes the equipment used in air quality monitoring.

| ltem | Brand | Model | Equipment | Serial Number |
|------|---------|---------------|------------------------------|----------------|
| 1 | | TE-5170 (TSP) | High Volume Sampler | |
| | | TE-300-310X | - Mass Flow Controller | 2037 |
| | Tisch | TE-5005X | - Blower Motor Assembly | 3482 |
| | | TE-5007X | - Mechanical Timer | 4488 |
| | | TE-5009X | - Continuous Flow Recorder | 4371 |
| 2 | | TE-5170 (TSP) | High Volume Sampler | |
| | | TE-300-310X | - Mass Flow Controller | 2364 |
| | Tisch | TE-5005X | - Blower Motor Assembly | 3478 |
| | | TE-5007X | - Mechanical Timer | 4492 |
| | | TE-5009X | - Continuous Flow Recorder | 4377 |
| 3 | | TE-5170 (TSP) | High Volume Sampler | |
| | | TE-300-310X | - Mass Flow Controller | 2618 |
| | Tisch | TE-5005X | - Blower Motor Assembly | 3838 |
| | | G3031 | - Mechanical Timer | 2251 |
| | | G1051 | - Continuous Flow Recorder | 2307 |
| 4 | Tisch | TE-5025A | HVS Sampler Calibrator | 0438320 / 2154 |
| 5 | *Sibata | Model LD-3B | Sibata Portable TSP Monitors | NA |

Table 2.1 Air Quality Monitoring Equipment

Note:

No complaint of air quality was received. Therefore, no impact 1-hour TSP monitoring was conducted.

2.3 **Monitoring Methodology**

2.3.1 24-hour TSP air quality monitoring

HVS Installation

The following guidelines were adopted during the installation of HVS:

- Sufficient support is provided to secure the samplers against gusty wind.
- No two samplers are placed less than 2 meters apart.

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- The distance between the sampler and an obstacle, such as buildings, is at least twice the height that the obstacle protrudes above the sampler.
- A minimum of 2 meters of separation from walls, parapets and penthouses is required for rooftop samples.
- A minimum of 2 meters separation from any supporting structure, measured horizontally is required.
- No furnaces or incineration flues are nearby.

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- Airflow around the samplers is unrestricted.
- The samplers are more than 20 meters from the drip line.

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 Any wire fence and gate, to protect the sampler, should not cause any obstruction during monitoring.

Filters Preparation

Fiberglass filters (provided by the HOKLAS accredited laboratory) shall be used (Note: these filters have a collection efficiency of larger than 99% for particles of 0.3 μ m diameter). A HOKLAS accredited laboratory (ALS Technichem (HK) Pty Ltd.) is responsible for the preparation of 24-hr conditioned and pre-weighed filter papers for monitoring team.

All filters are equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature is around 25°C and not variable by more than \pm 3°C; the relative humidity (RH) is < 50% and not variable by more than \pm 5%. A convenient working RH is 40%.

Operating / Analytical Procedures

Operating / analytical procedures for the air quality monitoring are highlighted as follows:

- Prior to the commencement of the dust sampling, the flow rate of the HVS are properly set (between 1.1 m³/min. and 1.4 m³/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50. The flow rate shall be indicated on the flow rate chart.
- The power supply shall be checked to ensure the samplers worked properly.
- On sampling, the samplers shall be operated for 5 minutes to establish thermal equilibrium before placing any filter media at the designated air quality monitoring station.
- The filter holding frame is then removed by loosening the four nuts and carefully a weighted and conditioned filter is centered with the stamped number upwards, on a supporting screen.
- The filter shall be aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. Then the filter holding frame is tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges.
- The shelter lid shall be closed and secured with the aluminum strip.
- The timer is then programmed. Information shall be recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number).
- After sampling, the filter shall be removed and sent to laboratory for weighing. The elapsed time is also recorded.
- Before weighing, all filters are equilibrated in a conditioning environment for 24 hours. The conditioning environment temperature should be between 25°C and 30°C and not vary by more than ±3°C; the relative humidity (RH) should be < 50% and not vary by more than ±5%. A convenient working RH is 40%. Weighing results are returned to MCL for further analysis of TSP concentrations collected by each filter.

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2.3.2 1-hour TSP air quality monitoring

Operating / Analytical Procedures

The measuring procedures of the 1-hr dust meter are in accordance with the Manufacturer's instruction Manual as follows:

- Pull up the air sampling inlet cover
- Change the Mode 0 to BG once
- Push Start/Stop switch once
- . Turn the knob to SENSI.ADJ and press it
- Push Start/Stop switch once
- Return the knob to the position MEASURE slowly
- Push the timer set switch to set measuring time
- Remove the cap and make a measurement

2.4 Maintenance / Calibration

24-hour TSP air quality monitoring 2.4.1

The following maintenance / calibration are required for the HVS:

- The high volume motors and their accessories are properly maintained. Appropriate maintenance such as routine motor brushes replacement and electrical wiring checking are made to ensure that the equipments and necessary power supply are in good working condition.
- All HVS shall be calibrated (five point calibration) using Calibration Kit upon installation and thereafter in every 3 months.
- A copy of the calibration certificates for the HVS and calibrator are provided in Appendix D.
- 2.4.2 1-hour TSP air quality monitoring

The portable TSP monitor should be calibrated at 1 year intervals

2.5 **Monitoring Locations**

- According to the EM&A Manual, three air quality monitoring locations, namely KTD1, KTD2 2.5.1 and KER1, are covered by this Contract within the South Apron Area of Former Kai Tak Airport. The other two air quality monitoring locations, which are identified in Cha Kwo Ling area, are farther than 500m away from the site boundary and thus not covered by this Contract. The monitoring works in Cha Kwo Ling area are covered by other Contract(s) respectively.
- 2.5.2 According to the approved alternative baseline air guality and noise monitoring locations (EPD reference: EP2/K19/A/21 Pt.5), the original monitoring locations (KTD1, KTD2 and KER1) are proposed to be replaced by alternative monitoring locations (KTD1a, KTD2a and KER1a) for air quality monitoring, they are summarized in Table 2.2 and shown in Figure 2.

| Table 2.2 | Location of Air Quality Monitoring Station |
|-----------|--|
|-----------|--|

| Monitoring Station | Location |
|--------------------|--|
| KTD1a | Centre of Excellence in Paediatrics (Children's Hospital) |
| KTD2a | G/IC Zone next to Kwun Tong Bypass (Future Hospital at Site 3C1) |
| KER1a | Site Boundary at Cheung Yip Street |

2.6 Results and Observations

- 2.6.1 The schedule of air quality monitoring in March 2016 is provided in **Appendix E**.
- 2.6.2 Total 3 no. of Action Level exceedances were recorded. The Action Levels of 24-hour TSP at KTD1a and KTD2a were exceeded on 1 March 2016, and the Action Level of 24-hour TSP at KTD2a was exceeded on 30 March 2016. No Limit Level exceedance for 24-hr TSP was recorded in the reporting month.
- 2.6.3 On 1 March 2016, at KTD1a, non-project related construction activities were observed next to the monitoring location, also traffic was observed along Shing Fung Road. Thus, it is considered that this exceedance is not project related. No exceedance is recorded in the following monitoring conducted on 7 March 2016.
- 2.6.4 On 1 March 2016, at KTD2a, non-project related traffic was observed along Kwun Tong Bypass, and dust generation was also observed from non-project related construction activities. Within the Project site, loading and unloading of C&D wastes in Portion E and vehicular movement in Portion B were observed. Mitigation measures, including watering and cover of stockpiles of dusty materials were implemented and thus the project impact on the exceedance is not considered significant. Thus the exceedance is considered not related to project. No exceedance is recorded in the following monitoring conducted on 7 March 2016.
- 2.6.5 On 30 March 2016, exceedance was found at KTD2a but not at KTD1a and KER1a, however significant increase of 24-hr TSP results were observed when comparing with the data collected on 24 March 2016 at KTD1a and KER1a. According to the Contractor and ER, similar construction activities were undertaken on 24 and 30 March 2016. KER1a is located far away (approx. 500m) from the major construction works conducted during monitoring, and thus considered less affected by the construction works. The significant increase at KER1a from 24 to 30 March 2016 indicated the change of ambient air condition may contribute to the high level of monitoring results. Though ambient air condition and weather condition may contribute to the exceedance and Contractor had provided some photos records showing mitigation measures on dust suppression control, including watering the haul road and covering the open stockpiles, however according to the observation in the site inspections on 31 March 2016 and 7 April 2016, watering and washing can be enhanced at the haul road and vehicles to further suppress fugitive dust. Therefore, the result was considered to be combined effect of poor ambient air conditions and the works of this project and other construction sites nearby. Under the scope of impact monitoring, it is still defined as project related. Contractor was reminded to strictly follow all the EP conditions and provide sufficient mitigation measures as recommended in approved EIA Reports.
- 2.6.6 No complaint of air quality was received. Therefore, no impact 1-hour TSP monitoring was conducted in the reporting period.
- 2.6.7 During the reporting period, major dust sources including loading and unloading of C&D wastes, vehicles movement were observed in the site. Non-project related construction

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activities at the nearby construction site and road traffic along Shing Cheong Road, Cheung Yip Street and the Kwun Tong By-pass were observed. The above factors may affect the monitoring results.

- 2.6.8 The weather conditions during the monitoring are provided in **Appendix K**.
- 2.6.9 The monitoring data of 24-hr TSP are summarized in **Table 2.3**. Detailed monitoring data are presented in **Appendix F**.

| Parameter | Monitoring Station | Average (µg/m³) | Range (µg/ m³) | Action Level (µg/ m³) | Limit Level (µg/ m ³) | |
|-----------------------------------|-----------------------|--------------------|-------------------|--------------------------|--------------------------------------|--|
| | KTD1a | 110 | 44 – 208 | 177 | | |
| 24-hr TSP in µg/m ³ | KTD2a | 119 | 51 – 205 | 157 | 260 | |
| in µg/m | KER1a | 88 | 53 – 150 | 172 | | |

Table 2.3 Summary of 24-hr TSP Monitoring Results

2.6.10 The Event and Action Plan for air quality is given in **Appendix H**.

2.7 Comparison of 24-hr TSP Monitoring Results with EIA Predictions

2.7.1 The monitoring data of 24-hr TSP was compared with the EIA predictions as summarized in **Table 2.4**.

| Monitoring Station | Receiver Reference | Predicted Maximum 24-hour TSP Concentration (μg/m ³) | 24-hour TSP concentration in March 2016 (μg/ m ³) | Average 24-hour TSP concentration in March 2016 (μg/ m ³) |
|-----------------------|-----------------------|---|---|---|
| KTD1a | KTD3 | 126 | 44 – 208 | 110 |
| KTD2a | - | - | 51 – 205 | 119 |
| KER1a | KTD6 | 169 | 53 – 150 | 88 |

Table 2.4 Comparison of 24-hr TSP data with EIA predictions

Note:

For KTD2a, there was no receiver reference in the EIA report, EIAR-174/2013.

Predicted Maximum TSP Concentration extracted from Table 4.14 of EIA Report, EIAR-174/2013.

- 2.7.2 The 24-hour TSP concentration of KER1a was below the Predicted Maximum 24-hr TSP concentration. However for the the 24-hour TSP monitoring results of KTD1a, two monitoring results, on 1 March 2016 and 30 March 2016, exceeded the prediction in the approved Environmental Impact Assessment (EIA) Report and the Action Level exceedance was found on 1 March 2016, but based on the finding from the investigation, the recorded exceedance case was not related to the project.
- 2.7.3 The discrepancy between the 24-hour TSP concentration and EIA Prediction in KTD1a is considered due to dust source from the non-project related construction activities near the monitoring location and the road travel along Shing Fung Road.

3. NOISE

3.1 Monitoring Requirement

In accordance with the approved EM&A Manuals, Leq (30min) monitoring is conducted for at least once a week during the construction phase between 0700 and 1900 on normal weekdays at the designated monitoring locations.

3.2 Monitoring Equipment

The sound level meter used in noise monitoring will comply with the International Electrotechnical Commission Publication (IEC) 651:1979 (Type 1) and 804:1985 (Type 1) specifications as referred to in the Technical Memorandum issued under the Noise Control Ordinance (NCO).

Sound level calibrator will be used for the on-site calibration of the meter. This calibrator complies with the IEC Publication 942 (1988) Class 1 and ANSI S1.40 - 1984. Noise measurements were only accepted to be valid if the calibration levels from before and after the measurement agree to within 1.0dB.

Measurements shall be recorded to the nearest 0.1dB. This noise monitors are programmed to measure A-weighted equivalent continuous sound pressure level at 30-minute intervals between 0700 and 1900 on normal weekdays at least once a week when construction activities are underway.

Table 3.1 summarizes the noise monitoring equipment model being used for this project.

| Item | Brand | Model | Equipment | Serial Number |
|------|---------|----------------|-------------------------------|------------------|
| 1 | Casella | CEL-63X Series | Integrating Sound Level Meter | 1057002 |
| 2 | Casella | CEL-63X Series | Integrating Sound Level Meter | 2451091 |
| 3 | Casella | CEL-63X Series | Integrating Sound Level Meter | 3756084 |
| 4 | Casella | CEL-120/1 | Calibrator | 3321858 |
| 5 | Casella | CEL-120/1 | Calibrator | 5230950 |

Table 3.1Noise Monitoring Equipment

3.3 Monitoring Parameters and Frequency

Table 3.2 presents the noise monitoring parameters and frequencies.

Table 3.2 Monitoring Parameters and Frequencies of Noise Monitoring

| Parameter | Frequency and Period |
|---|--|
| LAeq (30min) | At each station at 0700-1900 hours on normal weekdays at a frequency |
| L10 and L90 will be recorded for reference | of once a week |

3.4 Monitoring Methodology

The monitoring procedures are as follows:

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- The monitoring station is set at a point 1m from the exterior of the sensitive receivers building façade and set at a position 1.2m above the ground.
- The battery condition is checked to ensure good functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time are set as follows:
 - frequency weighting : A
 - time weighting : Fast
 - measurement time : Weekly 30 minutes between 0700-1900 on normal weekdays
- Prior to and after noise measurement, the meter shall be calibrated using the calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement is more than 1.0 dB, the measurement will be considered invalid and repeat of noise measurement is required after re-calibration or repair of the equipment.
- Noise monitoring should be cancelled in the presence of fog, rain, and wind with a steady speed exceeding 5 m/s, or wind with gusts exceeding 10 m/s.
- Noise measurement should be paused during periods of high intrusive noise if possible and observation shall be recorded when intrusive noise is not avoided.
- At the end of the monitoring period, the Leq, L10 and L90 are recorded. In addition, site conditions and noise sources are recorded on a standard record sheet.

3.5 Maintenance / Calibration

Maintenance and Calibration procedures are as follows:

- The microphone head of the sound level meter and calibrator should be cleaned with a soft cloth at quarterly intervals.
- The sound level meter and calibrator should be calibrated annually by a HOKLAS laboratory.
- Relevant calibration certificates are provided in **Appendix D**.

3.6 Monitoring Locations

- 3.6.1 According to the EM&A Manual, three noise monitoring locations, namely KTD1, KTD2 and KER1, are covered by this Contract within the South Apron Area of Former Kai Tak Airport. The other two noise quality monitoring locations, which are identified in Cha Kwo Ling area, are farther than 300m away from the site boundary and thus not covered by this Contract. The monitoring works in Cha Kwo Ling area are covered by other Contract(s) respectively.
- 3.6.2 According to the approved alternative baseline air quality and noise monitoring locations (EPD reference: EP2/K19/A/21 Pt.5), the original monitoring locations (KTD1, KTD2 and KER1) are proposed to be replaced by alternative monitoring locations (KTD1a, KTD2a and KER1a) for noise monitoring, they are summarized in **Table 3.3** and shown in **Figure 2**.

| Monitoring Station Location | | Location |
|-----------------------------|-------|--|
| | KTD1a | Centre of Excellence in Paediatrics (Children's Hospital) |
| | KTD2a | G/IC Zone next to Kwun Tong Bypass (Future Hospital at Site 3C1) |
| | KER1a | Site Boundary at Cheung Yip Street |

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3.7 Results and Observations

- 3.7.1 The schedule of noise monitoring in March 2016 is provided in **Appendix E**.
- 3.7.2 During the monitoring period, at KTD1a, non-project related construction activities at the nearby construction site and road traffic along Shing Cheong Road were observed in the surroundings. At KTD2a, road traffic along the Kwun Tong By-pass was observed. At KER1a, road traffic along Cheung Yip Street was observed. Major noise sources including noise emission from plant & PME and some other construction activities, travel of vehicles, loading and unloading of C&D waste were observed in the site.
- 3.7.3 No raining and wind with speed over 5 m/s was observed during noise monitoring according to the onsite observation. The weather conditions during the monitoring period are provided in **Appendix K**.
- 3.7.4 The noise monitoring data are summarized in **Table 3.4**. Detailed monitoring data are presented in **Appendix G**.

| Leq (30min) dB(A) (Range)Time PeriodNoise Monitoring Stations | | Action Level (μg/ m³) | Limit Level (µg/ m³) | | |
|--|---------|--------------------------|-------------------------|--|----------|
| | KTD1a | KTD2a | KER1a | | |
| 0700-1900 hrs on normal weekdays | 54 - 73 | 53 - 70 | 60 - 74 | When one documented complaint is received | 75 dB(A) |

Table 3.4 Summary of Noise Impact Monitoring Results

Note:

KTD1a: Façade Measurement

KTD2a & KER1a: Free-field measurement (+3dB(A) correction has been applied)

- 3.7.5 No Action and Limit Level exceedance was recorded for construction noise in the reporting month.
- 3.7.6 The Action and Limit Levels for noise impact monitoring have been set are presented in **Appendix C**.
- 3.7.7 The Event and Action Plan for noise is given in **Appendix H**.

3.8 Comparison of Noise Monitoring Results with EIA Predictions

3.8.1 The noise monitoring data was compared with the EIA predictions as summarized in Table 3.5.



| Table 3.5 | Comparison of Noise Monitoring data with EIA predictions |
|-----------|--|
|-----------|--|

| Monitoring Station | Receiver Reference | Maximum Predicted Mitigated Construction Noise Level, dB(A) | Leq _(30min) dB(A) in March 2016 |
|-----------------------|-----------------------|---|---|
| KTD1a | KTD1 | 74 | 54 - 73 |
| KTD2a | KTD2 | 75 | 53 - 70 |
| KER1a | KER1 | 75 | 60 - 74 |

Note:

Maximum Predicted Mitigated Construction Noise Level extracted from Table 5.13 of EIA Report, EIAR-174/2013.

3.8.2 The impact noise monitoring results in the reporting period were below the Maximum Predicted Mitigated Construction Noise Level in the approved Environmental Impact Assessment (EIA) Report and no Action and Limit Level exceedance was recorded.

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4. LANDSCAPE AND VISUAL

4.1 Audit Requirements

- 4.1.1 As per the Trunk Road T2 EM&A Manual, the landscape and visual mitigation measures during the construction phase shall be audited by a Registered Landscape Architect, as a member of the Environmental Team, at least once every two weeks to ensure compliance with the intended aims of the measures.
- 4.1.2 According to the Kai Tak Development EM&A Manual, measures to mitigate landscape and visual impacts during construction should be checked to ensure compliance with the intended aims of the measures. The progress of the engineering works shall be regularly reviewed onsite to identify the earliest practical opportunities for the landscape works to be undertaken. The ET shall report on the Contractor's compliance on a weekly basis.

4.2 Results and Observations

- 4.2.1 To monitor and audit the implementation of landscape and visual mitigation measures, 5 weekly Landscape and Visual Site audits were carried out on 3, 10, 16, 24 and 31 March 2016 and 3 of them, 3, 16 and 31 March 2016 were carried out by a Registered Landscape Architect. The weekly Landscape and Visual Impact reports were counter-signed by IEC as according to the requirement of EM&A Manual (AEIAR-130/2009).
- 4.2.2 Open stockpile was found to not being covered properly during the landscape and visual impact site inspection on 24 March 2016. The case was rectified on 30 March 2016 and during the site inspection on 31 March 2016. Other than this, no non-compliance of the landscape and visual impact was recorded in the reporting month.
- 4.2.3 Should non-compliance of the landscape and visual impact occur, action in accordance to the event action plan presented in **Appendix H** shall be carried out.

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5. WASTE MANAGEMENT

5.1 **Audit Requirements**

- 5.1.1 The effective management of waste arising during the construction phase will be monitored through the site audit programme. Regular audits and site inspections should be carried out to ensure that the recommended good site practices and other mitigation measures are implemented by the Contractor.
- 5.1.2 The audit should look at all aspects of on-site waste management practices including the waste generation, storage, recycling, transport and disposal. The aims of waste audit are:
 - to ensure the waste arising from the works are handled, stored, collected, transferred and disposed of in an environmentally acceptable manner;
 - verify the implementation status and evaluate the effectiveness of the mitigation measures; and
 - to encourage the reuse and recycling of material.

5.2 **Results and Observations**

- 5.2.1 C&D materials and wastes sorting were carried out on site. Receptacles were available for C&D wastes and general refuse collection.
- 5.2.2 The amount of wastes generated by the site activities in the reporting period is shown in Appendix I.
- 5.2.3 The Contractor is advised to properly maintain on site C&D materials and wastes collection, sorting and recording system and maximize reuse / recycle of C&D materials and wastes. The Contractor is reminded to properly maintain the site tidiness and dispose of the wastes accumulated on site regularly and properly.
- 5.2.4 The Contractor is reminded that chemical waste containers should be properly treated and stored temporarily in designated chemical waste storage area on site in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.

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6. SITE INSPECTION

6.1 Site Inspection

- 6.1.1 Site inspections were carried out weekly to monitor the implementation of proper environmental pollution control and mitigation measures for the Project. A summary of the mitigation measures implementation schedule is provided in Appendix J.
- 6.1.2 In the reporting month, 5 site inspections were carried out on 3, 10, 16, 24 and 31 March 2016. The one held on 16 March 2016 was a joint inspection with the IEC, ER, the Contractor and the ET.
- 6.1.3 Details of observations recorded during the site inspections are presented in **Table 6.1**.

| Parameters Date | | Observations and Recommendations | Follow-up |
|-----------------|--------------------------------|--|--|
| | 16 March 2016 | Watering shall be provided in haul road area and in the stockpile storage area in portion E. | The item was rectified by the Contractor and inspected on 24 March 2016. |
| | 24 March 2016 | Open stockpile shall be covered properly with impermeable sheeting. | The item was rectified by the Contractor and inspected on 31 March 2016. |
| Air Quality | 31 March 2016 | Dusty haul road was observed when vehicle was passing near Portion E. Watering shall be applied to maintain the entire haul road surface wet. | The item was rectified by the Contractor and inspected on 6 April 2016. |
| | 31 March 2016 | The Contractor is reminded that the excavated materials should not be loaded from a level higher than the side and tail boards and should be covered by tarpaulin. | The item was rectified by the Contractor and inspected on 6 April 2016. |
| Noise | 10 March 2016 | Instead of the impermeable sheeting, acoustic fabric shall be used for the piling system or breaker, etc. | The item was rectified by the Contractor and inspected on 16 March 2016. |
| | 10 March 2016 | Construction runoff and overflow to the public access road shall be avoided by using sediment traps or sand bags. | The item was rectified by the Contractor and inspected on 16 March 2016. |
| Water Quality | 10 March 2016 16 March 2016 | Silt retention pond, sediment basins, and baffles should be incorporated with temporary ditches or permanent drainage to facilitate runoff discharge and enhance deposition rate. The facilities shall be provided before storm season. | The item was rectified by the Contractor and inspected on 24 March 2016. |
| | 16 March 2016 | Stagnant water in the drip tray of the power generator shall be removed in Portion B | The item was rectified by the Contractor and inspected on 24 March 2016. |
| | 24 March 2016 | Stagnant water shall be removed | The item was rectified by the Contractor and inspected on |

Table 6.1 **Observations and Recommendations of Site Audit**

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|-------------------------------------|--|--|
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| Parameters | Date | Observations and Recommendations | Follow-up |
|-------------------------------------|---------------|---|--|
| | | | 31 March 2016. |
| Chemical and Waste Management | 3 March 2016 | The used oil/fuel shall be stored properly. | The item was rectified by the Contractor and inspected on 10 March 2016. |
| | 31 March 2016 | Oil spillage was observed from the idling machinery at Portion B. | The item was rectified by the Contractor and inspected on 6 April 2016. |
| Land Contamination | NA | | |
| Landscape and Visual Impact | 24 March 2016 | Open stockpile was not covered properly | The item was rectified by the Contractor and inspected on 31 March 2016. |
| General Condition | NA | | |

6.1.4 All the follow-up actions requested by Contractor's ET and IEC during the site inspections were undertaken as reported by the Contractor and confirmed into the following weekly site inspection conducted during the reporting period.

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7. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

7.1 Environmental Exceedance

7.1.1 Total 3 no. of Action Level exceedances were recorded. Exceedances were recorded for 24-hr TSP Action Levels at KTD1a and KTD2a on 1 March 2016 and at KTD2a on 30 March 2016. No Limit Level exceedance for 24-hr TSP and no Action and Limit Level exceedance for construction noise were recorded.

7.2 Complaints, Notification of Summons and Prosecution

7.2.1 No complaint, inspection notice, notification of summons or prosecution was received in this reporting period. Cumulative complaint log, summaries of complaints, notification of summons and successful prosecutions are presented in Tables 7.1, 7.2 and 7.3.

Table 7.1 Environmental Complaints Log

| Complaint Log No. | Date of Receipt | Received From and Received By | Nature of Complaint | Date Investigated | Outcome | Date of Reply |
|----------------------|--------------------|--|------------------------|----------------------|---------|------------------|
| Nil | - | - | - | - | - | - |

Table 7.2 Cumulative Statistics on Complaints

| Environmental Parameters | Cumulative No. Brought Forward | No. of Complaints This Month | Cumulative Project- to-Date |
|-----------------------------|-----------------------------------|---------------------------------|--------------------------------|
| Air | 0 | 0 | 0 |
| Noise | 0 | 0 | 0 |
| Water | 0 | 0 | 0 |
| Waste | 0 | 0 | 0 |
| Total | 0 | 0 | 0 |

Table 7.3 Cumulative Statistics on Successful Prosecutions

| Environmental Parameters | Cumulative No. Brought Forward | No. of Prosecutions This Month | Cumulative Project- to-Date |
|-----------------------------|-----------------------------------|-----------------------------------|--------------------------------|
| Air | 0 | 0 | 0 |
| Noise | 0 | 0 | 0 |
| Water | 0 | 0 | 0 |
| Waste | 0 | 0 | 0 |
| Total | 0 | 0 | 0 |

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8. IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES

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8.1 Implementation Status

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8.1.1 The Contractor has implemented environmental mitigation measures and requirements as stated in the EIA Reports, the EP and the EM&A Manuals. The implementation status of the mitigation measures during the reporting period is summarized in **Appendix J**. Status of required submission under the EP during the reporting period is summarized in **Table 8.1**.

| EP Condition | Submission | Submission Date |
|----------------|--|-----------------|
| EP-337/2009 | | |
| Condition 2.3 | Management Organization of Main Construction Companies | 18/12/2015 |
| Condition 2.4 | Design Drawing of the Project | 18/12/2015 |
| Condition 2.11 | Landscape Mitigation Plan(s) | 18/12/2015 |
| EP-339/2009/A | | |
| Condition 2.4 | Management Organization of Main Construction Companies | 18/12/2015 |
| Condition 2.5 | Design Drawing of the Project | 18/12/2015 |
| EP-451/2013 | | |
| Condition 2.3 | Management Organization of Main Construction Companies | 18/12/2015 |
| Condition 2.4 | Design Drawing of the Project | 18/12/2015 |
| Condition 2.5 | Landscape Mitigation Plan(s) | 18/12/2015 |
| Condition 2.10 | Supplementary Contamination Assessment Report | 18/12/2015 |
| Condition 3.3 | Baseline Monitoring Report | 12/2/2016 |

 Table 8.1
 Status of Required Submission under Environmental Permit

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9. **FUTURE KEY ISSUES**

9.1 **Construction Programme for the Next Two Months**

- Setting up stockpiling area for drying of slurry at Portion B; •
- Carrying out ground investigation and pre-drilling;
- Implementation of TTA;
- . Temporary diversion of existing UU;

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- Carrying out Impact Monitoring; .
- Setting up temporary barging point;
- Erection of scaffolding for demolition of Radar Tower •
- Demolition of foundation at Zone 4; .
- Carrying out piling works; and
- Construction of guide walls and D-walls.

9.2 Key Issues for the Coming Month

9.2.1 Potential environmental impacts arising from the above construction activities are mainly associated with construction dust, construction noise, water quality, waste management and landscape and visual impact.

9.3 Monitoring Schedules for the Next Three Months

9.3.1 The tentative schedules for environmental monitoring in the coming three months are provided in Appendix E.

10. CONCLUSIONS

- 10.1.1 24-hour TSP impact monitoring was carried out in the reporting month. Total 3 no. of Action Level exceedances were recorded. The Action Levels of 24-hour TSP at KTD1a and KTD2a were exceeded on 1 March 2016, and the Action Level of 24-hour TSP at KTD2a was exceeded on 30 March 2016. No Limit Level exceedance for 24-hr TSP was recorded in the reporting month.
- 10.1.2 On 1 March 2016, at KTD1a, non-project related construction activities were observed next to the monitoring location, also traffic was observed along Shing Fung Road. Thus, it is considered that this exceedance is not project related. No exceedance is recorded in the following monitoring conducted on 7 March 2016.
- 10.1.3 On 1 March 2016, at KTD2a, non-project related traffic was observed along Kwun Tong Bypass, and dust generation was also observed from non-project related construction activities. Within the Project site, loading and unloading of C&D wastes in Portion E and vehicular movement in Portion B were observed. Mitigation measures, including watering and cover of stockpiles of dusty materials were implemented and thus the project impact on the exceedance is not considered significant. Thus the exceedance is considered not related to project. No exceedance is recorded in the following monitoring conducted on 7 March 2016.
- 10.1.4 On 30 March 2016, exceedance was found at KTD2a but not at KTD1a and KER1a, however significant increase of 24-hr TSP results were observed when comparing with the data collected on 24 March 2016 at KTD1a and KER1a. According to the Contractor and ER, similar construction activities were undertaken on 24 and 30 March 2016. KER1a is located far away (approx. 500m) from the major construction works conducted during monitoring, and thus considered less affected by the construction works. The significant increase at KER1a from 24 to 30 March 2016 indicated the change of ambient air condition may contribute to the high level of monitoring results. Though ambient air condition and weather condition may contribute to the exceedance and Contractor had provided some photos records showing mitigation measures on dust suppression control, including watering the haul road and covering the open stockpiles, however according to the observation in the site inspections on 31 March 2016 and 7 April 2016, watering and washing can be enhanced at the haul road and vehicles to further suppress fugitive dust. Therefore, the result was considered to be combined effect of poor ambient air conditions and the works of this project and other construction sites nearby. Under the scope of impact monitoring, it is still defined as project related. Contractor was reminded to strictly follow all the EP conditions and provide sufficient mitigation measures as recommended in approved EIA Reports.
- 10.1.5 No complaint of air quality was received. Therefore, no impact 1-hour TSP monitoring was conducted in the reporting period.
- 10.1.6 Noise monitoring was carried out in the reporting month, no Action / Limit Level exceedance was recorded during the period.
- 10.1.7 Five no. of environmental site inspections were carried out in March 2016. Recommendations on mitigation measures on air quality, water quality, noise, waste management and landscape and visual impact were given to the Contractor for remediating the deficiencies identified during the site inspections.
- 10.1.8 Five weekly Landscape and Visual Site audits were carried out on 3, 10, 16, 24 and 31 March 2016 and three of them, 3, 16 and 31 March 2016 were carried out by a Registered

Landscape Architect in the reporting month. Open stockpile was found to not being covered properly during the landscape and visual impact site inspection on 24 March 2016. The case was rectified on 30 March 2016 and during the site inspection on 31 March 2016. Other than this, no non-compliance of the landscape and visual impact was recorded in the reporting month.

10.1.9 Referring to the Contractor's information, no environmental complaint, notification of summons and successful prosecution was received in the reporting month.

10.2 Comment and Recommendations

- 10.2.1 The recommended environmental mitigation measures, as proposed in the EIA reports and EM&A Manuals shall be effectively implemented to minimize the potential environmental impacts from the Project. The EM&A programme would effectively monitor the environmental impacts generated from the construction activities and ensure the proper implementation of mitigation measures.
- 10.2.2 According to the environmental audit performed in the reporting month, the following recommendations were made:

Air Quality Impact

• Fugitive dust preventive measures shall be implemented.

Construction Noise Impact

Effective noise mitigation measures shall be implemented to minimize construction noise impact

Water Quality Impact

- Implement effective/preventive measures to avoid site runoff from the site;
- Provide proper drainage system management.

Chemical and Waste Management

• Chemical and Waste Management shall be provided properly.

Landscape and Visual Impact

• Proper covering of the open stockpiles.

Permit / Licenses

• No specific observation was identified in the reporting period.

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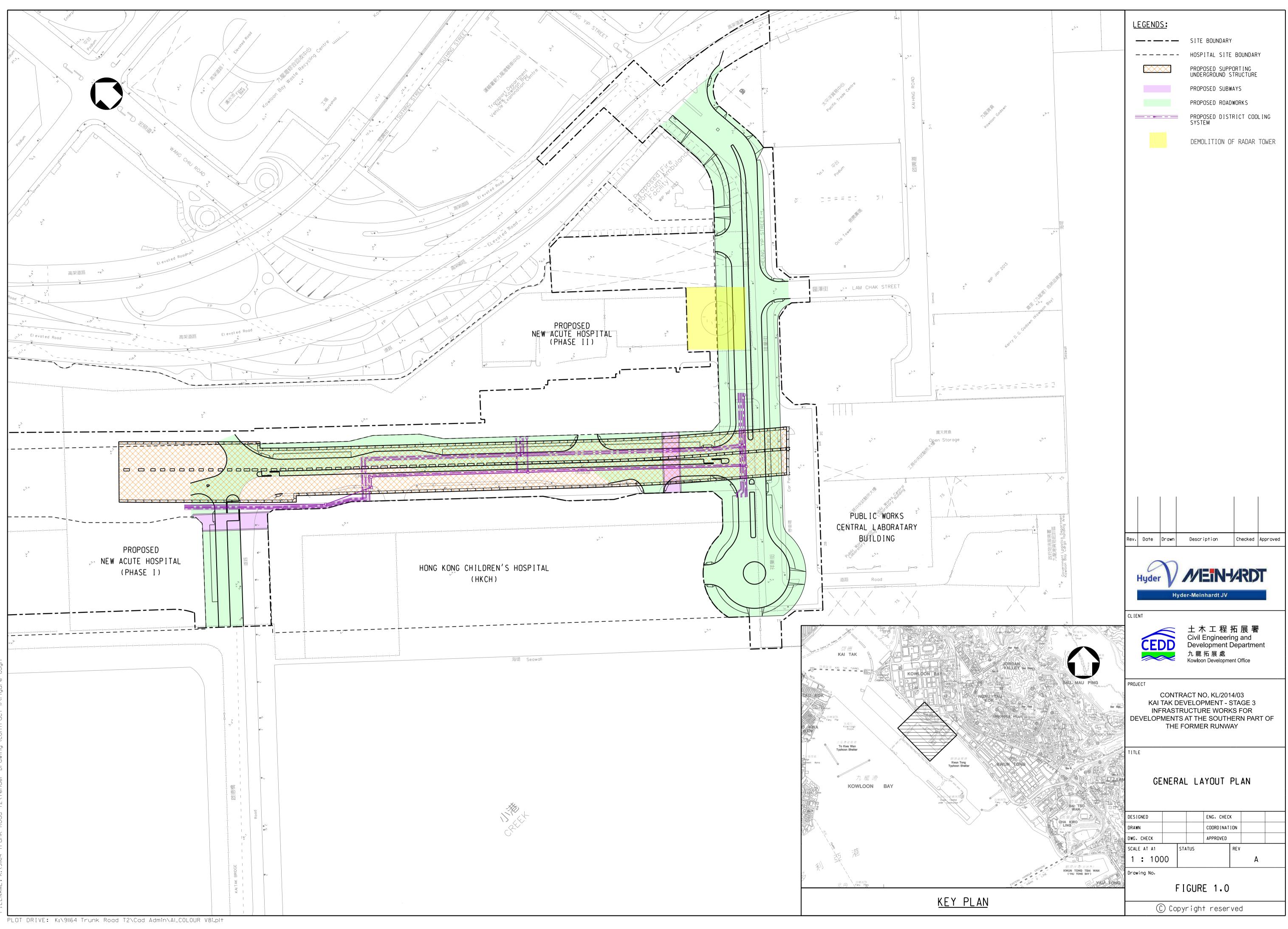
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Figure 1

Project General Layout



INTED BY: kitchan 18/2/2015 13:00:43 .ENAME: K:\9||64 Trunk Road T2\Tender Drawing (Contract I)\

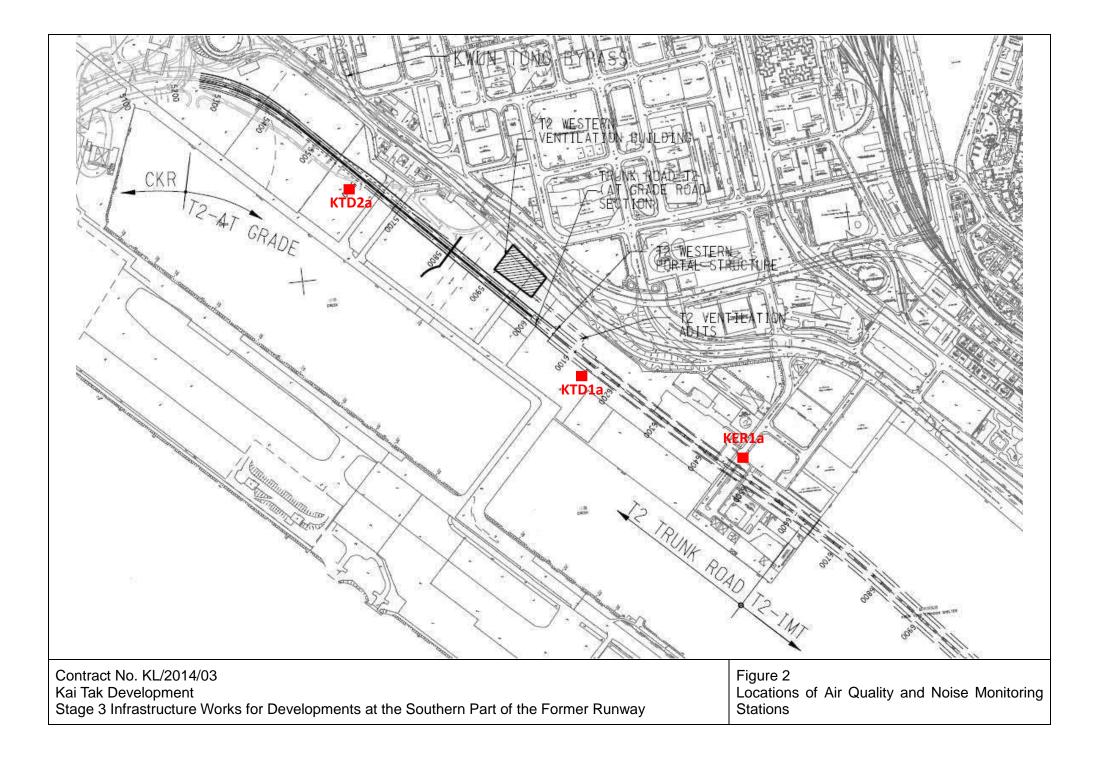
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Figure 2

Air and Noise Monitoring Locations



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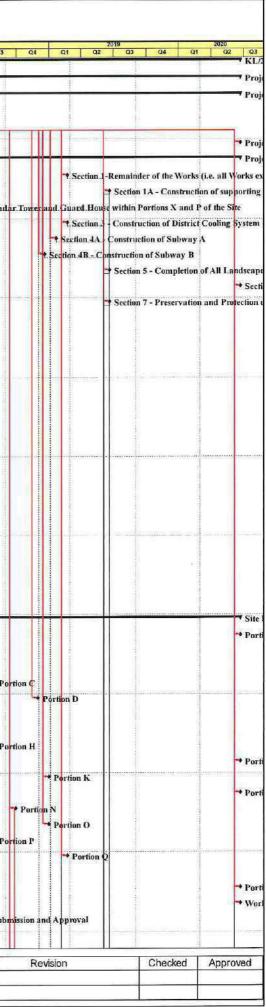
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Appendix A

Construction Programme

| D | Activity Name | Original Duration | Start | Finish | Predecessors | Total Float | 2016 Q4 Q1 Q2 Q3 Q4 | 2017 Q1 Q2 Q3 | Q4 Q1 Q2 |
|---|--|----------------------|---------------|------------|--------------------|----------------|---------------------------|---------------------------|--|
| 2014/03-Stage | e 3 Infrastructure Works for Developments at the Southern Part of the Former Runway | 1684 | 12-Nov-15 | 21-Jun-20 | Constanting of the | 0 | | | |
| ject Key Date | 15 | 1684 | 12-Nov-15 | 21-Jun-20 | | 0 | | | |
| oject Com | nencement and Completion | 1684 | 12-You-15 | 21-Jun-20 | | 0 | | | |
| PK-PCC-000 | Letter of Acceptance | 0 | 12-Nov-15* | | | 0 | + Letter of Acceptance | | |
| | Project Commencement Date | 0 | 23-Nov-15* | | K-PK-PCC-000 | 0 | Project Commencement Date | | |
| | Project Completion Date | 0 | THE PROPERTY. | 21-Jun-20* | K-PA-GSP-200, 1 | 0 | | | |
| Contraction of the second s | bletion Date | 974 | 21-Oct-17 | 21-Feb-19* | K-PK-SCC-190, | 0 | | | |
| | Section 1-Remainder of the Works (i.e. all Works except Works included in other Section of the Work | 0 | | 20-Jun-19* | K-PK-SCC-190, | 0 | | | |
| er minner i stere har so a sol | Section 1A - Construction of supporting underground structure Section 2 - Demolition of Radar Tower and Guard House within Portions X and P of the Site | 0 | | 21-Oct-17* | K-PK-SCC-204, | 0 | | | • Section 2 - Demolition of |
| | Section 2 - Demonstration of District Cooling System (DCS) | 0 | | 21-Feb-19* | K-PK-PCC-100, | 0 | | | |
| | Section 4A - Construction of Subway A | 0 | | 21-Jan-19* | K-PK-SCC-210, | 0 | | | |
| | Section 4B - Construction of Subway B | 0 | | 20-Dec-18* | K-PK-SCC-220, | 0 | | | |
| | Section 5 - Completion of All Landscape Softworks | 0 | | 20-Jun-19* | K-PK-PCC-100, | 0 | | | |
| | Section 6 - Completion of all Establishment Works for all Landscape Softworks | 0 | | 21-Jun-20* | K-PK-SCC-240, | 0 | | | |
| | Section 7 - Preservation and Protection of Existing Trees | 0 | | 20-Jun-19* | K-PK-PCC-100, | 0 | | | Annald Construction of the second |
| e Possess | | 617 | 23-Nov-15 | 0.1-Aug-17 | Martin House | 0 | | Site P | ossession Date |
| K-SPD-100 | | 0 | 02-May-16* | | K-PK-PCC-100 | 0 | Portion A | | |
| | Portion B | 0 | 23-Nov-15* | | K-PK-PCC-100 | 0 | P. tim B | | |
| | Portion B1 | 0 | 23-Nov-15* | | K-PK-PCC-100 | 0 | Parting B1 | | |
| K-SPD-130 | | 0 | 23-Nov-15* | | К-РК-РСС-100 | 0 | Pernin C | | And the second s |
| | Portion D | 0 | 23-Nov-15* | | K-PK-PCC-100 | 0 | P.Rd.nim P | | |
| | Portion E | 0 | 01-Mar-16* | | K-PK-PCC-100 | 0 | 🔿 Portion E | | |
| K-SPD-160 | Portion F | 0 | 23-Nov-15* | | K-PK-PCC-100 | 0 | Partin F | | |
| K-SPD-170 | Portion II | 0 | 23-Nov-15* | | K-PK-PCC-100 | 0 | Pering II | | |
| K-SPD-180 | Portion I | 0 | 01-Apr-17* | | K-PK-PCC-100 | 0 | | Portion 1 | |
| K-SPD-190 | Portion K | 0 | 01-Aug-17* | | K-PK-PCC-100 | 0 | | 🛰 Portic | m K |
| K-SPD-200 | Portion M | 0 | 23-Jan-16* | | K-PK-PCC-100 | 0 | TRortion M | | |
| K-SPD-210 | Portion N | 0 | 23-Jan-16* | | K-PK-PCC-100 | 0 | Tr Rortien N | | |
| K-SPD-220 | Portion O | 0 | 25-Mar-16* | | K-PK-PCC-100 | 0 | ++ Partion O | | |
| -SPD-230 | Portion P | 0 | 23-Nov-15* | | K-PK-PCC-100 | 0 | Pernin P | | |
| K-SPD-240 | Portion Q | 0 | 23-Nov-15* | | К-РК-РСС-100 | 0 | Perfin Q | | |
| K-SPD-250 | Portion R | 0 | 23-Nov-15* | | K-PK-PCC-100 | 0 | Partin R. | | |
| K-SPD-260 | Portion X | 0 | 23-Nov-15* | | К-РК-РСС-100 | 0 | Pardin X | | |
| K-SPD-265 | Works Area WA1 | 0 | 23-Nov-15* | | К-РК-РСС-100 | 9 | Works Area WA1 | | |
| Handove | r Date | 1150 | 28-Apr-17 | 21-Jun-20 | | 10 | | | |
| K-SHD-100 | Portion A | 0 | | 21-Jun-20 | К-РК-РСС-100 | 0 | | | |
| K-SHD-110 | Portion B | 0 | | 28-Apr-17* | K-4B-BAY-310, I | 0 | | ** Portion B | |
| K-SHD-120 | Portion B1 | 0 | | 30-Mar-18* | К-РК-РСС-100 | 0 | | | heter Portion |
| K-SHD-130 | Portion C | 0 | 1 | 31-Jul-18* | | 0 | | | |
| K-SHD-140 | Partion D | 0 | | 30-Nov-18* | К-РК-РСС-100 | 0 | | | |
| K-SHD-150 | Portion E | 0 | | 29-Dec-17* | K-PK-PCC-100 | 0 | | | Portion E |
| K-SHD-160 | Portion F | 0 | | 29-Dec-17* | К-РК-РСС-100, | 0 | | | Portion F |
| K-SHD-170 | Portion H | 0 | | 31-Jul-18* | К-РК-РСС-100 | 0 | | | |
| K-SHD-180 | Portion J | 0 | | 21-Jun-20 | K-PK-PCC-100 | 0 | | | |
| K-SHD-190 | Portion K | 0 | | 31-Dec-18* | K-PK-PCC-100 | 0 | | | |
| C-SHD-200 | Portion M | 0 | | 21-Jun-20 | K-PK-PCC-100 | 0 | | | |
| K-SHD-210 | Portion N | 0 | | 28-Sep-18* | K-1A-SV2-810, F | 0 | | | |
| K-SHD-220 | Portion O | 0 | | 31-Dec-18* | K-PK-PCC-100 | 0 | | | |
| K-SHD-230 | Portion P | 0 | | 31-Jul-18* | K-PK-PCC-100 | 0 | | | |
| K-SHD-240 | Portion Q | 0 | | 22-Feb-19* | K-4A-BAY-220, 1 | 0 | | | |
| K-SHD-250 | Portion R | 0 | | 29-Dec-17* | K-PK-PCC-100 | 0 | | | Portion R |
| K-SHD-255 | Portion X | 0 | | 21-Jun-20 | K-PK-PCC-100 | 0 | | | |
| K-SHD-260 | Works Area WA1 | 0 | | 21-Jun-20 | K-PK-PCC-100 | 0 | | | |
| minaries, Al | ternative Design,Submission and Approval | 614 | 18-Nov-15 | 24-Jul-17 | | 340 | | | ninaries, Alternative Desig |
| mative D | esign for Supporting Underground Structure(SUS) | 193 | 23-Nov-15 | 02-Jun-16 | Conten - second | 313 | Alternative Design | for Supporting Undergrour | id Structure(SUS) |
| 1.0 | | | | | | | | | Date |
| | Remaining Work | | | | W | | me Rev.2 | | |



| ID | Activity Name | Original | Start | Finish | Predecessors | Total | 2016 2017 |
|---|--|----------------|------------|------------|--------------------------|--------------|--|
| -PA-ADS-090 | Submission and approval of Design Memorandum | Duration 35 | 23-Nov-15 | 27-Dec-15 | K-PK-PCC-100 | Float 58 | Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 THE Stabilitistion and approximately provide the second sec |
| -PA-ADS-100 | AIP Submission and approval | 35 | 28-Dec-15 | 31-Jan-16 | K-PA-ADS-090 | 58 | - AP Submission and approval |
| -PA-ADS-110 | DDA Submission and approval-Tunnle box from CH6+150 to CH6+227 | 35 | 06-Apr-16 | 10-May-16 | K-PA-ADS-100 | 190 | DDA Submisson and approval. Tunnle box from CH6+150 to CH6+227 |
| -PA-ADS-115 | DDA Submisson and approval- SUS D-Wall from CH6+227 to CH6+568 | 35 | 04-Mar-16 | 07-Apr-16 | K-PA-ADS-100 | 89 | DDA Submisson and approval- SUS D-Wall from CH6+227 to CH6+568 |
| | | | | | | | Ter: DDA Submisson and approval- Socketted H-Pile foundation from CH6+150 to |
| PA-ADS-125 | DDA Submisson and approval- Socketted H-Pile foundation from CH6+150 to CH6+227 | 35 | 04-Feb-16 | 09-Mar-16 | K-PA-ADS-100 | 60 | |
| | DDA Submisson and approval- Socketted H-Pile foundation from CH6+227 to CH6+568 | 35 | 21-Mar-16 | 24-Apr-16 | K-PA-ADS-125 | 107 | ⁺⁺⁺ DDA Submisson and approval-Socketted H-Pile foundation from CH6+2 |
| | DDA Submisson and approval-SUS Top&Base slab and Intermediate wall from CH6+227 to CH6 | 35 | 29-Apr-16 | 02-Jun-16 | K-PA-ADS-100 | 313 | DDA Submisson and approval SUS Top& Base slab and Intermediat |
| eneral Subr | mission Under PS | :614 | 18-Nm+15 | 24-101-17 | | 340 | General Submission Under PS |
| te Organiza | ation Structure | 34 | 18-Nov-15 | 22-Dec-15 | | 93 | Site Organization Structure |
| PA-GSP-200 | Submit Contractor site organization structure | 0 | | 06-Dec-15 | K-PK-PCC-100 | 109 | * Sulterit Contractor site organization structure |
| -PA-GSP-210 | Nominate Surveyor for acceptance | 0 | | 18-Nov-15 | K-PK-PCC-000 | 127 | Manifate Surveyor for acceptance |
| -PA-GSP-220 | Nominate Site Agent for acceptance | 0 | | 18-Nov-15 | K-PK-PCC-000 | 127 | Nomigate Site Agent for agceptance |
| PA-GSP-230 | Nominate Site Engineer(E&M Works) for acceptance | 0 | | 18-Nov-15 | K-PK-PCC-000 | 127 | Nom gate Site Engineer(E&M Works) for acceptance |
| -PA-GSP-250 | Nominate Traffic arrangement implementation coordinator for acceptance | 0 | | 18-Nov-15 | K-PK-PCC-000 | 127 | Wom gate Traffic arrangement implementation coordinator for acceptance |
| -PA-GSP-260 | Nominate Project Manager for acceptance | 0 | | 22-Dec-15 | K-PK-PCC-100 | 93 | ** Nightrate Project Manager for acceptance |
| -PA-GSP-270 | Nominate Construction Manager(roadwork) for acceptance | 0 | | 22-Dec-15 | K-PK-PCC-100 | 93 | * Neppinale Construction Manager(roadwork) for acceptance |
| -PA-GSP-280 | Nominate Construction Manager(supporting underground structure) for acceptance | 0 | | 22-Dec-15 | K-PK-PCC-100 | 93 | Nonimate Construction Manager (supporting underground structure) for acceptance |
| -PA-GSP-290 | Nominate Site Engineer(Pipe laying and trenchless construction) for acceptance | 0 | | 18-Nov-15 | K-PK-PCC-000 | 127 | Nominate Sife Engineer(Pipe laying and trenchess construction) for acceptance |
| CONCREMENCES COM | | 0 | | 22-Dec-15 | K-PK-PCC-100 | 93 | Maninale Programme Manager for acceptance |
| -PA-GSP-300 | Nominate Programme Manager for acceptance | 0 | | | | | Norninale Risk Manager for acceptance |
| | Nominate Risk Manager for acceptance | 0 | | 22-Dec-15 | K-PK-PCC-100 | 93 | |
| | Nominate Safety Officer for acceptance | 0 | | 25-Nov-15 | K-PK-PCC-100 | 120 | * Noniriate Sufery Officer for acceptance |
| -PA-GSP-330 | Nominate Environmental Officer for acceptance | 0 | | 22-Dec-15 | K-PK-PCC-100 | 93 | * Notifinate Environmental Officer for acceptance |
| -PA-GSP-340 | Nominate Community Relation Officer for acceptance | 0 | | 29-Nov-15 | K-PK-PCC-100 | 116 | * Nominate Community Relation Officer for acceptance |
| -PA-GSP-350 | Nominate Tree Specialist for acceptance | 0 | | 29-Nov-15 | K-PK-PCC-100 | 116 | Nominate Free Specialist for acceptance |
| -PA-GSP-360 | Nominate Contractor Labor Officer for acceptance | 0 | | 29-Nov-15 | K-PK-PCC-100 | 116 | *Nominate Contractor Labor Officer for acceptance |
| -PA-GSP-820 | Nominate Foreman for concrete work, foreman for sewerage and drainage works for acceptance | 0 | | 06-Dec-15 | K-PK-PCC-100 | 109 | Nominate Foreman for concrete work, foreman for sewerage and drainage works for a |
| -PA-GSP-830 | Nominate Geotechnical Supervisor for acceptance | 0 | | 06-Dec-15 | K-PK-PCC-100 | 109 | ▼ Nonema le Geotechnical Supervisor for acceptance |
| rogrammin | g / Reporting | 282 | 29-Nov-15 | 06-Sep-16 | | 184 | Programming / Reporting |
| itial Works | Programme (IWP) | 81 | 29-Nov-15 | 18-Feb-16 | The second second second | 184 | Thiral Works Programme (IWP) |
| K-PA-GSP-400 | Prepare & submit IWP | 0 | - | 29-Nov-15 | K-PK-PCC-100 | 184 | T Prepare & submit IWP |
| C-PA-GSP-410 | Acceptance of the IWP | 21 | 29-Jan-16 | 18-Feb-16 | K-PA-GSP-400 | 184 | Acceptance of the IWP |
| Vorks Progr | | 201 | 19-Feb-16 | 06-Sep-16 | | 184 | Works Programme |
| A DESCRIPTION OF THE OWNER OF THE | Prepare & submit Works Programme | 60 | 19-Feb-16 | 18-Apr-16 | K-PA-GSP-410 | 184 | 2 Prepare & sphmit Works Programme |
| | Acceptance of the Works Programme | 21 | 17-Aug-16 | 06-Sep-16 | K-PA-GSP-420 | 184 | Acceptance of the Works Programme |
| | | 0 | 29-Nov-15 | 29-Nov-15 | 1111 001 120 | 100 | 7 8 Mogith Rolling Programme |
| | ling Programme | 0 | 192-100-10 | 29-Nov-15 | K-PK-PCC-100 | 166 | ** Prentre & submit the 1st 3MRP |
| | Prepare & submit the 1st 3MRP | 0 | | | K-FK-FCC-100 | | 7 Executive Summary Programme |
| History - Contractory | ammary Programme | U | 29-Nov-15 | 29-Nov-15 | | 166 | Submit the 1st ESF |
| C-PA-GSP-450 | Submit the 1st ESP | 0 | | 29-Nov-15 | K-PK-PCC-100 | 166 | |
| ite Safety & | Environment | 91 | 23-Nov-15 | 21-Feb-16 | | 182 | Sile Sifety & Environment |
| ite Safety | | 81 | 25-Nov-15 | 14-Feb-16 | | 189 | Sife Surety |
| C-PA-GSP-500 | Submit draft safety plan | 0 | | 25-Nov-15 | K-PK-PCC-000 | 189 | TLS.ubufft draft safety plan |
| -PA-GSP-510 | Submit project safety plan | 21 | 25-Jan-16 | 14-Feb-16 | K-PA-GSP-500 | 189 | Submit project safety plan |
| nvironment | tal | 91 | 23-Nov-15 | 21-Feb-16 | I PROVIDE NO. | 182 | The Environmental |
| C-PA-GSP-530 | Submit environmental plan (EMP) draft | 0 | | 02-Dec-15 | K-PK-PCC-000 | 182 | 79. Subrut environmental plan (EMP) draft |
| K-PA-GSP-540 | Submit environmental plan (EMP) | 21 | 01-Feb-16 | 21-Feb-16 | K-PA-GSP-530 | 182 | Subjuit environniental plan (EMP) |
| | Environment baseline report by IEC | 30 | 23-Nov-15 | 22-Dec-15 | K-PK-PCC-100 | 91 | = Environment baseline report by IEC |
| | | 109 | 02-Jan-16 | 19-Apr-16 | | 77 | Conflicion Survey & Construction Impact Assessment |
| and the second second | urvey & Construction Impact Assessment | | | | K DK DCC 100 | | 3 Juital survey and submit survey report |
| | Initial survey and submit survey report | 30 | 02-Jan-16 | 31-Jan-16 | K-PK-PCC-100 | 39 | 251 Condition survey and submit condition survey report |
| | Condition survey and submit condition survey report | 30 | 01-Feb-16 | 01-Mar-16 | K-DR-PRE-100 | 39 | |
| -DR-PRE-120 | Submit construction impact assessment report for Zone 1 | 30 | 03-Feb-16 | 03-Mar-16 | K-DR-PRE-110 | 39 | Siberit construction impact assessment report for Zone 1 |
| -DR-PRE-130 | Submit construction impact assessment report for Zone 2 to 4 | 30 | 21-Mar-16 | 19-Apr-16 | K-DR-PRE-120 | 77 | 1999 Submit construction impact assessment report for Zone 2 to 4 |
| ajor Tempo | orary Works Design | 281 | 16-Jan-16 | 22-Oct-16 | | 557 | Major Temporary Works Design |
| -PA-GSP-678 | Trench stability analysis and guide wall design for temporary D-Wall | 35 | 16-Jan-16 | 19-Feb-16 | K-PA-GSP-665, 1 | 32 | Trinch stability analysis and guide wall design for temporary D-Wall |
| -PA-GSP-679 | Trench stability analysis and guide wall design for permanent D-Wall | 35 | 25-Feb-16 | 30-Mar-16 | K-PK-PCC-100, | 118 | Tranch stability analysis and guide wall design for permanent D-Wall |
| -PA-GSP-680 | ELS design for construction of SUS and ventilation adit from CH6+150 to CH6+227 in Zone 1 | 35 | 04-Mar-16 | 07-Apr-16 | K-PA-GSP-665, 1 | 223 | ELS design for construction of SUS and ventilation adit from CH6+150 to |
| | ELS design for construction of SUS from CH6+467 to CH6+568 in Zone 4 | 35 | 21-Apr-16 | 25-May-16 | K-PA-GSP-679, 1 | 100.06 | RLS design for construction of SUS from CH6+467 to CH6+568 in Z |
| | ELS design for construction of SUS from CH6+227 to CH6+467 in Zone 2&3 | 35 | 03-May-16 | 06-Jun-16 | K-PA-GSP-681 | 399 | THE SIS design for construction of SUS from CH6+227 to CH6+467 in |
| | ELS design for construction of subway A | 35 | 31-May-16 | 04-Jul-16 | K-PK-PCC-100 | 582 | FI Sidesign for construction of subway A |
| | ELS design for construction of subway B (Bay 1&2) | 35 | 15-Feb-16 | 20-Mar-16 | K-PA-GSP-678 | 108 | ELS.deign for construction of subway B (Bay 1&2) |
| -1A-037-085 | ET2 resta ini construction of subway p (pay res) | 35 | 13-1-0-10 | 20-0121-10 | N-1 A-031-0/0 | 100 | |
| 25.00 | aining Level of Effort Remaining Work | | | T | IL D | Tothe states | Date |
| Rema | | | | Initial | WORKS PRO | orom | me kev / |
| Rema | | | | Initial | Works Pro | gram | 04-Mar-16 2 |

| Q3 | Q4 | QI | 02 | Q3 | Q4 | Q1 | 2020 Q2 | Q3 |
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| 22 | in Zone I | | | | | | | |
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| 83 | | | | | | | | |
| | 7 in Zone E | | | | | | | |
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| | Activity Name | Duration | | | Predecessors | Float | |
|--|---|---|-----------|-----------|--|------------|---|
| | ELS design for construction of subway B (Bay 3&4) | | 14-Jun-16 | 18-Jul-16 | K-PA-GSP-885 | 653 | ELS design for construction of subway B (Bay 3&4) |
| K-PA-GSP-687 | Temporary vehicular and pedestrian access for HKCH | 35 (| 03-May-16 | 06-Jun-16 | K-PK-SPD-260, | 163 | Tempoeury, vehicular, and pectestrian access for HKCH |
| C-PA-GSP-688 | Temporary work design for construction of tunnel box structure | 35 1 | 18-Sep-16 | 22-Oct-16 | K-PK-PCC-100 | 229 | T Temporary work design for construction of tunnel box structure |
| -PA-GSP-694 | Temporary work design for demoliton of the existing radar tower | 35 2 | 21-May-16 | 24-Jun-16 | K-PK-PCC-100 | 241 | Temporary work design for demoliton of the existing radar fower |
| C-PA-GSP-700 | ELS design for construction of DCS | 35 1 | 19-Aug-16 | 22-Sep-16 | K-PK-PCC-100 | 43 | ELS design for construction of DCS |
| CPA-GSP-835 | Temporary work design for construction of subway structure | 35 2 | 21-Apr-16 | 25-May-16 | К-РК-РСС-100 | 42 | Temporary work design for construction of subway structure |
| K-PA-GSP-875 | Pumping Test for SUS Cofferdam in Zone 1 | 35 (| 05-Mar-16 | 08-Apr-16 | K-PA-GSP-685 | 255 | the Pumping Test for SU\$ Cofferdam in Zone 1 |
| C-PA-GSP-885 | Pumping Test for SUS Cofferdam in Zone 2 to 4 | 35 1 | 10-May-16 | 13-Jun-16 | K-PA-GSP-875 | 255 | Fumping. Test for SUS Collectiant in Zone 2 to 4 |
| lajor Constru | uction Works Method Statement | 560 1 | 12-Jan-16 | 24-Jul-17 | | 340 | Major Construction Works Method Statement |
| C-PA-GSP-712 | Method statement of D-Wall construction | 30 1 | 12-Jan-16 | 10-Feb-16 | K-PK-PCC-100 | 41 | Mettod statument of D-Wall construction |
| -PA-GSP-713 | Method statement of Socketted H-pile installation | 30 2 | 21-Feb-16 | 21-Mar-16 | K-PK-PCC-100 | 48 | Fight Statement of Sucketted H-pile installation |
| C-PA-GSP-714 | Method statement of Excavation and ELS | 60 2 | 21-May-16 | 19-Jul-16 | K-PK-PCC-100 | 120 | Method statement of Excavation and ELS |
| C-PA-GSP-730 | Method statement for Construction of DCS | 60 3 | 30-Jul-16 | 27-Sep-16 | K-PK-PCC-100 | 38 | * Method statement for Construction of DCS |
| -PA-GSP-732 | Method statement for Demolition of Rader Tower | 60 1 | 14-Mar-16 | 12-May-16 | K-PK-SPD-230 | 179 | The statement for Demolition of Rader Tower |
| -PA-GSP-734 | Method statement for Demolition of Guard House | 60 1 | 14-Mar-16 | 12-May-16 | K-PA-GSP-732 | 382 | - Nethod statement for Demolition of Guard House |
| | Method statement for Construction of tunnel box structure | 60 1 | 15-Jul-16 | 12-Sep-16 | K-PK-PCC-100 | 269 | Method statement for Construction of tunnel box structure |
| | Method statement for Construction of top slab and base slab of SUS | 60 2 | 26-May-17 | 24-Jul-17 | K-PK-PCC-100 | 155 | Method statement for Construction of top slab and hase slab of SUS |
| | Method statement for Construction of subway A | 10.52 2.5 | 26-Sep-16 | 24-Nov-16 | K-PA-GSP-684 | 582 | Method statement for Construction of subway A |
| | Method statement for Construction of subway B | | 21-Apr-16 | 19-Jun-16 | K-PK-PCC-100 | 17 | Terms: Method statement for Construction of subway B |
| and a second second second | | | 23-Nov-15 | 21-Jan-16 | | 83 | |
| | Submit Contractor DII roller | - In succession of the | 23-Nov-15 | 21-Jan-16 | K-PK-PCC-100 | | Submit Codifiactor P11 policy |
| | Submit Contractor PII policy | | | | | 83 | Submit ICE PII policy |
| | Submit ICE PII policy | | 23-Nov-15 | 21-Jan-16 | K-PK-PCC-100 | 83 | |
| | r Management Plan (SMP) | | 18-Apr-16 | 02-May-16 | | The second | TV Subcontractor Management Plan (SMP) |
| CPA-GSP-610 | Submit Subcontractor Management Plan | 15 1 | 18-Apr-16 | 02-May-16 | K-PK-PCC-000 | 11 | 345 Subjnit Subcontractor Management Plan |
| roject risk N | lanagement Plan | 53 3 | 30-Nov-15 | 21-Jan-16 | | 113 | Project risk Management Plan |
| C-PA-GSP-620 | Submit Project risk management plan | 53 3 | 30-Nov-15 | 21-Jan-16 | K-PK-PCC-100 | 113 | Turren Submit Project risk management plan |
| emp Drainag | je Management Plan (TDMP) | 30 2 | 13-Dec-15 | 21-Jan-16 | | 35 | 🖤 🗝 Ramp Draininge Management Plan (TDMP) |
| C-PA-GSP-670 | Submission and approval of temporary drainage and sewerage diversion plan | 30 2 | 23-Dec-15 | 21-Jan-16 | K-PK-PCC-100 | 35 | The Submission and approval of temporary drainage and sewerage diversion plan |
| ite Security | Plan | 0 0 | 06-Dec-15 | 06-Dec-15 | | 159 | T Site Security Plan |
| | Submit site security plan | 0 | | 06-Dec-15 | K-PK-PCC-100 | 159 | - Subjett site security plan |
| emporary Lit | ility Diversion/ Relocation | 348 2 | 23-Nov-15 | 04-Nov-16 | | 10 | Temporary Unity Diversion/ Relocation |
| and the second second second second | Request information from utilities undertakers | 7 2 | 23-Nov-15 | 29-Nov-15 | K-PK-PCC-100 | 66 | * ¹ Request information from utilities undertakers |
| C-PA-GSP-661 | Set up Utilities Liaison Group (ULG) | 30 2 | 23-Nov-15 | 22-Dec-15 | K-PK-PCC-100 | 143 | 7 🖶 See up Unbines Liuispn Group (ULG) |
| -PA-GSP-665 | | 60 0 | 07-Dec-15 | 04-Feb-16 | K-PK-PCC-100 | 9 | - Utility detection |
| | Submission and approval utility diversion scheme in Zone 1 | 30 1 | 18-Jan-16 | 16-Feb-16 | K-PK-PCC-100 | 0 | Subnission and approval utility diversion scheme in Zone 1 |
| | Submission and approval utility diversion scheme in Zone 2,3&4 | | 05-Feb-16 | 20-Mar-16 | K-PA-GSP-665 | 84 | Submission and approval utility diversion scheme in Zone 2,3&4 |
| | Utility coordination and liasion | | 11-Feb-16 | 10-May-16 | K-PK-PCC-100, | 10 | - Diffity coordination and liasion |
| | Temporary utility diversion work in Zone 1 | -202004 | 11-Apr-16 | 24-Jul-16 | K-PA-GSP-666 | 0 | Temporary utility diversion work in Zone 1 |
| | Temporary utility diversion work in Zone 2,3&4 | | 20-Jun-16 | 17-Oct-16 | K-PA-GSP-668,1 | 28 | Tempurary utility diversion work in Zone 2,3&4 |
| | | | 23-Nov-15 | 04-Nov-16 | 14-14-051-000,1 | 10 | Utility Works by Others |
| Jtility Works | Diversion of existing 132kv CLP cable at Cheung Yip Street by others | | 23-Nov-15 | | K BK BCC 100 | | Diversion of existing 132ky CLP calife at Cheung Yip.Street by others |
| | | | | 02-Jul-16 | K-PK-PCC-100 | 28 | Utility laying for HGC, HKBN, CT, PCCW, NWT, TGT, MP&LPB by others |
| and the second s | Utility laying for HGC, HKBN, CT, PCCW, NWT, TGT, MP&LPB by others | | 03-Jun-16 | 04-Nev-16 | K-PA-GSP-668, 1 | 10 | |
| | affic Management | a second s | 23-Nov-15 | 16-Nov-16 | | 48 | Temporary Traffic Management |
| Permitting (XI | | | 23-Nov-15 | 20-Feb-16 | the state of the s | 58 | Perpitting (XP) |
| | XP plan registration | | 23-Nov-15 | 22-Dec-15 | K-PK-PCC-100 | 58 | T== XP plan resistation |
| K-PA-GSP-780 | XP application | 60 2 | 23-Dec-15 | 20-Feb-16 | K-PA-GSP-770 | 58 | |
| emp Traffic / | Arrangement | and the | 23-Nov-15 | 16-Nov-16 | Part and | -48 | Temp Traffic Arrangement |
| K-PA-GSP-790 | Establish the TMLG | 40 2 | 23-Nov-15 | 01-Jan-16 | K-PK-PCC-100 | 233 | THE DISK THE TALC |
| K-PA-GSP-800 | Submission and approval of TTA schemes-TTA stage 1 for D-wall E/B and Sockettd H-plie | 90 2 | 23-Nov-15 | 20-Feb-16 | K-PK-PCC-100 | 48 | * 2 Submission and approval of TTA schemes-TTA stage 1 for D-wall E/B and Sockettd H-plie |
| K-PA-GSP-805 | Submission and approval of TTA schemes-TTA stage 1A for D-wall W/B and End wall | 90 2 | 21-Feb-16 | 20-May-16 | K-PA-GSP-800 | 48 | The stage 1A for D-wall W/B and End wall |
| K-PA-GSP-810 | Submission and approval of TTA schemes-TTA stage 2 for D-wall W/B at Zone 2 | 90 2 | 21-May-16 | 18-Aug-16 | K-PA-GSP-800, 1 | 48 | Submission and approval of TTA schemes-TTA stage 2 for D-wall W/B at Zone 2 |
| | Submission and approval of TTA schemes-TTA stage 3 for re-construction of Cheung Vip Street | 90 1 | 19-Aug-16 | 16-Nov-16 | K-PA-GSP-810 | 48 | Submission and approval of TTA schemes-TTA stage 3 for re-construction of Cheung Yip Street |
| relimiaries | | 276 2 | IJ-Nov-15 | 24-Aug-16 | No. of Concession, Name | 97. | Preimianjes |
| Construction of the second second | Instruction to erection of barge loading facilities | 15 1 | 15-Feb-16 | 29-Feb-16 | K-PK-PCC-100 | 84 | The Instruction to exection of barge loading facilities |
| | Submit temporary works design and method statement for barging point | | 05-Apr-16 | 09-May-16 | K-DR-PRE-135 | 84 | Submit temporary works design and method statement for barging point |
| | Set up temporary barging point | | 17-May-16 | 24-Aug-16 | K-DR-PRE-140, | 84 | Set up temporary barging point |
| | Erection of Engineer's office | | 23-Nov-15 | 26-Feb-16 | K-PK-PCC-100, | 267 | Erection of Engineer's office |
| | Erection of contractor's site office | | 24-Dec-15 | 07-Mar-16 | K-DR-PRE-150 | 267 | Exection 30 contractor's site office |
| | | | 13-Dec-15 | 10-Feb-16 | K-DR-PRE-150 K-PK-PCC-100 | 30 | |
| -DR-PRE-170 | Site clearance and erection of hoarding& fencing | 70 0 | J3-Dec-15 | 10-160-16 | A-FA-FCC-100 | 30 | Site therefore and erection of Indarding & fencing |
| 0.255 235 | ning Louis of Effort Demoising Mosk | | | | | | Date Revision Checked App |
| Remai | ning Level of Effort Remaining Work | | | nifial | Works Pro | oram | ne Rev.2 04-Mar-16 2 |

| 10 | Activity Name | Original Duration | | Finish | Predecessors | Total Float | Q4 | Q1 | | 20 Q2 | Q3 | Q4 | 01 | 2017 Q2 | Q3 | Q4 Q1 | 21 0 |
|--|--|----------------------|---|------------------------------|--|----------------|-------------------|---------------|---------------|----------|-------------|------------|-----------------|------------|-------------|--------------|----------|
| -DR-PRE-173 | Tree survey | 45 | 07-Dec-15 | 20-Jan-16 | K-PK-PCC-100 | 47 | 6 | | e sur | 1 4101 | | | | | | | |
| -DR-PRE-175 | Tree Felling Works | 60 | 20-Feb-16 | 19-Apr-16 | K-DR-PRE-173 | 47 | | - | = | Tree I | elling Wo | rks | | | 1 1 | | |
| ction 1 of the | Works-Remainder of the Works | 258 | 06-Jun-18 | 18-Feb-19 | | 3 | | | | | | | | | | | |
| dification | Works | 49 | 00-Jun-18 | 03-Aug-18 | C. Studies Cont | 76 | | | | | | | | | | | |
| Contraction in contract of the | Sewerage modification works | 49 | 06-Jun-18 | 03-Aug-18 | K-1A-SV2-780 | 76 | | | | | | | | | | | |
| | Watermain modification works | 35 | 23-Jun-18 | 03-Aug-18 | K-01-MWS-100 | 76 | | | | | | | | | | | |
| | | | - | | K-01-51W3-100 | 70 | | | | | | | | | | | |
| THE OWNER AND A DESCRIPTION OF | nt Works on Existing Shing Cheong Road | 78 | 15-Aug-18 | 16-Nov-18 | The second s | 18 | | | | | | | | | | | |
| 1-RWE-120 | Reinstatement of existing drainage, sewerage and watermain from CH6+467 to CH6+568 | 42 | 21-Aug-18 | 10-Oct-18 | K-1A-SUS-760 | 20 | | | | | | | | | | | |
| 1-RWE-130 | Reinstatement of existing drainage, sewerage and watermain from CH6+227 to CH6+467 | 63 | 15-Aug-18 | 30-Oct-18 | K-1A-SUS-870 | 3 | | | | | | | | | | | |
| 1-RWE-140 | Reinstatement of existing pavement | 30 | 12-Oct-18 | 16-Nov-18 | K-01-RWE-130 | 19 | | | | | | | | | | | |
| adworks | | 206 | 28-ful-18 | 18-Feb-19 | | 3 | | | | | | | | | 1 1 | | |
| ad D4-3 | | 203 | 31-Jui-18 | 18-Feb-19 | | 3 | | | | | | | | | | | |
| 1-RWS-101 | Drainage, sewerage works, water works, road pavement and furniture in Zone 2 | 60 | 31-Jul-18 | 28-Sep-18 | K-1A-SV2-780, F | 0 | | - | | | | | | | | | |
| 1-RWS-103 | Implementation of TTA stage 3 | 5 | 03-Oct-18 | 08-Oct-18 | K-1A-SUS-870, F | 26 | | | | | | | | | | | |
| | | 60 | 31-Oct-18 | 30-Dec-18 | K-01-MWS-110, | 3 | | and a second | | | | | | | | | |
| 1-RWS-104 | Drainage, sewerage works and water works in Zone 3 | | | | | 1000 | | | | | | | | | | | |
| 1-RWS-106 | Drainage, sewerage works and water works in Zone 4 | 60 | 19-Oct-18 | 18-Dec-18 | K-03-DCS-160, F | 15 | | | | | | | | | | | |
| 1-RWS-180 | Road pavement and furniture in Zone 3 & 4 | 50 | 30-Dec-18 | 18-Feb-19 | K-01-RWS-104, I | 3 | | | | | | | | | | | |
| ad D4-4 | | 151 | 28-Jul-18 | 26-Jan-19 | | 19 | | | | | | | | | | | |
| 1100 to CH | 1190 | 90 | 28-Jul-18 | 13-Nov-18 | | 80 | | | | | | | | | | | |
| 01-RWS-270 | Drainage, sewerage works and water works | 60 | 28-Jul-18 | 08-Oct-18 | K-1A-SUS-760 | 19 | | | | | | | | | | | |
| 01-RWS-280 | Pavement and road furniture | 30 | 09-Oct-18 | 13-Nov-18 | K-01-RWS-270 | 80 | | | | | | | | | | | |
| 190 to CH | 1420 | 85 | 09-Oct-18 | 19-Jan-19 | | 25 | 117 A R (1 | | | | | | | | | | |
| The second second | Drainage, sewerage works and water works | 50 | 09-Oct-18 | 06-Dec-18 | K-01-RWS-270, 1 | 25 | | | | | | | | | | | |
| 11:17:19:19:10 (A.D. AND) | Pavement and road furniture | 35 | 07-Dec-18 | 19-Jan-19 | K-01-RWS-200 | 25 | | 1 | | | | | | | | | |
| | | 18825 | 09-Oct-18 | 1.922-00210-0028 | N 01 1113-200 | 19 | | | | | | | | | | | |
| a a a la companya a comp | lification Works | 10 | A CONTRACTOR OF | 26-Jan-19 | K of Division | 1 A22 | | | | | | | | | | | |
| | Demolition of existing seawall | 14 | 09-Oct-18 | 25-Oct-18 | K-01-RWS-270 | 19 | | | | | | | | | | | |
| 01-RWS-360 | Laying drain pipe and modification of seawall | 42 | 26-Oct-18 | 13-Dec-18 | K-01-RWS-350 | 19 | | | | | | | | | | | |
| 01-RWS-370 | Pavement and road furniture | 35 | 14-Dec-18 | 26-Jan-19 | K-01-RWS-270, 1 | 19 | | | | | | | | | | | |
| tion 1A of th | e Works -Construction of Supporting Underground Structure(Alternative Design) | 1237 | 04-Jan-16 | 24-May-19 | | 27 | | | 111 | | | | | | | | |
| S and Ven | itilation Adits from CH6+150 to CH6+224 in Zone 1 | 547 | 04-slan-16 | 06-Nov-17 | A LOAD TO THE | 44 | | | | | | | | | | SUS and | Ventila |
| paration | Works | 167 | 04-Jan-16 | 28-Jul-16 | | 45 | | | | | Prepar | ation Wo | rks | | | | |
| 1A-SV1-007 | Additional Ground investigation work | 60 | 04-Jan-16 | 16-Mar-16 | K-PA-GSP-665 | 43 | | | A | lition | Ground | investipa | tion work | | | | |
| | Fabrication and delivery of ELS strut/waling | 110 | 14-Mar-16 | 28-Jul-16 | K-PA-ADS-100 | 45 | | | | | | | delivery | oFELS | strut/wal | inσ | |
| | | 135 | 17-Feb-16 | | K-1A-AD3-100 | | | | | | | | Vall and E | | 1 1 1 | | |
| | D-Wall and Piling Works | in the second | | 01-Aug-16 | | -42 | | | | | | lary u- | | mig v | OT IS | | |
| | Predrilling works | 22 | 17-Feb-16 | 12-Mar-16 | K-PA-GSP-670, 1 | 8 | | | | | works | | | | | | |
| IA-SV1-110 | Plant mobilization and setup for D-wall | 30 | 23-Feb-16 | 31-Mar-16 | K-DR-PRE-170, | 8 | | | 12 12 | 11111 | bilization | | p fer D-w | all | | | |
| A-SV1-115 | Construction of guide wall | 15 | 05-Mar-16 | 22-Mar-16 | K-PA-GSP-712, | 15 | | | Ċþ | nstrüc | tion of gui | de wall | | | | | |
| IA-SV1-120 | Construction of temporary D-wall eastbound and End Wall (CH6+150 - CH6+224) | 80 | 01-Apr-16 | 08-Jul-16 | K-1A-SV1-110, F | 8 | | | 1 | | Construc | tion of te | mporary l | D-wall e | enstbound | and End V | Vall (Cl |
| IA-SV1-130 | Construction of temporary D-wall westbound (CH6+150 - CH6+224) | 65 | 11-Apr-16 | 28-Jun-16 | K-1A-SV1-120 | 18 | | | | | Construct | ion of ten | porary D | -wall w | estbound | (CH6+150 | - CH6- |
| A-SV1-135 | Installation of temporary bulkhead wall at CH6+224 | 21 | 14-Jun-16 | 08-Jul-16 | K-1A-SV1-120 | 27 | | | | | Installat | on of ten | porary bi | ulkhead | wall at C | H6+224 | |
| A-SV1-140 | Installation of socketted H-piles for Intermediate Wall | 70 | 01-Apr-16 | 25-Jun-16 | K-PA-GSP-713,1 | 30 | | | L. | | nstallatio | n of sock | tted H-pi | les for l | ntermedia | te Wall | |
| A-SV1-340 | Installation of socketted H-piles for Eastbound and Westbound | 70 | 28-Apr-16 | 22-Jul-16 | K-PK-SPD-250, | 8 | | - | | | Installa | tion of so | ketted H | -piles fo | r Eastbou | und and We | stbound |
| IA-SV1-462 | Loading test for socketted H-Piles | 8 | 23-Jul-16 | | K-1A-SV1-340, F | 42 | | | | | | | sacketted | | 1 1 1 | | |
| Accession of the second second | | | | 01-Aug-16 | R-1A-3V1-340, F | | | | | | - aut | 6 105 10 | Sucherred | | | These | ar Sta |
| nnel Box | | 397 | 09-Jul-16 | 06-Nov-17 | | 44 | | | | | | | | | | Tinnel Bo | |
| A-SV1-200 | Installation of dewatering well, observation well and recharging well in Zone 1 | 30 | 09-Jul-16 | 12-Aug-16 | K-1A-SV1-340, F | 27 | | | | | | 111 1 | 111 1 | | 1 1 | n well and r | recharg |
| A-SV1-210 | Pumping test for excavation in Zone 1 | 14 | 13-Aug-16 | 29-Aug-16 | K-1A-SV1-200 | 27 | | | | | 🗇 Pun | ping tes | for excav | ation in | Zone | | |
| IA-SV1-220 | Excavation and ELS up to formation level of tunnel box(6+191-6+224) | 30 | 19-Aug-16 | 23-Sep-16 | K-1A-SV1-210, F | 27 | | | | | HE B | xcavatio | and ELS | S up to f | formation | level of tun | inel box |
| IA-SV1-230 | Construction of tunnel box sturcture (CH6+191 to CH6+224) | 50 | 14-Nov-16 | 13-Jan-17 | K-1A-SV1-220, F | 93 | | | | | | | Construct | ion of h | unnel box | sturcture (C | СП6+19 |
| IA-SV1-240 | Backfilling | 30 | 06-Jan-17 | 13-Feb-17 | K-1A-SV1-230 | 93 | | | | | | 1.0 | ∃.Backfi | Illing | | | |
| A-SV1-320 | Excavation and ELS up to formation level of tunnel box(6+150-6+191) | 55 | 24-Sep-16 | 29-Nov-16 | K-1A-SV1-130, F | 44 | | 0.000 | in the second | | - | | 811 H | 1 | up to for | nation level | l of tum |
| IA-SV1-350 | Construction of tunnel box structure (CH6+150 to CH6+191) | 120 | 13-Apr-17 | 06-Sep-17 | K-PA-GSP-688, 1 | 44 | | | | | | | | | 1 1 | struction of | 1. 1. |
| | | | A CONTRACTOR OF A CONTRACTOR | and the second second second | | 10000 Via | | | | | | | | | 1 | Backfillin | 25.40.00 |
| A-SV1-360 | Backfilling | 60 | 25-Aug-17 | 06-Nov-17 | K-1A-SV1-350 | 44 | | 0.000 | | | | | | | | | 15 |
| ntilation A | Adits | 173 | 24-Sep-16 | 27-Apr-17 | | 44 | | | | | Π | | | | tion Adits | | |
| 1A-SV1-300 | Installation of sheetpile for adits(6+150-6+191) | 30 | 18-Nov-16 | 22-Dec-16 | K-1A-SV1-320 | 44 | | | | | | • In | stallation | of sheet | pile for a | dits(6+150-0 | 6+191) |
| 1A-SV1-310 | Excavation and ELS for ventilation adit 1,2&3(6+150-6+191) | 35 | 23-Dec-16 | 08-Feb-17 | K-1A-SV1-300, F | 44 | | 1000 | | | | 4 | Excava | tion and | ELS for | ventilation | adit 1, |
| 1A-SV1-330 | Construction of ventilation adit 1,2&3 and service adit(6+150-6+191) | 63 | 09-Feb-17 | 27-Apr-17 | K-1A-SV1-310 | 44 | | | | | | | | Constru | iction of . | entilation a | dit 1,28 |
| and a second | Installation of sheetpile for adits(6+191-6+224) | 15 | 24-Sep-16 | 13-Oct-16 | K-1A-SV1-220 | 27 | | Succession of | | | | Installati | 51 11 | 1. 2 | 1. 1. 1. | 191-6+224) | i |
| 1A-SV1-472 | | | | | | | | 1 11 3 | -2225 E | 3143 | | 11 | | | | | 12 12 |
| 1A-SV1-472 1A-SV1-482 | Excavation and ELS for ventilation adit 2(6+191-6+224) | 15 | 14-Oct-16 | 31-Oct-16 | K-1A-SV1-472, F | 93 | | | 1 | | | Exeau | tion and | ELS for- | ventilati | on adit 2(6+ | -191-61 |

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| Actual Work |

Critical Remaining Work

Initial Works Programme Rev.2 Page:4 of 7 04-Mar-16 2

| Q4 | Q1 | 02 | 019 | Q4 | q1 | 2020 Q2 | Q |
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| * | Drainage,s | ewera | ge wor | ks and wate | r work | s in Zon | e 4 |
| - | Roat | l pave | ment a | nd furniture | e in Zor | ne 3 & 4 | |
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| d Draina | ge.sewerag | e worl | ks and | water work | s | | |
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| Activity Name | | Original Duration | Start | Finish | Predecessors | Float Q4 | Q1 Q2 | 16 <u>2017</u> Q3 Q4 Q1 Q2 Q3 Q4 Q1 |
|--|--|----------------------|-------------------------------|----------------------------|--|----------------------------|------------|---|
| A-SV1-492 Construction of ventilation adit 2 and serv | vice adit(6+191-6+224) | 21 | 26-Oct-16 | 18-Nov-16 | K-1A-SV1-482 | 93 | | Construction of ventilation adit 2 and service adi |
| and Ventilation Adits from CH6+224 to | CH6+348 in Zone 2 | 950 | 22-Feb-16 | 28-Sep-18 | a Carlo de Carlo | 30 | | |
| Vall and Piling Works | | 495 | 22-Feb-16 | 30-Jun-17 | | 10 | | D-Wall and Piling Works |
| D-Wall and Socketted H-Piles(CH6+2241 | to CH6+348) in TTA Stage 1 | 258 | 22-Feb-16 | 03-Jan-17 | | 0 | | F/B D-Wall and Socketted H-Piles(CH6+22- |
| A-SV2-100 Implementation of TTA stage 1 | | 7 | 22-Feb-16 | 29-Feb-16 | K-PK-SPD-210, 1 | 45 | 🔄 Implemen | ation of TTA stage 1 |
| A-SV2-110 Predrilling works | | 32 | 01-Mar-16 | 11-Apr-16 | K-IA-SV1-100, F | 62 | + Prede | Ning works |
| -SV2-125 Construction of guide wall | | 25 | 12-Apr-16 | 11-May-16 | K-1A-SV2-110, b | 62 | - - | struction of guide wall |
| A-SV2-128 Plant mobilization and set up for D-wall | and socketted H-Pile | 5 | 29-Jun-16 | 05-Jul-16 | K-1A-SV1-130, F | 18 | | Plans mobilization and set up for D-wall and socketted H-Pile |
| A-SV2-130 Construction of D-wall eastbound(CH6+2 | 54 to CH6+348) | 72 | 06-Jul-16 | 28-Sep-16 | K-1A-SV2-128, F | 18 | | Construction of D-wall eastbound (CH6+254 to CH6+ |
| A-SV2-135 Toe grouting works | | 30 | 29-Sep-16 | 04-Nov-16 | K-1A-SV2-130 | 18 | | += |
| A-SV2-200 Construction of D-wall eastbound(CH6+2 | 24 to CH6+254) | 30 | 26-Nev-16 | 03-Jan-17 | K-1A-SV3-500, F | 0 | | Construction of D-wall eastbound(CH6+224 |
| A-SV2-300 Installation of socketted H-piles (CH6+22 | | 112 | 23-Jul-16 | 03-Dec-16 | K-PK-SPD-250, | 15 | | |
| A-SV2-800 Loading test for socketted H-Piles | | 8 | 05-Dec-16 | 13-Dec-16 | K-1A-SV2-300 | 15 | | - Loading test for socketted H-Piles |
| D-Wall (CH6+224 to CH6+348) in TTA St | ane 2 | 333 | 02-Aug-16 | 30-Jun-17 | | 10 | | W/B D-Wall (CH6+224 to 0 |
| A-SV2-203 Construction of temporary diversion road | | 50 | 05-Nov-16 | 24-Dec-16 | K-PA-GSP-865, 1 | | | - Construction of temporary diversion road and |
| | | | 04-Jan-17 | | | 0 | | Implementation of TTA stage 2 |
| A-SV2-205 Implementation of TTA stage 2 | | 5 | | 09-Jan-17 | K-1A-SV2-203, F | i and | | |
| A-SV2-210 Predrilling works | | 42 | 02-Aug-16 | 20-Sep-16 | K-1A-UDN-120 | 42 | | - Predcilling works |
| A-SV2-215 Construction of guide wall | | 28 | 21-Dec-16 | 25-Jan-17 | K-1A-SV2-210, F | 9 | | Construction of guide wall |
| A-SV2-220 Plant mobilization and set up for D-wall | | 5 | 10-Jan-17 | 14-Jan-17 | K-1A-SV2-205 | 0 | | Plant mobilization and set up for D-wall |
| A-SV2-230 Construction of D-wall westbound(CH6+ | 224 to CH6+348) | 104 | 16-Jan-17 | 26-May-17 | K-1A-SV2-215, F | 0 | | Construction of D-wall westbor |
| A-SV2-240 Toe grouting works | | 30 | 27-May-17 | 30-Jun-17 | K-1A-SV2-230 | 7 | | The grouting works |
| A-SV2-790 Construction of temporary bulkhead wall | | 21 | 27-May-17 | 20-Jun-17 | K-1A-SV2-130, F | 0 | | temporary b |
| Structure (CH6+224 to CH6+348) | | 413 | 13-May-17 | 28-Sep-18 | | 0 | | |
| -SV2-400 Installation of dewatering well, observatio | n well and recharging well | 42 | 13-May-17 | 30-Jun-17 | K-PA-GSP-885, 1 | 0 | | Installation of dewatering w |
| -SV2-410 Pumping test for excavation in Zone 2 | | 14 | 03-Jul-17 | 18-Jul-17 | K-1A-SV2-400 | 0 | | Pumping test for excavation |
| Structure and Ventilation Adits(CH6+22 | 4 to CH6+260) | 223 | 11-Jul-17 | 11-Apr-18 | The second second | 0 | | |
| A-SV2-420 Excavation and ELS up to formation leve | d of base slab of SUS structure | 82 | 11-Jul-17 | 16-Oct-17 | K-PK-SPD-170, 1 | 0 | | Excavation and E |
| -SV2-500 Excavation and ELS for ventilation adit | 2(CH6+224 to CH6+260) | 45 | 17-Oct-17 | 08-Dec-17 | K-1A-SV2-420 | 0 | | Excavation : |
| -SV2-520 Construction of ventilation adit 2 | | 28 | 09-Dec-17 | 13-Jan-18 | K-1A-SV2-500 | 0 | | Construc |
| -SV2-650 Construction of Base Slab | | 35 | 06-Jan-18 | 15-Feb-18 | K-1A-SV2-520 | 0 | | Const |
| A-SV2-670 Construction of Intermediate Wall | | 35 | 30-Jan-18 | 14-Mar-18 | K-1A-SV2-650 | 0 | | Con Con |
| A-SV2-680 Construction of Top Slab | | 35 | 26-Feb-18 | 11-Apr-18 | K-1A-SV2-670 | 0 | | |
| and a second | and the second | | The second second | a period a period | R-1A-3V2-070 | 0 | | |
| S Structure (CH6+260 to CH6+348) | A CONTRACTOR OF THE OWNER OWNE | 292 | 17-Oct-17 | 28-Sep-18 | 14 14 0112 428 | | | |
| A-SV2-700 Construction of Base Slab | | 80 | 17-Oct-17 | 22-Jan-18 | K-1A-SV2-420 | 0 | | Confru |
| A-SV2-760 Construction of Intermediate Wall | | 80 | 28-Nov-17 | 07-Mar-18 | K-1A-SV2-700 | 0 | | Con |
| A-SV2-770 Construction of Top Slab | | 80 | 17-Jan-18 | 27-Apr-18 | K-1A-SV2-760 | 0 | | |
| A-SV2-780 Backfilling | | 45 | 12-Apr-18 | 05-Jun-18 | K-1A-SV2-680, F | | | |
| A-SV2-810 Handover portion N | without A | 0 | | 28-Sep-18* | K-01-RWS-101, 1 | 0 | | |
| Structure from CH6+348 to 6+467 in Zo | one 3 | 748 | 01-Mar-16 | 06-Sep-18 | | 3 | | |
| /all and Piling Works | | 360 | 01-Mar-16 | 20-May-17 | | 3 | | D-Wall and Piling Works |
| D-Wall and Socketted H-Piles in TTA Sta | ge 1 | 236 | 01-Mar-16 | 13-Dec-16 | | 23 | | E/B D-Wall and Socketted H-Piles in TTA Stag |
| A-SV3-130 Predrilling works | | 74 | 01-Mar-16 | 01-Jun-16 | K-PK-PCC-100, | 45 | - P | edrilling works |
| A-SV3-132 Construction of guide wall | | 21 | 02-Jun-16 | 27-Jun-16 | K-1A-SV3-130 | 102 | 4 | Construction of guide wall |
| A-SV3-133 Plant mobilization and set up for D-wall | and socketted H-Pile | 5 | 09-Jul-16 | 14-Jul-16 | K-PA-GSP-679, 1 | 15 | | Plant mobilization and set up for D-wall and socketted H-Pile |
| A-SV3-136 Construction of D-wall easthound(CH6+3 | 48 to CH6+467) | 62 | 15-Jul-16 | 26-Sep-16 | K-1A-SV3-133, F | 88 | | |
| A-SV3-150 Installation of socketted H-piles (CH6+34 | 8 to CH6+467) | 112 | 23-Jul-16 | 03-Dec-16 | K-1A-SV1-340, F | 8 | | Installation of socketted H-piles (CH6+348 to C) |
| A-SV3-276 Loading test for socketted H-piles | | 8 | 05-Dec-16 | 13-Dec-16 | K-1A-SV3-150 | 8 | | -9 Loading test for socketted H-piles |
| D-Wall in TTA Stage 1A | | 160 | 25-Jul-16 | 06-Feb-17 | I To I have been set to | 86 | | W/B D-Wall in TTA Stage IA |
| A-SV3-252 Predrilling works | | 32 | 02-Aug-16 | 07-Sep-16 | K-1A-SV2-210 | 42 | | Preduiling works |
| A-SV3-300 Construction of guide wall | | 25 | 08-Sep-16 | 08-Oct-16 | K-1A-SV3-252 | 114 | | Construction of guide wall |
| A-SV3-320 Construction of temporary diversion road | for TTA stage 1A | 50 | 25-Jul-16 | 21-Sep-16 | K-PA-GSP-860 | 0 | | Construction of temporary diversion road for TTA stag |
| A-SV3-340 Implementation of TTA stage 1A | | 7 | 22-Sep-16 | 29-Sep-16 | K-PA-GSP-805, 1 | 0 | | I Implementation of TTA stage IA |
| A-SV3-390 Construction of D-wall westbound(CH6+. | 390 to CH6+467) | 78 | 30-Sep-16 | 04-Jan-17 | K-1A-SV3-252, F | 111 | | Construction of D-svall westbound(CH6+390 |
| A-SV3-400 Construction of temporary cut-off wall at | | 21 | 10-Jan-17 | 04-Jan-17 06-Feb-17 | K-1A-SV3-390, F | 86 | | |
| | | | | and a second second second | K-1/4-3 ¥ 3-390, F | 1 | | W/B D-Wall in TTA Stage 2 |
| 3 D-Wall in TTA Stage 2 | The second s | 124 | 14-Dec-16 | 20-May-17 | No. 1 Company | | | |
| A-SV3-480 Construction of guide wall | | 25 | 14-Dec-16 | 14-Jan-17 | K-1A-SV3-276, F | 8 | | Canstruction of guide syall |
| A-SV3-490 Construction of D-wall westbound(CH6+ | 348 to CH6+390) | 104 | 10-Jan-17 | 20-May-17 | K-1A-SV3-252, F | 3 | | Construction of D-wall westbour |
| Carrenderen | | 388 | 22-May-17 | 06-Sep-18 | | 3 | | |
| S Structure | | | A Design of the second second | | second frequencies and the second | a procession of the second | | |
| A-SUS-770 Installation of dewatering well,observatio | n well and recharging well in Zone 3 | 56 | 22-May-17 | 26-Jul-17 | K-1A-SV3-490, F | 3 | | Installation of dewatering |
| A-SUS-770 Installation of dewatering well,observatio | | 56 | 22-May-17 | 1999-99 <u>1</u> -1997-99 | | | | Installation of dewatering |
| -SUS-770 Installation of dewatering well, observatio | n well and recharging well in Zone 3 maining Work tical Remaining Work | 56 | 22-May-17 | 1999-99 <u>1</u> -1997-99 | K-1A-SV3-490, F Works Pro | | Rev.2 | |

| 3 | Q4 | Q | 1 | Q2 | 2019 Q3 | Q4 | QI | 2020 Q2 | 03 |
|--|--------------------|---------------|----------|-----|------------|---------------------|--|------------|-----------|
| 224 | | | | | | Spars Of History TH | - | | |
| | SUS an | d Ve | ntilatio | A | dits from | n CH6+224 | to CH | 16+348 ir | Zone 2 |
| 151 | n TTA S | tage | 1 | - | | | N.N.S.M. | | |
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| 24 | CH6+3 | 480 | | | | | | | |
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| ure . | and Vent | latio | n Adits | (C | H6+224 | to CH6+260 |) | | |
| | ation leve | | t | S | and work | | | | |
| | ntilation | | 2(CH6 | +2 | 4 to CH | 6+260) | | | |
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| K11.45.00 February Lange L | ID Activi | livity Name | Original Duration | Start | Finish | Predecessors | Total Float | 2016 2017 2018 2019 2020 Q4 Q1 Q2 Q3 Q4 Q1 Q2 |
|---|--|--|----------------------|--|--|--|----------------|---|
| BALANS 0 Exercise Display industry display dis | -1A-SUS-780 Pun | imping test for excavation in Zone 3 | 18 | 27-Jul-17 | 16-Aug-17 | K-1A-SUS-770 | 3 | Pumping test for excavation in Zone 3 |
| XALMAGE Connect minuted with and 6 1.0000 6.0000 1.0000 <td< td=""><td>-1A-SUS-790 Con</td><td>onstruction of temporary vehicular access at CH6+325</td><td>16</td><td>18-Jul-17</td><td>04-Aug-17</td><td>K-1A-SUS-780</td><td>13</td><td>Construction of temporary vehicular access at CH6+325</td></td<> | -1A-SUS-790 Con | onstruction of temporary vehicular access at CH6+325 | 16 | 18-Jul-17 | 04-Aug-17 | K-1A-SUS-780 | 13 | Construction of temporary vehicular access at CH6+325 |
| LALA436 Constructional Multi 9 94-989 84- | -IA-SUS-800 Exc | ceavation and ELS up to formation level of base slab of SUS structure | 105 | 17-Aug-17 | 20-Dec-17 | K-1A-SUS-790, F | 3 | Excavation and E. S up to formation level of base slab of SUS structure |
| ALALAS 0 construct of psin sin sin sin sin sin ALALAS 0 interm interm sin sin sin sin ALALAS 0 interm interm sin sin sin sin ALALAS 0 interm interm sin sin sin sin ALALAS 0 interm sin sin sin sin sin ALANAS 0 <td< td=""><td>-1A-SUS-850 Con</td><td>onstruction of Base Slab</td><td>90</td><td>21-Dec-17</td><td>16-Apr-18</td><td>K-PA-GSP-745, 1</td><td>3</td><td>Construction of Base Slab</td></td<> | -1A-SUS-850 Con | onstruction of Base Slab | 90 | 21-Dec-17 | 16-Apr-18 | K-PA-GSP-745, 1 | 3 | Construction of Base Slab |
| LALMAGE Indian Juncip Juncip </td <td>-1A-SUS-852 Con</td> <td>onstruction of Intermediate Wall</td> <td>75</td> <td>23-Feb-18</td> <td>28-May-18</td> <td>K-1A-SUS-850</td> <td>3</td> <td>* Construction of Intermediate Wall</td> | -1A-SUS-852 Con | onstruction of Intermediate Wall | 75 | 23-Feb-18 | 28-May-18 | K-1A-SUS-850 | 3 | * Construction of Intermediate Wall |
| | -IA-SUS-853 Con | onstruction of Top Slab | 90 | 03-Apr-18 | 21-Jul-18 | K-1A-SUS-852 | 3 | Construction of Top Slab |
| Decision of the second of t | -IA-SUS-870 Bac | sekfilling | 90 | 23-May-18 | 06-Sep-18 | K-1A-SUS-853 | 3 | Tackfilling |
| B. M. Series Series< | JS Structure fr | rom CH6+467 to 6+568 in Zone 4 | 738 | 01-March 6 | 20-Aug-18 | | 13 | SLS Structure from CH6+467 to 6+568 in Zone 4 |
| Bit Documents Bit Docu | Wall and Pilin | ng Works | 303 | 01-Mar-16 | 08-Mar-17 | | 24 | To-Wall and Piling Works |
| bkAk430 Predictational of yet for shared at aduct is Pais 9 9.4.9.9.9 9.4.9.9.9.9 | | | 303 | 01-Mar-16 | 08-Mar-17 | | 24 | EB D-Wall and Socketted H-Piles in TTA Stage |
| K1 M30 Mundational and up in partial and added BPR P1 Muldational P1 P1 | and the substantion of the most | and a set of particular and a set of the set | | and the second second | and the second second | K-PK-PCC-100 | 2241 | |
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| KLAK230 Jong und ensingen of an official and and official and and official and and official and | | | | | - Ward warmen hand | | | |
| KLANDAUConstruction functional and and March 1990 (1990)NAME (1990) | | | 50 | | | | | |
| NUMBER 1000000000000000000000000000000000000 | | | 8 | 27-Jan-17 | 08-Feb-17 | K-1A-SV3-152, F | 13 | |
| KAM200 Kam200 <td>I-1A-SV3-510 Con</td> <td>onstruction of temporary cut-off wall at CH6+467</td> <td>21</td> <td>13-Feb-17</td> <td>08-Mar-17</td> <td>K-1A-SV3-135, F</td> <td>24</td> <td></td> | I-1A-SV3-510 Con | onstruction of temporary cut-off wall at CH6+467 | 21 | 13-Feb-17 | 08-Mar-17 | K-1A-SV3-135, F | 24 | |
| KA44923 Maxamor of Parl and Maxamor of P | //B D-Wall, E/B | D-Wall and End Wall in TTA Stage 1A | 168 | 02-Aug-16 | 23-Feb-17 | | 20 | W/B D-Wall, E/B D-Wall and End Wall in TTA Stage liA |
| K1A932 Conversion II and and denomination of United State and and and United State and Conversion II and And United State And II and | 2-1A-SV3-210 Pres | edrilling works | 32 | 02-Aug-16 | 07-Sep-16 | K-1A-SV3-252 | 42 | Predrilling works |
| RAMAN 201 Constrained Fuel and manufactifield of CUB490 (CUB4900) 100 Sequel 3 Sequ | -1A-SV3-220 Con | onstruction of guide wall | 35 | 15-Aug-16 | 24-Sep-16 | K-1A-SV3-210 | 42 | |
| KLAK2550 Constrained Fuel and humder(Clife 50 as Clife 54A) served as all cliff | -1A-SV3-230 Imp | plementation of TTA stage 1A | 5 | 22-Sep-16 | 27-Sep-16 | K-1A-SV3-340 | 0 | J Implementation of TTA stage IA |
| SHS Structure 440 9-Karg M 100 910 </td <td>(-1A-SV3-250 Con</td> <td>onstruction of D-wall westbound(CH6+467 to CH6+568)</td> <td>120</td> <td>28-Sep-16</td> <td>23-Feb-17</td> <td>K-1A-SV3-135, F</td> <td>20</td> <td>Construction of D-wall westbound(CH6+467 to CH6#568)</td> | (-1A-SV3-250 Con | onstruction of D-wall westbound(CH6+467 to CH6+568) | 120 | 28-Sep-16 | 23-Feb-17 | K-1A-SV3-135, F | 20 | Construction of D-wall westbound(CH6+467 to CH6#568) |
| NAMESAUM NAMESAUM 14 9.84491 9.84491 9.84491 18.4482320, 1 10 NAMESAUM 12 2.344941 18.4482320, 1 10 | 4-1A-SV3-500 Cor | onstruction of D-wall eastbound(CH6+550 to CH6+568)&end wall at CH6+568 | 49 | 28-Sep-16 | 25-Nov-16 | K-1A-SV3-230 | 0 | Construction of D-wall eastbound (CH6+550 to CH6+598) & end wall at CH6+568 |
| RU-N30270 Multitation of exceptioned matching benchmark model for a grant matching for a | US Structure | | 454 | 09-Feb-17 | 20-Aog-18 | | 13 | SLS Structure |
| KLA-K3-K3-K3 Auguing unif accounted in Zones' Allower Constraints and Zones' Market Spreads 16 35.44475 KLA-K3-K3-K3 10 10 35.44475 KLA-K3-K3-K3 10 10 10.44475 KLA-K3-K3-K3 10 10 10.44475 KLA-K3-K3-K3 10 10 10.444755 10.444755 10.444755 10.444755 10.444755 10.4447555 10.4447555 10.4447555 10.4447555 10.4447555 10.4447555 10.4447555 10.44475555 10.44475555 10.44475555 10.44475555 10.44475555 10.44475555 10.44475555 10.44475555 10.44475555 10.44475555 10.44475555 10.44475555 10.44475555 10.444755556 10.444755556 10.44475556 10.44475556 10.44475556 10.44475566 10.44475566 10.44475566 10.44475566 10.44475566 10.44475566 10.44475566 <td>Contrast and the second second second</td> <td>stallation of dewatering well-observation well and recharging well in Zone 4</td> <td>35</td> <td>09-Feb-17</td> <td>21-Mar-17</td> <td>K-1A-SV3-250, F</td> <td>13</td> <td>Installation of dewatering well-observation well and recharging well in Zang 4</td> | Contrast and the second second second | stallation of dewatering well-observation well and recharging well in Zone 4 | 35 | 09-Feb-17 | 21-Mar-17 | K-1A-SV3-250, F | 13 | Installation of dewatering well-observation well and recharging well in Zang 4 |
| KLASS525 Contraction of Impurery volkelts zons at CH6 + 995/apyre.) File All States 1 Fil | | | | | | | | |
| CALASSE730 Convention of Data Sup in formation lead black black SIS implementation and Tag Shahod T Si Labar T <td></td> <td></td> <td></td> <td></td> <td>Marrie Jane Screens</td> <td></td> <td></td> <td></td> | | | | | Marrie Jane Screens | | | |
| Ki-M-S1329 Contraction of Homeshine Male 9 A-Mage 7 Ki-M S13290 Circle A-Mage 7 Ki-M S13290 Circle A-Mage 7 Ki-M S13290 Circle A-Mage 7 A-Ma | | | | | 1000 TT 800 | | 2000- | |
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| Ki JASUS-40 Generation of Pp Sho 96 96 - 96 - 90 - 90 - 90 - 90 - 90 - 90 - | | | 10000 | | | | | |
| Ki JA SUS-70 Backilling Bie dolling Bie dolling Cl Asupt-10 Bie dolling Cl Asupt-10 | | | | | 01-Feb-18 | | 13 | |
| Ki-AdSUS00 Boddmile Objective Bodaved 30 Ki-AdSUS00 Bodaved 30 Ki-AdSUS000 Bodaved 30 Ki-AdSUS000 Bodaved 30 Ki-AdSUS0000 Bodaved 30 Ki-AdSUS0000 Bodaved 30 Ki-AdSUS0000 Bodaved 30 Ki-AdSUS00000 Bodaved 30 Ki-AdSUS00000 Bodaved 30 Ki-AdSUS00000000000000000000000000000000000 | -1A-SUS-745 Con | onstruction of Top Slab | 90 | 20-Dec-17 | 14-Apr-18 | K-1A-SUS-740 | 13 | Construction of Top Slab |
| Kai AshWa 10 Matechancon work 260 65.4p-14 24 May 19 Kai AshWa 19 Kai AshWa 19 10 10 Caling Wirke-Demolition of Radar Tower and Guard House 300 24 Jobes 15 25.4p-16 Kirke 10 14 | -1A-SUS-760 Bac | rekfilling | 105 | 16-Apr-18 | 20-Aug-18 | K-1A-SUS-745 | 13 | Backfilling |
| Section 2 of the Works-Demolition of Radar Tower and Education from Section 2 of the Works-Demolition of Radar Tower Section 2 of the Works-Demolition of Radar Tower 0.0000106000000000000000000000000000000 | scellaneous W | Norks | 260 | 06-Sep-18 | 24-May-19 | | 27 | Miscellaneous Works |
| 2-23-DBG-10 Condition survey and initializing of mentioning point 30 23-Der-15 28-Jan-16 K-PK-SPD-200 229 (20-DBC1-10) Excelore of texators rower Excelore of texators rower 21-Sys-16 K-PK-SPD-200 21-Sys-16 K-PK-SPD-200 21-Sys-16 K-PK-SPD-200 10-Sys-16 K-PK-SPD-201 10-Sys-16 K-PK- | 1A-MWS-100 Mis | iscellaneous works | 260 | 06-Sep-18 | 24-May-19 | K-1A-SUS-870, 1 | 27 | Miscellaneous works |
| Dampitium of Radar Tower 214 Dasheite 27-kyr-17 Rate 147 C42-DRT140 Impretion of the existence of any subsets before densiliton works 60 13-kyr-16 25-kyr-17 K-02-DRT110 147 C42-DRT140 Removal of Radar Tower 200 23-kyr-16 25-kyr-16 K-02-DRT-110 147 C42-DRT140 Removal of Radar Tower 200 23-kyr-16 K-02-DRT-110 K-02-DRT-110 To cell of the existence of any subsets before densilian works C42-DRT140 Removal of Radar Tower 200 23-kyr-16 K-PA-GSP-044.1 147 Parmelition of foundations of ex-GPS building 10 13-kyr-16 K-PA-GSP-734.1 300 K-02-DRT140 Densilition of foundation of Ex-GSP building 10 14-yr-16 K-PA-GSP-734.1 300 K-02-DRT140 Densilition of foundation of Ex-GSP building 10 14-yr-16 K-PA-GSP-734.1 300 K-02-DRT140 Densilition of foundation of Caurel Hease 32 30-kyr-16 K-PA-GSP-734.1 300 K-02-DRT140 Densilition of foundation of Gaurel Hease 42-kyr-16 K-PA-GSP-734.1 300 31 K-03-DRT140 | ction 2 of the Worl | rks-Demolition of Radar Tower and Guard House | 396 | 23-Dec-15 | 27-Apr-17 | A CONTRACTOR | 147 | Section 2 of the Works-Demolifion of Radar Tower and Guard House |
| Domolition of Radar Tower 154 Dashavio 27-Syn-17 144 C40-DRT103 Impredian of the existence of any subsets before densilian works 60 13-May-16 25-Aug-16 K62-DRC110, 147 C40-DRT113 Removal of Radar Tower 200 22-Aug-16 25-Aug-16 K62-DRC110, 147 C40-DRT113 Removal of Radar Tower 200 22-Aug-16 KPA-CSR-644, 147 Parmolition of Londation 153 15-Aug-16 KPA-CSR-644, 147 Parmolition of Londation 160 20-Jun-16 15-Jun-16 KPA-CSR-734, 1 C42-DRT140 Densition of foundation 160 20-Jun-16 15-Jun-16 KPA-CSR-734, 1 C42-DRT140 Densition of foundation 160 20-Jun-16 16-Jun-17 KPA-CSR-734, 1 300 C42-DRT140 Densition of foundation of Caurel House 32 16-Jun-17 KPA-CSR-734, 1 300 C42-DRT140 Densition of foundation of exception of District Cooling System (Stillpet to Exclosion) 90 16-Jun-17 KPA-CSR-734, 1 300 C42-DRT140 Densitin of foundation of Exclos of foundation of Caurel Hou | 02-DRG-110 Cor | ondition survey and installation of monitoring point | 30 | 23-Dec-15 | 28-Jan-16 | K-PK-SPD-230 | 229 | - Condition survey and installation of monitoring point |
| Cu2-DRT-103Impedian of the existence of any anshestin before densalition works601-May-162-S-Jak-16K-02-DRG-110, 11-47Cu2-DRT-110Excession of temporary scalifolding/proping752-S-May-16K-02-DRG-110, 11-47Cu2-DRT-110Excession of temporary scalifolding/proping752-S-May-16K-02-DRG-110, 11-47Cu2-DRT-110Excession of temporary scalifolding/proping752-May-16K-PA-GSP-734, 11-47Cu2-DRT-110Fraine fraine | molition of Ra | adar Tower | 284 | 13-May-16 | the state of the s | a state of the second se | 147 | T Demolition of Radar Tower |
| G2-DRT-10 Erection of temporary scaffolding/proping 75 25-May-16 27-Aup-17 K-P2-DRG-110, 147 G2-DRT-110 Removal R fadar Tover 200 23-Aug-16 27-Aup-17 K-P2-GSP-694, 1 147 amcliftion of Courd House 120 23-Aug-16 12-Aug-16 18-Aug-16 K-P2-GSP-694, 1 147 amcliftion of Gourd House 120 23-Aug-16 18-Aug-16 K-P2-GSP-734, 1 300 G2-DGH-130 Trai ferenches of before denoilition of foundation 600 20-Jun-16 K-P2-GSP-734, 1 300 G2-DGH-140 Demoilition of Gourd House 23 30-Aug-16 K-P2-GSP-734, 1 300 G2-DGH-140 Demoilition of Gourd House 23 30-Aug-16 K-P2-GSP-734, 1 300 G2-DGH-140 Demoilition of Gourd House 23 30-Aug-16 K-P2-GSP-734, 1 300 G2-DGF-150 Demoilition of Gourd House 20 30-Aug-16 K-P2-GSP-734, 1 300 G2-DGF-150 Demoilition of Gourd House 20 30-Aug-16 K-P2-GSP-734, 1 300 G2-DGF-150 Demoilition of Gourd House 90 24-Seg-16 16-Jan-17 <td></td> <td></td> <td></td> <td></td> <td>and balances and some</td> <td>K-02-DRG-110.1</td> <td>147</td> <td></td> | | | | | and balances and some | K-02-DRG-110.1 | 147 | |
| K402-DRT-130 Renoval of Radar Tower 200 23-Aug-16 27-Apr-17 K-PA-GSP-694, 1 147 Jama Lifton of Currat House 112 13 Ju/34 16 Que 10 30 30-Aug-16 18-Ju-16 K-PA-GSP-694, 1 147 Que Definition of Guandation of Soundation of Soundation of Guandation of Soundation of Guandation of Courd House 0 0.0000-000 K-PA-GSP-784, 1 0.0000-000-000 0.0000-000-000-000 0.0000-000-000-000-000-000-000-000-000- | | | | Pro 1962 106. | | | 508.26 | |
| ParticipantProduction | | | | 22622220228 (322) | 11 28 - 10 27 3 - 1 10 27 - | - And a second second second second second | 299627 | |
| C42-DGH-130 Trial trenches of before demolition of foundation 30 1.3-May-16 R-PA-CSRP-734 309 C42-DGH-135 Demolition of foundation of ex-GFS building 60 20-June-16 K-PA-CSRP-734, 1 309 C42-DGH-140 Demolition of Guard House 32 30-Aug-16 K-PA-CSRP-734, 1 309 Scilon 30 of the Works- Construction of System (Subject to Excision) 909 24-May-16 K-PA-CSRP-704, 1 310 C42-DGH-140 Demolition of Guard House 32 30-Aug-16 K-PA-CSRP-704, 1 309 Scilon 30 of the Works- Construction 9 District Cooling System (Subject to Excision) 909 24-May-16* K-PA-CSRP-704, 1 310 K-03-DCS-100 Instruction 10 commance the Section 3 of the Works 0 24-May-16* K-PA-CSRP-704, 1 310 C43-DCS-100 Instruction to commance the Section 3 of the Works 0 24-May-16* K-PA-CSRP-704, 1 310 C43-DCS-110 Laying chilled water pipes CHRS-000 to CHRS-020 (Zone 1) and Backfilling 25 K-PA-CSRP-714 143 C43-DCS-120 Laying chilled water pipes CHRS-020 to CHRS-020 (Zone 1) and Backfilling 25 K-PA-CSRP-704, 1 314 | denter deside trades and possible | | 2012/0 | 1 2284 11238 085 0510025 | | R-FA-G3F-094, 1 | 147 | |
| C42-DGH-135 Demolition of foundation of ex-GFS building 60 20-Jun-16 29-Aug-16 KPA-CSP-734,1 30 C42-DGH-140 Demolition of Guard House 32 30-Aug-16 67-Oct-16 K42-DGH-135,1 309 Settion 3 of the Works- Construction of District Cooling System (Subject to Excelsion) 99 24-May-10 16-5reb-19 5 C43-DCS-105 Procurenet and delivery of DCS pipe 90 28-Sep-16 16-Jan-17 K-PA-GSP-700,1 31 C63-DCS-105 Instruction to commence the Section 3 of the Works 90 28-Sep-16 16-Jan-17 K-PA-GSP-700,1 31 C63-DCS-105 Instruction to commence the Section 3 of the Works 90 28-Sep-16 16-Jan-17 K-PA-GSP-700,1 31 C63-DCS-105 Instruction to commence the Section 3 of the Works 90 24-Oct-16 92-Dec-16 K-HB-BAY-235,1 17 C43-DCS-105 Laying chilled water pipes CHR5-020 to CHR5-077.43 Cane 2) and Backfilling 75 26-Jun-17 21-Sep-17 K-HA-USN-120,2 250 C43-DCS-146 Laying chilled water pipes CHR5-020 to CHR5-103 to C | | | | The second second second | and the second second | | 36.8 | |
| C42-DGH-140 Demolition of Guard House 32 30-Aug-16 07-Oc+16 K62-DGH-135, 1 309 cction 3 of the Works- Construction of District Cooling System (Subject to Excision) 909 24-May-16 16-Feb-19 5 C403-DCS-095 recomment and delivery of DCS pipe 90 28-Sep-16 16-Jan-17 K-PA-CSP-700, 1 31 OCS 643-DCS-100 Instruction for commence the Section 3 of the Works 90 24-May-16* K-PA-CSP-700, 1 31 C43-DCS-100 Instruction for commence the Section 3 of the Works 90 28-Sep-16 16-Jan-17 K-PA-CSP-700, 1 31 C43-DCS-100 Instruction for commence the Section 3 of the Works 90 24-Aug-16* K-PK-PCC-100 143 C43-DCS-100 Instruction of washout pif (Zone 1) 35 24-Oct-16 02-Dec-16 K-HR-HAY-235, 1 17 C43-DCS-101 Laying chilled water pipes CHRS-000 to CHRS-020 (Zone 1) and Backfilling 75 26-Jun-17 21-Sep-17 K-IA-UDX-120, 20 20 C43-DCS-130 Laying chilled water pipes CHRS-130 to CHRS-130 (Zone 2) and Backfilling 70 07-Sep-18 30-Nov-18 K-IA-SV2-780, 1 01 C43-DCS-140 Layin | | | | NON-CONTRACTOR OF | | | | |
| Station 3 of the Works- Construction of District Gooling System (Subjact to Excision) 999 24-May-16 16-Feb-19 5 reparation Works 900 28-sep-16 16-Jan-17 K-PA-GSP-700, 1 31 CO3-DCS-095 Procurement and delivery of DCS pipe 909 24-May-16* K-PA-GSP-700, 1 31 IOS 909 24-May-16* K-PA-GSP-700, 1 31 5 5 C03-DCS-100 Instruction for examene the Section 3 of the Works 0 24-May-16* K-PA-GSP-700, 1 143 C03-DCS-105 Construction of washout pit (Zone 1) 35 24-Oct-16 02-Dec-16 K-HE-HX-235, 1 17 C43-DCS-105 Construction of washout pit (Zone 1) 35 24-Oct-16 02-Dec-16 K-HE-HX-235, 1 17 C43-DCS-105 Laying chilled water pipes CHRS-000 to CHRS-020 (Zone 1) and Backfilling 75 6-Jun-18 0-Sep-17 K-1A-SUS-780, F 0 C43-DCS-140 Laying chilled water pipes CHRS-013 to CHRS-020 (Zone 2) and Backfilling 75 6-Jun-18 0-Sep-18 K-1A-SUS-780, F 0 C43-DCS-140 Laying chilled water pipes CHRS-500 to CHRS-013 to CHRS-103 to CHRS-103 to CHRS-103 to CHRS-103 to CHRS-103 to CHRS-103 (CAne | | | | | and a second and a second | | | |
| Ireparation. Works 00 248-cg-1/u 16-June 1" 11 C403-DCS-000 Frocurement and delivery of DCS pipe 00 24-Sep-16 16-June 17 K-PA-GSP-700, 1 31 DCS 000 24-May-16* 164/2b.10* 60 5 C403-DCS-100 Instruction for commence the Section 3 of the Works 0 24-May-16* K-PA-GSP-700, 1 143 C403-DCS-100 Instruction of washout pit (Zone 1) 35 24-Oct-16 92-Dec-16 K-HR-HAY-335, 1 17 C403-DCS-110 Laying chilled water pipes CHR5-6000 to CHR5-020 (Zone 1) and Backfilling 35 24-Oct-16 10-Dec-16 K-HR-HAY-335, 1 17 C403-DCS-120 Laying chilled water pipes CHR5-000 to CHR5-020 (Zone 1) and Backfilling 25 26-June 17 21-Sep-17 K-1A-UDN-120, 250 250 C403-DCS-140 Laying chilled water pipes CHR5-020 to CHR5-020 to CHR5-032 of CHR5-020 to CHR5-032 of CHR5-042 of CHR5-042 of | 02-DGH-140 Den | emolition of Guard House | 32 | 30-Aug-16 | 07-Oct-16 | K-02-DGH-135, 1 | 309 | The Demolition of Ghard House |
| K03-DCS-09 Procurement and delivery of DCS pipe 90 28-Sep-16 16-Jan-17 K-PA-GSP-700, 1 31 JOS 900 24-May-16 64-9b-19 65-9b-19 65 (C43-DCS-100 Instruction of commence the Section 3 of the Works 90 24-May-16 92-Dec-16 K-PK-PCC-100 143 (K-03-DCS-105 Construction of washout pit (Zone 1) 35 24-Oct-16 92-Dec-16 K-4B-BAY-235, 1 17 (K-03-DCS-102 Laying chilled water pipes CHRS-000 to CHRS-020 (Zone 1) and Backfilling 75 26-Jun-17 21-Sep-17 K-1A-UDN-120, 250 250 (K-03-DCS-104 Laying chilled water pipes CHRS-010 to CHRS-020, ICARS-010 and Backfilling 75 26-Jun-17 21-Sep-17 K-1A-SUS-780, b 0 (K-03-DCS-104 Laying chilled water pipes CHRS-010 to CHRS-020, ICARS-010 and Backfilling 75 06-Jun-18 05-Sep-18 K-1A-SUS-780, b 0 (K-03-DCS-104 Laying chilled water pipes CHRS-103 to CHRS-103 to CHRS-356.94 (Zone 4) and Backfilling 70 07-Sep-18 30-Nov-18 K-1A-SUS-780, b 0 (K-03-DCS-104 Laying chilled water pipes CHRS-4000 to CHRS-366.94 (Zone 4) and Backfilling 70 07-Sep-18 30-Nov-18 <td>tion 3 of the Work</td> <td>rks- Construction of District Cooling System (Subject to Excision)</td> <td>999</td> <td>24-May-16</td> <td>16-Feb-19</td> <td></td> <td>5</td> <td>* Section 3 of the Works- Construction of Distric</td> | tion 3 of the Work | rks- Construction of District Cooling System (Subject to Excision) | 999 | 24-May-16 | 16-Feb-19 | | 5 | * Section 3 of the Works- Construction of Distric |
| CCS- VOV 24 Viny-16 16 Pre-10 Construction Construction of washout pit (Zone 1) Construction of washout pit (Zone 1) PCS CC-03-DCS-100 Instruction of washout pit (Zone 1) 35 24-Oct-16 02-Dec-16 K-4B-BAY-235, 1 17 CC-03-DCS-101 Laying chilled water pipes CHR5-000 to CHR5-020 (Zone 1) and Backfilling 28 09-Nov-16 10-Dec-16 K-03-DCS-95, 1 17 CC-03-DCS-102 Laying chilled water pipes CHR5-020 to CHR5-077.43 (Zone 2) and Backfilling 75 26-Jun-17 21-Sep-17 K-1A-UDN-120, 250 CC-03-DCS-102 Laying chilled water pipes CHR5-020 to CHR5-077.43 (Zone 2) and Backfilling 75 06-Jun-18 03-Sep-18 K-1A-SV2-780, 1 0 K-03-DCS-104 Laying chilled water pipes CHR5-010 to CHR5-103 (Cane 3) and Backfilling 70 07-Sep-18 30-Nov-18 K-1A-SV2-780, 1 0 K-03-DCS-104 Laying chilled water pipes CHR5-280 to CHR5-356.94 (Zone 4) and Backfilling 70 07-Sep-18 30-Nov-18 K-1A-SUS-870 4 K-03-DCS-180 Laying chilled water pipes CHR5-400 to CHR5A-065.64 (Zone 4) and Backfilling 42 04-Oct-17 23-Nov-17 K-03-DCS-185 306 10-Dec-18A K-1A-SUS-8760 | eparation Wor | rks | 90 | 28-Sep-16 | 16-Jan-17 | | 34 | Preparation Works |
| K-03-DCS-100 Instruction to commence the Section 3 of the Works 0 24-May-16* K-PK-PCC-100 143 K-03-DCS-105 Construction of washout pit (Zone 1) 35 24-Oct-16 02-Dec-16 K-4B-BAY-235, 1 17 K-03-DCS-101 Laying chilled water pipes CHR5-020 to CHR5-020 (Zone 1) and Backfilling 28 09-Nov-16 10-Dec-16 K-03-DCS-05, 1 17 K-03-DCS-102 Laying chilled water pipes CHR5-020 to CHR5-020, (Zone 2) and Backfilling 75 26-Jun-17 21-Sep-17 K-1A-UDN-120, 250 K-03-DCS-103 Laying chilled water pipes CHR5-013 to CHR5-020 (Zone 3) and Backfilling 75 06-Jun-18 03-Sep-18 K-1A-SV2-780, F 0 K-03-DCS-104 Laying chilled water pipes CHR5-103 to CHR5-280 (Zone 3) and Backfilling 70 07-Sep-18 30-Nov-18 K-1A-SVS-780, F 0 K-03-DCS-104 Laying chilled water pipes CHR5-280 to CHR5-356.94 (Zone 4) and Backfilling 70 07-Sep-18 30-Nov-18 K-1A-SVS-760 13 K-03-DCS-105 Laying chilled water pipes CHR5-4000 to CHR5-456.4 (Zone 4) and Backfilling 19-Ote-18 K-1A-SVS-760 13 K-03-DCS-106 Laying chilled water pipes CHR5A-000 to CHR5A-065.64 (Zone 4) and Backfilling 12 1-A-SV | 03-DCS-095 Pro | ocurement and delivery of DCS pipe | 90 | 28-Sep-16 | 16-Jan-17 | K-PA-GSP-700, 1 | 31 | Procurement and delivery of DCS pipe |
| C43-DCS-100 Instruction to commence the Section 3 of the Works 0 24-May-16* K-PK-PCC-100 143 C43-DCS-105 Construction of washout pit (Zone 1) 35 24-Oct-16 02-Dec-16 K-4B-BAY-235, I 17 C43-DCS-110 Laying chilled water pipes CHR5-000 to CHR5-020 (Zone 1) and Backfilling 28 09-Nov-16 10-Dec-16 K-03-DCS-05, I 17 C43-DCS-120 Laying chilled water pipes CHR5-020 to CHR5-020, (Zone 2) and Backfilling 75 26-Jun-17 21-Sep-17 K-1A-UDN-120, 250 C43-DCS-140 Laying chilled water pipes CHR5-103 to CHR5-103 (Zone 2) by trenchless method and Backfilling 75 06-Jun-18 03-Sep-18 K-1A-SV2-780, F 0 C403-DCS-160 Laying chilled water pipes CHR5-103 to CHR5-260 (Zone 3) and Backfilling 70 07-Sep-18 30-Nov-18 K-1A-SVS-780, F 0 C403-DCS-160 Laying chilled water pipes CHR5-280 to CHR5-356.94 (Zone 4) and Backfilling 70 07-Sep-18 30-Nov-18 K-1A-SVS-780, F 0 C403-DCS-180 Laying chilled water pipes CHR5-4000 to CHR5-405.64 (Zone 4) and Backfilling 70 07-Sep-18 30-Nov-18 K-1A-SUS-760 13 C403-DCS-180 Laying chilled water pipes CHR5-4000 to CHR5-405.64 (Zo | DS | | 999 | 24-May-16 | 16-Feb-19 | | 5 | V DCS |
| C4-03-DCS-105 Construction of washout pit (Zone 1) 35 24-Oct-16 02-Dec-16 K-4B-BAY-235, 1 17 C4-03-DCS-101 Laying chilled water pipes CHR5-000 to CHR5-020 (Zone 1) and Backfilling 28 09-Nov-16 10-Dec-16 K-4B-BAY-235, 1 17 C4-03-DCS-102 Laying chilled water pipes CHR5-020 to CHR5-020 to CHR5-077.43 (Zone 2) and Backfilling 75 26-Jun-17 21-Sep-17 K-1A-UDN-120, 250 Laying chilled water pipes CHR5-103 to CHR5-103 (Zone 2) by trenchless method and Backfilling 70 07-Sep-18 30-Nov-18 K-1A-SUS-780, 1 0 C-03-DCS-100 Laying chilled water pipes CHR5-280 to CHR5-356.94 (Zone 4) and Backfilling 70 07-Sep-18 30-Nov-18 K-1A-SUS-760 13 C-03-DCS-180 Laying chilled water pipes CHR5-090 to CHR5-366.4 (Zone 4) and Backfilling 42 04-Oct-17 23-Nov-17 K-03-DCS-185 306 | the second s | struction to commence the Section 3 of the Works | 0 | 24-May-16* | and the survey of the local division of the | K-PK-PCC-100 | 143 | "Instruction to commence the Section 3 of the Works |
| C-03-DCS-110 Laying chilled water pipes CHR5-000 to CHR5-020 (Zone 1) and Backfilling 28 09-Nov-16 10-Dec-16 K-03-DCS-095, 1 17 C-03-DCS-120 Laying chilled water pipes CHR5-020 to CHR5-020 to CHR5-020, 10 CHR5-020 to CHR5-020, 10 CHR5-020 | | | | STREAMS CREAM | 02-Dec-16 | | 1000000 | |
| 4-03-DCS-120 Laying chilled water pipes CHR5-020 to CHR5-077.43 (Zone 2) and Backfilling 75 26-Jun-17 21-Sep-17 K-1A-UDN-120, 250 250 (-03-DCS-130 Laying chilled water pipes CHR5-077.43 to CHR5-103 (Zone 2) by trenchless method and Backfilling 75 06-Jun-18 03-Sep-18 K-1A-SV2-780, F 0 (-03-DCS-140 Laying chilled water pipes CHR5-103 to CHR5-103 (Zone 2) by trenchless method and Backfilling 70 07-Sep-18 30-Nov-18 K-1A-SUS-870 4 (-03-DCS-160 Laying chilled water pipes CHR5-280 to CHR5-356.94 (Zone 4) and Backfilling 49 21-Aug-18 19-Oct-18 K-1A-SUS-760 13 (-03-DCS-180 Laying chilled water pipes CHR5A-000 to CHR5A-065.64 (Zone 4) and Backfilling 42 04-Oct-17 23-Nov-17 K-03-DCS-185 306 | | | | | ANNER AND AND | | | |
| Laying chilled water pipes CHR5-077.43 to CHR5-103 (Zone 2) by trenchless method and Backfilling 75 06-Jun-18 03-Sep-18 K-1A-SV2-780, F 0 Laying chilled water pipes CHR5-103 to CHR5-280 (Zone 3) and Backfilling 70 07-Sep-18 30-Nov-18 K-1A-SUS-870 4 Laying chilled water pipes CHR5-280 to CHR5-356.94 (Zone 4) and Backfilling 49 21-Aug-18 19-Oct-18 K-1A-SUS-760 13 Laying chilled water pipes CHR5A-000 to CHR5A-065.64 (Zone 4) and Backfilling 42 04-Oct-17 23-Nov-17 K-03-DCS-185 306 | the second s | | | Consecution of the second | 100000000000000000000000000000000000000 | A CONTRACTOR OF A CONTRACTOR O | | |
| -03-DCS-140 Laying chilled water pipes CHR5-103 to CHR5-280 (Zone 3) and Backfilling 70 07-Sep-18 30-Nov-18 K-1A-SUS-870 4 -03-DCS-160 Laying chilled water pipes CHR5-280 to CHR5-356.94 (Zone 4) and Backfilling 49 21-Aug-18 19-Oct-18 K-1A-SUS-870 13 -03-DCS-180 Laying chilled water pipes CHR5A-000 to CHR5A-065.64 (Zone 4) and Backfilling 42 04-Oct-17 23-Nov-17 K-03-DCS-185 306 | | | | Partners State | Street and | | 250 | |
| -03-DCS-160 Laying chilled water pipes CHR5-280 to CHR5-356.94 (Zone 4) and Backfilling 49 21-Aug-18 19-Oct-18 K-1A-SUS-760 13 -03-DCS-180 Laying chilled water pipes CHR5A-000 to CHR5A-065.64 (Zone 4) and Backfilling 42 04-Oct-17 23-Nov-17 K-03-DCS-185 306 | and the second | | | | 155-376240397 | | 0 | Laying chilled water µipes CHR5-077.43 to CHR5-103 (Zon |
| -03-DCS-180 Laying chilled water pipes CHR5A-000 to CHR5A-065.64 (Zone 4) and Backfilling 42 04-Oct-17 23-Nov-17 K-03-DCS-185 306 | Contraction Contraction | | 70 | 07-Sep-18 | 30-Nov-18 | President B. Stre Like St. P. Solar St. | 4 | Laying chilled water pipes CHR5-103 to CHR5-280 |
| | 03-DCS-160 Lay | rying chilled water pipes CHR5-280 to CHR5-356.94 (Zone 4) and Backfilling | 49 | 21-Aug-18 | 19-Oct-18 | K-1A-SUS-760 | 13 | Laying chilled water pipes CHR5-280 to CHR5-356.94 (|
| | 03-DCS-180 Lay | aying chilled water pipes CHR5A-000 to CHR5A-065.64 (Zone 4) and Backfilling | 42 | 04-Oct-17 | 23-Nov-17 | K-03-DCS-185 | 306 | Laying child water pipes CHR5A-000 to CHR5A-065.64 (Zone 4) and Backfilling |
| C-03-DCS-185 Construction of DCS valve pit SV-R5-01 (Zone 4) 60 25-Jul-17 03-DCS-110 306 | 03-DCS-185 Con | onstruction of DCS valve pit SV-R5-01 (Zone 4) | 60 | 25-Jul-17 | 03-Oct-17 | K-03-DCS-110 | 306 | Construction of DCS valve pit SV-R5-01. (Zone 4) |
| C-03-DCS-195 Testing of DCS 78 30-Nov-18 16-Feb-19 K-03-DCS-140, 1 5 | 03-DCS-195 Test | sting of DCS | 78 | 30-Nov-18 | 16-Feb-19 | K-03-DCS-140, } | 5 | Testing of DCS |
| | Bassister | and a start and a start Mark | | | | | | Date Revision Checked Annrow |
| Initial Works Programme Rev.2 | 10 35 W = 27.5 Mg | | | | Initial | Works Prog | gramm | |
| Actual Work Critical Remaining Work Page: 6 of 7 | Actual Wo | Ork Critical Remaining Work | | | | | | |

| ivity 10 | Activity Name | Original Duration | | Finish | Predecessors | Total Float | Q4 | 01 02 | 2015 Q3 | Q4 Q1 | 2017 Q2 Q3 | | 18 Q3 |
|------------------|--|--|-------------------|----------------------------|-----------------|----------------|-------------------------------|--------------------------|-------------------------|-----------------------------|--|--|--|
| ection 4A of th | e Works-Construction of Subway A(Subject to Excision) | 340 | 22-Dec-17 | 26-Nov-18 | | 56 | | | | | | | |
| Bay 1 | | 233 | 22-Dec-17 | 10-Aug-18 | tau I. | 55 | | 1111 | | | | | |
| K-4A-BAY-140 | Instruction to commence the section 4A of the works | 0 | 22-Dec-17* | | K-PK-PCC-100 | 190 | | - | | | | .Instruction to con | men |
| K-4A-BAY-150 | ELS for Bay 1 | 45 | 16-Apr-18 | 08-Jun-18 | K-1A-SUS-760, F | 62 | | | | | | | LS f |
| K-4A-BAY-180 | Construction of Bay 1 | 18 | 09-Jun-18 | 30-Jun-18 | K-4A-BAY-150 | 62 | | | | | | | Соп |
| K-4A-BAY-185 | Breakthrough D-wall for construction of Bay 1 | 18 | 23-Jul-18 | 11-Aug-18 | K-1A-SUS-760, F | 45 | | | | | | | 27 |
| Bay 2 to Bay | 4 | 88 | IJ-Aug-18 | 26-Nov-18 | | 45 | | 1400 | 1001 | | 0.00 | | - |
| K-4A-BAY-190 | Construction of Bay 2 | 18 | 13-Aug-18 | 01-Sep-18 | K-4A-BAY-185 | 63 | | Wig and | | | | | |
| K-4A-BAY-200 | Construction of Bay 3 | 18 | 27-Aug-18 | 15-Sep-18 | K-4A-BAY-190 | 63 | | | | | | | |
| K-4A-BAY-210 | Construction of Bay 4 | 18 | 10-Sep-18 | 02-Oct-18 | K-4A-BAY-200 | 63 | | | | | | | |
| K-4A-BAY-220 | Backfilling | 28 | 25-Oct-18 | 26-Nov-18 | K-4A-BAY-130, 1 | 45 | | | | | | | |
| Bay 5 | | 78 | 23-Jul-18 | 24-0ct+18 | | -45 | | | | | | | - |
| K-4A-BAY-100 | Breaktghrough D-wall for construction of Bay 5 | 14 | 23-Jul-18 | 07-Aug-18 | K-4A-BAY-185 | 45 | | | | | | | L _P |
| K-4A-BAY-110 | Temporary works for Bay 5 | 21 | 08-Aug-18 | 31-Aug-18 | K-4A-BAY-100 | 45 | | | | | | | L_ |
| K-4A-BAY-120 | Excavation for Bay 5 | 28 | 01-Sep-18 | 05-Oct-18 | K-4A-BAY-110 | 45 | | | | | | | l, |
| K-4A-BAY-130 | Construction of Bay 5 | 15 | 06-Oct-18 | 24-Oct-18 | K-4A-BAY-120 | 45 | | | (1999) (1997) (1997) | Concentration of the second | | | |
| Section 4B of th | e Works- Construction of Subway B(Subject to Excision) | 500 | 23-Jun-16 | 04-Nov-17 | | 411 | | | | | | Section 4B of the Wor | ks- C |
| Bay 1&2 | | 310 | 23-Jun-In | 28-Apt-17 | | 0 | | | | | Bay 1&2 | | |
| K-4B-BAY-100 | Instruction to commence the Section 4B of the Works | 0 | 23-Jun-16* | and a second second second | K-PK-PCC-100 | 14 | | 1 | TInstructio | n to commence t | and the second s | the Works | |
| K-4B-BAY-200 | ELS for Bay 1&2 | 42 | 23-Jun-16 | 11-Aug-16 | K-4B-BAY-100, I | 11 | | | | for Bay 1&2 | | | |
| K-4B-BAY-220 | Construction of Bay 1 | 21 | 12-Aug-16 | 05-Sep-16 | K-4B-BAY-200 | 11 | ar na <mark>e</mark> na se an | | | onstruction of Ba | 1 | | estari) |
| K-4B-BAY-230 | Construction of Bay 2 | 21 | 31-Aug-16 | 24-Sep-16 | K-4B-BAY-220 | | | | 1.1 | Construction of J | 1 Aug. 3 | | |
| K-4B-BAY-235 | Backfilling | 30 | 26-Sep-16 | 01-Nov-16 | K-4B-BAY-230 | 11 | | | 9 3 | Backfilling | | | |
| K-4B-BAY-310 | Handover Portion B | 0 | 10.000-10 | 28-Apr-17* | K-4B-BAY-235, 1 | 0 | | | | | Handover P | urtion B | |
| Bay 3&4 | | 193 | 14-Mar-17 | 14-Nov-17 | 11 10 011 000,1 | 1 415 | | | | - | | Bay 3&4 | |
| K-4B-BAY-250 | Installation of sheetpile for Bay 3 | 21 | 14-Mar-17 | 07-Apr-17 | K-1A-SV2-205, F | 335 | | - | | | Installation of | beetpile for Bay 3 | 1412.8×0 |
| K-4B-BAY-260 | Excavation and ELS for Bay 3 | 30 | 08-Apr-17 | 18-May-17 | K-4B-BAY-250 | 335 | | | | , | 1 | and ELS for Bay 3 | |
| K-4B-BAY-265 | Temporary works for Bay 4 | 35 | 19-May-17 | 28-Jun-17 | K-4B-BAY-260 | 335 | | | and a second | | | rary works for Bay 4 | |
| K-4B-BAY-270 | Excavation for Bay 4 | 35 | 29-Jun-17 | 09-Aug-17 | K-4B-BAY-265 | 335 | | | | | | cavation for Bay 4 | |
| K-4B-BAY-280 | Construction of Bay 4 | 21 | 10-Aug-17 | 02-Sep-17 | K-4B-BAY-270 | 335 | | | | | | Construction of Bay 4 | |
| K-4B-BAY-290 | Construction of Bay 3 | 21 | 04-Sep-17 | 27-Sep-17 | K-4B-BAY-280 | 335 | | | | | 1 | Construction of Bay 3 | exan |
| K-4B-BAY-300 | Backfilling | 30 | 28-Sep-17 | 04-Nov-17 | K-4B-BAY-290 | 335 | | | | | | Backfilling | |
| | Works-Completion of All Landscape Softworks | 80 | 18-Feb-19 | 09-May-19 | K-4B-BA1-290 | 42 | | | | | | | |
| | | 60 | 18-170-19 | 19-Apr-10 | | - | | | | | | | |
| Hydroseedin | | and the second | a north Constants | a contractor | K al pure tea t | 0.4 | | 1 | 10 | | | | |
| K-05-HYD-001 | | | 18-Feb-19 | 19-Apr-19 | K-01-RWS-180, 1 | 62 | and a straight of | (Tenter (Const.) Array | | | | and the second s | |
| Tree Planting | | | The second second | a second | | | | | | | | | |
| K-05-TPG-001 | | 60 | 18-Feb-19 | 19-Apr-19 | K-01-RWS-104,] | 42 | | | | | | | |
| Shrub Planti | | 60. | 18-Feb-19 | 19-Apr-19 | | 42 | | | | | 1 | | |
| K-05-SPG-001 | | 60 | 18-Feb-19 | 19-Apr-19 | K-05-TPG-001 | 42 | | | | | | | |
| Irrigation Sys | | -80 | 18-Ech-19 | 09-May-19 | | -8 | | | | | | | |
| K-05-ISM-001 | Irrigation System | 80 | 18-Feb-19 | 09-May-19 | K-05-SPG-001 | 42 | | 11111 | | | | | |
| | Works-Completion of all Establishment Works for all Landscape Softworks | 340 | 21-Jun-19 | 25-May-20 | | 27 | | 1 | | | | | |
| K-06-001-001 | Section 6 of the Works-Completion of all Establishment Works for all Landscape Softworks | 340 | 21-Jun-19 | 25-May-20 | K-PK-PCD-100, | 27 | | | 1111 | | | | |
| Section 7 of the | Works-Preservation and Protection of Existing Trees | 1200 | 21-Jan-16 | 04-May-19 | | 47 | | | | | | | |
| K-07-001-001 | Section 7 of the Works-Preservation and Protection of Existing Trees | 1200 | 21-Jan-16 | 04-May-19 | K-DR-PRE-173, | 47 | +⊂ | 1 | l l | | | | |
| Sections Compl | etion | 1124 | 27-Apr-17 | 25-May-20 | | 27 | | | - | | | | |
| K-PK-SCC-190 | Completion of Section 1-Remainder of the Works | 0 | 1 | 18-Feb-19 | K-01-RWS-101, 1 | 3 | | | | | | | 1000 |
| K-PK-SCC-200 | Completion of Section 1A-Construction of supporting underground structure | 0 | | 24-May-19 | K-1A-SUS-760, 1 | 27 | | | 1010 | | | | 12/1/20 |
| K-PK-SCC-204 | Completion of Section 2-Demolition of Radar Tower and Guard House | 0 | | 27-Apr-17 | K-02-DGH-140,1 | 177 | | | | | Completion of | f Section 2-Demolition of Ra | ıdar |
| K-PK-SCC-208 | Completion of Section 3-Construction of District Cooling System (DCS) | 0 | | 16-Feb-19 | K-03-DCS-130, F | 5 | | | | | 200.44 | | |
| K-PK-SCC-210 | Completion of Section 4A-Construction of Subway A | 0 | | 26-Nov-18 | K-4A-BAY-220 | 56 | | | | | | | |
| K-PK-SCC-220 | Completion of Section 4B-Construction of Subway B | 0 | | 04-Nov-17 | K-4B-BAY-300 | 411 | | | | | | Completion of Section | 4B-C |
| K-PK-SCC-230 | Completion of Section 5 -All Landscape Softworks | 0 | | 09-May-19 | K-05-HYD-001, I | 42 | | | | | | | to be a local de la comparación de |
| K-PK-SCC-240 | Completion of Section 6-All Establishment Works for all Landscape Softworks | 0 | | 25-May-20 | K-06-001-001 | 27 | | | | | 1.000 | | 1000 |
| | | | | | | | | 1 | 1 | 1 | ÷ | 10 | |

| Remaining Level of Effort Remaining Work | Initial Works Programma Day 2 | Date |
|--|-------------------------------|-------------|
| Actual Work Critical Remaining Work | Initial Works Programme Rev.2 | 04-Mar-16 2 |
| | Page:7 of 7 | |

| Q3 Q4 | Q1 | 2019 | 03 04 | Q1 Q1 | 2 Q3 |
|------------------|-------------|---------------------------------------|-----------------|--|---------------------|
| Sec | tion 4A of | the Work | s-Construction | of Subway . | (Subject |
| Bay 1 | | | | | |
| ence the section | 4. of the v | vorks | | C (MARC | |
| S for Bay 1 | | | | | |
| onstruction of B | | | | | |
| 1 1 1 | 3 32 1 | · */) | e | | |
| Breakthrough | Section 1 | | ation of Bay 1 | | |
| 1 1 1 | to Bay | | NUMBER OF BRIDE | | 1 |
| Construction | | | | | |
| Constructi | on of Bay | 3 | 1110 | 1 | |
| Construc | tion of Bay | - 4 | | | |
| - Bac | | ····· | ** | | |
| Bay 5 | | | | | |
| | | | | 1999 | |
| Breaktghrough | 3 | · · · · · · · · · · · · · · · · · · · | cnon or Bay 5 | | |
| Temporary | 100 000 | 1.3 | | | |
| Excavati | | 1.000 | | | |
| - Constr | uction of B | ay 5 | | 10-10-10 (000-10-10-00-00-00-00-00-00-00-00-00-00- | |
| Construction of | Subway I | (Subject | to Excision) | | |
| | | | | | |
| | | | | | |
| | | | 11.000 | | |
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| | | | | | |
| | - j | - El Seguritor | | | |
| | | | No. 1 (or | | |
| | | | | | |
| | 1 | 10000000000000 | 5 of the Work | s-Completion | of All L |
| | 1 | lyttrosee | ling | | |
| | - | lydroseed | ling | | |
| | | Fre Plan | ling | en dine or | 110.111.007 |
| | | Free Plan | ling | | |
| | 1.3 81 | a Courter | 10 | | |
| | 1 3 11 | shrub Pla | | | |
| | 1 | hrub Pla | | | |
| | - | ' I rigatio | n System | | |
| | | Inigatio | n System | | |
| | | - | 1 | - | Section |
| | | + | | | Section |
| | | 0 | Fat III | 3 | 1.0000000000 |
| | | The second second | of the Works | CALCULATION AND AND AND AND AND AND AND AND AND AN | and a second second |
| A | | Section 7 | of the Works | Preservation | and Pro |
| | Ŧ | | 1 | 5 P | Section |
| | Compl | et on of S | ection I-Rem: | ainder of the V | Vorks |
| | | Compl | etion of Sectio | n IA-Constru | ction of |
| ar Tower and Gu | 6 2 | | | | |
| | | | | | |
| | - Compi | effon of S | ection 3-Cons | ruction of Dis | frief Co |
| | | | A-Constructio | n of Subway | 4 |
| -Construction of | Subway I | 3 | | | |
| | | Complet | ion of Section | 5 -All Lands | upe Sof |
| | | | | | Comple |
| | الم | Completi | on of Section | 1.8. | |
| 1 | | Sompren | J | . 1100011000 | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| Revisio | on | | Checke | d Appro | oved |
| | | | | | |
| | | | | | |
| | _ | | | | |

Tel Fax

Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, Hong Kong..

: (852)-24508238 : (852)-24508032 : mcl@fugro.com.hk Email



Appendix B

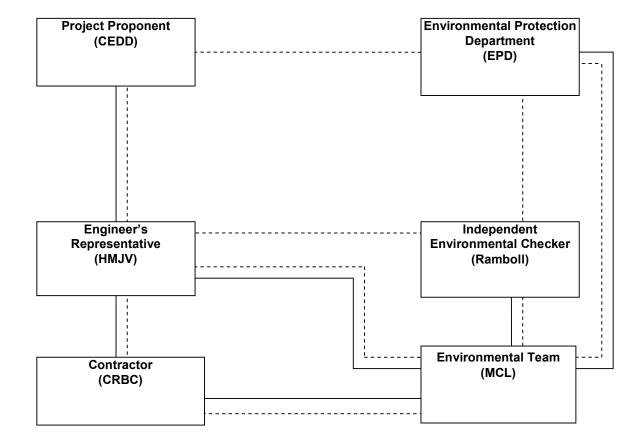
Project Organization Chart

Tel Fax

Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, Hong Kong ..

: (852)-24508238 : (852)-24508032 Email : mcl@fugro.com.hk





Legend: Line of Reporting

Line of Communication - - - -

Tel Fax

Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, Hong Kong..

: (852)-24508238 : (852)-24508032 : mcl@fugro.com.hk Email



Appendix C

Action and Limit Levels for Air Quality and Noise

Tel Fax

| Room 723 & 725, 7/F, Block B, |
|-------------------------------------|
| Profit Industrial Building, |
| 1-15 Kwai Fung Crescent, Kwai Fong, |
| Hong Kong |

: (852)-24508238 : (852)-24508032 Email : mcl@fugro.com.hk



Action and Limit Levels for 24-hr TSP and 1-hr TSP

| Parameter | Monitoring Station | Action Level (µg/m³) | Limit Level (µg/ m³) |
|-----------------------------------|--------------------|-------------------------|-------------------------|
| 24-hr TSP | KTD1a | 177 | |
| $(\mu g/m^3)$ | KTD2a | 157 | 260 |
| (µg/m) | KER1a | 172 | |
| *1 6# TOD | KTD1a | 285 | |
| *1-hr TSP (µg/m ³) | KTD2a | 279 | 500 |
| (µg/m) | KER1a | 295 | |

Note:

1-hr TSP monitoring should be required in case of complaints.

Action and Limit Levels for Construction Noise, Leq (30min), dB(A)

| Time Period | Location | Action | Limit |
|----------------------------------|-------------------------|--|----------|
| 0700-1900 hrs on normal weekdays | KTD1a KTD2a KER1a | When one documented complaint is received | 75 dB(A) |

Tel

Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, Hong Kong..

: (852)-24508238 : (852)-24508032 Fax Email : mcl@fugro.com.hk



Appendix D

Calibration Certificates of Monitoring Equipment

Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, Hong Kong.

Tel : (852)-24508238 Fax : (852)-24508032 Email : mcl@fugro.com.hk



| Project : Env | ironmantal M | Ionitoring Wo | rks For Co | ntract No. H | KLN/ | 2015/07 | | Date of | Calibration: | 19-Jan-16 |
|--|---|-----------------|-------------|-----------------------|----------------------------|---|----------------|----------------|---------------|-----------|
| ocation : KT | | . | | | | | | Next Calib | ration Date: | 18-Apr-16 |
| Brand: | | isch | | | | | | 9 | Technician: | Jimmy Lu |
| Model: | Т | E-5170 | la la | S/N: | 383 | 38 | | | | |
| | | | | COND | DITIC | NS | | | | |
| | Sea | a Level Press | ure (hPa): | 1020.1 | | Corre | cted Pressur | re (mm Hg): | 765 | |
| | | Tempera | ature (°C): | 18 | | | Temp | erature (K): | 291 | |
| | | | (| ALIBRAT | ION | ORIFICE | | | | |
| | | Make: | | Tisch | | | Qstd Slope: | | 2.11451 | |
| | | Model: | 33 | TE-5025A | | Q | std Intercept: | | -0.02267 | |
| | Calibr | ation Date: | | 2-Feb-15 | | | Expiry Date: | | 2-Feb-16 | |
| | S | S/N: | | 2154 | | | 14 12 1 | | | |
| | | | | CALIB | RAT | IONS | | | | |
| | H2O (L) | H2O (R) | H2O | Qstd | | 1 | IC | | LINEAR | |
| Plate No. | (in) | (in) | (in) | (m ³ /min) | _ | (chart) | (corrected) | | REGRESSI | λ. |
| 18 | 8.30 | -4.70 | 13.000 | 1.742 | | 57.00 | 57.87 | Slope = | 28.3252 | |
| 13 | 7.10 | -3.50 | 10.600 | 1.574 | | 53.00 | 53.81 | Intercept = | 8.5930 | |
| 10 | 5.90 | -2.40 | 8.300 | 1.394 | | 47.00 | 47.72 | Corr. coeff. | 0.9981 | |
| 7 | 4.60 | -1.10 | 5.700 | 1.157 | | 40.00 | 40.61 | | | |
| 5 | 3.50 | 0.10 | 3.400 | 0.896 | | 34.00 | 34.52 | | | |
| Calculation | s: | | | 1 | | | TELESSOL | | | |
| Qstd = 1/m[\$ | Sqrt(H2O(Pa/ | /Pstd)(Tstd/Ta | a))-b] | | | | FLO | N RATE CH | ART | |
| see a second second | a/Pstd)(Tstd/ | | | | | 70.00 - | r r | 1 | | |
| | lard flow rate | | | | | 50.00 | | | | |
| | ed chart resp | | | | | 60.00 - | | | | |
| | art response | | | - | ŝ | 50.00 | | | | |
| | or Qstd slope | | | | e (IC | | | | 1 | |
| | or Qstd interc | | | | onsi | 40.00 | | | | |
| | | during calibra | |) | esp | | | * | na zakana ana | |
| | | ing calibration | i (mm Hg) | | ц Ц Ц | 30.00 | | | | |
| Tstd = 298 d | 100 C | | | | Cha | 20.00 | | | | |
| Pstd = 760 n | period of the second | | 1 | | Actual Chart Response (IC) | 1999 - | | | | |
| | | tion of samp | oler flow: | | Act | 10.00 | | | | |
| 10 10 10 10 10 10 10 10 10 10 10 10 10 1 | 298/Tav)(Pav | v//60)]-b) | | | | 0.00 | | | | |
| m = sample | | | | | | 0.00 | | 1 000 | 1.500 | 2,000 |
| and the second street and a second | r intercept | | | | | 0.0 | 000 0.500 | 1.000 | 1.500 | 2.000 |
| I = chart re | 1998 | ereture | | | | | Standa | rd Flow Rate (| m³/min) | |
| 100000 000000 00 | average temp average pres | | | 2 | | | | | Without I A | |

CHOI KAM HO Project Consultant

AS

Report Date: 19th January, 2016

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A Fugro Group Company

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Tel : (852)-24508238 Fax : (852)-24508032 Email : mcl@fugro.com.hk



| Project : Envi | ironmantal M | Ionitoring Wo | rks For Cor | ntract No. I | KLN/ | /2015/07 | | | Calibration: 1 | |
|---|--|-----------------|--------------------------|-----------------------|---------------------|---------------------------|----------------|---------------------------|----------------|----------|
| ocation : KT | D1a | | | | | | | | ration Date: 1 | |
| Brand: | ٦ | 「isch | | | | | | | Technician: J | limmy Lu |
| Model: | 1 | E-5170 | | S/N: | 34 | 78 | | | | |
| | | _ | | CON | DITI | ONS | 1.0 | | | |
| | Se | a Level Press | ure (hPa). | 1020. | | | cted Pressur | e (mm Ha): | 765 | |
| | 000 | | ature (°C): | 18 | | 00110 | | erature (K): | 291 | |
| | | Temper | ature (C). | 1.0 | · | | Temp | oracaro (r.y. | 201 | |
| | | | | CALIBRAT | TION | ORIFICE | | | | |
| | | Make: | 9 | Tisch | | | Qstd Slope: | | 2.11451 | |
| | | Model: | | TE-5025A | | Qs | std Intercept: | | -0.02267 | |
| | Calibr | ation Date: | | 2-Feb-15 | | | Expiry Date: | | 2-Feb-16 | |
| | 5 | S/N: | | 2154 | | | | | | |
| | | | | CALIB | RAT | TIONS | | | | |
| Plate No. | H2O (L) | H2O (R) | H2O | Qstd | | 1 | IC | | LINEAR | |
| Plate No. | (in) | (in) | (in) | (m ³ /min) | | (chart) | (corrected) | | REGRESSIO | N |
| 18 | 8.00 | -4.40 | 12.400 | 1.701 | 1 | 58.00 | 58.89 | Slope = | 36.0577 | |
| 13 | 6.30 | -3.30 | 9.600 | 1.498 | 3 | 52.00 | 52.79 | Intercept = | -2.2566 | |
| 10 | 5.80 | -2.30 | 8.100 | 1.377 | 7 | 46.00 | 46.70 | Corr. coeff. | 0.9984 | |
| 7 | 4.40 | -0.90 | 5.300 | 1.116 | 5 | 37.00 | 37.57 | | | |
| 5 | 3.30 | 0.30 | 3.000 | 0.842 | 2 | 28.00 | 28.43 | | | |
| Calculations | | | | 1 | | | EL OW | RATE CHAI | эт | |
| Coxe of the second second second second | | 'Pstd)(Tstd/Ta | a))-b] | | | 0.00.0000000 | FLOW | MATE CHA | NI . | |
| IC = I[Sqrt(Pa | | | | | | 70.00 | | | | |
| Qstd = stand | | | | | | 60.00 | | | | |
| IC = correcte | | onse | | | | T TERETERATION | | | 1 | |
| I = actual cha | | | | | 0 | 50.00 - | | 1 | | |
| m = calibrato | 322 | | | | ise (| 40.00 - | | | | |
| b = calibrato | | | | | Chart Response (IC) | 40.00 | | 1 | | |
| | A local statements and a second statements of the | during calibrat | 이것 아이 아이 아이 없는 것 같아. 아이에 |) | Res | 30.00 - | | | _ | |
| | | ng calibration | (mm Hg) | | lart | | | | | |
| Tstd = 298 de | - (T) (| | | 1 | al CI | 20.00 - | | | | |
| Pstd = 760 m | CONTRACT IN CONTRACT | Non of comm | lan floren | | Actua | 10.00 - | | | | |
| | | tion of samp | ier now: | | A | 5278.21839327 9272-3-3 | | | | |
| 1/m((I)[Sqrt(2 | 0.500 | ((UO)]-D) | | | | 0.00 - | | | | |
| m = sample | | | | S | | 0.0 | 00 0.500 | 1.000 1 | .500 2.000 | |
| b = sampler I = chart res | - A MARKAN AND - CANADA - CANA | | | | | | Standard | Flow Rate (m ³ | /min) | |
| Tav = daily a | | erature | | | | | | | | |
| H 6490. | verage press | | | | | | | | | |

CHOI KAM HO **Project Consultant** Report Date: 19th January,2016

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Tel : (852)-24508238 Fax : (852)-24508032 Email : mcl@fugro.com.hk



| Project : Envi | ironmantal M | Ionitoring Wo | rks For Cor | ntract No. I | KLN/ | /2015/07 | | Date of | Calibration: | 19-Jan-16 |
|--|--|--|-------------|-----------------------|------------------------|------------------|----------------|---------------------------|--------------|---|
| Location : KE | R1a | | | | | | | Next Calib | ration Date: | 18-Apr-16 |
| Brand: | 1 | Tisch | | | | | | | Technician: | Jimmy Lu |
| Model: | Т | E-5170 | | S/N: | 34 | 82 | | | | |
| | | 1 | - 01. WY | CON | DITI | ONS | | | | |
| | Se | a Level Press | ure (hPa): | 1020. | | | cted Pressur | re (mm Ha): | 765 | |
| | | | ature (°C): | 18 | | | | erature (K): | 291 | |
| | | | | CALIBRAT | TION | ORIFICE | | | | |
| | | Make: | | Tisch | | | Qstd Slope: | | 2.11451 | |
| | | Model: | | TE-5025A | | Q | std Intercept: | | -0.02267 | |
| | Calibr | ation Date: | | 2-Feb-15 | | | Expiry Date: | | 2-Feb-16 | |
| | 5 | S/N: | | 2154 | | | | | | |
| | | | 5.5.77 | CALIB | RAT | TIONS | | | | |
| Plate No. | H2O (L) | H2O (R) | H2O | Qstd | ć | I | IC | | LINEAR | |
| Plate No. | (in) | (in) | (in) | (m ³ /min) | 8 | (chart) | (corrected) | | REGRESSIC | N |
| 18 | 7.80 | -4.30 | 12.100 | 1.681 | 6) 8) | 59.00 | 59.90 | Slope = | 34.6096 | |
| 13 | 6.60 | -3.30 | 9.900 | 1.521 | | 53.00 | 53.81 | Intercept = | 1.3613 | |
| 10 | 5.50 | -2.00 | 7.500 | 1.326 | 5 | 46.00 | 46.70 | Corr. coeff. | 0.9994 | |
| 7 | 4.10 | -0.70 | 4.800 | 1.063 | 3 | 38.00 | 38.58 | | | |
| 5 | 3.20 | 0.20 | 3.000 | 0.842 | 2 | 30.00 | 30.46 | | | |
| Calculations | | | | 1 | | | | | | |
| | - State and the second | Pstd)(Tstd/Ta | i))-b] | | | | FLOW | RATE CHAP | <1 | |
| IC = I[Sqrt(Pa | a note a superior de la construction de la construc | and a second sec | | | | 70.00 - | | | 1 | |
| Qstd = stand | | | | | | 60.00 - | | | | |
| IC = correcte | | onse | | | | 00.00 | | | | |
| I = actual cha | server of the se | | | | (j | 50.00 - | | | | |
| m = calibrato | | | | | se (| 40.00 - | | | | |
| b = calibrato | | | | | al Chart Response (IC) | 40.00 | | 1 | | |
| | | luring calibrat | |) | Res | 30.00 - | | 4 | | |
| Contraction of the second second | | ng calibration | (mm Hg) | | lart | | | | | |
| Tstd = 298 di | | | | | D I | 20.00 - | | | 1 | |
| Pstd = 760 m | 1230 | tion of comm | lor flow | | Actua | 10.00 - | | | | |
| and a second of the second | | tion of samp | ier now; | | A | 2022 | | | | |
| 1/m((I)[Sqrt(2 m = sample | | (a-[(00/]-b) | | | | 0.00 - | | | | |
| m = sample b = sampler | | | | | | 0.0 | 00 0.500 | 1.000 1. | 500 2.000 | |
| <pre>b = sampler l = chart res</pre> | CIERCESSOR INCOMENTATION AND | | | | | | Standard | Flow Rate (m ³ | /min) | and the second se |
| Tav = daily a | A CONTRACTOR OF CONTRACTOR | orature | | | | e de la mercella | | | | |
| 0.5-1 | verage temp | | | | | | | | | |

CHOI KAM HO

Project Consultant

Report Date: _19th January,2016



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

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

| ======= | | ======================================= | | =========== | | |
|---------|--------|---|--------|-------------|-------|--------|
| | | | | | METER | ORFICE |
| PLATE | VOLUME | VOLUME | DIFF | DIFF | DIFF | DIFF |
| OR | START | STOP | VOLUME | TIME | Hq | H2O |
| Run # | (m3) | (m3) | (m3) | (min) | (mm) | (in.) |
| | | | | | | |
| 1 | NA | NA | 1.00 | 1.4720 | 3.2 | 2.0 |
| 2 | NA | NA | 1.00 | 1.0450 | 6.4 | 4.0 |
| 3 | NA | NA | 1.00 | 0.9320 | 7.9 | 5.0 |
| 4 | NA | NA | 1.00 | 0.8900 | 8.8 | 5.5 |
| 4 5 | NA | NA | 1.00 | 0.7330 | 12.7 | 8.0 |

DATA TABULATION

| Vstd | (x axis) Qstđ | (y axis) | | Va | (x axis) Qa | (y axis) |
|---|--|--|-------|--|--|--|
| 1.0087 1.0044 1.0023 1.0012 0.9959 | 0.6852 0.9612 1.0754 1.1249 1.3587 | 1.4234 2.0130 2.2506 2.3604 2.8468 | | 0.9957 0.9915 0.9894 0.9883 0.9831 | 0.6764 0.9488 1.0616 1.1105 1.3412 | 0.8799 1.2443 1.3912 1.4591 1.7597 |
| Qstd slop intercept coefficie y axis = | t (b) = ent (r) = | 2.11451 -0.02267 0.99995 Pa/760)(298/ | Ta)] | Qa slop intercep coeffici v axis = | t (b) = | 1.32407 -0.01402 0.99995 |

CALCULATIONS

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

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

For subsequent flow rate calculations:

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



Certificate of Conformity and Calibration

| Instrument Model:- | CEL-633 | 3A | | | |
|---|---|---|-------------------|-------------|---|
| Serial Number | 3756084 | | | | |
| Firmware revision | V129-09 | 1 | | | |
| Microphone Type:- | CEL-251 | Pream | plifier Type:- | CEL-495 | |
| Serial Number | 1257 | Serial | Number | 003538 | |
| instrument Class/Type:- | 1 | | | | |
| Applicable standards:- | | | | | 1 |
| | | | | | |
| IEC 61672: 2002 / EN 6065 | | | | | |
| | | | ns For Sound Leve | el Meters) | |
| IEC 61672: 2002 / EN 6065 IEC 60651 1979 (Sound Le Note:- The test sequences pr | evel Meters), ANS | S1.4: 1983 (Specification ort are in accordance with | the current Sound | | |
| IEC 61672: 2002 / EN 6065 IEC 60651 1979 (Sound Le | evel Meters), ANS erformed in this rep abination of tests per b all applicable stand | I S1.4: 1983 (Specification ort are in accordance with formed are considered to cor | the current Sound | | |
| IEC 61672: 2002 / EN 6065 IEC 60651 1979 (Sound Le Note:- The test sequences pr Standard - IEC61672. The corr electro-acoustic performance to | evel Meters), ANS erformed in this rep abination of tests per b all applicable stand | I S1.4: 1983 (Specification ort are in accordance with formed are considered to cor | the current Sound | level meter | |

Declaration of conformity:-

This test certificate confirms that the instrument specified above has been successfully tested to comply with the manufacturer's published specifications. Tests are performed using equipment traceable to national standards in accordance with Casella's ISO 9001:2008 quality procedures. This product is certified as being compliant to the requirements of the CE Directive.

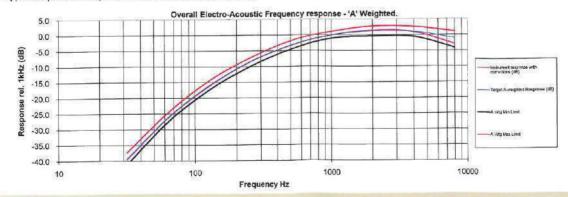
Test Summary:-

| Self Generated Noise Test | All Tests Pass |
|--|----------------|
| Electrical Signal Test Of Frequency Weightings | All Tests Pass |
| Frequency & Time Weightings At 1 kHz | All Tests Pass |
| Level Linearity On The Reference Level Range | All Tests Pass |
| Toneburst Response Test | All Tests Pass |
| C-peak Sound Levels | All Tests Pass |
| Overload Indication | All Tests Pass |
| Acoustic Tests | All Tests Pass |
| 7,000,000 | |

Combined Electro-Acoustic Frequency Response - A Weighted

Combined Electro-Acoustic Frequency Response - A Weighted (IEC 61672-3:2006)

The following A-Weighted frequency response graph shows this instruments overall frequency response based upon the application of multi-frequency pressure field calibrations. The microphones Pressure to Free field correction coefficients are applied to pressure response. Reference level taken at 1kHz.



Casella CEL Regen House, Wolseley Road, Kempston, Bedford MK42 7JY

Phone: +44(0) 1234 844100 Fax: +44(0) 1234 841490 E-mail: info@casellameasurement.com Web: vww.casellameasurement.com Casella CEL. Inc. a subsidiary of IDEAL Industries, Inc. 415 Lawrence Bell Drive Unit 4 Euffalo. NY 14221 Toll Frae. (800) 365-2966 Tel: (603) 672-0031 Fax: (603) 672-8053 E-mail: info@casellausa.com Web: www.casellausa.com



Certificate of Conformity and Calibration

| Instrument Model:- | CEL-633A | | |
|-------------------------|----------|---------------------|---------|
| Serial Number | 2451091 | | |
| Firmware revision | V129-09 | | |
| Microphone Type:- | CEL-251 | Preamplifier Type:- | CEL-495 |
| Serial Number | 1207 | Serial Number | 002752 |
| Instrument Class/Type:- | 1 | | |
| Applicable standards:- | | | |

IEC 61672: 2002 / EN 60651 (Electroacoustics - Sound Level Meters) IEC 60651 1979 (Sound Level Meters), ANSI S1.4: 1983 (Specifications For Sound Level Meters)

Note:- The test sequences performed in this report are in accordance with the current Sound level meter Standard - IEC61672. The combination of tests performed are considered to confirm the products electro-acoustic performance to all applicable standards including superceeded Sound Level Meter Standards - IEC60651 and IEC60804.

| Test Conditions:- | 21.4 °c | Test Engineer:- | Millie Duncan |
|-------------------|-------------|-----------------|------------------|
| | 45.5 %RH | Date of Issue:- | October 26, 2015 |
| | 1008.6 mBar | | |

Declaration of conformity:-

This test certificate confirms that the instrument specified above has been successfully tested to comply with the manufacturer's published specifications. Tests are performed using equipment traceable to national standards in accordance with Casella's ISO 9001:2008 quality procedures. This product is certified as being compliant to the requirements of the CE Directive.

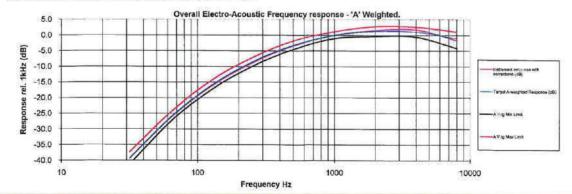
Test Summary:-

| Self Generated Noise Test | All Tests Pass |
|--|----------------|
| Electrical Signal Test Of Frequency Weightings | All Tests Pass |
| Frequency & Time Weightings At 1 kHz | All Tests Pass |
| Level Linearity On The Reference Level Range | All Tests Pass |
| Toneburst Response Test | All Tests Pass |
| C-peak Sound Levels | All Tests Pass |
| Overload Indication | All Tests Pass |
| Acoustic Tests | All Tests Pass |

Combined Electro-Acoustic Frequency Response - A Weighted

Combined Electro-Acoustic Frequency Response - A Weighted (IEC 61672-3:2006)

The following A-Weighted frequency response graph shows this instruments overall frequency response based upon the application of multi-frequency pressure field calibrations. The microphones Pressure to Free field correction coefficients are applied to pressure response. Reference level taken at 1kHz.



Casella CEL Regen House, Wolseley Road, Kempston, Bedford MK42 7JY

Phone: +44(0) 1234 844100 Fax: +44(0) 1234 841490 E-mail: info@casellameasurement.com Web: www.casellameasurement.com Casella CEL, Inc. a subsidiary of IDEAL Industries, Inc. 415 Lawrence Bell Drive Unit 4 Buffalo, NY 14221 Toll Free. (800) 366-2966 Tel: (603) 672-0031 Fax: (603) 672-8053 E-mail: info@casellausa.com Web: www.casellausa.com





41.51

11

Certificate of Conformity and Calibration

| Instrument Model:- | CEL-633A | | |
|-------------------------|----------|---------------------|---------|
| Serial Number | 1057002 | | |
| Firmware revision | V129-08 | | |
| Microphone Type:- | CEL-251 | Preamplifier Type:- | CEL-495 |
| Serial Number | 995 | Serial Number | 002645 |
| Instrument Class/Type:- | 1 | | |
| Applicable standards:- | | | |

IEC 61672: 2002 / EN 60651 (Electroacoustics - Sound Level Meters) IEC 60651 1979 (Sound Level Meters), ANSI S1.4: 1983 (Specifications For Sound Level Meters)

Note:- The test sequences performed in this report are in accordance with the current Sound level meter Standard - IEC61672. The combination of tests performed are considered to confirm the products electro-acoustic performance to all applicable standards including superceeded Sound Level Meter Standards - IEC60651 and IEC60804.

| Test Conditions:- | 22.1 | °C | Test Engineer:- | Millie Duncan |
|-------------------|--------|------|-----------------|---------------|
| 2 | 44 | %RH | Date of Issue:- | June 22, 2015 |
| | 1004.2 | mBar | | |

Declaration of conformity:-

This test certificate confirms that the instrument specified above has been successfully tested to comply with the manufacturer's published specifications. Tests are performed using equipment traceable to national standards in accordance with Casella's ISO 9001:2008 quality procedures. This product is certified as being compliant to the requirements of the CE Directive.

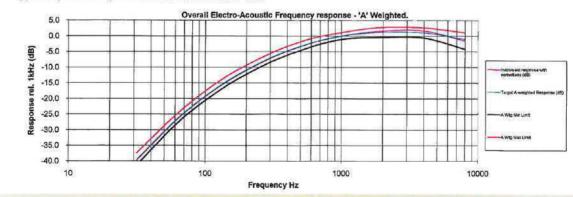
Test Summary:-

| Self Generated Noise Test | All Tests Pass |
|--|----------------|
| Electrical Signal Test Of Frequency Weightings | All Tests Pass |
| Frequency & Time Weightings At 1 kHz | All Tests Pass |
| Level Linearity On The Reference Level Range | All Tests Pass |
| Toneburst Response Test | All Tests Pass |
| C-peak Sound Levels | All Tests Pass |
| Overload Indication | All Tests Pass |
| Acoustic Tests | All Tests Pass |

Combined Electro-Acoustic Frequency Response - A Weighted

Combined Electro-Acoustic Frequency Response - A Weighted (IEC 61672-3:2006)

The following A-Weighted frequency response graph shows this instruments overall frequency response based upon the application of multi-frequency pressure field calibrations. The microphones Pressure to Free field correction coefficients are applied to pressure response. Reference level taken at 1kHz.



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华南国家计量测试中心 广东省计量科学研究院 SOUTH CHINA NATIONAL CENTER OF METROLOGY GUANGDONG INSTITUTE OF METROLOGY



校准证书

CALIBRATION CERTIFICATE

| 证书编号 Certificate No. | SSD201504447 | 第 1 页, 共 4 页 Page of |
|-------------------------|------------------|---|
| 委托方 Client | MateriaLab Consu | ltants Limited |
| 委托方地址 Add. of Clier | | t Centre, 5 Lok Yi Street, Tai T., Hong Kong |
| 计量器具名称 Description | Sound Level Cali | brator |
| 型号规格 Model/Type | CEL-120/1 | A DUN A SCA ST AND |
| 制造厂 Manufacture | CASELLA r | State of the state |
| 出厂编号 Serial No. | 5230950 | 设备编号 Equipment No. |
| 接收日期 Date of Rece | ipt | 2015年 07 月 27 日 Y M D |
| 结论 Conclusion | 符合JJG 176-2005 | 中1级技术要求 |
| 校准日期 Date of Call | ibration | 2015年 07 月 28 日 Y M D |

批准人 Approved Signatory 核验 Checked by 开东神理 批准人 Calibrated by (年早) 校 准

证书专用章 Stamp



本中心地址:中国广州市广园中路松柏东街30号 邮政编码: 510405 电话: (8620)86594172 传真: (8620)86590743 投诉电话: (8620)26296063 E-mail: scm@scm.com.cn Add: No.30, Songbaidong Street, Guangyuanzhong Road, Guangzhou, P. R. China Post Code: 510405 Tel: (8620)86594172 Fax: (8620)86590743 Complaint Tel: (8620)26296063 证书真伪查询: www.scm.com.cn; www.mtpsp.com Certificate AuthenticityIdentify: www.scm.com.cn; www.mtpsp.com

H27727

华南国家计量测试中心 广东省计量科学研究院 SOUTH CHINA NATIONAL CENTER OF METROLOGY CUANCDONG INSTITUTE OF METROLOGY



说 明

证书编号 SSD201504447 Certificate No.

DIRECTIONS

第 2 页, 共 4 页 Page of

 本中心是国家质量监督检验检疫总局在华南地区设立的国家法定计量检定机构,计量授权证书号是:(国)法计 (2012)01043号、(国)法计(2012)01032号。本中心质量管理体系符合ISO/IEC 17025:2005标准的要求。

This laboratory is the National Legal Metrological Verification Institution in southern China set up by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China (AQSIQ) under authorization certificates No.(2012)01043 & (2012)01032. The quality system is in accordance with ISO/IEC 17025:2005.

2. 本中心所出具的数据均可溯源至国家计量基准和国际单位制(SI)。

All data issued by this laboratory are traceable to national primary standards and International System of Units (SI).

3. 本次校准的技术依据:

Reference documents for the calibration:

JJG 176-2005 声校准器检定规程 V.R. of Sound Calibrators

4. 本次校准所使用的主要计量标准器具:

Major standards of measurement used in the calibration:

| 设备名称/型号 | 编号 | 证书号/有效期 | 计量特性 | |
|------------------------------|------------|-----------------|----------------|--|
| Name of Equipment | Serial No. | Certificate No. | Metrological | |
| /Model | | /Due Date | Characteristic | |
| 测量放大器 | 2160821 | SSD201500612 | 1级 | |
| Measuring Amplifier /2636 | | /2016-01-27 | Grade 1 | |
| 声校准器 | 2713562 | SSD201503065 | 1级 | |
| Sound Calibrator | | /2016-05-25 | Grade 1 | |
| /4231 | | | | |

5. 校准地点、环境条件:

| Place a | nd environmental co | nditions of t | he calibration: | | | | | | |
|---------|---------------------|---------------|-----------------|-----------|--------------|-------|------|--------|------|
| 地点 | 声学/振动实验室 | Acoustics | Vibration Lab. | 温度 | (23 ± 3) | °C 1 | 目对湿度 | (50~60 | 0) % |
| Place | | | | Temperati | we 🔊 | , Cit | ЯН | | |

 被校准仪器限制使用条件: Limiting condition of the instrument calibrated:

注: 1. 本证书校准结果只与受校准仪器有关。

2. 未经本机构书面批准, 不得部分复制此证书。

Note:1. The results relate only to the items calibrated.

2. This certificate shall not be reproduced excent in full, without the written approval of our laboratory.



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校准结果 RESULTS OF CALIBRATION

1 外观: 合格

Apparent inspection: Pass

2 声压级 (dB): 见表1

Sound Pressure Level: Showed in table 1

表1 Table 1

| and the second | 实测值(dB) Measured Value | 允差(dB) Tolerance | 结论 Conclusion | 稳定度(dB) Stabilization | 稳定度允差(dB) Stabilization Tolerance | 结论 Conclusion |
|--|---------------------------|---------------------|------------------|--------------------------|--------------------------------------|------------------|
| 94 | 93.93 | ±0.40 | 合格(Pass) | 0.01 | ≪0.10 | 合格(Pass) |
| 114 | 113.93 | ±0.40 | 合格(Pass) | 0.01 | ≤0.10 | 合格(Pass) |

3 频率: 见表2

Frequency: Showed in table 2

表2 Table 2

| 标称值(Hz) | 实测值(Hz) | 允差(%) | 结论 |
|---------------|----------------|-----------|------------|
| Nominal Value | Measured Value | Tolerance | Conclusion |
| 1000 | 1000.0 | ±1.0 | 合格(Pass) |

4 总失真: 见表3

Total harmonic distortion: Showed in table 3

表3 Table 3

| 频率(Hz) Frequency | 声压级(dB) Sound Pressure Level | 总失真(%) Total Harmonic Distortion | 允差(%) Tolerance | 结论 Conclusion | |
|---------------------|---------------------------------|-------------------------------------|--------------------|------------------|--|
| 1000 | 94 | 0.1 | ≦3 | 合格(Pass) | |
| 1000 | 114 | 0.2 | \$3 | 合格(Pass) | |



校准结果 RESULTS OF CALIBRATION

证书编号: SSD201504447 Certification No. 原始记录编号: 2201504447 Record No. 第4页, 共4页 Page of

说明(Note):

| 测量结果扩展不确定度:

Expanded uncertainty of measurement:

声压级: U=0.15 dB, k=2

Sound Pressure Level Calibration

频率: U_{rel}=0.1%, k=2

Frequency

失真度: U_{rel}=1.4%, k=2

Harmonic distortion

(依据JJF 1059.1-2012 测量不确定度评定与表示)

(According to JJF 1059,1-2012 Evaluation and Expression of Uncertainty in Measurement)

2 建议校准周期不超过1年。

The interval of calibration advised within one year.

FUGRO TECHNICAL SERVICES LIMITED

Fugro Development Centre, 5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Hong Kong. Tel : +852 2450 8233 Fax : +852 2450 6138 E-mail : matlab@fugro.com.hk Website : www.materialab.com.hk



Page 1 of 1

Report no.: 940891CA152019(2) CALIBRATION CERTIFICATE OF SOUND CALIBRATOR

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Client Supplied Information

Details of Unit Under Test, UUT

| : | Sound Calibrator |
|---|------------------------------|
| : | Casella (Model no. CEL-120/1 |
| : | 3321858 |
| : | 14-Oct-2016 |
| 2 | ±0.5dB |
| | : |

Laboratory Information

| Description | | В& | K Acoustic Multi | function Calibrator 4226 | | |
|-----------------|------|------|-------------------|--------------------------|----|----|
| Equipment ID. | | R-1 | 08-1 | | | |
| Date of Calibra | tion | : * | 15-Oct-2015 | Ambient Temperature : | 20 | °C |
| Calibration Loc | atio | n: (| Calibration Labor | atory of MateriaLab | | |
| Method Used | • | Ву с | direct comparisor | 1 | | |

Calibration Results :

| Parameters (Setting of UUT) | Mean Value (error of measurement) | Specification Limit(dB) |
|-----------------------------|-----------------------------------|-------------------------|
| 94dB | 0.0dB | |
| 114dB | 0.1dB | ±0.5dB |

Remarks :

- 1. The equipment used in this calibration is traceable to recognized National Standards.
- 2. The mean value is the average of four measurements.
- 3. Sound level meter used is client sound level meter (S/N: 3321823).
- 4. The equipment does comply with specification limit.

| Checked by | Date: 1510-Dolf | Certified by : | L | Date | 1507.2015 |
|-----------------------|-----------------|----------------|------------------------|------|-----------|
| CA-R-297 (22/07/2009) | | | So Chi Kuen (Engineer) | | |
| | ** End of | f Report ** | | | |

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Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, Hong Kong..

Tel : (852)-24508238 Fax : (852)-24508032 Email : mcl@fugro.com.hk



Appendix E

Environmental Monitoring Schedule

| ROOM 723 & 725, 7/F, BIOCK B, | | |
|-------------------------------------|-------|--------------------|
| Profit Industrial Building, | Tel | : (852)-24508238 |
| 1-15 Kwai Fung Crescent, Kwai Fong, | Fax | : (852)-24508032 |
| Hong Kong. | Email | : mcl@fugro.com.hk |



Project: <u>KL/2014/03 - Kai Tak Development – Stage 3 Infrastructure Works for Developments at the</u> <u>Southern Part of the Former Runway</u>

Impact Monitoring Schedule (March 2016)

| Sun | Mon | Tue | Wed | Thur | Fri | Sat |
|-----|---|--|--|--|--|--|
| | | | | | 26 February 2016 Construction Commencement | 27 |
| 28 | 29 | 1 March 2016 TSP Monitoring Noise Monitoring | 2 | 3 | 4 | 5 |
| 6 | 7 TSP Monitoring Noise Monitoring | 8 | 9 | 10 | 11 | 12 TSP Monitoring Noise Monitoring |
| 13 | 14 | 15 | 16 | 17 | 18 TSP Monitoring Noise Monitoring | 19 |
| 20 | 21 | 22 | 23 | 24 TSP Monitoring Noise Monitoring | 25 | 26 |
| 27 | 28 | 29 | 30 TSP Monitoring Noise Monitoring | 31 | | |

Remarks

- 1. Actual monitoring may be subjected to change due to any safety concern or adverse weather condition
- 2. Monitoring Locations KTD1a: Centre of Excellence in Paediatric (Children's Hospital), KTD2a: G/IC Zone next to Kwun Tong Bypass (Future at Site 3C1), KER1a: Site Boundary at Cheung Yip Street
- 3. TSP Monitoring: 24-hours TSP Monitoring per 6 days, and 3 x 1-hour TSP Monitoring per 6 days (as required in case of complaints)
- 4. Noise Monitoring: Leq (30 min) between 0700 and 1900 hours.

| Room 723 & 725, 7/F, Block B, | | |
|-------------------------------------|-------|--------------------|
| Profit Industrial Building, | Tel | : (852)-24508238 |
| 1-15 Kwai Fung Crescent, Kwai Fong, | Fax | : (852)-24508032 |
| Hong Kong. | Email | : mcl@fugro.com.hk |



Project: <u>KL/2014/03 - Kai Tak Development – Stage 3 Infrastructure Works for Developments at the</u> <u>Southern Part of the Former Runway</u>

Sun Mon Wed Thur Fri Tue Sat 1 April 2016 2 3 4 5 6 7 8 9 TSP Monitoring Noise Monitoring 10 11 12 13 14 15 16 **TSP** Monitoring TSP Monitoring Noise Monitoring Noise Monitoring 17 18 19 20 21 22 23 **TSP** Monitoring Noise Monitoring 24 25 26 27 28 29 30 **TSP** Monitoring Noise Monitoring

Impact Monitoring Schedule (April 2016)

Remarks

1. Actual monitoring may be subjected to change due to any safety concern or adverse weather condition

2. Monitoring Locations – KTD1a: Centre of Excellence in Paediatric (Children's Hospital), KTD2a: G/IC Zone next to Kwun Tong Bypass (Future at Site 3C1), KER1a: Site Boundary at Cheung Yip Street

3. TSP Monitoring: 24-hours TSP Monitoring per 6 days, and 3 x 1-hour TSP Monitoring per 6 days (as required in case of complaints)

4. Noise Monitoring: Leq (30 min) between 0700 and 1900 hours.

| Room 723 & 725, 7/F, Block B, | | |
|-------------------------------------|-------|--------------------|
| Profit Industrial Building, | Tel | : (852)-24508238 |
| 1-15 Kwai Fung Crescent, Kwai Fong, | Fax | : (852)-24508032 |
| Hong Kong. | Email | : mcl@fugro.com.hk |



Project: <u>KL/2014/03 - Kai Tak Development – Stage 3 Infrastructure Works for Developments at the</u> <u>Southern Part of the Former Runway</u>

Sun Mon Tue Wed Thur Fri Sat 1 May 2016 2 3 4 5 6 7 **TSP** Monitoring Noise Monitoring 8 9 10 11 12 13 14 TSP Monitoring Noise Monitoring 15 16 17 18 19 20 21 **TSP** Monitoring TSP Monitoring Noise Monitoring Noise Monitoring 27 22 23 24 25 26 28 **TSP** Monitoring Noise Monitoring 29 30 31

Impact Monitoring Schedule (May 2016)

Remarks

1. Actual monitoring may be subjected to change due to any safety concern or adverse weather condition

2. Monitoring Locations – KTD1a: Centre of Excellence in Paediatric (Children's Hospital), KTD2a: G/IC Zone next to Kwun Tong Bypass (Future at Site 3C1), KER1a: Site Boundary at Cheung Yip Street

3. TSP Monitoring: 24-hours TSP Monitoring per 6 days, and 3 x 1-hour TSP Monitoring per 6 days (as required in case of complaints)

4. Noise Monitoring: Leq (30 min) between 0700 and 1900 hours.

| Room 723 & 725, 7/F, Block B, | | |
|-------------------------------------|-------|--------------------|
| Profit Industrial Building, | Tel | : (852)-24508238 |
| 1-15 Kwai Fung Crescent, Kwai Fong, | Fax | : (852)-24508032 |
| Hong Kong. | Email | : mcl@fugro.com.hk |



Project: <u>KL/2014/03 - Kai Tak Development – Stage 3 Infrastructure Works for Developments at the</u> <u>Southern Part of the Former Runway</u>

Sun Mon Tue Wed Thur Fri Sat 1 June 2016 2 3 4 **TSP** Monitoring Noise Monitoring 5 6 7 8 9 10 11 **TSP** Monitoring Noise Monitoring 13 12 14 15 16 17 18 TSP Monitoring Noise Monitoring 19 20 21 22 23 24 25 TSP Monitoring **TSP** Monitoring Noise Monitoring Noise Monitoring 26 27 28 29 30 **TSP** Monitoring Noise Monitoring

Impact Monitoring Schedule (June 2016)

Remarks

1. Actual monitoring may be subjected to change due to any safety concern or adverse weather condition

2. Monitoring Locations – KTD1a: Centre of Excellence in Paediatric (Children's Hospital), KTD2a: G/IC Zone next to Kwun Tong Bypass (Future at Site 3C1), KER1a: Site Boundary at Cheung Yip Street

3. TSP Monitoring: 24-hours TSP Monitoring per 6 days, and 3 x 1-hour TSP Monitoring per 6 days (as required in case of complaints)

4. Noise Monitoring: Leq (30 min) between 0700 and 1900 hours.

Tel

Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, Hong Kong..

: (852)-24508238 : (852)-24508032 : mcl@fugro.com.hk Fax Email



Appendix F

Air Quality Monitoring Data

24-hour TSP Monitoring Result for Kai Tak Development - Stage 3 Infrastructure Works for Developments at the Southern Part of the Former Runway

| | Weather | Air | Filter Weight (g) Particulate Sampling | | | Rate | Average | Total | Conc. | Action | Limit | | | |
|------------|-----------|-------------|--|---------|-----------|------------|-------------|---------|-------|------------------------|------------------|------------|----------------------|----------------------|
| Start Date | | Temperature | Pressure, Pa | | cigin (g) | weight (g) | 1 0 | (m°/ | nin.) | flow | volume | (ug/m^3) | Level | Level |
| | Condition | (K) | (mmHg) | Initial | Final | weight (g) | 11116(1113) | Initial | Final | (m ³ /min.) | (m ³⁾ | (ug/III) | (ug/m ³) | (ug/m ³) |
| 1-Mar-16 | Sunny | 289.5 | 768.6 | 2.8213 | 3.2156 | 0.3943 | 24 | 1.31 | 1.28 | 1.30 | 1892.3 | 208 | | |
| 7-Mar-16 | Fine | 292.7 | 761.2 | 2.8380 | 2.9494 | 0.1114 | 24 | 1.18 | 1.17 | 1.18 | 1711.6 | 65 | | |
| 12-Mar-16 | Cloudy | 287.5 | 763.3 | 2.8140 | 2.9895 | 0.1755 | 24 | 1.53 | 1.50 | 1.52 | 2235.3 | 79 | 177 | 260 |
| 18-Mar-16 | Cloudy | 292.5 | 759.1 | 2.9014 | 3.0912 | 0.1898 | 24 | 1.41 | 1.34 | 1.37 | 1931.9 | 98 | 177 | 200 |
| 24-Mar-16 | Cloudy | 288.3 | 765.2 | 2.9190 | 3.0103 | 0.0913 | 24 | 1.48 | 1.45 | 1.46 | 2071.9 | 44 | | |
| 30-Mar-16 | Cloudy | 293.0 | 763.8 | 2.6831 | 3.0746 | 0.3915 | 24 | 1.60 | 1.59 | 1.60 | 2330.3 | 168 | | |
| | | | | | | | | | | | Min | 44 | | |
| | | | | | | | | | | | Max | 208 | | |
| | | | | | | | | | | | Average | 110 | | |

KTD1a - Centre of Excellence in Paediatrics (Children's Hospital)

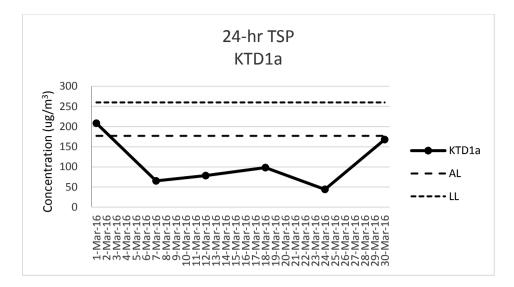
KTD2a - G/IC Zone next to Kwun Tong Bypass (Future Hospital at Site 3C1)

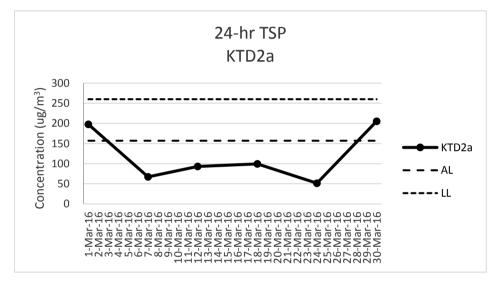
| Otart Data | Weather | Filter Weight | | Filter Weight (g) Particulate Sa | | Particulate Sampling (m ³ /min.) | | | Average | Total | Conc. | Action | Limit | |
|------------|-----------|---------------|--------------|----------------------------------|--------|---|-------------|---------|---------|------------------------|------------------|----------------------|----------------------|----------------------|
| Start Date | | Temperature | Pressure, Pa | | 8 (8) | weight (g) | | (m°/i | min.) | flow | volume | (ug/m ³) | Level | Level |
| | Condition | (K) | (mmHg) | Initial | Final | weight (g) | 11110(1113) | Initial | Final | (m ³ /min.) | (m ³⁾ | (ug/III) | (ug/m ³) | (ug/m ³) |
| 1-Mar-16 | Sunny | 289.5 | 768.6 | 2.8040 | 3.1640 | 0.3600 | 24 | 1.28 | 1.25 | 1.27 | 1822.7 | 198 | | |
| 7-Mar-16 | Fine | 292.7 | 761.2 | 2.8135 | 2.9218 | 0.1083 | 24 | 1.12 | 1.11 | 1.12 | 1606.6 | 67 | | |
| 12-Mar-16 | Cloudy | 287.5 | 763.3 | 2.8324 | 3.0070 | 0.1746 | 24 | 1.32 | 1.29 | 1.30 | 1874.1 | 93 | 157 | 260 |
| 18-Mar-16 | Cloudy | 292.5 | 759.1 | 2.9048 | 3.0724 | 0.1676 | 24 | 1.19 | 1.14 | 1.17 | 1682.3 | 100 | 157 | 200 |
| 24-Mar-16 | Cloudy | 288.3 | 765.2 | 2.9186 | 3.0230 | 0.1044 | 24 | 1.43 | 1.39 | 1.41 | 2028.0 | 51 | | |
| 30-Mar-16 | Cloudy | 293.0 | 763.8 | 2.6856 | 3.1732 | 0.4876 | 24 | 1.66 | 1.64 | 1.65 | 2374.6 | <u>205</u> | | |
| | | | | | | | | | | | Min | 51 | | |
| | | | | | | | | | | | Max | 205 | | |
| | | | | | | | | | | | Average | 119 | | |

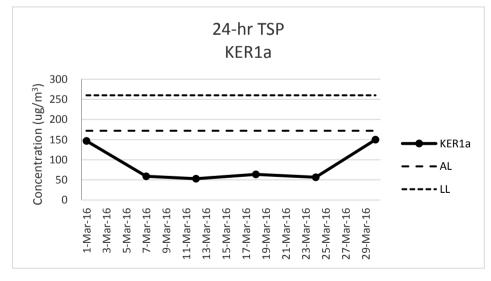
KER1a - Site Boundary at Cheung Yip Street

| Start Date | Weather | Air Temperature | Atmospheric Pressure, Pa | Filter W | eight (g) |) Particulate weight (g) | | | (m^{3}/m^{3}) | Rate nin.) | Average flow | Total volume | Conc. | Action Level | Limit Level |
|------------|-----------|--------------------|-----------------------------|----------|-----------|-----------------------------|-------------|---------|-----------------|------------------------|------------------|----------------------|------------|----------------------|----------------|
| | Condition | (K) | (mmHg) | Initial | Final | weigint (g) | 11116(1115) | Initial | Final | (m ³ /min.) | (m ³⁾ | (ug/m ³) | (ug/m^3) | (ug/m ³) | |
| 1-Mar-16 | Sunny | 289.5 | 768.6 | 2.8300 | 3.0885 | 0.2585 | 24 | 1.20 | 1.23 | 1.22 | 1761.1 | 147 | | | |
| 7-Mar-16 | Fine | 292.7 | 761.2 | 2.8269 | 2.9210 | 0.0941 | 24 | 1.13 | 1.12 | 1.12 | 1596.3 | 59 | | | |
| 12-Mar-16 | Cloudy | 287.5 | 763.3 | 2.8898 | 3.0020 | 0.1122 | 24 | 1.43 | 1.41 | 1.42 | 2119.0 | 53 | 172 | 260 | |
| 18-Mar-16 | Cloudy | 292.5 | 759.1 | 2.9243 | 3.0280 | 0.1037 | 24 | 1.18 | 1.12 | 1.15 | 1632.0 | 64 | 172 | 200 | |
| 24-Mar-16 | Cloudy | 288.3 | 765.2 | 2.9000 | 2.9909 | 0.0909 | 24 | 1.14 | 1.12 | 1.13 | 1609.5 | 56 | | | |
| 30-Mar-16 | Cloudy | 293.0 | 763.8 | 2.6800 | 2.9590 | 0.2790 | 24 | 1.25 | 1.29 | 1.27 | 1862.3 | 150 | | | |
| | | | | | • | - | | | | | Min | 53 | | | |
| | | | | | | | | | | | Max | 150 | | | |
| | | | | | | | | | | | Average | 88 | 1 | | |

Note: <u>Underline</u>: Exceedance of Action Level <u>Underline and Bold</u>: Exceedance of Limit Level







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Appendix G

Noise Monitoring Data

Noise Impact Monitoring Result for Kai Tak Development - Stage 3 Infrastructure Works for Developments at the Southern Part of the Former Runway

| Date | Start Time | Leq 30min dB(A) | Weather |
|-----------|-------------|--------------------|---------|
| 1-Mar-16 | 11:39 | 64 | Sunny |
| 7-Mar-16 | 14:02 | 73 | Fine |
| 12-Mar-16 | 12:12 | 63 | Cloudy |
| 18-Mar-16 | 9:02 | 54 | Cloudy |
| 24-Mar-16 | 10:25 | 69 | Cloudy |
| 30-Mar-16 | 13:00 | 72 | Cloudy |
| | Max | 73 | |
| | Min | 54 | |
| | Limit Level | 75 | |

KTD 1a: Centre of Excellence in Paediatrics (Children's Hospital)

KTD 2a: G/IC Zone next to Kwun Tong Bypass (Future Hospital at Site 3C1)

| Date | Start Time | Leq 30min dB(A) | Weather |
|-----------|-------------|--------------------|---------|
| 1-Mar-16 | 12:16 | 60 | Sunny |
| 7-Mar-16 | 14:40 | 70 | Fine |
| 12-Mar-16 | 11:37 | 61 | Cloudy |
| 18-Mar-16 | 9:24 | 53 | Cloudy |
| 24-Mar-16 | 9:46 | 64 | Cloudy |
| 30-Mar-16 | 13:47 | 61 | Cloudy |
| | Max | 70 | |
| | Min | 53 | |
| | Limit Level | 75 | |

KER 1a: Site Boundary at Cheung Yip Street

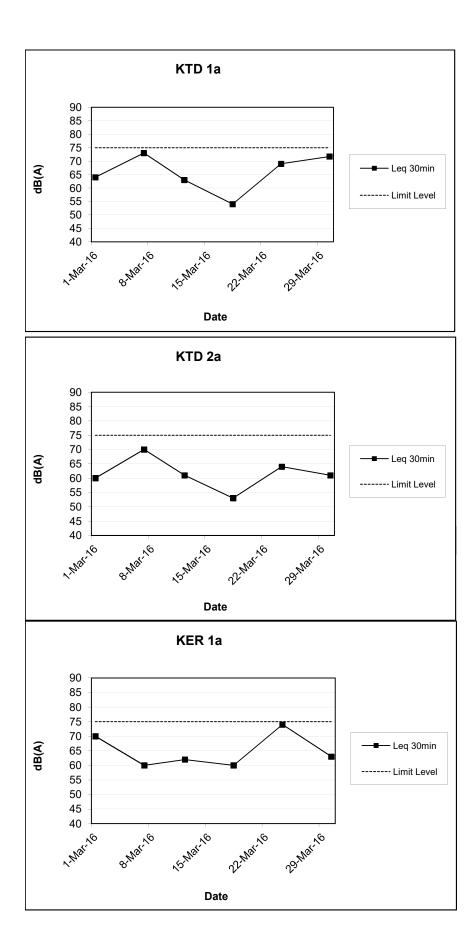
| | | Leq 30min | |
|-----------|-------------|-----------|---------|
| Date | Start Time | dB(A) | Weather |
| 1-Mar-16 | 11:01 | 70 | Sunny |
| 7-Mar-16 | 15:14 | 60 | Fine |
| 12-Mar-16 | 12:49 | 62 | Cloudy |
| 18-Mar-16 | 8:50 | 60 | Cloudy |
| 24-Mar-16 | 11:02 | 74 | Cloudy |
| 30-Mar-16 | 14:39 | 63 | Cloudy |
| | Max | 74 | |
| | Min | 60 | |
| | Limit Level | 75 | |

Note:

KTD1a: Façade Measurement

KTD2a & KER1a: Free-field measurement (+3dB(A) correction has been applied)

No raining and wind with speed over 5 m/s was observed during noise monitoring according to the onsite observation.



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Appendix H

Events and Action Plan

Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, Hong Kong..

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Event and Action Plan for Construction Dust Monitoring

Tel Fax

| EVENT | ACTION | | | | | | |
|---|--|--|--|---|--|--|--|
| | ET | IEC | ER | Contractor | | | |
| Action Level | | | • | | | | |
| Exceedance for one sample. | Identify sources, investigate the causes of complaint and propose remedial measures. Inform IEC and ER. Repeat measurement to confirm finding;. Increase monitoring frequency | Check monitoring data submitted by the ET. Check the Contractor's working methods. | 1. Notify the Contractor. | Rectify any unacceptable practices. Amend working methods agreed with the ER as appropriate. | | | |
| Exceedance for two or more consecutive samples. | 1.Identify sources. 2.Inform the 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 the IEC, ER and Contractor on remedial action required. 7.If exceedance continues, arrange meeting with the IEC, Contractor and ER. 8.If exceedance stops, cease additional monitoring. | Check monitoring data submitted by the ET. Check the Contractor's working methods. Discuss with the ET, ER and Contractor on possible remedial measures if required. Advise the ER on the effectiveness of proposed remedial measures if required. | Notify the Contractor. Ensure remedial measures properly implemented. | Submit proposals for remedial action to the ER within 3 working days of notification. Implement the agreed proposals. Amend proposal as appropriate | | | |
| Exceedance for one sample. | Identify sources, investigate causes of exceedance and proposed remedial measures. Inform the IEC, ER, and Contractor. Repeat measurement to confirm finding. 4. Increase monitoring frequency to daily. Assess effectiveness of the Contractor's remedial action and keep the IEC and ER informed of the results | Check monitoring data submitted by the ET. Check the Contractor's working methods. Discuss with the ET, ER and Contractor on possible remedial measures. Advise the ER and ET on the effectiveness of the proposed remedial measures. Supervise the implementation of remedial measures. | Confirm receipt of the notification of exceedance in writing. Notify the Contractor. Ensure remedial measures are properly implemented. | Take immediate action to avoid further exceedance. Submit proposals for remedial action to the ER and copy to the ET and IEC within 3 working days of notification. Implement the agreed proposals. Amend proposal as appropriate. | | | |
| Exceedance for two or more consecutive samples | Notify the IEC, ER and Contractor. Identify sources. Repeat measurements to confirm findings. Increase monitoring frequency to daily. Carry out analysis of the Contractor's working procedures with the ER to determine the possible mitigation to be implemented. Arrange meeting with the IEC and ER to | Discuss amongst the ER, ET and Contractor on the potential remedial action. Review the Contractor's remedial action whenever necessary to assure their effectiveness and advise the ER and ET accordingly. Supervise the implementation of remedial measures. | Confirm receipt of the notification of exceedance in writing. Notify the Contractor. In consultation with the IEC and ET, agree with the Contractor on the remedial measures to be implemented. Ensure remedial measures are properly implemented. If exceedance | Take immediate action to avoid further exceedance. Submit proposals for remedial action to the ER and copy to the IEC and ET within 3 working days of notification. Implement the agreed proposals. Resubmit proposals if problems still not under control. Stop the relevant portion of works as | | | |

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| EVENT | ACTION | | | | | | | | |
|-------|---|-----|---|--|--|--|--|--|--|
| EVENT | ET | IEC | ER | Contractor | | | | | |
| | discuss the remedial action to be taken. 7. Assess the effectiveness of the Contractor's remedial action and keep the IEC, EPD and ER informed of the results. 8. If exceedance stops, cease additional monitoring | | continues, consider what portion of works is responsible and instruct the Contractor to stop that portion of works until the exceedance is abated. | determined by the ER until the exceedance is abated. | | | | | |

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Event and Action Plan for Noise Impact

| EVENT | | AC | | |
|--------------|---|--|--|--|
| EVENT | ET | IEC | ER | Contractor |
| Action Level | Notify the IEC, ER and Contractor. Carry out investigation. Report the results of investigation to the IEC and Contractor. Discuss jointly with the ER and Contractor and formulate remedial measures. Increase the monitoring frequency to check the mitigation effectiveness | Review the monitoring data submitted by the ET. Review the construction methods and proposed redial measures by the Contractor, and advise the ET and ER if the proposed remedial measures would be sufficient | Notify the Contractor. Require the Contractor to propose remedial measures for implementation if required. | Submit noise mitigation proposals to the ER and copy to the IEC and ET. Implement noise mitigation proposals. |
| Limit Level | Notify the IEC, ER and Contractor. Identify sources. Repeat measurements to confirm findings. Carry out analysis of the Contractor's working procedures with the ER and Contractor to determine possible mitigations to be implemented. Record the causes and action taken for the exceedances. Increase the monitoring frequency. Assess the effectiveness of the Contractor's remedial action with the ER and keep the IEC informed of the results. If exceedance stops, cease additional monitoring | Discuss amongst the ER, ET and Contractor on the potential remedial action. Review the Contractor's remedial action whenever necessary to assure their effectiveness and advise the ER accordingly. Supervise the implementation of remedial measures. | Confirm receipt of notification of exceedance in writing. Notify the Contractor. Require the Contractor to propose remedial measures for the analysed noise problems. Ensure remedial measures are properly implemented. If exceedance continues, consider what portion of work is responsible and instruct the Contractor to stop that portion of works until the exceedance is abated. | Take immediate action to avoid further exceedance. Submit proposals for remedial action to the ER and copy to the ET and IEC within 3 working days of notification. Implement the agreed proposals. Resubmit proposals if problems still not under control. Stop the relevant portion of works as determined by the ER until the exceedance is abated. |

AOTION

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Event and Action Plan for Landscape and Visual Impact

Tel

| EVENT | ACTION | | | | | | | |
|--------------------------------|--|--|--|---|--|--|--|--|
| EVENT | ET | IEC | ER | Contractor | | | | |
| Non-conformity on one occasion | Identify Source Inform the IEC and the ER Discuss remedial actions with the IEC, the ER and the Contractor Monitor remedial actions until rectification has been completed | Check report Check the Contractor's working method Discuss with the ET and the Contractor on possible remedial measures Advise the ER on effectiveness of proposed remedial measures. Check implementation of remedial measures. | 1. Notify Contractor 2. Ensure remedial measures are properly implemented | Amend working methods Rectify damage and undertake any necessary replacement | | | | |
| Repeated Non- conformity | Identify Source Inform the IEC and the ER Increase monitoring frequency Discuss remedial actions with the IEC, the ER and the Contractor Monitor remedial actions until rectification has been completed If exceedance stops, cease additional monitoring | Check monitoring report Check the Contractor's working method Discuss with the ET and the Contractor on possible remedial measures Advise the ER on effectiveness of proposed remedial measures Supervise implementation of remedial measures. | 1. Notify the Contractor 2. Ensure remedial measures are properly implemented | Amend working methods Rectify damage and undertake any necessary replacement | | | | |

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Appendix I

Waste Flow Table

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| | | Actual Quantities of Inert C&D Materials Generated Monthly | | | | | Actual Quantities of Non-inert C&D Wastes Generated Monthly | | | | |
|-------------------|--------------------------------|--|---------------------------|-----------------------------|----------------------------|--------------------------|---|----------------------------------|--------------------------|-------------------|-----------------------------------|
| Monthly Ending | Total Quantity Generated | Hard Rock and Large Broken Concrete | Reused in the Contract | Reused in other Projects | Disposed as Public Fill | Imported Fill | Metals | Paper/ cardboard packaging | Plastics (see Note 3) | Chemical Waste | Others, e.g. general refuse |
| | (in '000m ³) | (in '000m ³) | (in '000m ³) | (in '000m ³) | (in '000m ³) | (in '000m ³) | (in '000 kg) | (in '000kg) | (in '000kg) | (in '000kg) | (in '000m ³) |
| 2016 Jan | 0.159 | 0.101 | 0.058 | Nil | Nil | Nil | Nil | 0.023 | 0.00002 | 0.0158 | 0.0335 |
| 2016 Feb | 0.291 | 0.050 | 0.241 | Nil | Nil | Nil | 1.11 | 0.023 | 0.00002 | 0.0158 | 0.0335 |
| 2016 Mar | 2.7052 | 0.0407 | 0.0662 | Nil | 2.639 | Nil | Nil | 0.023 | 0.00002 | 0.0158 | 0.0571 |
| 2016 Apr | | | | | | | | | | | |
| 2016 May | | | | | | | | | | | |
| 2016 June | | | | | | | | | | | |
| 2016 July | | | | | | | | | | | |
| 2016 Aug | | | | | | | | | | | |
| 2016 Sept | | | | | | | | | | | |
| 2016 Oct | | | | | | | | | | | |
| 2016 Nov | | | | | | | | | | | |
| 2016 Dec | | | | | | | | | | | |
| Total | 3.1552 | 0.1917 | 0.3652 | Nil | 2.639 | Nil | 1.11 | 0.069 | 0.00006 | 0.0474 | 0.1241 |

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Appendix J

Environmental Mitigation Implementation Schedule (EMIS)

| Room 723 & 725, 7/F, Block B, | |
|-------------------------------------|-------|
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| Hong Kong | Email |
| | |

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| EIA Ref | EM&A Ref | Environmental Protection Measures / Mitigation Measures | Who to implement the measure | Location / Timing | Construction Phase Implementation Status |
|----------------------------|---|---|------------------------------------|---------------------------|---|
| Air Quality Measu | res | | | | |
| New Distributor Ro | oads Serving the Pla | anned KTD | | | |
| AEIAR-130/2009 \$3.2 | AEIAR 130/2009 EM&A Manual S2.2 | 8 times daily watering of the work site with active dust emitting activities. | Contractor | All relevant worksites | Implemented |
| Decommissioning | of the Radar Statior | n of the former Kai Tak Airport | | | |
| AEIAR-130/2009 S5.2.19 | AEIAR 130/2009 EM&A Manual S4.2.4 | The excavation area should be limited to as small in size as possible and backfilled with clean and/or treated soil shortly after excavation work. The exposed excavated area should be covered by the tarpaulin during night time. The top layer soils should be sprayed with fine misting of water immediately before the excavation. | Contractor | All relevant worksites | Not Applicable |
| Trunk Road T2 | I | | | | |
| AEIAR-174/2013 S4.9.2.1 | AEIAR-174/2013 EM&A Manual S2.3.1.1 | Watering of the construction areas 12 times per day to reduce dust emissions by 91.7%, with reference to the "Control of Open Fugitive Dust Sources" (USEPA AP-42). The amount of water to be applied would be 0.91L/m2 for the respective watering frequency. | Contractor | All relevant worksites | Implemented |
| | | Dust enclosures with watering would be provided along the loading ramps and conveyor belts for unloading the C&D materials to the barge for dust suppression. | Contractor | All relevant worksites | Not Applicable |
| | | 8 km per hour is the recommended limit of the speed for vehicles on unpaved site roads. | Contractor | All relevant worksites | Implemented |
| | | Good Site Practices | | | |
| AEIAR-130/2009 | AEIAR 130/2009 | Stockpiling site(s) should be lined with impermeable sheeting and bunded. Stockpiles should | Contractor | All relevant | Partially |

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| EIA Ref | EM&A Ref | Environmental Protection Measures / Mitigation Measures | Who to implement the measure | Location / Timing | Construction Phase Implementation Status | | | | |
|----------------------------------|----------------------------------|---|------------------------------------|---------------------------|---|--|------------|---------------------------|-------------|
| S3.2, S5.2.19, AEIAR-174/2013 | EM&A Manual S2.2, S4.2, AEIAR | be fully covered by impermeable sheeting to reduce dust emission. | | worksites | Implemented | | | | |
| S4.9.2.2 | 174/2013 EM&A Manual S2.3.1.2 | Use of regular watering to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather. Use of frequent watering for particularly dusty construction areas and areas close to ASRs. | Contractor | All relevant worksites | Partially Implemented | | | | |
| | | Misting for the dusty material should be carried out before being loaded into the vehicle. Any vehicle with an open load carrying area should have properly fitted side and tail boards. | Contractor | All relevant worksites | Implemented | | | | |
| | | Material having the potential to create dust should not be loaded from a level higher than the side and tail boards and should be dampened and covered by a clean tarpaulin. | Contractor | All relevant worksites | Partially Implemented | | | | |
| | | Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations; The tarpaulin should be properly secured and should extent at least 300 mm over the edges of the sides and tailboards. The material should also be dampened if necessary before transportation. | Contractor | All relevant worksites | Partially Implemented | | | | |
| | | | | | | The vehicles should be restricted to maximum speed of 10 km per hour. Confined haulage and delivery vehicle to designated roadways insider the site. Onsite unpaved roads should be compacted and kept free of lose materials. | Contractor | All relevant worksites | Implemented |
| | | Vehicle washing facilities should be provided at every vehicle exit point. Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites. | Contractor | All relevant worksites | Implemented | | | | |
| | | The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores. | | | | | | | |
| | - | Every main haul road should be scaled with concrete and kept clear of dusty materials or sprayed with water so as to maintain the entire road surface wet. | Contractor | All relevant worksites | Partially Implemented | | | | |
| | | Every stock of more than 20 bags of 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. | Contractor | All relevant worksites | Not Applicable | | | | |

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| EIA Ref | EM&A Ref | Environmental Protection Measures / Mitigation Measures | Who to implement the measure | Location / Timing | Construction Phase Implementation Status |
|----------------------------|---|---|------------------------------------|---------------------------|---|
| | | 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. | Contractor | All relevant worksites | Not Applicable |
| | | 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. | Contractor | All relevant worksites | Not Applicable |
| | | Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering shall be applied to aggregate fines. | Contractor | All relevant worksites | Implemented |
| | | Open stockpiles shall be avoided or covered. Prevent placing dusty material storage piles near ASRs. | Contractor | All relevant worksites | Partially Implemented |
| | | Routing of vehicles and position of construction plant should be at the maximum possible distance from ASRs. | Contractor | All relevant worksites | Not Applicable |
| | | Dark smoke | | | |
| | | Dark smoke emission shall be control in accordance with the Air Pollution Control (Smoke) Regulation and ETWB TCW 19/2005. | Contractor | All relevant worksites | Implemented |
| | | Plant and equipment should be well maintained to prevent dark smoke emission. | Contractor | All relevant worksites | Implemented |
| Noise Measures | | · | | | |
| Trunk Road T2 | | | | | |
| AEIAR-174/2013 S5.9.2.1 | AEIAR-174/2013 EM&A Manual S3.4.1.1 | The use of quieter plant, including Quality Powered Mechanical Equipment (QPME) is specified for the list of equipment: • Concrete lorry mixer • Dump Truck, 5.5 tonne < gross vehicle weight <= 38 tonne • Generator, Super Silenced, 70 dB(A) at 7m | Contractor | All relevant worksites | Implemented |

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| EIA Ref | EM&A Ref | Environmental Protection Measures / Mitigation Measures | Who to implement the measure | Location / Timing | Construction Phase Implementation Status |
|--|--|---|------------------------------------|---------------------------|---|
| | | Poker, vibratory, Hand-held (electric) Water Pump, Submersible (Electric) Mobile Crane - KOBELCO CKS900 Excavator, wheeled/tracked - HYUNDAI R80CR-9 | | | |
| | | Use of temporary or fixed noise barriers with a surface density of at least 10kg/m ² to screen noise from movable and stationary plant. | Contractor | All relevant worksites | Not Applicable |
| | | Use of enclosures with covers at top and three sides and a surface density of at least 10kg/m ² to screen noise from generally static noisy plant such as air compressors. | Contractor | All relevant worksites | Not Applicable |
| | | Use of acoustic fabric for the silent piling system, drill rigs, rock drills etc. | Contractor | All relevant worksites | Partially Implemented |
| | | Good Site Practices | | | |
| AEIAR-130/2009 S3.3, S5.3.10, AEIAR-174/2013 | AEIAR 130/2009 EM&A Manual | Only well-maintained plant should be operated on-site and plant shall be serviced regularly during the construction/ decommissioning program. | Contractor | All relevant worksites | Implemented |
| S5.9.2.1 | S2.3, S4.3.2, AEIAR-174/2013 EM&A Manual S3.4.1.1 | Silencers or mufflers on construction equipment should be utilized and shall be properly maintained during the construction/ decommissioning program. | Contractor | All relevant worksites | Not Applicable |
| | 33.4.1.1 | Mobile plant, if any, should be sited as far away from NSRs as possible. | Contractor | All relevant worksites | Not Applicable |
| | | Machines and plant (such as trucks) that may be in intermittent use shall be shut down between works periods or should be throttled down to a minimum. | Contractor | All relevant worksites | Implemented |
| | | Plant known to emit noise strongly in one direction shall, wherever possible, be orientated so that the noise is directed away from the nearby NSRs. | Contractor | All relevant worksites | Implemented |
| | | Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction/ decommissioning activities. | Contractor | All relevant worksites | Not Applicable |

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| EIA Ref | EM&A Ref | Environmental Protection Measures / Mitigation Measures | Who to implement the measure | Location / Timing | Construction Phase Implementation Status |
|----------------------------|---|--|------------------------------------|---------------------------|---|
| | | Use of site hoarding as a noise barrier to screen noise at low level NSRs. | Contractor | All relevant worksites | Implemented |
| | | For the use of hand held percussive breakers (with mass of above 10kg) and portable air compressors (supply air at 500 kPa or above), the noise level of such PME shall comply with a stringent noise emission standard and a noise emission label shall be obtained from the DEP before use at any time in construction site. | Contractor | All relevant worksites | Implemented |
| | | Quiet powered mechanical equipment (PME) shall be used for the construction of the Project. | Contractor | All relevant worksites | Implemented |
| | | Full enclosures shall be used to screen noise from relatively static PMEs (including air compressor, bar bender, concrete pump, generator and water pump) from sensitive receiver(s). | Contractor | All relevant worksites | Not Applicable |
| | | Movable cantilevered noise barriers shall be used to screen noise from mobile PMEs (including asphalt paver, breaker, excavator and hand-held breaker) from sensitive receiver(s). These movable cantilevered noise barriers shall be located close to the mobile PMEs and shall be moved/adjusted iteratively in step with each movement of the corresponding mobile PMEs in order to maximize their noise reduction effects. | Contractor | All relevant worksites | Not Applicable |
| | | Only approved or exempted Non-road Mobile Machineries (NRMMs) including regulated machines and non-road vechicles with proper labels are allowed to be used in specified activities on-site. | Contractor | All relevant worksites | Implemented |
| Water Quality Mea | sures | | | | |
| Trunk Road T2 | | | | | |
| | | Accidental Spillage | | | |
| AEIAR-174/2013 S6.4.8.5 | AEIAR-174/2013 EM&A Manual S4.2.1.1 | All bentonite slurry should be stored in a container that resistant to corrosion, maintained in good conditions and securely closed; The container should be labelled in English and Chinese and note that the container is for storage of bentonite slurry only. | Contractor | All relevant worksites | Not Applicable |

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|----------------------------|---|--|------------------------------------|---------------------------|---|
| | | The storage container should be placed on an area of impermeable flooring and bunded with capacity to accommodate 110% of the volume of the container size or 20% by volume stored in the area and enclosed with at least 3 sides. | Contractor | All relevant worksites | Implemented |
| | | The storage container should be sufficiently covered to prevent rainfall entering the container or bunded area (water collected within the bund must be tested and disposed of as chemical waste, if necessary). An emergency clean up kit shall be readily available where bentonite fluid will be stored or used. | Contractor | All relevant worksites | Implemented |
| | | The handling and disposal of bentonite slurries should be undertaken in accordance within ProPECC PN 1/94. Surplus bentonite slurries used in construction works shall be reconditioned and reused wherever practicable. Residual bentonite slurry shall be disposed of from the site as soon as possible as stipulated in Clause 8.56 of the General Specification for Civil Engineering Works. The Contractor should explore alternative disposal outlets for the residual bentonite slurry (dewatered bentonite slurry to be disposed to a public filling area and liquid bentonite slurry, if mixed with inert fill material, to be disposed to a public filling area) and disposal at landfill should be the last resort. | Contractor | All relevant worksites | Not Applicable |
| AEIAR-174/2013 S6.4.8.8 | AEIAR-174/2013 EM&A Manual S4.2.1.1 | In order to protect against impacts to the surrounding marine waters of the KTTS and Victoria Harbour in the event of an accidental spillage of fuel or oil, the Contractor will be required to prepare a spill response plan to the satisfaction of AFCD, EPD, FSD, Police, TD and WSD to define procedures for the control, containment and clean-up of any spillage that could occur on the construction site. | Contractor | All relevant worksites | Implemented |
| | | Dredging, Reclamation and Filling | | | |
| | | No dredging, reclamation or filling in the marine environment shall be carried out. | Contractor | All relevant worksites | Implemented |
| Decommissioning | of the Radar Statior | n of the former Kai Tak Airport | | | |
| | | Building Demolition | | | |

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|---|---|--|------------------------------------|---------------------------|---|
| AEIAR-130/2009 S5.4 | AEIAR 130/2009 EM&A Manual | The site practices outlined in ProPECC PN 1/94 "Construction Site Drainage" should be followed as far as practicable in order to minimise surface runoff and the chance of erosion. | Contractor | All relevant worksites | Not Applicable |
| | S4.4 | There is a need to apply to EPD for a discharge licence under the WPCO for discharging effluent from the construction site. The discharge quality is required to meet the requirements specified in the discharge licence. All the runoff, wastewater or extracted groundwater generated from the works areas should be treated so that it satisfies all the standards listed in the TM-DSS. It is anticipated that the wastewater generated from the works areas would be of small quantity. Monitoring of the treated effluent quality from the works areas should be carried out in accordance with the WPCO license which is under the ambit of regional office (RO) of EPD. | Contractor | All relevant worksites | Implemented |
| | | General Construction Works | | | |
| | | Construction Runoff | | | |
| 130/2009 S3.4, I S5.4/ AEIAR- S2 174/2013 1 | AEIAR 130/2009 EM&A Manual S2.4, S4.4/ AEIAR- 174/2013 EM&A Manual S4.2.1.1 | contamination of runoff, and erosion. Construction runoff related impacts associated with the above ground construction activities can be readily controlled through the use of appropriate | Contractor | All relevant worksites | Partially Implemented |
| | | Construction site should be provided with adequately designed perimeter channel and pre- treatment facilities and proper maintenance. The boundaries of critical areas of earthworks should be marked and surrounded by dykes or embankments for flood protection. Temporary ditches should be provided to facilitate runoff discharge into the appropriate watercourses, via a silt retention pond. Permanent drainage channels should incorporate sediment basins or traps and baffles to enhance deposition rates. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94. | Contractor | All relevant worksites | Not Applicable |
| | | Ideally, construction works should be programmed to minimise surface excavation works during the rainy season (April to September). All exposed earth areas should be completed as soon as possible after earthworks have been completed, or alternatively, within 14 days of the cessation of earthworks where practicable. If excavation of soil cannot be avoided during the | Contractor | All relevant worksites | Not Applicable |

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|---------|----------|---|------------------------------------|---------------------------|---|
| | | rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means. | | | |
| | | Sediment tanks of sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8 m ³ capacity, are recommended as a general mitigation measure which can be used for settling surface runoff prior to disposal. The system capacity is flexible and able to handle multiple inputs from a variety of sources and particularly suited to applications where the influent is pumped. | Contractor | All relevant worksites | Implemented |
| | | Open stockpiles of construction materials (for examples, aggregates, sand and fill material) of more than 50 m ³ should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system. | Contractor | All relevant worksites | Partially Implemented |
| | | Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers. | Contractor | All relevant worksites | Implemented |
| | | Precautions to be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecast, and actions to be taken during or after rainstorms are summarised in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events. | Contractor | All relevant worksites | Not Applicable |
| | | Oil interceptors should be provided in the drainage system and regularly cleaned to prevent the release of oils and grease into the storm water drainage system after accidental spillages. The interceptor should have a bypass to prevent flushing during periods of heavy rain. | Contractor | All relevant worksites | Not Applicable |
| | | An adequately designed and located wheel washing bay should be provided at every site exit, and wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains. | Contractor | All relevant worksites | Not Applicable |
| | | Drainage | | | |

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|---------|----------|---|------------------------------------|---------------------------|---|
| | | It is recommended that on-site drainage system should be installed prior to the commencement of other construction activities. Sediment traps should be installed in order to minimise the sediment loading of the effluent prior to discharge into foul sewers. There should be no direct discharge of effluent from the site into the sea. | Contractor | All relevant worksites | Implemented |
| | | All temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge should be adequately designed for the controlled release of storm flows. All sediment control measures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rain storms. The temporarily diverted drainage should be reinstated to its original condition when the construction work has finished or the temporary diversion is no longer required. | Contractor | All relevant worksites | Implemented |
| | | Stormwater Discharges | | | |
| | | Minimum distances of 100 m should be maintained between the existing or planned stormwater discharges and the existing or planned seawater intakes. | Contractor | All relevant worksites | Not Applicable |
| | | Sewage Effluent | | | |
| | | Construction work force sewage discharges on site are expected to be connected to the existing trunk sewer or sewage treatment facilities. The construction sewage may need to be handled by portable chemical toilets prior to the commission of the on-site sewer system. Appropriate numbers of portable toilets should be provided by a licensed contractor to serve the large number of construction workers over the construction site. The Contractor should also be responsible for waste disposal and maintenance practices. | Contractor | All relevant worksites | Implemented |
| | | Debris and Litter | | | |
| | | In order to maintain water quality in acceptable conditions with regard to aesthetic quality, contractors should be required, under conditions of contract, to ensure that site management is optimised and that disposal of any solid materials, litter or wastes to marine waters does not occur. Debris and refuse generated on-site should be collected, handled and disposed of properly to avoid entering into the adjacent harbour waters. Stockpiles of cement and other | Contractor | All relevant worksites | Implemented |

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|------------------------------|---|---|------------------------------------|---------------------------|---|
| | | construction materials should be kept covered when not being used. | | | |
| | | Accidental Spillage | | | |
| | | Oils and fuels should only be used and stored in designated areas which have pollution prevention facilities. To prevent spillage of fuels and solvents to the nearby harbour waters, all fuel tanks and storage areas should be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank, to prevent spilled fuel oils from reaching the coastal waters of the Victoria Harbour WCZ. The bund should be drained of rainwater after a rain event. | Contractor | All relevant worksites | Implemented |
| | | Waste Management Measures | | | |
| | | Waste Management Plan | | | |
| AEIAR-174/2013 S11.4.8.1 | AEIAR-174/2013 EM&A Manual S9.2.1.2 | Contractor should be requested to submit an outline Waste Management Plan (WMP) prior to the commencement of construction work, in accordance with the ETWB TC(W) No.19/2005 so as to provide an overall framework of waste management and reduction. | Contractor | All relevant worksites | Implemented |
| | | Good Site Practices | | | |
| AEIAR-130/2009 S3.5, S5.5 | AEIAR 130/2009 EM&A Manual S2.5, S4.5 | Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site. | Contractor | All relevant worksites | Implemented |
| | | Training of site personnel in proper waste management and chemical waste handling procedures. | Contractor | All relevant worksites | Partially Implemented |
| | | Provision of sufficient waste disposal points and regular collection for disposal. | Contractor | All relevant worksites | Implemented |
| | | Appropriate measures to minimize windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers. | Contractor | All relevant worksites | Implemented |

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|---------|----------|---|------------------------------------|---------------------------|---|
| | | A recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites). | Contractor | All relevant worksites | Implemented |
| | | Waste Reduction Measures | | | |
| | | Sort C&D waste from demolition of the remaining structures to recover recyclable portions such as metals. | Contractor | All relevant worksites | Not Applicable |
| | | Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal. | Contractor | All relevant worksites | Implemented |
| | | Encourage collection of aluminum cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the work force. | Contractor | All relevant worksites | Implemented |
| | | Any unused chemicals or those with remaining functional capacity should be recycled. | Contractor | All relevant worksites | Implemented |
| | | Proper storage and site practices to minimize the potential for damage or contamination of construction materials. | Contractor | All relevant worksites | Implemented |
| | | Construction and Demolition Materials | | | |
| | | Where it is unavoidable to have transient stockpiles of C&D material within the work site pending collection for disposal, the transient stockpiles shall be located away from waterfront or storm drains as far as possible. | Contractor | All relevant worksites | Implemented |
| | | Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric. | Contractor | All relevant worksites | Partially Implemented |
| | | Skip hoist for material transport should be totally enclosed by impervious sheeting. | Contractor | All relevant worksites | Implemented |

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|---------|----------|---|------------------------------------|---------------------------|---|
| | | Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site. | Contractor | All relevant worksites | Implemented |
| | | The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores. | Contractor | All relevant worksites | Implemented |
| | | The load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure dust materials do not leak from the vehicle. | Contractor | All relevant worksites | Partially Implemented |
| | | All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet. | Contractor | All relevant worksites | Implemented |
| | | The height from which excavated materials are dropped should be controlled to a minimum practical height to limit fugitive dust generation from unloading. | Contractor | All relevant worksites | Implemented |
| | | When delivering inert C&D material to public fill reception facilities, the material should consist entirely of inert construction waste and of size less than 250mm or other sizes as agreed with the Secretary of the Public Fill Committee. In order to monitor the disposal of the surplus C&D material at the designed public fill reception facility and to control fly tipping, a trip-ticket system as stipulated in the ETWB TCW No. 31/2004 "Trip Ticket System for Disposal of Construction and Demolition Materials" should be included as one of the contractual requirements and implemented by an Environmental Team undertaking the Environmental Monitoring and Audit work. An Independent Environmental Checker should be responsible for auditing the results of the system. | Contractor | All relevant worksites | Implemented |
| | | Chemical Waste | | | |
| | | After use, chemical wastes (for example, cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Spent chemicals should be collected by a licensed collector for disposal at the CWTF or other licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation. | Contractor | All relevant worksites | Partially Implemented |

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|---------------------------|---------------------------------------|---|------------------------------------|---------------------------|---|
| | | General Refuse | | | |
| | | General refuse should be stored in enclosed bins or compaction units separate from C&D material. A licensed waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material. Effective collection and storage methods (including enclosed and covered area) of site wastes would be required to prevent waste materials from being blown around by wind, wastewater discharge by flushing or leaching into the marine environment, or creating odour nuisance or pest and vermin problem. | Contractor | All relevant worksites | Implemented |
| Land Contamination | on Measures | | | | |
| | | For any excavation works conducted at Radar Station | | | |
| AEIAR-130/2009 S3.6.57 | AEIAR 130/2009 EM&A Manual S4.6 | As the risk due to dermal contact with groundwater by site workers is uncertain, it is recommended that personnel protective equipment (PPE) be used by site workers as a mitigation measure. | Contractor | All relevant worksites | Not Applicable |
| Landscape and Vi | sual Impact | | | | |
| New Distributor Ro | oads Serving the Pla | anned KTD | | | |
| | | Construction Phase | | | |
| AEIAR-130/2009 S3.8.12 | AEIAR 130/2009 EM&A Manual S2.8 | All existing trees should be carefully protected during construction. | Contractor | All relevant worksites | Not Applicable |
| | 52.0 | Trees unavoidably affected by the works should be transplanted where practical. Detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWBC 2/2004 and 3/2006. Final locations of transplanted trees should be agreed prior to commencement of the work. | Contractor | All relevant worksites | Not Applicable |
| | | Control of night-time lighting. | Contractor | All relevant worksites | Not Applicable |

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|----------------------------|---|---|------------------------------------|---------------------------|---|
| | | Erection of decorative screen hoarding. | Contractor | All relevant worksites | Implemented |
| Trunk Road T2 | | | • | | |
| | | Construction Phase | | | |
| AEIAR-174/2013 S9.9.1.1 | AEIAR-174/2013 EM&A Manual S7.2.1.2 | All works shall be carefully designed to minimize impacts on existing landscape resources and visually sensitive receivers. Existing trees within works area shall be retained and protected. | Contractor | All relevant worksites | Not Applicable |
| | 57.2.1.2 | Existing trees of good quality and condition that are unavoidably affected by the works should be transplanted. | Contractor | All relevant worksites | Not Applicable |
| | | Large temporary stockpiles of excavated material shall be covered with unobtrusive sheeting to prevent dust and dirt spreading to adjacent landscape areas and vegetation, and to create a neat and tidy visual appearance. | Contractor | All relevant worksites | Partially Implemented |
| | | Construction plant and building material shall be orderly and carefully stored in order to create a neat and tidy visual appearance. | Contractor | All relevant worksites | Implemented |
| | | Erection of decorative screen hoarding should be designed to be compatible with the existing urban context. | Contractor | All relevant worksites | Implemented |
| | | All lighting in construction site shall be carefully controlled to minimize light pollution and night- time glare to nearby residences and GIC user. The contractor shall consider other security measures, which shall minimize the visual impacts. | Contractor | All relevant worksites | Not Applicable |
| General Condition | | | · | | |
| | | The Permit Holder shall display conspicuously a copy of this Permit on the Project site(s) at all vehicular site entrances/exits or at a convenient location for public's information at all times. The Permit Holder shall ensure that the most updated information about the Permit, including any amended Permit, is displayed at such locations. If the Permit Holder surrenders a part or the whole of the Permit, the notice he sends to the Director shall also be displayed at the same | Contractor | All relevant worksites | Implemented |

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|---------|----------|---|------------------------------------|----------------------|---|
| | | locations as the original Permit. The suspended, varied or cancelled Permit shall be removed from display at the Project site(s). | | | |

Implementation status: Implemented / Partially Implemented / Not Implemented / Not Applicable

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Appendix K

Weather and Meteorological Conditions during Reporting Period

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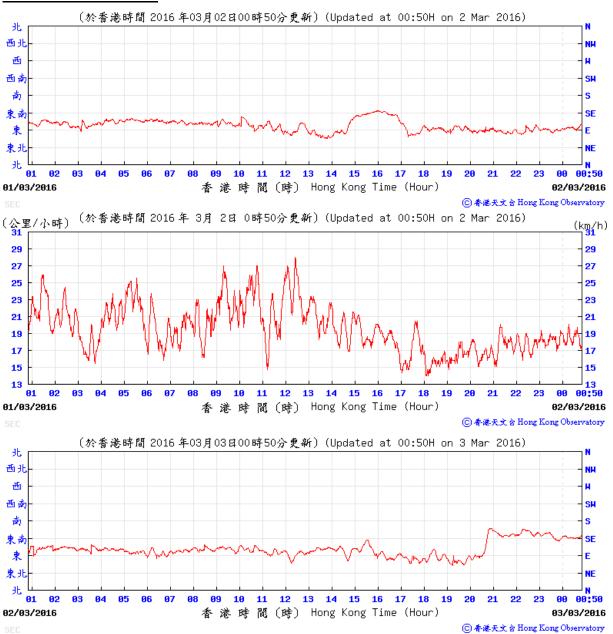


| Date | Mean | | Air Temperatur | e | Mean Relative | Total |
|------|-------------------|---------------------|------------------|---------------------|------------------|------------------|
| | Pressure (hPa) | Maximum (deg. C) | Mean (deg. C) | Minimum (deg. C) | Humidity (%) | Rainfall (mm) |
| | - | - | February 2016 | | - | |
| 26 | 1027.4 | 17.6 | 15.2 | 14 | 79 | Trace |
| 27 | 1024.7 | 17.5 | 15.5 | 13.8 | 79 | Trace |
| 28 | 1023.8 | 20.9 | 16.6 | 13.3 | 72 | 0 |
| 29 | 1024.4 | 24.8 | 18.5 | 14.4 | 61 | 0 |
| | | | March 2016 | | | |
| 1 | 1024.7 | 19.7 | 16.5 | 14.6 | 73 | 0 |
| 2 | 1023.8 | 20.6 | 16.6 | 14.4 | 72 | 0 |
| 3 | 1020.9 | 23.8 | 18.7 | 15.4 | 75 | 0 |
| 4 | 1018.1 | 23.2 | 20.2 | 18.1 | 82 | 0 |
| 5 | 1016.7 | 23.1 | 20.8 | 19.2 | 79 | Trace |
| 6 | 1015.8 | 25.9 | 21.8 | 19.2 | 79 | 0 |
| 7 | 1014.9 | 21.3 | 19.7 | 18.9 | 91 | 0.2 |
| 8 | 1012.5 | 21.5 | 20.1 | 18.9 | 93 | 0 |
| 9 | 1012.5 | 22.9 | 20.8 | 17.1 | 95 | 15.5 |
| 10 | 1019.5 | 17.2 | 13.4 | 10 | 93 | 16.8 |
| 11 | 1022.6 | 14.3 | 11.9 | 10 | 77 | 0.1 |
| 12 | 1017.7 | 14.5 | 13.6 | 12.7 | 87 | 0.1 |
| 13 | 1014.5 | 17 | 15.8 | 14.4 | 96 | 6.8 |
| 14 | 1018 | 16.5 | 15.3 | 14.2 | 83 | 0.8 |
| 15 | 1017.1 | 15.5 | 14.8 | 14 | 79 | Trace |
| 16 | 1015 | 16.3 | 15.3 | 14.1 | 90 | 1.1 |
| 17 | 1014.3 | 17.4 | 16.5 | 15.6 | 97 | 2.2 |
| 18 | 1012 | 21.9 | 19.5 | 17.2 | 97 | Trace |
| 19 | 1013 | 24.9 | 22.4 | 20.3 | 94 | Trace |
| 20 | 1014.7 | 23.1 | 19 | 17.6 | 91 | 0.3 |
| 21 | 1014.8 | 18.2 | 17.1 | 16.4 | 95 | 59.6 |
| 22 | 1013.4 | 17.3 | 16.6 | 15.9 | 96 | 1.7 |
| 23 | 1012.8 | 20.6 | 18.4 | 17.1 | 97 | 8.7 |
| 24 | 1020.2 | 17.7 | 15.3 | 12.7 | 98 | 33.4 |
| 25 | 1023.9 | 15.7 | 13.7 | 11.6 | 75 | 1.4 |
| 26 | 1023.6 | 20.2 | 15.8 | 12.6 | 68 | 0 |
| 27 | 1024.1 | 22.4 | 17.3 | 14.6 | 58 | 0 |
| 28 | 1024.1 | 19.9 | 16.9 | 15.2 | 65 | 0 |
| 29 | 1021.4 | 19.4 | 17.7 | 15.7 | 59 | Trace |
| 30 | 1018.3 | 22.2 | 20 | 18.4 | 79 | Trace |
| 31 | 1015.3 | 25.5 | 21.5 | 19.1 | 86 | 0 |

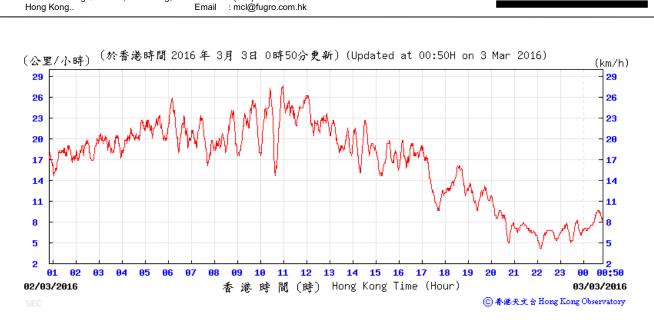
Source: Hong Kong Observatory – Hong Kong Observatory

Wind Speed and Wind Direction Data by Hong Kong Observatory - Kai Tak

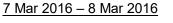
Elevation of station: 3m above mean sea level Elevation of Anemometer: 16m above mean sea level



<u>1 Mar 2016 – 2 Mar 2016</u>



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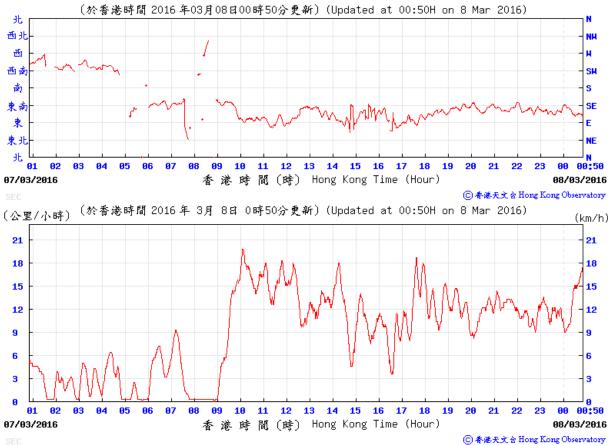
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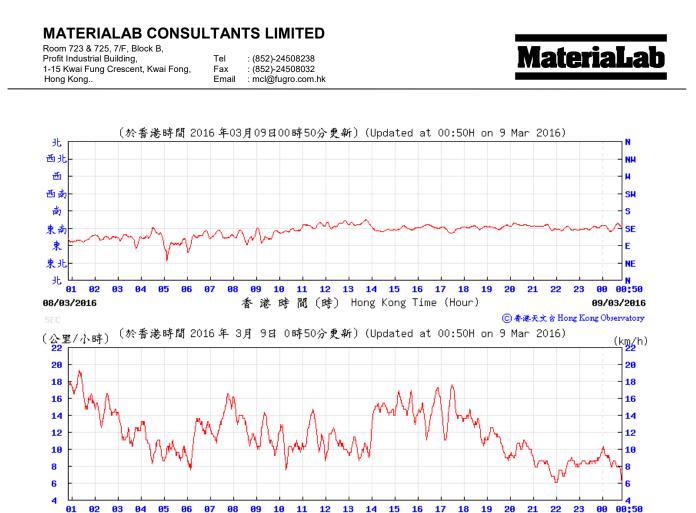
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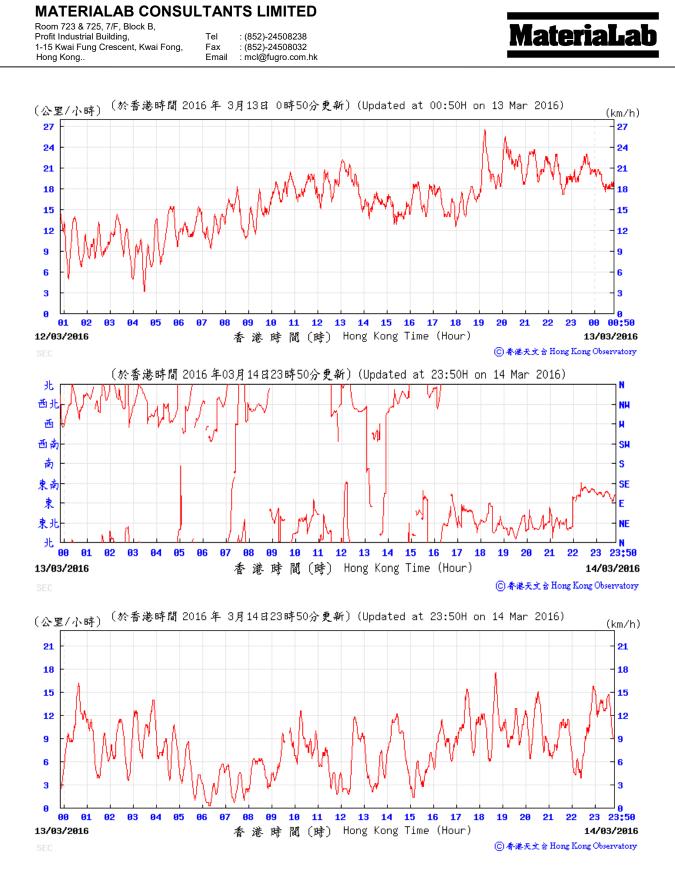


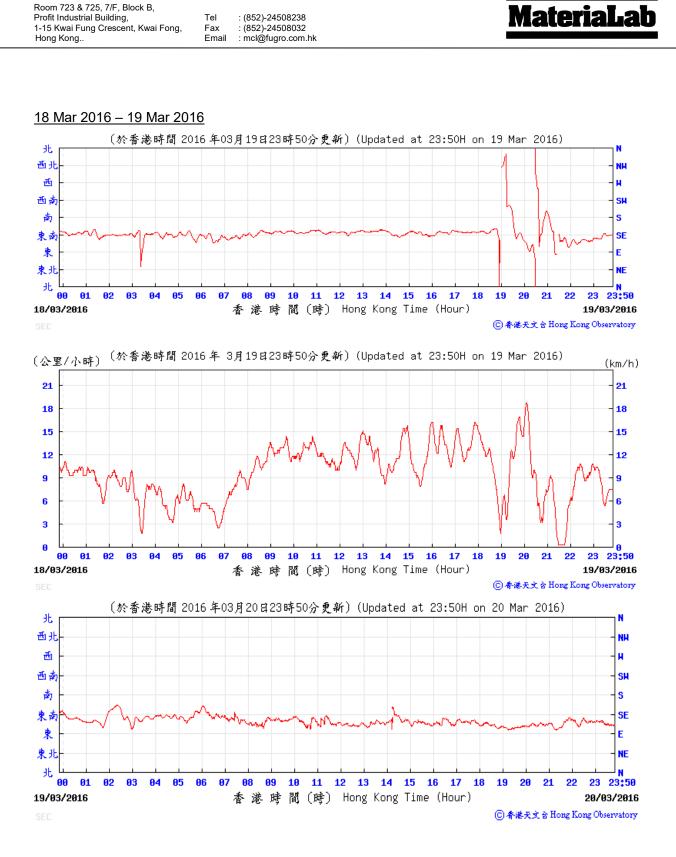
香港時間(時) Hong Kong Time (Hour)

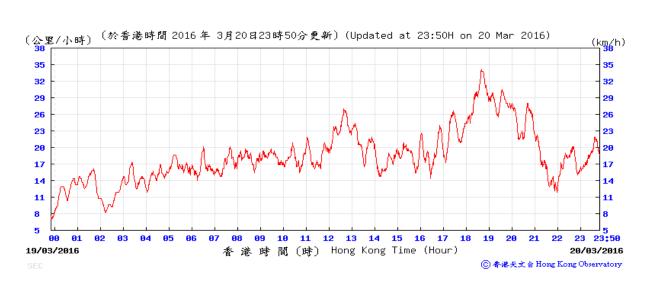
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<u>12 Mar 2016 – 13 Mar 2016</u>







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