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40th CONSOLIDATED MONTHLY **EM&A REPORT**

February 2020

| Client | : | Civil Engineering and Development Department, HKSAR |
|--------------|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EP No. | : | EP-337/2009 – New Distributor Roads Serving the Planned Kai Tak Development Area |
| Contract No. | : | KLN/2016/05 – Independent Environmental Checker for Contract No. KL/2015/02 Kai Tak Development – Stage 5A Infrastructure at Former North Apron Area |
| Report No. | : | 0087/16/ED/1065 |

| Prepared by | : | Wingo So | |
|-------------|---|--------------|--|
| Reviewed by | : | Calvin Leung | |

Certified by :

Colin Yung Independent Environmental Checker Fugro Technical Services Limited



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EXECUTIVE SUMMARY

Hong Kong.

- i. This is the 40th Consolidated Monthly EM&A Report which summaries the EM&A works undertaken by respective contract under EP-337/2009 within the period between 1 February and 29 February 2020.
- ii. The EP-337/2009 relevant major construction activities undertaken in the reporting month are summarized as follow:

Contract No. KL/2012/03:

- Daily Cleaning
- Weeding at roadside planting areas
- Painting cladding at PS2
- Installing steel platforms at PS2
- Plumbing works for irrigation system

Contract No. KL/2014/01:

- TTA implementation, minor works at Shing Fung Road and Wang Chiu Road / Kai Cheung Road;
- Construction of outfalls;
- Laying of paving blocks for footpath;
- Erection of noise barrier panels;
- Planting works along footpath and at deck level;
- Architectural features works at landscaped deck and ground floor open space;
- E&M works; and
- Construction of pedestrian streets.

Contract No. KL/2014/03:

- Excavation and laying of drainage pipe and manhole;
- Construction of SUS structure;
- Construction of District Cooling System;
- Utility laying;
- Removal of temporary decking and temporary road pavement;
- Construction of road base and road pavement.

Contract No. KL/2015/02:

- Carry out the structural works for subway at PERE Stage 2
- Excavation with ELS for subway construction at SKLR playground
- Demolition of the exiting ground beam underneath Bridge K72 and construction of new ground beam
- Carry out trial pit at TTA Stage 4-1 and sheet piling works
- Drainage works at Road D1 and Road L7
- Construction of parapet at Retaining Wall S15
- Demolition of existing structure of Bridge K72
- Backfilling works at Road L7
- Preparation and erection of falsework for modifying K72 (Stage 2)
- DCS works in Portion 1
- Watermains laying works in Portion 1

Contract No. ED/2018/01:

- Ground investigation works
- Underground Utilities Detection



- Installation of Sheet Pile for Construction of North Depressed Road Cofferdam & D3 Underpass
- Pumping Test at North Depressed Road Cofferdam
- Construction of Bored Pile of Bridge D3
- ELS Installation & Excavation for North Depressed Road

Breaches of the Action and Limit Levels

- iii. No Action / Limit Level exceedance was recorded for 24-hr TSP monitoring in the reporting month.
- iv. No Action / Limit Level exceedance was recorded for 1-hr TSP monitoring in the reporting month.
- v. No Action / Limit Level exceedance was recorded for noise monitoring in the reporting month.

Complaint, Notification of Summons and Successful Prosecution

vi. No complaint, notification of summons or prosecution was received in this reporting month.

Reporting Changes

vii. There was no reporting change in the reporting month.



Future Key Issues

Hong Kong.

viii. The potential environmental impacts for the coming month and the control measures are shown in **Table I**:

Table I Summary of Key Issues for the Coming Month and Control Measures

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| Major Impact Prediction | Control Measures | | |
|---------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| Contract No. KL/2 | 012/03: | | |
| Air quality impact (dust) | Covering stockpiles with tarpaulin or similar means; | | |
| Water quality impact (surface run-off) | Provision of measures to prevent discharge into the stream. | | |
| Noise Impact | Controlling the number of plants use on site; andRegular maintenance of machines. | | |
| Contract No. KL/2 | 014/01: | | |
| Air quality impact (dust) | Frequent watering of haul road and unpaved/exposed areas; Frequent watering or covering stockpiles with tarpaulin or similar means; and Watering of any earth moving activities. | | |
| Water quality impact (surface run-off) | Diversion of the collected effluent to de-silting facilities for treatment prior to discharge to public storm water drains; Provision of adequate de-silting facilities for treating surface run-off and other collected effluents prior to discharge; Provision of perimeter protection such as sealing of hoarding footings to avoid run-off from entering the existing storm water drainage system via public road; and Provision of measures to prevent discharge into the stream. | | |
| Noise Impact | Scheduling of noisy construction activities if necessary to avoid persistent noisy operation; Controlling the number of plants use on site; Regular maintenance of machines; and Use of acoustic barriers if necessary. | | |
| Contract No. KL/2 | 014/03: | | |
| Construction dust, construction noise, water quality, waste management and landscape and visual impact. | Sufficient watering of the works site with the active dust emitting activities; Limitation of the speed for vehicles on unpaved site roads; Properly cover or enclosure of the stockpiles and dusty materials; Good site practices on loading dusty materials; Providing sufficient vehicles washing facilities at every vehicle exit point; Good maintenance to the plant and equipment; Use of quieter plant and Quality Powered Mechanical Equipment (QPME); Use of acoustic fabric and noise barrier; Using the approved Non-road Mobile Machineries (NRMMs); Proper storage and handling of chemical; Appropriate desilting, oil interceptors or 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 | | |

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| Major Impact Prediction | Control Measures | | |
|-----------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| | Reports | | |
| Contract No. KL/2 | 015/02: | | |
| Air quality impact (dust) | Frequent watering of haul road and unpaved/exposed areas; Frequent watering or covering stockpiles with tarpaulin or similar means; and Watering of any earth moving activities. | | |
| Water quality impact (surface run-off) | Diversion of the collected effluent to de-silting facilities for treatment prior to discharge to public storm water drains; Provision of adequate de-silting facilities for treating surface run-off and other collected effluents prior to discharge; Provision of perimeter protection such as sealing of hoarding footings to avoid run-off from entering the existing storm water drainage system via public road; and Provision of measures to prevent discharge into the stream. | | |
| Noise Impact | Scheduling of noisy construction activities if necessary to avoid persistent noisy operation; Controlling the number of plants use on site; Regular maintenance of machines; and Use of acoustic barriers if necessary. | | |
| Contract No. ED/2 | 018/01: | | |
| Air Quality, Construction Noise, Water Quality, Chemical and Waste Management, Landscape and Visual | 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), Appropriate desilting/ sedimentation devices provided on site for treatment before discharge, Onsite waste sorting and implementation of trip ticket system, Erection of decorative screen hoarding, Strictly following the Environmental Permits and Licenses, and Provide sufficient mitigation measures as recommended in Approved EIA Reports. | | |

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1. INTRODUCTION

1.1 Background

- 1.1.1 The Kai Tak Development is located in the south-eastern part of Kowloon Peninsula of the 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 A study of environmental impact assessment (EIA) was undertaken to consider the key issues of air quality, noise, water quality, waste, land contamination, cultural heritage and landscape and visual impact, and identify possible mitigation measures associated with the works. EIA Report (Register No. AEIAR-130/2009) was approved by the Environmental Protection Department (EPD) on 4 March 2009.
- 1.1.3 The EP-337/2009 was issued on 23 April 2009 for the new distributor roads serving the planned Kai Tak Development to the following scale and slope:
 - a) Road D1 a dual 2-lane carriageway of approximately 1.3 km long.
 - b) Road D2 a dual 3-lane carriageway of approximately 1.1 km long.
 - c) Road D3 a dual 2-lane carriageway of approximately 2.3 km long.
 - d) Road D4 a dual 2-lane carriageway of approximately 0.9 km long.
- 1.1.4 The Civil Engineering and Development Department HKSAR has appointed Fugro Technical Services Limited (FTS) to undertake the role of Independent Environmental Checker (IEC) for the Contract No. KL/2015/02.
- 1.1.5 This is the 40th Consolidated Monthly EM&A Report which summaries the EM&A works undertaken by respective contract under EP-337/2009 within the period between 1 February and 29 February 2020.

| Party | Position | Name | Telephone | Fax | |
|--------------------------------------|-------------------------------------------------|--------------------|---------------------|-----------|--|
| Contract No. KL/2012/0 | 3: | • | | | |
| Project Proponent (CEDD) | Senior Engineer | Mr. C. K. Choi | 3106 2583 | 3579 4512 | |
| Engineer's | CRE | Mr. W. K. Leung | 2798 0771 | 3013 8864 | |
| Representative (AECOM) | RE | Mr. Mickey Lee | 2790 0771 | 3013 0004 | |
| IEC (ANewR) | IEC | Mr. Adi Lee | 2618 2831 | 3007 8648 | |
| | ET Leader | Dr. Priscilla Choy | 2151 2089 | | |
| ET (Wellab) | Project Coordinator and Audit Team Leader | Ms. Ivy Tam | 2151 2090 | 3107 1388 | |
| Main Contractor | Cite Agent | | 2889 8675 | 2558 6900 | |
| (Kwan On) | Site Agent Mr. P.H. Ho | | 6146 6761 (Hotline) | | |
| Contract No. KL/2014/0 | 1: | | | | |
| Project Proponent | Senior Engineer | Mr. Keith Chu | 3579 2450 | 0570 4540 | |
| (CEDD) | Engineer | Ms. Adonia Yung | 3579 2124 | 3579 4516 | |
| Engineer's Representative (AECOM) | CRE | Mr. Clive Cheng | 3746 1801 | 2798 0783 | |
| IEC (KSMC) | IEC | Dr. C. F. Ng | 2618 2166 | 2120 7752 | |
| ET (Cinctoch) | ET Leader | Mr. K.S Lee | | | |
| ET (Cinotech) | Audit Team | Ms. Betty Choi | 2151 2072 | 3107 1388 | |

1.2 Summary of relevant Contract Information of Key Personnel

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| Party | Position | Name | Telephone | Fax | |
|--------------------------------------|----------------------|-----------------|-----------|-----------|--|
| | Leader | | | | |
| Main Contractor (CCJV) | EO | Mr. Jack Lai | 2960 1398 | 2960 1399 | |
| Contract No. KL/2014/0 | <u>)3:</u> | | | | |
| Project Proponent (CEDD) | Co-ordinator | Mr. Simon Kwok | 3842 7140 | 2739 0076 | |
| Engineer's Representative (HMJV) | CRE | Mr. Chris Wong | 3742 3803 | 3742 3899 | |
| IEC (Ramboll Hong Kong Limited) | IEC | Mr. F. C. Tsang | 3465 2851 | 3465 2899 | |
| ET (FTS) | ET Leader | Mr. Colin Yung | 3565 4114 | 3565 4160 | |
| Main Contractor (CRBC) | Site Agent | Mr. Dickey Yau | 5699 4503 | 2283 1689 | |
| | EO | Miss. Elena Lai | 6841 3324 | 2203 1009 | |
| Contract No. KL/2015/0 |)2: | | | | |
| Project Proponent (CEDD) | Senior Engineer | Mr. Ricky Chan | 2116 3753 | 2116 0714 | |
| Engineer's Representative (AECOM) | SRE | Mr. Vincent Lee | 2798 0771 | 2210 6110 | |
| IEC (FTS) | IEC | Mr. Colin Yung | 3565 4114 | 2450 8032 | |
| | ET Leader | Mr. K.S Lee | 2151 2091 | | |
| ET (Cinotech) | Audit Team Leader | Ms. Betty Choy | 2151 2072 | 3107 1388 | |
| Main Contractor (PWHJV) | Site Agent | Mr. W. M. Wong | 6386 3535 | 2398 8301 | |
| Contract No. ED/2018/01: | | | | | |
| Project Proponent | Senior Engineer | Mr. Ronald Siu | 3579 2452 | 2739 0076 | |
| (CEDD) | Engineer | Mr. Edwin Chan | 3579 2458 | 2739 0076 | |
| Engineer's Representative (AECOM) | CRE | Mr. Clive Cheng | 3911 4201 | 3911 4288 | |
| IEC (Ramboll Hong Kong Limited) | IEC | Mr. Ray Yan | 3465 2836 | 3465 2899 | |
| ET (Ka Shing) | ET Leader | Mr. Chan Pang | 6082 2973 | 2120 7752 | |
| Main Contractor (Penta- Ocean) | EO | Mr. Tony Tang | 9433 2628 | 3465 8898 | |

1.3 Summary of Construction Programme and Activities

- 1.3.1 The construction programme of each Contract is summarized in the appendices of the corresponding Monthly EM&A.
- 1.3.2 The major construction activities undertaken in the reporting month are summarized as follow:

Contract No. KL/2012/03:

- Daily Cleaning
- Weeding at roadside planting areas
- Painting cladding at PS2
- Installing steel platforms at PS2
- Plumbing works for irrigation system

Contract No. KL/2014/01:

 TTA implementation, minor works at Shing Fung Road and Wang Chiu Road / Kai Cheung Road;

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- Construction of outfalls;
- Laying of paving blocks for footpath;
- Erection of noise barrier panels;
- Planting works along footpath and at deck level;
- Architectural features works at landscaped deck and ground floor open space;
- E&M works; and
- Construction of pedestrian streets.

Contract No. KL/2014/03:

- Excavation and laying of drainage pipe and manhole;
- Construction of SUS structure;
- Construction of District Cooling System;
- Utility laying;
- Removal of temporary decking and temporary road pavement;
- Construction of road base and road pavement.

Contract No. KL/2015/02:

- Carry out the structural works for subway at PERE Stage 2
- Excavation with ELS for subway construction at SKLR playground
- Demolition of the exiting ground beam underneath Bridge K72 and construction of new ground beam
- Carry out trial pit at TTA Stage 4-1 and sheet piling works
- Drainage works at Road D1 and Road L7
- Construction of parapet at Retaining Wall S15
- Demolition of existing structure of Bridge K72
- Backfilling works at Road L7
- Preparation and erection of falsework for modifying K72 (Stage 2)
- DCS works in Portion 1
- Watermains laying works in Portion 1

Contract No. ED/2018/01:

- Ground investigation works
- Underground Utilities Detection
- Installation of Sheet Pile for Construction of North Depressed Road Cofferdam & D3
 Underpass
- Pumping Test at North Depressed Road Cofferdam
- Construction of Bored Pile of Bridge D3
- ELS Installation & Excavation for North Depressed Road

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

1.4.1 The summary of inter-relationship with environmental protection/mitigation measures are presented as follow:

| Major Environmental Impact | Control Measures | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| Contract No. KL/2012/03: | | | | |
| Dust, Water Quality, Waste Management (Construction of superstructure of Pumping Station PS2 and NPS) | Sufficient watering of the works site with active dust emitting activities; Properly cover the stockpiles; Appropriate desilting/sedimentation devices provided on site for treatment before discharge; Well maintain the drainage system to prevent the spillage of wastewater during heavy rainfall; and On-site waste sorting and implementation of trip ticket system. | | | |
| Dust, Noise (Backfilling between sewerage manholes 1K1_1 and FMH10_340 and construction of manhole FMH10_370a at L6) | Use of quiet plant and well-maintained construction plant; and Properly cover the stockpiles; | | | |
| Noise, Waste Management (Installation of precast unit and construction of in-situ portions of Box Culvert B6; Construction of jacking pits nos. 1 and 2; Installation of gas pipe at pit no. 10; Construction of washout chamber at pit no. 11) | Use of quiet plant and well-maintained construction plant; and Provide hoarding. Good management and control on construction waste reduction | | | |
| Noise (Construction of sewerage manhole FMH 10 at Bailey Street; Widening works of Sung Wong Toi Road.) Noise, Water Quality (Pipe laying from manhole SMH2204 to Box Culvert B6; Laying of rising mains from PS2 to chainage CHA-18; Pipe laying from stormwater manholes SMH1962 to SMH1963 and construction of manholes SMH1953 and SMH1963 at L6; Installation of DCS;) | Use of quiet plant and well-maintained construction plant; and Provide hoarding. Use of quiet plant and well-maintained construction plant; and Well maintain the drainage system to prevent the spillage of wastewater during heavy rainfall. | | | |
| Contract No. KL/2014/01: Noise, dust impact, water quality and waste generation | Sufficient watering of the works site with active dust emitting activities; Properly cover the stockpiles; On-site waste sorting and implementation of trip ticket system Appropriate desilting/sedimentation devices provided on site for treatment before discharge; Use of quiet plant and well-maintained construction plant; Well maintain the drainage system to prevent the spillage of wastewater during heavy rainfall; Provide mitigation measure to temporary use of chemicals; | | | |

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| Major Environmental Impact | Control Measures |
|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Provide sufficient mitigation measures as recommended in Approved EIA Report/Lease requirement. |
| Contract No. KL/2014/03: | |
| Air Quality Impact, Construction Noise Impact, Water Quality Impact, Chemical and Waste Management, Landscape and Visual Impact | Sufficient watering of the works site with the active dust emitting activities; Limitation of the speed for vehicles on unpaved site roads; Properly cover or enclosure of the stockpiles and dusty materials; Good site practices on loading dusty materials; Providing sufficient vehicles washing facilities at every vehicle exit point; Good maintenance to the plant and equipment; Use of quieter plant and Quality Powered Mechanical Equipment (QPME); Use of acoustic fabric and noise barrier; Using the approved Non-road Mobile Machineries (NRMMs); Proper storage and handling of chemical; Appropriate desilting, oil interceptors or 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 |
| Contract No. KL/2015/02: | |
| Noise, dust impact, water quality and waste generation | Sufficient watering of the works site with active dust emitting activities; Properly cover the stockpiles; On-site waste sorting and implementation of trip ticket system Appropriate desilting/sedimentation devices provided on site for treatment before discharge; Use of quiet plant and well-maintained construction plant; Provide movable noise barrier; Well maintain the drainage system to prevent the spillage of wastewater during heavy rainfall; Provide sufficient mitigation measures as recommended in Approved EIA Report/Lease requirement. |
| Contract No. ED/2018/01: The Contractor has implemented e EIA reports, the EP and the EM&A I | nvironmental mitigation measures and requires as stated in the Manuals. |

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1.5 Summary Status of Environmental Licences, Notifications and Permits

1.5.1 A summary of the relevant environmental licenses, permits and/or notifications on environmental protection for this EP and relevant Contract are presented in **Table 1.1**.

Table 1.1 Relevant Environmental Licenses, Permits and/or Notifications

| Environmental License / Permit / Notification | Reference Number | Valid From | Valid Till |
|--------------------------------------------------|------------------------------|--------------------------|------------|
| Contract No. KL/2012/03: | | | |
| | EP-337/2009 | 23/04/2009 | N/A |
| Environmental Permit | EP-344/2009 | 23/04/2009 | N/A |
| Effluent Discharge License | WT00020971-2015 | 22/04/2015 | 21/04/2020 |
| Registration of Chemical Waste Producer | 5213-286-K2958-05 | - | N/A |
| Contract No. KL/2014/01: | | 1 | - |
| <u>Contract No. RE/2014/01.</u> | EP-337/2009 | 23/04/2009 | N/A |
| Environmental Permit | EP-445/2013/A | 13/08/2009 | N/A |
| Effluent Discharge License | WT00023634-2016 | - | 31/03/2021 |
| Registration of Chemical Waste Producer | 5213-247-C4004-01 | - | N/A |
| Construction Noise Permit | GW-RE1024-19 | 19/12/2019 | 13/06/2020 |
| | | 10/12/2010 | 10/00/2020 |
| Contract No. KL/2014/03: | EP-337/2009 | 22/04/2000 | N/A |
| Environmental Permit | EP-337/2009 EP-339/2009/A | 23/04/2009 18/06/2009 | N/A N/A |
| | EP-339/2009/A EP-451/2013 | 19/09/2013 | N/A N/A |
| Notification pursuant to Air Pollution | | | |
| (Construction Dust) Regulation | 395601 | 16/11/2015 | N/A |
| Billing Account for Waste Disposal | A/C No.: 7023814 | 30/11/2015 | N/A |
| Construction Noise Permit | GW-RE1017-19 | 16/12/2019 | 10/06/2020 |
| Wastewater Discharge License | WT00023125-2015 | 06/01/2016 | 31/01/2021 |
| Chemical Waste Producer License | 5213-247-C1232-12 | 23/11/2015 | N/A |
| Contract No. KL/2015/02: | | | |
| Environmental Permit | EP-337/2009 | 23/04/2009 | N/A |
| Wastewater Discharge License | WT00027495-2017 | 28/03/2017 | 31/03/2022 |
| Billing Account for Waste Disposal | A/C No.: 7026164 | 20/10/2016 | N/A |
| Registration of Chemical Waste Producer | WPN5213-229-P3271-01 | 14/08/2017 | N/A |
| | GW-RE0915-19 | 08/11/2019 | 04/05/2020 |
| Construction Noise Permit | GW-RE0984-19 | 15/12/2019 | 24/02/2020 |
| | GW-RE0083-20 | 01/03/2020 | 04/06/2020 |
| Contract No. ED/2018/01: | | | |
| Contract No. ED/2016/01. | EP-337/2009 | 23/04/2009 | N/A |
| Environmental Permit | EP-445/2013 | 03/05/2013 | N/A |
| | EP-445/2013/A | 13/08/2014 | N/A |
| Construction Dust Notification under | | | |
| APCO | 445956 | 06/06/2019 | N/A |
| Wastewater Discharge License | WT00034610-2019 | 26/09/2019 | 30/09/2024 |
| Waste Disposal Billing Account | 7034450 | 28/06/2019 | N/A |
| Registration as a Chemical Waste Producer | 5218-286-P3182-03 | 18/07/2019 | N/A |
| | GW-RE0699-19 | 13/09/2019 | 12/03/2020 |
| | GW-RE0786-19 | 05/10/2019 | 04/04/2020 |
| Construction Noise Permit | GW-RE0880-19 | 30/10/2019 | 27/04/2020 |
| | GW-RE0039-20 | 24/01/2020 | 23/03/2020 |

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2. ENVIRONMENTAL MONITORING AND AUDIT

2.1 Results and Observations

Air Quality

Tuen Mun, N.T., Hong Kong.

- 2.1.1 The schedule of air quality monitoring in reporting month is provided in the appendices of the corresponding Monthly EM&A.
- 2.1.2 The weather conditions during the monitoring are provided in the appendices of the corresponding Monthly EM&A.
- 2.1.3 The monitoring data of 24-hr TSP and 1 hour TSP are summarized in **Table 2.1**. Detailed monitoring data are presented in the appendices of the corresponding Monthly EM&A.

Table 2.1Summary of 24-hr and 1 hour TSP Monitoring Results

| Parameter | Monitoring Station | Average (µg/m³) | Range (µg/ m³) | Action Level (µg/ m ³) | Limit Level (µg/ m³) |
|----------------|-------------------------|----------------------|-------------------|---------------------------------------|-------------------------|
| Contract No. | KL/2012/03: | | | | |
| N.A (The impa | act environmental mo | onitoring has been | ceased since 15 | April 2019) | |
| Contract No. | KL/2014/01: | | | | |
| N.A (No air qu | uality monitoring is re | quired for the Proje | ect) | | |
| Contract No. | KL/2014/03: | | | | |
| 1-hr TSP | KTD1a KTD2a KER1b | | | was received. Th mitoring was conc | |
| | KTD1a | 73 | 44-99 | 177 | 260 |
| 24-hr TSP | KTD2a | 103 | 43-137 | 157 | |
| | KER1b | 70 | 13-100 | 172 | |
| Contract No. | KL/2015/02: | | | | |
| 1-hr TSP | AM2 | 64 | 32 – 185 | 346 | 500 |
| 24-hr TSP | AM2(A) | 47 | 34 – 55 | 157 | 260 |
| Contract No. | ED/2018/01: | | | | |
| | AM3 | 54 | 30 - 79 | 182 | |
| 24-hr TSP | AM4(A) | 58 | 25 - 115 | 187 | 260 |
| | AM7 | 52 | 30 - 73 | 181 | |
| | AM3 | 75 | 48-91 | 297 | |
| 1-hr TSP | AM4(A) | 75 | 43-98 | 326 | 500 |
| | AM7 | 81 | 64-98 | 315 | |

- 2.1.4 No Action / Limit Level exceedance was recorded for 24-hr TSP monitoring in the reporting month.
- 2.1.5 No Action / Limit Level exceedance was recorded for 1-hr TSP monitoring in the reporting month.
- 2.1.6 The monitoring data of 24-hr TSP was compared with the EIA predictions are presented in the appendices of the corresponding Monthly EM&A.
- 2.1.7 The Event and Action Plan for air quality is given in the appendices of the corresponding Monthly EM&A.



<u>Noise</u>

- 2.1.8 The schedule of noise monitoring in reporting month is provided in in the appendices of the corresponding Monthly EM&A.
- 2.1.9 The noise monitoring data are summarized in **Table 2.2**. Detailed monitoring data are presented in the appendices of the corresponding Monthly EM&A.

| Table 2.2 | Summary | of Noise Impact Monitoring Results |
|-----------|---------|------------------------------------|
|-----------|---------|------------------------------------|

| Monitoring Stations | Construction Noise Level Leq _(30min) dB(A) (Range) | Action Level | Limit Level dB (A) |
|-------------------------------------------------|---------------------------------------------------------------------|--------------|-----------------------|
| Contract No. KL/2012/03: | | | |
| N.A (The impact environme since 15 April 2019.) | ental monitoring has been ceased | | |
| Contract No. KL/2014/01: | | | |
| (No Construction noise m | | NA | |
| Contract No. KL/2014/03: | | | |
| KTD1a | 66-74 | When one | 75 |
| KTD2a | 70-75 | documented | 75 |
| KER1b 69-74 | | complaint is | 75 |
| Contract No. KL/2015/02: | received | | |
| M3 | 60 – 76# | | 70* |
| M3(A) | 61 | | 75 |
| M4 | 69 – 77# | | 70* |
| M5(C) | 62 – 78# | | 75 |
| Contract No. ED/2018/01: | | | |
| M11 | 64.8 - 69.2 | | 75 |
| M12 | 64.6 - 68.1 | 1 | 75 |

(*) Noise Limit Level is 65 dB(A) during school examination periods.

([#]) Measured noise level ≦ background / baseline noise level, detailed data refer to the corresponding Monthly EM&A report.

- 2.1.10 The noise monitoring data was compared with the EIA predictions are presented in the appendices of the corresponding Monthly EM&A.
- 2.1.11 No Action / Limit Level exceedance was recorded for noise monitoring in the reporting month.
- 2.1.12 The Event and Action Plan for noise is given in in the appendices of the corresponding Monthly EM&A.

Landscape and Visual

2.1.13 Site audits were carried out on a weekly basis to monitor and audit the landscape and visual mitigation measures within the site boundaries of this Project. Detailed of observations are presented in the appendices of the corresponding Monthly EM&A.

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3. SITE INSPECTION

3.1 Site Inspection

3.1.1 Site inspections were carried out weekly to monitor the implementation of proper environmental pollution control and mitigation measures for the Project. The site inspection of each Contract are summarized as follow:

Contract No. KL/2012/03:

Site audits were conducted on 7th, 14th, 19th and 28th February 2020 in the reporting month. IEC site inspections were conducted on 7th and 28th February 2020. No non-compliance was observed during the site audits.

Contract No. KL/2014/01:

Site audits were conducted by representatives of the Contractor, Supervising Officer and ET on 5, 12, 19 & 26 February 2020 in the reporting month. IEC joint site inspection was conducted on 26 February 2020. No non-compliance was observed during the site audits.

Contract No. KL/2014/03:

In the reporting month, four site inspections were carried out 5, 12, 21 and 26 February 2020.

Contract No. KL/2015/02:

Site audits were conducted on 4, 12, 17, and 24 February 2020 in the reporting month. A joint site inspection with the representative of IEC, ER, the Contractor and the ET was conducted on 12 February 2020.

Contract No. ED/2018/01:

Site inspections were conducted on 6, 13, 21 and 27 of February 2020 in the reporting month.

3.1.2 Detailed of observation, recommendation of site inspections and summary of the mitigation measures implementation schedule is provided in the appendices of the corresponding Monthly EM&A.

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4. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

4.1 Complaints, Notification of Summons and Prosecution

4.1.1 The summary of complaints, notification of summons and prosecution in the reporting month is shown as **Table 4.1**.

Table 4.1 Summary of Complaints, Notification of Summons and Prosecution

| Event | No. of Event This Month | Remark |
|---------------------------------------------------------|-------------------------|--------|
| Contract No. KL/2012/03: | | |
| Complaint received | 0 | NA |
| Notifications of any summons & prosecutions received | 0 | NA |
| Contract No. KL/2014/01: | | |
| Complaint received | 0 | NA |
| Notifications of any summons & prosecutions received | 0 | NA |
| Contract No. KL/2014/03: | | |
| Complaint received | 0 | NA |
| Notifications of any summons & prosecutions received | 0 | NA |
| Contract No. KL/2015/02: | | |
| Complaint received | 0 | NA |
| Notifications of any summons & prosecutions received | 0 | NA |
| Contract No. ED/2018/01: | | |
| Complaint received | 0 | NA |
| Notifications of any summons & prosecutions received | 0 | NA |

4.1.2 Detailed records are presented in the appendices of the corresponding Monthly EM&A.

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5. IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES

5.1 Implementation Status

5.1.1 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 month are presented in the appendices of the corresponding Monthly EM&A.

5.2 Waste Management

5.2.1 The amount of wastes generated of this Project during the reporting month is shown in the appendices of the corresponding Monthly EM&A.

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6. FUTURE KEY ISSUES

6.1 Construction Programme for the Next Two Months

6.1.1 The major site activities undertaken for the coming two months are summarized in follow:

Contract No. KL/2012/03:

- Daily Cleaning
- Weeding at roadside planting areas
- Painting cladding at PS2
- Installing steel platforms at PS2
- Plumbing works for irrigation system

Contract No. KL/2014/01:

- TTA implementation, minor works at Shing Fung Road and Wang Chiu Road / Kai Cheung Road;
- Construction of outfalls;
- · Laying of paving blocks for footpath;
- Erection of noise barrier panels;
- · Planting works along footpath and at deck level;
- · Architectural features works at landscaped deck and ground floor open space;
- · E&M works; and
- Construction of pedestrian streets.

Contract No. KL/2014/03:

- Excavation and laying of drainage pipe and manhole
- Construction of SUS structure
- Construction of District Cooling System
- Utility laying
- · Construction of road base and road pavement

Contract No. KL/2015/02:

- Carry out the structural works with backfilling works for subway at PERE Stage 2
- Excavation with ELS for subway construction at SKLR playground
- Construction of piers underneath Bridge K72
- · Carry out sheet piling works and footing works of traffic deck at TTA stage 4-1
- Drainage works and road works at Road D1 and Road L7
- Construction of parapet at Retaining Wall S15
- Demolition and reconstruction of existing structure of K72
- UU installation and road works at Road L7
- Refurbishment works for K72
- Preparation and erection of falsework for modifying K72 (Stage 2)
- DCS works in Portion 1
- Watermains laying works in Portion 1

Contract No. ED/2018/01:

- Ground Investigation
- Underground Utilities Detection
- Installation of Sheet Pile for Construction of North Depressed Road Cofferdam & D3
 Underpass
- Pumping Test at North Depressed Road Cofferdam
- Construction of Bored Pile of Bridge D3
- ELS Installation & Excavation for North Depressed Road

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6.2 Key Issues for the Coming Month

6.2.1 The potential environmental impacts arising from the above construction activities and the control measures are shown in **Table 6.1**:

Table 6.1 Summary of Key Issues for the Coming Month and Control Measures

| Major Impact Prediction | Control Measures | | | | |
|---------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
| Contract No. KL/20 | Contract No. KL/2012/03: | | | | |
| Air quality impact (dust) | Covering stockpiles with tarpaulin or similar means; | | | | |
| Water quality impact (surface run-off) | Provision of measures to prevent discharge into the stream. | | | | |
| Noise Impact | Controlling the number of plants use on site; andRegular maintenance of machines. | | | | |
| Contract No. KL/20 | 014/01: | | | | |
| Air quality impact (dust) | Frequent watering of haul road and unpaved/exposed areas; Frequent watering or covering stockpiles with tarpaulin or similar means; and Watering of any earth moving activities. | | | | |
| Water quality impact (surface run-off) | Diversion of the collected effluent to de-silting facilities for treatment prior to discharge to public storm water drains; Provision of adequate de-silting facilities for treating surface run-off and other collected effluents prior to discharge; Provision of perimeter protection such as sealing of hoarding footings to avoid run-off from entering the existing storm water drainage system via public road; and Provision of measures to prevent discharge into the stream. | | | | |
| Noise Impact | Scheduling of noisy construction activities if necessary to avoid persistent noisy operation; Controlling the number of plants use on site; Regular maintenance of machines; and Use of acoustic barriers if necessary. | | | | |
| Contract No. KL/20 | 014/03: | | | | |
| Construction dust, construction noise, water quality, waste management and landscape and visual impact. | Sufficient watering of the works site with the active dust emitting activities; Limitation of the speed for vehicles on unpaved site roads; Properly cover or enclosure of the stockpiles and dusty materials; Good site practices on loading dusty materials; Providing sufficient vehicles washing facilities at every vehicle exit point; Good maintenance to the plant and equipment; Use of quieter plant and Quality Powered Mechanical Equipment (QPME); Use of acoustic fabric and noise barrier; Using the approved Non-road Mobile Machineries (NRMMs); Proper storage and handling of chemical; Appropriate desilting, oil interceptors or 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 | | | | |

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| Major Impact Prediction | Control Measures | | | | |
|-----------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
| Contract No. KL/2 | Contract No. KL/2015/02: | | | | |
| Air quality impact (dust) | Frequent watering of haul road and unpaved/exposed areas; Frequent watering or covering stockpiles with tarpaulin or similar means; and Watering of any earth moving activities. | | | | |
| Water quality impact (surface run-off) | Diversion of the collected effluent to de-silting facilities for treatment prior to discharge to public storm water drains; Provision of adequate de-silting facilities for treating surface run-off and other collected effluents prior to discharge; Provision of perimeter protection such as sealing of hoarding footings to avoid run-off from entering the existing storm water drainage system via public road; and Provision of measures to prevent discharge into the stream. | | | | |
| Noise Impact | Scheduling of noisy construction activities if necessary to avoid persistent noisy operation; Controlling the number of plants use on site; Regular maintenance of machines; and Use of acoustic barriers if necessary. | | | | |
| Contract No. ED/2 | 018/01: | | | | |
| Air Quality, Construction Noise, Water Quality, Chemical and Waste Management, Landscape and Visual | 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), Appropriate desilting/ sedimentation devices provided on site for treatment before discharge, Onsite waste sorting and implementation of trip ticket system, Erection of decorative screen hoarding, Strictly following the Environmental Permits and Licenses, and Provide sufficient mitigation measures as recommended in Approved EIA Reports. | | | | |

6.3 Monitoring Schedules for the Next Three Months

6.3.1 The tentative schedules for environmental monitoring in the coming three months are provided in in the appendices of the corresponding Monthly EM&A.



7. CONCLUSIONS

- 7.1.1 No Action / Limit Level exceedance was recorded for 24-hr TSP monitoring in the reporting month.
- 7.1.2 No Action / Limit Level exceedance was recorded for 1-hr TSP monitoring in the reporting month.
- 7.1.3 No Action / Limit Level exceedance was recorded for noise monitoring in the reporting month.
- 7.1.4 No complaint, notification of summons or prosecution was received in this reporting month.
- 7.1.5 The potential environmental impacts arising from the coming two months of major construction activities and the control measures are shown in **Table 6.1**.

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Appendix A

Monthly EM&A Report For Contract No. KL/2012/03 Kai Tak Development - Stage 4 Infrastructure at North Apron Area

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Civil Engineering and Development Department

EP-344/2009 – New Sewage Pumping Stations Serving KTD EP-337/2009 – New Distributor Roads Serving the Planned KTD

Contract No. KL/2012/03 Kai Tak Development –Stage 4 Infrastructure at Former North Apron Area

Monthly EM&A Report

February 2020

(Version 1.0)

| Approved By | (Environmental Team Leader) |
|-------------|-----------------------------|
| REMARKS: | |

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

WELLAB accepts no responsibility for changes made to this report by third parties

WELLAB LIMITED Room 1701, Technology Park, 18 On Lai Street, Shatin, NT, Hong Kong Tel: (852) 2898 7388 Fax: (852) 2898 7076 Website: www.wellab.com.hk



Kai Tak Development Site Office Contract No. KL/2012/03 c/o AECOM 8/F, Grand Central Plaza, Tower 2 138 Shatin Rural Committee Road Shatin New Territories Hong Kong

Your reference:

Our reference:

HKCEDD11/50/106367

Date: 12 March 2020

Attention: Mr Mickey Lee

BY EMAIL & POST (email: RE3@ktd-5a.com)

Dear Sirs

Agreement No. EDO 08/2018 Independent Environmental Checker (IEC) for CEDD Contract No. KL/2012/03 Kai Tak Development – Stage 4 Infrastructure at Former North Apron Area Verification of Monthly EM&A Report for February 2020

We refer to emails of 4 and 10 March 2020 attaching a Monthly EM&A Report for February 2020 prepared by the ET.

We have no further comment and hereby verify the captioned report in accordance with Clause 3.3 of the Environmental Permit nos. EP-337/2009 and EP-344/2009.

Please do not hesitate to contact the undersigned or our Ms Katherine Chu on 2618 2831 should you have any queries.

Yours faithfully ANEWR CONSULTING LIMITED

les P.P.

Adi Lee Independent Environmental Checker

LYMA/CWKK/csym

cc CEDD – Mr C K Choi (email: ckchoi@cedd.gov.hk) Wellab – Dr Priscilla Choy (email: Priscilla.Choy@wellab.com.hk)



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EXECUTIVE SUMMARY

Introduction

- This is the 75th Monthly Environmental Monitoring and Audit (EM&A) Report prepared by Wellab Ltd. for "Contract No. KL/2012/03 - Kai Tak Development –Stage 4 Infrastructure at Former North Apron Area" (Hereafter referred to as "the Project"). This contract comprises the construction of Schedule 2 Designated Projects (DP) Road D2 & Sewage Pumping Station PS2 and PS NPS which forms a part of the works under two Environmental Permits (EP), EP-337/2009 and EP-344/2009. The title of the designated projects under Environmental Permit No.: EP-344/2009 is "New sewage pumping stations serving Kai Tak Development" and under Environmental Permit No.: EP-337/2009 is "New distributor roads serving the planned Kai Tak Development". This report documents the findings of EM&A Works conducted from 1st to 29th February 2020.
- 2. All major construction works were completed, the site activities undertaken in the reporting month included:
 - Daily Cleaning
 - Weeding at roadside planting areas
 - Painting cladding at PS2
 - Installing steel platforms at PS2
 - Plumbing works for irrigation system

Environmental Monitoring Works

- 3. Site Inspections/Audits were conducted once per week. The implementation of the environmental mitigation measures, Event Action Plans and environmental complaint handling procedures were also checked.
- 4. Summary of the breaches of action and limit levels in the reporting month for the Project is tabulated in **Table I**.

| Parameter | No. of Project-rela | Action Taken | |
|--------------|---------------------|--------------|--------------|
| I al alletel | Action Level | Limit Level | Action Taken |
| 1-hr TSP | 0 | 0 | N/A |
| 24-hr TSP | 0 | 0 | N/A |
| Noise | 0 | 0 | N/A |

 Table I
 Breaches of Action and Limit Levels for the Project in the Reporting Month

5. The Proposal for Cessation of Construction Phase EM&A Works at Road D2 for Environmental Permits (EP) No. EP-377/2009 was approved by the EPD on 15th April 2019. The impact environmental monitoring has been ceased since 15th April 2019. The As-built drawing for Road D2 was submitted to EPD on 13 August 2019. Weekly site inspection, Landscape and Visual Monitoring and reporting for Environmental Permits (EP) No. EP-377/2009 have been ceased since 15 August 2019.

Environmental Licenses and Permits

- 6. Licenses/Permits granted to the Project include the Environmental Permit (EP) for the Project, Environmental Permits No. EP-344/2009 and EP-337/2009 were issued on 23rd April 2009.
- 7. Registration of Chemical Waste Producer (Waste Producer Number: 5213-286-K2958-05).
- 8. Water Discharge License (WT00020971-2015).

Key Information in the Reporting Month

9. Summary of complaint received, reporting changes and notifications of any summons and successful prosecutions in the reporting month is tabulated in **Table II**.

| Event | Event Details | | Action Taken | Status | Remark |
|------------------------------------------------------------|---------------|--------|--------------|--------|--------|
| | Number | Nature | | | |
| Complaint received | 0 | | N/A | N/A | |
| Reporting Changes | 0 | | N/A | N/A | |
| Notifications of any summons & prosecutions received | 0 | | N/A | N/A | |

Table II Summary Table for Key Information in the Reporting Month

Future Key Issues

10. The future key environmental issues in the coming month include:

- Dust generation from stockpiles of dusty materials, exposed site area and excavation works;
- Proper storage of construction materials on site;
- Storage of chemicals/fuel and chemical waste/waste oil on site;
- Accumulation of general and construction waste on site; and
- Noise from operation of the equipment, especially for machinery on-site.

1. INTRODUCTION

Background

- 1.1 The Kai Tak Development (KTD) is located in the south-eastern part of Kowloon Peninsula, comprising the apron and runway areas of the former Kai Tak Airport and existing waterfront areas at To Kwa Wan, Ma Tau Kuk, Kowloon Bay, Kwun Tong and Cha Kwo Ling. It covers a land area of about 328 hectares. Stage 4 Infrastructure at Former North Apron Area is one of the construction stages of KTD. Schedule 2 DPs in this Project include new distributor roads serving the planned KTD and new sewage pumping stations serving the planned KTD. The general layout of the Project is shown in **Figure 1**.
- 1.2 Two Environmental Permits (EPs) No. EP-344/2009 and EP-337/2009 were also issued to the Permit Holder Civil Engineering and Development Department on 23 April 2009 for new sewage pumping stations serving the planned KTD and new distributor roads serving the planned KTD respectively.
- 1.3 A study of environmental impact assessment (EIA) was undertaken to identify the key issues of air quality, noise, water quality, waste, land contamination, cultural heritage and landscape and visual impact, and recommend possible mitigation measures associated with the works. The EIA Report (Register No. AEIAR-130/2009) was approved by the Environmental Protection Department (EPD) on 4 April 2009.
- 1.4 Wellab Limited (Wellab) is commissioned by Kwan On Construction Co., Ltd. (the Contractor) on 1st January 2019 to undertake the role of the Environmental Team (ET) for the Contract No. KL/2012/03 Stage 4 Infrastructure at Former North Apron Area. The construction work under KL/2012/03 comprises the construction of Road D2 & Sewage Pumping Station PS2 and PS NPS which forms a part of the works under two EPs (EP-337/2009 and EP-344/2009).
- 1.5 The construction commencement of this Contract was on 1st December 2013 for Road D2, Sewage Pumping Station PS2 and PS NPS. This is the 75th Monthly EM&A report summarizing the EM&A works for the Project from 1st to 29th February 2020.

Project Organizations

- 1.6 Different parties with different levels of involvement in the project organization include:
 - Project Proponent Civil Engineering and Development Department (CEDD).
 - The Engineer and the Engineer's Representative (ER) AECOM.
 - Environmental Team (ET) Wellab Limited (WL).
 - Independent Environmental Checker (IEC) ANewR Consulting Limited. (ANewR).
 - Contractor Kwan On Construction Co., Ltd. (Kwan On).

1.7 The key contacts of the Project are shown in **Table 1.1** and **Figure 5**.

| Table 1. | Table 1.1Key Project Contacts | | | | |
|--------------------------------|-----------------------------------------|------------------------------|-------------------------------------------------|-------------------------------|-----------|
| Party | Role | Contact Person | Position | Phone No. | Fax No. |
| CEDD | Project Proponent | Mr. C. K. Choi | Senior Engineer | 3106 2583 | 3579 4512 |
| AECOM | Engineer's | Mr. W. K. Leung | CRE | 2798 0771 | 3013 8864 |
| ALCOM | Representative | Mr. Mickey Lee | RE | 2798 0771 | 5015 8804 |
| | Dr. Priscilla Choy | Environmental Team Leader | 2151 2089 | | |
| Wellab | Environmental Team | Ms. Ivy Tam | Project Coordinator and Audit Team Leader | 2151 2090 | 3107 1388 |
| ANewR | Independent Environmental Checker | Mr. Adi Lee | Independent Environmental Checker | 2618 2831 | 3007 8648 |
| | | | | 2889 8675 | 2558 6900 |
| Kwan On Contractor Mr. P.H. Ho | | Mr. P.H. Ho | Site Agent | 6146 6761 (H telephone nur | |

Construction Activities undertaken during the Reporting Month

- 1.8 The site activities undertaken in the reporting month included:
 - Daily Cleaning
 - Weeding at roadside planting areas
 - Painting cladding at PS2
 - Installing steel platforms at PS2
 - Plumbing works for irrigation system
- 1.9 The construction programme showing the inter-relationship with environmental protection/mitigation measures is presented in **Table 1.2**.

| Protection/Mitigation Measures | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| Construction Works | Generated Major Environmental Impact | Control Measures | | |
| Construction of superstructure of Pumping Station PS2 and NPS; | Dust, Water Quality, Waste Management | Sufficient watering of the works site with active dust emitting activities; Properly cover the stockpiles; Appropriate desilting/sedimentation devices provided on site for treatment before discharge; Well maintain the drainage system to prevent the spillage of wastewater during heavy rainfall; and On-site waste sorting and implementation of trip ticket system. | | |
| Backfilling between sewerage manholes 1K1_1 and FMH10_340 and construction of manhole FMH10_370a at L6; | Dust, Noise | Use of quiet plant and well-maintained construction plant; and Properly cover the stockpiles; | | |
| Installation of precast unit and construction of in-situ portions of Box Culvert B6; Construction of jacking pits nos. 1 and 2; Installation of gas pipe at pit no. 10; Construction of washout chamber at pit no. 11; | Noise, Waste Management | Use of quiet plant and well-maintained construction plant; and Provide hoarding. Good management and control on construction waste reduction | | |
| Construction of sewerage manhole FMH 10 at Bailey Street; Widening works of Sung Wong Toi Road. | Noise | Use of quiet plant and well-maintained construction plant; and Provide hoarding. | | |
| Pipe laying from manhole SMH2204 to Box Culvert B6; Laying of rising mains from PS2 to chainage CHA-18; Pipe laying from stormwater manholes SMH1962 to SMH1963 and construction of manholes SMH1953 and SMH1963 at L6; Installation of DCS; | Noise, Water Quality | Use of quiet plant and well-maintained construction plant; and Well maintain the drainage system to prevent the spillage of wastewater during heavy rainfall. | | |

Table 1.2 Construction Programme Showing the Inter-Relationship with Environmental Protection/Mitigation Measures

Summary of EM&A Requirements

- 1.10 The EM&A programme requires construction noise monitoring, air quality monitoring, landscape and visual monitoring and environmental site audit. The EM&A requirements for each parameter are described in the following sections, including:
 - All monitoring parameters;
 - Action and Limit levels for all environmental parameters;
 - Event Action Plans;
 - Environmental requirements and mitigation measures, as recommended in the EM&A Manual under the EP.
- 1.11 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in Section 6 of this report.
- 1.12 This report presents the implementation of the EM&A programme for the Project from 1st to 29th February 2020.

1.13 Air quality monitoring stations within 500m and noise monitoring stations within 300m from the boundary of this Project are considered as relevant monitoring locations. In such regard, the relevant air quality and noise monitoring locations are tabulated in **Table 1.3** (see **Figure 2 and 3** for their locations).

| Locations | Monitoring Stations In accordance with EM&A Manual | Alternative Monitoring Stations |
|-------------------------------------------|----------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Air Quality Monitoring Stations | | |
| AM2 - Lee Kau Yan Memorial School | Yes | AM2(A) – Ng Wah Catholic Secondary School |
| AM3 – Sky Tower | No | AM3(A) – Holy Trinity Bradbury Centre AM3(B) – Family Planning Association of Hong Kong** |
| AM4 – Grand Waterfront | No | AM4(A) – EMSD Workshop* |
| AM5 – CCC Kei To Secondary School | No | N/A^ |
| AM6 – Site 1B4 (Planned) | | N/A |
| Noise Monitoring Stations | | |
| M6 – Holy Carpenter Primary School | No | M6(A) – Oblate Primary School |
| M7 – CCC Kei To Secondary School | Yes | N/A |
| M8 – Po Leung Kuk Ngan Po Ling College | No | M8(A) – Po Leung Kuk Ngan Po Ling College (Site Boundary) [#] |
| M9 – Tak Long Estate | Yes | N/A |
| M10 – Site 1B4 (Planned) | | N/A |

Table 1.3 Air Quality and Noise Monitoring Stations for this Project

Remarks:

> "Yes" – Monitoring station is the same as that stated in EM&A Manual

No – Monitoring station is not the same as that stated in EM&A Manual. Request for carrying monitoring works at the monitoring stations stated in EM&A Manual was rejected by owner of premise. Alternative monitoring stations were proposed by the ET of Schedule 3 EIA and approved by the EPD.

 \blacktriangleright N/A – No alternative monitoring station is required.

**AM3(B) – The permission of air quality monitoring works (24-hour TSP) at station AM3(A) was denied in November 2017, the monitoring works were resumed at the alternative station – AM3(B) in December 2017.

- *AM4(A) EMSD Workshop was cancelled due to unsuccessful accessibility of the facility. 1-hr TSP monitoring was conducted at AM4(B) Ma Tau Kuk Road (next to EMSD workshop) temporarily and 24-hr TSP monitoring was conducted at AM4(C) New Pumping Station under Contract No. KL/2012/03.
- ^AM5(A) Po Leung Kuk Ngan Po Ling College was cancelled because no permission was granted from the premise. Air quality monitoring was carried out at AM5 – CCC Kei To Secondary School.
- $\Rightarrow \quad \text{# The alternative position of M8 (remark as M8(A)) was adopted on 20th March 2019.}$
- 1.14 According to the Environmental Monitoring and Audit Manual (EM&A Manual) of the Kai Tak Development (KTD) Schedule 3 Environmental Impact Assessment (EIA) Report, the impact monitoring at the designated monitoring stations as required in KTD EM&A Manual under the EP, has been conducted in Environmental Monitoring Works for Kai Tak Development under Schedule 3 of KTD, which is on-going starting from December 2010, when the impact monitoring data under Schedule 3 of KTD were adopted for the Project.
- 1.15 Although Contract no. KLN/2013/16 under Schedule 3 of KTD has been superseded by KLN/2016/09 since early March 2017, the ET continued to adopt the impact monitoring data under Schedule 3 of KTD until appropriate new arrangement is agreed.

- 1.16 The Proposal for Cessation of Construction Phase EM&A Works at Road D2 for Environmental Permits (EP) No. EP-377/2009 was approved by the EPD on 15 April 2019. The impact environmental monitoring has been ceased since 15 April 2019. The As-built drawing for Road D2 was submitted to EPD on 13 August 2019. Weekly site inspection, Landscape and Visual Monitoring and reporting for Environmental Permits (EP) No. EP-377/2009 have been ceased since 15 August 2019.
- 1.17 Weekly site inspection, Landscape and Visual monitoring and reporting will be remained until the completion of landscape works for Environmental Permits (EP) No. EP-344/2009.

Status of Compliance with Environmental Permits Conditions

1.18 The status of required submission related to this Project under the Environmental Permits No. EP-337/2009 and EP-344/2009 is summarized in the **Table 1.4** and **Table 1.5** respectively:

| EP Conditions | Submission | Submission Date | Remark |
|---------------|----------------------------------------------------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------|
| | | | |
| 1.11 | Notification of Commencement Date of Construction of Project | 31 October 2013 | For Road D2 |
| 2.3 | Management Organization of Main Construction Companies | 31 October 2013 | For Contract No. KL/2012/03 |
| 2.4 | Design Drawing(s) of the Project | 28 October 2013 | For Road D2 |
| 2.11 | Landscape Mitigation Plan(s) for distributors road(s) | 7 January 2014 | For Road D2 |
| 2.12 | As-built drawing(s) for the distributor road(s) | 13 August 2019 | For Road D2 |
| 3.2 | Baseline Monitoring Report | 26 November 2010 (Part I) 24 December 2010 (Part II) | / |
| 3.3 | Four hard copies and one electronic copy of the Monthly EM&A Report No. 74 (January 2020) | 14 February 2020 | Monthly EM&A Report for Contract No. KL/2012/03 |

Table 1.4 Summary Table for Required Submission under EP No. EP-337/2009

Table 1.5 Summary Table for Required Submission under EP No. EP-344/2009

| EP Conditions | Submission | Submission Date | Remark |
|---------------|-----------------------------------------------------------------|-----------------|------------------------------------------|
| | | | |
| 1.11 | Notification of Commencement Date of Construction of Project | 31 October 2013 | For Pumping Station PS2 and PS NPS |
| 2.3 | Management Organization of Main Construction Companies | 31 October 2013 | For Contract No. KL/2012/03 |
| 2.4 | Design Drawing(s) of the Project | 28 October 2013 | For Pumping Station PS2 and PS NPS |

| EP Conditions | Submission | Submission Date | Remark |
|---------------|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-------------------------------------------------------|
| 2.11 | Landscape Mitigation Plan(s) for sewage pumping station(s) | 7 January 2014 | For Pumping Station PS2 and PS NPS |
| 2.12 | As-built drawing(s) for the sewage pumping station (s) | To be submitted at least one week before the commencement of operation of distributor road(s) | |
| 3.2 | Baseline Monitoring Report | 26 November 2010 (Part I) 24 December 2010 (Part II) | / |
| 3.3 | Four hard copies and one electronic copy of the Monthly EM&A Report No. 74 (January 2020) | 14 February 2020 | Monthly EM&A Report for Contract No. KL/2012/03 |

2. AIR QUALITY

Monitoring Requirements

2.1 According to EM&A Manual under the EPs, 1-hour and 24-hour Total Suspended Particulates (TSP) monitoring were conducted to monitor the air quality for this Project. For regular impact monitoring, a sampling frequency of at least once in every six days at all of the monitoring stations for 24-hour TSP monitoring. For 1-hour TSP monitoring, the sampling frequency of at least three times in every six days shall be undertaken when the highest dust impact occurs. **Appendix A** shows the established Action/Limit Levels for the environmental monitoring works.

Monitoring Locations

2.2 Seven designated monitoring stations were selected for air quality monitoring programme. Impact dust monitoring was conducted at six of the air quality monitoring stations (AM2, AM2(A), AM3(A), AM3(B), AM4(C) and AM5. **Table 2.1** describes the air quality monitoring locations, which are also depicted in **Figure 2**.

| Monitoring Stations | Locations | Location of Measurement |
|---------------------|------------------------------------------|---------------------------|
| AM2 | Lee Kau Yan Memorial School | Rooftop (about 8/F) Area |
| AM2(A) | Ng Wah Catholic Secondary School | Rooftop (about 8/F) Area |
| AM3(A) | Holy Trinity Bradbury Centre | Rooftop (about 8/F) Area |
| AM3(B) | Hong Kong Family Planning Association | Rooftop (about 4/F) Area |
| AM4(C) | New Pumping Station | Rooftop (about 6/F) Area |
| AM5 | CCC Kei To Secondary School | Rooftop (about 10/F) Area |
| AM6 | PA 15 | Site 1B4 (Planned) |

 Table 2.1
 Locations for Air Quality Monitoring

- 2.3 The Proposal for Cessation of Construction Phase EM&A Works at Road D2 for Environmental Permits (EP) No. EP-377/2009 was approved by the EPD on 15th April 2019. The impact environmental monitoring has been ceased since 15th April 2019.
- 2.4 1-hr TSP and 24-hr TSP monitoring were not required for Environmental Permits (EP) No. EP-344/2009.

3. NOISE

Monitoring Requirements

3.1 According to EM&A Manuals under the EP, construction noise monitoring was conducted to monitor the construction noise arising from the construction activities within KTD. The regular monitoring frequency for each monitoring station shall be on a weekly basis to conduct one set of measurements between 0700 and 1900 hours on normal weekdays. **Appendix A** shows the established Action and Limit Levels for the environmental monitoring works.

Monitoring Locations

- 3.2 Five designated monitoring stations were selected for noise monitoring programme. Noise monitoring was conducted at four designated monitoring stations (M6, M7, M8 and M9). **Figure 3** shows the locations of these stations.
- 3.3 Construction noise monitoring at Station M6 Holy Carpenter Primary School was rejected by the premise owner on 6th October 2014. The monitoring station has been relocated at a proposed alternative noise monitoring station M6(A) Oblate Primary School since 10th October 2014 to carry out the monitoring works.
- 3.4 The proposal for alternative position of M8 (remark as M8(A)) was agreed by IEC on 20th March 2019 in accordance with the Section 2.3.9 of EM&A Manual of the Project and the Environmental Protection Department (EPD) has no major objection on the proposal.

| Monitoring Stations | Locations | Location of Measurement | | |
|---------------------|-----------------------------------|-------------------------------|--|--|
| *M6(A) | Oblate Primary School | Rooftop (about 7/F) Area | | |
| M7 | CCC Kei To Secondary School | Rooftop (about 8/F) Area | | |
| | Po Leung Kuk Ngan Po Ling College | Ground Level (at a position | | |
| ^M8(A) | (Site Boundary) | 3m above the ground) | | |
| M9 | Tak Long Estate | Car Park Building (about 2/F) | | |
| M10 | Site 1B4 (Planned) | - | | |

Table 3.1Noise Monitoring Stations

Remarks:

* Alternative noise monitoring station for M6 – Holy Carpenter Primary School from 10th October 2014 onwards

[^] The proposal for alternative position of M8 (remark as M8(A)) was agreed by IEC on 20th March 2019 in accordance with the Section 2.3.9 of EM&A Manual of the Project and the Environmental Protection Department (EPD) has no major objection on the proposal. The Free Field noise measurement was adopted for Station M8(A) and its baseline reference noise level was adjusted with a correction of +3dB(A).

- 3.5 The Proposal for Cessation of Construction Phase EM&A Works at Road D2 for Environmental Permits (EP) No. EP-377/2009 was approved by the EPD on 15 April 2019. The impact environmental monitoring has been ceased since 15 April 2019.
- 3.6 Noise monitoring was not required for Environmental Permits (EP) No. EP-344/2009.

4. LANDSCAPE AND VISUAL

Monitoring Requirements

- 4.1 According to EM&A Manual of the Kai Tak Development EIA Study, ET shall monitor and audit the contractor's activities during the construction period on a weekly basis, and to report on the contractor's performance.
- 4.2 The Proposal for Cessation of Construction Phase EM&A Works at Road D2 for Environmental Permits (EP) No. EP-377/2009 was approved by the EPD on 15 April 2019. The impact environmental monitoring has been ceased since 15 April 2019. The As-built drawing for Road D2 was submitted to EPD on 13 August 2019. Weekly site inspection, Landscape and Visual Monitoring and reporting for Environmental Permits (EP) No. EP-377/2009 have been ceased since 15 August 2019.

Results and Observations

- 4.3 Site audits were carried out on a weekly basis to monitor and audit the timely implementation of landscape and visual mitigation measures within the site boundaries of this Project. The summaries of site audits are attached in **Appendix B**.
- 4.4 No non-compliance of the landscape and visual impact was recorded in the reporting month.
- 4.5 In accordance with the Action Plan presented in **Appendix C**, no corrective actions were required in the reporting month.

5. ENVIRONMENTAL AUDIT

Site Audits

- 5.1 Site audits were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site. The summaries of site audits are attached in **Appendix B**.
- 5.2 The Proposal for Cessation of Construction Phase EM&A Works at Road D2 for Environmental Permits (EP) No. EP-377/2009 was approved by the EPD on 15 April 2019. The impact environmental monitoring has been ceased since 15 April 2019. The As-built drawing for Road D2 was submitted to EPD on 13 August 2019. Weekly site inspection, Landscape and Visual Monitoring and reporting for Environmental Permits (EP) No. EP-377/2009 have been ceased since 15 August 2019.
- 5.3 Site audits were conducted on 7th, 14th, 19th and 28th February 2020 in the reporting month. IEC site inspections were conducted on 7th and 28th February 2020. No non-compliance was observed during the site audits.

Status of Environmental Licensing and Permitting

5.4 All permits/licenses obtained for the Project are summarized in Table 5.1.

| Dormit No | Valid Period | | Dataila | C 4 . 4 |
|-----------------------------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Permit No. From To | | Details | Status | |
| Environmental Perm | it (EP) | | | |
| EP-337/2009 | 23/04/09 | N/A | Construction of new distributor roads serving the planned Kai Tak development. | |
| EP-344/2009 | 23/04/09 | N/A | Construction of a new sewage pumping station serving the planned Kai Tak development with installed capacity of | |
| Effluent Discharge Li | icense | | | |
| | | 21/04/20 | Discharge License for the discharge of wastewater from the construction site including contaminated surface run-off to the communal storm water drain | Valid |
| Registration of Chemical Waste Producer | | | | |
| 5213-286-K2958-05 | | Registration of chemical waste producer for chemical waste produced during construction of Stage 4 at former North Apron Area Infrastructure. | | Valid |

Table 5.1 Summary of Environmental Licensing and Permit Status

Status of Waste Management

- 5.5 The amount of wastes generated by the major site activities of this Project during the reporting month is shown in **Appendix F**.
- 5.6 In respect of the dump truck cover, the Contractor is advised to take record photos and inspection to ensure that the skips of all dump trucks have been fully covered before leaving the site.

Implementation Status of Environmental Mitigation Measures

5.7 During site inspections in the reporting month, no non-conformance was identified. ET weekly site inspections were carried out during the reporting month and the observations and recommendations are summarized in Table 5.2.

| Parameters | Date | Observations and Recommendations | Follow-up |
|------------------------------|--------------------------------|----------------------------------------------------------------|---------------------------------------------------------------|
| Water Quality | 19 th February 2020 | Reminder: Ponding water should be avoided at site office | Ponding water was cleared. |
| Air Quality | | | |
| Noise | | | |
| Waste/Chemical Management | 28 th February 2020 | Reminder: Oil leakage from equipment should be avoided. | Follow-up action will be reported in the next monthly report. |
| Landscape and Visual | | | |
| Permits /Licences | | | |

 Table 5.2
 Observations and Recommendations of Site Inspections for EP-344/2009

Summary of Mitigation Measures Implemented

5.8 All site activities were suspended from 27th January 2020 to 2nd February 2020 to reduce the risk of the spread of the novel coronavirus. The weekly environmental site inspection for the week 27th January 2020 to 31st January 2020 was cancelled. The monthly IEC audit on 31st January 2020 was postponed to 7th February 2020, the summary were recorded as follows:

Follow up of last monthly audit:

• No major environmental deficiency was observed during the previous site audit.

Observation(s) in monthly audit on 7th February 2020:

- No major environmental deficiency was observed during site audit.
- 5.9 The monthly IEC audit was carried out on 28th February 2020, the summary were recorded as follows:

Follow up of last monthly audit:

• No major environmental deficiency was observed during the previous site audit.

Observation(s) in monthly audit on 28th February 2020:

- Oil leakage was observed at an excavator. The contractor was requested to clean the oil stain and prevent any oil leakage.
- 5.10 An updated summary of the EMIS is provided in **Appendix D**.

Implementation Status of Event Action Plans

5.11 The Event Action Plans for air quality, noise and landscape and visual are presented in Appendix C.

Environmental Monitoring

5.12 The Cessation of Impact Environmental Monitoring Works (Construction Phase) was approved by the EPD. Impact Environmental Monitoring was ceased since 15th April 2019.

Landscape and visual

5.13 No non-compliance was recorded in the reporting month.

Summary of Complaint, Warning, Notification of any Summons and Successful Prosecution

5.14 No environmental complaint and environmental prosecution was received in the reporting month. The summaries of environmental complaint, warning, summon and notification of successful prosecution for the Project are presented in **Appendix E**.

6. FUTURE KEY ISSUES

- 6.1 Major site activities undertaken for the coming two months include:
 - Daily Cleaning
 - Weeding at roadside planting areas
 - Painting cladding at PS2
 - Installing steel platforms at PS2
 - Plumbing works for irrigation system
- 6.2 The tentative construction program for the Project is provided in Appendix G.

Key Issues for the Coming Month

- 6.3 Key environmental issues in the coming month include:
 - Dust generation from stockpiles of dusty materials, exposed site area and excavation works;
 - Proper storage of construction materials on site;
 - Storage of chemicals/fuel and chemical waste/waste oil on site;
 - Accumulation of general and construction waste on site; and
 - Noise from operation of the equipment, especially for machinery on-site.
- **6.4** The tentative program of major site activities and the impact prediction and environmental mitigation measures for the coming two months, i.e. March 2020 and April 2020 are summarized as follows:

Table 6.1Summary of the tentative program of major site activities, the impactprediction and control measures for March 2020 and April 2020

| Construction Works | Major Impact | Control Measures |
|---------------------------|--------------------|--------------------------------------------------------|
| | Prediction | |
| | Air quality impact | a) Covering stockpiles with tarpaulin or |
| | (dust) | similar means; |
| | Water quality | b) Provision of measures to prevent discharge into the |
| As mentioned in | impact (surface | stream; |
| Section 6.1 | run-off) | |
| | Noise Impact | c) Controlling the number of plants use on site; and |
| | | d) Regular maintenance of machines. |
| | | |

7. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

- 7.1 The Proposal for Cessation of Construction Phase EM&A Works at Road D2 for Environmental Permits (EP) No. EP-377/2009 was approved by the EPD on 15 April 2019. The impact environmental monitoring has been ceased since 15th April 2019. The As-built drawing for Road D2 was submitted to EPD on 13 August 2019. Weekly site inspection, Landscape and Visual Monitoring and reporting for Environmental Permits (EP) No. EP-377/2009 have been ceased since 15 August 2019.
- 7.2 Weekly site inspection, Landscape and Visual Monitoring and reporting will be remained until the completion of Landscape Works for Environmental Permits (EP) No. EP-344/2009.

Complaints, Notification of any Summons and Prosecution Received

7.3 No environmental complaint and environmental prosecution was received in the reporting month. The summaries of environmental complaint, warning, summon and notification of successful prosecution for the Project are presented in **Appendix E**.

Recommendations

7.4 According to the environmental audit performed in the reporting month, the following recommendations were made:

Air Quality Impact

• To implement dust suppression measures on stockpiles.

Noise Impact

- To inspect the noise sources inside the site.
- To disperse the locations of noisy equipments and position the equipments as far away as possible from sensitive receivers.

Water Impact

• To prevent any surface runoff discharge into any stream course.

Waste/Chemical Management

- To check for any accumulation of waste materials or rubbish on site.
- To ensure the performance of sorting of C&D materials at source (during generation);
- To avoid any discharge or accidental spillage of chemical waste or oil directly from the site.
- To provide proper storage area or drip trays for oil containers/ equipment on site.
- To avoid improper handling or storage of oil drum on site.

Landscape and Visual

- To protect the existing trees to be retained.
- To transplant the trees unavoidably affected by the works.
- To control of night-time lighting.
- To provide decorative screen hoarding.
- To complete landscape works at site area as early as possible.

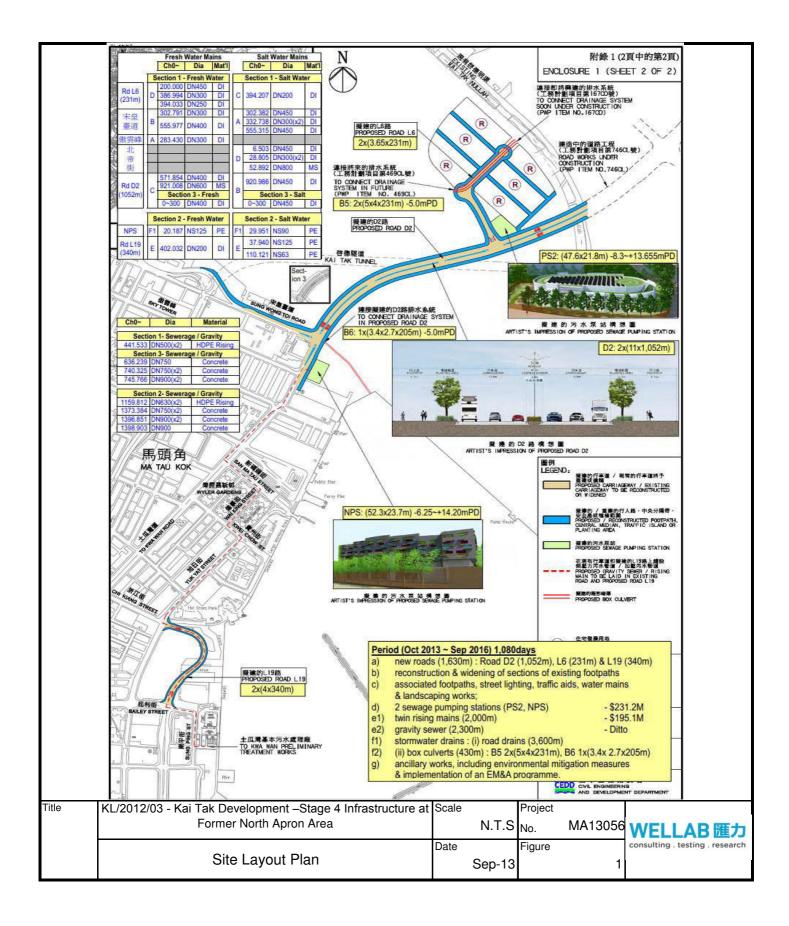
Effectiveness of Environmental Management

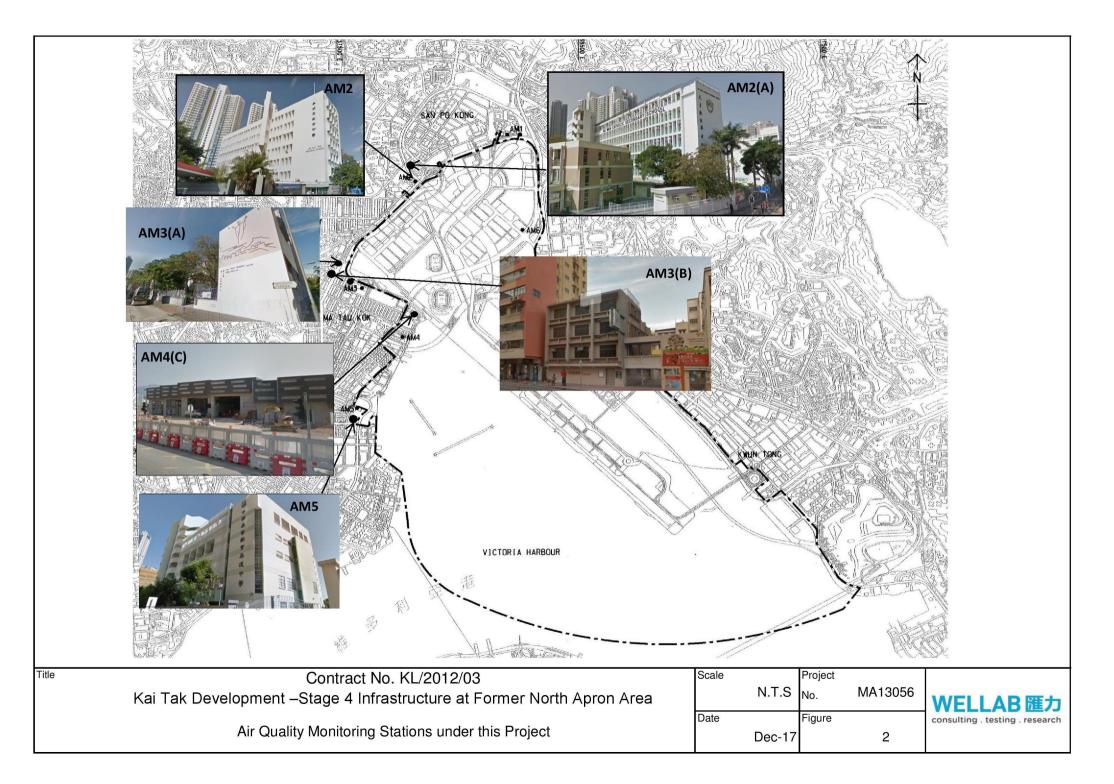
- 7.5 The above recommendations and the recommended mitigation measures in the EM&A Manual were carried out by the Contractor during construction. No non-compliance was recorded during the environmental site inspections as shown in **Appendix B**.
- 7.6 The effectiveness of environmental management is satisfactory as the above recommendations are met. Some of the examples of mitigation measures for the following recommendations are given in **Table 7.1** below.
 - Surface runoff discharge into any stream course is prevented;
 - Provision of sedimentation facilities after identification of wastewater discharges from site;
 - Discharge or accidental spillage of chemical waste or oil directly from the site is avoided;
 - Improper handling or storage of oil drum on site is avoided;
 - The existing trees to be retained are protected; and
 - Night-time lighting is controlled.

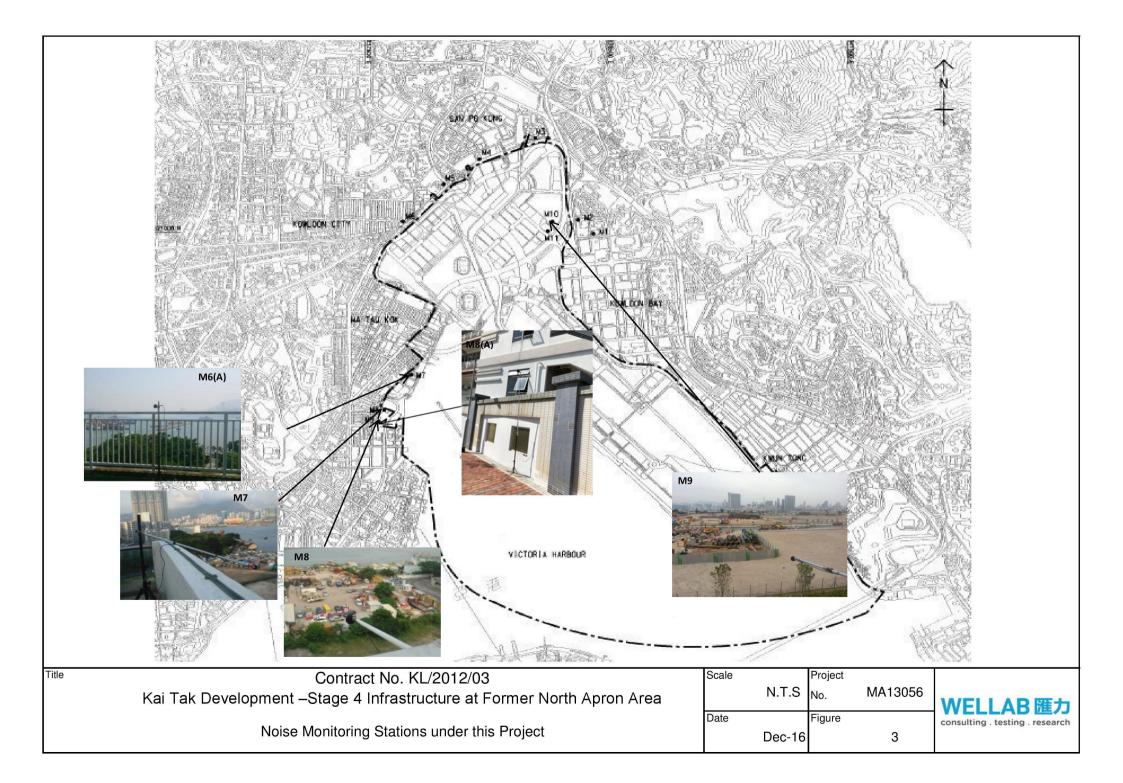
Table 7.1 Examples of Mitigation Measures for Environmental Recommendations

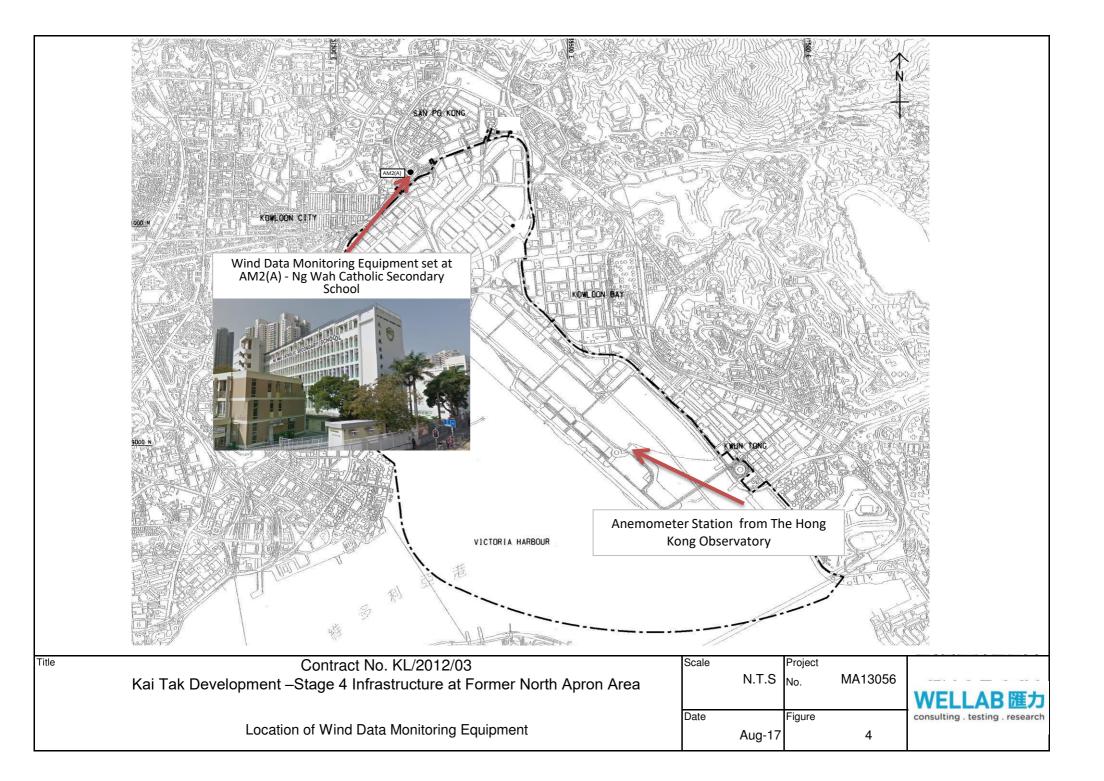


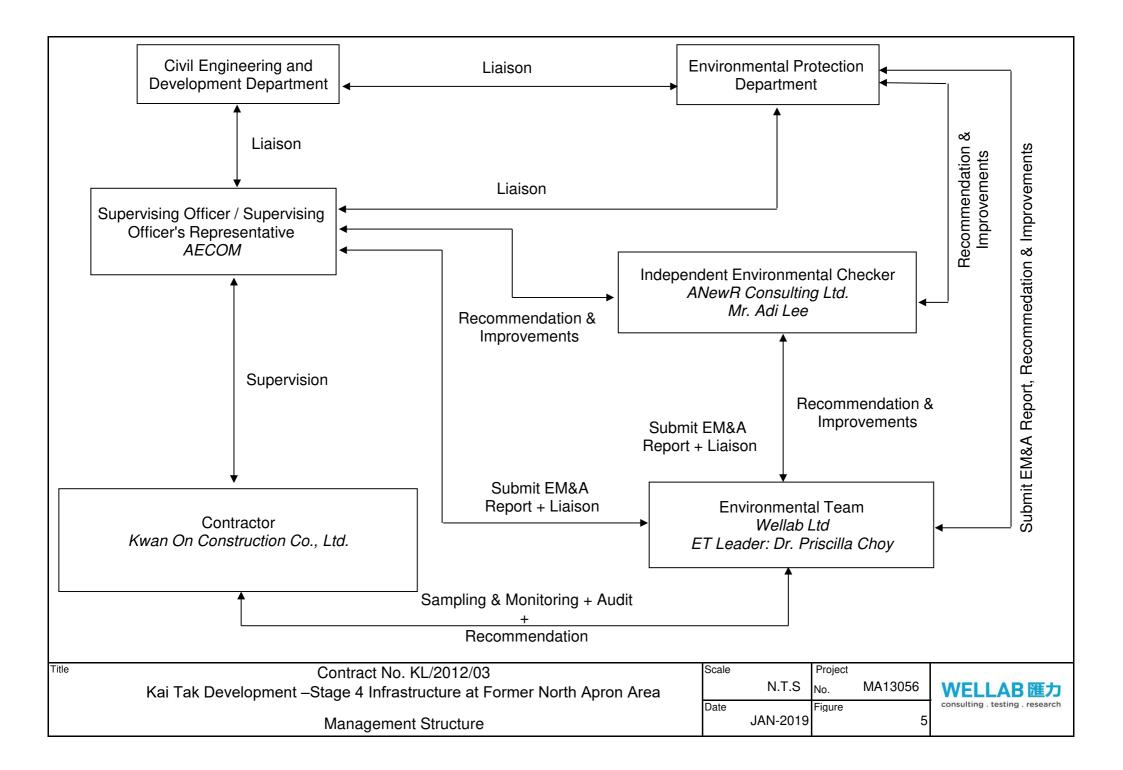
FIGURES











APPENDIX A ACTION AND LIMIT LEVELS

Appendix A - Action and Limit Levels

| Location | Action Level, µg/m ³ | Limit Level, µg/m ³ | |
|----------|---------------------------------|--------------------------------|--|
| AM2 | 346 | | |
| AM3(A) | 351 | 500 | |
| AM4(C) | 371 | 500 | |
| AM5 | 345 | | |

Table A-1Action and Limit Levels for 1-Hour TSP

| Table A-2 | Action and Limit Levels for 24-Hour TSP |
|-----------|-------------------------------------------|
| | rection and Emile Devels for 24 floar 151 |

| Location | Action Level, μg/m ³ | Limit Level, µg/m ³ |
|----------|---------------------------------|--------------------------------|
| AM2(A) | 157 | |
| AM3(B) | 167 | 260 |
| AM4(C) | 187 | 260 |
| AM5 | 156 | |

Table A-3 Action and Limit Levels for Construction Noise

| Time Period | Action Level | Limit Level |
|----------------------------------|-------------------------------------------------|------------------------------|
| 0700-1900 hrs on normal weekdays | When one documented complaint is received | 75 dB(A) 70dB(A)/65dB(A)* |

Remarks: If works are to be carried out during restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority have to be followed. *70dB(A) and 65dB(A) for schools during normal teaching periods and school examination periods, respectively.

APPENDIX B SITE AUDIT SUMMARY

Contract No. KL/2012/03 Kai Tak Development - Stage 4 Infrastructure at Former North Apron Area EP-344/2009 - New Sewage Pumping Stations serving Kai Tak Development

Weekly Site Inspection Record Summary Inspection Information

| Checklist Reference Number | 200207 | |
|----------------------------|-----------------|--|
| Date | 7 February 2020 | |
| Time | 14:00 - 15:00 | |

| | | Related |
|----------|---------------------------------------------------------------------------------------------------------------------------|---------|
| Ref. No. | Non-Compliance | Item No |
| - | None identified | - |
| | | Related |
| Ref. No. | Remarks/Observations | Item No |
| | B. Water Quality | |
| | No environmental deficiency was identified during site inspection. | |
| | C. Air Quality | |
| | No environmental deficiency was identified during site inspection. | |
| | D. Noise | |
| | No environmental deficiency was identified during site inspection. | |
| | E. Waste / Chemical Management | |
| | No environmental deficiency was identified during site inspection. | |
| | F. Visual and Landscape | |
| | No environmental deficiency was identified during site inspection. | |
| | G. Permits /Licences | |
| | No environmental deficiency was identified during site inspection. | |
| | H. Others | |
| | • Follow-up on previous audit session (Ref. No. 200123), no environmental deficiency was observed during site inspection. | |

| | Name | Signature | Date |
|-------------|--------------------|-----------|------------------|
| Recorded by | Kenneth Leung | Lenny | 10 February 2020 |
| Checked by | Dr. Priscilla Choy | W7- | 10 February 2020 |

Weekly Site Inspection Record Summary Inspection Information

| Checklist Reference Number | 200214 |
|----------------------------|------------------|
| Date | 14 February 2020 |
| Time | 14:00 - 15:00 |

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| D 4 M | | Related |
|----------|---------------------------------------------------------------------------------------------------------------------------|---------|
| Ref. No. | Non-Compliance | Item No |
| - | None identified | - |
| | | Related |
| Ref. No. | Remarks/Observations | Item No |
| | B. Water Quality | |
| | No environmental deficiency was identified during site inspection. | |
| | C. Air Quality | |
| | No environmental deficiency was identified during site inspection. | |
| | D. Noise | |
| | No environmental deficiency was identified during site inspection. | |
| | E. Waste / Chemical Management | |
| | No environmental deficiency was identified during site inspection. | |
| | F. Visual and Landscape | |
| | No environmental deficiency was identified during site inspection. | |
| | G. Permits /Licences | |
| · · · · | No environmental deficiency was identified during site inspection. | |
| | H. Others | |
| | • Follow-up on previous audit session (Ref. No. 200207), no environmental deficiency was observed during site inspection. | |

| | Name | Signature | Date |
|-------------|--------------------|-----------|------------------|
| Recorded by | Howard Chan | Howard | 17 February 2020 |
| Checked by | Dr. Priscilla Choy | NA | 17 February 2020 |
| | | | |

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Contract No. KL/2012/03 Kai Tak Development - Stage 4 Infrastructure at Former North Apron Area EP-344/2009 - New Sewage Pumping Stations serving Kai Tak Development

Weekly Site Inspection Record Summary Inspection Information

| Checklist Reference Number | 200219 |
|----------------------------|------------------|
| Date | 19 February 2020 |
| Time | 13:30 - 14:00 |

| | | Related |
|------------|---------------------------------------------------------------------------------------------------------------------------|----------|
| Ref. No. | Non-Compliance | Item No |
| - | None identified | <u> </u> |
| | | Related |
| Ref. No. | Remarks/Observations | Item No |
| | B. Water Quality | |
| 200219-R01 | Ponding water should be avoided at site office | B 8 |
| | C. Air Quality | |
| | No environmental deficiency was identified during site inspection. | |
| | D. Noise | |
| | No environmental deficiency was identified during site inspection. | |
| | E. Waste / Chemical Management | |
| | No environmental deficiency was identified during site inspection. | |
| | F. Visual and Landscape | |
| | No environmental deficiency was identified during site inspection. | |
| | G. Permits /Licences | |
| | No environmental deficiency was identified during site inspection. | |
| | H. Others | |
| | • Follow-up on previous audit session (Ref. No. 200214), no environmental deficiency was observed during site inspection. | |

| | Name | Signature | Date |
|-------------|--------------------|-----------|------------------|
| Recorded by | Kenneth Leung | Leng | 20 February 2020 |
| Checked by | Dr. Priscilla Choy | NZ | 20 February 2020 |
| | | | |

Weekly Site Inspection Record Summary Inspection Information

| Checklist Reference Number | 200228 |
|----------------------------|------------------|
| Date | 28 February 2020 |
| Time | 15:30 - 16:00 |

| | | Related |
|------------------|---------------------------------------------------------------------------------------------------------------------------------|---------------------|
| Ref. No. | Non-Compliance | Item No. |
| - | None identified | - |
| Ref. No. | Remarks/Observations | Related Item No. |
| Rel. 140. | B. Water Quality | nem ivo. |
| | | |
| | No environmental deficiency was identified during site inspection. | |
| | C. Air Quality | |
| | No environmental deficiency was identified during site inspection. | |
| | D. Noise | |
| | No environmental deficiency was identified during site inspection. | |
| | E. Waste / Chemical Management | |
| 200228-R01 | Oil leakage from equipment should be avoided. | E 8 |
| | F. Visual and Landscape | |
| | No environmental deficiency was identified during site inspection. | |
| | G. Permits /Licences | |
| | No environmental deficiency was identified during site inspection. | |
| | H. Others | |
| | • Follow-up on previous audit session (Ref. No. 200219), all environmental deficiency was rectified/improved by the contractor. | |

| | Name | Signature | Date |
|-------------|--------------------|-------------|--------------|
| Recorded by | Howard Chan | Howard | 2 March 2020 |
| Checked by | Dr. Priscilla Choy | L.T. | 2 March 2020 |
| | | · · · · · · | |

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APPENDIX C EVENT ACTION PLANS

Event/Action Plan for Air Quality

| EVENT | | ACTION | l | |
|--------------------|--------------------------------------------|---------------------------------------|------------------------------------|---------------------------------------|
| | ET | IEC | ER | CONTRACTOR |
| Action Level being | 1. Identify source and investigate the | 1. Check monitoring data submitted | 1. Notify Contractor. | 1. Rectify any unacceptable practice; |
| exceeded by | causes of exceedance; | by ET; | | 2. Amend working methods if |
| one sampling | 2. Inform Contactor, IEC and ER; | 2. Check Contractor's working | | appropriate. |
| | 3. Repeat measurement to confirm finding. | method. | | |
| Action Level being | 1. Identify source and investigate the | 1. Check monitoring data submitted | 1. Confirm receipt of notification | 1. Discuss with ET and IEC on proper |
| exceeded by | causes of exceedance; | by ET; | of exceedance in writing; | remedial actions; |
| two or more | 2. Inform Contractor, IEC and ER; | 2. Check Contractor's working | 2. Notify Contractor; | 2. Submit proposals for remedial |
| consecutive | 3. Increase monitoring frequency to daily; | method; | 3. In consolidation with the IEC, | actions to ER and IEC within three |
| sampling | 4. Discuss with IEC and Contractor on | 3. Discuss with ET and Contractor on | agree with the Contractor on the | working days of notification; |
| | remedial actions required; | possible remedial measures; | remedial measures to be | 3. Implement the agreed proposals; |
| | 5. Assess the effectiveness of | 4. Advise the ER on the effectiveness | implemented; | 4. Amend proposal if appropriate. |
| | Contractor's remedial actions; | of the proposed remedial measures. | 4. Supervise implementation of | |
| | 6. If exceedance continues, arrange | | remedial measures; | |
| | meeting with IEC and ER; | | 5. Conduct meeting with ET and | |
| | 7. If exceedance stops, cease additional | | IEC if exceedance continues. | |
| | monitoring. | | | |
| Limit Level being | 1. Identify source and investigate the | 1. Check monitoring data submitted | 1. Confirm receipt of notification | 1. Take immediate action to avoid |
| exceeded by | causes of exceedance; | by ET; | of exceedance in writing; | further exceedance; |
| one sampling | 2. Inform Contractor, IEC, ER, and EPD; | 2. Check Contractor's working | 2. Notify Contractor; | 2. Discuss with ET and IEC on proper |
| | 3. Repeat measurement to confirm finding; | method; | 3. In consolidation with the IEC, | remedial actions; |
| | 4. Assess effectiveness of | 3. Discuss with ET and Contractor on | agree with the Contractor on the | 3. Submit proposals for remedial |
| | Contractor's remedial actions and keep | possible remedial measures; | remedial measures to be | actions to ER and IEC within three |

| | EPD, IEC and ER informed of | 4. Advise the ER on the | implemented; | working days of notification; |
|-------------------|-------------------------------------------|--------------------------------------|------------------------------------|---------------------------------------|
| | the results. | effectiveness of the proposed | 4. Supervise implementation of | 4. Implement the agreed proposals. |
| | | remedial measures. | remedial measures; | |
| | | | 5. Conduct meeting with ET and | |
| | | | IEC if exceedance continues. | |
| Limit Level being | 1. Notify IEC, ER, Contractor and | 1. Check monitoring data submitted | 1. Confirm receipt of notification | 1. Take immediate action to avoid |
| exceeded by | EPD; | by ET; | of exceedance in writing; | further exceedance; |
| two or more | 2. Repeat measurement to confirm | 2. Check Contractor's working | 2. Notify Contractor; | 2. Discuss with ET, ER and IEC on |
| consecutive | findings; | method; | 3. In consolidation with the IEC, | proper remedial actions; |
| sampling | 3. Carry out analysis of Contractor's | 3. Discuss amongst ER, ET, and | agree with the Contractor on the | 3. Submit proposals for remedial |
| | working procedures to identify source and | Contractor on the potential remedial | remedial measures to be | actions to IEC within three working |
| | investigate the causes of exceedance; | actions; | implemented; | days of notification; |
| | 4. Increase monitoring frequency to | 4. Review Contractor's remedial | 4. Supervise implementation of | 4. Implement the agreed proposals; |
| | daily; | actions whenever necessary to | remedial measures; | 5. Submit further remedial actions if |
| | 5. Arrange meeting with IEC, ER | assure their effectiveness and | 5. If exceedance continues, | problem still not under control; |
| | and Contractor to discuss the | advise the ER accordingly. | consider stopping the Contractor | 6. Stop the relevant portion of works |
| | remedial actions to be taken; | | to continue working on that | as instructed by the ER until the |
| | 6. Assess effectiveness of | | portion of work which causes the | exceedance is abated. |
| | Contractor's remedial actions and | | exceedance until the | |
| | keep EPD, IEC and ER informed | | exceedance is abated. | |
| | of the results; | | | |
| | 7. If exceedance stops, cease additional | | | |
| | monitoring. | | | |

Event/Action Plan for Construction Noise

| EVENT | ACTION | | | |
|--------------|----------------------------------------|-----------------------------------|------------------------------|-----------------------------------|
| | ET | IEC | ER | CONTRACTOR |
| Action Level | 1. Notify ER, IEC and Contractor; | 1. Review the investigation | 1. Confirm receipt of | 1. Submit noise mitigation |
| being | 2. Carry out investigation; | results submitted by the ET; | notification of failure in | proposals to IEC and ER; |
| exceeded | 3. Report the results of investigation | 2. Review the proposed remedial | writing; | 2. Implement noise mitigation |
| | to the IEC, ER and Contractor; | measures by the Contractor and | 2. Notify Contractor; | proposals. |
| | 4. Discuss with the IEC and | advise the ER accordingly; | 3. In consolidation with the | (The above actions should be |
| | Contractor on remedial measures | 3. Advise the ER on the | IEC, agree with the | taken within 2 working days after |
| | required; | effectiveness of the proposed | Contractor on the remedial | the exceedance is identified) |
| | 5. Increase monitoring frequency to | remedial measures. | measures to be implemented; | |
| | check mitigation effectiveness. | (The above actions should be | 4. Supervise the | |
| | (The above actions should be taken | taken within 2 working days after | implementation of remedial | |
| | within 2 working days after the | the exceedance is identified) | measures. | |
| | exceedance is identified) | | (The above actions should be | |
| | | | taken within 2 working days | |
| | | | after the exceedance is | |
| | | | identified) | |
| Limit Level | 1. Inform IEC, ER, Contractor and | 1. Discuss amongst ER, ET, and | 1. Confirm receipt of | 1. Take immediate action to |
| being | EPD; | Contractor on the potential | notification of failure in | avoid further exceedance; |
| exceeded | 2. Repeat measurements to confirm | remedial actions; | writing; | 2. Submit proposals for remedial |
| | findings; | 2. Review Contractor's remedial | 2. Notify Contractor; | actions to IEC and ER within 3 |
| | 3. Increase monitoring frequency; | actions whenever necessary to | 3. In consolidation with the | working days of notification; |
| | 4. Identify source and investigate the | assure their effectiveness and | IEC, agree with the | 3. Implement the agreed |
| | cause of exceedance; | advise the ER accordingly. | Contractor on the remedial | proposals; |

| 5. Carry out analysis of Contractor's | (The above actions should be | measures to be implemented; | 4. Submit further proposal if |
|---------------------------------------|-----------------------------------|------------------------------|-----------------------------------|
| working procedures; | taken within 2 working days after | 4. Supervise the | problem still not under control; |
| 6. Discuss with the IEC, Contractor | the exceedance is identified) | implementation of remedial | 5. Stop the relevant portion of |
| and ER on remedial measures | | measures; | works as instructed by the ER |
| required; | | 5. If exceedance continues, | until the exceedance is abated. |
| 7. Assess effectiveness of | | consider stopping the | (The above actions should be |
| Contractor's remedial actions and | | Contractor to continue | taken within 2 working days after |
| keep IEC, EPD and ER informed of | | working on that portion of | the exceedance is identified) |
| the results; | | work which causes the | |
| 8. If exceedance stops, cease | | exceedance until the | |
| additional monitoring. | | exceedance is abated. | |
| (The above actions should be taken | | (The above actions should be | |
| within 2 working days after the | | taken within 2 working days | |
| exceedance is identified) | | after the exceedance is | |
| | | identified) | |

Event/Action Plan for Landscape and Visual

| EVENT | ACTION | | | |
|--------------------------------|-------------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| ACTION LEVEL | ET | IEC | ER | CONTRACTOR |
| Design Check | 1. Check final design conforms to the requirements | Check report. Recommend remedial design if | 1. Undertake remedial design if necessary | |
| | of EP and prepare report. | necessary | | |
| Non-conformity on one occasion | Identify Source Inform IEC and ER | Check report Check Contractor's working method | Notify Contractor Ensure remedial measures are properly implemented | Amend working methods Rectify damage and undertake any necessary |
| | 3. Discuss remedial actions with IEC, | 3. Discuss with ET and Contractor on possible | | replacement |
| | ER and Contractor 4. Monitor remedial actions until | remedial measures 4. Advise ER on effectiveness of | | |
| | rectification has been completed | proposed remedial measures. | | |
| | | 5. Check implementation of remedial measures. | | |
| Repeated Non-conformity | 1. Identify Source Inform IEC and | 1. Check monitoring report | Notify Contractor Ensure remedial measures are properly | Amend working methods Rectify damage and |

| ER | 2. Check Contractor's | implemented | undertake any necessary |
|----------------------|------------------------|-------------|-------------------------|
| 2. Increase | working method | | replacement |
| monitoring | 3. Discuss with ET and | | |
| frequency | Contractor on possible | | |
| 3. Discuss remedial | remedial measures | | |
| actions with IEC, | 4. Advise ER on | | |
| ER and Contractor | effectiveness of | | |
| 4. Monitor remedial | proposed remedial | | |
| actions until | measures | | |
| rectification has | 5. Supervise | | |
| been completed | implementation of | | |
| 5. If non-conformity | remedial measures. | | |
| stops, cease | | | |
| additional | | | |
| monitoring | | | |

APPENDIX D ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE (EMIS)

Appendix D - Summary of Implementation Schedule of Mitigation Measures for Construction Phase

| Types of Impacts | Mitigation Measures | Status |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| impacts | 8 times daily watering of the work site with active dust emitting activities. Implementation of dust suppression measures stipulated in Air Pollution Control (Construction Dust) Regulation. The following mitigation measures, good site practices and a comprehensive dust monitoring and audit programme are recommended to minimize cumulative dust impacts. Stockpiling site(s) should be lined with impermeable | ^ |
| | sheeting and bunded. Stockpiles should be fully covered by impermeable sheeting to reduce dust emission. 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. | |
| | 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. | ^ |
| | 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. | ^ |
| Construction Dust | The vehicles should be restricted to maximum speed of 10 km per hour and confined haulage and delivery vehicle to designated roadways insider the site. On- site unpaved roads should be compacted and kept free of lose materials. | ^ |
| | Vehicle washing facilities should be provided at every vehicle exit point. | ^ |
| | 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. | ^ |
| | Every stock of more than 20 bags of cement should be covered entirely by impervious sheeting placed in an area sheltered on the top and the three sides. | ^ |
| | Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites. | ^ |
| | | |
| | | |
| | | |

| | Use of quiet PME, movable barriers barrier for Asphalt | |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| | Paver, Breaker, Excavator and Hand-held breaker and full enclosure for Air Compressor, Bar Bender, Concrete Pump, Generator and Water Pump | ^ |
| | | |
| | Good Site Practice: Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program. | ^ |
| | Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program. | N/A(1) |
| | Mobile plant, if any, should be sited as far away from NSRs as possible. | ^ |
| | Machines and plant (such as trucks) that may be in intermittent use should be shut down between works periods or should be throttled down to a minimum. | ^ |
| | Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs. | ^ |
| | Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities. | ^ |
| | Scheduling of Construction Works during School Examination Period | ^ |
| Construction Noise | (i) Provision of low noise surfacing in a section of Road L2; and | N/A |
| INUISE | | |
| | (ii) Provision of structural fins | N/A |
| | (i) Avoid the sensitive façade of class room facing Road L2 and L4; and | N/A |
| | (ii) Provision of low noise surfacing in a section of Road L2 & L4 | N/A |
| | (i) Provision of low noise surfacing in a section of Road L4 before occupation of Site 1I1; and | N/A |
| | (ii) Setback of building about 5m from site boundary. | N/A |
| | Setback of building about 35m to the northwest direction at 1L3 and 5m at Site 1L2. | N/A |
| | avoid any sensitive façades with openable window facing the existing Kowloon City Road network; and | N/A |
| | (ii) for the sensitive facades facing the To Kwa Wan direction, either setback the facades by about 5m to the northeast direction or do not provide the facades with openable window. | N/A |

| | | 1 |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| | (i) avoid any sensitive facades with openable window facing the swisting Ta Kup Wap Based or | N/A |
| | facing the existing To Kwa Wan Road or (ii) provision of 17.5m high noise tolerant building fronting To Kwa Wan Road and restrict the height of the residential block(s) located at less than 55m | N/A |
| | away from To Kwa Wan Road to no more than 25m above ground. avoid any sensitive facades with openable window facing the slip road connecting Prince Edward Road East and San Po Kong or other alternative mitigation measures and at-source mitigation measures for the surrounding new local roads to minimise the potential traffic noise impacts from the slip road | N/A |
| | All the ventilation fans installed in the below will be provided with silencers or acoustics treatment. (i) (i) SPS (ii) ESS (iii) Tunnel Ventilation Shaft (iv) EFTS depot | N/A N/A N/A N/A |
| | Installation of retractable roof or other equivalent measures | N/A |
| | The following mitigation measures are proposed to be incorporated in the design of the SPS at KTD, including: | |
| | Dual power supply or emergency generator should be provided at all the SPSs to secure electrical power supply; | N/A |
| | Standby pumps should be provided at all SPSs to ensure smooth operation of the SPS during maintenance of the duty pumps; | N/A |
| | An alarm should be installed to signal emergency high water level in the wet well at all SPSs; and | N/A |
| Construction Water | For all unmanned SPSs, a remote monitor system connecting SPSs with the control station through telemetry system should be provided so that swift actions could be taken in case of malfunction of unmanned facilities. | N/A |
| Quality | Land-based Construction | |
| | Construction Runoff | |
| | Exposed soil areas should be minimised to reduce the potential for increased siltation, 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 mitigation measures which include: | ~ |
| | use of sediment traps adequate maintenance of drainage systems to prevent flooding and overflow | ^ |

| 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. | ^ |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 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 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. | N/A |
| 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. | ^ |
| 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. | ^ |
| 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. | ^ |
| 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. | N/A |
| | |

All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and 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.

Drainage

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.

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.

All fuel tanks and storage areas should be provided with locks and be located 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.

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.

Stormwater Discharges

Minimum distances of 100 m should be maintained between the existing or planned stormwater discharges and the existing or planned seawater intakes

N/A

Λ

Λ

Λ

| 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 | ^ |
| Construction Works at or in Close Proximity of Storm Culvert or Seafront | |
| The proposed works should preferably be carried out within the dry season where the flow in the drainage channel /storm culvert/ nullah is low. | ^ |
| The use of less or smaller construction plants may be specified to reduce the disturbance to the bottom sediment at the drainage channel /storm culvert / nullah. | ^ |
| Temporary storage of materials (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction materials should be located well away from any water courses during carrying out of the construction works. | ^ |
| Stockpiling of construction materials and dusty materials should be covered and located away from any water courses. | ^ |
| Construction debris and spoil should be covered up and/or disposed of as soon as possible to avoid being washed into the nearby water receivers. | ^ |
| Construction activities, which generate large amount of wastewater, should be carried out in a distance away from the waterfront, where practicable. | ^ |
| Mitigation measures to control site runoff from entering the nearby water environment should be implemented to minimize water quality impacts. Surface channels should be provided along the edge of the waterfront within the work sites to intercept the runoff. | ^ |
| Construction effluent, site run-off and sewage should be properly collected and/or treated. | * |
| Any works site inside the storm water courses should be temporarily isolated, such as by placing of sandbags or silt curtains with lead edge at bottom and properly supported props to prevent adverse impact on the storm water quality. | ^ |
| y. | N/A |
| Silt curtain may be installed around the construction activities at the seafront to minimize the potential impacts due to accidental spillage of construction materials. | |
| Proper shoring may need to be erected in order to prevent soil/mud from slipping into the storm culvert/drainage channel/sea. | ^ |
| D 6 | |

| | Supervisory staff should be assigned to station on site to closely supervise and monitor the works | ^ |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| | Marine water quality monitoring and audit programme shall be implemented for the proposed sediment treatment operation. | N/A |
| | Good Site Practices It is not anticipated that adverse waste management related impacts would arise, provided that good site practices are adhered to. Recommendations for good site practices during construction activities include: Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site Training of site personnel in proper waste management and chemical waste handling procedures Provision of sufficient waste disposal points and regular collection for disposal Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers A recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites) | |
| Construction Waste Management | Waste Reduction Measures Good management and control can prevent the generation of a significant amount of waste. Waste reduction is best achieved at the planning and design stage, as well as by ensuring the implementation of good site practices. Recommendations to achieve waste reduction include: • Sort C&D waste from demolition of the remaining | ^ |
| | structures to recover recyclable portions such as metals 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 | ٨ |
| | Encourage collection of aluminium 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 Any unused chemicals or those with remaining | ^ |
| | Any unused chemicals of those with remaining functional capacity should be recycled Proper storage and site practices to minimise the potential for damage or contamination of construction materials | ^ |
| | | |

| Construction and Demolition Material | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Mitigation measures and good site practices should be incorporated into contract document to control potential environmental impact from handling and transportation of C&D material. The mitigation measures include: | |
| Where it is unavoidable to have transient stockpiles of C&D material within the Project work site pending collection for disposal, the transient stockpiles should be located away from waterfront or storm drains as far as possible | Λ |
| Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric | ٨ |
| Skip hoist for material transport should be totally enclosed by impervious sheeting | ^ |
| Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site | ٨ |
| 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 | ۸ |
| 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 | Λ |
| All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet | Λ |
| The height from which excavated materials are dropped should be controlled to a minimum practical height to limit fugitive dust generation from unloading | ٨ |
| 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. | ٨ |
| 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 | N/A |
| D-8 | |

| | 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 | ٨ |
| | CM1 All existing trees should be carefully protected during construction. | ^ |
| Landscape and Visual | CM2 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. | N/A |
| | CM3 Control of night-time lighting. | ^ |
| | CM4 Erection of decorative screen hoarding. | ^ |

| Remarks: | Compliance of mitigation measure; | | | | | | |
|----------|-----------------------------------------------------------------------------------------------|--|--|--|--|--|--|
| | X Non-compliance of mitigation measure; | | | | | | |
| | N/A Not Applicable at this stage; | | | | | | |
| | N/A(1) Not observed; | | | | | | |
| | • Non-compliance but rectified by the contractor; | | | | | | |
| | * Recommendation was made during site audit but improved/rectified by the contractor. | | | | | | |
| | # Recommendation was made during site audit and to be improved / rectified by the contractor. | | | | | | |

APPENDIX E SUMMARIES OF ENVIRONMENTAL COMPLAINT, WARNING, SUMMON AND NOTIFICATION OF SUCCESSFUL PROSECUTION

Contract No. KL/2012/03 Kai Tak Development –Stage 4 Infrastructure at Former North Apron Area

Appendix E – Summary of environmental complaint, warning, summon and notification of successful prosecution

Reporting Month: February 2020

| Log Ref. | Received Date | Details of Warning / Summons and Successful Prosecutions | Investigation/Mitigation Action | Status |
|----------|------------------|-------------------------------------------------------------|---------------------------------|--------|
| N/A | N/A | N/A | N/A | N/A |

Warnings / Summons and Successful Prosecutions received in the reporting month

Remarks: No warning/summon and prosecution were received in the reporting period.

Complaint Log

| Com | PD plaint No. | Date of Complaint | Complaint Details | Investigation / Mitigation Action | | | | | |
|-----|---------------------|----------------------|--------------------------|--------------------------------------|-----|--|--|--|--|
| N | /A | N/A | N/A | N/A | N/A | | | | |

APPENDIX F WASTE GENERATED QUANTITY

APPENDIX IV Monthly Summary Waste Flow Table

(PS Clause 1.86)

Name of Department: CEDD

Contract No. : KL/2012/03

Monthly Summary Waste Flow Table for February 2020 (year) (in tons)

| | _ | | Actual Quantities of Inert C&D Materials Generated Monthly | | | | | | Actual Quantities of C&D Wastes Generated Monthly | | | | | |
|----------------------------|----------------------------|-----------------------------|------------------------------------------------------------|------------------------|--------------------------|----------------------------|---------------|-----------|---------------------------------------------------|--------------------------|--------------------|-----------------------------------|--|--|
| Month | Total Disposal Loads | Total Quantity Generated | Hard Rock & 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) | Chemicals Waste | Others, e.g. general refuse | | |
| | (No.s) | (in tons) | 0 | (in tons) | (in tons) | (in tons) | (in tons) | (in tons) | (in tons) | (in tons) | (in tons) | (in tons) | | |
| 2013 (Oct - Dec) Sub-Total | 108 | 463.69 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 463.69 | | |
| 2014 (Jan – Dec) Sub-Total | 24 | 16925.7 | 0 | 0 | 16798.93 | 83.66 | 1804.27 | 0 | 0 | 0 | 0 | 43.11 | | |
| 2015 (Jan – Dec) Sub-Total | 284 | 81859.97 | 0 | 0 | 38291.91 | 43457.21 | 19920 | 0 | 0 | 0 | 0 | 310.26 | | |
| 2016 (Jan – Dec) Sub-Total | 3369 | 50762.64 | 0 | 0 | 0 | 49894.67 | 4020 | 0 | 0 | 0 | 0 | 867.95 | | |
| 2017 (Jan – Dec) Sub-Total | 2737 | 39615.16 | 0 | 0 | 0 | 38996.26 | 0 | 0 | 0 | 0 | 0 | 603.11 | | |
| 2018 (Jan – Dec) Sub-Total | 566 | 7483.57 | 0 | 0 | 0 | 6803.57 | 0 | 0 | 0 | 0 | 0 | 680 | | |
| 2019 (Jan – Dec) Sub-Total | 88 | 396.28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 396.28 | | |
| Jan-20 | 2 | 6.85 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6.85 | | |
| Feb-20 | 2 | 5.45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5.45 | | |
| Mar-20 | | | | | | | | | | | | | | |
| Apr-20 | | | | | | | | | | | | | | |
| May-20 | | | | | | | | | | | | | | |
| Jun-20 | | | | | | | | | | | | | | |
| Total | 7180 | 197519.31 | 0 | 0 | 55090.84 | 139235.37 | 25744.27 | 0 | 0 | 0 | 0 | 3376.7 | | |

APPENDIX G CONSTRUCTION PROGRAMME

| | | I | | | | | | | 20 |)20 | | | | | | | |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----|----|----|---|----|-----|----|-----|----|----|----|---|----|----|----|
| | | | Fe | | | | | lar | | | | pr | | | | ау | |
| | | 7 | 14 | 21 | 29 | 7 | 14 | 21 | 31 | 7 | 14 | 21 | 30 | 7 | 14 | 21 | 31 |
| | Sung Wong Tai Road Plumbing and Drainage Base course Asphalt laying Road Marking Planting Resurfacing Temp. Traffic Arrangement Scraping and asphalt laying | | | | | | | | | | | | | | | | |
| 2 | Pump Station NPS and PS2 NPS : FSI Scada system test Three days test Recycle wood installation Painting Window Glass installation External lighting & CCTV Planting Made good defects Installing steel platforms | | | | | | | | | | | | | | | | |
| 3 | PS2 : FSI Scada system test Benching Three days test Fall arrest system Cladding Painting cladding Fence wall | | | | | | | | | | | | | | | | |
| 4 | External lighting & CCTV Planting Installing steel platforms Landscaping (Patch up) | | | | | | | | | | | | | | | | |
| 5 | Road L6 footpath | | | | | | | | | | | | | | | | |

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Appendix B

Monthly EM&A Report For Contract No. KL/2014/01 Kai Tak Development - Stage 2 Infrastructure works for Developments at Southern Part of the Former Runway

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Civil Engineering and Development Department

EP-337/2009 & EP-445/2013/A

Contract No. KL/2014/01

Kai Tak Development – Stage 2 Infrastructure works for Developments at Southern Part of the Former Runway

> Monthly EM&A Report February 2020

> > (Version 1.1)

| Approved By | |
|-------------|-----------------------------|
| | (Environmental Team Leader) |

REMARKS:

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

CINOTECH accepts no responsibility for changes made to this report by third parties

CINOTECH CONSULTANTS LTD Room 1710, Technology Park, 18 On Lai Street, Shatin, NT, Hong Kong Tel: (852) 2151 2083 Fax: (852) 3107 1388 Email: info@cinotech.com.hk





Our ref: 6-3-2020

6-3-2020

By email: clive.cheng@aecom-ktd.com and By hand

Supervising Officer Representative Aecom Asia Co Ltd. 8/F Grand Central Plaza Tower 2 138 Shatin Rural Committee Road Sha Tin, N.T. Hong Kong (Attn: Mr. Cheng Chi Hung)

Dear Mr. Cheng,

Re: Contract No. KL/2014/01 (Environmental Permit Nos. EP-337/2009 and EP-445/2013/A) Kai Tak Development –Stage 2 Infrastructure Works for Developments at Southern Part of the Former Runway <u>Monthly EM&A report for February 2020</u>

Reference is made to the Environmental Team's submission of the draft Monthly EM&A Report (version 1.1) for February 2020 provided to Independent Environmental Checker (IEC) via email dated on 5 th March 2020 for review and comment.

Please be informed that IEC has no adverse comment on the captioned submission. IEC writes to verify the captioned submission in accordance with Specific Condition 2.2 of the Environmental Permit No. 337/2009 and 445/2013/A.

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

Yours faithfully,

For and on behalf of

Ka Shing Management Consultant Limited

Dr. C.F. Ng

c.c.

Independent Environmental Checker

| CEDD | Mr. CHU Chi Hong, Keith | (By email: keithchchu@cedd.gov.hk) |
|----------|-------------------------|------------------------------------------------------|
| AECOM | Mr. Anthony Lok | (By email: anthony.lok@aecom-ktd.com) |
| CEC-CCC | Mr. Eric Fong | (By email: eric-cs-fong@continental-engineering.com) |
| Cinotech | Mr K.S Lee | (By email: ks.lee@cinotech.com.hk) |

Unit 2, 13/F Kai Yue Commercial Building, 2C Argyle St, Mong Kok, Kowloon 九龍旺角亞皆老街 2C 號啟如商業大厦 13 樓 2 室 Tel: (852) 2618 2166 Fax: (852) 2120 7752 Web Site: www.ka-shing.net 電話: (852) 2618 2166 傳真: (852) 2120 7752 網站: www.ka-shing.net



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EXECUTIVE SUMMARY

Introduction

- This is the 47th Monthly Environmental Monitoring and Audit Report prepared by Cinotech Consultants Ltd. for "Contract No. KL/2014/01 - Kai Tak Development – Stage 2 Infrastructure Works for Developments at the Southern Part of the Former Runway" (Hereafter referred to as "the Project"). This contract work comprises two Schedule 2 designated projects (DP), namely the new distributor road D4 (part) and roads D3A & D4A serving the planned KTD. The DPs are part of the designated projects under Environmental Permits (EP) No.: EP-337/2009 ("New distributor roads serving the planned Kai Tak Development") and EP-445/2013/A ("Kai Tak Development – Roads D3A & D4A") respectively. This report documents the findings of EM&A Works conducted in February 2020.
- 2. With reference to the same principle of EIA report of the Project, no air quality monitoring station within 500 m and noise monitoring station within 300 m from the boundary of this Project are considered as relevant monitoring locations. In such regard, no relevant air quality and noise monitoring location are required for monitoring under the Project. The monitoring works for recommended monitoring stations in EM&A Manual of the DPs are conducted by Kai Tak Development (KTD) Schedule 3 Project.
- 3. The major site activities undertaken in the reporting month included:
 - TTA implementation, minor works at Shing Fung Road and Wang Chiu Road / Kai Cheung Road;
 - Construction of outfalls;
 - Laying of paving blocks for footpath;
 - Erection of noise barrier panels;
 - Planting works along footpath and at deck level;
 - Architectural features works at landscaped deck and ground floor open space;
 - E&M works; and
 - Construction of pedestrian streets.

Environmental Monitoring Works

- 4. Environmental monitoring for the Project was performed in accordance with the EM&A Manual and the monitoring results were checked and reviewed. Site Inspections/Audits were conducted once per week. The implementation of the environmental mitigation measures, Event Action Plans and environmental complaint handling procedures were also checked.
- 5. Summary of the non-compliance in the reporting month for the Project is tabulated in **Table I**.

| Table I | Non-compliance Recorded for the Project in the Reporting Month |
|---------|----------------------------------------------------------------|
|---------|----------------------------------------------------------------|

| Par | Parameter | No. of Project-rela | ted Exceedance | Action Taken |
|-----|-----------|---------------------|----------------|--------------|
| | | Action Level | Limit Level AC | ACTION LAKEN |
| | Noise | 0 | 0 | N/A |

1

Environmental Monitoring for Air Quality and Construction Noise

6. No monitoring for air quality and construction noise is required. No Action/Limit Level exceedance was recorded.

Environmental Licenses and Permits

- 7. Licenses/Permits granted to the Project include the Environmental Permits (EP) for the Project, EP-337/2009 issued on 23 April 2009 and EP-445/2013 issued on 3 May 2013 (Amended Environmental Permit (No.: EP-445/2013/A) issued on 13 August 2014).
- 8. Billing Account for Disposal of Construction Waste (A/C No. 7024073)
- 9. Registration of Chemical Waste Producer (License: 5213-247-C4004-01).
- 10. Water Discharge License (License: WT00023634-2016).
- 11. Construction Noise Permits (Permit: GW-RE1024-19)

Key Information in the Reporting Month

12. Summary of key information in the reporting month is tabulated in Table II.

| Event | Event Details | | Action Taken | Status | Remark |
|---------------------------------------------------------------|---------------|--------|--------------|--------|--------|
| | Number | Nature | | | |
| Complaint received | 0 | | N/A | N/A | |
| Reporting Changes | 0 | | N/A | N/A | |
| Notifications of any summons & prosecutions received | 0 | | N/A | N/A | |

Table II Summary Table for Key Information in the Reporting Month

Future Key Issues

- 13. The future key environmental issues in the coming month include:
 - Dust generation from stockpiles of dusty materials, exposed site area, excavation works and rock breaking activities;
 - Water spraying for dust generating activity and on haul road;
 - Proper storage of construction materials on site;
 - Storage of chemicals/fuel and chemical waste/waste oil on site;
 - Accumulation of general and construction waste on site;
 - Noise from operation of the equipment, especially for excavation activities and machinery on-site;
 - Wastewater and runoff discharge from site;
 - Regular removal of silt, mud and sand along u-channels and sedimentation tanks; and
 - Review and implementation of temporary drainage system for the surface runoff.

1. INTRODUCTION

Background

- 1.1 The Kai Tak Development (KTD) is located in the south-eastern part of Kowloon Peninsula, 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. It covers a land area of about 328 hectares. Stage 2 Infrastructure Works for Developments for Southern Part of the Former Runway is one of the construction stages of KTD. It contains two Schedule 2 DPs including new distributor roads serving the planned KTD and KTD Roads D3A & D4A. The general layout of the Project is shown in **Figure 1.**
- 1.2 One Environmental Permit (EP) No.: EP-337/2009 was issued on 23 April 2009 for new distributor roads serving the planned KTD and one Environmental Permit No.: EP-445/2013 was issued on 3 May 2013 for Kai Tak Development Roads D3A & D4A to Civil Engineering and Development Department (CEDD) as the Permit Holder. Pursuant to Section 13 of the EIAO, the Director of Environmental Protection Department amended the Environmental Permit No.: EP-445/2013 based on the Application No. VEP-449/2014 and the Environmental Permit (No.: EP-445/2013/A) was issued on 13 August 2014.
- 1.3 A study of environmental impact assessment (EIA) was undertaken to consider the key issues of air quality, noise, water quality, waste, land contamination, cultural heritage and landscape and visual impact, and identify possible mitigation measures associated with the works. EIA Reports (Register No. AEIAR-130/2009 and AEIAR-170/2013) were approved by the Environmental Protection Department (EPD) on 4 March 2009 and 3 May 2013 respectively.
- 1.4 Cinotech Consultants Limited (Cinotech) was commissioned by Civil Engineering and Development Department (CEDD) to undertake the role of the Environmental Team (ET) for the Contract No. KL/2014/01 Stage 2 Infrastructure Works for Developments at the Southern Part of the Former Runway. The construction work under KL/2014/01 comprises the construction of part of the Road D4 under the EP (EP-337/2009) and the construction of Roads D3A & D4A under the EP (EP-445/2013/A).
- 1.5 Cinotech Consultants Limited was commissioned by Civil Engineering and Development Department (CEDD) to undertake the Environmental Monitoring and Audit (EM&A) works for the Project. The construction commencement of this Contract is on 13 April 2016. This is the 47th Monthly EM&A report summarizing the EM&A works for the Project in February 2020.
- 1.6 All project information since the commencement of work under EPs including Monthly EM&A Reports is made available to the public via internet access at the website: http://www.kl201401.com/

Project Organizations

- 1.7 Different parties with different levels of involvement in the project organization include:
 - Project Proponent Civil Engineering and Development Department (CEDD).
 - The Supervising Officer and the Supervising Officer's Representative (SO) AECOM Asia Co. Ltd. (AECOM).
 - Environmental Team (ET) Cinotech Consultants Limited (CCL).
 - Independent Environmental Checker (IEC) Ka Shing Management Consultant Ltd. (KSMC).
 - Contractor Continental Engineering Corp. and Chit Cheung Construction Co. Ltd. Joint Venture (CCJV).

| Table 1.1 | Table 1.1 Key Project Contacts | | | | |
|-----------|-----------------------------------------|-----------------|------------------------------|-----------|--------------|
| Party | Role | Contact Person | Position | Phone No. | Fax No. |
| CEDD | Project | Mr. Keith Chu | Senior Engineer | 3579 2450 | 3579 |
| | Proponent | Ms. Adonia Yung | Engineer | 3579 2124 | 4516 |
| AECOM | Supervising Officer | Mr. Clive Cheng | CRE | 3746 1801 | 2798 0783 |
| | Environmental | Mr. K S Lee | Environmental Team Leader | 2151 2091 | 3107 |
| Cinotech | Team | Ms. Betty Choi | Audit Team Leader | 2151 2072 | 1388 |
| KSMC | Independent Environmental Checker | Dr. C. F. Ng | IEC | 2618 2166 | 2120 7752 |
| CCJV | Contractor | Mr. Jack Lai | Environmental Officer | 2960 1398 | 2960 1399 |

1.8 The key contacts of the Project are shown in **Table 1.1**.

Construction Activities undertaken during the Reporting Month

- 1.9 The site activities undertaken in the reporting month included:
 - TTA implementation, minor works at Shing Fung Road and Wang Chiu Road / Kai Cheung Road;
 - Construction of outfalls;
 - Laying of paving blocks for footpath;
 - Erection of noise barrier panels;
 - Planting works along footpath and at deck level;
 - Architectural features works at landscaped deck and ground floor open space;
 - E&M works; and
 - Construction of pedestrian streets.

1.10 The construction programme showing the inter-relationship with environmental protection/mitigation measures is presented in **Table 1.2**.

Table 1.2 Construction Programme Showing the Inter-Relationship with Environmental Protection/Mitigation Measures

| Construction Works | Major Environmental Impact | Control Measures |
|--------------------------------|-----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| As mentioned in Section 1.8 | Noise, dust impact, water quality and waste generation | Sufficient watering of the works site with active dust emitting activities; Properly cover the stockpiles; On-site waste sorting and implementation of trip ticket system; Appropriate desilting/sedimentation devices provided on site for treatment before discharge; Use of quiet plant and well-maintained construction plant; Well maintain the drainage system to prevent the spillage of wastewater during heavy rainfall; Provide mitigation measure to temporary use of chemicals; Provide sufficient mitigation measures as recommended in Approved EIA Report/Lease requirement. |

Summary of EM&A Requirements

- 1.11 The EM&A programme requires construction noise monitoring, air quality monitoring, landscape and visual monitoring and environmental site audit. The EM&A requirements for each parameter are described in the following sections, including:
- All monitoring parameters;
- Action and Limit levels for all environmental parameters;
- Event Action Plans;
- Environmental requirements and mitigation measures, as recommended in the EM&A Manual under the EP.
- 1.12 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in Section 5 of this report.

2. AIR QUALITY

Monitoring Requirements

- 2.1 With reference to the same principle of EIA report of the Project, air quality monitoring station should be provided at the Air Sensitive Receivers (ASR) within 500 m from the boundary of this Project. Since the opening of the Centre of Excellence in Paediatrics (Children's Hospital) on 18 December 2019, the hospital is considered as the only relevant monitoring location and therefore the monitoring is required.
- 2.2 As the monitoring works for the hospital is covered by the Contract KL/2014/03 (Kai Tak Development Stage 3 Infrastructure Works for Developments at the Southern Part of the Former Runway) at the monitoring station (KTD1a), the corresponding monitoring results for February 2020 should be accessed in the EM&A report for the reporting month. **Appendix A** shows the established Action and Limit Levels for the environmental monitoring works.

Observations

- 2.3 No monitoring for air quality is required for this report.
- 2.4 Site audits were carried out on a weekly basis to monitor and audit the timely implementation of air quality mitigation measures within the site boundaries of this Project. The summaries of site audits are attached in **Appendix C.**

3. NOISE

Monitoring Requirements

- 3.1 With reference to the same principle of EIA report of the Project, construction noise monitoring station should be provided at the Noise Sensitive Receivers (NSR) within 300 m from the boundary of this Project. Since the opening of the Centre of Excellence in Paediatrics (Children's Hospital) on 18 December 2019, the hospital is considered as the only relevant monitoring location and therefore the monitoring is required.
- 3.2 As the monitoring works for the hospital is covered by the Contract KL/2014/03 (Kai Tak Development Stage 3 Infrastructure Works for Developments at the Southern Part of the Former Runway) at the monitoring station (KTD1a), the corresponding monitoring results for February 2020 should be accessed in the EM&A report for the reporting month. **Appendix A** shows the established Action and Limit Levels for the environmental monitoring works.

Observations

- 3.3 No monitoring for construction noise is required for this report. No Action/Limit Level exceedance was recorded. The summary of exceedance record in reporting month is shown in **Appendix B**.
- 3.4 Site audits were carried out on a weekly basis to monitor and audit the timely implementation of construction noise mitigation measures within the site boundaries of this Project. The summaries of site audits are attached in **Appendix C**.

4. LANDSCAPE AND VISUAL

Monitoring Requirements

4.1 According to EM&A Manual of the Kai Tak Development EIA Study, ET shall monitor and audit the contractor's operation during the construction period on a weekly basis, and to report on the contractor's compliance.

Results and Observations

- 4.2 Site audits were carried out on a weekly basis to monitor and audit the timely implementation of landscape and visual mitigation measures within the site boundaries of this Project. The summaries of site audits are attached in **Appendix C**.
- 4.3 No non-compliance of the landscape and visual impact was recorded in the reporting month.
- 4.4 Should non-compliance of the landscape and visual impact occur, action in accordance with the action plan presented in **Appendix D** shall be performed.

5. ENVIRONMENTAL AUDIT

Site Audits

- 5.1 Site audits were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site. The summaries of site audits are attached in **Appendix C**.
- 5.2 Site audits were conducted by representatives of the Contractor, Supervising Officer and ET on 5, 12, 19 & 26 February 2020 in the reporting month. IEC joint site inspection was conducted on 26 February 2020. No non-compliance was observed during the site audits.

Status of Environmental Licensing and Permitting

5.3 All permits/licenses obtained for the Project are summarized in **Table 5.1**.

| Permit No. | Valid | Period | - Details Sta | |
|-----------------------------|-----------------------------------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| Permit No. | From | То | Details | Status |
| Environmental Pe | rmit (EP) | | | |
| EP-337/2009 | 23/04/09 | N/A | Construction of new distributor roads serving the planned Kai Tak development. | Valid |
| EP-445/2013/A | 13/08/14 | N/A | Construction of Kai Tak Development roads D3A and D4A | Valid |
| Effluent Discharge l | License | | | |
| WT00023634-2016 | | 31/03/21 | Wastewater from the construction site including effluent treated by screen and sedimentation tank | Valid |
| Registration of Cher | Registration of Chemical Waste Producer | | | |
| 5213-247-C4004- 01 | | N/A | Chemical Waste Types: Surplus paint, waste contaminated by paint, diesel, waste contaminated by diesel, spent lubricating oil and waste, soil contaminated by lubricating oil. | Valid |
| Construction Noise | Permit (CNP) | | | |
| GW-RE1024-19 | 19/12/19 | 13/6/2020 | Construction Noise Permit for the use of powered mechanical equipment for carrying out construction work other than percussive pilling and performing prescribed construction work. | Valid |

 Table 5.1
 Summary of Environmental Licensing and Permit Status

Status of Waste Management

- 5.4 The amount of wastes generated by the major site activities of this Project during the reporting month is shown in **Appendix G**.
- 5.5 In respect of the dump truck cover, the Contractor is reminded to take record photos and inspection to ensure that all dump trucks have fully covered the skip before leaving the site.

Implementation Status of Environmental Mitigation Measures

5.6 During site inspections in the reporting month, no non-conformance was identified. ET weekly site inspections were carried out during the reporting month and the observations and recommendations are summarized in Table 5.2.

| Parameters | Date | Observations and Recommendations | Follow-up |
|----------------------------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| Water Quality | | | |
| Air Quality | | | |
| Noise | | | |
| Waste/ Chemical Management | 26 February 2020 | Reminder: The construction waste is accumulated in the waste tank and over the tank capacity at Kai Tak Cruise Terminal underpass. | Follow up actions will be reported in the next monthly report. |
| Landscape and Visual | | | |
| Permits/ Licenses | | | |

 Table 5.2
 Observations and Recommendations of Site Inspections

Summary of Mitigation Measures Implemented

5.7 An updated summary of the EMIS is provided in **Appendix E**.

Implementation Status of Event Action Plans

5.8 The Event Action Plans for noise and landscape and visual are presented in **Appendix D**. No Event Action Plan for air quality is considered necessary.

Construction Noise

5.9 No Action/Limit Level exceedance was recorded in the reporting month.

Landscape and visual

5.10 No non-compliance was recorded in the reporting month.

Summary of Complaint, Warning, Notification of any Summons and Successful Prosecution

5.11 The summaries of environmental complaint, warning, summon and notification of successful prosecution for the Project is presented in **Appendix F**.

6. FUTURE KEY ISSUES

- 6.1 Major site activities undertaken for the coming two months include:
 - TTA implementation, minor works at Shing Fung Road and Wang Chiu Road /
 - Kai Cheung Road;
 - Construction of outfalls;
 - Laying of paving blocks for footpath;
 - Erection of noise barrier panels;
 - Planting works along footpath and at deck level;
 - Architectural features works at landscaped deck and ground floor open space;
 - E&M works; and
 - Construction of pedestrian streets.
- 6.2 Key environmental issues in the coming month include:
 - Wastewater and runoff discharge from site;
 - Regular removal of silt, mud and sand along u-channels and sedimentation tanks;
 - Review and implementation of temporary drainage system for the surface runoff;
 - Noise from operation of the equipment, especially for rock-breaking activities, piling works and machinery on-site;
 - Dust generation from stockpiles of dusty materials, exposed site area, excavation works and rock breaking activities;
 - Water spraying for dust generating activity and on haul road;
 - Proper storage of construction materials on site;
 - Storage of chemicals/fuel and chemical waste/waste oil on site;
 - Accumulation of general and construction waste on site
- 6.3 The tentative program of major site activities and the impact prediction and control measures for the coming two months, i.e. March and April 2020 are summarized as follows:

| Construction Works | Major Impact Prediction | Control Measures | |
|-----------------------|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| | Air quality impact (dust) | a) Frequent watering of haul road and unpaved/exposed areas; b) Frequent watering or covering stockpiles with tarpaulin or similar means; and c) Watering of any earth moving activities. | |

| Construction Works | Major Impact Prediction | Control Measures |
|--------------------------------|----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| As mentioned in Section 7.1 | Water quality impact (surface run-off) | a) Diversion of the collected effluent to desilting facilities for treatment prior to discharge to public storm water drains; b) Provision of adequate de-silting facilities for treating surface run-off and other collected effluents prior to discharge; c) Provision of perimeter protection such as sealing of hoarding footings to avoid run-off from entering the existing storm water drainage system via public road; and d) Provision of measures to prevent discharge into the stream. |
| | Noise Impact | a) Scheduling of noisy construction activities if necessary to avoid persistent noisy operation; b) Controlling the number of plants use on site; c) Regular maintenance of machines; and d) Use of acoustic barriers if necessary. |

7. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

7.1 The Environmental Monitoring and Audit (EM&A) Report presents the EM&A works undertaken in February 2020.

Air Quality and Construction Noise

7.2 No regular monitoring air quality and noise monitoring is required for the Project. No Action/Limit Level exceedance was recorded.

Landscape and visual

7.3 No non-compliance was recorded in the reporting month.

Complaint and Prosecution

- 7.4 No environmental complaints and environmental prosecution were received in the reporting month.
- 7.5 The ET will keep track on the EM&A programme to ensure compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

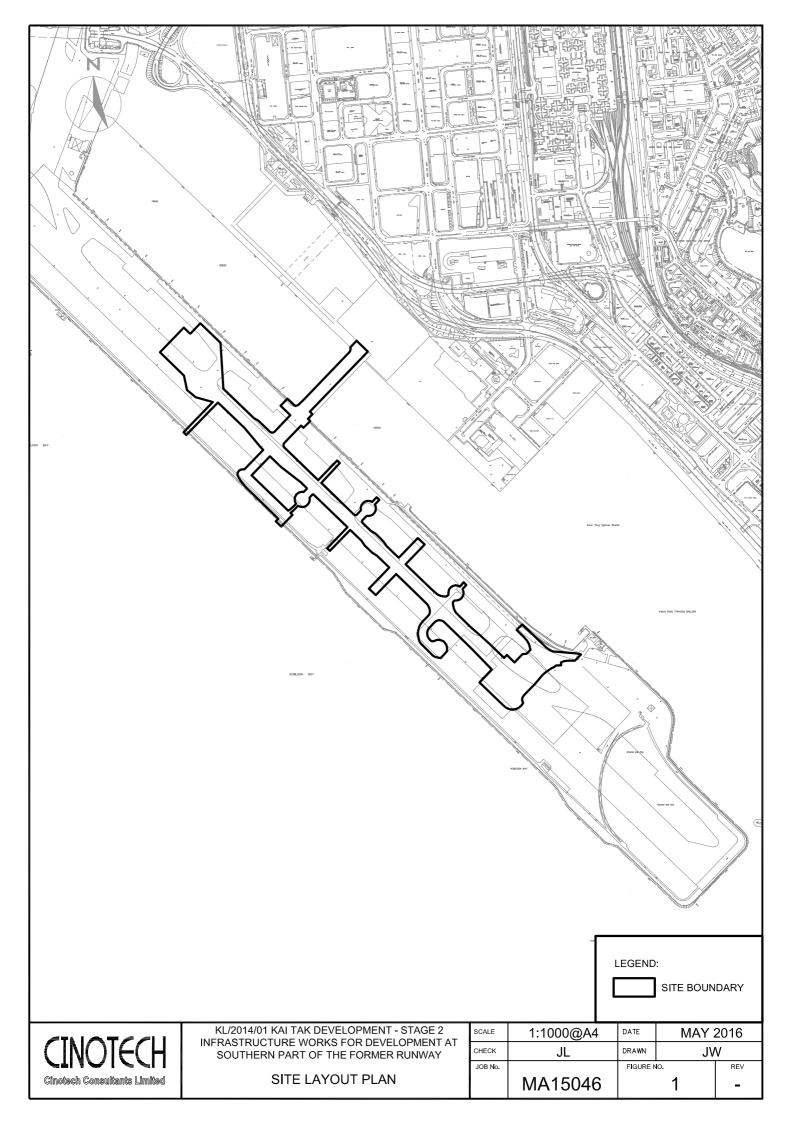
Recommendations

7.6 According to the environmental audit performed in the reporting month, the following recommendations were made:

Waste/ chemical management

• To avoid the accumulation of general refuse & construction waste.

FIGURES



APPENDIX A ACTION AND LIMIT LEVELS

Appendix A - Action and Limit Levels

| Monitoring Station | Parameter | Action Level (μg/ m ³) | $ Limit \ Level^{(1)(2)} \\ (\mu g/\ m^3) $ |
|-----------------------|-----------|---------------------------------------|--------------------------------------------------|
| KTD1a | 24-hr TSP | 177 | 260 |
| KTD1a* | 1-hr TSP | 285 | 500 |

Table A-1 Action and Limit Levels for Air Quality Monitoring

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

| Table A-2 | Action and Limit Levels for Construction Noise Monitoring | |
|------------|-----------------------------------------------------------|--|
| I abit A-2 | Action and Limit Levels for Construction Noise Monitoring | |

| Time Period | Action Level | Limit Level ⁽¹⁾⁽²⁾ |
|----------------------------------|-------------------------------------------------|-------------------------------|
| 0700-1900 hrs on normal weekdays | When one documented complaint is received | 75 dB(A) 70dB(A)/65dB(A)* |

Remarks: (1) If works are to be carried out during restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority have to be followed.

(2) No regular noise impact monitoring station for this Contract. It is subject to the noise sensitive receiver(s) and additional monitoring work.

(*) 70dB(A) and 65dB(A) for schools during normal teaching periods and school examination periods respectively.

APPENDIX B SUMMARY OF EXCEEDANCE

Contract No. KL/2014/01 Kai Tak Development –Stage 2 Infrastructure Works for Developments at the Southern Part of the Former Runway

Appendix B – Summary of Exceedance

Exceedance Record for Contract No. KL/2014/01

Reporting Month: February 2020

(A) Exceedance Record for Construction Noise

(NIL in the reporting month)

(B) Exceedance Record for Landscape and Visual

(NIL in the reporting month)

APPENDIX C SITE AUDIT SUMMARY

Contract No. KL/2014/01 Kai Tak Development - Stage 2 Infrastructure Works for Developments at the Southern Part of the Former Runway EP-337/2009 & EP-445/2013/A

Weekly Site Inspection Record Summary Inspection Information

| Checklist Reference Number | 200205 |
|----------------------------|-----------------------------|
| Date | 5 February 2020 (Wednesday) |
| Time | 14:00 - 16:30 |

| | | Related |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Ref. No. | Non-Compliance | Item No |
| - | None identified | - |
| | | Related |
| Ref. No. | Remarks/Observations | Item No |
| | B. Water Quality | |
| | No environmental deficiency was identified during site inspection. | |
| | C. Air Quality | |
| | No environmental deficiency was identified during site inspection. | |
| | D. Noise | |
| | No environmental deficiency was identified during site inspection. | |
| | E. Waste / Chemical Management | |
| | No environmental deficiency was identified during site inspection. | |
| | F. Visual and Landscape | |
| | No environmental deficiency was identified during site inspection. | |
| | G. Permits /Licenses | |
| | No environmental deficiency was identified during site inspection. | |
| | H. Others | |
| | • Follow up on the previous audit session (Ref. No:200122): All environmental deficiencies identified in the previous audit were rectified/improved by the Contractor | |

| | Name | Signature | Date |
|-------------|-------------|-----------|-----------------|
| Recorded by | Joseph Lau | k | 7 February 2020 |
| Checked by | Colman Wong | Colman | 7 February 2020 |

Contract No. KL/2014/01 Kai Tak Development - Stage 2 Infrastructure Works for Developments at the Southern Part of the Former Runway EP-337/2009 & EP-445/2013/A

Weekly Site Inspection Record Summary Inspection Information

| Checklist Reference Number | 200212 |
|----------------------------|------------------------------|
| Date | 12 February 2020 (Wednesday) |
| Time | 14:00 - 16:00 |

| | | Related |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Ref. No. | Non-Compliance | Item No |
| - | None identified | - |
| | | Related |
| Ref. No. | Remarks/Observations | Item No |
| | B. Water Quality | |
| | No environmental deficiency was identified during site inspection. | |
| | C. Air Quality | |
| | No environmental deficiency was identified during site inspection. | |
| | D. Noise | |
| | No environmental deficiency was identified during site inspection. | |
| | E. Waste / Chemical Management | |
| | No environmental deficiency was identified during site inspection. | |
| | F. Visual and Landscape | |
| | No environmental deficiency was identified during site inspection. | |
| | G. Permits /Licenses | |
| | No environmental deficiency was identified during site inspection. | |
| | H. Others | |
| | • Follow up on the previous audit session (Ref. No:200205): All environmental deficiencies identified in the previous audit were rectified/improved by the Contractor | |

| | Name | Signature | Date |
|-------------|-------------|-----------|------------------|
| Recorded by | Joseph Lau | k | 12 February 2020 |
| Checked by | Colman Wong | Colman | 13 February 2020 |

Contract No. KL/2014/01 Kai Tak Development - Stage 2 Infrastructure Works for Developments at the Southern Part of the Former Runway EP-337/2009 & EP-445/2013/A

Weekly Site Inspection Record Summary Inspection Information

| Checklist Reference Number | 200219 |
|----------------------------|------------------------------|
| Date | 19 February 2020 (Wednesday) |
| Time | 14:00 - 16:00 |

| | | Related |
|----------|----------------------------------------------------------------------------------------------------------------------------|---------|
| Ref. No. | Non-Compliance | Item No |
| - | None identified | - |
| | | Related |
| Ref. No. | Remarks/Observations | Item No |
| | B. Water Quality | |
| | No environmental deficiency was identified during site inspection. | |
| | C. Air Quality | |
| | No environmental deficiency was identified during site inspection. | |
| | D. Noise | |
| | No environmental deficiency was identified during site inspection. | |
| | E. Waste / Chemical Management | |
| | No environmental deficiency was identified during site inspection. | |
| | F. Visual and Landscape | |
| | No environmental deficiency was identified during site inspection. | |
| | G. Permits /Licenses | |
| | No environmental deficiency was identified during site inspection. | |
| | H. Others | |
| | • Follow up on the previous audit session (Ref. No:200212): No environmental deficiencies observed during site inspection. | |

| | Name | Signature | Date |
|-------------|-------------|-----------|------------------|
| Recorded by | Joseph Lau | k | 20 February 2020 |
| Checked by | Colman Wong | Colman | 21 February 2020 |

Contract No. KL/2014/01 Kai Tak Development - Stage 2 Infrastructure Works for Developments at the Southern Part of the Former Runway EP-337/2009 & EP-445/2013/A

Weekly Site Inspection Record Summary Inspection Information

| Checklist Reference Number | 200226 |
|----------------------------|------------------------------|
| Date | 26 February 2020 (Wednesday) |
| Time | 14:30 - 17:00 |

| Ref. No. | Non-Compliance | Related Item No. |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| - | None identified | - |
| Ref. No. | Remarks/Observations | Related Item No. |
| | B. Water Quality | |
| | No environmental deficiency was identified during site inspection. | |
| | C. Air Quality | |
| | No environmental deficiency was identified during site inspection. | |
| | D. Noise | |
| | No environmental deficiency was identified during site inspection. | |
| | E. Waste / Chemical Management | |
| 200226-R1 | • The construction waste is accumulated in the waste tank and over the tank capacity at Kai Tak Cruise Terminal underpass. | E4 |
| | F. Visual and Landscape | |
| | No environmental deficiency was identified during site inspection. | |
| | G. Permits /Licenses | |
| | No environmental deficiency was identified during site inspection. | |
| | H. Others | |
| | • Follow up on the previous audit session (Ref. No:200219): No environmental deficiencies were identified in the previous inspection. | |

| | Name | Signature | Date |
|-------------|-------------|-----------|--------------|
| Recorded by | Joseph Lau | k | 2 March 2020 |
| Checked by | Colman Wong | Colman | 3 March 2020 |

APPENDIX D EVENT ACTION PLANS

Appendix D - Event Action Plans

Event/Action Plan for Construction Noise

| EVENT | | ACTI | ON | |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | ET | IEC | ER | CONTRACTOR |
| Action Level being exceeded | Notify ER, IEC and Contractor; Carry out investigation; Report the results of investigation to the IEC, ER and Contractor; Discuss with the IEC and Contractor on remedial measures required; Increase monitoring frequency to check mitigation effectiveness. (The above actions should be taken within 2 working days after the exceedance is identified) | Review the investigation results submitted by the ET; Review the proposed remedial measures by the Contractor and advise the ER accordingly; Advise the ER on the effectiveness of the proposed remedial measures. (The above actions should be taken within 2 working days after the exceedance is identified) | Confirm receipt of notification of failure in writing; Notify Contractor; In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; Supervise the implementation of remedial measures. (The above actions should be taken within 2 working days after the exceedance is identified) | Submit noise mitigation proposals to IEC and ER; Implement noise mitigation proposals. (The above actions should be taken within 2 working days after the exceedance is identified) |
| Limit Level being exceeded | Inform IEC, ER, Contractor and EPD; Repeat measurements to confirm findings; Increase monitoring frequency; Identify source and investigate the cause of exceedance; Carry out analysis of Contractor's working procedures; Discuss with the IEC, Contractor and ER on remedial measures required; Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; If exceedance stops, cease additional monitoring. (The above actions should be taken within 2 working days after the exceedance is identified) | Discuss amongst ER, ET, and Contractor on the potential remedial actions; Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly. (The above actions should be taken within 2 working days after the exceedance is identified) | Confirm receipt of notification of failure in writing; Notify Contractor; In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; Supervise the implementation of remedial measures; If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the exceedance until the exceedance is abated. (The above actions should be taken within 2 working days after the exceedance is identified) | Take immediate action to avoid further exceedance; Submit proposals for remedial actions to IEC and ER within 3 working days of notification; Implement the agreed proposals; Submit further proposal if problem still not under control; Stop the relevant portion of works as instructed by the ER until the exceedance is abated. (The above actions should be taken within 2 working days after the exceedance is identified) |

Appendix D - Event Action Plans

Event/Action Plan for Landscape and Visual

| EVENT ACTION | ACTION | | | | |
|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|--|
| LEVEL | ET | IEC | ER | CONTRACTOR | |
| Design Check | Check final design conforms to the requirements of EP and prepare report. | Check report. Recommend remedial design if necessary | Undertake remedial design if necessary | | |
| Non- conformity on one occasion | Identify Source Inform IEC and ER Discuss remedial actions with IEC, ER and Contractor Monitor remedial actions until rectification has been completed | Check report Check Contractor's working method Discuss with ET and Contractor on possible remedial measures Advise ER on effectiveness of proposed remedial measures. Check implementatio n of remedial measures. | Notify Contractor Ensure remedial measures are properly implemented | Amend working methods Rectify damage and undertake any necessary replacement | |
| Repeated Non- conformity | Identify Source Inform IEC and ER Increase monitoring frequency Discuss remedial actions with IEC, ER and Contractor Monitor remedial actions until rectification has been completed If non- conformity stops, cease additional monitoring | Check monitoring report Check Contractor's working method Discuss with ET and Contractor on possible remedial measures Advise ER on effectiveness of proposed remedial measures Supervise implementatio n of remedial measures. | Notify Contractor Ensure remedial measures are properly implemented | Amend working methods Rectify damage and undertake any necessary replacement | |

APPENDIX E ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE (EMIS)

| EIA Ref. | Mitigation Measures | Status | | | |
|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--|--|--|
| Construction Air Qu | Construction Air Quality | | | | |
| S3.2 (AEIAR-130/2009) | 8 times daily watering of the work site with active dust emitting activities. | ٨ | | | |
| (AEIAR-130/2003) S4.8 (AEIAR-170/2013) | Control measures stipulated in the approved KTD Schedule 3 EIA Report should be strictly followed. | ٨ | | | |
| S3.2 (AEIAR-130/2009) and S4.8 | Implementation of dust suppression measures stipulated in Air Pollution Control (Construction Dust) Regulation. The following mitigation measures, good site practices and a comprehensive dust monitoring and audit programme are recommended to minimize cumulative dust impacts. | | | | |
| (AEIAR-170/2013) | Stockpiling site(s) should be lined with impermeable sheeting and bunded. Stockpiles should be fully covered by impermeable sheeting to reduce dust emission. Misting for the dusty material should be carried out before being loaded into the | ^ | | | |
| | Any vehicle with an open load carrying area should have properly fitted side and tail boards. | | | | |
| | 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. | ^ | | | |
| | 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. | ^ | | | |
| | The vehicles should be restricted to maximum speed of 10 km per hour and confined haulage and delivery vehicle to designated roadways insider the site. Onsite unpaved roads should be compacted and kept free of lose materials. | ^ | | | |
| | • Vehicle washing facilities should be provided at every vehicle exit point. | ^ | | | |

Appendix E - Summary of Implementation Schedule of Mitigation Measures for Construction Phase

| EIA Ref. | Mitigation Measures | Status |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| | 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. Every stock of more than 20 bags of cement should be covered entirely by impervious sheeting placed in an area sheltered on the top and the three sides; and Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites. | ∧ ∧ ∧ |
| Construction Noise | | |
| S3.3 (AEIAR-130/2009) | Use of quiet PME, movable barriers barrier for Asphalt Paver, Breaker, Excavator and Hand-held breaker and full enclosure for Air Compressor, Bar Bender, Concrete Pump, Generator and Water Pump. | ^ |
| S3.3 (AEIAR-130/2009) | Good Site Practice: | |
| (AEIAK-130/2009) | • Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program. | ^ |
| | • Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program. | ٨ |
| | Mobile plant, if any, should be sited as far away from NSRs as possible. | ^ |
| | Machines and plant (such as trucks) that may be in intermittent use should be shut down between works periods or should be throttled down to a minimum. | ٨ |
| | Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs. | ٨ |
| | • Material stockpiles and other structures should be effectively utilized, wherever | ^ |

| EIA Ref. | Mitigation Measures | Status |
|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| | practicable, in screening noise from on-site construction activities. | |
| S3.3 (AEIAR-130/2009) | Scheduling of Construction Works during School Examination Period | N/A |
| S3.8 (AEIAR-170/2013) | Provision of a landscaped deck along Roads D3A & D4A. | N/A |
| S3.8 (AEIAR-170/2013) | Provision of about 1090 m length of vertical noise barrier (connected to the deck) at Roads D3A & D4A; Provision of about 60 m length of overhang vertical noise barrier (connected to the deck) at Road D4A; and Provision of staircases with noise barriers next to Sites 4A1 and 4B1 It should be noted that the exact length of the mitigation measures would be subject to minor refinement during the detailed design stage. | N/A N/A N/A |
| S3.8 (AEIAR-170/2013) | Non-noise sensitive use areas within Sites 4A1 and 4B1. | N/A |
| S3.8 (AEIAR-170/2013) | Avoid sensitive façade with openable window facing Road D3A. | N/A |
| Construction Water | Quality | |
| S3.4 (AEIAR-130/2009) and S5.8 (AEIAR-170/2013) | <u>Construction Runoff</u> Exposed soil areas should be minimised to reduce the potential for increased siltation, 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 mitigation measures which include: use of sediment traps adequate maintenance of drainage systems to prevent flooding and overflow | ∧ ∧ |

| EIA Ref. | Mitigation Measures | Status |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| | 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. | ٨ |
| | 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 rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means. | ٨ |
| S5.8 (AEIAR-170/2013) | Earthworks final surfaces should be well compacted and the subsequent permanent work or surface protection should be carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate drainage like intercepting channels should be provided where necessary. | ٨ |
| | Measures should be taken to minimize the ingress of rainwater into trenches. If excavation of trenches in wet seasons is necessary, they should be dug and backfilled in short sections. Rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities. | ٨ |
| S3.4 (AEIAR-130/2009) | 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 | ٨ |

| EIA Ref. | Mitigation Measures | Status |
|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| | 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. | |
| S3.4 (AEIAR-130/2009) and S5.8 (AEIAR-170/2013) | 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. | ^ |
| (| 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. | ٨ |
| S3.4 (AEIAR-130/2009) | 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. | ٨ |
| | 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. | ۸ |
| S3.4 (AEIAR-130/2009) and S5.8 (AEIAR-170/2013) | All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and 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 | ٨ |

| EIA Ref. | Mitigation Measures | Status |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| | 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. | |
| S5.8 (AEIAR-170/2013) | Boring and Drilling Water Water used in ground boring and drilling for site investigation or rock / soil anchoring should as far as practicable be re-circulated after sedimentation. When there is a need for final disposal, the wastewater should be discharged into storm drains via silt removal facilities. | ^ |
| | Acid Cleaning, Etching and Pickling Wastewater Acidic wastewater generated from acid cleaning, etching, pickling and similar activities should be neutralized to within the pH range of 6 to 10 before discharging into foul sewers | ^ |
| S3.4 | Drainage | |
| (AEIAR-130/2009) | 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. | ٨ |
| S3.4 (AEIAR-130/2009) | 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. | ^ |

| EIA Ref. | Mitigation Measures | Status |
|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| S3.4 (AEIAR-130/2009) | All fuel tanks and storage areas should be provided with locks and be located 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. | ۸ |
| S5.8 (AEIAR-170/2013) | There is a need to apply to EPD for a discharge licence for discharge of effluent from the construction site under the WPCO. The discharge quality must meet the requirements specified in the discharge licence. All the runoff and wastewater generated from the works areas should be treated so that it satisfies all the standards listed in the TM-DSS. Minimum distance of 100 m should be maintained between the discharge points of construction site effluent and the existing seawater intakes and the planned WSR mentioned in S5.3.1 as appropriate. The beneficial uses of the treated effluent for other on-site activities such as dust suppression, wheel washing and general cleaning etc., can minimise water consumption and reduce the effluent discharge volume. If monitoring of the treated effluent quality from the works areas is required during the construction phase of the Project, the monitoring should be carried out in accordance with the relevant WPCO licence which is under the ambit of regional office (RO) of EPD. | Λ |
| S3.4 (AEIAR-130/2009) and S5.8 (AEIAR-170/2013) | Sewage EffluentConstruction 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. | ^ |
| S5.8 | Notices should be posted at conspicuous locations to remind the workers not to discharge | ۸ |

| EIA Ref. | Mitigation Measures | Status |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| (AEIAR-170/2013) | any sewage or wastewater into the surrounding environment. Regular environmental audit of the construction site will provide an effective control of any malpractices and can encourage continual improvement of environmental performance on site. It is anticipated that sewage generation during the construction phase of the project would not cause water pollution problem after undertaking all required measures. | |
| S3.4 (AEIAR-130/2009) and S5.8 (AEIAR-170/2013) | Stormwater Discharges Minimum distances of 100 m should be maintained between the existing or planned stormwater discharges and the existing or planned seawater intakes. | ٨ |
| | 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. | ٨ |
| S5.8 (AEIAR-170/2013) | Accidental Spillage Contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation, should be observed and complied with for control of chemical wastes. Any service shop and maintenance facilities should be located on hard standings within a bunded area, and sumps and oil interceptors should be provided. Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges. | Λ |

| EIA Ref. | Mitigation Measures | Status |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| | Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows: Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport. Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents. Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area. | ∧ ∧ ∧ |
| Construction Waste | Management | |
| S6.7 (AEIAR-170/2013) | Prepare a Waste Management Plan, which becomes a part of the Environmental Management Plan, in accordance with the requirements stipulated in ETWB TC (W) No. 19/2005, approved by the Engineer/Supervising Officer of the Project based on current practices on construction sites. | ٨ |
| S3.5 (AEIAR-130/2009) and S6.7 (AEIAR-170/2013) | Good Site Practices It is not anticipated that adverse waste management related impacts would arise, provided that good site practices are adhered to. Recommendations for good site practices during construction activities include: Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site Training of site personnel in proper waste management and chemical waste handling procedures | ^ |
| | Provision of sufficient waste disposal points and regular collection for disposal | ^ |

| EIA Ref. | Mitigation Measures | Status |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| | • Appropriate measures to minimise windblown litter and dust during transportation of | ^ |
| | waste by either covering trucks or by transporting wastes in enclosed containers | |
| | A recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites) | ٨ |
| | Regular cleaning and maintenance systems, sumps and oil interceptors | ٨ |
| | Separation of chemical wastes for special handling and appropriate treatment | ٨ |
| | Waste Reduction Measures | |
| | Good management and control can prevent the generation of a significant amount of | |
| | waste. Waste reduction is best achieved at the planning and design stage, as well as by | |
| | ensuring the implementation of good site practices. Recommendations to achieve waste reduction include: | |
| | Sort C&D waste from demolition of the remaining structures to recover recyclable portions such as metals | ٨ |
| | • Segregation and storage of different types of waste in different containers, skips or | ^ |
| | stockpiles to enhance reuse or recycling of materials and their proper disposal | |
| | • Encourage collection of aluminium cans, 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 | ^ |
| | Any unused chemicals or those with remaining functional capacity should be recycled | Λ |
| | Proper storage and site practices to minimise the potential for damage or | Λ |
| | contamination of construction materials | |
| | • Plan and stock construction materials carefully to minimize amount of waste | ٨ |
| | generated and avoid unnecessary generation of waste Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycle. | ^ |

| EIA Ref. | Mitigation Measures | Status |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| S3.5 (AEIAR-130/2009) | Construction and Demolition Materials Mitigation measures and good site practices should be incorporated in the contract document to control potential environmental impact from handling and transportation of | |
| | C&D material. The mitigation measures include: Where it is unavoidable to have transient stockpiles of C&D material within the Project work site pending collection for disposal, the transient stockpiles shall be located away from waterfront or storm drains as far as possible. | ٨ |
| | Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric. | ٨ |
| | • Skip hoist for material transport should be totally enclosed by impervious sheeting. | ^ |
| | • Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site. | ٨ |
| | • 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. | ^ |
| | • 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. | ^ |
| | All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet. | ٨ |
| | • The height from which excavated materials are dropped should be controlled to a minimum practical height to limit fugitive dust generation from unloading. | ٨ |
| | 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 | |

| EIA Ref. | Mitigation Measures | Status |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| | System for Disposal of Construction and Demolition Materials" should be included as one of the contractual requirement sand 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. | |
| S3.5 (AEIAR-130/2009) | 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 | # |
| Construction Lands | cape and Visual | |
| S3.8.12 | • Minimized construction area and contractor's temporary works areas. | ٨ |
| (AEIAR-130/2009) | • All existing trees should be carefully protected during construction. | ^ |
| and S7.9 (AEIAR-170/2013) | • 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. | ^ |
| | • Control of night-time lighting. | ^ |
| | Erection of decorative screen hoarding. | ٨ |
| | Reduction of construction period to practical minimum. | ٨ |
| | Limitation of / Ensuring no run-off into surrounding landscape and adjacent seawater areas. | ٨ |
| | • Temporary or advance landscape should be provided along the temporary access roads to the Cruise Terminal until such time as road D3 is open. | ^ |

| Remarks: | EIA Report (AEIAR-130/2009) – Kai Tak Development | | |
|----------|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|--|
| | EIA Report (AEIAR-170/2013) – Kai Tak Development – Roads D3A & D4A | | |
| | ^ Compliance of mitigation measure; X Non-compliance of mitigation measure; | | |
| | N/A Not Applicable at this stage;N/A(1) Not observed; | • Non-compliance but rectified by the contractor; | |
| | * Recommendation was made during site audit but improved/rectified by the contractor. | # Recommendation was made during site audit but not yet improved/rectified by the contractor. | |

APPENDIX F SUMMARIES OF ENVIRONMENTAL COMPLAINT, WARNING, SUMMON AND NOTIFICATION OF SUCCESSFUL PROSECUTION

Contract No. KL/2014/01 Kai Tak Development –Stage 2 Infrastructure Works for Developments at the Southern Part of the Former Runway

Appendix F – Summary of environmental complaint, warning, summon and notification of successful prosecution

Reporting Month: February 2020

Contract No. KL/2014/01

| Log Ref. | Location | Received Date | Details of Complaint/warning/summon and prosecution | Investigation/Mitigation Action | Status |
|-------------|----------|------------------|-----------------------------------------------------------|------------------------------------|--------|
| N/A | N/A | N/A | N/A | N/A | N/A |

Remarks: No environmental complaint/warning/summon and prosecution were received in the reporting period.

APPENDIX G WASTE GENERATED QUANTITY

Appendix 5. Monthly Summary Waste Flow Table

Name of Department: CEDD

Contract No: KL/2014/01

| | Actual Quantities of Inert C&D Materials Generated Monthly | | | | Actual Quantities of C&D Wastes Generated Monthly | | | | | | |
|-----------|------------------------------------------------------------|-------------------------------------------|---------------------------|-------------------------------|---------------------------------------------------|---------------|--------------|----------------------------------|-------------|-------------------|--------------------------------|
| Month | Total Quantity Generated | Hard Rock and Large Broken Concrete | Reused in the Contract | Reused in other Projects * | Disposed as Public Fill | Imported Fill | Metals | Paper/ cardboard packaging | Plastics | Chemical Waste | Others, e.g. general refuse |
| | (in tonne) | (in tonne) | (in tonne) | (in tonne) | (in tonne) | (in tonne) | (in '000 kg) | (in '000kg) | (in '000kg) | (in '000kg) | (in tonne) |
| Jan | 936.62 | 0 | 0 | 0 | 936.62 | 0 | 0 | 0 | 0 | 0 | 200.08 |
| Feb | 2090.79 | 0 | 0 | 0 | 2090.79 | 0 | 0 | 0 | 0 | 0 | 166.68 |
| Mar | | | | | | | | | | | |
| Apr | | | | | | | | | | | |
| May | | | | | | | | | | | |
| June | | | | | | | | | | | |
| Sub-total | 3027.41 | 0 | 0 | 0 | 3027.41 | 0 | 0 | 0 | 0 | 0 | 366.76 |
| July | | | | | | | | | | | |
| Aug | | | | | | | | | | | |
| Sept | | | | | | | | | | | |
| Oct | | | | | | | | | | | |
| Nov | | | | | | | | | | | |
| Dec | | | | | | | | | | | |
| Total | 3027.41 | 0 | 0 | 0 | 3027.41 | 0 | 0 | 0 | 0 | 0 | 366.76 |

Monthly Summary Waste Flow Table for 2020

* Transfer to alterative disposal ground at Lung Kwu Sheung Tan EPD approved recycler

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Appendix C

Monthly EM&A Report For Contract No. KL/2014/03 Kai Tak Development - Stage 3 Infrastructure Works for Developments at the Southern Part of the Former Runway

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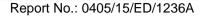
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MONTHLY EM&A REPORT

February 2020

- 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/1236A 2 New Distributor Roads Serving the Planned Kai Tak EP-337/2009 **Development Area** 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
- EP-451/2013 Trunk Road T2

Prepared by : Toby K. H. Wan Reviewed by : Cyrus C. Y. Lai Certified by : Colin K. L. Yung Environmental Team Leader MateriaLab Consultants Limited

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Ref.: CEDKTDS3EM00_0_0459L.20

9 March 2020

By Post and Email

Hyder-Meinhardt Joint Venture 17/F, Two Harbour Square, 180 Wai Yip 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 February 2020</u>

Reference is made to the Environmental Team's submission of the Monthly EM&A Report for February 2020 (Report No. 0405/15/ED/1236A) we received by e-mail on 9 March 2020.

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 Hong Kong Limited

Hoffelder"

F. C. Tsang Independent Environmental Checker

c.c. CEDD Fugro

CRBC

Attn.: Mr. Simon Kwok Attn.: Mr. Colin Yung Attn.: Mr. Dickey Yau

Fax: 2739 0076 By email Fax: 2283 1689

Q:\Projects\CEDKTDS3EM00\02_Proj_Mgt\02_Corr\CEDKTDS3EM00_0_0459L.20.docx

Ramboll Hong Kong Limited 英環香港有限公司

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- Appendix N Outstanding Issues and Deficiencies



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 1 February and 29 February 2020. As informed by the Contractor, major activities in the reporting month were:
 - Excavation and laying of drainage pipe and manhole;
 - Construction of SUS structure;
 - · Construction of District Cooling System;
 - Utility laying;
 - · Removal of temporary decking and temporary road pavement;
 - · Construction of road base and road pavement.

Breaches of the Action and Limit Levels

iii. No Action / Limit Level exceedance was recorded for 24-hr TSP and construction noise at KTD1a, KTD2b and KER1b in the reporting month.

Complaint, Notification of Summons and Successful Prosecution

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

Reporting Changes

v. There was no reporting change in the reporting month.

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 impacts.



1. INTRODUCTION

1.1 Background

- 1.1.1 The Kai Tak Development is located in the south-eastern part of Kowloon Peninsula of the 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

- (ii) Widening and re-alignment of Cheung Yip Street of approximately 330m long and associated footpaths;
- (iii) Demolition, reconstruction and widening of Shing Cheong Road of approximately 410m long and associated footpaths;
- (iv) Construction of drainage outfall and modification of existing seawall;
- (v) Construction of ancillary works including surface drainage, sewerage, water, fire 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

(vi) Demolition of RADAR Tower and guard house;

Other works not covered by any EP

- (vii) Construction of two subways between Phase II of New Acute Hospital (Site A) and Hong Kong Children's Hospital (Site C), and between Phase I of New Acute Hospital (Site B) and Site C;
- (viii) Construction of District Cooling System (DCS) along Cheung Yip Street and Shing 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 48th monthly EM&A Report which summarize the impact monitoring results and audit findings for the Project within the period between 1 February and 29 February 2020.

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1.2 **Project Organization**

- 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 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) | Engineer | Mr. Simon Kwok | 3842 7140 | 2739 0076 |
| Engineer's Representative (HMJV) | Chief Resident Engineer | Mr. W. K., Chris Wong | 3742 3803 | 3742 3899 |
| IEC (Ramboll Hong Kong Limited) | Independent Environmental Checker | Mr. F. C. Tsang | 3465 2851 | 3465 2899 |
| Main Contractor (CRBC) | Site Agent | Mr. Yau Kwok Kiu, Dickey | 5699 4503 | 2283 1689 |
| | Environmental Officer | Miss. Elena Lai | 6841 3324 | 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 month were:
 - · Excavation and laying of drainage pipe and manhole;
 - Construction of SUS structure;
 - · Construction of District Cooling System;
 - Utility laying;
 - · Removal of temporary decking and temporary road pavement;
 - Construction of road base and road pavement.

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

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 or enclosure of the stockpiles and dusty materials;
- · Good site practices on loading dusty materials;
- · Providing sufficient vehicles washing facilities at every vehicle exit point;
- · Good maintenance to the plant and equipment;
- · Use of quieter plant and Quality Powered Mechanical Equipment (QPME);
- · Use of acoustic fabric and noise barrier;
- · Using the approved Non-road Mobile Machineries (NRMMs);
- Proper storage and handling of chemical;
- Appropriate desilting, oil interceptors or 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

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

| Table 1.2 | Relevant | Environmental License | es, Permits and/or Noti | fications |
|-----------|----------|-----------------------|-------------------------|-----------|
| | | | | 1 |

| 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 2013 | Not Applicable Not Applicable Not Applicable |
| Notification pursuant to Air Pollution (Construction Dust) Regulation | 395601 | 4 December 2015 | Not Applicable |
| Billing Account for Waste Disposal | A/C No.: 7023814 | 22 December 2015 | Not Applicable |
| Construction Noise Permit | GW-RE1017-19 | 16 December 2019 | 10 June 2020 |
| Wastewater Discharge License | WT00023125-2015 | 6 January 2016 | 31 January 2021 |
| Chemical Waste Producer License | 5213-247-C1232-12 | 23 November 2015 | Not Applicable |

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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 C**.

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 | Location | Brand | Model | Equipment | Serial Number | |
|------|----------|-------------|---------------|------------------------------|-------------------------|------|
| | | | TE-5170 (TSP) | High Volume Sampler | | |
| | | | TE-300-310X | - Mass Flow Controller | 2037 | |
| 1 | KER1b | Tisch | TE-5005X | - Blower Motor Assembly | 3482 | |
| | | | TE-5007X | - Mechanical Timer | 4488 | |
| | | | TE-5009X | - Continuous Flow Recorder | 4371 | |
| | | | TE-5170 (TSP) | High Volume Sampler | | |
| | KTD1a | Tisch | TE-300-310X | - Mass Flow Controller | 2524 | |
| 2 | | | TE-5005X | - Blower Motor Assembly | 4037 | |
| | | | TE-5007X | - Mechanical Timer | 5160 | |
| | | | TE-5009X | - Continuous Flow Recorder | 4377 | |
| | | | TE-5170 (TSP) | High Volume Sampler | | |
| | | | TE-300-310X | - Mass Flow Controller | 2618 | |
| 3 | KTD2b | KTD2b Tisch | Tisch | TE-5005X | - Blower Motor Assembly | 3838 |
| | | | G3031 | - Mechanical Timer | 2251 | |
| | | | G1051 | - Continuous Flow Recorder | 2307 | |
| 4 | | Tisch | TE-5025A | HVS Sampler Calibrator | 438320/2456 | |
| 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.



- 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.
- Airflow around the samplers is unrestricted.
- The samplers are more than 20 meters from the drip line.
- 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 µm 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 0.6 m³/min and 1.7 m³/min) in accordance with the EM&A manual. 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

2.4.1 24-hour TSP air quality monitoring

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

- 2.5.1 According to the EM&A Manual, three air quality 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 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 quality and noise monitoring locations (EPD reference: () in 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.
- 2.5.3 According to the approved relocation of monitoring location KER1a (EPD reference: () in EP2/K19/A/21 pt.5), the monitoring location KER1a are proposed to be relocated by alternative monitoring locations KER1b for air quality monitoring.



- 2.5.4 According to the approved relocation of monitoring location KTD2a (EPD reference: () in EP2/K19/A/21 pt.6), the monitoring location KTD2a are proposed to be relocated by alternative monitoring locations KTD2b for air quality monitoring.
- 2.5.5 The most updated locations are summarized in **Table 2.2** and shown in **Figure 2**.

| Monitoring Station | Location | | | | |
|--------------------|---------------------------------------------------------------------------------|--|--|--|--|
| KTD1a | Centre of Excellence in Paediatrics (Children's Hospital) | | | | |
| KTD2b | G/IC Zone next to Kwun Tong Bypass (Next to the site of the New Acute Hospital) | | | | |
| KER1b | Site Boundary at Cheung Yip Street | | | | |

 Table 2.2
 Location of Air Quality Monitoring Station

2.6 Results and Observations

- 2.6.1 The schedule of air quality monitoring in reporting month is provided in **Appendix E**.
- 2.6.2 No Action / Limit Level exceedance was recorded for 24-hr TSP at KTD1a, KTD2b and KER1b in the reporting month.
- 2.6.3 No complaint of air quality was received. Therefore, no impact 1-hour TSP monitoring was conducted in the reporting month.
- 2.6.4 During the reporting month, major dust sources including loading and unloading of C&D wastes, vehicles movement were observed in the site. Non-project related construction activities at the nearby construction site and road traffic along Shing Fung Road, Shing Cheong Road, Cheung Yip Street and the Kwun Tong By-pass were observed. The above factors may affect the monitoring results.
- 2.6.5 The weather conditions during the monitoring are provided in **Appendix K**.
- 2.6.6 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) |
|-----------------------|-----------------------|--------------------|-------------------|--------------------------|--------------------------------------|
| 24-hr TSP in µg/m³ | KTD1a | 73 | 44-99 | 177 | |
| | KTD2b | 103 | 43-137 | 157 | 260 |
| | KER1b | 70 | 13-100 | 172 | |

- Table 2.3
 Summary of 24-hr TSP Monitoring Results
- 2.6.7 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**.

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

: +852 2450 8238 Tel Fax : +852 2450 8032 E-mail : mcl@fugro.com Website : www.fugro.com



| Table 2.4 Monitoring | Compariso Receiver | Comparison of 24-hr TSP data with EIA predictions Predicted Average 24-hour TSP Maximum 24- concentration in | | | | | | |
|--------------------------|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------|--|--|--|--|
| Station | Reference | hour TSP Concentration (µg/m³) | February 2020 (µg/m ³) | February 2020 (µg/m³) | | | | |
| KTD1a | KTD3 | 126 | 44-99 | 73 | | | | |
| KTD2b | - | - | 43-137 | 103 | | | | |
| KER1b | KTD6 | 169 | 13-100 | 70 | | | | |

Note:

For KTD2b, 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.

The 24-hour TSP monitoring results at KTD1a and KER1b were below the Predicted Maximum 2.7.2 24-hr TSP concentration in the approved Environmental Impact Assessment (EIA) Report and no Action / Limit Level exceedance was recorded in the reporting period.



3. NOISE

3.1 Monitoring Requirement

3.1.1 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

- 3.2.1 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).
- 3.2.2 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.
- 3.2.3 Measurements shall be recorded to the nearest 0.1dB. Sound level meters 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 | 1488272 |
| 2 | Casella | CEL-63X Series | Integrating Sound Level Meter | 1488304 |
| 4 | Casella | CEL-120/1 | Calibrator | 2383852 |
| 5 | Casella | CEL-120/1 | Calibrator | 4358289 |
| 6 | Benetech | GM816 | Wind Speed Anemometer | N/A |

Table 3.1 Noise 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 |

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3.4 Monitoring Methodology

- 3.4.1 The monitoring procedures are as follows:
 - 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

- 3.5.1 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 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: () in 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.
- 3.6.3 According to the approved relocation of monitoring location KER1a (EPD reference: () in EP2/K19/A/21 pt.5), the monitoring location KER1a are proposed to be relocated by alternative monitoring locations KER1b for noise monitoring.



- 3.6.4 According to the approved relocation of monitoring location KTD2a (EPD reference: () in EP2/K19/A/21 pt.6), the monitoring location KTD2a are proposed to be relocated by alternative monitoring locations KTD2b for noise monitoring.
- 3.6.5 The most updated locations are summarized in **Table 3.3** and shown in **Figure 2**.

| Monitoring Station | Location |
|--------------------|---------------------------------------------------------------------------------|
| KTD1a | Centre of Excellence in Paediatrics (Children's Hospital) |
| KTD2b | G/IC Zone next to Kwun Tong Bypass (Next to the site of the New Acute Hospital) |
| KER1b | Site Boundary at Cheung Yip Street |

Table 3.3 Location of Noise Monitoring Station

3.7 Results and Observations

- 3.7.1 The schedule of noise monitoring in reporting month is provided in **Appendix E**.
- 3.7.2 During the monitoring month, at KTD1a, project related construction activities and road traffic along Shing Fung Road and Shing Cheong Road were observed in the surroundings. At KTD2b, road traffic along the Kwun Tong By-pass and non-project related construction activities at the nearby construction site was observed. At KER1b, project related construction activities, road traffic along Cheung Yip Street and non-project related construction activities at the nearby construction site 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. The above factors may affect the monitoring results.
- 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 month 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**.

| Time Period | | .eq _(30min) dB(A) (Range) Monitoring Sta | Action Level | Limit Level | |
|-------------------------------------|-------|-----------------------------------------------------------|--------------|----------------------------------------------------|----------|
| | KTD1a | KTD2b | KER1b | | |
| 0700-1900 hrs on normal weekdays | 66-74 | 70-75 | 69-74 | When one documented complaint is received | 75 dB(A) |

 Table 3.4
 Summary of Noise Impact Monitoring Results

Note:

KTD1a: Façade Measurement

KTD2b & KER1b: Free-field measurement (+3dB(A) correction has been applied)

- 3.7.5 No Action / Limit Level exceedance of location KTD1a, KTD2b and KER1b was recorded for construction noise in the reporting month.
- 3.7.6 The Action and Limit Levels for noise impact monitoring have been set and 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 M | lonitoring o | data with EIA | predictions |
|-----------|-------------------|------------|--------------|---------------|-------------|
| | oompanoon v | | lonnoning (| | |

| Monitoring Station | Receiver Reference | Maximum Predicted Mitigated Construction Noise Level, dB(A) | Maximum Leq _(30min) dB(A) In February 2020 |
|-----------------------|-----------------------|-------------------------------------------------------------------|----------------------------------------------------------|
| KTD1a | KTD1 | 74 | 74 |
| KTD2b | KTD2 | 75 | 75 |
| KER1b | KER1 | 75 | 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 of location KTD1a, KTD2b and KER1b in the reporting month did not exceed the Maximum Predicted Mitigated Construction Noise Level in the approved Environmental Impact Assessment (EIA) Report and no Action / Limit Level exceedance was recorded in the reporting period.



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, four weekly landscape and visual site audits were carried out on 5, 12, 19 and 26 February 2020 and two of them 5 and 19 February 2020 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 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 month is shown in **Appendix I**.

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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, four site inspections were carried out 5, 12, 21 and 26 February 2020.
- 6.1.3 No outstanding issues were reported during the reporting month. Details of observations recorded during the site inspections are summarized in **Appendix M**.
- 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 in the following weekly site inspection conducted during the reporting month.



7. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

7.1 Environmental Exceedance

7.1.1 No Action / Limit Level exceedance was recorded for 24-hr TSP and construction noise at KTD1a, KTD2b and KER1b in the reporting month.

7.2 Complaints, Notification of Summons and Prosecution

- 7.2.1 No environmental complaint, notification of summons and successful prosecution were received in the reporting month.
- 7.2.2 Cumulative complaint log, summaries of complaints, notification of summons and successful prosecutions are presented in **Appendix L.**

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8. IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES

8.1 Implementation Status

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 month 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 | | | | |
| Condition 3.3 | Monthly EM&A Report (January 2020) | 14/02/2020 | | | | |
| 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 | | | | |
| Condition 3.3 | Monthly EM&A Report (January 2020) | 14/02/2020 | | | | |
| 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 | 12/02/2016 | | | | |
| Condition 3.4 | Monthly EM&A Report (January 2020) | 14/02/2020 | | | | |

 Table 8.1
 Status of Required Submission under Environmental Permit



9. FUTURE KEY ISSUES

9.1 Construction Programme for the Next Two Months

- Excavation and laying of drainage pipe and manhole
- Construction of SUS structure
- Construction of District Cooling System
- Utility laying
- · Construction of road base and road pavement

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**.

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10. CONCLUSIONS

- 10.1.1 24-hour TSP impact monitoring and construction noise monitoring were carried out in the reporting month, no Action / Limit Level exceedance was recorded during the period.
- 10.1.2 No complaint of air quality was received. Therefore, no impact 1-hour TSP monitoring was conducted in the reporting month.
- 10.1.3 Four environmental site inspections were carried out in the reporting month. Recommendations on mitigation measures for air quality impact, noise impact, chemical and waste management were given to the Contractor for remediating the deficiencies identified during the site inspections.
- 10.1.4 Four weekly Landscape and Visual Site audits were carried out 5, 12, 19 and 26 February 2020 and two of them 5 and 19 February 2020 were carried out by a Registered Landscape Architect in the reporting month. The weekly Landscape and Visual Impact reports were counter-signed by IEC as according to the requirement of EM&A Manual (AEIAR-130/2009).
- 10.1.5 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

- Excavated materials should be covered or removed.
- NRMM labels should be provided for all regulated machines.

Construction Noise Impact

• Noise mitigation measure should be provided during breaking.

Water Quality Impact

• No specific observation was identified in the reporting month.

Chemical and Waste Management

• All waste generated from the site should be cleaned and collected.

Land Contamination

• No specific observation was identified in the reporting month.

Landscape and Visual Impact

• No specific observation was identified in the reporting month.



General Condition

• No specific observation was identified in the reporting month.

Permit / Licenses

• NRMM labels should be provided for all regulated machines.

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 : +852 2450 8238

 Fax
 : +852 2450 8032

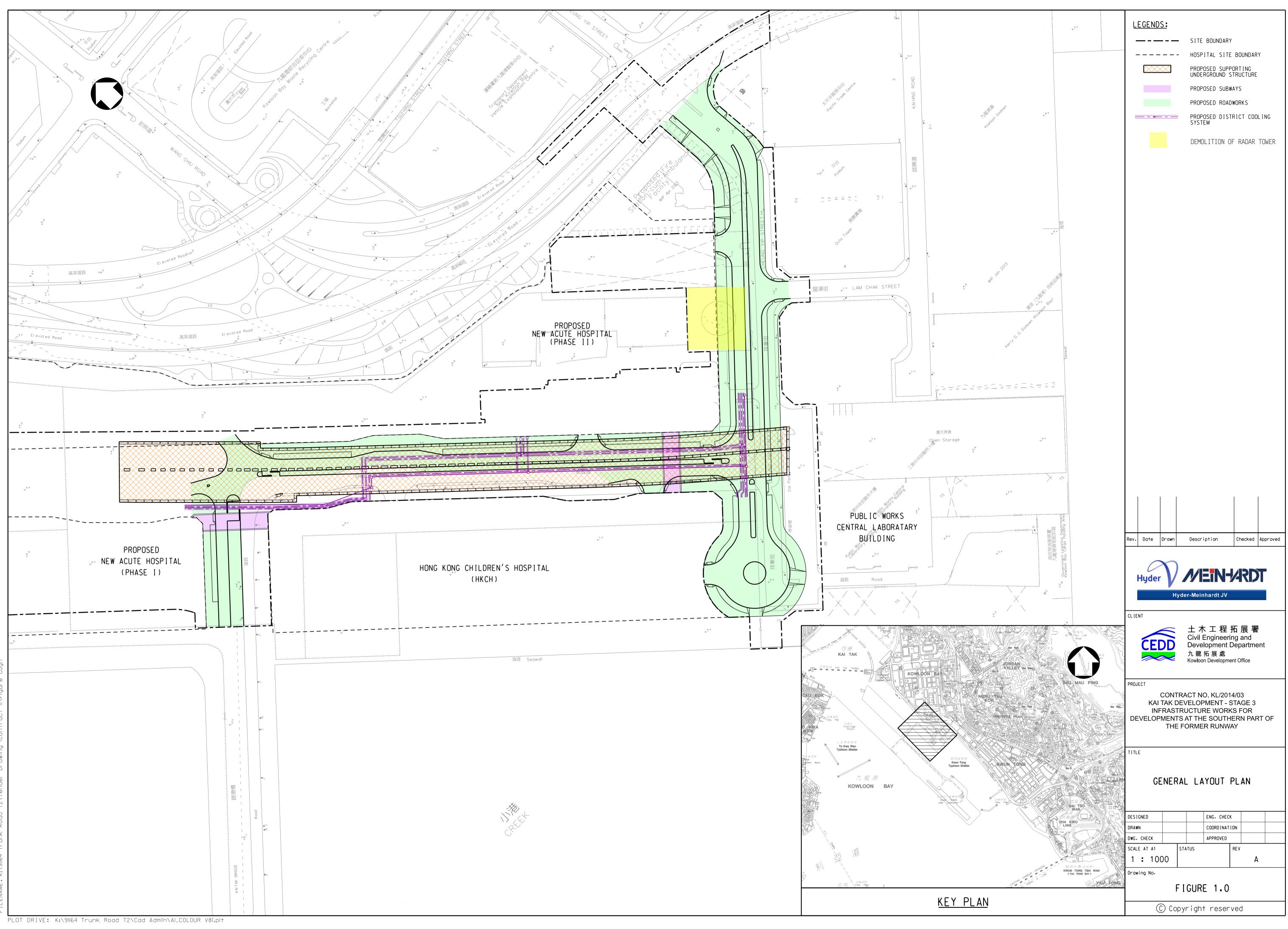
 E-mail
 : mcl@fugro.com

 Website
 : www.fugro.com



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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 : +852 2450 8238

 Fax
 : +852 2450 8032

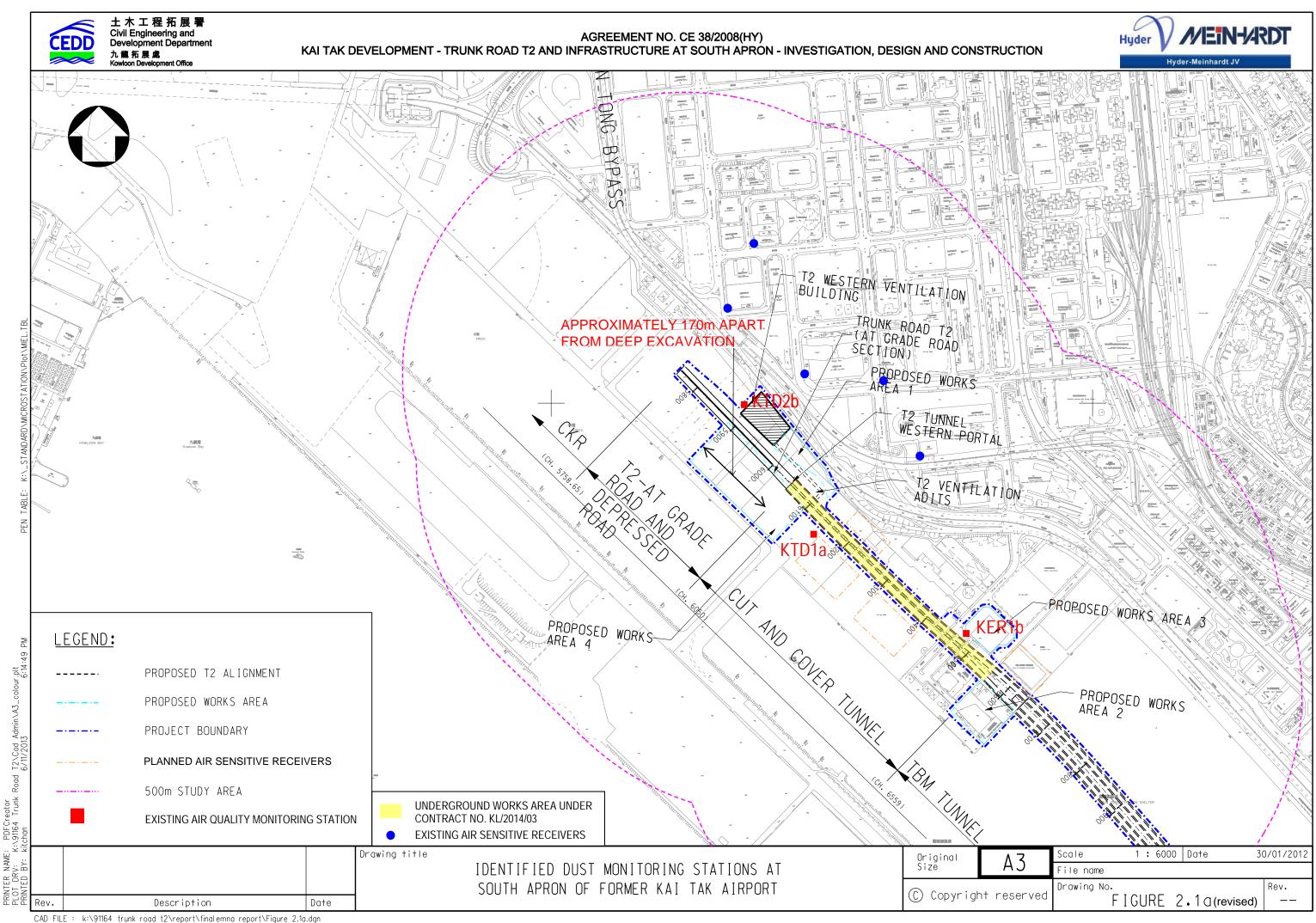
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 : mcl@fugro.com

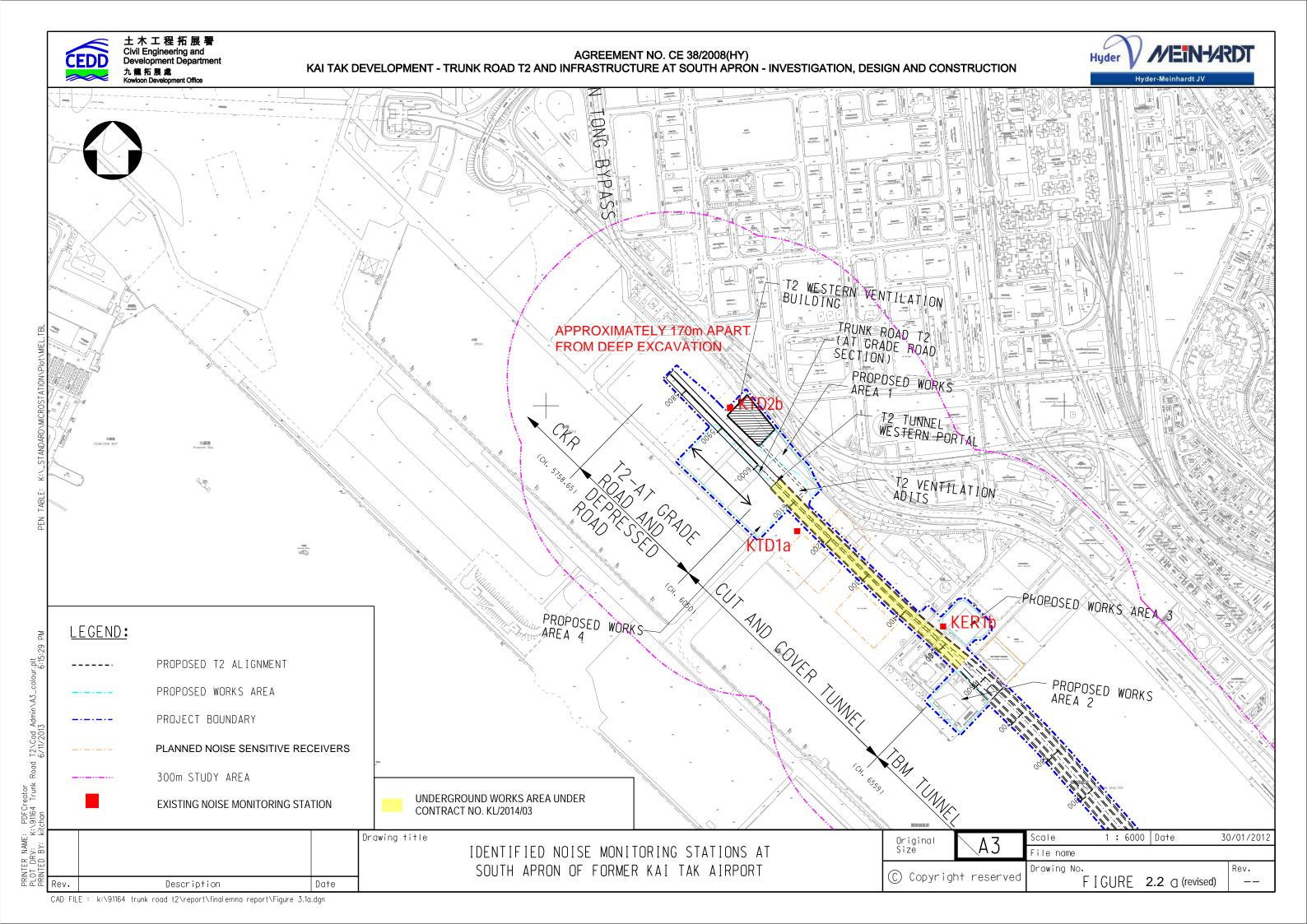
 Website
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Figure 2

Air and Noise Monitoring Locations





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Appendix A

Construction Programme

| Hyder - Meint Y ID | Activity Name | Rem | Start | Finish uary | Feb | |
|--------------------------------------|------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-------------|--------------------------|-------------------------------------------|-----------------------------------------------------------------------------|
| | | Dur | | 5 | 19 26 02 09 | 6 57 16 23 01 08 1 |
| | ge 3 Infrastructure Works for Developments at the Southern Part | of the | Former Ru | nway | | |
| roject Key Date Project Complet | | | | | | |
| K-PK-PCD-1000 | Section 1-Remainder of the Works (i.e. all Works except Works included in other Section of the Work) | 0 | | 31-Jan-20* | | of the Works (i.e. all Works except Works incl |
| K-PK-PCD-1300 | Section 3 - Construction of District Cooling System (DCS) | 0 | | 31-Jan-20* | | tion of District Cooling System (DCS) |
| K-PK-PCD-1600 | Section 5 - Completion of All Landscape Softworks | 0 | | 31-Jan-20* | Section 5 - Completi | on of All Landscape Softworks |
| K-PK-PCD-1800 | Section 7 - Preservation and Protection of Existing Trees | 0 | | 31-Jan-20* | Section 7 - Preservat | ion and Protection of Existing Trees |
| Site Handover D | Date | | | | | |
| K-PK-SHD-1000 | Portion A | 0 | | 31-Jan-20* | Portion A | |
| K-PK-SHD-1400 | Portion D | 0 | | 31-Jan-20* | Portion D | |
| K-PK-SHD-1500 | Portion E | 0 | | 31-Jan-20* | ◆ Portion E | |
| K-PK-SHD-1600 | Portion F | 0 | | 31-Jan-20* | Portion F | |
| K-PK-SHD-1900 | Portion K | 0 | | 31-Jan-20* | Portion K. | |
| K-PK-SHD-2000 | Portion M | 0 | | 31-Jan-20* | Portion M | |
| K-PK-SHD-2200 | Portion O | 0 | | 31-Jan-20* | Portion O | |
| K-PK-SHD-2500 | Portion R | 0 | | 31-Jan-20* | Portion R | |
| K-PK-SHD-2600 | Portion X | 0 | | 25-Mar-20* | | |
| General Submis | | | | | | |
| Interfacing Wor K-PA-INT-5000 | ks Joint inspection and handover for DCS Contract/ EMSD | 4 | 14-Mar-20 | 18-Mar-20 | | |
| K-PA-INT-6000 | Joint inspection and handover for road works, street furniture and lighting to HyD | 4 | 02-Apr-20 | 07-Apr-20 | | |
| K-PA-INT-6010 | Joint inspection and handover for traffic signal system to TD/EMSD | 4 | 26-Mar-20 | 30-Mar-20 | | |
| relimiaries | | | | | | |
| K-DR-PRE-1800 | Submission of time-lapsed photographs and video | 55 | 20-Feb-16 A | 25-Mar-20 | | |
| | Works-Remainder of the Works | | | | | |
| | Drainage Works | | | | | |
| Road D4-3 (Chir Zone 1 & 2 and Sh | ig Snung Koad) hing Fung Road R & D Works (Stage 3) CH410-CH340 | | | | | |
| SCR2810 | Construction of U-channel and footpath at Shing Fung Road left side | 15 | 23-Dec-19 A | 17-Feb-20 | | Construction of U-channel and footpath at |
| SCR2820 | Installation of kerb at Shing Fung Road central divider | entral divider 7 19-Oct-19 A 25-Feb-20 Installation | | | Installation of kerb at Shing F | |
| SCR2822 | Installation of kerb at Zone 2 CH410-CH340 central divider | 10 | 26-Feb-20 | 07-Mar-20 | | Installation of |
| SCR2830 | Installation of kerb at Zone 2 CH410-CH340 eastbound | 10 | 27-Dec-19 A | 28-Feb-20 | | Installation of kerb at Zor |
| | | 1 | 3 MF | RP Feb 2020 Page 1 of | • | Project ID :50 3MRP Feb - Apr 20 Layout : KL201403 3MRP-1 Page 1 of 3 |

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KL/2014/03 Kai Tak Development - Stage 3 Infrastructure Works for Developments at the Southern Part of the Former

| Hyder - Meinha ID | Activity Name | Rem | Start | Finish | uary | | | | February | | | Ma |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------------|-----------|------|------|----------|-------|---------------|---------------|-------------|------------------|
| | | Dur | | | 5 | 9 26 | | 02 09 | 56 9 16 | 23 | 01 | 5 |
| SCR2835 | Carry out and complete remaining works | 7 | 09-Mar-20 | 16-Mar-20 | | | T | | | | | |
| one 3 R & D Worl | ks (Stage 2) CH270 to 190 | | | | | | - | | | | | |
| SCR1858 | Construction of footpath at eastbound | 7 | 14-Dec-19 A | 07-Feb-20 | | | | Const | ruction of fo | ootpath at ea | stbound | |
| SCR1860 | Carry out and complete remaining works | 8 | 08-Feb-20 | 17-Feb-20 | | | | | Ca | erry out and | complete 1 | emaining work |
| Zone 4 R & D Work | ks state and sta | | | | | | - | | | | | |
| SCR2166 | Construction of U-channel and footpath at eastbound | 10 | 21-Feb-20 | 03-Mar-20 | | | | | | | Co | onstruction of U |
| SCR2167 | Construction of U-channel and footpath at westbound | 10 | 29-Feb-20 | 11-Mar-20 | | | | | | | | Const |
| SCR2172 | Carry out and complete remaining works | 12 | 12-Mar-20 | 25-Mar-20 | | | - | | | | | |
| load D4-4 (Cheu | ng Yip Street) | | | | | | - | | | | | |
| | Cheung Yip Street Cul de Sac | | | | | | | | | | | |
| Cheung Yip Street | | 10 | 19 Eak 20 | 00 Mar 20 | + | | •••••••• | | | | | Laving |
| SCR2670 | Laying Cable and Construction for Road Lighting | 18 | 18-Feb-20 | 09-Mar-20 | | | | | | | | Laying C |
| SCR2680 | Construction of Footpath | 25 | 21-Feb-20 | 20-Mar-20 | | | | | | | | |
| SCR2690 | Construction of Street Furniture | 28 | 22-Feb-20 | 25-Mar-20 | | | | | | | | |
| Remaining Storm D | Trainage | | | | + | | - | | | | | |
| SCR2845 | Diversion of watermain for construction of Storm drainage SMH4048717-M501a-M501 (waiting for WSD) | 12 | 04-Mar-20 | 17-Mar-20 | | | | | | | | |
| SCR2855 | Diversion of gas pipe for construction of Storm drainage SMH4048717-M501a-M501 | 45 | 18-Mar-20 | 15-May-20 | | | - | | | | | |
| SCR2875 | Construction of half Storm drainage M501-SMH4048721 | 36 | 23-Nov-19 A | 12-Mar-20 | | | | | | | | Con |
| SCR2885 | Temporary road works for Storm drainage M501-SMH4048721 and diversion to the temporary road | 10 | 13-Mar-20 | 24-Mar-20 | | | | | | | | |
| SCR2895 | Construction of remaining Storm drainage M501-SMH4048721 | 36 | 25-Mar-20 | 12-May-20 | | | | | | | | |
| CH220 - CH420 No | orthbound | | | | | | - | | | | | |
| | iscellaneous Works | | | | | | | | | | | ····· |
| K-01-RWS-9442 | Laying Cable and Footing Construction for Road Lighting | 25 | 10-Mar-20 | 08-Apr-20 | | | | | | | | |
| K-01-RWS-9630 | Construction of Footpath at northbound (CH220 - CH270) | 18 | 17-Dec-19 A | 20-Feb-20 | | | | | | Constructi | ion of Foot | path at northbo |
| K-01-RWS-9631 | Construction of Footpath at northbound (CH395 - CH420) | 15 | 21-Feb-20 | 09-Mar-20 | | | - | | | | | Construc |
| CH220 - CH420 So | puthbound | | | | | | - | | | | | |
| Miscellaneous Wor | ks | | | | | | | | | | | |
| K-01-RWS-9635 | Construction of Footpath at southbound | 15 | 10-Mar-20 | 26-Mar-20 | | | | | | | | |
| K-01-RWS-9636 | Construction of Street Furniture | 20 | 10-Mar-20 | 01-Apr-20 | | | | | | | | |
| | Vorks- Construction of District Cooling System (Subject to Excision) | | | | | | | | | | | |
| | District Cooling System | | | | | | | | | | | |
| Construction of D SCR2340 | OCS Works at Zone 4 Testing of DCS - chemical cleaning | 12 | 29-Nov-19 A | 13-Feb-20 | | | | | Testing of | of DCS - che | emical clea | aning |
| | | | | | | | | | | | | |



◆ 中國路檔工程有限責任公司 CHINA ROAD AND BRIDGE CORPORATION

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

3 MRP Feb 2020 - Apr 2020

Project ID :50 3MRP Feb - Apr 20 Layout : KL201403 3MRP-1 Page 2 of 3

Page 2 of 3

| r Rur | iway | | EDD | | ヒ木工和 Civil Engine Developmen L龍拓展劇 owloon Develo | ering a nt Dep | and artmen | nt | |
|-------------|-----------------|--------|----------------------|-----------------|--------------------------------------------------------------|-------------------|---------------|------|-----------|
| rch 7 | | | ł | Apri 58 | | | | | May 59 |
| 15 | 22 2 | 29 | 05 | 58 12 | 1 | 9 | | 26 | 03 |
| Carry | out and comple | te 1 | remaining works | | | | | | |
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| ahannal | and footpath a | t or | athound | | | | | | |
| -channel | and tootpath a | ii ea | astoound | | | | | | |
| truction of | of U-channel ar | nd f | ootpath at westbo | unc | 1 | | | | |
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| Cable and | d Construction | for | Road Lighting | | | | | | |
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| | Construction of | Fo | otpath | | | | | | |
| | Constru | ntio | on of Street Furniti | | | | | | |
| | Constru | | n or succer runnu | шe | | | | | |
| | | | | | | | | | |
| Dive | rsion of watern | nair | n for construction | of S | Storm dr | ainag | ge SN | 4H4 | 0487 |
| | | | | | | | | | |
| | | | | | | | | | |
| struction | of half Storm | drai | inage M501-SMH | 40 | 48721 | | | | |
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| | Tempora | ry r | oad works for Sto | rm | drainage | e M5 | 01-S | MH | 4048 |
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| | | | Laying | Cal | ole and l | Footi | ng Co | onst | ructio |
| 1/01 | | | | | | | | | |
| und (CH | 220 - CH270) | | | | | | | | |
| tion of F | ootpath at nort | hbo | ound (CH395 - CH | 1 42 | 20) | | | | |
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| | Constr | het | ion of Footpath at | 507 | thhour | 1 | | | |
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| | | ; | 3 Months Rolling | Pro | gramme | 9 | | | |
| | Date | | Revision | | Check | | Ap | prov | /ed |

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| 31-Jan-20 | Feb 20 - Apr 20 | | |
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| Ma | у | February | | | | uary | Finish | Start | Rem | | Activity Name | ity ID |
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| 5 | 16 23 | 56 09 10 | 02 | 26 | 19 | 5 | | | Dur | | | |
| Submission of testin | • | | | | • | | 02-Mar-20 | 14-Feb-20 | 15 | esting records, as-built drawings | Submission of tes | SCR2350 |
| landover inspection with | H | | | | | | 27-Feb-20 | 20-Feb-20 | 7 | ction with EMSD | Handover inspect | SCR2360 |
| DCS p | | | | | | | 10-Mar-20 | 28-Feb-20 | 10 | ection | DCS pipe connec | SCR2370 |
| | | | | | | | 18-Mar-20 | 11-Mar-20 | 7 | and handover for connection to DCS Contract/EMSD | Joint inspection a | SCR2380 |
| | | | | | | | | | | tion of All Landscape Softworks | of the Works-Completi | Section 5 of the |
| | | | | | | I | | | | | ding | Hydroseeding |
| | 1 | | | | | | 29-Apr-20 | 29-Feb-20 | 60 | | D-1050 Hydroseeding | K-05-HYD-1050 |
| | | | | | | ····· | 1 | | | | ting | Tree Planting |
| | I | | | | | | 29-Apr-20 | 29-Feb-20 | 60 | | | K-05-TPG-1150 |
| | | | | | | | | | | | anting | Shrub Planting |
| | I | | | | | | 29-Apr-20 | 29-Feb-20 | 60 | | | K-05-SPG-1200 |
| | | | | | | | <u> </u> | | | | - | Irrigation Syste |
| Trench Excavatio | I | | | | | | 03-Mar-20 | 15-Mar-19 A | 3 | ion | 1260 Trench Excavatio | K-05-ISM-1260 |
| Engagemen | | | | | | | 07-Mar-20 | 03-Mar-20 | 4 | License Plumbers | Engagement of Li | K-05-ISM-1270 |
| | | | | | | | 27-Mar-20 | 07-Mar-20 | 20 | Temporary Water Supply with WSD | Application of Te | K-05-ISM-1280 |
| | | | | | | | 01-Apr-20 | 27-Mar-20 | 5 | Vater Meters | Insatllation of Wa | K-05-ISM-1290 |
| | | | | | | | 01-May-20 | 01-Apr-20 | 30 | missioning of irrgation system | 1300 Testing and comm | K-05-ISM-1300 |
| | | | | | | | | | | ation and Protection of Existing Trees | of the Works-Preservat | Section 7 of the |
| Works-Preservation and | Section 7 of the | S | | | | | 17-Feb-20 | 04-Jan-16 A | 18 | Works-Preservation and Protection of Existing Trees | | K-07-001-1000 |
| | | | | | | |] | | | | Completion Date | |
| | | | | | | | 18-Mar-20 | | 0 | Section 3-Construction of District Cooling System (DCS) | Completion of Sev | K-PK-SCC-2200 |
| | | | | | | 1 | 01-May-20 | | 0 | Section 5 -All Landscape Softworks | 2500 Completion of Sec | K-PK-SCC-2500 |
| ection 7-Preservation ar | Completion of Se | ♦ C | | | | + | 17-Feb-20 | | 0 | Section 7-Preservation and Protection of Existing Trees | -2700 Completion of Se | K-PK-SCC-2700 |





Project ID :50 3MRP Feb - Apr 20 Layout : KL201403 3MRP-1 Page 3 of 3

| r Rur | nway | | | CE | | Civil Dev 九 爺 | IEngi elopn 【拓馬 | neering nent De | g and epartm | | |
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| ng recor | ds, as-buil | t draw | ings | 05 | 14 | 2 | | 19 | | 26 | 03 |
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| | onnection Joint inspection and handover for connection to DCS Contract/E | <u></u> , | ÷ | | | | | | | | |
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| | Image: Construction of District Cooling System Image: Construction of Existing Trees | | | | | | | | | | |
| | | Shrub | | | | | | | | | |
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| t of Lice | ense Plumb | bers | | | | | | | | | |
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| ♦ Co | mpletion o | f Sect | ion 3-0 | onstruc | tion of | Dis | trict | Cool | ing 9 | Syste | m (D(|
| • 00 | inpretion o | | | construc | | D15 | uici | 000 | ing i | 59500 | |
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| | Insatllation of Water Meters tion of Existing Trees ompletion of Section 3-Construction of District Cooling System | • 00 | | | | | | | | | |
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| | | | 3 Mo | onths Ro | olling P | rogr | amr | ne | | | |
| | Date | e | | | | | | | A | Appro | ved |

| | J - | |
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| Revision | Checked | Approved |
| Feb 20 - Apr 20 | | |
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 Website
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Appendix B

Project Organization Chart

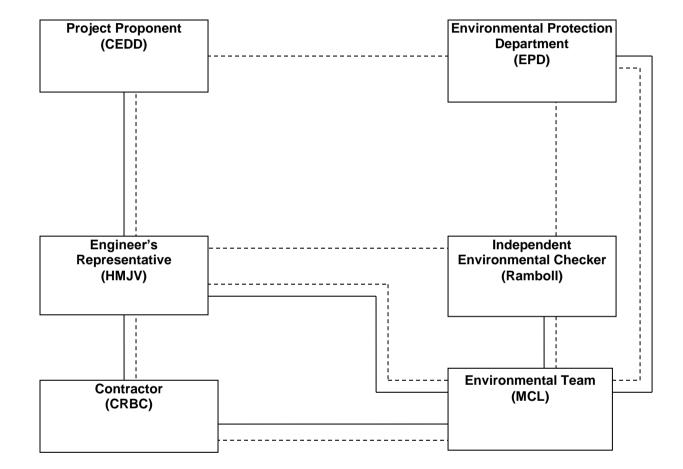
Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, Hong Kong.
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| Legen | d: |
|-------|-----------------------|
| | Line of Reporting |
| | Line of Communication |

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Appendix C

Action and Limit Levels for Air Quality and Noise

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

| Parameter | Monitoring Station | Action Level (µg/m³) | Limit Level (µg/ m³) |
|-----------------------------------|--------------------|-------------------------|-------------------------|
| | KTD1a | 177 | |
| 24-hr TSP (µg/m ³) | KTD2b | 157 | 260 |
| (µg/m²) | KER1b | 172 | |
| *1 br TOD | KTD1a | 285 | |
| *1-hr TSP (μg/m ³) | KTD2b | 279 | 500 |
| (µg/m²) | KER1b | 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 KTD2b KER1b | When one documented complaint is received | 75 dB(A) |

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Appendix D

Calibration Certificates of Monitoring Equipment



RECALIBRATION DUE DATE:

October 21, 2020

Certificate of Calibration

| | | | Calibration | Certificati | on Informat | tion | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|------------------------------|--------------------------------------|------------|
| Cal. Date: | October 22 | l, 2019 | Roots | meter S/N: | 438320 | Ta: | 295 | °K |
| Operator: | Jim Tisch | | | | | Pa: | 744.2 | mm Hg |
| Calibration | Model #: | TE-5025A | Calil | brator S/N: | 2456 | | | |
| | | Vol. Init | Vol. Final | ΔVol. | ΔTime | ΔΡ | ΔΗ | 1 |
| | Run | (m3) | (m3) | (m3) | (min) | (mm Hg) | (in H2O) | |
| | 1 | 1 | 2 | 1 | | 3.2 | 2.00 | |
| | 2 | 3 | 4 | 1 | 1.0180 | 6.3 | 4.00 | 1 |
| | 3 | 5 | 6 | 1 | 0.9030 | 7.9 | 5.00 | 1 |
| | 4 | 7 | 8 | 1 | 0.8620 | 8.8 | 5.50 |] |
| | 5 | 9 | 10 | 1 | 0.7120 | 12.6 | 8.00 |] |
| | | | C | Data Tabula | ition | | |] |
| | | | (/ Pa | V Tetd \ | | | | |
| | Vstd | Qstd | √∆H(<u>Patd</u> |)(<u>Tstd</u>) | | Qa | √∆H(Ta/Pa) | |
| | (m3) | (x-axis) | (y-ax | is) | Va | (x-axis) | (y-axis) | |
| | 0.9849 | 0.6936 | 1.400 | and the second se | 0.9957 | 0.7012 | 0.8904 | |
| | 0.9808 | 0.9635 | 1.989 | 92 | 0.9915 | 0.9740 | 1.2592 | 1 |
| | 0.9787 | 1.0838 | 2.224 | 40 | 0.9894 | 1.0957 | 1.4078 | 1 |
| | 0.9775 | 1.1340 | 2.332 | 25 | 0.9882 | 1.1464 | 1.4765 | 1 |
| | 0.9724 | 1.3658 | 2.813 | | 0.9831 | 1.3807 | 1.7808 |] |
| | | m= | 2.087 | | | m= | 1.30746 | |
| | QSTD | b= | -0.035 | | QA | b= | -0.02244 | |
| | | r= | 0.999 | 89 | | r= | 0.99989 | |
| | | A) / 1//D A D) | 1 | Calculatio | | | | |
| | | | /Pstd)(Tstd/Ta | a) | The second se | ΔVol((Pa-Δl | P)/Pa) | |
| | Qsta= | Vstd/∆Time | | | | Va/∆Time | | |
| | | | For subsequ | ent flow ra | te calculation | ns: | | |
| | Qstd= | 1/m ((√∆H(· | Pa <u>Tstd</u> Pstd Ta |))-b) | Qa= | 1/m ((√∆⊦ | l(Ta/Pa))-b) | |
| | Standard | Conditions | | | | | | |
| Tstd: | | | | | | RECA | IBRATION | |
| Pstd: | | mm Hg | | | | mmonde | nual rocalibratio | n nor 1000 |
| H. calibrat | | ey er reading (ir | | | | | nual recalibrations | |
| | Contraction of the local division of the loc | eter reading (if | | | | | Regulations Part S Reference Meth | |
| | | perature (°K) | | | | a and a sub-state and a sub- | ended Particulate | |
| and the second state of th | | essure (mm l | Hg) | | | | | |
| : intercept | | | | | LITE | e Aunosphe | re, 9.2.17, page 3 | 50 |
| n: slope | | | | | | | | |

Tisch Environmental, Inc. 145 South Miami Avenue Village of Cleves, OH 45002

<u>www.tisch-env.com</u> TOLL FREE: (877)263-7610 FAX: (513)467-9009

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| Project : Env | vironmantal N | Ionitoring Wo | rks For Cor | ntract No. KL | N/20 | 15/07 | | Date of | Calibration: 2 | 29-Nov- |
|---------------|----------------|-----------------|-------------|---------------|-------------------|-------------|---------------|----------------|----------------|----------|
| Location : K | TD1a | | | | | | | Next Calib | ration Date: 2 | 28-Feb-2 |
| Brand: | | Tisch | | | | | | | Technician: 7 | Tony Wa |
| Model: | | TE-5170 | | S/N: | 4037 | 7 | | | | |
| | | | | COND | ITIO | NS | | | | |
| | Se | a Level Press | sure (hPa): | 1022.3 | | Corre | cted Pressu | re (mm Hg): | 767 | |
| | | Temper | ature (°C): | 19.7 | | | Temp | perature (K): | 293 | |
| | | | | CALIBRATI | ON (| ORIFICE | | | | |
| | | Make: | | Tisch | | | Qstd Slope: | | 2.08799 | |
| | | Model: | | TE-5025A | | Qs | td Intercept: | | -0.03545 | |
| | Calib | ration Date: | | 21-Oct-19 | | | Expiry Date: | | 21-Oct-20 | |
| | | S/N: | | 2456 | | | | | | |
| | | | | CALIB | RATI | ON | | | | |
| Plate No. | H2O (L) | H2O (R) | H2O | Qstd | | I | IC | | LINEAR | |
| FIALE NO. | (in) | (in) | (in) | (m³/min) | (| chart) | (corrected) | | REGRESSIO | N |
| 18 | 6.20 | -6.10 | 12.300 | 1.719 | | 52.00 | 52.70 | Slope = | 26.6948 | |
| 13 | 4.70 | -5.30 | 10.000 | 1.552 | | 46.00 | 46.62 | Intercept = | 5.6112 | |
| 10 | 3.90 | -3.50 | 7.400 | 1.337 | | 40.00 | 40.54 | Corr. coeff.= | 0.9921 | |
| 7 | 2.40 | -2.20 | 4.600 | 1.058 | | 32.00 | 32.43 | | | |
| 5 | 1.20 | -1.40 | 2.600 | 0.800 | | 28.00 | 28.38 | | | |
| Calculation | s: | | | | | | | | | |
| Qstd = 1/m[S | Sqrt(H2O(Pa | /Pstd)(Tstd/Ta | a))-b] | | | | EI (| OW RATE C | | |
| C = I[Sqrt(P | a/Pstd)(Tstd/ | /Ta)] | | | | | FLV | | | |
| Qstd = stand | lard flow rate | • | | | | 60.00 | | | | |
| C = correcte | ed chart resp | onse | | | | | | | • | |
| = actual cha | art response | | | | | 50.00 | | | | |
| | or Qstd slope | | | | Û | 40.00 | | | | |
| | or Qstd interc | • | | | onse (IC) | 40.00 | | | | |
| | | during calibrat | | | ŰÖ | 20.00 | | | | |
| - | | ing calibration | (mm Hg) | | Sesp | 30.00 | | | | |
| Tstd = 298 d | • | | | | arF | 20.00 | | | | |
| Pstd = 760 n | • | | | | Ğ | 20.00 | | | | |
| - | | tion of samp | ler flow: | | Actual Chart Resp | 10.00 | | | | |
| | 298/Tav)(Pav | v/760)]-b) | | | Aci | 10.00 | | | | |
| m = sample | • | | | | | 0.00 | | | | |
| o = sample | - | | | | | 0.00 | .000 0.50 | 00 1.000 | 1.500 | 2.000 |
| = chart res | • | | | | | 0. | | 1,000 | 2.000 | 2.000 |
| • | iverage temp | | | | | | Stand | dard Flow Rate | (m³/min) | |
| ∼av = daily a | verage pres | sure | | | | | | | | |

Tory

Wan Ka Ho Project Consultant

Report Date: 1/12/2019

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| - | | Ionitoring Wo | rks For Cor | ntract No. KL | .N/20 | 15/07 | | | Calibration: 2 | |
|-------------------------------|--------------|-----------------------------------|-------------|---------------|-------------------|---------|----------------|----------------|-----------------------|---------|
| Location : K1 | | _ | | | | | | | oration Date: 2 | |
| Brand: | | Tisch | | | | _ | | | Technician: | Tony Wa |
| Model: | | TE-5170 | | S/N: | 383 | 3 | | | | |
| | | | | COND | ΙΤΙΟ | NS | | | | |
| | Se | a Level Press | ure (hPa): | 1022.3 | | Corre | ected Pressu | re (mm Hg): | 767 | |
| | | Temper | ature (°C): | 19.7 | | | Temp | perature (K): | 293 | |
| | | | | CALIBRATI | | | | | | |
| | | Make: | | Tisch | | JRIFICE | Qstd Slope: | | 2.08799 | |
| | | Model: | | TE-5025A | | 0 | std Intercept: | | -0.03545 | |
| | Calib | ration Date: | | 21-Oct-19 | | | Expiry Date: | | -0.03545 21-Oct-20 | |
| | | S/N: | | 2456 | | | Expiry Date. | | 21-001-20 | |
| | | 0/11. | | CALIB | RAT | ON | | | | |
| Plate No. | H2O (L) | H2O (R) | H2O | Qstd | | I | IC | | LINEAR | |
| Plate NO. | (in) | (in) | (in) | (m³/min) | (| chart) | (corrected) | | REGRESSIO | N |
| 18 | 5.40 | -5.10 | 10.500 | 1.590 | | 50.00 | 50.68 | Slope = | 26.8950 | |
| 13 | 4.20 | -4.30 | 8.500 | 1.432 | | 46.00 | 46.62 | Intercept = | 7.9538 | |
| 10 | 2.80 | -3.80 | 6.600 | 1.264 | | 42.00 | 42.57 | Corr. coeff.: | 0.9961 | |
| 7 | 2.00 | -2.40 | 4.400 | 1.035 | | 34.00 | 34.46 | | | |
| 5 | 1.00 | -1.20 | 2.200 | 0.737 | | 28.00 | 28.38 | | | |
| Calculations | S: | | | | | | | | | |
| - | • • • | /Pstd)(Tstd/Ta | ı))-b] | | | | FLO | | HART | |
| IC = I[Sqrt(Pa | | | | | | 60.00 | | | | |
| Qstd = stand | | | | | | 00.00 | | | | |
| IC = correcte | | | | | | 50.00 | | | | |
| I = actual cha | | | | | | 50.00 | | | | |
| m = calibrate | • | | | | Q | 40.00 | | | | |
| b = calibrato | | • | ion (don K) | | onse (IC) | | | | | |
| | • | during calibrat ng calibration | | | por | 30.00 | | | | |
| Fa = actual p Tstd = 298 d | | ng calibration | (IIIII Hy) | | Res | | | • | | |
| Pstd = 298 u | 0 | | | | art | 20.00 | | | | |
| | • | tion of samp | ler flow: | | Actual Chart Resp | | | | | |
| - | 298/Tav)(Pav | - | | | ctu | 10.00 | | | | |
| m = sample | | | | | ∣◄ | | | | | |
| b = sampler | - | | | | | 0.00 | | | | |
| = chart res | - | | | | | 0 | .000 0.50 | 00 1.000 | 1.500 | 2.000 |
| | verage temp | erature | | | | | Chara | lard Flow Data | (m^{3}/min) | |
| - | verage pres | | | | | | Siand | dard Flow Rate | (1117/11111) | |

Tory

Wan Ka Ho Project Consultant

Report Date:

1/12/2019

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

Tel : +852 2450 8238 Fax : +852 2450 8032 E-mail : mcl@fugro.com Website : www.fugro.com



| Project : Env | vironmantal N | /Ionitoring Wo | rks For Co | ntract No. KL | N/2015/07 | , | | Date of | Calibration: 2 | 29-Nov- |
|---------------------------------------------|------------------------|-----------------|-------------|---------------|---------------------------------------------------------------------------------|-------|--------------|----------------|-----------------------|----------|
| Location : KI | | C C | | | | | | Next Calib | ration Date: 2 | 28-Feb-2 |
| Brand: | - | Tisch | | | | | | | Technician: | Fony Wa |
| Model: | - | TE-5170 S/N: | | | 3482 | | | | | |
| | | | | COND | ITIONS | | | | | |
| | Se | ea Level Press | sure (hPa): | 1022.3 | | orred | cted Pressu | re (mm Hg): | 767 | |
| | Temperature (°C): 19.7 | | | | | | | perature (K): | 293 | |
| | | | | CALIBRATI | | | | | | |
| | | Make: | | Tisch | | | Qstd Slope: | | 2.08799 | |
| | | Model: | | TE-5025A | | | d Intercept: | | -0.03545 | |
| | Calib | ration Date: | | 21-Oct-19 | | | Expiry Date: | | -0.03343 21-Oct-20 | |
| | | S/N: | | 2456 | | | -xpiry Date. | | 21-001-20 | |
| | | 0/N. | | | RATION | | | | | |
| | H2O (L) | H2O (R) | H2O | Qstd | I | | IC | | LINEAR | |
| Plate No. | (in) | (in) | (in) | (m³/min) | (chart) | | (corrected) | | REGRESSIO | N |
| 18 | 6.20 | -6.20 | 12.400 | 1.726 | 56.0 | 0 | 56.76 | Slope = | 29.6075 | |
| 13 | 4.00 | -4.60 | 8.600 | 1.440 | 48.0 | 0 | 48.65 | Intercept = | 5.2880 | |
| 10 | 2.80 | -3.40 | 6.200 | 1.226 | 40.0 | 0 | 40.54 | Corr. coeff.: | 0.9934 | |
| 7 | 1.60 | -2.80 | 4.400 | 1.035 | 34.0 | 0 | 34.46 | | | |
| 5 | 1.00 | -1.60 | 2.600 | 0.800 | 30.0 | 0 | 30.41 | | | |
| Calculation | s: | | | | | | | | | |
| Qstd = 1/m[\$ | Sqrt(H2O(Pa | /Pstd)(Tstd/Ta | a))-b] | | | | EL C | OW RATE CI | | |
| C = I[Sqrt(P | a/Pstd)(Tstd/ | /Ta)] | | | | | FLC | | | |
| Qstd = stanc | lard flow rate | • | | | 60.0 | 00 | | | ٠ | |
| C = correcte | ed chart resp | onse | | | 50/ | | | | | |
| = actual cha | art response | | | | 50.0 | 00 | | | | |
| | or Qstd slope | | | | 0 | | | | | |
| | or Qstd interc | - | | | () () () () () () () () () () () () () (| 00 | | | | |
| | • | during calibrat | | | suoo | | | | | |
| | | ing calibration | (mm Hg) | | ය 30.0 ප | 00 | | | | |
| Tstd = 298 deg K | | | | | | 0 | | | | |
| Pstd = 760 mm Hg | | | | | <u>අ</u> 20.0 | 0 | | | | |
| For subsequent calculation of sampler flow: | | | | | Actual Chart 100 Chart 100 Chart | 0 | | | | |
| 1/m((I)[Sqrt(298/Tav)(Pav/760)]-b) | | | | | ਹਿੱ 10.0 ਵ | 0 | | | | |
| m = sample | | | | | 0.0 | 0 | | | | |
| = sample | | | | | 0.0 | | 000 0.50 | 00 1.000 | 1.500 | 2.000 |
| = chart res | • | | | | | | | 1.000 | | |
| - | verage temp | | | | | | Stand | dard Flow Rate | (m³/min) | |
| Pav = daily average pressure | | | | | | | | | | |

Tory

Wan Ka Ho Project Consultant

Report Date: 1/

1/12/2019

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Tel : +852 2450 8238 Fax : +852 2450 8032 E-mail : mcl@fugro.com Website : www.fugro.com



| Proiect : Env | vironmantal N | Ionitoring Wo | rks For Cor | ntract No. KL | N/20 | 15/07 | | Date of | Calibration: | 18-Feb-2 |
|-----------------------------------------------------------------|------------------------------------------------------------|-----------------|-------------|-----------------------|-----------|--------|---------------|----------------------|--------------|----------|
| Location : K1 | | ionitoning it o | | | | 10,01 | | | ration Date: | |
| Brand: | | Tisch | | | | | | | Technician: | - |
| Model: | - | TE-5170 S/N: | | S/N: | 4037 | 7 | | | | |
| | | | | COND | | NS | | | | |
| | Se | a Level Press | sure (hPa): | 1026.4 | | | cted Pressu | re (mm Hg): | 770 | |
| | Sea Level Pressure (hPa): 1026.4 Temperature (°C): 14.7 | | | | | | | perature (K): | 288 | |
| | | - 1 | | | | | - 1 | | | |
| | | | | CALIBRATI | ON C | | | | | |
| | | Make: | | Tisch | | | Qstd Slope: | | 2.08799 | |
| | | Model: | | TE-5025A | | | td Intercept: | | -0.03545 | |
| | | ration Date: | | 21-Oct-19 | | | Expiry Date: | | 21-Oct-20 | |
| | | S/N: | | 2456 CALIB | | | | | | |
| | H2O (L) | H2O (R) | H2O | Qstd | RAII | | IC | | LINEAR | |
| Plate No. | (in) | (in) | (in) | (m ³ /min) | | chart) | (corrected) | | REGRESSIO | N |
| 18 | 5.00 | -7.00 | 12.000 | 1.716 | | 50.00 | 51.22 | Slope = | 25.1765 | 11 |
| 13 | 3.10 | -6.90 | 10.000 | 1.568 | | 46.00 | 47.12 | Intercept = | 7.5773 | |
| 10 | 1.80 | -5.40 | 7.200 | 1.333 | | 40.00 | 40.97 | Corr. coeff.= 0.9971 | | |
| 7 | 0.90 | -4.20 | 5.100 | 1.125 | | 34.00 | 34.83 | | | |
| 5 | 0.20 | -2.40 | 2.600 | 0.808 | | 28.00 | 28.68 | | | |
| Calculation | s: | | | | | • | | | | |
| Qstd = 1/m[S | Sqrt(H2O(Pa | /Pstd)(Tstd/Ta | a))-b] | | | | EI (| OW RATE CI | цлрт | |
| IC = I[Sqrt(Pa | a/Pstd)(Tstd/ | /Ta)] | | | | 60.00 | | | | |
| | lard flow rate | | | | | 60.00 | | | | |
| | ed chart resp | onse | | | | F0 00 | | | • | |
| | art response | | | | | 50.00 | | | | |
| | or Qstd slope | | | | <u>0</u> | 40.00 | | | | |
| | or Qstd interc | • | | | onse (IC) | 40.00 | | | | |
| | - | during calibrat | | | | 30.00 | | | · | |
| - | | ng calibration | (mm Hg) | | Res | 50.00 | | ~ | | |
| Tstd = 298 deg K | | | | | art | 20.00 | | | | |
| Pstd = 760 mm Hg For subsequent calculation of sampler flow: | | | | Actual Chart Resp | | | | | | |
| 1/m((I)[Sqrt(298/Tav)(Pav/760)]-b) | | | | | ctue | 10.00 | | | | |
| m = sampler slope | | | | | ∣◄ | | | | | |
| o = sample | • | | | | | 0.00 | | | | |
| = chart res | | | | | | 0. | .000 0.50 | 00 1.000 | 1.500 | 2.000 |
| | iverage temp | erature | | | | | Store | dard Flow Rate | (m^3/min) | |
| - | verage press | | | | | | Siano | and now Rale | (11.511011) | |

Tory

Wan Ka Ho Project Consultant

Report Date:

20/2/2020

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TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

| Project : Env | vironmantal N | /Ionitoring W | | | | ION SPREAL | | Calibration: 18 | -Feb-20 |
|---------------------------------------------|-------------------------------|-------------------------|---------------|-----------|----------------------------------------------------------|----------------|----------------|-----------------|---------|
| Location : KI | ER1b | | | | | | Next Calibr | ration Date: 17 | -May-20 |
| Brand: | | Tisch | | | | | - | Technician: To | ny War |
| Model: | | TE-5170 | | S/N: | 3482 | | | | |
| | | | | | | | | | |
| | | | (1 D) | | ITIONS | | (11) | | |
| | Se | ea Level Pres | | 1026.4 | Corr | ected Pressu | | 770 | |
| | | Tempe | erature (°C): | 14.7 | | Temp | perature (K): | 288 | |
| | | | | CALIBRATI | ON ORIFICE | | | | |
| | | Make: | | Tisch | | Qstd Slope: | | 2.08799 | |
| | | Model: | | TE-5025A | Q | std Intercept: | | -0.03545 | |
| | Calib | ration Date: | | 21-Oct-19 | | Expiry Date: | | 21-Oct-20 | |
| | | S/N: | | 2456 | | | | | |
| | | | | | RATION | | | | |
| Plate No. | H2O (L) | H2O (R) | H2O | Qstd | Ι | IC | | LINEAR | |
| | (in) | (in) | (in) | (m³/min) | (chart) | (corrected) | | REGRESSION | |
| 18 | 4.60 | -7.90 | 12.500 | 1.751 | 51.00 | 52.24 | Slope = | 24.2236 | |
| 13 | 3.40 | -6.10 | 9.500 | 1.529 | 45.00 | 46.09 | Intercept = | 9.1388 | |
| 10 | 2.40 | -5.20 | 7.600 | 1.369 | 40.00 | 40.97 | Corr. coeff.= | 0.9953 | |
| 7 | 1.00 | -4.10 | 5.100 | 1.125 | 36.00 | 36.88 | | | |
| 5 | 0.30 | -2.80 | 3.100 | 0.881 | 30.00 | 30.73 | | | |
| | | /D - (-1) /T - (-1 /T | - \ \] | | [| | | | |
| = | | /Pstd)(Tstd/T | a))-b] | | | FLC | OW RATE CH | IART | |
| | a/Pstd)(Tstd | | | | 60.00 | 1 | | | _ |
| | lard flow rate | | | | | | | | |
| | ed chart resp | | | | 50.00 | | | <u> </u> | _ |
| | art response or Qstd slope | | | | | | | | |
| | or Qstd slope | | | | <u>9</u> 40.00 | | | | |
| | | during calibra | ation (dea K) | | () () () () () () () () () () | | | | |
| | - | ing calibration | | | g 30.00 | | ~ | | _ |
| Tstd = 298 d | | | | | Re | | | | |
| Pstd = 760 mm Hg | | | | | 20.00 | | | | _ |
| For subsequent calculation of sampler flow: | | | | | 00.02 Hart Actrial Chart 00.01 Actrial | | | | |
| 1/m((I)[Sqrt(298/Tav)(Pav/760)]-b) | | | | | 10.00 | | | | |
| m = sampler slope | | | | | 4 | | | | |
| b = sample | • | | | | 0.00 | | | | |
| I = chart re | | | | | (| 0.000 0.50 | 00 1.000 | 1.500 | 2.000 |
| | verage temp | oerature | | | | Ctore | ard Flow Rate | (m^3/min) | |
| - | average pres | | | | | Siand | Iaiu FIUW Rale | (117/1111) | |

Tory

Wan Ka Ho Project Consultant

Report Date: 2

20/2/2020

MATERIALAB CONSULTANTS LIMITED Room 723 & 725, 7/F, Block B, Tel :+852 2450 8238

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| - | | Nonitoring Wo | rks For Cor | ntract No. KL | .N/201 | 5/07 | | | Calibration: 1 | |
|---------------------------------------------------------------------|---------------------------------|-----------------|-------------|---------------|-------------------|-------|----------------|----------------|-----------------------|--------|
| Location : K1 | | | | | | | | Next Calib | oration Date: 1 | - |
| Brand: | Tisch | | | 0.01 | | | | | Technician: | ony Wa |
| Model: | | TE-5170 | | S/N: | 3838 | | | | | |
| | | | | COND | ITION | IS | | | | |
| | Se | ea Level Press | sure (hPa): | 1026.4 | | Corre | ected Pressu | re (mm Hg): | 770 | |
| | Temperature (°C): 14.7 | | | | | | Temp | perature (K): | 288 | |
| | | | | CALIBRATI | | | | | | |
| | | Make: | | Tisch | | | Qstd Slope: | | 2.08799 | |
| | | Model: | | TE-5025A | | | std Intercept: | | -0.03545 | |
| | Calib | ration Date: | | 21-Oct-19 | | | Expiry Date: | | 21-Oct-20 | |
| | | S/N: | | 2456 | | | Expiry Date. | | 21 000 20 | |
| | | | | CALIB | RATIO | ON | | | | |
| Plate No. | H2O (L) | H2O (R) | H2O | Qstd | | I | IC | | LINEAR | |
| FIBLE NO. | (in) | (in) | (in) | (m³/min) | (c | hart) | (corrected) | | REGRESSIO | N |
| 18 | 5.40 | -4.90 | 10.300 | 1.591 | | 49.00 | 50.19 | Slope = | 28.4808 | |
| 13 | 4.20 | -3.80 | 8.000 | 1.405 | | 46.00 | 47.12 | Intercept = | 5.4872 | |
| 10 | 3.10 | -3.00 | 6.100 | 1.229 | | 39.00 | 39.95 | | | |
| 7 | 2.00 | -1.50 | 3.500 | 0.935 | | 30.00 | 30.73 | | | |
| 5 | 1.20 | -0.80 | 2.000 | 0.711 | | 26.00 | 26.63 | | | |
| Calculations | | | | | | | | | | |
| - | • • • | /Pstd)(Tstd/Ta | a))-b] | | | | FLC | OW RATE C | HART | |
| | a/Pstd)(Tstd | | | | | 60.00 | | | | |
| | lard flow rate | | | | | 00.00 | | | | |
| | d chart resp | | | | | 50.00 | | | | |
| | art response | | | | | | | | | |
| | or Qstd slope or Qstd interc | | | | onse (IC) | 40.00 | | | | |
| | | during calibrat | ion (dog K) | | Jse | | | | | |
| | • | - | | | sboi | 30.00 | | | | |
| Pa = actual pressure during calibration (mm Hg) Tstd = 298 deg K | | | | | Re | | | | | |
| Pstd = 760 mm Hg | | | | | hart | 20.00 | | | | |
| For subsequent calculation of sampler flow: | | | | alC | | | | | | |
| 1/m((I)[Sqrt(298/Tav)(Pav/760)]-b) | | | | | Actual Chart Resp | 10.00 | | | | |
| m = sampler slope | | | | | | | | | | |
| = sample | • | | | | | 0.00 | | | 1.500 | |
| = chart res | - | | | | | 0 | .000 0.50 | 00 1.000 | 1.500 | 2.000 |
| Гаv = daily a | verage temp | perature | | | | | Stand | dard Flow Rate | (m ³ /min) | |
| Pav = daily average pressure | | | | | | | Clark | | (···· /·····) | |

Tory

Wan Ka Ho Project Consultant

Report Date:

20/2/2020

FUGRO TECHNICAL SERVICES LIMITED

Fugro Development Centre, 5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Hong Kong.

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Report no.: 183057CA196181

CALIBRATION CERTIFICATE OF SOUND LEVEL METER

Page 1 of 1

Client Supplied Information

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

Description

: Sound Level Meter

| Manufacturer | : Ca | asella | | |
|--------------|------|---------|------------|--------------|
| | | Meter | Microphone | Preamplifier |
| Model No. | | CEL-63X | CE-251 | CEL-495 |
| Serial No. | : | 1488272 | 02552 | 003942 |

Next Calibration Date : 01-Oct-2020

Specification Limit EN 61672: 2003 Type 1

Laboratory Information

Details of Reference Equipment -

| Description | | B & K Acoustic Multifunction Calibrator 4226 (Traditional free field setting) |
|----------------------|---|-------------------------------------------------------------------------------|
| Equipment ID. | : | R-108-1 |
| Date of Calibration | : | 02-Oct-2019 Ambient Temperature : 22 °C |
| Calibration Location | : | Calibration Laboratory of FTS |
| Method Used | : | By direct comparison |

Calibration Results :

| Parame | ters | Mean Value (dB) | Specific | Specification Limit(dB) | | | |
|---------------------------------|-------------|-----------------|----------|-------------------------|-------|--|--|
| | 4000Hz | 2.0 | 2.6 | to | -0.6 | | |
| | 2000Hz | 1.4 | 2.8 | to | -0.4 | | |
| | 1000Hz | 0.0 | 1.1 | to | -1.1 | | |
| A-weighting | 500Hz | -3.4 | -1.8 | to | -4.6 | | |
| frequency response | 250Hz | -8.8 | -7.2 | to | -10.0 | | |
| | 125Hz | -16.3 | -14.6 | to | -17.6 | | |
| | 63Hz | -26.3 | -24.7 | to | -27.7 | | |
| | 31.5Hz | -39.3 | -37.4 | to | -41.4 | | |
| Differential level linearity | 94dB-104dB | 0.0 | | ± 0.6 | 3 | | |
| | 104dB-114dB | 0.0 | | ± 0.6 | 6 | | |

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. For calibration: Reference SPL are 94, 104 & 114dB, range setting is 20-140dB & time weighting is fast
- 4. The equipment does comply with EN 61672: 2003 Type 1 sound level meter for the above measurement.
- 5. The values given in this Calibration Certificate only relate to the unit-under-test and the values measured at the time of the test. Uncertainties will not include allowances for the environmental changes, variation and shock during transportation, or the capability of any other laboratory to repeat the measurement.

| Checked by: Date: 4 - 10 -2019 | Certified by : KT Kenng Date : 1-10 -2017 |
|--------------------------------|-------------------------------------------|
| CA-R-297 (22/07/2009) | Leung Kwok Tai (Assistant Manager) |
| ** | End of Report ** |

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Fugro Development Centre 5 Lok Yi Street, Tai Lam Tuen Mun, NT Hong Kong Page 1 of 1

Report no.: 183057CA196490

CALIBRATION CERTIFICATE OF SOUND LEVEL METER

Client Supplied Information

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

| Description Manufacturer | : | Sound Level Meter Casella | | |
|--------------------------------------------------------------|---|---------------------------------------------|------------|--------------|
| | | Meter | Microphone | Preamplifier |
| Model No. | : | CEL-63X | CE-251 | CEL-495 |
| Serial No. | : | 1488304 | 02695 | 003984 |
| Equipment ID Next Calibration Date Specification Limit | : | N/A 02-Dec-2020 EN 61672: 2003 Type 1 | | |

Laboratory Information

Details of Reference Equipment -

| Description : | B & K Acoustic Multifunction Calil | orator 4226 (Traditional free fi | ield set | ting) | | |
|------------------------|------------------------------------|----------------------------------|----------|-------|--|--|
| Equipment ID. : | R-108-1 | -108-1 | | | | |
| Date of Calibration : | 03-Dec-2019 | | | | | |
| Calibration Location : | Calibration Laboratory of FTS | Ambient Temperature : | 22 | °C | | |
| Method Used : | By direct comparison | | | | | |

Calibration Results :

| Parame | ters | Mean Value (dB) | Specific | ation | Limit(dB) |
|------------------------------|-------------|-----------------|----------|-------|-----------|
| | 4000Hz | 0.8 | 2.6 | to | -0.6 |
| | 2000Hz | 1.8 | 2.8 | to | -0.4 |
| | 1000Hz | 1.0 | 1.1 | to | -1.1 |
| A-weigthing | 500Hz | -2.2 | -1.8 | to | -4.6 |
| frequency response | 250Hz | -7.6 | -7.2 | to | -10.0 |
| response | 125Hz | -15.0 | -14.6 | to | -17.6 |
| | 63Hz | -25.1 | -24.7 | to | -27.7 |
| | 31.5Hz | -38.0 | -37.4 | to | -41.4 |
| Differential level linearity | 94dB-104dB | 0.0 | | ± 0.6 | 3 |
| | 104dB-114dB | 0.0 | | ± 0.6 | 3 |

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. For calibration: Reference SPL are 94, 104 & 114dB, range setting is 20-140dB & time weighting is fast
- 4. The UUT complies with EN 61672: 2003 Type 1 sound level meter for the above measurement.
- 5 The values given in this Calibration Certificate only relate to the values at the time of the test and any uncertainties will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during tranportation, overloading, mis-handling or the capability of any other laboratory to repeat the measurement.

| Checked by : | _ Date : 12-12-2019 Certified by : <u>FTJoung</u> Date : 12-12-2019 |
|-----------------------|---------------------------------------------------------------------|
| CA-R-297 (22/07/2009) | Leung Kwok Tai (Assistant Manager) |
| | ** End of Report ** |

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Page 1 of 1

Report no.: 183057CA196275

CALIBRATION CERTIFICATE OF SOUND CALIBRATOR

Client Supplied Information

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

| Description | : | Sound Calibrator |
|-----------------------|---|---------------------------|
| Manufacturer | : | Casella (Model CEL-120/1) |
| Serial No. | : | 2383852 |
| Equipment ID | : | N/A |
| Next Calibration Date | : | 15-Oct-2020 |
| Specification Limit | ; | EN 60942: 2003 Type 1 |
| | | |

Laboratory Information

Details of Reference Equipment -

| Description | : | Reference Sound level meter | | | | |
|------------------------------------------------------|----|-----------------------------|--------------------------|----|--|--|
| Equipment ID. | : | R-119-1 | | | | |
| Date of Calibration | : | 16-Oct-2019 | Ambient Temperature : 22 | °C | | |
| Calibration Location : Calibration Laboratory of FTS | | | | | | |
| Method Used : | By | direct comparison | | | | |

Calibration Results :

| Parameters (Setting of UUT) | Mean Value (error of measurement) | Specification Limit(dB) | | |
|-----------------------------|--------------------------------------|-------------------------|--|--|
| 94dB | 0.0 dB | ±0.4dB | | |
| 114dB | 0.0 dB | 10.400 | | |

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. The equipment does comply with the specification limit.
- 4. The values given in this Calibration Certificate only relate to the values at the time of the test and any uncertainties will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during tranportation, overloading, mis-handling or the capability of any other laboratory to repeat the measurement.

| Checked by : | Date: <u>>2-(0-2019</u> Certified by: <u>E.J. Joung</u> Date: <u>>2-10-201</u> | 1 |
|-----------------------|--------------------------------------------------------------------------------------|---|
| CA-R-297 (22/07/2009) | Leung Kwok Tai (Assistant Manager) | |
| | ** End of Report ** | |

End of Report

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Page 1 of 1

Report no.: 183057CA195873

CALIBRATION CERTIFICATE OF SOUND CALIBRATOR

Client Supplied Information

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

| Description | : | Sound Calibrator |
|-----------------------|---|---------------------------|
| Manufacturer | : | Casella (Model CEL-120/1) |
| Serial No. | : | 4358289 |
| Equipment ID | : | N-35 |
| Next Calibration Date | : | 25-Jul-2020 |
| Specification Limit | 1 | EN 60942: 2003 Type 1 |
| | | |

Laboratory Information

| Description | : | Reference Sound level I | meter | | |
|------------------|-------|-------------------------|-----------------------|----|----|
| Equipment ID. | : | R-119-1 | | | |
| Date of Calibrat | ion | : 26-Jul-2019 | Ambient Temperature : | 22 | °C |
| Calibration Loca | atior | n: Calibration Laborato | ry of FTS | | |
| Method Used | : | By direct comparison | | | |

Calibration Results :

| Parameters (Setting of UUT) | Mean Value (error of measurement) | Specification Limit(dB) | | |
|-----------------------------|-----------------------------------|-------------------------|--|--|
| 94dB | 0.1 dB | ±0.4dB | | |
| 114dB | 0.0 dB | ±0.40B | | |

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. The equipment does comply with the specification limit.
- 4. The values given in this Calibration Certificate only relate to the values at the time of the test and any uncertainties will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during tranportation, overloading, mis-handling or the capability of any other laboratory to repeat the measurement.

| Checked by : | William | Date : 76-7-2019 | Certified by : | RT Leung | Date : 76- 7 | 1-2019 |
|-------------------|---------|------------------|----------------|-------------------|--------------|--------|
| CA-R-297 (22/07/2 | 009) | / | Leung | Kwok Tai (Assista | ant Manager) | |

** End of Report **

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Report No. : 183057CA195782(1)

Page 1 of 1

CALIBRATION CERTIFICATE OF ANEMOMETER

Client Supplied Information

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

| Description : | Anemometer |
|-------------------------|-------------|
| Manufacturer : | Benetech |
| Model No. | GM816 |
| Serial No. | N/A |
| Equipment ID.: | WS-08 |
| Next Calibration Date : | 17-Jun-2020 |

Laboratory Information

Details of Reference Equipment -

| Description : | Reference Anemometer | | | |
|-----------------------|--------------------------|---------------------|---|-------|
| Equipment ID.: | R-101-4 | | | |
| Date of Calibration : | 18-Jun-2019 | Ambient Temperature | : | 22 °C |
| Calibration Location | Calibration Laboratory o | f FTS | | |
| Method Used : R-C-2 | 79 | | | |

Calibration Results :

| Reference Reading | UUT Reading | Error |
|-------------------|-------------|-------|
| (m/s) | (m/s) | (m/s) |
| 2.05 | 1.0 | -1.1 |
| 4.08 | 3.1 | -1.0 |
| 6.07 | 4.8 | -1.3 |
| 8.03 | 6.7 | -1.3 |
| 10.14 | 8.8 | -1.3 |

Remark :

1. The equipment being used in this calibration is traceable to recognized National Standards.

Checked by: William Date: 20-6-2019 Certified by: Kit Loung Date: 24-6-2019 Leung Kwok Tai (Assistant Manager) CA-R-297 (22/07/2009)

** End of Report **

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Appendix E

Environmental Monitoring Schedule

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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 (February 2020)

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

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), KTD2b: G/IC Zone next to Kwun Tong Bypass (Next to the site of the New Acute Hospital), KER1b: 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)

Tel

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

Impact Monitoring Schedule (March 2020)

| Sun | Mon | Tue | Wed | Thur | Fri | Sat |
|-----|------------------------------------------|------------------------------------------|------------------------------------------|-----------------------------------------|-----|------------------------------------------|
| 1 | 2 | 3 | 4 | 5 TSP Monitoring Noise Monitoring | 6 | 7 |
| 8 | 9 | 10 | 11 TSP Monitoring Noise Monitoring | 12 | 13 | 14 |
| 15 | 16 | 17 TSP Monitoring Noise Monitoring | 18 | 19 | 20 | 21 |
| 22 | 23 TSP Monitoring Noise Monitoring | 24 | 25 | 26 | 27 | 28 TSP Monitoring Noise Monitoring |
| 29 | 30 | 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), KTD2b: G/IC Zone next to Kwun Tong Bypass (Next to the site of the New Acute Hospital), KER1b: 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)

Tel

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

Impact Monitoring Schedule (April 2020)

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

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), KTD2b: G/IC Zone next to Kwun Tong Bypass (Next to the site of the New Acute Hospital), KER1b: 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)

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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 (May 2020)

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

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), KTD2b: G/IC Zone next to Kwun Tong Bypass (Next to the site of the New Acute Hospital), KER1b: 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)

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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

| Start Date | Weather Condition | Air Temperature (K) | Pressure, Pa | Filter W | eight (g) | Particulate weight (g) | Sampling Time(hrs) | (m^{3}/m^{3}) | Rate min.) | Average flow | Total volume (m ³⁾ | Conc. (ug/m ³) | Action Level | Limit Level |
|------------|----------------------|------------------------|--------------|----------|-----------|---------------------------|-----------------------|-----------------|---------------|-----------------|----------------------------------|-------------------------------|-----------------|----------------------|
| | Condition | (14) | (mmHg) | Initial | Final | weight (g) | 11110(1113) | Initial | Final | (m³/min.) | (III | (ug/iii) | (ug/m^3) | (ug/m ³) |
| 5-Feb-20 | Fine | 290.5 | 765.5 | 2.7004 | 2.7823 | 0.0819 | 24 | 1.31 | 1.29 | 1.30 | 1872.8 | 44 | | |
| 11-Feb-20 | Fine | 290.6 | 765.4 | 2.6979 | 2.8839 | 0.1860 | 24 | 1.31 | 1.29 | 1.30 | 1872.6 | 99 | | |
| 17-Feb-20 | Fine | 286.6 | 769.7 | 2.7353 | 2.8376 | 0.1023 | 24 | 1.33 | 1.29 | 1.31 | 1883.3 | 54 | 177 | 260 |
| 22-Feb-20 | Fine | 293.1 | 769.3 | 2.7216 | 2.9065 | 0.1849 | 24 | 1.31 | 1.29 | 1.30 | 1870.7 | 99 | | |
| 28-Feb-20 | Fine | 293.8 | 763.6 | 2.7107 | 2.8400 | 0.1293 | 24 | 1.30 | 1.29 | 1.30 | 1865.3 | 69 | | |
| | | | | | | - | | | - | | Min | 44 | | |
| | | | | | | | | | | | Max | 99 | | |
| | | | | | | | | | | | Average | 73 | | |

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

KTD 2b: G/IC Zone next to Kwun Tong Bypass (Next to the site of the New Acute Hospital)

| Start Date | Weather Condition | Air Temperature (K) | Atmospheric Pressure, Pa | Filter W | eight (g) | Particulate weight (g) | Sampling Time(hrs) | | Rate min.) | Average flow | Total volume (m ³⁾ | Conc. (ug/m ³) | Action Level | Limit Level |
|------------|----------------------|------------------------|-----------------------------|----------|-----------|---------------------------|-----------------------|---------|---------------|------------------------|----------------------------------|-------------------------------|-----------------|----------------|
| | Condition | (13) | (mmHg) | Initial | Final | weigint (g) | 11116(1115) | Initial | Final | (m ³ /min.) | (m) | (ug/m) | (ug/m^3) | (ug/m^3) |
| 5-Feb-20 | Fine | 290.5 | 765.5 | 2.7009 | 3.0260 | 0.3251 | 24 | 1.67 | 1.64 | 1.65 | 2381.3 | 137 | | |
| 11-Feb-20 | Fine | 290.6 | 765.4 | 2.7147 | 2.9647 | 0.2500 | 24 | 1.52 | 1.49 | 1.50 | 2165.0 | 115 | | |
| 17-Feb-20 | Fine | 286.6 | 769.7 | 2.7456 | 2.8203 | 0.0747 | 24 | 1.23 | 1.19 | 1.21 | 1743.8 | 43 | 157 | 260 |
| 22-Feb-20 | Fine | 293.1 | 769.3 | 2.7347 | 2.9177 | 0.1830 | 24 | 1.21 | 1.19 | 1.20 | 1731.3 | 106 | | |
| 28-Feb-20 | Fine | 293.8 | 763.6 | 2.7293 | 3.0011 | 0.2718 | 24 | 1.62 | 1.61 | 1.61 | 2325.0 | 117 | | |
| | | | | | | | | | | | Min | 43 | | |
| | | | | | | | | | | | Max | 137 | | |

Average

Average

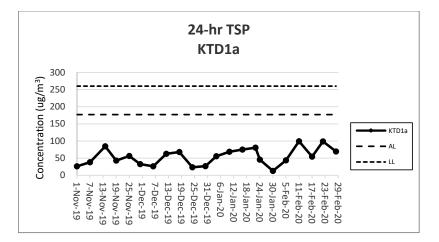
103

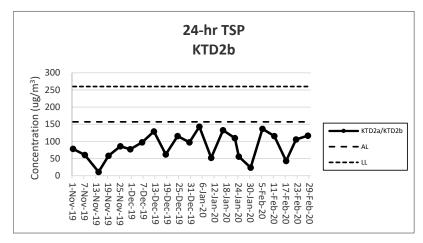
70

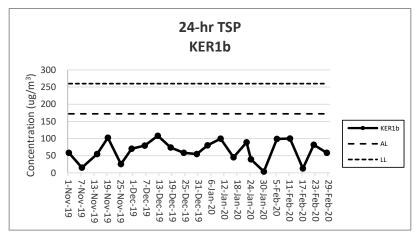
KER1b - Site Boundary at Cheung Yip Street

| Start Date | Weather Condition | Air Temperature (K) | Atmospheric Pressure, Pa | Filter W | eight (g) | Particulate weight (g) | Sampling Time(hrs) | Flow (m ³ /i | Rate min.) | Average flow | Total volume (m ³⁾ | | Action Level | Limit Level |
|------------|----------------------|------------------------|-----------------------------|----------|-----------|---------------------------|-----------------------|----------------------------|---------------|------------------------|----------------------------------|----------------------|-----------------|----------------------|
| | Condition | (13) | (mmHg) | Initial | Final | weigint (g) | 11116(1115) | Initial | Final | (m ³ /min.) | (m · | (ug/m ³) | (ug/m^3) | (ug/m ³) |
| 5-Feb-20 | Fine | 290.5 | 765.5 | 2.6838 | 2.8522 | 0.1684 | 24 | 1.19 | 1.17 | 1.18 | 1704.3 | 99 | | |
| 11-Feb-20 | Fine | 290.6 | 765.4 | 2.7189 | 2.8888 | 0.1699 | 24 | 1.19 | 1.17 | 1.18 | 1704.1 | 100 | | |
| 17-Feb-20 | Fine | 286.6 | 769.7 | 2.7277 | 2.7494 | 0.0217 | 24 | 1.21 | 1.17 | 1.19 | 1713.7 | 13 | 172 | 260 |
| 22-Feb-20 | Fine | 293.1 | 769.3 | 2.7248 | 2.8640 | 0.1392 | 24 | 1.19 | 1.17 | 1.18 | 1702.4 | 82 | | |
| 28-Feb-20 | Fine | 293.8 | 763.6 | 2.7117 | 2.8202 | 0.1085 | 24 | 1.30 | 1.29 | 1.30 | 1865.3 | 58 | | |
| | | | | | | | | | | | Min | 13 | | |
| | | | | | | | | | | | Max | 100 | | |

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







Note:

1) The major activities being carried out on site during the reporting period can be referred to Section 1.3.2

2) The weather conditions during the reporting period can be referred to Appendix K.

3) Any other factors which might affect the monitoing results can be referred to Section 2.6.4.

4) QA/QC results, calibration results and detection limits can be referred to Appendix D.

5) Impact noise monitoring was change to 14 November 2019 due to the traffic disturbance on 13 November 2019.

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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) | L10 dB(A) | L90 dB(A) | Wind Speed (m/s) | Weather |
|-----------|-------------|--------------------|--------------|--------------|---------------------|---------|
| 5-Feb-20 | 09:30 | 67 | 68 | 66 | 0.2 | Fine |
| 11-Feb-20 | 09:41 | 66 | 67 | 65 | 0.3 | Fine |
| 17-Feb-20 | 11:02 | 74 | 78 | 68 | 2.1 | Fine |
| 22-Feb-20 | 09:58 | 72 | 74 | 66 | 2.8 | Fine |
| 28-Feb-20 | 09:00 | 70 | 72 | 65 | 0.4 | Fine |
| | Max | 74 | | | | |
| | Min | 66 | | | | |
| | Limit Level | 75 | | | | |

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

KTD 2b: G/IC Zone next to Kwun Tong Bypass (Next to the site of the New Acute Hospital)

| Date | Start Time | Leq 30min dB(A) | L10 dB(A) | L90 dB(A) | Wind Speed (m/s) | Weather |
|-----------|-------------|--------------------|--------------|--------------|---------------------|---------|
| 5-Feb-20 | 10:54 | 70 | 71 | 66 | 0.0 | Fine |
| 11-Feb-20 | 10:23 | 70 | 71 | 67 | 0.3 | Fine |
| 17-Feb-20 | 10:21 | 75 | 78 | 72 | 2.3 | Fine |
| 22-Feb-20 | 09:17 | 71 | 72 | 69 | 1.1 | Fine |
| 28-Feb-20 | 09:43 | 73 | 76 | 69 | 0.0 | Fine |
| | Max | 75 | | | | |
| | Min | 70 | | | | |
| | Limit Level | 75 | | | | |

KER 1b: Site Boundary at Cheung Yip Street

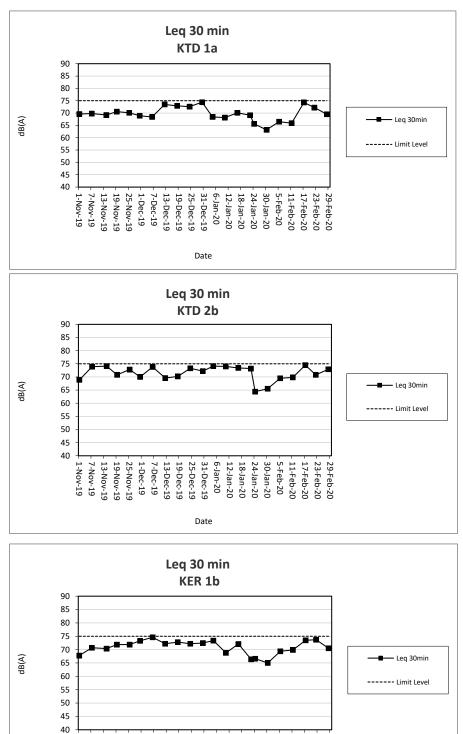
| Date | Start Time | Leq 30min dB(A) | L10 dB(A) | L90 dB(A) | Wind Speed (m/s) | Weather |
|-----------|-------------|--------------------|--------------|--------------|---------------------|---------|
| 5-Feb-20 | 10:08 | 69 | 72 | 67 | 0.4 | Fine |
| 11-Feb-20 | 09:00 | 70 | 72 | 68 | 0.1 | Fine |
| 17-Feb-20 | 09:41 | 74 | 76 | 71 | 2.4 | Fine |
| 22-Feb-20 | 08:36 | 74 | 75 | 68 | 0.2 | Fine |
| 28-Feb-20 | 10:28 | 71 | 73 | 67 | 0.2 | Fine |
| | Max | 74 | | | | |
| | Min | 69 | | | | |
| | Limit Level | 75 | | | | |

Note:

KTD1a: Façade Measurement

KTD2b & KER1b: Free-field measurement (+3dB(A) correction has been applied)

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



P 29-Feb-20 - 23-Feb-20 - 17-Feb-20 - 17-Feb-20 - 5-Feb-20 - 5-Feb-20 - 24-Jan-20 - 24-Jan-20 - 12-Jan-20 - 19-Dec-19 - 19-Dec-19 - 25-Dec-19 - 13-Dec-19 - 13-Dec-19 - 13-Dec-19 - 13-Nov-19 - 13-No

Note:

1) The major activities being carried out on site during the reporting period can be referred to Section 1.3.2.

2) The weather conditions during the reporting period can be referred to Appendix K.

3) Any other factors which might affect the monitoing results can be referred to Section 3.7.2.

4) QA/QC results, calibration results and detection limits can be referred to Appendix D.

5) Impact noise monitoring was change to 14 November 2019 due to the traffic disturbance on 13 November 2019.

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Appendix H

Events and Action Plan

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Event and Action Plan for Construction Dust Monitoring

| EVENT | | ACT | | |
|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | ET | IEC | ER | Contractor |
| Action Level | 4 Identify a suma so | 1. Chash manitaring | 4 Notification Construction | 1 Destify any |
| 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. | Identify sources. Inform the IEC and ER. Advise the ER on the effectiveness of the proposed remedial measures; Repeat measurements to confirm findings. Increase monitoring frequency to daily. Discuss with the IEC, ER and Contractor on remedial action required. If exceedance continues, arrange meeting with the IEC, Contractor and ER. 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 |
| Limit Level | | | | |
| 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. 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 the remedial | 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 continues, consider | 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 determined by the ER |

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| EVENT | | ACT | ION | | |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|--|
| EVENI | ET | IEC | ER | Contractor | |
| | 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 | | what portion of works is responsible and instruct the Contractor to stop that portion of works until the exceedance is abated. | until the exceedance is abated. | |

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Event and Action Plan for Noise Impact

| EVENT | | ACT | ΓΙΟΝ | |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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. |

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Event and Action Plan for Landscape and Visual Impact

| 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. | Notify Contractor 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. | Notify the Contractor 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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| master i on | r Table for Ye | | itian of Inart C 91 | D Materials Gene | roted Monthly | | A stud | Quantities of Non | inart CPD Wast | an Constant M | loothly |
|-------------------|-----------------------------------------------|-------------------------------------------|---------------------------|-----------------------------|----------------------------|--------------------------|--------------|----------------------------------|--------------------------|-------------------|-----------------------------------|
| Monthly Ending | Total Quantity Generated (Inert C&D) | 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 2) | Chemical Waste | Others, e.g. general refuse |
| | (in '000m ³) | (in '000m ³) | (in '000m³) | (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 | 1.34 | 0.023 | 0.00002 | 0.0158 | 0.0335 |
| 2016 Mar | 2.7389 | 0.0407 | 0.0662 | Nil | 2.632 | Nil | 5.92 | 0.023 | 0.00002 | 0.0158 | 0.0571 |
| 2016 Apr | 4.1718 | 0.0578 | 0.462 | Nil | 3.652 | Nil | 12.5 | 0.023 | 0.00002 | 0.0158 | 0.0426 |
| 2016 May | 3.592 | Nil | 0.299 | Nil | 3.293 | Nil | 5.23 | 0.023 | 0.00002 | 0.0158 | 0.0621 |
| 2016 Jun | 4.6035 | Nil | 0.8555 | Nil | 3.748 | Nil | Nil | 0.023 | 0.00002 | 0.0158 | 0.0619 |
| 2016 Jul | 6.155 | 0.153 | 0.015 | Nil | 5.987 | Nil | 7.84 | 0.023 | 0.00002 | 0.0158 | 0.0433 |
| 2016 Aug | 5.1155 | Nil | Nil | Nil | 5.1155 | Nil | 19.93 | 0.023 | Nil | Nil | 0.0147 |
| 2016 Sept | 7.2267 | Nil | Nil | Nil | 7.2267 | Nil | 33.65 | 0.023 | Nil | Nil | 0.0103 |
| 2016 Oct | 4.6448 | Nil | Nil | Nil | 4.6448 | Nil | 13.30 | 0.023 | Nil | Nil | 0.0385 |
| 2016 Nov | 6.1626 | Nil | Nil | Nil | 6.1626 | Nil | 27.06 | 0.023 | Nil | Nil | 0.0192 |
| 2016 Dec | 6.3522 | Nil | Nil | Nil | 6.3522 | Nil | 13.30 | 0.023 | Nil | Nil | 0.0121 |
| Total | 51.213 | 0.4025 | 1.9967 | Nil | 48.8138 | Nil | 140.07 | 0.276 | 0.00014 | 0.1106 | 0.4288 |

Note:

1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.

2) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials.

3) Total Quantity Generated (Inert) = Hard Rock and Large Broken Concrete + Reused in the Contract + Disposed as Public Fill - Imported Fill

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| Waste Flow | / Table for Ye | ear 2017 | | | | | | | | | |
|-------------------|-----------------------------------------------|-------------------------------------------|---------------------------|--------------------------|----------------------------|--------------------------|-------------------------------------------------------------|----------------------------------|--------------------------|-------------------|-----------------------------------|
| | | Actual Quant | tities of Inert C&I | D Materials Gene | erated Monthly | | Actual Quantities of Non-inert C&D Wastes Generated Monthly | | | | |
| Monthly Ending | Total Quantity Generated (Inert C&D) | 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 2) | 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) |
| 2017 Jan | 4.2300 | Nil | Nil | Nil | 4.2300 | Nil | 0.015 | 0.023 | Nil | Nil | 0.0109 |
| 2017 Feb | 3.2128 | Nil | Nil | Nil | 3.2128 | Nil | 0.015 | 0.023 | Nil | Nil | 0.0096 |
| 2017 Mar | 9.4759 | Nil | Nil | Nil | 9.4759 | Nil | 0.034 | 0.023 | Nil | Nil | 0.0162 |
| 2017 Apr | 4.8827 | Nil | Nil | Nil | 4.8827 | Nil | 0.016 | 0.023 | Nil | Nil | 0.0062 |
| 2017 May | 3.0366 | Nil | Nil | Nil | 3.0366 | Nil | 0.022 | 0.023 | Nil | Nil | 0.0282 |
| 2017 Jun | 2.5656 | Nil | Nil | Nil | 2.5656 | Nil | 41.25 | Nil | Nil | Nil | 0.0357 |
| 2017 Jul | 5.5267 | Nil | 0.7851 | Nil | 4.7416 | Nil | 4.01 | 0.4515 | Nil | 0.25 | 0.0364 |
| 2017 Aug | 11.4734 | Nil | 0.0276 | Nil | 11.4458 | Nil | 7.4 | Nil | Nil | Nil | 0.0196 |
| 2017 Sep | 23.9373 | Nil | 2.6167 | Nil | 21.3206 | Nil | 3.52 | Nil | Nil | Nil | 0.0333 |
| 2017 Oct | 17.8261 | Nil | 0.4069 | Nil | 17.4192 | Nil | Nil | Nil | Nil | Nil | 0.0156 |
| 2017 Nov | 5.8834 | Nil | 0.6664 | Nil | 5.217 | Nil | Nil | Nil | Nil | Nil | 0.023 |
| 2017 Dec | 21.3554 | Nil | 0.4763 | Nil | 20.8791 | Nil | 29.13 | Nil | Nil | Nil | 0.022 |
| Total | 113.4059 | Nil | 4.9790 | Nil | 108.4269 | Nil | 85.412 | 0.5665 | Nil | 0.25 | 0.2567 |

Note:

1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.

2) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials.

3) Total Quantity Generated (Inert) = Hard Rock and Large Broken Concrete + Reused in the Contract + Disposed as Public Fill – Imported Fill

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| Waste Flow | Table for Ye | ar 2018 | | | | | | | | | |
|-------------------|-----------------------------------------------|-------------------------------------------|---------------------------|--------------------------|----------------------------|--------------------------|--------------|-------------------------------|--------------------------|-------------------|--------------------------------|
| | | Actual Quan | tities of Inert C&I | D Materials Gene | erated Monthly | | Actual | Quantities of Non- | inert C&D Wast | es Generated M | lonthly |
| Monthly Ending | Total Quantity Generated (Inert C&D) | 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 2) | 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) |
| 2018 Jan | 10.2340 | Nil | Nil | Nil | 10.2340 | Nil | 32.39 | Nil | Nil | Nil | 0.0161 |
| 2018 Feb | 6.5256 | Nil | Nil | Nil | 6.5256 | Nil | Nil | Nil | Nil | Nil | 0.0235 |
| 2018 Mar | 28.1995 | Nil | Nil | Nil | 28.1995 | Nil | 54.54 | Nil | Nil | Nil | 0.0190 |
| 2018 Apr | 11.2165 | Nil | Nil | Nil | 11.2165 | Nil | Nil | Nil | Nil | Nil | 0.0270 |
| 2018 May | 5.6011 | Nil | Nil | Nil | 5.6011 | Nil | Nil | Nil | Nil | Nil | 0.0140 |
| 2018 Jun | 5.8072 | Nil | Nil | Nil | 5.8072 | Nil | 93.3 | Nil | Nil | Nil | 0.0235 |
| 2018 Jul | 7.4206 | Nil | Nil | Nil | 7.4206 | Nil | Nil | Nil | Nil | Nil | 0.0383 |
| 2018 Aug | 2.0815 | Nil | Nil | Nil | 2.0815 | Nil | Nil | Nil | Nil | Nil | 0.0665 |
| 2018 Sep | 0.3710 | Nil | Nil | Nil | 0.3710 | Nil | Nil | Nil | Nil | Nil | 0.0436 |
| 2018 Oct | 0.9087 | Nil | Nil | Nil | 0.9620 | 0.0533 | Nil | Nil | Nil | Nil | 0.0444 |
| 2018 Nov | 0.7291 | Nil | Nil | Nil | 0.7733 | 0.0589 | Nil | Nil | Nil | Nil | 0.0225 |
| 2018 Dec | -0.0931 | Nil | Nil | Nil | 0.3860 | 0.4791 | Nil | Nil | Nil | Nil | 0.0228 |
| Total | 79.0017 | Nil | Nil | Nil | 79.5783 | 0.5913 | 180.23 | Nil | Nil | Nil | 0.3614 |

Note:

1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.

2) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials.

3) Total Quantity Generated (Inert) = Hard Rock and Large Broken Concrete + Reused in the Contract + Disposed as Public Fill – Imported Fill

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| Waste Flow | Table for Ye | ar 2019 | | | | | | | | | |
|-------------------|-----------------------------------------------|-------------------------------------------|---------------------------|--------------------------|----------------------------|--------------------------|-------------------------------------------------------------|-------------------------------|--------------------------|-------------------|--------------------------------|
| | | Actual Quant | tities of Inert C&I | D Materials Gene | erated Monthly | | Actual Quantities of Non-inert C&D Wastes Generated Monthly | | | | |
| Monthly Ending | Total Quantity Generated (Inert C&D) | 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 2) | 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) |
| 2019 Jan | 0.2485 | Nil | Nil | Nil | 0.7063 | 0.45774 | Nil | Nil | Nil | Nil | 0.0100 |
| 2019 Feb | 0.2790 | Nil | Nil | Nil | 0.2790 | Nil | Nil | Nil | Nil | Nil | 0.0076 |
| 2019 Mar | 0.7376 | Nil | Nil | Nil | 0.7376 | Nil | Nil | Nil | Nil | Nil | 0.0929 |
| 2019 Apr | 0.3694 | Nil | Nil | Nil | 0.3694 | Nil | Nil | Nil | Nil | Nil | 0.0365 |
| 2019 May | 0.4683 | Nil | Nil | Nil | 0.4683 | Nil | Nil | Nil | Nil | Nil | 0.0383 |
| 2019 Jun | 0.8571 | Nil | Nil | Nil | 0.8571 | Nil | Nil | Nil | Nil | Nil | 0.0160 |
| 2019 Jul | 15.2091 | Nil | Nil | Nil | 15.2091 | Nil | Nil | Nil | Nil | Nil | 0.0331 |
| 2019 Aug | 5.7307 | Nil | Nil | Nil | 5.7307 | Nil | Nil | Nil | Nil | Nil | 0.0249 |
| 2019 Sep | 9.0074 | Nil | Nil | Nil | 9.0074 | Nil | Nil | Nil | Nil | Nil | 0.0541 |
| 2019 Oct | 0.6616 | Nil | Nil | Nil | 0.6616 | Nil | Nil | Nil | Nil | Nil | 0.0269 |
| 2019 Nov | 0.8783 | Nil | Nil | Nil | 0.8783 | Nil | Nil | 0.17 | Nil | Nil | 0.0453 |
| 2019 Dec | 0.6110 | Nil | Nil | Nil | 0.6110 | Nil | Nil | Nil | Nil | Nil | 0.0519 |
| Total | 35.058 | 0 | 0 | 0 | 35.5158 | 0.4577 | 0 | 0.17 | 0 | 0 | 0.4375 |

Note:

1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.

2) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials.

3) Total Quantity Generated (Inert) = Hard Rock and Large Broken Concrete + Reused in the Contract + Disposed as Public Fill – Imported Fill

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| Waste Flow | Table for Ye | ar 2020 | | | | | | | | | |
|-------------------|-----------------------------------------------|-------------------------------------------|---------------------------|-----------------------------|----------------------------|--------------------------|--------------|-------------------------------|--------------------------|-------------------|--------------------------------|
| | | Actual Quant | tities of Inert C&I | D Materials Gene | rated Monthly | | Actua | I Quantities of Non- | inert C&D Wast | es Generated N | Ionthly |
| Monthly Ending | Total Quantity Generated (Inert C&D) | 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 2) | Chemical Waste | Others, e.g. general refuse |
| | (in '000m ³) | (in '000m ³) | (in '000m³) | (in '000m ³) | (in '000m ³) | (in '000m ³) | (in '000 kg) | (in '000kg) | (in '000kg) | (in '000kg) | (in '000m ³) |
| 2020 Jan | 0.3807 | Nil | Nil | Nil | 0.3807 | Nil | Nil | Nil | Nil | Nil | 0.0276 |
| 2020 Feb | 0.2862 | Nil | Nil | Nil | 0.2862 | Nil | Nil | Nil | Nil | Nil | 0.0365 |
| 2020 Mar | | | | | | | | | | | |
| 2020 Apr | | | | | | | | | | | |
| 2020 May | | | | | | | | | | | |
| 2020 Jun | | | | | | | | | | | |
| 2020 Jul | | | | | | | | | | | |
| 2020 Aug | | | | | | | | | | | |
| 2020 Sep | | | | | | | | | | | |
| 2020 Oct | | | | | | | | | | | |
| 2020 Nov | | | | | | | | | | | |
| 2020 Dec | | | | | | | | | | | |
| Total | 0.6669 | 0 | 0 | 0 | 0.6669 | 0 | 0 | 0 | 0 | 0 | 0.0641 |

Note:

1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.

2) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials.

3) Total Quantity Generated (Inert) = Hard Rock and Large Broken Concrete + Reused in the Contract + Disposed as Public Fill - Imported Fill

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Appendix J

Environmental Mitigation Implementation Schedule (EMIS)

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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 Measur | es | | | | |
| New Distributor Ro | oads Serving the Pla | anned KTD | | | |
| AEIAR-130/2009 S3.2 | 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 | | | | | |
| 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 | 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 |
|----------------------------------|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|---------------------------|---------------------------------------------------|
| 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 | |
| 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 | 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 | 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 | 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 | 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 | 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 |
|-----------------------------|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|---------------------------|---------------------------------------------------|
| | | 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 | Implemented |
| | | 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 | Implemented |
| | | Routing of vehicles and position of construction plant should be at the maximum possible distance from ASRs. | Contractor | All relevant worksites | Implemented |
| | | 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 \$5.9.2.1 | 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 | 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 | Implemented |
| | 33.4.1.1 | Mobile plant, if any, should be sited as far away from NSRs as possible. | Contractor | All relevant worksites | Implemented |
| | | 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 | 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 |
|----------------------------|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|---------------------------|---------------------------------------------------|
| | | 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 | 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 |
|----------------------------|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|---------------------------|---------------------------------------------------|
| | | 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 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 | Implemented |
| 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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| EIA Ref | EM&A Ref | Environmental Protection Measures / Mitigation Measures | Who to implement the measure | Location / Timing | Construction Phase Implementation Status |
|------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|---------------------------|---------------------------------------------------|
| AEIAR-130/2009 S5.4 | AEIAR 130/2009 EM&A Manual S4.4 | 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 |
| | | 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 | Not Applicable |
| | | General Construction Works | | | |
| | | Construction Runoff | | | |
| AEIAR- 130/2009 S3.4, S5.4/ AEIAR- 174/2013 S6.4.8.1 | 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 | 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 | Implemented |
| | | 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 | 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 |
|---------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|---------------------------|---------------------------------------------------|
| | | 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 m3 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 | 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 | Implemented |
| | | 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 | Implemented |
| | | 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 | 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 |
|---------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|---------------------------|---------------------------------------------------|
| | | Drainage | | | |
| | | 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 | Implemented |
| | | 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 | 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 |
|------------------------------|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|---------------------------|---------------------------------------------------|
| | | properly to avoid entering into the adjacent harbour waters. Stockpiles of cement and other 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 | 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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| EIA Ref | EM&A Ref | EM&A Ref Environmental Protection Measures / Mitigation Measures | | Location / Timing | Construction Phase Implementation Status |
|---------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---------------------------|---------------------------------------------------|
| | | 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 | Implemented |
| | | 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 | Implemented |
| | | Skip hoist for material transport should be totally enclosed by impervious sheeting. | 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 |
|---------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|---------------------------|---------------------------------------------------|
| | | 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 | 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 | 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 |
|--------------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|---------------------------|---------------------------------------------------|
| | | 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 | | | |
| | | 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 Roads Serving the Planned KTD | | | |
| | | Construction Phase | | | |
| | | All existing trees should be carefully protected during construction. | Contractor | All relevant worksites | Not Applicable |
| | | 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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| EIA Ref | EM&A Ref | Environmental Protection Measures / Mitigation Measures | Who to implement the measure | Location / Timing | Construction Phase Implementation Status |
|----------------------------|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|---------------------------|---------------------------------------------------|
| | | Erection of decorative screen hoarding. | Contractor | All relevant worksites | Not Applicable |
| | | 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 |
| | 37.2.1.2 | 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 | 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 | Not Applicable |
| | | 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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| EIA Ref | EM&A Ref | Environmental Protection Measures / Mitigation Measures | Who to implement the measure | Location / Timing | Construction Phase Implementation Status |
|---------|----------|-----------------------------------------------------------------------------------------------------------------------------------|------------------------------------|----------------------|---------------------------------------------------|
| | | 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 Month

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| | Mean | | Air Temperature | 9 | Mean Relative | Total |
|------|-------------------|---------------------|------------------|---------------------|------------------|------------------|
| Date | Pressure (hPa) | Maximum (deg. C) | Mean (deg. C) | Minimum (deg. C) | Humidity (%) | Rainfall (mm) |
| | - | - | February 2020 | - | - | - |
| 1 | 1022.4 | 18.8 | 16.0 | 14.1 | 72 | 0 |
| 2 | 1022.0 | 19.5 | 17.1 | 15.9 | 77 | 0 |
| 3 | 1020.3 | 20.4 | 18.1 | 16.6 | 78 | Trace |
| 4 | 1020.2 | 19.0 | 17.3 | 15.4 | 84 | 0.8 |
| 5 | 1020.6 | 18.3 | 17.5 | 16.6 | 83 | 1 |
| 6 | 1019.8 | 18.6 | 17.1 | 15.9 | 77 | Trace |
| 7 | 1021.1 | 20.6 | 18.7 | 17.3 | 82 | 0 |
| 8 | 1024.0 | 19.6 | 17.8 | 16.7 | 76 | 0 |
| 9 | 1025.7 | 18.5 | 16.5 | 15.0 | 77 | Trace |
| 10 | 1023.1 | 18.6 | 16.9 | 15.5 | 76 | 0 |
| 11 | 1020.5 | 19.1 | 17.6 | 16.8 | 86 | 0.8 |
| 12 | 1017.9 | 24.7 | 20.6 | 18.4 | 89 | 0 |
| 13 | 1015.4 | 20.5 | 19.6 | 18.9 | 94 | 41.6 |
| 14 | 1013.8 | 22.5 | 20.4 | 19.5 | 94 | 9.7 |
| 15 | 1013.6 | 22.3 | 21.0 | 19.4 | 95 | Trace |
| 16 | 1020.1 | 22.4 | 14.2 | 10.6 | 82 | 25.5 |
| 17 | 1026.2 | 18.0 | 13.6 | 10.3 | 53 | 0 |
| 18 | 1026.4 | 18.4 | 14.7 | 11.6 | 57 | 0 |
| 19 | 1024.6 | 19.4 | 16.3 | 14.0 | 69 | 0 |
| 20 | 1024.9 | 21.2 | 17.7 | 15.4 | 70 | 0 |
| 21 | 1026.7 | 22.6 | 18.9 | 16.5 | 73 | 0 |
| 22 | 1025.7 | 25.5 | 20.1 | 17.1 | 73 | 0 |
| 23 | 1024.6 | 23.9 | 19.4 | 17.5 | 71 | 0 |
| 24 | 1020.7 | 22 | 19.6 | 17.5 | 76 | 0 |
| 25 | 1017.9 | 25 | 21.8 | 19.7 | 84 | Trace |
| 26 | 1017.9 | 28.1 | 23.3 | 20.0 | 82 | 0 |
| 27 | 1019.6 | 22.6 | 20.5 | 19.1 | 84 | 0.4 |
| 28 | 1018.0 | 25.3 | 20.8 | 18.1 | 78 | 0 |
| 29 | 1014.7 | 26.6 | 20.2 | 20.2 | 80 | 0 |

Source: Hong Kong Observatory

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Appendix L

Cumulative statistics on Environmental Complaints, Notifications of Summons and Successful Prosecution

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Environmental Complaints Log

| Reference No. | Date of Complaint Received | Received From | Received By | Nature of Complaint | Date of Investigation | Outcome | Date of Reply |
|----------------------|----------------------------------|------------------|---------------------|------------------------|--------------------------|----------------------------|------------------|
| 20161207_complaint_c | 7 Dec 2016 | EPD | Andy Choy (CRBC) | Air | 13 Feb 2017 | Project- related | 13 Feb 2017 |
| 20170209_complaint_c | 9 Feb 2017 | EPD | Andy Choy (CRBC) | Air | 22 Feb2017 | Not Project- related | 7 Mar 2017 |
| 20170502_complaint_c | 2 May 2017 | CEDD | Andy Choy (CRBC) | Noise | 4 May 2017 | Not Valid | 22 May 2017 |
| 20170716_complaint_a | 16 July 2017 | CEDD | HMJV | Water Quality | 4 Aug 2017 | Not Project- related | 4 Aug 2017 |
| 20180530_complaint | 30 May 2018 | EPD | CRBC | Air | 9 June 2018 | Not Valid | 20 June 2018 |

Cumulative Statistics on Complaints

| Environmental Parameters | Cumulative No. Brought Forward | No. of Complaints This Month | Cumulative Project- to-Date |
|-----------------------------|-----------------------------------|---------------------------------|--------------------------------|
| Air | 3 | 0 | 3 |
| Noise | 1 | 0 | 1 |
| Water | 1 | 0 | 1 |
| Waste | 0 | 0 | 0 |
| Total | 0 | 0 | 0 |

Cumulative Statistics on Notification of Summons and Successful Prosecutions

| Environmental Parameters | Cumulative No. Brought Forward | No. of Notification of Summons and 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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Appendix M

Summary of Site Audit in the Reporting Month

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Summary of Site Audit in the Reporting Month

| Parameters | Date | Observations and Recommendations | Follow-up | | |
|-----------------------------------|------------------|----------------------------------------------------------------------------------------------------------------|-----------|--|--|
| Air Quality | 12 February 2020 | Reminder 1: Dusty Material should be covered by tarpaulin sheet to prevent dust emission. (Zone 4) | NA | | |
| | 21 February 2020 | Reminder 2: NRMMs should be provided for all regulated machines. (Zone 4) | NA | | |
| Noise | 26 February 2020 | Reminder 1: Noise mitigation measure should be provided during breaking. (Zone 3) | NA | | |
| Water Quality | | NA | | | |
| Chemical and Waste | 21 February 2020 | Reminder 1: All waste generated at the site should be removed. (Zone 4) | NA | | |
| Management | 26 February 2020 | Reminder 2: All waste generated from the site should be cleaned. (Zone 4) | NA | | |
| Land Contamination | | NA | | | |
| Landscape and Visual Impact | | NA | | | |
| General Condition | | NA | | | |
| Permit / Licenses | 21 February 2020 | Reminder 2: NRMMs should be provided for all NA regulated machines (Zone 4) | | | |

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Appendix N

Outstanding Issues and Deficiencies



Summary of Outstanding Issues and Deficiencies in the Reporting Month

| Parameters | Outstanding Issues | Deficiencies |
|----------------------------------|--------------------|------------------------------------------------------------------|
| Air Quality | NA | |
| Noise | NA | |
| Water Quality | NA | |
| Chemical and Waste Management | NA | Any items of deficiencies can be referred to Appendix M . |
| Land Contamination | NA | |
| Landscape and Visual Impact | NA | |
| General Condition | NA | |
| Others | NA | |

FUGRO TECHNICAL SERVICES LIMITED

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Appendix D

Monthly EM&A Report For Contract No. KL/2015/02 Kai Tak Development - Stage 5A Infrastructure at Former North Apron Area

Civil Engineering and Development Department

EP-337/2009 – New Distributor Roads Serving the Planned KTD

Contract No. KLN/2016/04 Environmental Monitoring Works for Contract No. KL/2015/02 Kai Tak Development – Stage 5A Infrastructure at Former North Apron Area

Monthly EM&A Report

February 2020

(version 1.1)

| Approved By | |
|-------------|-----------------------------|
| | (Environmental Team Leader) |

REMARKS:

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

CINOTECH accepts no responsibility for changes made to this report by third parties

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 Date
 12 March 2020

 Our Ref.
 MCL/ED/0159/2020/C

Cinotech Consultants Limited Rm 1710, Technology Park, 18 On Lai Street, Shatin, New Territories, Hong Kong

BY EMAIL

Attn.: Mr. K.S Lee

Dear Sir,

Contract No. KL/2015/02 Kai Tak Development –Stage 5A Infrastructure at Former North Apron Verification of Monthly EM&A Report for February 2020

We refer to your emails dated 6, 11 and 12 March 2020 regarding the Monthly EM&A Report for February 2020 for the captioned project prepared by the ET.

We have no further comment and hereby verify the Report in accordance with Clause 3.3 of Environmental Permit no. EP-337/2009.

Should you require further information, please do not hesitate to contact Mr. Wingo So at 3565 4374 or the undersigned on 3565 4114.

Assuring you of our best attention at all times.

Yours faithfully, For and on behalf of FUGRO TECHNICAL SERVICES LIMITED

Colin K. L. Yung Independent Environmental Checker

CY/ws

c.c. CEDD –

AECOM –

Attn.: Mr. Ricky Chan Attn.: Mr. Vincent Yip Attn.: Mr. Vincent Lee Attn.: Mr. Teddy Shih



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EXECUTIVE SUMMARY

Introduction

- This is the 38th Monthly Environmental Monitoring and Audit Report prepared by Cinotech Consultants Ltd. for "Contract No. KL/2015/02 - Kai Tak Development – Stage 5A Infrastructure at Former North Apron Area" (Hereafter referred to as "the Project"). This contract comprises one Schedule 2 designated project (DP), namely the new distributor road D1 serving the planned KTD. The DP is part of the designated project under Environmental Permit (EP) No.: EP-337/2009 ("New distributor roads serving the planned Kai Tak Development") respectively. This report documents the findings of EM&A Works conducted during February 2020.
- 2. With reference to the same principle of EIA report of the Project, air quality monitoring stations within 500m and noise monitoring stations within 300m from the boundary of this Project are considered as relevant monitoring locations. In such regard, the relevant air quality and noise monitoring locations are tabulated in **Table I** (see **Figure 2 and 3** for their locations).

| Locations | Monitoring Stations In accordance with EM&A Manual | Alternative Monitoring Stations |
|-----------------------------------|----------------------------------------------------------|---------------------------------------------------------------------------------------|
| Air Quality Monitoring Stations | | |
| | Yes (1-hour TSP) | N/A |
| AM2 - Lee Kau Yan Memorial School | No (24-hour TSP) | AM2(A) – Ng Wah Catholic Secondary School |
| Noise Monitoring Stations | <u>.</u> | |
| M3 - Cognitio College | No | M3(A) – The Bridge connecting The Latitude (Replacing M3 from 27 February 2020) |
| M4 - Lee Kau Yan Memorial School | Yes | N/A |
| M5 – Nam Yuen | No | M5(C) – Mercy Grace's Home |

Table I – Air Quality and Noise Monitoring Stations for this Project

3. The major site activities undertaken in the reporting month included:

- Carry out the structural works for subway at PERE Stage 2
- Excavation with ELS for subway construction at SKLR playground
- Demolition of the exiting ground beam underneath Bridge K72 and construction of new ground beam
- Carry out trial pit at TTA Stage 4-1 and sheet piling works

- Drainage works at Road D1 and Road L7
- Construction of parapet at Retaining Wall S15
- Demolition of existing structure of Bridge K72
- Backfilling works at Road L7
- Preparation and erection of falsework for modifying K72 (Stage 2)
- DCS works in Portion 1
- Watermains laying works in Portion 1

Environmental Monitoring Works

- 4. Environmental monitoring for the Project was performed in accordance with the EM&A Manual and the monitoring results were checked and reviewed. Site Inspections/Audits were conducted once per week. The implementation of the environmental mitigation measures, Event Action Plans and environmental complaint handling procedures were also checked.
- 5. Summary of the non-compliance in the reporting month for the Project is tabulated in **Table II**.

| | No. of Project-rel | | |
|-----------|--------------------|-------------|--------------|
| Parameter | Action Level | Limit Level | Action Taken |
| 1-hr TSP | 0 | 0 | N/A |
| 24-hr TSP | 0 | 0 | N/A |
| Noise | 0 | 0 | N/A |

Table II Non-compliance Recorded for the Project in the Reporting Month

1-hour & 24-hour TSP Monitoring

- 6. All 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.
- 7. All 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

Construction Noise Monitoring

8. All construction noise monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

Environmental Licenses and Permits

9. Licenses/Permits granted to the Project include the Environmental Permit (EP) for the Project, EP-337/2009 issued on 23 April 2009. All valid Licenses/Permits for this Project are shown in **Table 6.1**.

- Billing Account for Construction Waste Disposal (A/C# 7026164).
- Effluent Discharge License (WT00027495-2017).
- Registration of Chemical Waste Producer (WPN5213-286-P3271-01).
- Construction Noise Permit (GW-RE0915-19).
- Construction Noise Permit (GW-RE0984-19).
- Construction Noise Permit (GW-RE0083-20).

Key Information in the Reporting Month

10. Summary of key information in the reporting month is tabulated in **Table III**.

 Table III
 Summary Table for Key Information in the Reporting Month

| Event | Event Details | | Action Taken | Status | Remark |
|------------------------------------------------------------|----------------------|--------|--------------|--------|--------|
| Even | Number | Nature | ACTOR LAKER | Status | Kemark |
| Complaint received | | | N/A | N/A | |
| Reporting Changes | | | N/A | N/A | |
| Notifications of any summons & prosecutions received | | | N/A | N/A | |

Future Key Issues

- 11. The future key environmental issues in the coming month include:
- Dust generation from stockpiles of dusty materials, exposed site area, excavation works and rock breaking activities;
- Water spraying for dust generating activity and on haul road;
- Proper storage of construction materials on site;
- Storage of chemicals/fuel and chemical waste/waste oil on site;
- Accumulation of general and construction waste on site;
- Noise from operation of the equipment, especially for rock-breaking activities, piling works and machinery on-site;
- Wastewater and runoff discharge from site;
- Regular removal of silt, mud and sand along u-channels and sedimentation tanks; and
- Review and implementation of temporary drainage system for the surface runoff.

1 INTRODUCTION

Background

- 1.1. The Kai Tak Development (KTD) is located in the south-eastern part of Kowloon Peninsula, 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. It covers a land area of about 328 hectares. Stage 5A Infrastructure at Former North Apron Area is one of the construction stages of KTD. It contains one Schedule 2 DP including new distributor roads serving the planned KTD. The general layout of the Project is shown in **Figure 1**.
- 1.2. An Environmental Permit (EP) No. EP-337/2009 was issued on 23 April 2009 for new distributor roads serving the planned KTD to Civil Engineering and Development Department as the Permit Holder.
- 1.3. A study of environmental impact assessment (EIA) was undertaken to consider the key issues of air quality, noise, water quality, waste, land contamination, cultural heritage and landscape and visual impact, and identify possible mitigation measures associated with the works. An EIA Report (Register No. AEIAR-130/2009) was approved by the Environmental Protection Department (EPD) on 4 April 2009.
- 1.4. Cinotech Consultants Limited (Cinotech) was commissioned by Civil Engineering and Development Department (CEDD) to undertake the role of the Environmental Team (ET) for the Contract No. KL/2015/02 – Stage 5A Infrastructure at Former North Apron Area. The construction work under KL/2015/02 comprises the construction of part of the Road D1 under the EP (EP-337/2009).
- 1.5. Cinotech Consultants Limited was commissioned by Civil Engineering and Development Department (CEDD) to undertake the Environmental Monitoring and Audit (EM&A) works for the Project. The commencement date of construction of Road D1 (part) under this Contract was on 16 January 2017.

Project Organizations

- 1.6. Different parties with different levels of involvement in the project organization include:
 - Project Proponent Civil Engineering and Development Department (CEDD).
 - The Engineer and the Engineer's Representative (ER) AECOM Asia Co. Ltd (AECOM).
 - Environmental Team (ET) Cinotech Consultants Limited (Cinotech).
 - Independent Environmental Checker (IEC) Fugro Technical Services Limited (FTS).
 - Contractor Peako Wo Hing Joint Venture (PWHJV).

1.7. The key contacts of the Project are shown in **Table 1.1**.

| Table 1.1 Key Project Contacts | | | | | | |
|--------------------------------|-----------------------------------------|----------------------------|-----------------------------------------|-----------|-----------|--|
| Party | Role | Contact Person | Position | Phone No. | Fax No. | |
| CEDD Project Propone | | Mr. CHAN Wai Kit, Ricky | Senior Engineer | 2116 3753 | 2116 0714 | |
| AECOM | Engineer's Representative | Mr. Vincent Lee | SRE | 2798 0771 | 2210 6110 | |
| Cinotech | Environmental Team | Mr. K.S Lee | Environmental Team Leader | 2151 2091 | 3107 1388 | |
| Children | | Ms. Betty Choy | Audit Team Leader | 2151 2072 | 5107 1500 | |
| FTS | Independent Environmental Checker | Mr. Colin Yung | Independent Environmental Checker | 3565 4114 | 2450 8032 | |
| PWHJV | Contractor | Mr. W.M. Wong | Site Agent | 6386 3535 | 2398 8301 | |

Table 1.1Key Project Contacts

Construction Activities undertaken during the Reporting Month

- 1.8. The site activities undertaken in the reporting month included:
 - Carry out the structural works for subway at PERE Stage 2
 - Excavation with ELS for subway construction at SKLR playground
 - Demolition of the exiting ground beam underneath Bridge K72 and construction of new ground beam
 - Carry out trial pit at TTA Stage 4-1 and sheet piling works
 - Drainage works at Road D1 and Road L7
 - Construction of parapet at Retaining Wall S15
 - Demolition of existing structure of Bridge K72
 - Backfilling works at Road L7
 - Preparation and erection of falsework for modifying K72 (Stage 2)
 - DCS works in Portion 1
 - Watermains laying works in Portion 1
- 1.9. The construction programme for the Project is shown in **Appendix N**.
- 1.10. The construction programme showing the inter-relationship with environmental protection/mitigation measures are presented in **Table 1.2**.

Table 1.2 Construction Programme Showing the Inter-Relationship with Environmental Protection/Mitigation Measures

| ConstructionMajor EnvironmentalWorksImpact | | Control Measures |
|--------------------------------------------|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Refer to Section 1.8 | Noise, dust impact, water quality and waste generation | Sufficient watering of the works site with active dust emitting activities; Properly cover the stockpiles; On-site waste sorting and implementation of trip ticket system Appropriate desilting/sedimentation devices provided on site for treatment before discharge; Use of quiet plant and well-maintained construction plant; Provide movable noise barrier; Well maintain the drainage system to prevent the spillage of wastewater during heavy rainfall; Provide sufficient mitigation measures as recommended in Approved EIA Report/Lease requirement. |

Summary of EM&A Requirements

- 1.11. The EM&A programme requires construction noise monitoring, air quality monitoring, landscape and visual monitoring and environmental site audit. The EM&A requirements for each parameter are described in the following sections, including:
 - All monitoring parameters;
 - Action and Limit levels for all environmental parameters;
 - Event Action Plans;
 - Environmental requirements and mitigation measures, as recommended in the EM&A Manual under the EP.
- 1.12. The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in Section 6 of this report.
- 1.13. This report presents the monitoring results, observations, locations, equipment, period, methodology and QA/QC procedures of the required monitoring parameters, namely air quality and noise levels and audit works for the Project during February 2020.

2 AIR QUALITY

Monitoring Requirements

2.1. According to EM&A Manual under the EP, 1-hour and 24-hour TSP monitoring were conducted to monitor the air quality for this Project. For regular impact monitoring, a sampling frequency of at least once in every six days at all of the monitoring stations for 24-hour TSP monitoring. For 1-hour TSP monitoring, the sampling frequency of at least three times in every six days shall be undertaken when the highest dust impact occurs. Appendix A shows the established Action/Limit Levels for the environmental monitoring works.

Monitoring Locations

- 2.2. 1-hour TSP impact dust monitoring was conducted at the air quality monitoring station, AM2 Lee Kau Yan Memorial School and 24-hour TSP impact dust monitoring were conducted at the air quality monitoring station, AM2(A) Ng Wah Catholic Secondary School in the reporting month.
- 2.3. **Table 2.1** describes the air quality monitoring locations, which are also depicted in **Figure 2**.

| Table 2.1 | Locations | for Air | Quality Monitoring |
|-----------|------------------|---------|--------------------|
| | Locations | | Quanty monitoring |

| Monitoring Stations | Locations | Location of Measurement |
|-------------------------|----------------------------------|--------------------------|
| AM2 (1-hour TSP) | Lee Kau Yan Memorial School | Rooftop (about 8/F) Area |
| AM2(A) (24-hour TSP) | Ng Wah Catholic Secondary School | Rooftop (about 8/F) Area |

Monitoring Equipment

2.4. **Table 2.2** summarizes the equipment used in the impact air monitoring programme. Copies of calibration certificates are attached in **Appendix B**.

| Equipment | Model and Make | Quantity | |
|-----------------------|--------------------------------------|----------|--|
| Calibrator | • TISCH TE-5025A | 1 | |
| 1-hour TSP Dust Meter | • Sibata Scientific Technology LD-5R | 3 | |
| HVS Sampler | • TE-5170 c/w of TSP sampling inlet | 1 | |
| Wind Anemometer | • Davis Instruments 6152 | 1 | |

Table 2.2Air Quality Monitoring Equipment

Monitoring Parameters, Frequency and Duration

2.5. **Table 2.3** summarizes the monitoring parameters and frequencies of impact dust monitoring for the whole construction period. The air quality monitoring schedule for the reporting month is shown in **Appendix D**.

Table 2.3 Impact Dust Monitoring Parameters, Frequency and Duration

| Parameters | Frequency |
|------------|----------------------|
| 1-hr TSP | Three times / 6 days |
| 24-hr TSP | Once / 6 days |

Monitoring Methodology and QA/QC Procedure

1-hour TSP Monitoring

Measuring Procedures

2.6. The measuring procedures of the 1-hour dust meters were in accordance with the Manufacturer's Instruction Manual as follows:

(Equipment: Sibata Scientific Technology; Model no. LD-3B, LD-5R)

- The 1-hour dust meter is placed at least 1.3 meters above ground.
- Set POWER to "ON" and make sure that the battery level was not flash or in low level.
- Allow the instrument to stand for about 3 minutes and then the cap of the air sampling inlet has been released.
- Push the knob at MEASURE position.
- Set time/mode setting to [BG] by pushing the time setting switch. Then, start the background measurement by pushing the start/stop switch once. It will take 6 sec. to complete the background measurement.
- Push the time setting switch to change the time setting display to [MANUAL] at the bottom left of the liquid crystal display.
- Finally, push the start/stop switch to stop the measuring after 1 hour sampling.
- Information such as sampling date, time, count value and site condition were recorded during the monitoring period.

Maintenance/Calibration

2.7. The following maintenance/calibration was required for the direct dust meters:

Check the meter at a 3-month interval and calibrate the meter at a 1-year interval throughout all stages of the air quality monitoring.

24-hour TSP Monitoring

Instrumentation

2.8. High volume (HVS) samplers (Model TE-5170), completed with appropriate sampling inlets, were employed for 24-hour TSP monitoring. The sampler was composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complied with that required by USEPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50). Moreover, the HVS also met all the requirements in section 2.5 of the updated EM&A Manual.

Operating/Analytical Procedures

- 2.9. Operating/analytical procedures for the operation of HVS were as follows:
 - A horizontal platform was provided with appropriate support to secure the samplers against gusty wind.
 - No two samplers were placed less than 2 meters apart.
 - The distance between the sampler and an obstacle, such as buildings, was at least twice the height that the obstacle protrudes above the sampler.
 - A minimum of 2 meters of separation from walls, parapets and penthouses was required for rooftop samples.
 - A minimum of 2 meters separation from any supporting structure, measured horizontally was required.
 - No furnaces or incineration flues were nearby.
 - Airflow around the sampler was unrestricted.
 - The sampler was more than 20 meters from the drip line.
 - Any wire fence and gate, to protect the sampler, should not cause any obstruction during monitoring.
- 2.10. Prior to the commencement of the dust sampling, the flow rate of the high volume sampler was 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.
- 2.11. For TSP sampling, fiberglass filters have a collection efficiency of > 99% for particles of 0.3µm diameter were used.
- 2.12. The power supply was checked to ensure the sampler worked properly. On sampling, the sampler was operated for 5 minutes to establish thermal equilibrium before placing any filter media at the designated air monitoring station.
- 2.13. The filter holding frame was then removed by loosening the four nuts and a weighted and conditioned filter was carefully centered with the stamped number upwards, on a supporting screen.

- 2.14. The filter was aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. Then the filter holding frame was tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges.
- 2.15. The shelter lid was closed and secured with the aluminium strip.
- 2.16. The timer was then programmed. Information was 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).
- 2.17. After sampling, the filter was removed and sent to the HOKLAS laboratory (Wellab Ltd.) for weighing. The elapsed time was also recorded.
- 2.18. Before weighing, all filters were 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 $\pm 5\%$. A convenient working RH is 40%.

Maintenance/Calibration

- 2.19. The following maintenance/calibration was required for the HVS:
 - The high volume motors and their accessories were properly maintained. Appropriate maintenance such as routine motor brushes replacement and electrical wiring checking were made to ensure that the equipment and necessary power supply are in good working condition.
 - High volume samplers were calibrated at bi-monthly intervals using TE-5025A Calibration Kit through/hout all stages of the air quality monitoring.

Results and Observations

- 2.20. All 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.
- 2.21. All 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.
- 2.22. The weather information for the reporting month is summarized in Appendix C.
- 2.23. The monitoring data and graphical presentations of 1-hour and 24-hour TSP monitoring results are shown in **Appendices E and F** respectively.
- 2.24. The summary of exceedance record in reporting month is shown in **Appendix H**. No exceedance was recorded for the air quality monitoring.
- 2.25. According to our field observations during the monitoring, the major dust source identified at the two designated air quality monitoring stations are road traffic dust, exposed site area and open stockpiles, excavation works and site vehicle movements.

2.26. The summary of 1-hour and 24-hour TSP air quality monitoring results during the reporting month are shown in **Appendix E** and **Appendix F** respectively.

3 NOISE

Monitoring Requirements

3.1. According to EM&A Manuals under the EP, construction noise monitoring was conducted to monitor the construction noise arising from the construction activities within KTD. The regular monitoring frequency for each monitoring station shall be on a weekly basis and conduct one set of measurements between 0700 and 1900 hours on normal weekdays. **Appendix A** shows the established Action and Limit Levels for the environmental monitoring works.

Monitoring Locations

- 3.2. Three designated monitoring stations were selected for noise monitoring programme. Noise monitoring was conducted at four designated monitoring stations (M3, M3(A), M4, and M5(C)). **Figure 3** shows the locations of these stations.
- 3.3. The alternative noise monitoring location at M3(A) has been approved by EPD on 19 February 2020 and the M3(A) was carried out noise monitoring for replacing M3 on 27 February 2020.

| Monitoring Stations | Locations | Location of Measurement | |
|---------------------|-----------------------------|--------------------------------|--|
| | | Ground in front of the School | |
| M3 | Cognitio College | facing Prince Edward | |
| | | Road East | |
| | The Bridge connecting The | In the middle of the foot | |
| M3(A) | Latitide | bridge connecting The | |
| | Latitide | Latitude | |
| M4 | Lee Kau Yan Memorial School | Rooftop (about 7/F) Area | |
| | | Ground in front of the | |
| | | building entrance facing | |
| | | Prince Edward | |
| M5(C) | Mercy Grace's Home | Road East (noise monitoring | |
| MB(C) | Mercy Grace's Home | is not allowed in the rooftop, | |
| | | due to the coronavirus | |
| | | countermeasure in Mercy | |
| | | Grace's Home) | |

Table 3.1Noise Monitoring Stations

Monitoring Equipment

3.4. **Table 3.2** summarizes the noise monitoring equipment. Copies of calibration certificates are provided in **Appendix B**.

| Equipment | Model and Make | Qty. |
|-------------------------------|--------------------------|------|
| Interneting Cound Loval Motor | • SVANTEK SVAN 957 / 959 | 2 |
| Integrating Sound Level Meter | BSW ATECH 308 | 3 |
| Calibrator | SVANTEK SV30A | 1 |
| Calibrator | SOUNDTEK ST-120 | 2 |

Monitoring Parameters, Frequency and Duration

Table 3.3 summarizes the monitoring parameters, frequency and total duration of 3.5. monitoring. The noise monitoring schedule is shown in Appendix D.

Table 3.3 Noise Monitoring Parameters, Frequency and Duration

| Monitoring Stations | Parameter | Period | Frequency | Measurement |
|----------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------|------------------|-------------|
| M3 M3(A) M4 M5(C) | L ₁₀ (30 min.) dB(A) L ₉₀ (30 min.) dB(A) L _{eq} (30 min.) dB(A) | 0700-1900 hrs on normal weekdays | Once per week | Façade |

Monitoring Methodology and QA/QC Procedures

- The Sound Level Meter was set on a tripod at a height of 1.2 m above the ground. •
- The battery condition was checked to ensure the correct functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time • were set as follows:

| _ | frequency weighting | : A |
|---|---------------------|-----|
|---|---------------------|-----|

- time weighting : Fast
- time measurement : 30 minutes
- Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement was more than 1.0 dB, the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.
- The wind speed was frequently checked with the portable wind meter.
- At the end of the monitoring period, the L_{ea} , L_{90} and L_{10} were recorded. In addition, ٠ site conditions and noise sources were recorded on a standard record sheet.
- Noise measurement was paused temporarily during periods of high intrusive noise if possible and observation was recorded when intrusive noise was not avoided.
- Noise monitoring was 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.

Maintenance and Calibration

3.6. The microphone head of the sound level meter and calibrator were cleaned with a soft cloth at quarterly intervals.

- 3.7. The sound level meter and calibrator were checked and calibrated at yearly intervals.
- 3.8. Immediately prior to and following each noise measurement the accuracy of the sound level meter shall be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements may be accepted as valid only if the calibration levels from before and after the noise measurement agree to within 1.0 dB.

Results and Observations

- 3.9. All construction noise monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded. The summary of exceedance record in reporting month is shown in **Appendix H**.
- 3.10. The baseline noise level and the Noise Limit Level at each designated noise monitoring station are presented in **Table 3.5**.
- 3.11. Noise monitoring results and graphical presentations are shown in Appendix G.
- 3.12. The major noise source identified at the designated noise monitoring stations are shown in **Table 3.4**.

| Monitoring Stations | Locations | Major Noise Source |
|----------------------------|--------------------------------|-------------------------------------------------------------------------------------------------------|
| M3 | Cognitio College | Traffic Noise |
| $M_2(\Lambda)$ | The Bridge connecting The | Traffic Noise |
| M3(A) | Latitude | Site vehicle movement |
| M4 | Lee Kau Yan Memorial School | Traffic Noise Site vehicle movement Excavation works Piling works Daily school activities |
| M5(C) | Mercy Grace's Home | Traffic Noise Site vehicle movement |

Table 3.4 Major Noise Source identified at the Designated Noise Monitoring Stations

| Station Baseline Noise Level, dB (A) Noise Limit Level, dB (A) | | | | |
|----------------------------------------------------------------|-------------------------------|----------------------------|--|--|
| Station | Dasenne Noise Level, uD (A) | Noise Lillit Level, dB (A) | | |
| | N/A ⁽¹⁾ | 70 | | |
| M3 | (at 0700 – 1900 hrs on normal | (at 0700 – 1900 hrs on | | |
| | weekdays) | normal weekdays) | | |
| | N/A ⁽¹⁾ | 75 | | |
| M3(A) | (at 0700 – 1900 hrs on normal | (at 0700 – 1900 hrs on | | |
| | weekdays) | normal weekdays) | | |
| | 76.7 ⁽²⁾ | 70 | | |
| M4 | (at 0700 – 1900 hrs on normal | (at 0700 – 1900 hrs on | | |
| | weekdays) | normal weekdays) | | |
| | N/A ⁽¹⁾ | 75 | | |
| M5(C) | (at 0700 – 1900 hrs on normal | (at 0700 – 1900 hrs on | | |
| | weekdays) | normal weekdays) | | |

Table 3.5 Baseline Noise Level and Noise Limit Level for Monitoring Stations

(*) Noise Limit Level is 65 dB(A) during school examination periods.

Note (1): The background Noise Level was recorded during the Lunch Hour of Construction Site

(i.e. 12:00-13:00) and to be used as the referencing value for compliance checking for Noise Action and Limit Level.

Note (2): The noise level due to the construction work (CNL) was calculated by the following formula:

 $\text{CNL} = 10 \log \left(10^{\text{MNL/10}} - 10^{\text{BNL/10}} \right)$

Remarks: MNL = Measured Noise Level, BNL = Baseline Noise Level

4 COMPARISON OF EM&A RESULTS WITH EIA PREDICTIONS

4.1. The EM&A data was compared with the EIA predictions as summarized in **Tables 4.1** to **4.3**.

| | Predicted 1- | nr TSP conc. | Measured 1-hr TSP conc. | |
|--------------------------------------|---------------------------------------------------|--------------------------------|-------------------------------------------------------|--------|
| Station | Scenario1 (Mid 2009 to Mid- | Scenario2 (Mid 2013 to Late | Reporting Month (February 2020), μg/m ³ | |
| | 2013), μg/m ³ 2016), μg/m ³ | Average | Range | |
| AM2 – Lee Kau Yan Memorial School | 290 | 312 | 64 | 32-185 |

Table 4.1 Comparison of 1-hr TSP data with EIA predictions

Table 4.2 Comparison of 24-hr TSP data with EIA predictions

| | Predicted 24-hr TSP conc.24-hrScenario1 (Mid 2009 to Mid-2013)Scenario2 (Mid 2013 to (February) | | Measured 24-hr TSP conc. | |
|--------------------|----------------------------------------------------------------------------------------------------------|----------------------------------|-----------------------------|---------------------------------------|
| Station | | | | ing Month 2020), μg/m ³ |
| | μg/m ³ | Late 2016), µg/m ³ | Average | Range |
| AM2(A) – Ng Wah | | | | |
| Catholic Secondary | 145 | 169 | 47 | 34 - 55 |
| School | | | | |

Table 4.3 Comparison of Noise Monitoring Data with EIA predictions

| Stations Predicted Mitigated Construction Noise Levels during Normal Working Hour (Leq (30min) dB(A)) | | Reporting Month (February 2020), Leq (30min) dB(A) | |
|---------------------------------------------------------------------------------------------------------------------------|-----------------------------|----------------------------------------------------------|--|
| M3 – Cognitio College | 47 – 75 | $60 - 76^{(2)}$ | |
| M3(A) – The Bridge connecting The Latitude | Not predicted in EIA Report | 61 | |
| M4 – Lee Kau Yan Memorial School | 47 – 74 | $69 - 77^{(1)}$ | |
| M5(C) – Mercy Grace's Home | Not predicted in EIA Report | $62 - 78^{(2)}$ | |

Remarks:

(1) Since the baseline noise level was higher than those recorded during the construction period, the recorded noise levels were considered non-valid exceedance of Noise Limit Level.

(2) Since the background noise level was higher than those recorded during the construction period, the recorded noise levels were considered non-valid exceedance of Noise Limit Level.

- 4.2. The average 1-hour TSP concentrations at AM2 in the reporting month were below the prediction in the approved Environmental Impact Assessment (EIA) Report.
- 4.3. The average 24-hour TSP concentrations at AM2(A) in the reporting month were below the prediction in the approved EIA Report.

- 4.4. The noise monitoring results in the reporting month from M3 and M4 were outside the ranges of the predicted mitigated constriction noise levels in the EIA Report.
- 4.5. Construction noise levels at M3(A) and M5(C) were not predicted in EIA Report.

5 LANDSCAPE AND VISUAL

Monitoring Requirements

5.1. According to EM&A Manual of the Kai Tak Development EIA Study, ET shall monitor and audit the contractor's operation during the construction period on a weekly basis, and to report on the contractor's compliance.

Results and Observations

- 5.2. Site audits were conducted on a weekly basis to monitor the timely implementation of landscape and visual mitigation measures within the site boundaries of this Project. The summaries of site audits are attached in **Appendix I**.
- 5.3. No non-compliance of the landscape and visual impact was recorded in the reporting month.
- 5.4. Should non-compliance of the landscape and visual impact occur, action in accordance with the action plan presented in **Appendix J** shall be performed.

6 ENVIRONMENTAL INSPECTION

Site Inspections

- 6.1. Site inspections were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site. The summaries of site inspections are attached in **Appendix I**.
- 6.2. Site inspections were conducted on 4, 12, 17, and 24 February 2020 in the reporting month. A joint site inspection with the representative of IEC, ER, the Contractor and the ET was conducted on 12 February 2020. The details of the observations during site inspection are summarized in **Table 6.2**.

Review of Environmental Monitoring Procedures

6.3. The monitoring works conducted by the monitoring team were inspected regularly. The following observations have been recorded for the monitoring works:

Air Quality Monitoring

- The monitoring team recorded all observations around the monitoring stations within and outside the construction site.
- The monitoring team recorded the temperature and weather conditions on the monitoring days.

Noise Monitoring

- The monitoring team recorded all observations around the monitoring stations, which might affect the monitoring result.
- Major noise sources were identified and recorded. Other intrusive noise attributing to the result was trimmed off by pausing the monitoring temporarily.

Status of Environmental Licensing and Permitting

6.4. All permits/licenses obtained for the Project are summarized in **Table 6.1**.

| Fable 6.1Summary of Environ | mental Licensing a | nd Permit Status | |
|-------------------------------------------|--------------------|------------------|---------|
| | Valid P | a | |
| Permit No. | From | То | Status |
| Environmental Permit (EP) | 1 | | |
| EP-337/2009 | 23/04/09 | N/A | Valid |
| Effluent Discharge License | | | |
| WT00027495-2017 | 28/03/17 | 31/03/22 | Valid |
| Billing Account for Construction Wa | aste Disposal | | |
| A/C# 7026164 | 20/10/16 N/A | | Valid |
| Registration of Chemical Waste Pro | ducer | | |
| WPN5213-229-P3271-01 | 14/08/17 | N/A | Valid |
| Construction Noise Permit (CNP) | | | |
| GW-RE0915-19 | 08/11/19 | 04/05/20 | Valid |
| GW-RE0984-19 | 15/12/19 | 24/02/20 | Expired |
| GW-RE0083-20 | 01/03/20 | 01/06/20 | Valid |

Table 6.1 Summary of Environmental Licensing and Permit Status

Status of Waste Management

6.5. The amount of wastes generated by the major site activities of this Project during the reporting month is shown in **Appendix M**.

Implementation Status of Environmental Mitigation Measures

6.6. During site inspections in the reporting month, no non-conformance was identified. ET weekly site inspections were carried out during the reporting month and the observations and recommendations are summarized in **Table 6.2**.

| I able of | Table 6.2 Observations and Recommendations of Site Inspections | | | | | | |
|-------------------------|------------------------------------------------------------------------|------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| Parameters Ref No. | | Date | Observations and Recommendations | Follow-up/Rectification | | | |
| Water Quality | N/A | N/A | | | | | |
| Air Quality | 200217/ -R1 | 17 th Feb 2020 | - The dusty material is exposed without cove at S15. | Follow up actions will be reported in the next monthly report. | | | |
| Air Quality | 200224/ -R1 | 24 th Feb 2020 | The dusty slopes are not covered by dust screens properly at Portion 6. | Follow up actions will be reported in the next monthly report. | | | |
| Noise | N/A | N/A | | | | | |
| Waste/ Chemical | 200116/ -R2 | 16 th Jan 2020 | - The waste collection tray is not covered at S15. | The condition was observed to be improved/rectified by the contractor during the inspection session on 12 February 2020 | | | |
| Chemical Management | 200120/ -R1 | 20 th Jan 2020 | - Liquid is accumulated in the drip tray of the generator at Road D1. | The condition was observed to be improved/rectified by the contractor during the inspection session on 12 February 2020 | | | |
| Landscape and Visual | N/A | N/A | | | | | |
| Permits/ Licenses | N/A | N/A | | | | | |

| Table 6.2 | Observations and Recommendations of Site Inspections |
|-----------|-------------------------------------------------------------|
|-----------|-------------------------------------------------------------|

Summary of Mitigation Measures Implemented

6.7. An updated summary of the EMIS is provided in **Appendix K**.

Implementation Status of Event Action Plans

6.8. The Event Action Plans for air quality, noise and landscape and visual are presented in **Appendix J**.

1-hr TSP Monitoring

6.9. No Action/Limit Level exceedance was recorded in the reporting month.

24-hr TSP Monitoring

- 6.1 No Action/Limit Level exceedance was recorded in the reporting month. <u>Construction Noise</u>
- 6.10. No Action/Limit Level exceedance was recorded in the reporting month.

MA16043\Monthly\Mrpt2002_v.1.1

Landscape and visual

6.11. No non-compliance was recorded in the reporting month.

Summary of Complaint, Warning, Notification of any Summons and Successful Prosecution

6.12. The summaries of environmental complaint, warning, summon and notification of successful prosecution for the Project is presented in **Appendix L**.

7 FUTURE KEY ISSUES

- 7.1. Major site activities undertaken for the coming two months include:
 - Carry out the structural works with backfilling works for subway at PERE Stage 2
 - Excavation with ELS for subway construction at SKLR playground
 - Construction of piers underneath Bridge K72
 - Carry out sheet piling works and footing works of traffic deck at TTA stage 4-1
 - Drainage works and road works at Road D1 and Road L7
 - Construction of parapet at Retaining Wall S15
 - Demolition and reconstruction of existing structure of K72
 - UU installation and road works at Road L7
 - Refurbishment works for K72
 - Preparation and erection of falsework for modifying K72 (Stage 2)
 - DCS works in Portion 1
 - Watermains laying works in Portion 1
- 7.2. Key environmental issues in the coming month include:
 - Wastewater and runoff discharge from site;
 - Regular removal of silt, mud and sand along u-channels and sedimentation tanks;
 - Review and implementation of temporary drainage system for the surface runoff;
 - Noise from operation of the equipment, especially for rock-breaking activities, piling works and machinery on-site;
 - Dust generation from stockpiles of dusty materials, exposed site area, excavation works and rock breaking activities;
 - Water spraying for dust generating activity and on haul road;
 - Proper storage of construction materials on site;
 - Storage of chemicals/fuel and chemical waste/waste oil on site; and
 - Accumulation of general and construction waste on site.
- 7.3. The tentative major site activities is mentioned in Section 7.1 of this report. The impact prediction and control measures for the coming two months are summarized as follows:

Air quality impact (dust)

- Frequent watering of haul road and unpaved/exposed areas;
- Frequent watering or covering stockpiles with tarpaulin or similar means; and
- Watering of any earth moving activities.

Water quality impact (surface run-off)

- Diversion of the collected effluent to de-silting facilities for treatment prior to discharge to public storm water drains;
- Provision of adequate de-silting facilities for treating surface run-off and other collected effluents prior to discharge;
- Provision of perimeter protection such as sealing of hoarding footings to avoid run-off from entering the existing storm water drainage system via public road; and
- Provision of measures to prevent discharge into the stream.

Noise Impact

- Scheduling of noisy construction activities if necessary to avoid persistent noisy operation;
- Controlling the number of plants use on site;
- Regular maintenance of machines; and
- Use of acoustic barriers if necessary.

Monitoring Schedule for Next Month

7.4. The tentative environmental monitoring schedules for next month are shown in **Appendix D**.

8 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

8.1. Environmental monitoring works were performed in the reporting month and all monitoring results were checked and reviewed.

1-hr TSP Monitoring

8.2. All 1-hr TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

24-hr TSP Monitoring

8.3. All 24-hr TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

Construction Noise Monitoring

8.4. All construction noise monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

Landscape and visual

8.5. No non-compliance was recorded in the reporting month.

Complaint and Prosecution

8.6. No environmental complaint and environmental prosecution was received in the reporting month.

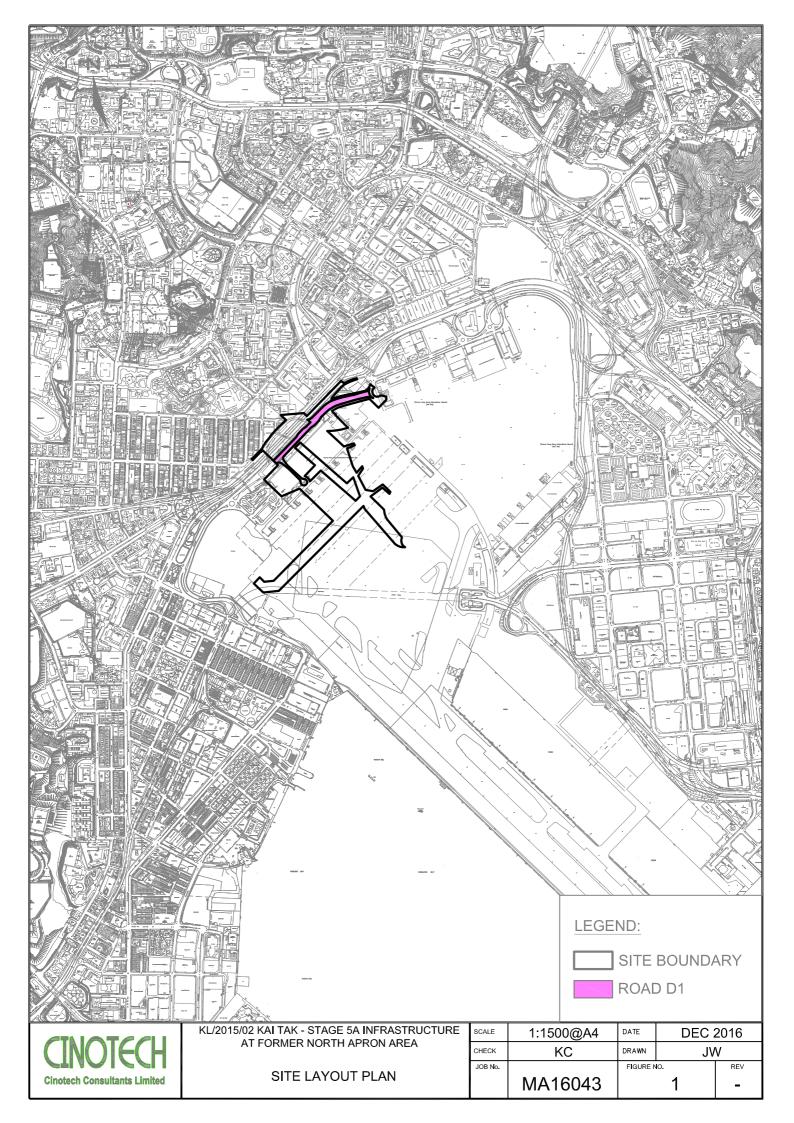
Recommendations

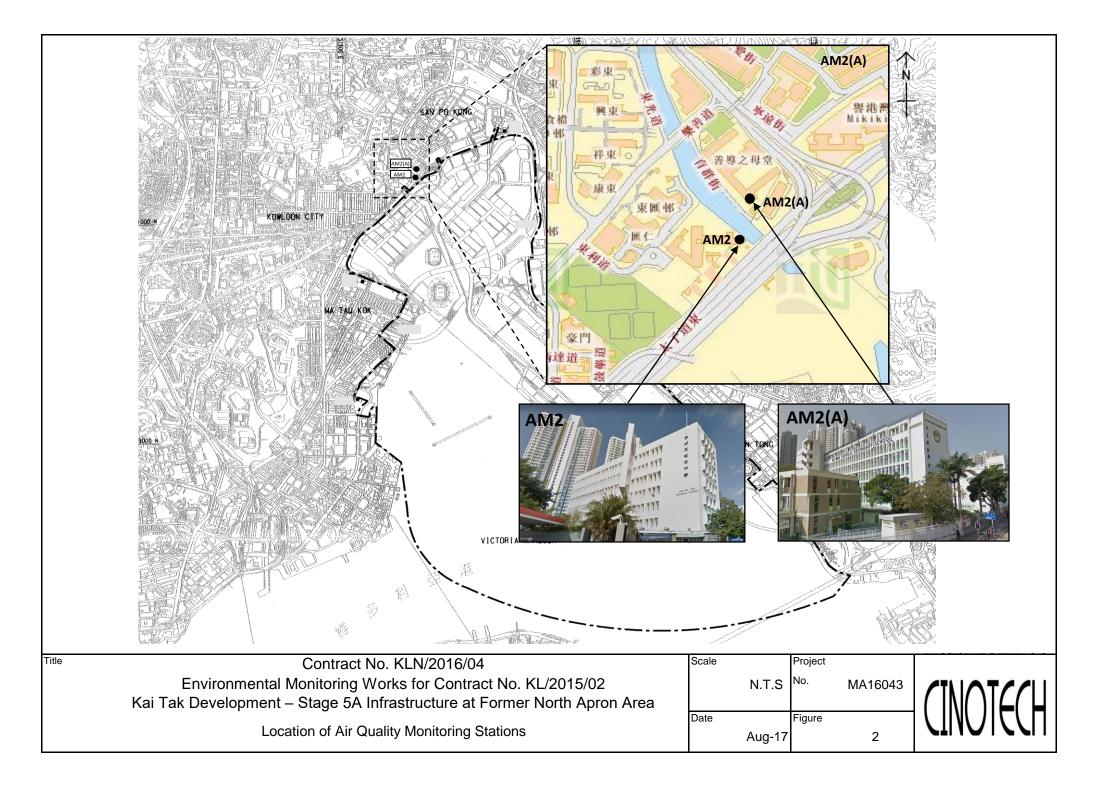
8.7. According to the environmental audit performed in the reporting month, the following recommendations were made:

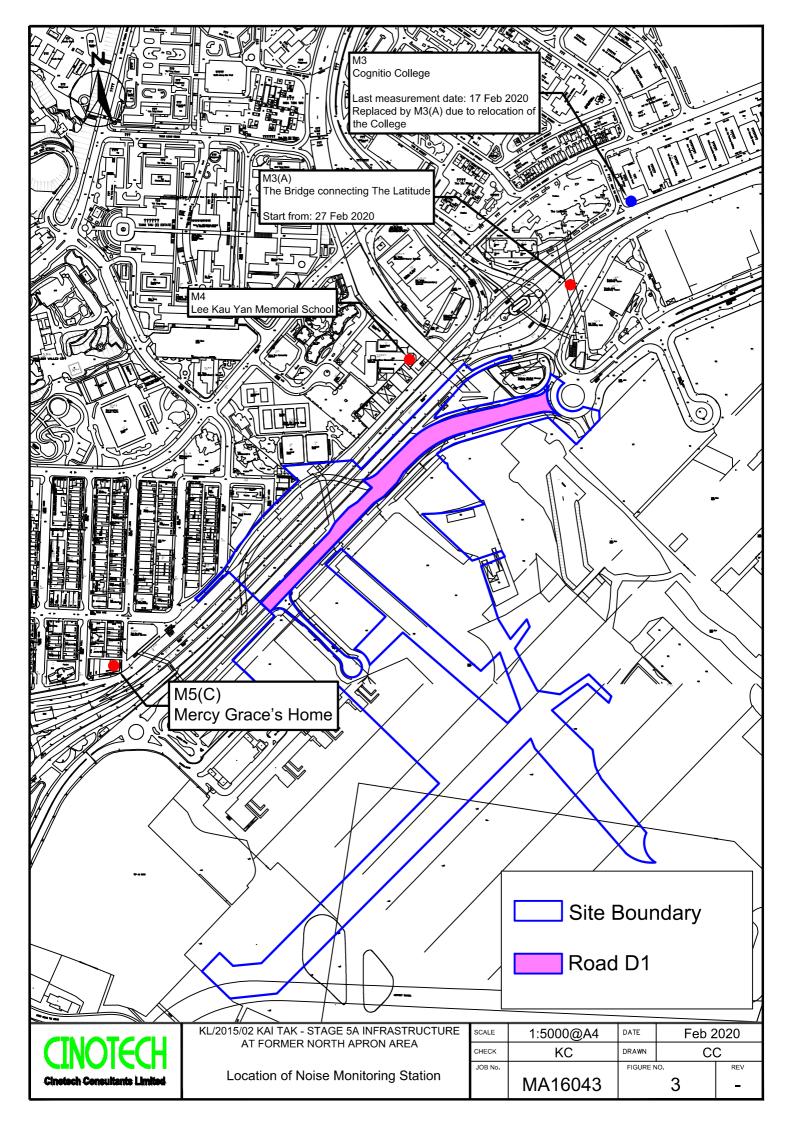
Air Quality

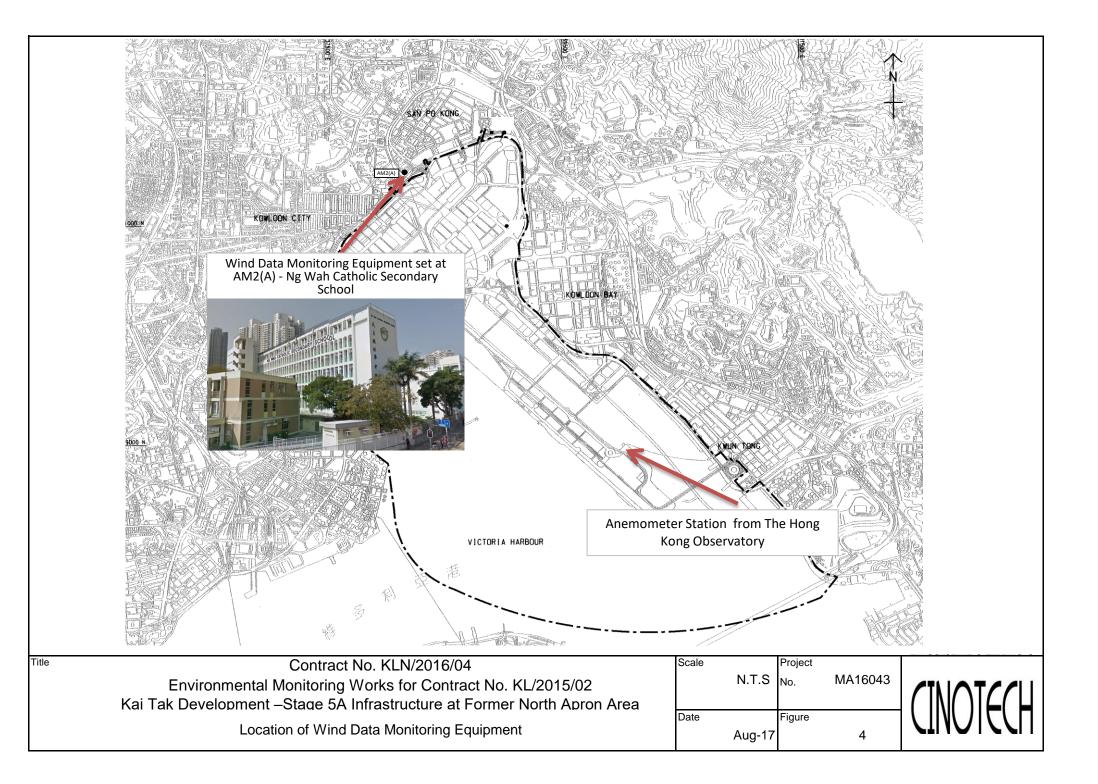
• The Contractor should review the dusty material condition and cover it if no excavation work.

FIGURES









APPENDIX A ACTION AND LIMIT LEVELS FOR AIR QUALITY AND NOISE

Appendix A - Action and Limit Levels

| Location | Action Level, μg/m ³ | Limit Level, μg/m ³ |
|----------|---------------------------------|--------------------------------|
| AM2 | 346 | 500 |

Table A-1Action and Limit Levels for 1-Hour TSP

Table A-2Action and Limit Levels for 24-Hour TSP

| Location | Action Level, μg/m ³ | Limit Level, µg/m ³ |
|----------|---------------------------------|--------------------------------|
| AM2(A) | 157 | 260 |

Table A-3 Action and Limit Levels for Construction Noise

| Time Period | Action Level | Limit Level | |
|----------------------------------|-------------------------------------------------|------------------------------|--|
| 0700-1900 hrs on normal weekdays | When one documented complaint is received | 75 dB(A) 70dB(A)/65dB(A)* | |

Remarks: If works are to be carried out during restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority have to be followed. *70dB(A) and 65dB(A) for schools during normal teaching periods and school examination periods, respectively.

APPENDIX B-1 COPIES OF CALIBRATION CERTIFCATES (AIR)

<u>Cerificate of Calibration</u>

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler

| Description: | Digital Dust Indicator Dat | | | of Calibration | 6-Feb-20 |
|------------------|-------------------------------------------|------------------|--------------------------------------|---------------------|-----------|
| Manufacturer: | Sibata Scientific Technology LTD. | _ | Validity of Calibration Record 6-Apr | | 6-Apr-20 |
| Model No.: | LD-5R | | | | |
| Serial No.: | 972777 | | | | |
| Equipment No.: | SA-01-06 | Sensitivity | 0.001 mg/m3 | | |
| High Volume Sa | ampler No.: <u>A-01-03</u> | Before Sensiti | vity Adjustment | 645 | |
| Tisch Calibratio | n Orifice No.: <u>3607</u> | After Sensitivi | ty Adjustment | 645 | |
| | Ca | libration of 1 h | r TSP | | |
| Calibration | Laser Dust Monitor | r | | HVS | |
| Point | Mass Concentration (µg/ | /m3) | Mas | ss concentration (µ | g/m^3) |
| | X-axis | | | Y-axis | |
| 1 | 50.0 | | 112.5 | | |
| 2 | 45.0 | | | 108.0 | |
| 3 | 40.0 | | | 102.5 | |
| Average | 45.0 | | | 107.7 | |
| | | | | | |
| | ession of Y on X | | | | |
| | | | cept, bw = | 62.6667 | |
| Correlation co | Defficient* = 0.9983 | | | | |
| | Sa | t Correlation F | actor | | |
| Particaulate Cor | centration by High Volume Sampler | - | | 107.7 | |
| | icentration by Dust Meter ($\mu g/m^3$) | (1.8,) | | 45.0 | |
| Measureing time | | | | 60.0 | |
| Set Correlation | | | L | | |
| | h Volume Sampler / Dust Meter, (μ | g/m3)] | 2.4 | | |
| | | | | | |

In-house method in according to the instruction manual:

The Dust Monitor was compared with a calibrated High Volume Sampler and The result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

Those filter papers are weighted by HOKLAS laboratory (Wellab Litimed)

<u>Cerificate of Calibration</u>

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler

| Description: | Digital Dust Indicator | | Date | of Calibration | 6-Feb-20 |
|------------------|-------------------------------------------|------------------|--------------------|---------------------|--------------------|
| Manufacturer: | Sibata Scientific Technology LTD. | _ | Validity of Calibi | ration Record | 6-Apr-20 |
| Model No.: | LD-5R | | | | |
| Serial No.: | 972778 | | | | |
| Equipment No.: | SA-01-07 | Sensitivity | 0.001 mg/m3 | _ | |
| High Volume Sa | ampler No.: A-01-01A | Before Sensiti | vity Adjustment | 735 CPM | |
| Tisch Calibratio | n Orifice No.: <u>3607</u> | After Sensitivi | ity Adjustment | 735 CPM | |
| | Ca | libration of 1 h | r TSP | | |
| Calibration | Laser Dust Monitor | ſ | | HVS | |
| Point | Mass Concentration (µg/s | m3) | Mas | ss concentration (µ | g/m ³) |
| | | | | Y-axis | |
| | 48.0 | | | 112.5 | |
| 2 | 38.0 | | | 108.0 | |
| 3 | 27.0 | | | 102.5 | |
| Average | 37.7 | | | 107.7 | |
| | • • • • • | | | | |
| | ression of Y on X | | | | |
| Slope, mw = | | | cept, bw = | 89.7153 | |
| Correlation co | oefficient* = 0.9995 | | | | |
| | Se | t Correlation F | actor | | |
| Particaulate Con | ncentration by High Volume Sampler (| - | | 107.7 | |
| | ncentration by Dust Meter ($\mu g/m^3$) | | | 37.7 | |
| Measureing time | Measureing time, (min) | | 60.0 | | |
| Set Correlation | | | | | |
| | h Volume Sampler / Dust Meter, (µş | g/m3)] | 2.9 | | |
| | | | | | |

In-house method in according to the instruction manual:

The Dust Monitor was compared with a calibrated High Volume Sampler and The result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

Those filter papers are weighted by HOKLAS laboratory (Wellab Litimed)

Calibrated by: _______. .Wong Shing Kwai

<u>Cerificate of Calibration</u>

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler

| Description: | Digital Dust Indicator | | Date | of Calibration | 7-Dec-19 |
|-------------------|------------------------------------------|------------------|----------------------------------|----------------|----------|
| Manufacturer: | Sibata Scientific Technology LTD. | _ | Validity of Calibi | ration Record | 6-Feb-20 |
| Model No.: | LD-5R | | | | |
| Serial No.: | 972781 | | | | |
| Equipment No.: | SA-01-10 | Sensitivity | 0.001 mg/m3 | _ | |
| High Volume Sa | mpler No.: <u>A-01-01A</u> | Before Sensiti | vity Adjustment | 734 CPM | |
| Tisch Calibration | n Orifice No.: <u>3607</u> | After Sensitivi | ty Adjustment | 734 CPM | |
| | Ca | libration of 1 h | r TSP | | |
| Calibration | Laser Dust Monitor | • | | HVS | |
| Point | Mass Concentration (μ g/m3) | | Mass concentration $(\mu g/m^3)$ | | |
| | X-axis | | | Y-axis | |
| 1 | 84.0 | | 160.5 | | |
| 2 | 57.0 | | | 153.8 | |
| 3 | 31.0 | | | 146.4 | |
| Average | 57.3 | | | 153.6 | |
| Dy Lincon Dogs | ession of Y on X | | | | |
| Slope, mw = | | Intor | cept, bw = | 138.3204 | |
| Correlation co | | | cept, bw – | 156.5204 | · |
| | Jenncient [*] – 0.9992 | | | | |
| | Se | t Correlation F | actor | | |
| Particaulate Con | centration by High Volume Sampler (| $(\mu g/m^3)$ | | 153.6 | |
| Particaulate Con | centration by Dust Meter ($\mu g/m^3$) | | | 57.3 | |
| Measureing time | e, (min) | | | 60.0 | |
| Set Correlation I | Factor, SCF | | | | |
| SCF = [K=Hig | h Volume Sampler / Dust Meter, (µ | g/m3)] | 2.7 | | |
| | | | | | |

In-house method in according to the instruction manual:

The Dust Monitor was compared with a calibrated High Volume Sampler and The result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

Those filter papers are weighted by HOKLAS laboratory (Wellab Litimed)

<u>Cerificate of Calibration</u>

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler

| Description: | Digital Dust Indicator | | Date | of Calibration | 6-Feb-20 | |
|-------------------|-----------------------------------------------|------------------|--------------------|---------------------|-----------|--|
| Manufacturer: | Sibata Scientific Technology LTD. | _ | Validity of Calibi | 6-Apr-20 | | |
| Model No.: | LD-5R | | | | | |
| Serial No.: | 972781 | | | | | |
| Equipment No.: | SA-01-10 | Sensitivity | 0.001 mg/m3 | | | |
| High Volume Sa | mpler No.: A-01-01A | Before Sensiti | vity Adjustment | 734 CPM | | |
| Tisch Calibratio | n Orifice No.: <u>3607</u> | After Sensitivi | ty Adjustment | 734 CPM | | |
| | Ca | libration of 1 h | r TSP | | | |
| Calibration | Laser Dust Monitor | • | | HVS | | |
| Point | oint Mass Concentration (µg/m3) | | Mas | ss concentration (µ | g/m^3) | |
| | X-axis | | Y-axis | | | |
| 1 | 50.0 | | 112.5 | | | |
| 2 | 43.0 | | | 108.0 | | |
| 3 | 32.0 | | | 102.5 | | |
| Average | 41.7 | | | 107.7 | | |
| | | | | | | |
| | ression of Y on X | | | | | |
| Slope, mw = | 0.5506 | Interc | cept, bw = | 84.7247 | | |
| Correlation co | oefficient* = 0.9976 | | | | | |
| | | | | | | |
| | | t Correlation F | actor | | | |
| | centration by High Volume Sampler (| (µg/m³) | | 107.7 | | |
| Particaulate Con | centration by Dust Meter (µg/m ³) | | | 41.7 | | |
| Measureing time | e, (min) | | | 60.0 | | |
| Set Correlation 1 | Factor, SCF | | | | | |
| SCF = [K=Hig | h Volume Sampler / Dust Meter, (μ | g/m3)] | 2.6 | | | |
| | | | | | | |

In-house method in according to the instruction manual:

The Dust Monitor was compared with a calibrated High Volume Sampler and The result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

Those filter papers are weighted by HOKLAS laboratory (Wellab Litimed)

Approved by: <u>leng</u> X27 Henry Leung

High-Volume TSP Sampler 5-POINT CALIBRATION DATA SHEET



File No. MA16043/13/0015

| | | | | | | File No. | MA16043/13/0015 |
|-------------------|-------------------------------|------------------|-----------------------------------|------------------------|----------------------------------|------------------------------------|---------------------------------------------------|
| Project No. | AM2(A) - Ng | Wah Catholic Sec | condary School | | | | |
| Date: | 6-J | an-20 | Next Due Date: | 5-N | 5-Mar-20 | | SK |
| Equipment No.: | A-(|)1-13 | Model No.: | TE-5170 | | Serial No. | 1352 |
| | | | - | | | | |
| | | | Ambient C | ondition | | | |
| Temperatu | re, Ta (K) | 294 | Pressure, Pa | (mmHg) | | 764.3 | |
| | | 0. | ifice Transfer Sta | ndaud Infaum | ation | | |
| Serial | No. | 3607 | Slope, mc | 0.0588 | Intercept | t, bc | -0.02422 |
| Last Calibra | | 8-Jan-19 | | | $c = [\Delta H \times (Pa/760)]$ | / | |
| Next Calibra | ation Date: | 8-Jan-20 |] (| Qstd = {[∆H x | (Pa/760) x (298/ | [[a]] ^{1/2} -bc} / | mc |
| | | | | | | | |
| | | | Calibration of 7 | FSP Sampler | | | |
| Calibration | | 0 | fice | 1 | | HVS | 1/2 |
| Point | DH (orifice), in. of water | [DH x (Pa/76 | 60) x (298/Ta)] ^{1/2} | Qstd (CFM) X - axis | DW (HVS), in. of water | [ΔW x (Pa | /760) x (298/Ta)] ^{1/2} Y-axis |
| 1 | 12.3 | | 3.54 | | 8.4 | | 2.93 |
| 2 | 9.4 | | 3.10 | 53.06 | 6.3 | | 2.53 |
| 3 | 7.3 | _ | 2.73 | 46.80 | 4.9 | | 2.23 |
| 4 | 4.9 | | 2.23 | 38.42 | 2.8 | | 1.69 |
| 5 | 3.2 | | 1.81 | 31.13 | 1.8 | | 1.35 |
| By Linear Regr | | X | | | | | |
| Slope, mw = | | - | | Intercept, bw | -0.347 | /3 | |
| | coefficient* = | | .9986 | | | | |
| *If Correlation C | Joefficient < 0.9 | 90, check and re | canorate. | | | | |
| | | | Set Point Ca | alculation | | | |
| From the TSP Fi | eld Calibration | Curve, take Qstd | = 43 CFM | | | | |
| From the Regres | sion Equation, t | he "Y" value acc | ording to | | | | |
| | | mw x Q | Q std + bw = [ΔW x | (Pa/760) x (29 | 98/Ta)] ^{1/2} | | |
| | · D · · · W · (| 0.1.1.1 | 2 (7(0) (D)) (5 | E (200) | | | |
| Therefore, Se | et Point; w = (n | nw x Qstd + bw) | ² x (760 / Pa) x (7 | 1a / 298 = | 3.86 | | |
| | | | | | | | |
| Remarks: | | | | | | | |
| Remarks. | | | | | | | |
| | | | | | | | |
| Conducted by: | SK Wong | Signature: | 例 | | | Date: | 06 January 2020 |
| - | | | · · | Xz | • | | |
| Checked by: | Henry Leung | Signature: | | Xoz_ | | Date: | 06 January 2020 |
| | | | . / | I | | | |



RECALIBRATION DUE DATE:

January 17, 2021

nmental Certificate of Calibration

| | | | Calibration | Certificati | on Informat | tion | | |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|------------------------------------------------|------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-------------|-----------------------------------------|------------|
| Cal. Date: | January 17 | , 2020 | Roots | meter S/N: | 438320 | Ta: 295 | | °K |
| Operator: | Jim Tisch | | | | | Pa: 744.2 | | mm Hg |
| Calibration | Model #: | TE-5025A | Cali | brator S/N: | 3746 | | | |
| | | Vol. Init | Vol. Final | ΔVol. | ΔTime | ΔΡ | ΔН |] |
| | Run | (m3) | (m3) | (m3) | (min) | (mm Hg) | (in H2O) | |
| | 1 | 1 | 2 | 1 | 1.4340 | 3.2 | 2.00 | |
| | 2 | 3 | 4 | 1 | 1.0180 | 6.4 | 4.00 | |
| | 3 | 5 | 6 | 1 | 0.9080 | 7.9 | 5.00 | |
| | 4 | 7 | 8 | 1 | 0.8700 | 8.7 | 5.50 | |
| | 5 | 9 | 10 | 1 | 0.7150 | 12.6 | 8.00 | |
| | Data Tabulation | | | | | | | |
| | Vstd | Qstd | $\sqrt{\Delta H \left(\frac{Pa}{Pstd}\right)}$ |)(<u>Tstd</u>) | | Qa | $\sqrt{\Delta H (Ta/Pa)}$ | |
| | (m3) | (x-axis) | (y-ax | is) | Va | (x-axis) | (y-axis) | |
| | 0.9849 | 0.6868 | 1.40 | 66 | 0.9957 | 0.6944 | 0.8904 | |
| | 0.9807 | 0.9633 | 1.98 | | 0.9914 | 0.9739 | 1.2592 | |
| | 0.9787 | 1.0779 | 2.224 | | 0.9894 | 1.0896 | 1.4078 | |
| | 0.9776 | 1.1237 | 2.332 | | 0.9883 | 1.1360 | 1.4765 | |
| | 0.9724 | 1.3601 | 2.813 | | 0.9831 | 1.3749 | 1.7808 | |
| | OCTD | m= b= | 2.092 | | | | 1.31010 | |
| | QSTD | r= | -0.027 | | QA | b= r= | -0.01759 0.99994 | |
| | | | | Calculations | | | | |
| | Vstd= | ΔVol((Pa-ΔP) | /Pstd)(Tstd/Ta | | | ΔVol((Pa-Δl | P)/Pa) | |
| | Lawrence and the second s | Vstd/∆Time | , , , , , , , , , , , , , , , , , , , , | , | the second se | Va/ATime | // / | |
| | | | For subsequ | ent flow ra | te calculation | าร: | | |
| | Qstd= | $1/m\left(\sqrt{\Delta H\left(-\frac{1}{2}\right)}\right)$ | Pa Pstd / Tstd Ta | $\overline{)}$ -b) Qa= 1/m($\left(\sqrt{\Delta H(Ta/Pa)}\right)$ -b) | | | І(Та/Ра))-b) | |
| | | Conditions | | | | | | |
| Tstd: | | °K | | [| | RECA | IBRATION | |
| Pstd: | | mm Hg Key | | | US EPA reco | ommends ar | nual recalibratio | n per 1998 |
| AH: calibrat | | er reading (in | n H2O) | | | | Regulations Part 5 | |
| | | eter reading (| | | | | Reference Meth | |
| | | perature (°K) | | | | | ended Particulate | |
| | arometric pr | essure (mm | Hg) | | | | re, 9.2.17, page 3 | |
| o: intercept | | | | l | | | , , , , , , , , , , , , , , , , , , , , | |
| m: slope | | | | | | | | |

Tisch Environmental, Inc. 145 South Miami Avenue Village of Cleves, OH 45002

<u>www.tisch-env.com</u> TOLL FREE: (877)263-7610 FAX: (513)467-9009



Cerificate of Calibration - Wind Monitoring Station

| Description: | Ng Wah Catholic Seconday School - Weather Stations |
|---------------------|----------------------------------------------------|
| Manufacturer: | Davis Instruments |
| Model No.: | Davis 6152, Vantage Pro2 |
| Serial No.: | <u>BC180522050</u> |
| Equipment No.: | <u>SA-03-03</u> |
| Date of Calibration | <u>11-Oct-19</u> |
| Next Due Date | <u>10-Apr-20</u> |

1. Performance check of Wind Speed

| Wind Speed, m/s | | Difference D (m/s) |
|-------------------------|-----------------------|--------------------|
| Wind Speed Reading (V1) | Anemometer Value (V1) | D = V1 - V2 |
| 0.5 | 0.5 | 0.0 |
| 1.5 | 1.5 | 0.0 |
| 2.3 | 2.1 | 0.2 |
| 2.4 | 2.2 | 0.2 |

2. Performance check of Wind Direction

| Wind Direction (°) | | Difference D (°) |
|--------------------------------|---------------------------|------------------------------------------|
| Wind Direction Reading (V1) | Marine Compass Value (V1) | $\mathbf{D} = \mathbf{W1} - \mathbf{W2}$ |
| 0 | 0 | 0.0 |
| 90 | 90 | 0.0 |
| 180 | 180 | 0.0 |
| 270 | 270 | 0.0 |

Test Specification:

- 1. Performance Wind Speed Test The wind meter was on-site calibrated against the anemometer
- 2. Performance Wind Direction Test The wind meter was on-site calibrated against the marine compass at four direction

Calibrated by: <u>Kong Shing Kwai</u> Approved by: <u>Henry Leung</u>

APPENDIX B-2 COPIES OF CALIBRATION CERTIFCATES (NOISE)



0023157

| Customer : Cinotech Consultants Limited RM 1710, Technology Park, 18 On Lai Street, Shatin, N.T. Hong Kong | | Object 1 : Serial No. /Ref. No. : Object 2 : Serial No. /Ref. No. : | Microphone |
|------------------------------------------------------------------------------------------------------------------------|--------------------------|------------------------------------------------------------------------------|------------------|
| Customer Code : SVEC09005 | | Manufacturer : BSW | VAtech |
| Date of calibration: Date of the recommended re-calibration: | 08/01/2020 08/01/2021 | Certificate No.: Handle by: | 0023157 E0002 |

Measuring results

| | Reference value | Indication value | Deviation | Allowed deviation | Object |
|---|-----------------|------------------|-----------|-------------------|--------|
| Γ | 94.0dB | 94.2dB | +0.2dB | +/- 1.5dB | 1 |
| Γ | 114.0dB | 113.9dB | -0.1dB | +/- 1.5dB | 1 |

Measuring equipment

| index | Calibrator / Master | Traceability |
|-------|-------------------------------------|--------------|
| 1 | Master Sound Meter, SVAN949,sn:8571 | IEC61672 |
| 2 | Sound Calibrator, SV30A sn:32580 | IEC60942 |

Ambient conditions

Temperature (20...26)°C

Humidity (20...60)%RH

Measuring procedure

Calibrated by Type 1 Sound Calibrator with Master Sound Level Meter under 1kHz Frequency.

Uncertainty

+/- 0.2 dB for probability not less than 95%.

Conformity

1. The resulted values were those obtained at the time of test and applies only to the item calibrated.

2. The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains

the uncertainty of the measuring procedure and the uncertainty of the measuring system.

3. The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.

4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.

5. The calibrations certificate may not be reproduced.

| Measured value(s) within the allowable deviation. | |
|---------------------------------------------------|-----------------|
| Performed by | Approved by |
| Calibration Technician | Quality Manager |

Appleone Calibration Laboratory Ltd. Rm1309, 13/F, No.77 Wing Hong St, Kln, HKSAR Tel: +852 2370 4437 Fax: +852 2114 0393



0023000

| Customer : Cinotech Consultants Limited RM 1710, Technology Park, 18 On Lai Street, Shatin, N.T. Hong Kong | | Object 1 :SVAN957 SLSerial No. /Ref. No. :23852 / N-08-Object 2 :MicrophoneSerial No. /Ref. No. :35989 | |
|------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------------------------------------------------------------------------------------|--|
| Customer Code : SVEC09005 | | Manufacturer : Svantek | |
| Date of calibration: Date of the recommended re-calibration: | 19/12/2019 19/12/2020 | Certificate No.: 0023000 Handle by: E0002 | |

Measuring results

| Reference value | Indication value | Deviation | Allowed deviation | Object |
|-----------------|------------------|-----------|-------------------|--------|
| 94.0dB | 93.4dB | -0.6dB | +/- 1.5dB | 1 |
| 114.0dB | 113.4dB | -0.6dB | +/- 1.5dB | 1 |

Measuring equipment

| index | Calibrator / Master | Traceability |
|-------|-------------------------------------|--------------|
| 1 | Master Sound Meter, SVAN949,sn:8571 | IEC61672 |
| 2 | Sound Calibrator, SV30A sn:32580 | IEC60942 |

Ambient conditions

Temperature (20...26)°C

Humidity (20...60)%RH

Measuring procedure

Calibrated by Type 1 Sound Calibrator with Master Sound Level Meter under 1kHz Frequency.

Uncertainty

+/- 0.2 dB for probability not less than 95%.

Conformity

1. The resulted values were those obtained at the time of test and applies only to the item calibrated.

2. The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains

the uncertainty of the measuring procedure and the uncertainty of the measuring system.

3. The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.

dited this laboratory (HOKLAS 267) fo ALUKACE oifio otivitic a listed in the LIOKLAC d م الله م مألا م

| 5. The calibrations certificate may not be reproduced. | for specific calibration activities as listed in the HOKLAS directory of accredited laboratories. |
|--------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Measured value(s) within the allow | vable deviation. |
| Performed by | Approved by |
| An | (|
| Calibration Technician | Quality Manager |



0022524

| Customer : Cinotech Consultants Limited RM 1710, Technology Park, 18 On Lai Street, Shatin, N.T. Hong Kong | | Object 1 : BSWA 308 SLM Serial No. /Ref. No. : 570183 / 550233 Object 2 : Serial No. /Ref. No. : |
|------------------------------------------------------------------------------------------------------------------------|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Customer Code : SVEC09005 | | Manufacturer : BSWAtech |
| Date of calibration: Date of the recommended re-calibration: | 23/09/2019 23/09/2020 | Certificate No.:0022524Handle by:E0002 |

Measuring results

| | Reference value | Indication value | Deviation | Allowed deviation | Object |
|---|-----------------|------------------|-----------|-------------------|--------|
| Γ | 94.0dB | 94.0dB | 0.0dB | +/- 1.5dB | 1 |
| F | 114.0dB | 114.0dB | 0.0dB | +/- 1.5dB | 1 |

Measuring equipment

| index | Calibrator / Master | Traceability | |
|-------|--------------------------------------|--------------|--|
| 1 | Master Sound Meter, SVAN949, sn:8571 | IEC61672 | |
| 2 | Sound Calibrator, SV30A sn:32580 | IEC60942 | |

Ambient conditions

Temperature (20...26)°C

Humidity (20...60)%RH

Measuring procedure

Calibrated by Type 1 Sound Calibrator with Master Sound Level Meter under 1kHz Frequency.

Uncertainty

+/- 0.2 dB for probability not less than 95%.

Conformity

1. The resulted values were those obtained at the time of test and applies only to the item calibrated.

2. The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains

the uncertainty of the measuring procedure and the uncertainty of the measuring system.

3. The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.

4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.

5. The calibrations certificate may not be reproduced.

| Measured value(s) within the allowable deviation. | |
|---------------------------------------------------|-----------------|
| Performed by | Approved by |
| Calibration Technician | Quality Manager |

Equipment no.: N-12-02



Calibration Certificate

0022522

| Customer | | Object 1 : BSWA 308 SLM |
|-------------------------------------------------------------|------------|----------------------------------------|
| Cinotech Consultants Limited | | Serial No. /Ref. No. : 570187 / 550841 |
| RM 1710, Technology Park, 18 On Lai Street, Shatin, N.T. | | Object 2 : |
| | | Serial No. /Ref. No. |
| Hong Kong | | |
| | | |
| Customer Code : SVEC09005 | | Manufacturer : BSWAtech |
| Date of calibration: | 23/09/2019 | Certificate No.: 0022522 |
| Date of the recommended re-calibration: | 23/09/2020 | Handle by: E0002 |

Measuring results

| | Reference value | Indication value | Deviation | Allowed deviation | Object |
|---|-----------------|------------------|-----------|-------------------|--------|
| Γ | 94.0dB | 94.0dB | 0.0dB | +/- 1.5dB | 1 |
| | 114.0dB | 113.9dB | -0.1dB | +/- 1.5dB | 1 |

Measuring equipment

| index | Calibrator / Master | Traceability |
|-------|--------------------------------------|--------------|
| 1 | Master Sound Meter, SVAN949, sn:8571 | IEC61672 |
| 2 | Sound Calibrator, SV30A sn:32580 | IEC60942 |

Ambient conditions

Temperature (20...26)°C

Humidity (20...60)%RH

Measuring procedure

Calibrated by Type 1 Sound Calibrator with Master Sound Level Meter under 1kHz Frequency.

Uncertainty

+/- 0.2 dB for probability not less than 95%.

Conformity

1. The resulted values were those obtained at the time of test and applies only to the item calibrated.

2. The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains

the uncertainty of the measuring procedure and the uncertainty of the measuring system.

3. The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.

4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.

E The collingations contificate as

| 5. The calibrations certificate may not be reproduced. | | | |
|--------------------------------------------------------|-----------------|--|--|
| Measured value(s) within the allowable deviation. | | | |
| Performed by | Approved by | | |
| Calibration Technician | Quality Manager | | |



0022523

| Customer : | | Object 1 : BSWA 308 SLM | |
|-----------------------------------------|------------|----------------------------------------|--|
| Cinotech Consultants Limited | | Serial No. /Ref. No. : 570188 / 550850 | |
| RM 1710, Technology Park, | | Object 2 : | |
| 18 On Lai Street, Shatin, N.T. | | Serial No. /Ref. No. | |
| Hong Kong | | | |
| | | | |
| Customer Code : SVEC09005 | | Manufacturer : BSWAtech | |
| Date of calibration: | 23/09/2019 | Certificate No.: 0022523 | |
| Date of the recommended re-calibration: | 23/09/2020 | Handle by: E0002 | |

Measuring results

| | Reference value | Indication value | Deviation | Allowed deviation | Object |
|---|-----------------|------------------|-----------|-------------------|--------|
| Γ | 94.0dB | 94.0dB | 0.0dB | +/- 1.5dB | 1 |
| Г | 114.0dB | 114 0dB | 0.0dB | +/- 1 5dB | 1 |

Measuring equipment

| index | Calibrator / Master | Traceability | |
|-------|--------------------------------------|--------------|--|
| 1 | Master Sound Meter, SVAN949, sn:8571 | IEC61672 | |
| 2 | Sound Calibrator, SV30A sn:32580 | IEC60942 | |

Ambient conditions

Temperature (20...26)°C

Humidity (20...60)%RH

Measuring procedure

Calibrated by Type 1 Sound Calibrator with Master Sound Level Meter under 1kHz Frequency.

Uncertainty

+/- 0.2 dB for probability not less than 95%.

Conformity

1. The resulted values were those obtained at the time of test and applies only to the item calibrated.

2. The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains

the uncertainty of the measuring procedure and the uncertainty of the measuring system.

3. The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.

4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.

5. The calibrations certificate may not be reproduced.

| Measured value(s) within the allowable deviation. | |
|---------------------------------------------------|-----------------|
| Performed by | Approved by |
| Calibration Technician | Quality Manager |



0023002

| Customer : Cinotech Consultants Limited RM 1710, Technology Park, 18 On Lai Street, Shatin, N.T. Hong Kong | Object 1 :SV30A sound calibratorSerial No. /Ref. No. :10965 / N-09-02Object 2 :Serial No. /Ref. No. : |
|------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Customer Code : SVEC09005 | Manufacturer : Svantek |
| Date of calibration:19/12/2019Date of the recommended re-calibration:19/12/2020 | Certificate No.: 0023002 Handle by: E0002 |

Measuring results

| | Reference value | Indication value | Deviation | Allowed deviation | Object |
|---|-----------------|------------------|-----------|-------------------|--------|
| Γ | 94.0dB | 93.9dB | -0.1dB | +/- 0.3dB | 1 |
| Γ | 114.0dB | 114.2dB | +0.2dB | +/- 0.3dB | 1 |

Measuring equipment

| index | Calibrator / Master | Traceability |
|-------|-------------------------------------|--------------|
| 1 | Master Sound Meter, SVAN949,sn:8571 | |
| 2 | Sound Calibrator, SV30A sn:32580 | IEC60942 |

Ambient conditions

Temperature (20...26)°C

Humidity (20...60)%RH

Measuring procedure

Calibrated by Type 1 Sound Level Meter and 1kHz Sound Source .

Uncertainty

+/- 0.2 dB for probability not less than 95%.

Conformity

1. The resulted values were those obtained at the time of test and applies only to the item calibrated.

2. The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains

the uncertainty of the measuring procedure and the uncertainty of the measuring system.

3. The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.

4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.

5. The calibrations certificate may not be reproduced.

| Measured value(s) within the allowable deviation. | |
|---------------------------------------------------|-----------------|
| Performed by | Approved by |
| Calibration Technician | Quality Manager |



0022673

| Customer : Cinotech Consultants Limited RM 1710, Technology Park, 18 On Lai Street, Shatin, N.T. Hong Kong | | Object 1 : Serial No. /Ref. No. : Object 2 : Serial No. /Ref. No. : | ST-120 sound calibrator 181001608 |
|------------------------------------------------------------------------------------------------------------------------|--------------------------|------------------------------------------------------------------------------|--------------------------------------|
| Customer Code : SVEC09005 | | Manufacturer : Sou | ndtek |
| Date of calibration: Date of the recommended re-calibration: | 24/10/2019 24/10/2020 | Certificate No.: Handle by: | 0022673 E0002 |

Measuring results

| | Reference value | Indication value | Deviation | Allowed deviation | Object |
|---|-----------------|------------------|--------------|-------------------|--------|
| Γ | 94.0dB | 94.0dB | 0.0dB | +/- 0.3dB | 1 |
| Г | 114.0dB | 114.1dB | ± 0.1 dB | +/- 0.5dB | 1 |

Measuring equipment

| index | Calibrator / Master | Traceability |
|-------|--------------------------------------|--------------|
| 1 | Master Sound Meter, SVAN949, sn:8571 | IEC61672 |
| 2 | Sound Calibrator, SV30A sn:32580 | IEC60942 |

Ambient conditions

Temperature (20...26)°C

Humidity (20...60)%RH

Measuring procedure

Calibrated by Type 1 Sound Level Meter and 1kHz Sound Source .

Uncertainty

+/- 0.2 dB for probability not less than 95%.

Conformity

1. The resulted values were those obtained at the time of test and applies only to the item calibrated.

2. The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains

the uncertainty of the measuring procedure and the uncertainty of the measuring system.

3. The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.

4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.

5. The calibrations certificate may not be reproduced.

| Measured value(s) | within | the allowable deviation. |
|-------------------|--------|--------------------------|
|-------------------|--------|--------------------------|

Performed by

Calibration Technician

Approved by

Quality Manager



0022676

| Customer : Cinotech Consultants Limited RM 1710, Technology Park, 18 On Lai Street, Shatin, N.T. Hong Kong | | Object 1 : ST-120 sound calibrator Serial No. /Ref. No. : 181001636 Object 2 : Serial No. /Ref. No. : |
|------------------------------------------------------------------------------------------------------------------------|--------------------------|----------------------------------------------------------------------------------------------------------------|
| Customer Code : SVEC09005 | | Manufacturer : Soundtek |
| Date of calibration: Date of the recommended re-calibration: | 24/10/2019 24/10/2020 | Certificate No.: 0022676 Handle by: E0002 |

Measuring results

| | Reference value | Indication value | Deviation | Allowed deviation | Object |
|---|-----------------|------------------|-----------|-------------------|--------|
| Γ | 94.0dB | 93.7dB | -0.3dB | +/- 0.3dB | 1 |
| Γ | 114.0dB | 113.7dB | -0.3dB | +/- 0.5dB | 1 |

Measuring equipment

| index | Calibrator / Master | Traceability |
|-------|-------------------------------------|--------------|
| 1 | Master Sound Meter, SVAN949,sn:8571 | IEC61672 |
| 2 | Sound Calibrator, SV30A sn:32580 | IEC60942 |

Ambient conditions

Temperature (20...26)°C

Humidity (20...60)%RH

Measuring procedure

Calibrated by Type 1 Sound Level Meter and 1kHz Sound Source .

Uncertainty

+/- 0.2 dB for probability not less than 95%.

Conformity

1. The resulted values were those obtained at the time of test and applies only to the item calibrated.

2.The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains

the uncertainty of the measuring procedure and the uncertainty of the measuring system.

3.The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.

4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.

| 5. The calibrations certificate may not be | | |
|--------------------------------------------|--------------------------|-----------------|
| Measured value(s) within | the allowable deviation. | |
| Performed by | | Approved by |
| Calibration Technician | | Quality Manager |

APPENDIX C WEATHER INFORMATION

| Date | Mean Air Temperature (°C) | Mean Relative Humidity (%) | Precipitation(mm) |
|-----------|------------------------------|-------------------------------|-------------------|
| 1-Feb-20 | 16 | 72 | 0 |
| 2-Feb-20 | 17.1 | 77 | 0 |
| 3-Feb-20 | 18.1 | 78 | Trace |
| 4-Feb-20 | 17.3 | 84 | 0.8 |
| 5-Feb-20 | 17.5 | 83 | 1 |
| 6-Feb-20 | 17.1 | 77 | Trace |
| 7-Feb-20 | 18.7 | 82 | 0 |
| 8-Feb-20 | 17.8 | 76 | 0 |
| 9-Feb-20 | 16.5 | 77 | Trace |
| 10-Feb-20 | 16.9 | 76 | 0 |
| 11-Feb-20 | 17.6 | 86 | 0.8 |
| 12-Feb-20 | 20.6 | 89 | 0 |
| 13-Feb-20 | 19.6 | 94 | 41.6 |
| 14-Feb-20 | 20.4 | 94 | 9.7 |
| 15-Feb-20 | 21 | 95 | Trace |
| 16-Feb-20 | 14.2 | 82 | 25.5 |
| 17-Feb-20 | 13.6 | 53 | 0 |
| 18-Feb-20 | 14.7 | 57 | 0 |
| 19-Feb-20 | 16.3 | 69 | 0 |
| 20-Feb-20 | 17.7 | 70 | 0 |
| 21-Feb-20 | 18.9 | 73 | 0 |
| 22-Feb-20 | 20.1 | 73 | 0 |
| 23-Feb-20 | 19.4 | 71 | 0 |
| 24-Feb-20 | 19.6 | 76 | 0 |
| 25-Feb-20 | 21.8 | 84 | Trace |
| 26-Feb-20 | 23.3 | 82 | 0 |
| 27-Feb-20 | 20.5 | 84 | 0.4 |
| 28-Feb-20 | 20.8 | 78 | 0 |
| 29-Feb-20 | 22.5 | 80 | 0 |

I. General

* The above information was extracted from the daily weather summary by Hong Kong Observatory.

** Trace = rainfall less than 0.05 mm.

*** The level of precipitation indicate the total amount of rainfall for each date (24 hours)

II. Mean Wind Speed and Wind Direction

| Date | Time | Wind speed(m/s) | Wind Direction |
|----------|-------|-----------------|----------------|
| 1-Feb-20 | 0:00 | 0.4 | NW |
| 1-Feb-20 | 1:00 | 0.4 | NW |
| 1-Feb-20 | 2:00 | 0.9 | NW |
| 1-Feb-20 | 3:00 | 0.4 | NNE |
| 1-Feb-20 | 4:00 | 0.4 | NNW |
| 1-Feb-20 | 5:00 | 0.4 | W |
| 1-Feb-20 | 6:00 | 0.9 | WNW |
| 1-Feb-20 | 7:00 | 0.9 | WSW |
| 1-Feb-20 | 8:00 | 0.4 | WSW |
| 1-Feb-20 | 9:00 | 0.4 | WSW |
| 1-Feb-20 | 10:00 | 0.4 | W |
| 1-Feb-20 | 11:00 | 0.9 | NW |
| 1-Feb-20 | 12:00 | 1.3 | W |
| 1-Feb-20 | 13:00 | 1.3 | W |
| 1-Feb-20 | 14:00 | 1.3 | W |
| 1-Feb-20 | 15:00 | 1.3 | WNW |
| 1-Feb-20 | 16:00 | 0.9 | W |
| 1-Feb-20 | 17:00 | 1.3 | W |
| 1-Feb-20 | 18:00 | 1.8 | W |
| 1-Feb-20 | 19:00 | 1.3 | W |
| 1-Feb-20 | 20:00 | 1.3 | W |
| 1-Feb-20 | 21:00 | 1.3 | WNW |
| 1-Feb-20 | 22:00 | 1.3 | W |
| 1-Feb-20 | 23:00 | 1.3 | W |
| 2-Feb-20 | 0:00 | 0.9 | W |
| 2-Feb-20 | 1:00 | 0 | NE |
| 2-Feb-20 | 2:00 | 0 | NNW |
| 2-Feb-20 | 3:00 | 0 | NE |
| 2-Feb-20 | 4:00 | 0 | NE |
| 2-Feb-20 | 5:00 | 0.4 | NNW |
| 2-Feb-20 | 6:00 | 1.3 | NNW |
| 2-Feb-20 | 7:00 | 2.2 | NNW |
| 2-Feb-20 | 8:00 | 3.6 | NNW |
| 2-Feb-20 | 9:00 | 3.6 | NNW |
| 2-Feb-20 | 10:00 | 3.1 | NNW |

| | · | | |
|----------|-------|-----|-----|
| 2-Feb-20 | 11:00 | 3.1 | NNW |
| 2-Feb-20 | 12:00 | 1.8 | NNW |
| 2-Feb-20 | 13:00 | 1.3 | NNW |
| 2-Feb-20 | 14:00 | 0.4 | NE |
| 2-Feb-20 | 15:00 | 0.9 | ENE |
| 2-Feb-20 | 16:00 | 0.9 | NNE |
| 2-Feb-20 | 17:00 | 0.9 | ENE |
| 2-Feb-20 | 18:00 | 0.9 | NE |
| 2-Feb-20 | 19:00 | 1.3 | NW |
| 2-Feb-20 | 20:00 | 0.9 | NW |
| 2-Feb-20 | 21:00 | 0.9 | NW |
| 2-Feb-20 | 22:00 | 0.9 | W |
| 2-Feb-20 | 23:00 | 1.3 | NW |
| 3-Feb-20 | 0:00 | 1.8 | NW |
| 3-Feb-20 | 1:00 | 1.3 | WNW |
| 3-Feb-20 | 2:00 | 1.3 | NW |
| 3-Feb-20 | 3:00 | 1.3 | NW |
| 3-Feb-20 | 4:00 | 1.3 | NW |
| 3-Feb-20 | 5:00 | 0.4 | NW |
| 3-Feb-20 | 6:00 | 0.9 | Е |
| 3-Feb-20 | 7:00 | 0.9 | ESE |
| 3-Feb-20 | 8:00 | 1.3 | Е |
| 3-Feb-20 | 9:00 | 1.3 | ENE |
| 3-Feb-20 | 10:00 | 0.9 | ENE |
| 3-Feb-20 | 11:00 | 0.9 | Е |
| 3-Feb-20 | 12:00 | 0.9 | ENE |
| 3-Feb-20 | 13:00 | 0.4 | Е |
| 3-Feb-20 | 14:00 | 0.9 | ENE |
| 3-Feb-20 | 15:00 | 0.4 | NW |
| 3-Feb-20 | 16:00 | 0.9 | ENE |
| 3-Feb-20 | 17:00 | 0.9 | WNW |
| 3-Feb-20 | 18:00 | 0.9 | ENE |
| 3-Feb-20 | 19:00 | 1.3 | ESE |
| 3-Feb-20 | 20:00 | 0.4 | NW |
| 3-Feb-20 | 21:00 | 0.4 | NW |
| 3-Feb-20 | 22:00 | 0.9 | NW |
| 3-Feb-20 | 23:00 | 0.4 | NNE |
| 4-Feb-20 | 0:00 | 0.4 | NNW |

II. Mean Wind Speed and Wind Direction

| | ind Speed and it in | | |
|----------|---------------------|-----|-----|
| 4-Feb-20 | 1:00 | 0.4 | W |
| 4-Feb-20 | 2:00 | 0.9 | WNW |
| 4-Feb-20 | 3:00 | 0.9 | WSW |
| 4-Feb-20 | 4:00 | 0.4 | WSW |
| 4-Feb-20 | 5:00 | 0.4 | WSW |
| 4-Feb-20 | 6:00 | 0.4 | W |
| 4-Feb-20 | 7:00 | 0.9 | NW |
| 4-Feb-20 | 8:00 | 1.3 | W |
| 4-Feb-20 | 9:00 | 1.3 | W |
| 4-Feb-20 | 10:00 | 1.3 | W |
| 4-Feb-20 | 11:00 | 1.3 | WNW |
| 4-Feb-20 | 12:00 | 0.9 | W |
| 4-Feb-20 | 13:00 | 1.3 | W |
| 4-Feb-20 | 14:00 | 1.8 | W |
| 4-Feb-20 | 15:00 | 1.3 | W |
| 4-Feb-20 | 16:00 | 1.3 | W |
| 4-Feb-20 | 17:00 | 1.3 | WNW |
| 4-Feb-20 | 18:00 | 1.3 | W |
| 4-Feb-20 | 19:00 | 1.3 | W |
| 4-Feb-20 | 20:00 | 0.9 | W |
| 4-Feb-20 | 21:00 | 1.3 | W |
| 4-Feb-20 | 22:00 | 1.3 | W |
| 4-Feb-20 | 23:00 | 1.8 | W |
| 5-Feb-20 | 0:00 | 1.3 | W |
| 5-Feb-20 | 1:00 | 1.8 | W |
| 5-Feb-20 | 2:00 | 1.8 | W |
| 5-Feb-20 | 3:00 | 2.2 | W |
| 5-Feb-20 | 4:00 | 1.3 | W |
| 5-Feb-20 | 5:00 | 1.8 | W |
| 5-Feb-20 | 6:00 | 1.3 | W |
| 5-Feb-20 | 7:00 | 0.9 | W |
| 5-Feb-20 | 8:00 | 0.9 | NW |
| 5-Feb-20 | 9:00 | 1.3 | W |
| 5-Feb-20 | 10:00 | 1.3 | W |
| 5-Feb-20 | 11:00 | 0.9 | WNW |
| 5-Feb-20 | 12:00 | 1.3 | WNW |
| 5-Feb-20 | 13:00 | 0.9 | W |
| 5-Feb-20 | 14:00 | 1.3 | NW |
| | | | |

II. Mean Wind Speed and Wind Direction

| 5-Feb-20 15:00 1.3 NW 5-Feb-20 16:00 1.8 NW 5-Feb-20 17:00 0.9 NW 5-Feb-20 18:00 1.3 NW 5-Feb-20 19:00 1.3 NW 5-Feb-20 20:00 2.2 NW 5-Feb-20 21:00 1.8 NW 5-Feb-20 23:00 1.8 NW 5-Feb-20 0:00 1.8 NW 6-Feb-20 1:00 0.9 NW 6-Feb-20 1:00 0.9 NW 6-Feb-20 3:00 1.3 NW 6-Feb-20 5:00 1.3 NW 6-Feb-20 5:00 1.3 NW 6-Feb-20 5:00 1.3 NW 6-Feb-20 7:00 1.8 NW 6-Feb-20 9:00 1.3 NW 6-Feb-20 10:00 0.9 NW 6-Feb-20 13:00 3.1 | | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-------|-----|-----|
| 5-Feb-20 17:00 0.9 NW 5-Feb-20 18:00 1.3 NW 5-Feb-20 19:00 1.3 NW 5-Feb-20 20:00 2.2 NW 5-Feb-20 21:00 1.8 NW 5-Feb-20 22:00 1.8 NW 5-Feb-20 23:00 1.8 NW 6-Feb-20 0:00 0.9 NW 6-Feb-20 1:00 0.9 NW 6-Feb-20 2:00 0.9 NW 6-Feb-20 3:00 1.3 NW 6-Feb-20 5:00 1.3 NW 6-Feb-20 6:00 1.3 NW 6-Feb-20 6:00 1.3 NW 6-Feb-20 6:00 1.3 NW 6-Feb-20 9:00 1.3 NW 6-Feb-20 10:00 0.9 NW 6-Feb-20 10:00 3.6 NW 6-Feb-20 13:00 3.1 | 5-Feb-20 | 15:00 | 1.3 | NW |
| 5-Feb-20 18:00 1.3 NW 5-Feb-20 19:00 1.3 NW 5-Feb-20 20:00 2.2 NW 5-Feb-20 21:00 1.8 NW 5-Feb-20 22:00 1.8 NW 5-Feb-20 23:00 1.8 NW 6-Feb-20 0:00 1.8 NW 6-Feb-20 1:00 0.9 NW 6-Feb-20 2:00 0.9 NW 6-Feb-20 3:00 1.3 NW 6-Feb-20 4:00 1.3 NW 6-Feb-20 5:00 1.3 NW 6-Feb-20 6:00 1.3 NW 6-Feb-20 7:00 1.8 NW 6-Feb-20 9:00 1.3 NW 6-Feb-20 9:00 1.3 NW 6-Feb-20 10:00 0.9 NW 6-Feb-20 11:00 1.8 NW 6-Feb-20 13:00 3.1 N | 5-Feb-20 | 16:00 | 1.8 | NW |
| 5-Feb-20 19:00 1.3 NW 5-Feb-20 20:00 2.2 NW 5-Feb-20 21:00 1.8 NW 5-Feb-20 22:00 1.8 NW 5-Feb-20 23:00 1.8 NW 6-Feb-20 0:00 1.8 NW 6-Feb-20 1:00 0.9 NW 6-Feb-20 2:00 0.9 NW 6-Feb-20 3:00 1.3 NW 6-Feb-20 4:00 1.3 NW 6-Feb-20 5:00 1.3 NW 6-Feb-20 6:00 1.3 NW 6-Feb-20 7:00 1.8 NW 6-Feb-20 9:00 1.3 NW 6-Feb-20 10:00 0.9 NW 6-Feb-20 10:00 0.9 NW 6-Feb-20 11:00 1.8 NW 6-Feb-20 12:00 3.6 NW 6-Feb-20 14:00 3.1 | 5-Feb-20 | 17:00 | 0.9 | NW |
| 5-Feb-20 20:00 2.2 NW 5-Feb-20 21:00 1.8 NW 5-Feb-20 22:00 1.8 NW 5-Feb-20 23:00 1.8 NW 6-Feb-20 0:00 1.8 NW 6-Feb-20 1:00 0.9 NW 6-Feb-20 2:00 0.9 NW 6-Feb-20 3:00 1.3 NW 6-Feb-20 5:00 1.3 NW 6-Feb-20 6:00 1.3 NW 6-Feb-20 7:00 1.8 NW 6-Feb-20 8:00 0.9 NW 6-Feb-20 9:00 1.3 NW 6-Feb-20 10:00 0.9 NW 6-Feb-20 10:00 0.9 NW 6-Feb-20 11:00 1.8 NW 6-Feb-20 13:00 3.1 NW 6-Feb-20 13:00 3.1 NW 6-Feb-20 15:00 3.6 <td< td=""><td>5-Feb-20</td><td>18:00</td><td>1.3</td><td>NW</td></td<> | 5-Feb-20 | 18:00 | 1.3 | NW |
| 5-Feb-20 $21:00$ 1.8 NW 5-Feb-20 $22:00$ 1.8 NW 6-Feb-20 $23:00$ 1.8 NW 6-Feb-20 $0:00$ 1.8 NW 6-Feb-20 $1:00$ 0.9 NW 6-Feb-20 $2:00$ 0.9 NW 6-Feb-20 $3:00$ 1.3 NW 6-Feb-20 $4:00$ 1.3 NW 6-Feb-20 $5:00$ 1.3 NW 6-Feb-20 $6:00$ 1.3 NW 6-Feb-20 $6:00$ 1.3 NW 6-Feb-20 $9:00$ 1.3 NW 6-Feb-20 $9:00$ 1.3 NW 6-Feb-20 $10:00$ 0.9 NW 6-Feb-20 $11:00$ 1.8 NW 6-Feb-20 $12:00$ 3.6 NW 6-Feb-20 $12:00$ 3.6 NW 6-Feb-20 $15:00$ 3.6 NW <t< td=""><td>5-Feb-20</td><td>19:00</td><td>1.3</td><td>NW</td></t<> | 5-Feb-20 | 19:00 | 1.3 | NW |
| 5-Feb-20 22:00 1.8 NW 5-Feb-20 23:00 1.8 NW 6-Feb-20 0:00 1.8 NW 6-Feb-20 1:00 0.9 NW 6-Feb-20 2:00 0.9 NW 6-Feb-20 3:00 1.3 NW 6-Feb-20 4:00 1.3 NW 6-Feb-20 5:00 1.3 NW 6-Feb-20 5:00 1.3 NW 6-Feb-20 6:00 1.3 NW 6-Feb-20 7:00 1.8 NW 6-Feb-20 8:00 0.9 NW 6-Feb-20 10:00 0.9 NW 6-Feb-20 10:00 1.8 NW 6-Feb-20 11:00 1.8 NW 6-Feb-20 12:00 3.6 NW 6-Feb-20 13:00 3.1 NW 6-Feb-20 15:00 3.6 NW 6-Feb-20 19:00 0.9 | 5-Feb-20 | 20:00 | 2.2 | NW |
| 5-Feb-20 $23:00$ 1.8 NW 6 -Feb-20 $0:00$ 1.8 NW 6 -Feb-20 $2:00$ 0.9 NW 6 -Feb-20 $2:00$ 0.9 NW 6 -Feb-20 $3:00$ 1.3 NW 6 -Feb-20 $4:00$ 1.3 NW 6 -Feb-20 $5:00$ 1.3 NW 6 -Feb-20 $5:00$ 1.3 NW 6 -Feb-20 $6:00$ 1.3 NW 6 -Feb-20 $6:00$ 1.3 NW 6 -Feb-20 $9:00$ 1.3 NW 6 -Feb-20 $9:00$ 1.3 NW 6 -Feb-20 $9:00$ 1.3 NW 6 -Feb-20 $10:00$ 0.9 NW 6 -Feb-20 $11:00$ 1.8 NW 6 -Feb-20 $11:00$ 1.8 NW 6 -Feb-20 $12:00$ 3.6 NW 6 -Feb-20 $12:00$ 3.6 NW 6 -Feb-20 $15:00$ 3.6 NW 6 -Feb-20 $15:00$ 3.6 NW 6 -Feb-20 $17:00$ 1.3 E 6 -Feb-20 $19:00$ 0.9 E 6 -Feb-20 $21:00$ 0.9 | 5-Feb-20 | 21:00 | 1.8 | NW |
| 6-Feb-20 $0:00$ 1.8 NW $6-Feb-20$ $1:00$ 0.9 NW $6-Feb-20$ $2:00$ 0.9 NW $6-Feb-20$ $3:00$ 1.3 NW $6-Feb-20$ $4:00$ 1.3 NW $6-Feb-20$ $5:00$ 1.3 NW $6-Feb-20$ $5:00$ 1.3 NW $6-Feb-20$ $6:00$ 1.3 NW $6-Feb-20$ $6:00$ 1.3 NW $6-Feb-20$ $9:00$ 1.3 NW $6-Feb-20$ $9:00$ 1.3 NW $6-Feb-20$ $9:00$ 1.3 NW $6-Feb-20$ $10:00$ 0.9 NW $6-Feb-20$ $11:00$ 1.8 NW $6-Feb-20$ $11:00$ 1.8 NW $6-Feb-20$ $12:00$ 3.6 NW $6-Feb-20$ $15:00$ 3.6 NW $6-Feb-20$ $15:00$ 3.6 NW $6-Feb-20$ $10:00$ 1.3 ENE $6-Feb-20$ $10:00$ 1.3 ENE $6-Feb-20$ $10:00$ 1.3 E $6-Feb-20$ $10:00$ 1.3 E $6-Feb-20$ $20:00$ 0.9 E $6-Feb-20$ $21:00$ 0.9 <t< td=""><td>5-Feb-20</td><td>22:00</td><td>1.8</td><td>NW</td></t<> | 5-Feb-20 | 22:00 | 1.8 | NW |
| 6-Feb-201:00 0.9 NW $6-Feb-20$ 2:00 0.9 NW $6-Feb-20$ 3:001.3NW $6-Feb-20$ 4:001.3NW $6-Feb-20$ 5:001.3NW $6-Feb-20$ $6:00$ 1.3NW $6-Feb-20$ $6:00$ 1.3NW $6-Feb-20$ $6:00$ 1.3NW $6-Feb-20$ $8:00$ 0.9 NW $6-Feb-20$ $9:00$ 1.3NW $6-Feb-20$ $9:00$ 1.3NW $6-Feb-20$ $10:00$ 0.9 NW $6-Feb-20$ $11:00$ 1.8 NW $6-Feb-20$ $11:00$ 1.8 NW $6-Feb-20$ $12:00$ 3.6 NW $6-Feb-20$ $13:00$ 3.1 NW $6-Feb-20$ $15:00$ 3.6 NW $6-Feb-20$ $15:00$ 3.6 NW $6-Feb-20$ $10:00$ 1.3 ENE $6-Feb-20$ $10:00$ 1.3 ENE $6-Feb-20$ $10:00$ 1.3 E $6-Feb-20$ $10:00$ 0.9 E $6-Feb-20$ $21:00$ 0.9 E $7-Feb-20$ $2:00$ 0.9 E $7-Feb-20$ $2:00$ 0.9 E $7-Feb$ | 5-Feb-20 | 23:00 | 1.8 | NW |
| 6-Feb-20 $2:00$ 0.9 NW $6-Feb-20$ $3:00$ 1.3 NW $6-Feb-20$ $4:00$ 1.3 NW $6-Feb-20$ $5:00$ 1.3 NW $6-Feb-20$ $6:00$ 1.3 NW $6-Feb-20$ $6:00$ 1.3 NW $6-Feb-20$ $6:00$ 1.3 NW $6-Feb-20$ $8:00$ 0.9 NW $6-Feb-20$ $9:00$ 1.3 NW $6-Feb-20$ $9:00$ 1.3 NW $6-Feb-20$ $10:00$ 0.9 NW $6-Feb-20$ $11:00$ 1.8 NW $6-Feb-20$ $11:00$ 1.8 NW $6-Feb-20$ $12:00$ 3.6 NW $6-Feb-20$ $13:00$ 3.1 NW $6-Feb-20$ $15:00$ 3.6 NW $6-Feb-20$ $15:00$ 3.6 NW $6-Feb-20$ $17:00$ 1.3 E $6-Feb-20$ $19:00$ 0.9 E $6-Feb-20$ $21:00$ 0.9 E $7-Feb-20$ $2:00$ 0.9 E $7-Feb-20$ $2:00$ 0.9 E $7-Feb-20$ $3:00$ 0.9 E | 6-Feb-20 | 0:00 | 1.8 | NW |
| 6-Feb-20 3:00 1.3 NW 6-Feb-20 4:00 1.3 NW 6-Feb-20 5:00 1.3 NW 6-Feb-20 6:00 1.3 NW 6-Feb-20 6:00 1.3 NW 6-Feb-20 7:00 1.8 NW 6-Feb-20 8:00 0.9 NW 6-Feb-20 9:00 1.3 NW 6-Feb-20 9:00 1.3 NW 6-Feb-20 10:00 0.9 NW 6-Feb-20 10:00 0.9 NW 6-Feb-20 11:00 1.8 NW 6-Feb-20 12:00 3.6 NW 6-Feb-20 13:00 3.1 NW 6-Feb-20 15:00 3.6 NW 6-Feb-20 16:00 1.3 E 6-Feb-20 17:00 1.3 E 6-Feb-20 19:00 0.9 E 6-Feb-20 20:00 0.9 E </td <td>6-Feb-20</td> <td>1:00</td> <td>0.9</td> <td>NW</td> | 6-Feb-20 | 1:00 | 0.9 | NW |
| 6-Feb-20 $4:00$ 1.3 NW $6-Feb-20$ $5:00$ 1.3 NW $6-Feb-20$ $6:00$ 1.3 NW $6-Feb-20$ $7:00$ 1.8 NW $6-Feb-20$ $8:00$ 0.9 NW $6-Feb-20$ $9:00$ 1.3 NW $6-Feb-20$ $9:00$ 1.3 NW $6-Feb-20$ $9:00$ 1.3 NW $6-Feb-20$ $10:00$ 0.9 NW $6-Feb-20$ $10:00$ 0.9 NW $6-Feb-20$ $11:00$ 1.8 NW $6-Feb-20$ $12:00$ 3.6 NW $6-Feb-20$ $13:00$ 3.1 NW $6-Feb-20$ $15:00$ 3.6 NW $6-Feb-20$ $15:00$ 3.6 NW $6-Feb-20$ $15:00$ 3.6 NW $6-Feb-20$ $15:00$ 3.6 NW $6-Feb-20$ $15:00$ 1.3 ENE $6-Feb-20$ $17:00$ 1.3 E $6-Feb-20$ $19:00$ 0.9 E $6-Feb-20$ $21:00$ 0.9 E $6-Feb-20$ $21:00$ 0.9 E $6-Feb-20$ $22:00$ 0.9 E $6-Feb-20$ $21:00$ 0.9 E $7-Feb-20$ $2:00$ 0.9 E $7-Feb-20$ $2:00$ 0.9 E $7-Feb-20$ $3:00$ 0.9 E $7-Feb-20$ $3:00$ 0.9 E | 6-Feb-20 | 2:00 | 0.9 | NW |
| 6-Feb-20 $5:00$ 1.3 NW $6-Feb-20$ $6:00$ 1.3 NW $6-Feb-20$ $7:00$ 1.8 NW $6-Feb-20$ $8:00$ 0.9 NW $6-Feb-20$ $9:00$ 1.3 NW $6-Feb-20$ $9:00$ 1.3 NW $6-Feb-20$ $10:00$ 0.9 NW $6-Feb-20$ $10:00$ 0.9 NW $6-Feb-20$ $11:00$ 1.8 NW $6-Feb-20$ $11:00$ 1.8 NW $6-Feb-20$ $12:00$ 3.6 NW $6-Feb-20$ $13:00$ 3.1 NW $6-Feb-20$ $15:00$ 3.6 NW $6-Feb-20$ $15:00$ 3.6 NW $6-Feb-20$ $15:00$ 1.3 ENE $6-Feb-20$ $19:00$ 0.9 E $6-Feb-20$ $19:00$ 0.9 E $6-Feb-20$ $21:00$ 0.9 E $6-Feb-20$ $21:00$ 0.9 E $6-Feb-20$ $22:00$ 0.9 E $6-Feb-20$ $21:00$ 0.9 E $6-Feb-20$ $22:00$ 0.9 E $7-Feb-20$ $2:00$ 0.9 E $7-Feb-20$ $1:00$ 0.9 E $7-Feb-20$ $3:00$ 0.9 E | 6-Feb-20 | 3:00 | 1.3 | NW |
| 6-Feb-20 6:00 1.3 NW 6-Feb-20 7:00 1.8 NW 6-Feb-20 8:00 0.9 NW 6-Feb-20 9:00 1.3 NW 6-Feb-20 9:00 1.3 NW 6-Feb-20 10:00 0.9 NW 6-Feb-20 11:00 1.8 NW 6-Feb-20 12:00 3.6 NW 6-Feb-20 12:00 3.6 NW 6-Feb-20 13:00 3.1 NW 6-Feb-20 14:00 3.1 NW 6-Feb-20 15:00 3.6 NW 6-Feb-20 16:00 1.3 ENE 6-Feb-20 17:00 1.3 E 6-Feb-20 18:00 1.3 E 6-Feb-20 19:00 0.9 E 6-Feb-20 20:00 0.9 E 6-Feb-20 21:00 0.9 E 6-Feb-20 20:00 0.9 | 6-Feb-20 | 4:00 | 1.3 | NW |
| 6-Feb-207:001.8NW $6-Feb-20$ 8:000.9NW $6-Feb-20$ 9:001.3NW $6-Feb-20$ 10:000.9NW $6-Feb-20$ 11:001.8NW $6-Feb-20$ 12:003.6NW $6-Feb-20$ 13:003.1NW $6-Feb-20$ 13:003.1NW $6-Feb-20$ 15:003.6NW $6-Feb-20$ 15:003.6NW $6-Feb-20$ 15:003.6NW $6-Feb-20$ 16:001.3ENE $6-Feb-20$ 18:001.3E $6-Feb-20$ 19:000.9E $6-Feb-20$ 20:000.9E $6-Feb-20$ 21:000.9E $6-Feb-20$ 22:000.9E $6-Feb-20$ 23:001.3ENE $7-Feb-20$ 0:000.9E $7-Feb-20$ 1:000.9E $7-Feb-20$ 2:000.4E $7-Feb-20$ 3:000.9E | 6-Feb-20 | 5:00 | 1.3 | NW |
| 6-Feb-20 8:00 0.9 NW 6-Feb-20 9:00 1.3 NW 6-Feb-20 10:00 0.9 NW 6-Feb-20 11:00 1.8 NW 6-Feb-20 12:00 3.6 NW 6-Feb-20 13:00 3.1 NW 6-Feb-20 13:00 3.1 NW 6-Feb-20 14:00 3.1 NW 6-Feb-20 15:00 3.6 NW 6-Feb-20 16:00 1.3 ENE 6-Feb-20 16:00 1.3 E 6-Feb-20 17:00 1.3 E 6-Feb-20 19:00 0.9 E 6-Feb-20 19:00 0.9 E 6-Feb-20 20:00 0.9 E 6-Feb-20 21:00 0.9 E 6-Feb-20 23:00 1.3 ENE 7-Feb-20 0:00 0.9 E 7-Feb-20 1:00 0.9 | 6-Feb-20 | 6:00 | 1.3 | NW |
| 6-Feb-209:001.3NW6-Feb-2010:000.9NW6-Feb-2011:001.8NW6-Feb-2012:003.6NW6-Feb-2013:003.1NW6-Feb-2014:003.1NW6-Feb-2015:003.6NW6-Feb-2016:001.3ENE6-Feb-2017:001.3E6-Feb-2019:000.9E6-Feb-2019:000.9E6-Feb-2020:000.9E6-Feb-2021:000.9E6-Feb-2021:000.9E6-Feb-2021:000.9E7-Feb-200:000.9E7-Feb-201:000.9E7-Feb-201:000.9E7-Feb-201:000.9E7-Feb-201:000.9E7-Feb-203:000.9E | 6-Feb-20 | 7:00 | 1.8 | NW |
| 6-Feb-2010:000.9NW6-Feb-2011:001.8NW6-Feb-2012:003.6NW6-Feb-2013:003.1NW6-Feb-2014:003.1NW6-Feb-2015:003.6NW6-Feb-2015:003.6NW6-Feb-2016:001.3ENE6-Feb-2017:001.3E6-Feb-2018:001.3E6-Feb-2019:000.9E6-Feb-2020:000.9E6-Feb-2021:000.9E6-Feb-2021:000.9E6-Feb-2023:001.3ENE7-Feb-200:000.9E7-Feb-201:000.9E7-Feb-201:000.9E7-Feb-203:000.9E | 6-Feb-20 | 8:00 | 0.9 | NW |
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| 11-Feb-203:000.4NW11-Feb-204:000.4NW11-Feb-205:000.9N11-Feb-206:000NNW11-Feb-207:000.4NNW11-Feb-208:000.9NW11-Feb-209:000.4NNW11-Feb-2010:000.9NW11-Feb-2011:000.9NW11-Feb-2011:000.9NW11-Feb-2012:000.9NW11-Feb-2013:001.3NW11-Feb-2015:002.7NW11-Feb-2016:001.3NNE11-Feb-2017:001.3NW11-Feb-2016:001.3NW11-Feb-2017:001.3NW | 11-Feb-20 | 1:00 | 1.3 | NW |
| 11-Feb-204:000.4NW11-Feb-205:000.9N11-Feb-206:000NNW11-Feb-207:000.4NNW11-Feb-208:000.9NW11-Feb-209:000.4NNW11-Feb-2010:000.9NW11-Feb-2010:000.9NW11-Feb-2011:000.9NW11-Feb-2012:000.9NW11-Feb-2012:000.9NW11-Feb-2013:001.3NW11-Feb-2014:002.2NW11-Feb-2015:002.7NW11-Feb-2016:001.3NNE11-Feb-2017:001.3NW11-Feb-2018:001.8NW | 11-Feb-20 | 2:00 | 0.9 | NW |
| 11-Feb-205:000.9N11-Feb-206:000NNW11-Feb-207:000.4NNW11-Feb-208:000.9NW11-Feb-209:000.4NNW11-Feb-2010:000.9NW11-Feb-2010:000.9NW11-Feb-2011:000.9NW11-Feb-2012:000.9NW11-Feb-2013:001.3NW11-Feb-2014:002.2NW11-Feb-2015:002.7NW11-Feb-2016:001.3NNE11-Feb-2017:001.3NW11-Feb-2016:001.3NW | 11-Feb-20 | 3:00 | 0.4 | NW |
| 11-Feb-206:000NNW11-Feb-207:000.4NNW11-Feb-208:000.9NW11-Feb-209:000.4NNW11-Feb-2010:000.9NW11-Feb-2011:000.9NW11-Feb-2012:000.9NW11-Feb-2013:001.3NW11-Feb-2014:002.2NW11-Feb-2015:002.7NW11-Feb-2016:001.3NNE11-Feb-2017:001.3NW11-Feb-2017:001.3NW | 11-Feb-20 | 4:00 | 0.4 | NW |
| 11-Feb-207:000.4NNW11-Feb-208:000.9NW11-Feb-209:000.4NNW11-Feb-2010:000.9NW11-Feb-2011:000.9NW11-Feb-2012:000.9NW11-Feb-2013:001.3NW11-Feb-2014:002.2NW11-Feb-2015:002.7NW11-Feb-2016:001.3NNE11-Feb-2017:001.3NW | 11-Feb-20 | 5:00 | 0.9 | Ν |
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| 11-Feb-209:000.4NNW11-Feb-2010:000.9NW11-Feb-2011:000.9NW11-Feb-2012:000.9NW11-Feb-2013:001.3NW11-Feb-2014:002.2NW11-Feb-2015:002.7NW11-Feb-2016:001.3NNE11-Feb-2016:001.3NW11-Feb-2017:001.3NW | 11-Feb-20 | 7:00 | 0.4 | NNW |
| 11-Feb-2010:000.9NW11-Feb-2011:000.9NW11-Feb-2012:000.9NW11-Feb-2013:001.3NW11-Feb-2014:002.2NW11-Feb-2015:002.7NW11-Feb-2016:001.3NNE11-Feb-2018:001.8NW | 11-Feb-20 | 8:00 | 0.9 | NW |
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| 11-Feb-2017:001.3NW11-Feb-2018:001.8NW | 11-Feb-20 | 15:00 | 2.7 | NW |
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| 13-Feb-20 | 14:00 | 2.7 | NW |
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| 17-Feb-204:001.3SE17-Feb-205:001.3SE17-Feb-206:001.8WNW17-Feb-207:001.3WNW17-Feb-208:001.8WNW17-Feb-209:001.8NNW17-Feb-2010:000.9WNW17-Feb-2011:000.9WNW17-Feb-2011:000.9WNW17-Feb-2012:001.3NNW17-Feb-2013:001.8NNW17-Feb-2014:000.9WNW17-Feb-2015:000.4NW17-Feb-2016:000.4NW17-Feb-2018:000.4ESE17-Feb-2019:001.3NNW17-Feb-2020:000.4NNW17-Feb-2021:000.4NNW17-Feb-2021:000.4NNW17-Feb-2022:000.4NNW17-Feb-2023:000SE18-Feb-201:000.9NW18-Feb-203:000.4NNW18-Feb-203:000.4NNW18-Feb-203:000.4NNW18-Feb-205:001.8NNW | 17-Feb-20 | 2:00 | 0.9 | SE |
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| 20-Feb-20 8:00 0.9 ENE 20-Feb-20 9:00 0.9 NE 20-Feb-20 10:00 1.3 NNW 20-Feb-20 11:00 1.8 W 20-Feb-20 12:00 1.3 NNW 20-Feb-20 13:00 1.8 NW 20-Feb-20 13:00 1.8 NNW 20-Feb-20 14:00 1.8 NNW 20-Feb-20 15:00 2.2 NNW 20-Feb-20 16:00 1.8 NNW 20-Feb-20 17:00 2.2 NNW 20-Feb-20 18:00 1.8 NE 20-Feb-20 19:00 0.9 ENE 20-Feb-20 20:00 0.4 N 20-Feb-20 21:00 0 N 20-Feb-20 21:00 0 NE 21-Feb-20 20:00 0 NE 21-Feb-20 1:00 0 NE 21-Feb-20 3:00 <td< td=""><td>20-Feb-20</td><td>6:00</td><td>0.9</td><td>ENE</td></td<> | 20-Feb-20 | 6:00 | 0.9 | ENE |
| 20-Feb-209:000.9NE20-Feb-2010:001.3NNW20-Feb-2011:001.8W20-Feb-2012:001.3NNW20-Feb-2013:001.8NNW20-Feb-2014:001.8NNW20-Feb-2015:002.2NNW20-Feb-2016:001.8NNW20-Feb-2016:001.8NNW20-Feb-2017:002.2NNW20-Feb-2019:000.9ENE20-Feb-2019:000.9ENE20-Feb-2020:000.4N20-Feb-2021:000N20-Feb-2021:000NE21-Feb-2023:000NE21-Feb-203:000NE21-Feb-203:000NE21-Feb-205:000NE21-Feb-205:000NE21-Feb-206:000NE21-Feb-205:000NE21-Feb-205:000NE21-Feb-206:000NE21-Feb-207:000NE21-Feb-208:000NE | 20-Feb-20 | 7:00 | 0.9 | Ν |
| 20-Feb-2010:001.3NNW20-Feb-2011:001.8W20-Feb-2012:001.3NNW20-Feb-2013:001.8NNW20-Feb-2014:001.8NNW20-Feb-2015:002.2NNW20-Feb-2016:001.8NNW20-Feb-2016:001.8NNW20-Feb-2019:000.1.8NNW20-Feb-2017:002.2NNW20-Feb-2019:000.9ENE20-Feb-2020:000.4N20-Feb-2021:000N20-Feb-2022:000.4E20-Feb-2023:000NE21-Feb-201:000NE21-Feb-203:000NNE21-Feb-205:000NE21-Feb-205:000NE21-Feb-205:000NE21-Feb-206:000NE21-Feb-208:000NE | 20-Feb-20 | 8:00 | 0.9 | ENE |
| 20-Feb-2011:001.8W20-Feb-2012:001.3NNW20-Feb-2013:001.8NNW20-Feb-2014:001.8NNW20-Feb-2015:002.2NNW20-Feb-2016:001.8NNW20-Feb-2016:001.8NNW20-Feb-2017:002.2NNW20-Feb-2018:001.8NE20-Feb-2019:000.9ENE20-Feb-2020:000.4N20-Feb-2022:000.4E20-Feb-2022:000.4E20-Feb-2023:000NE21-Feb-201:000NE21-Feb-203:000NNE21-Feb-203:000NE21-Feb-205:000NE21-Feb-205:000NE21-Feb-206:000NE21-Feb-206:000NE21-Feb-208:000NE | 20-Feb-20 | 9:00 | 0.9 | NE |
| 20-Feb-2012:001.3NNW20-Feb-2013:001.8NNW20-Feb-2014:001.8NNW20-Feb-2015:002.2NNW20-Feb-2016:001.8NNW20-Feb-2016:001.8NNW20-Feb-2017:002.2NNW20-Feb-2018:001.8NE20-Feb-2019:000.9ENE20-Feb-2020:000.4N20-Feb-2021:000N20-Feb-2022:000.4E20-Feb-2023:000NE21-Feb-201:000NE21-Feb-203:000NNE21-Feb-203:000NE21-Feb-205:000NE21-Feb-205:000NE21-Feb-206:000NE21-Feb-206:000NE21-Feb-208:000NE | 20-Feb-20 | 10:00 | 1.3 | NNW |
| 20-Feb-2013:001.8NNW20-Feb-2014:001.8NNW20-Feb-2015:002.2NNW20-Feb-2016:001.8NNW20-Feb-2017:002.2NNW20-Feb-2018:001.8NE20-Feb-2019:000.9ENE20-Feb-2020:000.4N20-Feb-2021:000N20-Feb-2022:000.4E20-Feb-2023:000NE21-Feb-201:000NE21-Feb-203:000NE21-Feb-205:000NE21-Feb-205:000NE21-Feb-205:000NE21-Feb-205:000NE21-Feb-205:000NE21-Feb-206:000NE21-Feb-205:000NE21-Feb-205:000NE21-Feb-206:000NE21-Feb-205:000NE21-Feb-206:000NE21-Feb-206:000NE21-Feb-208:000NE | 20-Feb-20 | 11:00 | 1.8 | W |
| 20-Feb-2014:001.8NNW20-Feb-2015:002.2NNW20-Feb-2016:001.8NNW20-Feb-2017:002.2NNW20-Feb-2018:001.8NE20-Feb-2019:000.9ENE20-Feb-2020:000.4N20-Feb-2021:000N20-Feb-2022:000.4E20-Feb-2023:000NE21-Feb-201:000NE21-Feb-203:000NE21-Feb-205:000NE21-Feb-205:000NE21-Feb-205:000NE21-Feb-205:000NE21-Feb-205:000NE21-Feb-205:000NE21-Feb-206:000NE21-Feb-206:000NE21-Feb-205:000NE21-Feb-206:000NE21-Feb-206:000NE21-Feb-206:000NE21-Feb-206:000NE21-Feb-208:000NE | 20-Feb-20 | 12:00 | 1.3 | NNW |
| 20-Feb-2015:002.2NNW20-Feb-2016:001.8NNW20-Feb-2017:002.2NNW20-Feb-2018:001.8NE20-Feb-2019:000.9ENE20-Feb-2020:000.4N20-Feb-2021:000N20-Feb-2022:000.4E20-Feb-2022:000.4E20-Feb-2023:000NE21-Feb-200:000NE21-Feb-203:000NE21-Feb-205:000NE21-Feb-205:000NE21-Feb-205:000NE21-Feb-205:000NE21-Feb-205:000NE21-Feb-206:000NE21-Feb-206:000NE21-Feb-206:000NE21-Feb-208:000NE | 20-Feb-20 | 13:00 | 1.8 | NNW |
| 20-Feb-2016:001.8NNW20-Feb-2017:002.2NNW20-Feb-2018:001.8NE20-Feb-2019:000.9ENE20-Feb-2020:000.4N20-Feb-2021:000N20-Feb-2022:000.4E20-Feb-2022:000.4E20-Feb-2022:000.4E20-Feb-2022:000NE21-Feb-2023:000NE21-Feb-201:000NE21-Feb-203:000NNE21-Feb-205:000NE21-Feb-205:000NE21-Feb-205:000NE21-Feb-205:000NE21-Feb-206:000NE21-Feb-208:000NE | 20-Feb-20 | 14:00 | 1.8 | NNW |
| 20-Feb-2017:002.2NNW20-Feb-2018:001.8NE20-Feb-2019:000.9ENE20-Feb-2020:000.4N20-Feb-2021:000N20-Feb-2022:000.4E20-Feb-2023:000NE21-Feb-200:000NE21-Feb-202:000NNE21-Feb-203:000NNE21-Feb-204:000NE21-Feb-205:000NE21-Feb-205:000NE21-Feb-206:000NE21-Feb-208:000NE | 20-Feb-20 | 15:00 | 2.2 | NNW |
| 20-Feb-2018:001.8NE20-Feb-2019:000.9ENE20-Feb-2020:000.4N20-Feb-2021:000N20-Feb-2022:000.4E20-Feb-2023:000NE21-Feb-200:000NE21-Feb-202:000NNE21-Feb-203:000NNE21-Feb-203:000NE21-Feb-205:000NE21-Feb-205:000NE21-Feb-205:000NE21-Feb-206:000NE21-Feb-208:000NE | 20-Feb-20 | 16:00 | 1.8 | NNW |
| 20-Feb-2019:000.9ENE20-Feb-2020:000.4N20-Feb-2021:000N20-Feb-2022:000.4E20-Feb-2023:000NE21-Feb-200:000NE21-Feb-201:000NE21-Feb-203:000NNE21-Feb-203:000NE21-Feb-205:000NE21-Feb-205:000NE21-Feb-205:000NE21-Feb-205:000NE21-Feb-206:000NE21-Feb-208:000NE | 20-Feb-20 | 17:00 | 2.2 | NNW |
| 20-Feb-2020:000.4N20-Feb-2021:000N20-Feb-2022:000.4E20-Feb-2023:000NE21-Feb-200:000NE21-Feb-201:000NE21-Feb-202:000NNE21-Feb-203:000NNE21-Feb-205:000NE21-Feb-205:000NE21-Feb-205:000NE21-Feb-205:000NE21-Feb-206:000NE21-Feb-207:000NE21-Feb-208:000NE | 20-Feb-20 | 18:00 | 1.8 | NE |
| 20-Feb-2021:000N20-Feb-2022:000.4E20-Feb-2023:000NE21-Feb-200:000NE21-Feb-201:000NE21-Feb-202:000NNE21-Feb-203:000NNE21-Feb-204:000NE21-Feb-205:000NE21-Feb-205:000NE21-Feb-206:000NE21-Feb-206:000NE21-Feb-208:000NE | 20-Feb-20 | 19:00 | 0.9 | ENE |
| 20-Feb-2022:000.4E20-Feb-2023:000NE21-Feb-200:000NE21-Feb-201:000NE21-Feb-202:000NNE21-Feb-203:000NNE21-Feb-204:000NE21-Feb-205:000NE21-Feb-205:000NE21-Feb-206:000NE21-Feb-206:000NE21-Feb-208:000NE | 20-Feb-20 | 20:00 | 0.4 | Ν |
| 20-Feb-2023:000NE21-Feb-200:000NE21-Feb-201:000NE21-Feb-202:000NNE21-Feb-203:000NNE21-Feb-204:000NE21-Feb-205:000NE21-Feb-205:000NE21-Feb-206:000NE21-Feb-206:000NE21-Feb-207:000NE21-Feb-208:000NE | 20-Feb-20 | 21:00 | 0 | Ν |
| 21-Feb-20 0:00 0 NE 21-Feb-20 1:00 0 NE 21-Feb-20 2:00 0 NNE 21-Feb-20 3:00 0 NNE 21-Feb-20 3:00 0 NNE 21-Feb-20 4:00 0 NE 21-Feb-20 5:00 0 NE 21-Feb-20 6:00 0 NE 21-Feb-20 7:00 0 NE 21-Feb-20 8:00 0 NE | 20-Feb-20 | 22:00 | 0.4 | Е |
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| 21-Feb-20 2:00 0 NNE 21-Feb-20 3:00 0 NNE 21-Feb-20 4:00 0 NE 21-Feb-20 5:00 0 NE 21-Feb-20 5:00 0 NE 21-Feb-20 6:00 0 NE 21-Feb-20 6:00 0 NE 21-Feb-20 8:00 0 NE | 21-Feb-20 | 0:00 | 0 | NE |
| 21-Feb-203:000NNE21-Feb-204:000NE21-Feb-205:000NE21-Feb-206:000NE21-Feb-207:000NNW21-Feb-208:000NE | 21-Feb-20 | 1:00 | 0 | NE |
| 21-Feb-20 4:00 0 NE 21-Feb-20 5:00 0 NE 21-Feb-20 6:00 0 NE 21-Feb-20 7:00 0 NE 21-Feb-20 8:00 0 NE | 21-Feb-20 | 2:00 | 0 | NNE |
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| 21-Feb-20 | 11:00 | 1.3 | NNW |
| 21-Feb-20 | 12:00 | 2.2 | NNW |
| 21-Feb-20 | 13:00 | 3.6 | NNW |
| 21-Feb-20 | 14:00 | 3.6 | NNW |
| 21-Feb-20 | 15:00 | 3.1 | NNW |
| 21-Feb-20 | 16:00 | 3.1 | NNW |
| 21-Feb-20 | 17:00 | 1.8 | NNW |
| 21-Feb-20 | 18:00 | 1.3 | NNW |
| 21-Feb-20 | 19:00 | 0.4 | NE |
| 21-Feb-20 | 20:00 | 0.9 | ENE |
| 21-Feb-20 | 21:00 | 0.9 | NNE |
| 21-Feb-20 | 22:00 | 0.9 | ENE |
| 21-Feb-20 | 23:00 | 0.9 | NE |
| 22-Feb-20 | 0:00 | 0.4 | WNW |
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| 22-Feb-20 | 2:00 | 0.4 | WNW |
| 22-Feb-20 | 3:00 | 0.4 | NW |
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| 22-Feb-20 | 8:00 | 0.4 | W |
| 22-Feb-20 | 9:00 | 0.9 | W |
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| 22-Feb-20 | 11:00 | 0.9 | SSW |
| 22-Feb-20 | 12:00 | 0.9 | SSW |
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| 23-Feb-20 | 2:00 | 0.4 | WNW |
| 23-Feb-20 | 3:00 | 0.9 | WNW |
| 23-Feb-20 | 4:00 | 1.8 | WNW |
| 23-Feb-20 | 5:00 | 1.3 | NW |
| 23-Feb-20 | 6:00 | 2.2 | ESE |
| 23-Feb-20 | 7:00 | 2.7 | ESE |
| 23-Feb-20 | 8:00 | 2.7 | NW |
| 23-Feb-20 | 9:00 | 1.3 | WNW |
| 23-Feb-20 | 10:00 | 1.8 | WNW |
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| 23-Feb-20 | 13:00 | 1.3 | SW |
| 23-Feb-20 | 14:00 | 1.3 | ENE |
| 23-Feb-20 | 15:00 | 1.3 | ENE |
| 23-Feb-20 | 16:00 | 1.3 | SW |
| 23-Feb-20 | 17:00 | 1.8 | SW |
| 23-Feb-20 | 18:00 | 0.9 | SSW |
| 23-Feb-20 | 19:00 | 1.3 | SW |
| 23-Feb-20 | 20:00 | 0.9 | ENE |
| 23-Feb-20 | 21:00 | 0.9 | ENE |
| 23-Feb-20 | 22:00 | 0.4 | SW |
| 23-Feb-20 | 23:00 | 0.9 | ESE |
| 24-Feb-20 | 0:00 | 0.4 | W |
| 24-Feb-20 | 1:00 | 0.4 | NE |
| 24-Feb-20 | 2:00 | 0.4 | NW |
| 24-Feb-20 | 3:00 | 0 | WNW |
| 24-Feb-20 | 4:00 | 0 | W |
| 24-Feb-20 | 5:00 | 0.4 | W |
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| 24-Feb-20 | 7:00 | 0.9 | WNW |
| 24-Feb-20 | 8:00 | 1.3 | WNW |
| 24-Feb-20 | 9:00 | 1.3 | NW |
| 24-Feb-20 | 10:00 | 0.9 | W |
| 24-Feb-20 | 11:00 | 0.9 | WSW |
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| 24-Feb-20 | 13:00 | 2.7 | WNW |
| 24-Feb-20 | 14:00 | 2.2 | ESE |

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| 24-Feb-20 | 15:00 | 0.9 | Е |
| 24-Feb-20 | 16:00 | 0.4 | WNW |
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| 24-Feb-20 | 19:00 | 0.9 | W |
| 24-Feb-20 | 20:00 | 0.9 | NW |
| 24-Feb-20 | 21:00 | 0.9 | WNW |
| 24-Feb-20 | 22:00 | 1.3 | WNW |
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| 25-Feb-20 | 0:00 | 2.7 | Е |
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| 25-Feb-20 | 5:00 | 1.3 | NW |
| 25-Feb-20 | 6:00 | 0.9 | WNW |
| 25-Feb-20 | 7:00 | 0.4 | NW |
| 25-Feb-20 | 8:00 | 0.4 | WNW |
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| 25-Feb-20 | 10:00 | 0.9 | NW |
| 25-Feb-20 | 11:00 | 0.9 | NW |
| 25-Feb-20 | 12:00 | 1.3 | NW |
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| 25-Feb-20 | 20:00 | 1.8 | NW |
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| 26-Feb-20 | 0:00 | 0.9 | NW |
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| 26-Feb-20 | 5:00 | 2.7 | NW |
| 26-Feb-20 | 6:00 | 2.2 | NNW |
| 26-Feb-20 | 7:00 | 2.7 | NW |
| 26-Feb-20 | 8:00 | 3.1 | NW |
| 26-Feb-20 | 9:00 | 2.2 | NW |
| 26-Feb-20 | 10:00 | 1.3 | NW |
| 26-Feb-20 | 11:00 | 0.9 | NW |
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| 26-Feb-20 | 18:00 | 1.3 | WNW |
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| 27-Feb-20 | 0:00 | 0.9 | W |
| 27-Feb-20 | 1:00 | 0.9 | NW |
| 27-Feb-20 | 2:00 | 1.3 | NW |
| 27-Feb-20 | 3:00 | 0.9 | NW |
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| 27-Feb-20 19:00 1.8 WNW 27-Feb-20 20:00 0.9 WSW 27-Feb-20 21:00 1.3 WSW 27-Feb-20 22:00 0.9 WSW 27-Feb-20 22:00 0.9 WSW 27-Feb-20 23:00 1.3 WSW 28-Feb-20 0:00 2.7 W 28-Feb-20 1:00 2.2 NE 28-Feb-20 2:00 0.9 NE 28-Feb-20 3:00 0.9 NE 28-Feb-20 5:00 0.4 WSW 28-Feb-20 6:00 0.4 W 28-Feb-20 7:00 0.9 WSW 28-Feb-20 10:00 1.3 WSW 28-Feb-20 10:00 1.3 WSW 28-Feb-20 12:00 2.7 WNW 28-Feb-20 13:00 3.6 WSW 28-Feb-20 12:00 2.7 WNW 28-Feb-20 15:00 | | · | | |
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| 27-Feb-20 21:00 1.3 WSW 27-Feb-20 22:00 0.9 WSW 27-Feb-20 23:00 1.3 WSW 28-Feb-20 0:00 2.7 W 28-Feb-20 1:00 2.2 NE 28-Feb-20 2:00 2.2 ENE 28-Feb-20 3:00 0.9 NE 28-Feb-20 4:00 0.4 WSW 28-Feb-20 5:00 0.4 WSW 28-Feb-20 6:00 0.4 WSW 28-Feb-20 6:00 0.4 WSW 28-Feb-20 7:00 0.9 WSW 28-Feb-20 9:00 0.9 WSW 28-Feb-20 10:00 1.3 WSW 28-Feb-20 11:00 1.8 WNW 28-Feb-20 13:00 3.6 WSW 28-Feb-20 15:00 2.2 SW 28-Feb-20 16:00 1.8 ENE 28-Feb-20 16:00 | 27-Feb-20 | 19:00 | 1.8 | WNW |
| 27-Feb-20 22:00 0.9 WSW 27-Feb-20 23:00 1.3 WSW 28-Feb-20 0:00 2.7 W 28-Feb-20 1:00 2.2 NE 28-Feb-20 2:00 2.2 ENE 28-Feb-20 3:00 0.9 NE 28-Feb-20 4:00 0.4 NE 28-Feb-20 5:00 0.4 WSW 28-Feb-20 5:00 0.4 WSW 28-Feb-20 5:00 0.4 WSW 28-Feb-20 6:00 0.4 WSW 28-Feb-20 7:00 0.9 WSW 28-Feb-20 9:00 0.9 WSW 28-Feb-20 10:00 1.3 WSW 28-Feb-20 11:00 1.8 WNW 28-Feb-20 13:00 3.6 WSW 28-Feb-20 15:00 2.2 SW 28-Feb-20 16:00 1.8 ENE 28-Feb-20 16:00 | 27-Feb-20 | 20:00 | 0.9 | WSW |
| 27-Feb-20 23:00 1.3 WSW 28-Feb-20 0:00 2.7 W 28-Feb-20 1:00 2.2 NE 28-Feb-20 2:00 2.2 ENE 28-Feb-20 3:00 0.9 NE 28-Feb-20 4:00 0.4 NE 28-Feb-20 5:00 0.4 WSW 28-Feb-20 6:00 0.4 W 28-Feb-20 6:00 0.4 WSW 28-Feb-20 6:00 0.9 WSW 28-Feb-20 7:00 0.9 WSW 28-Feb-20 10:00 1.3 WSW 28-Feb-20 10:00 1.8 WNW 28-Feb-20 12:00 2.7 WNW 28-Feb-20 13:00 3.6 WSW 28-Feb-20 14:00 2.2 ENE 28-Feb-20 15:00 2.2 SW 28-Feb-20 16:00 1.8 ENE 28-Feb-20 19:00 | 27-Feb-20 | 21:00 | 1.3 | WSW |
| 28-Feb-20 0:00 2.7 W 28-Feb-20 1:00 2.2 NE 28-Feb-20 2:00 2.2 ENE 28-Feb-20 3:00 0.9 NE 28-Feb-20 4:00 0.4 NE 28-Feb-20 5:00 0.4 WSW 28-Feb-20 6:00 0.4 W 28-Feb-20 6:00 0.4 W 28-Feb-20 6:00 0.4 W 28-Feb-20 7:00 0.9 WSW 28-Feb-20 10:00 1.3 WSW 28-Feb-20 10:00 1.3 WSW 28-Feb-20 11:00 1.8 WNW 28-Feb-20 13:00 3.6 WSW 28-Feb-20 15:00 2.2 SW 28-Feb-20 16:00 1.8 ENE 28-Feb-20 16:00 1.3 E 28-Feb-20 19:00 0.4 ENE 28-Feb-20 20:00 <td< td=""><td>27-Feb-20</td><td>22:00</td><td>0.9</td><td>WSW</td></td<> | 27-Feb-20 | 22:00 | 0.9 | WSW |
| 28-Feb-20 1:00 2.2 NE 28-Feb-20 2:00 2.2 ENE 28-Feb-20 3:00 0.9 NE 28-Feb-20 4:00 0.4 NE 28-Feb-20 5:00 0.4 WSW 28-Feb-20 6:00 0.4 W 28-Feb-20 7:00 0.9 WSW 28-Feb-20 8:00 0.9 WSW 28-Feb-20 9:00 0.9 WSW 28-Feb-20 10:00 1.3 WSW 28-Feb-20 10:00 1.3 WSW 28-Feb-20 12:00 2.7 WNW 28-Feb-20 13:00 3.6 WSW 28-Feb-20 14:00 2.2 ENE 28-Feb-20 16:00 1.8 ENE 28-Feb-20 16:00 1.8 ENE 28-Feb-20 19:00 0.4 ENE 28-Feb-20 19:00 0.4 ENE 28-Feb-20 20:00 | 27-Feb-20 | 23:00 | 1.3 | WSW |
| 28-Feb-20 2:00 2.2 ENE 28-Feb-20 3:00 0.9 NE 28-Feb-20 4:00 0.4 NE 28-Feb-20 5:00 0.4 WSW 28-Feb-20 6:00 0.4 W 28-Feb-20 6:00 0.4 W 28-Feb-20 7:00 0.9 WSW 28-Feb-20 8:00 0.9 WSW 28-Feb-20 9:00 0.9 WSW 28-Feb-20 10:00 1.3 WSW 28-Feb-20 10:00 1.8 WNW 28-Feb-20 12:00 2.7 WNW 28-Feb-20 13:00 3.6 WSW 28-Feb-20 13:00 2.2 ENE 28-Feb-20 16:00 1.8 ENE 28-Feb-20 16:00 1.8 ENE 28-Feb-20 19:00 0.4 ENE 28-Feb-20 19:00 0.4 ENE 28-Feb-20 20:00 | 28-Feb-20 | 0:00 | 2.7 | W |
| 28-Feb-20 3:00 0.9 NE 28-Feb-20 4:00 0.4 NE 28-Feb-20 5:00 0.4 WSW 28-Feb-20 6:00 0.4 W 28-Feb-20 6:00 0.4 W 28-Feb-20 6:00 0.9 WSW 28-Feb-20 8:00 0.9 WSW 28-Feb-20 9:00 0.9 WSW 28-Feb-20 10:00 1.3 WSW 28-Feb-20 11:00 1.8 WNW 28-Feb-20 12:00 2.7 WNW 28-Feb-20 13:00 3.6 WSW 28-Feb-20 14:00 2.2 ENE 28-Feb-20 16:00 1.8 ENE 28-Feb-20 16:00 1.3 E 28-Feb-20 19:00 0.4 ENE 28-Feb-20 19:00 0.4 ENE 28-Feb-20 20:00 0.9 SW 28-Feb-20 20:00 | 28-Feb-20 | 1:00 | 2.2 | NE |
| 28-Feb-20 4:00 0.4 NE 28-Feb-20 5:00 0.4 WSW 28-Feb-20 6:00 0.4 W 28-Feb-20 7:00 0.9 WSW 28-Feb-20 8:00 0.9 WSW 28-Feb-20 9:00 0.9 WSW 28-Feb-20 9:00 0.9 WSW 28-Feb-20 10:00 1.3 WSW 28-Feb-20 11:00 1.8 WNW 28-Feb-20 12:00 2.7 WNW 28-Feb-20 13:00 3.6 WSW 28-Feb-20 14:00 2.2 ENE 28-Feb-20 15:00 2.2 SW 28-Feb-20 16:00 1.8 ENE 28-Feb-20 19:00 0.4 ENE 28-Feb-20 19:00 0.4 ENE 28-Feb-20 21:00 0.4 SW 28-Feb-20 21:00 0.4 SW 28-Feb-20 2:00 | 28-Feb-20 | 2:00 | 2.2 | ENE |
| 28-Feb-20 5:00 0.4 WSW 28-Feb-20 6:00 0.4 W 28-Feb-20 7:00 0.9 WSW 28-Feb-20 8:00 0.9 WSW 28-Feb-20 9:00 0.9 WSW 28-Feb-20 9:00 0.9 WSW 28-Feb-20 10:00 1.3 WSW 28-Feb-20 11:00 1.8 WNW 28-Feb-20 12:00 2.7 WNW 28-Feb-20 13:00 3.6 WSW 28-Feb-20 14:00 2.2 ENE 28-Feb-20 15:00 2.2 SW 28-Feb-20 16:00 1.8 ENE 28-Feb-20 17:00 1.3 E 28-Feb-20 19:00 0.4 ENE 28-Feb-20 19:00 0.4 ENE 28-Feb-20 20:00 0.9 SW 28-Feb-20 20:00 0.9 SW 28-Feb-20 20:00 | 28-Feb-20 | 3:00 | 0.9 | NE |
| 28-Feb-206:000.4W28-Feb-207:000.9WSW28-Feb-208:000.9WSW28-Feb-209:000.9WSW28-Feb-2010:001.3WSW28-Feb-2011:001.8WNW28-Feb-2012:002.7WNW28-Feb-2013:003.6WSW28-Feb-2014:002.2ENE28-Feb-2015:002.2SW28-Feb-2016:001.8ENE28-Feb-2016:001.3E28-Feb-2017:001.3E28-Feb-2019:000.4ENE28-Feb-2020:000.9SW28-Feb-2019:000.4ENE28-Feb-2021:000.9SW28-Feb-2021:000.9SW28-Feb-2021:000.9SW28-Feb-2023:000.9SW28-Feb-201000.9E29-Feb-201:000.9ENE29-Feb-201:000.9ENE29-Feb-203:000.4NW29-Feb-205:000.4NW29-Feb-206:000.9ENE29-Feb-205:000.4NW29-Feb-207:000.9ENE29-Feb-207:000.9ENE29-Feb-207:000.9ENE29-Feb-207:000.9WNW | 28-Feb-20 | 4:00 | 0.4 | NE |
| 28-Feb-207:000.9WSW28-Feb-208:000.9WSW28-Feb-209:000.9WSW28-Feb-2010:001.3WSW28-Feb-2011:001.8WNW28-Feb-2012:002.7WNW28-Feb-2013:003.6WSW28-Feb-2014:002.2ENE28-Feb-2015:002.2SW28-Feb-2016:001.8ENE28-Feb-2016:001.3E28-Feb-2017:001.3E28-Feb-2019:000.4ENE28-Feb-2021:000.4SW28-Feb-2021:000.9SW28-Feb-2021:000.4ENE28-Feb-2021:000.9SW28-Feb-2021:000.9SW28-Feb-2021:000.9SW28-Feb-2021:000.9ENE29-Feb-201:000.9ENE29-Feb-201:000.9ENE29-Feb-203:000.4NW29-Feb-205:000.4NW29-Feb-205:000.4NW29-Feb-206:000.9ENE29-Feb-207:000.9ENE29-Feb-207:000.9ENE29-Feb-207:000.9WNW | 28-Feb-20 | 5:00 | 0.4 | WSW |
| 28-Feb-208:000.9WSW28-Feb-209:000.9WSW28-Feb-2010:001.3WSW28-Feb-2011:001.8WNW28-Feb-2012:002.7WNW28-Feb-2013:003.6WSW28-Feb-2014:002.2ENE28-Feb-2015:002.2SW28-Feb-2016:001.8ENE28-Feb-2016:001.3E28-Feb-2019:000.4ENE28-Feb-2020:000.4ENE28-Feb-2021:000.4SW28-Feb-2021:000.9SW28-Feb-2021:000.4ENE28-Feb-2021:000.4ENE28-Feb-2021:000.9SW28-Feb-2021:000.9SW28-Feb-2021:000.4ENE28-Feb-2021:000.9SW28-Feb-2021:000.9SW29-Feb-201:000.9E29-Feb-203:000.4E29-Feb-203:000.4NW29-Feb-205:000.4NW29-Feb-206:000.9ENE29-Feb-206:000.9ENE29-Feb-207:000.9WNW | 28-Feb-20 | 6:00 | 0.4 | W |
| 28-Feb-209:000.9WSW28-Feb-2010:001.3WSW28-Feb-2011:001.8WNW28-Feb-2012:002.7WNW28-Feb-2013:003.6WSW28-Feb-2013:002.2ENE28-Feb-2014:002.2ENE28-Feb-2015:002.2SW28-Feb-2016:001.8ENE28-Feb-2017:001.3E28-Feb-2019:000.4ENE28-Feb-2020:000.4ENE28-Feb-2021:000.4SW28-Feb-2021:000.9SW28-Feb-2021:000.4ENE28-Feb-2021:000.9SW28-Feb-2021:000.9SW28-Feb-2021:000.4ENE29-Feb-2023:000.9SW29-Feb-201:000.9E29-Feb-203:000.4E29-Feb-204:000.9ENE29-Feb-205:000.4NW29-Feb-206:000.9ENE29-Feb-207:000.9WNW | 28-Feb-20 | 7:00 | 0.9 | WSW |
| 28-Feb-2010:001.3WSW28-Feb-2011:001.8WNW28-Feb-2012:002.7WNW28-Feb-2013:003.6WSW28-Feb-2014:002.2ENE28-Feb-2015:002.2SW28-Feb-2016:001.8ENE28-Feb-2017:001.3E28-Feb-2019:000.4ENE28-Feb-2020:000.4ENE28-Feb-2021:000.4SW28-Feb-2021:000.9SW28-Feb-2021:000.4ENE28-Feb-2021:000.4ENE28-Feb-2021:000.4ENE28-Feb-2021:000.9SW28-Feb-2021:000.9SW28-Feb-2021:000.9SW28-Feb-2021:000.9ENE29-Feb-201:000.9ENE29-Feb-203:000.4E29-Feb-203:000.4NW29-Feb-205:000.4NW29-Feb-205:000.4NW29-Feb-205:000.9ENE29-Feb-207:000.9WNW | 28-Feb-20 | 8:00 | 0.9 | WSW |
| 28-Feb-2011:001.8WNW28-Feb-2012:002.7WNW28-Feb-2013:003.6WSW28-Feb-2014:002.2ENE28-Feb-2015:002.2SW28-Feb-2016:001.8ENE28-Feb-2016:001.3E28-Feb-2019:000.4ENE28-Feb-2020:000.4ENE28-Feb-2021:000.4SW28-Feb-2022:000.9SW28-Feb-2021:000.4ENE28-Feb-2021:000.4ENE28-Feb-2023:000.9SW28-Feb-203:000.9ENE29-Feb-203:000.4E29-Feb-203:000.4E29-Feb-203:000.9ENE29-Feb-203:000.4E29-Feb-205:000.4NW29-Feb-205:000.9ENE29-Feb-207:000.9WNW | 28-Feb-20 | 9:00 | 0.9 | WSW |
| 28-Feb-2012:002.7WNW28-Feb-2013:003.6WSW28-Feb-2014:002.2ENE28-Feb-2015:002.2SW28-Feb-2016:001.8ENE28-Feb-2017:001.3E28-Feb-2018:000.9SW28-Feb-2019:000.4ENE28-Feb-2021:000.4SW28-Feb-2021:000.4SW28-Feb-2021:000.9SW28-Feb-2021:000.9SW28-Feb-2023:000.9SW29-Feb-201:000.9E29-Feb-201:000.9ENE29-Feb-203:000.4E29-Feb-204:000.9ENE29-Feb-205:000.4NW29-Feb-205:000.4NW29-Feb-207:000.9ENE | 28-Feb-20 | 10:00 | 1.3 | WSW |
| 28-Feb-20 13:00 3.6 WSW 28-Feb-20 14:00 2.2 ENE 28-Feb-20 15:00 2.2 SW 28-Feb-20 16:00 1.8 ENE 28-Feb-20 16:00 1.3 E 28-Feb-20 17:00 1.3 E 28-Feb-20 18:00 0.9 SW 28-Feb-20 19:00 0.4 ENE 28-Feb-20 20:00 0.4 ENE 28-Feb-20 21:00 0.4 SW 28-Feb-20 21:00 0.4 SW 28-Feb-20 21:00 0.4 SW 28-Feb-20 21:00 0.9 SW 28-Feb-20 20:00 0.9 SW 29-Feb-20 0:00 1.3 SW 29-Feb-20 1:00 0.9 E 29-Feb-20 3:00 0.4 E 29-Feb-20 3:00 0.4 NW 29-Feb-20 5:00 < | 28-Feb-20 | 11:00 | 1.8 | WNW |
| 28-Feb-2014:002.2ENE28-Feb-2015:002.2SW28-Feb-2016:001.8ENE28-Feb-2017:001.3E28-Feb-2018:000.9SW28-Feb-2019:000.4ENE28-Feb-2020:000.4ENE28-Feb-2021:000.4SW28-Feb-2021:000.9SW28-Feb-2022:000.9SW28-Feb-2021:000.9ENE28-Feb-2023:000.9SSW29-Feb-201:000.9E29-Feb-201:000.9ENE29-Feb-203:000.4E29-Feb-205:000.4NW29-Feb-205:000.4NW29-Feb-205:000.4NW29-Feb-205:000.9ENE29-Feb-207:000.9WNW | 28-Feb-20 | 12:00 | 2.7 | WNW |
| 28-Feb-2015:002.2SW28-Feb-2016:001.8ENE28-Feb-2017:001.3E28-Feb-2018:000.9SW28-Feb-2019:000.4ENE28-Feb-2020:000.4ENE28-Feb-2021:000.4SW28-Feb-2021:000.4SW28-Feb-2022:000.9SW28-Feb-2022:000.9SW28-Feb-2023:000.9SW29-Feb-200:001.3SW29-Feb-201:000.9E29-Feb-203:000.4E29-Feb-204:000.9ENE29-Feb-205:000.4NW29-Feb-205:000.4NW29-Feb-205:000.9ENE29-Feb-205:000.9ENE29-Feb-205:000.9ENE29-Feb-207:000.9WNW | 28-Feb-20 | 13:00 | 3.6 | WSW |
| 28-Feb-2016:001.8ENE28-Feb-2017:001.3E28-Feb-2018:000.9SW28-Feb-2019:000.4ENE28-Feb-2020:000.4ENE28-Feb-2021:000.4SW28-Feb-2022:000.9SW28-Feb-2022:000.9SW28-Feb-2023:000.9SW29-Feb-200:001.3SW29-Feb-201:000.9E29-Feb-203:000.4E29-Feb-203:000.4NW29-Feb-205:000.4NW29-Feb-205:000.4NW29-Feb-205:000.9ENE29-Feb-207:000.9ENE29-Feb-207:000.9WNW | 28-Feb-20 | 14:00 | 2.2 | ENE |
| 28-Feb-2017:001.3E28-Feb-2018:000.9SW28-Feb-2019:000.4ENE28-Feb-2020:000.4ENE28-Feb-2021:000.4SW28-Feb-2022:000.9SW28-Feb-2023:000.9SW28-Feb-2023:000.9SSW29-Feb-201:000.9E29-Feb-201:000.9E29-Feb-202:000.9ENE29-Feb-203:000.4E29-Feb-205:000.4NW29-Feb-205:000.4NW29-Feb-205:000.9ENE29-Feb-205:000.9ENE29-Feb-205:000.4NW29-Feb-207:000.9WNW | 28-Feb-20 | 15:00 | 2.2 | SW |
| 28-Feb-2018:000.9SW28-Feb-2019:000.4ENE28-Feb-2020:000.4ENE28-Feb-2021:000.4SW28-Feb-2022:000.9SW28-Feb-2023:000.9SW28-Feb-2023:000.9SSW29-Feb-200:001.3SW29-Feb-201:000.9E29-Feb-202:000.9ENE29-Feb-203:000.4E29-Feb-205:000.4NW29-Feb-205:000.4NW29-Feb-205:000.9ENE29-Feb-207:000.9WNW | 28-Feb-20 | 16:00 | 1.8 | ENE |
| 28-Feb-2019:000.4ENE28-Feb-2020:000.4ENE28-Feb-2021:000.4SW28-Feb-2022:000.9SW28-Feb-2023:000.9SSW29-Feb-200:001.3SW29-Feb-201:000.9E29-Feb-202:000.9ENE29-Feb-203:000.4E29-Feb-203:000.4NW29-Feb-205:000.4NW29-Feb-205:000.4NW29-Feb-205:000.9ENE29-Feb-207:000.9WNW | 28-Feb-20 | 17:00 | 1.3 | Е |
| 28-Feb-2020:000.4ENE28-Feb-2021:000.4SW28-Feb-2022:000.9SW28-Feb-2023:000.9SSW29-Feb-200:001.3SW29-Feb-201:000.9E29-Feb-202:000.9ENE29-Feb-203:000.4E29-Feb-203:000.4NW29-Feb-205:000.4NW29-Feb-205:000.4NW29-Feb-205:000.9ENE29-Feb-205:000.9WNW | 28-Feb-20 | 18:00 | 0.9 | SW |
| 28-Feb-2021:000.4SW28-Feb-2022:000.9SW28-Feb-2023:000.9SSW29-Feb-200:001.3SW29-Feb-201:000.9E29-Feb-202:000.9ENE29-Feb-203:000.4E29-Feb-203:000.4NW29-Feb-205:000.4NW29-Feb-205:000.4NW29-Feb-205:000.9ENE29-Feb-205:000.9WNW | 28-Feb-20 | 19:00 | 0.4 | ENE |
| 28-Feb-2022:000.9SW28-Feb-2023:000.9SSW29-Feb-200:001.3SW29-Feb-201:000.9E29-Feb-202:000.9ENE29-Feb-203:000.4E29-Feb-204:000.9ENE29-Feb-205:000.4NW29-Feb-205:000.9ENE29-Feb-205:000.9ENE29-Feb-205:000.9WNW | 28-Feb-20 | 20:00 | 0.4 | ENE |
| 28-Feb-2023:000.9SSW29-Feb-200:001.3SW29-Feb-201:000.9E29-Feb-202:000.9ENE29-Feb-203:000.4E29-Feb-204:000.9ENE29-Feb-205:000.4NW29-Feb-205:000.4NW29-Feb-207:000.9ENE | 28-Feb-20 | 21:00 | 0.4 | SW |
| 29-Feb-200:001.3SW29-Feb-201:000.9E29-Feb-202:000.9ENE29-Feb-203:000.4E29-Feb-204:000.9ENE29-Feb-205:000.4NW29-Feb-206:000.9ENE29-Feb-207:000.9WNW | 28-Feb-20 | 22:00 | 0.9 | SW |
| 29-Feb-201:000.9E29-Feb-202:000.9ENE29-Feb-203:000.4E29-Feb-204:000.9ENE29-Feb-205:000.4NW29-Feb-206:000.9ENE29-Feb-207:000.9WNW | 28-Feb-20 | 23:00 | 0.9 | SSW |
| 29-Feb-202:000.9ENE29-Feb-203:000.4E29-Feb-204:000.9ENE29-Feb-205:000.4NW29-Feb-206:000.9ENE29-Feb-207:000.9WNW | 29-Feb-20 | 0:00 | 1.3 | SW |
| 29-Feb-20 3:00 0.4 E 29-Feb-20 4:00 0.9 ENE 29-Feb-20 5:00 0.4 NW 29-Feb-20 6:00 0.9 ENE 29-Feb-20 6:00 0.9 ENE 29-Feb-20 7:00 0.9 WNW | 29-Feb-20 | 1:00 | 0.9 | Е |
| 29-Feb-204:000.9ENE29-Feb-205:000.4NW29-Feb-206:000.9ENE29-Feb-207:000.9WNW | 29-Feb-20 | 2:00 | 0.9 | ENE |
| 29-Feb-205:000.4NW29-Feb-206:000.9ENE29-Feb-207:000.9WNW | 29-Feb-20 | 3:00 | 0.4 | E |
| 29-Feb-20 6:00 0.9 ENE 29-Feb-20 7:00 0.9 WNW | 29-Feb-20 | 4:00 | 0.9 | ENE |
| 29-Feb-20 7:00 0.9 WNW | 29-Feb-20 | 5:00 | 0.4 | NW |
| | 29-Feb-20 | 6:00 | 0.9 | ENE |
| 29-Feb-20 8:00 0.9 ENE | 29-Feb-20 | 7:00 | 0.9 | WNW |
| | 29-Feb-20 | 8:00 | 0.9 | ENE |

| 29-Feb-20 | 9:00 | 1.3 | ESE |
|-----------|-------|-----|-----|
| 29-Feb-20 | 10:00 | 0.4 | NW |
| 29-Feb-20 | 11:00 | 0.4 | NW |
| 29-Feb-20 | 12:00 | 0.9 | NW |
| 29-Feb-20 | 13:00 | 0.4 | NNE |
| 29-Feb-20 | 14:00 | 0.4 | NNW |
| 29-Feb-20 | 15:00 | 0.4 | W |
| 29-Feb-20 | 16:00 | 0.9 | WNW |
| 29-Feb-20 | 17:00 | 0.9 | WSW |
| 29-Feb-20 | 18:00 | 0.4 | WSW |
| 29-Feb-20 | 19:00 | 0.4 | WSW |
| 29-Feb-20 | 20:00 | 0.4 | W |
| 29-Feb-20 | 21:00 | 0.9 | NW |
| 29-Feb-20 | 22:00 | 1.3 | W |
| 29-Feb-20 | 23:00 | 1.3 | W |

APPENDIX D ENVIRONMENTAL MONITORING SCHEDULES

Contract No. KLN/2016/04 Environmental Monitoring Works for Contract No. KL/2015/02 Kai Tak Development –Stage 5A Infrastructure at Former North Apron Area Impact Air and Noise Monitoring Schedule for February 2020

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|--------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | | | | | | 1-Feb |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| 2-Feb | 3-Feb | 4-Feb | | 6-Feb | 7-Feb | 8-Feb |
| | | | 1-hr TSP x 3 [AM2] | | | |
| | | | | | | |
| | | 24-hr TSP [AM2(A)] | | | | |
| | | | Noise [M3, M4 & | | | |
| | | | M5(C)] | | | |
| 9-Feb | 10-Feb | | 12-Feb | 13-Feb | 14-Feb | 15-Feb |
| | | 1-hr TSP x 3 [AM2] | | | | |
| | | | | | | |
| | 24-hr TSP [AM2(A)] | | | | | 24-hr TSP [AM2(A)] |
| | | Noise [M3, M4 & | | | | |
| | | M5(C)] | | | | |
| 16-Feb | | 18-Feb | 19-Feb | 20-Feb | | 22-Feb |
| | 1-hr TSP x 3 [AM2] | | | | 1-hr TSP x 3 [AM2] | |
| | | | | | | |
| | | | | 24-hr TSP [AM2(A)] | | |
| | Noise [M3, M4 & | | | | | |
| | M5(C)] | | | | | |
| 23-Feb | 24-Feb | 25-Feb | 26-Feb | | 28-Feb | 29-Feb |
| | | | | 1-hr TSP x 3 [AM2] | | |
| | | | | | | |
| | | | 24-hr TSP [AM2(A)] | | | |
| | | | | Noise [M3(A), M4 & | | |
| | | | | M5(C)] | | |

* The noise level limit is 65dB(A) during the exam period

Air Quality Monitoring Station

AM2 - Lee Kau Yan Memorial School AM2(A) - Ng Wah Catholic Secondary School

Noise Monitoring Station

M3 - Cognitio College M3(A) - The Bridge connecting The Latitude M4 - Lee Kau Yan Memorial School M5(C) - Mercy Grace's Home

Contract No. KLN/2016/04 Environmental Monitoring Works for Contract No. KL/2015/02 Kai Tak Development –Stage 5A Infrastructure at Former North Apron Area Tentative Impact Air and Noise Monitoring Schedule for March 2020

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|--------|----------------------------------------------------|------------------------------------------|----------------------------------------------------|----------------------------------------------------|--------------------|----------|
| 1-Mar | 2-Mar | 3-Mar | 4-Mar | 5-Mar | 6-Mar | 7-Mar |
| | | 24-hr TSP [AM2(A)] | 1-hr TSP x 3 [AM2] | | | |
| | | | Noise [M3(A), M4 & M5(C)] | | | |
| 8-Mar | 9-Mar | 10-Mar | 11-Mar | 12-Mar | 13-Mar | 14-Mar |
| | 24-hr TSP [AM2(A)] | 1-hr TSP x 3 [AM2] Noise [M3(A), M4 & | | | 24-hr TSP [AM2(A)] | |
| | | M5(C)] | | | | |
| 15-Mar | 16-Mar | 17-Mar | 18-Mar | 19-Mar | | 21-Mar |
| | 1-hr TSP x 3 [AM2] Noise [M3(A), M4 & M5(C)] | | | 24-hr TSP [AM2(A)] | 1-hr TSP x 3 [AM2] | |
| 22-Mar | 23-Mar | 24-Mar | 25-Mar | 26-Mar | 27-Mar | 28-Mar |
| | | | 24-hr TSP [AM2(A)] | 1-hr TSP x 3 [AM2] Noise [M3(A), M4 & M5(C)] | | |
| 29-Mar | 30-Mar | 31-Mar | 1-Apr | 2-Apr | 3-Apr | 4-Apr |
| | | 24-hr TSP [AM2(A)] | 1-hr TSP x 3 [AM2] Noise [M3(A), M4 & M5(C)] | | | |

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

* The noise level limit is 65dB(A) during the exam period

Air Quality Monitoring Station

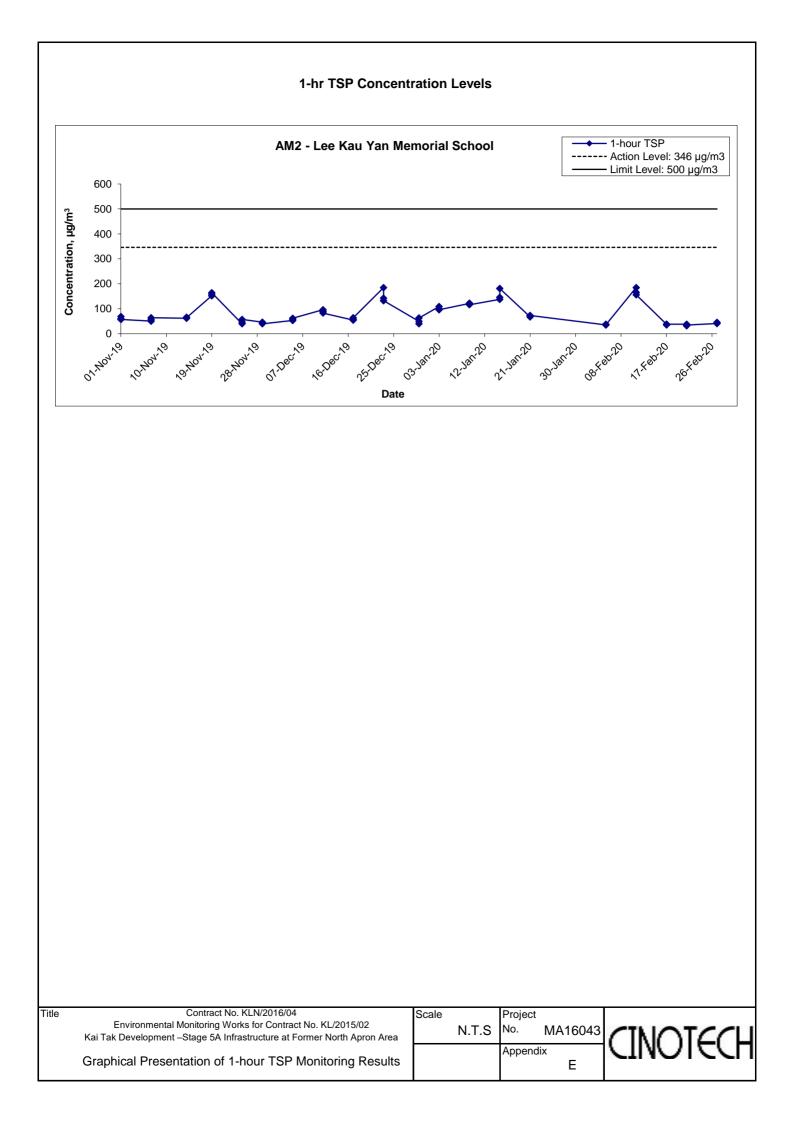
Noise Monitoring Station

AM2 - Lee Kau Yan Memorial School AM2(A) - Ng Wah Catholic Secondary School M3(A) - The Bridge connecting The Latitude M4 - Lee Kau Yan Memorial School M5(C) - Mercy Grace's Home

APPENDIX E 1-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATION

Appendix E - 1-hour TSP Monitoring Results in February 2020

| Location AM2 - | Lee Kau Yar | n Memorial S | chool |
|----------------|-------------|--------------|-----------------------------------|
| Date | Time | Weather | Particulate Concentration (µg/m3) |
| 5-Feb-20 | 13:00 | Cloudy | 35 |
| 5-Feb-20 | 14:00 | Cloudy | 38 |
| 5-Feb-20 | 15:00 | Cloudy | 35 |
| 11-Feb-20 | 13:00 | Rainy | 185 |
| 11-Feb-20 | 14:00 | Rainy | 166 |
| 11-Feb-20 | 15:00 | Rainy | 156 |
| 17-Feb-20 | 13:00 | Sunny | 38 |
| 17-Feb-20 | 14:00 | Sunny | 35 |
| 17-Feb-20 | 15:00 | Sunny | 38 |
| 21-Feb-20 | 9:00 | Sunny | 38 |
| 21-Feb-20 | 10:00 | Sunny | 32 |
| 21-Feb-20 | 11:00 | Sunny | 35 |
| 27-Feb-20 | 9:00 | Sunny | 41 |
| 27-Feb-20 | 10:00 | Sunny | 43 |
| 27-Feb-20 | 11:00 | Sunny | 46 |
| | | Average | 64 |
| | | Maximum | 185 |
| | | Minimum | 32 |



APPENDIX F 24-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATION

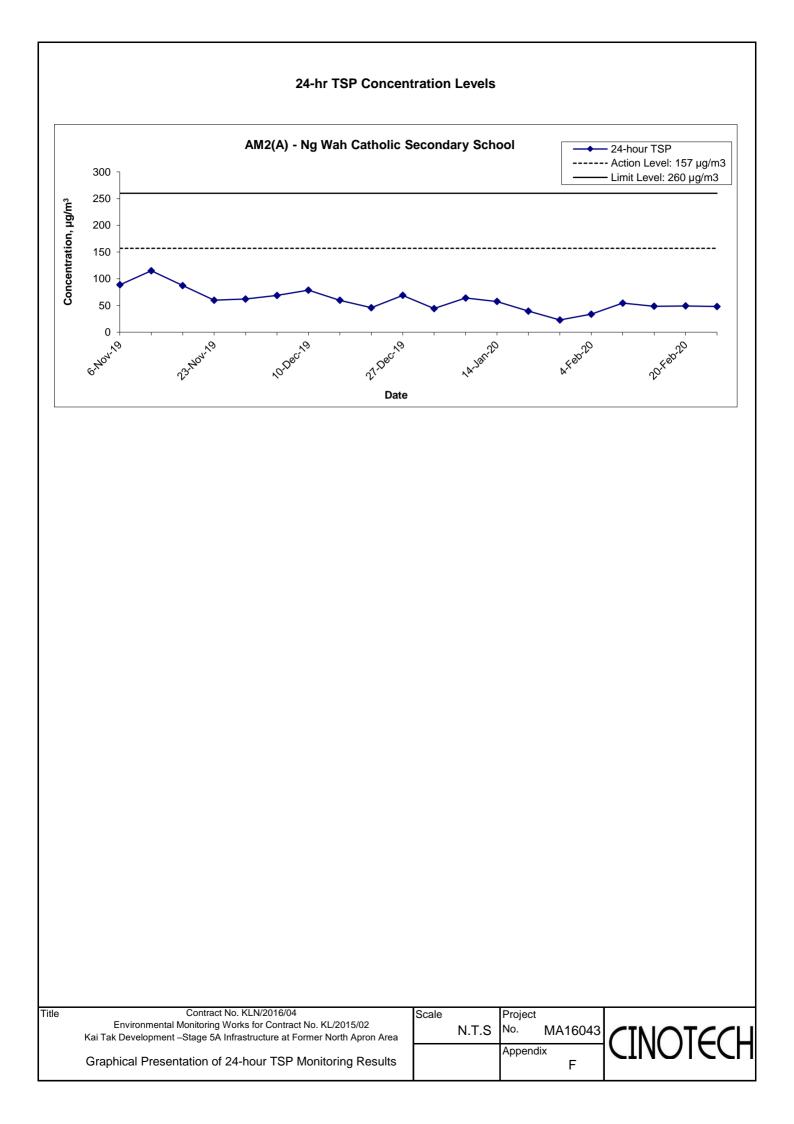
Appendix F - 24-hour TSP Monitoring Results in February 2020

| Start Date | Weather | Air Temp. | Atmospheric Pressure, | Filter W | eight (g) | Particulate | Elapse | e Time | Sampling | Flow Rate | e (m³/min.) | Av. Flow | Total vol. | Conc. |
|------------|-----------|-----------|-----------------------|----------|-----------|-------------|---------|--------|-------------|-----------|-------------|----------|------------|---------|
| Start Date | Condition | (K) | Pa (mmHg) | Initial | Final | weight (g) | Initial | Final | Time (hrs.) | Initial | Final | (m3/min) | (m3) | (µg/m3) |
| 4-Feb-20 | Cloudy | 290.4 | 765.6 | 3.4991 | 3.5592 | 0.0601 | 5297.4 | 5321.4 | 24.0 | 1.23 | 1.23 | 1.23 | 1775.9 | 34 |
| 10-Feb-20 | Fine | 290.3 | 766.6 | 3.4372 | 3.5342 | 0.0970 | 5321.5 | 5345.5 | 24.0 | 1.24 | 1.23 | 1.23 | 1777.4 | 55 |
| 15-Feb-20 | Sunny | 290.6 | 762.9 | 3.4976 | 3.5837 | 0.0861 | 5345.5 | 5369.5 | 24.0 | 1.22 | 1.24 | 1.23 | 1772.7 | 49 |
| 20-Feb-20 | Sunny | 291.3 | 769.6 | 3.5361 | 3.6236 | 0.0875 | 5369.5 | 5393.5 | 24.0 | 1.24 | 1.23 | 1.23 | 1778.4 | 49 |
| 26-Feb-20 | Sunny | 294.9 | 764.3 | 3.5279 | 3.6128 | 0.0849 | 5393.5 | 5417.5 | 24.0 | 1.22 | 1.23 | 1.22 | 1763.0 | 48 |
| | | | | | | | | | | | | | Min | 34 |
| | | | | | | | | | | | | | Max | 55 |

Location AM2(A) - Ng Wah Catholic Secondary School

Average

47



APPENDIX G NOISE MONITORING RESULTS AND GRAPHICAL PRESENTATION

Appendix G - Noise Monitoring Results

| Location M3 - Cognitio College | | | | | | | | | | | |
|--------------------------------|-----------------------|---------|-------------------------------|-----------------|------------------|--------------------------|-----------------|-----------------------|--|--|--|
| | Unit: dB (A) (30-min) | | | | | | | | | | |
| Date | Time | Weather | Measured Noise Level Backgrou | | Background Noise | Construction Noise Level | | | | | |
| | | | L _{eq} | L ₁₀ | L ₉₀ | L _{eq} | L _{eq} | | | | |
| 5-Feb-20 | 11:30 | Cloudy | 76 | 78 | 73 | 76 | 76 | Measured ≦ Background | | | |
| 11-Feb-20 | 11:30 | Cloudy | 76 | 78 | 75 | 76 | 60 | | | | |
| 17-Feb-20 | 11:30 | Sunny | 75 | 77 | 72 | 75 | 64 | | | | |

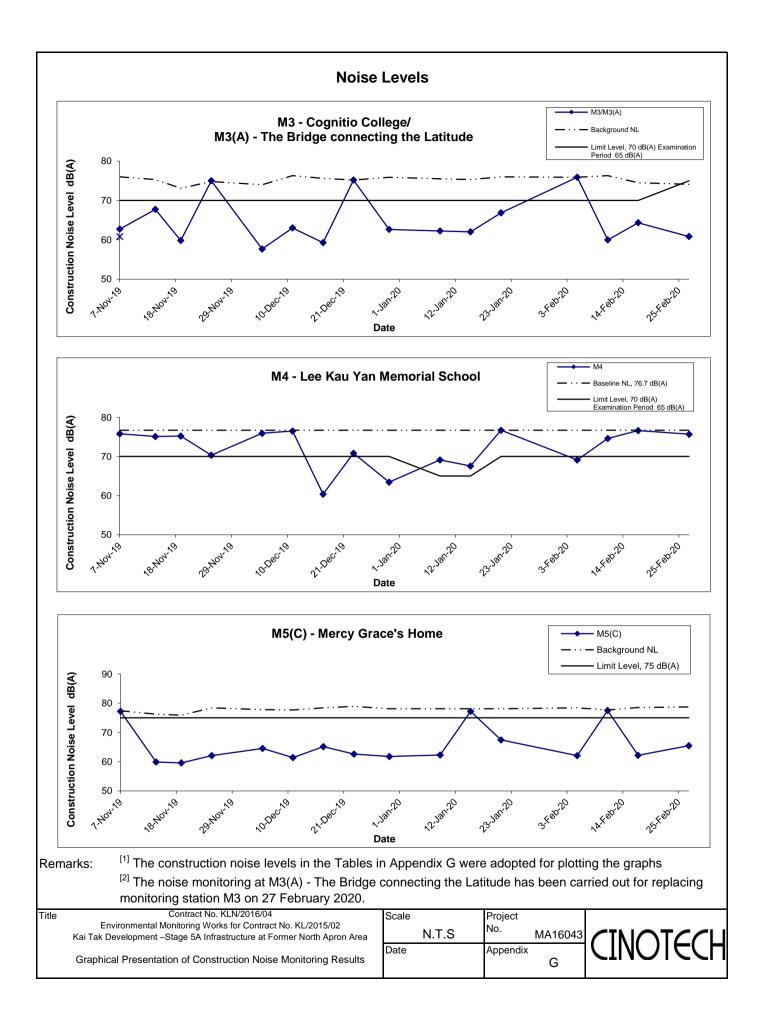
Location M3(A) - The Bridge connecting The Latitude

| | | | | | Unit: dB (A) (30-min) | | | | |
|-----------|-------|---------|----------------------|-----------------|-----------------------|------------------|--------------------------|-----------------|--|
| Date | Time | Weather | Measured Noise Level | | | Background Noise | Construction Noise Level | | |
| | | | L _{eq} | L ₁₀ | L ₉₀ | L _{eq} | | L _{eq} | |
| 27-Feb-20 | 11:20 | Sunny | 74 | 77 | 72 | 74 | 61 | | |

| | | | | | Ui | nit: dB (A) (30-min) | | | |
|-----------|-------|---------|-----------------|-------------------------------------|-----------------|----------------------|-----------------|--------------------------|--|
| Date | Time | Weather | Meas | Measured Noise Level Baseline Level | | | Con | Construction Noise Level | |
| | | | L _{eq} | L ₁₀ | L ₉₀ | L _{eq} | L _{eq} | | |
| 5-Feb-20 | 13:45 | Cloudy | 77 | 79 | 76 | | 69 | | |
| 11-Feb-20 | 13:00 | Cloudy | 75 | 76 | 73 | 77 | 75 | Measured ≦ Baseline | |
| 17-Feb-20 | 13:30 | Sunny | 77 | 78 | 75 | | 77 | Measured ≦ Baseline | |
| 27-Feb-20 | 9:05 | Sunny | 76 | 77 | 74 | | 76 | Measured ≦ Baseline | |

| Location M5(| C) - Mercy G | race's Home | | | | | | |
|--------------|--------------|-------------|----------------------|-----------------|-----------------|----------------------|-----------------|-----------------------|
| | | | | | U | nit: dB (A) (30-min) | | |
| Date | Time | Weather | Measured Noise Level | | | Background Noise | Con | struction Noise Level |
| | | | L _{eq} | L ₁₀ | L ₉₀ | L _{eq} | L _{eq} | |
| 5-Feb-20 | 13:00 | Cloudy | 79 | 80 | 76 | 78 | 62 | |
| 11-Feb-20 | 14:35 | Cloudy | 78 | 80 | 76 | 78 | 78 | Measured ≦ Background |
| 17-Feb-20 | 13:00 | Sunny | 79 | 81 | 76 | 79 | 62 | |
| 27-Feb-20 | 13:00 | Sunny | 79 | 81 | 75 | 79 | 65 | |

*All data has been presented to the nearest integer



APPENDIX H SUMMARY OF EXCEEDANCE

Appendix H – Summary of Exceedance

Exceedance Report for Contract No. KL/2015/02

- (A) Exceedance Report for Air Quality (NIL in the reporting month)
- (B) Exceedance Report for Construction Noise (NIL in the reporting month)
- (C) Exceedance Report for Landscape and Visual (NIL in the reporting month)

APPENDIX I SITE AUDIT SUMMARY

| Checklist Reference Number | 200204 |
|----------------------------|-----------------|
| Date | 4 February 2020 |
| Time | 14:00 - 15:10 |

| Ref. No. | Non-Compliance | Related Item No. |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| - | None identified | - |
| Ref. No. | Remarks/Observations | Related Item No. |
| | B. Water Quality | |
| | No environmental deficiency was identified during site inspection. | |
| | C. Air Quality | |
| | No environmental deficiency was identified during site inspection. | |
| | D. Noise | |
| | No environmental deficiency was identified during site inspection. | |
| | E. Waste / Chemical Management | |
| | No environmental deficiency was identified during site inspection. | |
| | F. Visual and Landscape | |
| | No environmental deficiency was identified during site inspection. | |
| | G. Permits /Licences | |
| | No environmental deficiency was identified during site inspection. | |
| | H. Others | |
| 200116-R2 | • Following up on the previous site inspection (200116): The waste collection tray is not covered at S15. | E1 |
| 200120-R1 | • Following up on the previous site inspection (200120): Waste and liquid are accumulated in the drip tray of the generator at Road D1. | E9 |

| | Name | Signature | Date |
|-------------|-------------|-----------|----------------|
| Recorded by | Tommy Lam | Sans | 4 January 2020 |
| Checked by | Colman Wong | Colman | 5 January 2020 |

| Checklist Reference Number | 200212 |
|----------------------------|------------------|
| Date | 12 February 2020 |
| Time | 09:30 - 11:00 |

| Ref. No. | Non-Compliance | Related Item No. |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| - | None identified | - |
| Ref. No. | Remarks/Observations | Related Item No. |
| | B. Water Quality | |
| | No environmental deficiency was identified during site inspection. | |
| | C. Air Quality | |
| | • No environmental deficiency was identified during site inspection. | |
| | D. Noise | |
| | • No environmental deficiency was identified during site inspection. | |
| | E. Waste / Chemical Management | |
| | • No environmental deficiency was identified during site inspection. | |
| | F. Visual and Landscape | |
| | • No environmental deficiency was identified during site inspection. | |
| | G. Permits /Licences | |
| | No environmental deficiency was identified during site inspection. | |
| | H. Others | |
| | • Following up on the previous site inspection (200116): The items (200106-R2) in the previous inspection were rectified/improved by the Contractor. | |
| | • Following up on the previous site inspection (200120): The items (200120-R1) in the previous inspection were rectified/improved by the Contractor. | |

| | Name | Signature | Date |
|-------------|-------------|-----------|------------------|
| Recorded by | Tommy Lam | Sans | 12 February 2020 |
| Checked by | Colman Wong | Colman | 12 February 2020 |

| Checklist Reference Number | 200217 |
|----------------------------|------------------|
| Date | 17 February 2020 |
| Time | 14:30 - 15:00 |

| Ref. No. | Non-Compliance | Related Item No. |
|----------|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| - | None identified | - |
| Ref. No. | Remarks/Observations | Related Item No. |
| | B. Water Quality | |
| | No environmental deficiency was identified during site inspection. | |
| | C. Air Quality | |
| R1 | • The dusty material is exposed without cover at S15. | C7 |
| | D. Noise | |
| | No environmental deficiency was identified during site inspection. | |
| | E. Waste / Chemical Management | |
| | No environmental deficiency was identified during site inspection. | |
| | F. Visual and Landscape | |
| | No environmental deficiency was identified during site inspection. | |
| | G. Permits /Licences | |
| | No environmental deficiency was identified during site inspection. | |
| | H. Others | |
| | • Following up on the previous site inspection (200212): No environmental deficiency was identified during pervious site inspection. | |

| | Name | Signature | Date |
|-------------|-------------|-----------|------------------|
| Recorded by | Tommy Lam | San | 17 February 2020 |
| Checked by | Colman Wong | Colman | 17 February 2020 |

| Checklist Reference Number | 200224 |
|----------------------------|------------------|
| Date | 24 February 2020 |
| Time | 14:00 - 15:10 |

| Ref. No. | Non-Compliance | Related Item No. |
|-----------|---------------------------------------------------------------------------------------------------------------|-------------------------|
| _ | None identified | - |
| Ref. No. | Remarks/Observations | Related Item No. |
| | B. Water Quality | |
| | No environmental deficiency was identified during site inspection. | |
| | C. Air Quality | |
| R1 | • The dusty slopes are not covered by dust screen properly at Portion 6. | C7 |
| | D. Noise | |
| | No environmental deficiency was identified during site inspection. | |
| | E. Waste / Chemical Management | |
| | No environmental deficiency was identified during site inspection. | |
| | F. Visual and Landscape | |
| | No environmental deficiency was identified during site inspection. | |
| | G. Permits /Licences | |
| | No environmental deficiency was identified during site inspection. | |
| | H. Others | |
| 200217-R1 | • Following up on the previous site inspection (200217): The dusty material is exposed without cover at \$15. | C7 |

| | Name | Signature | Date |
|-------------|-------------|-----------|------------------|
| Recorded by | Tommy Lam | Sans | 24 February 2020 |
| Checked by | Colman Wong | Colman | 25 February 2020 |

APPENDIX J EVENT ACTION PLANS

Event/Action Plan for Air Quality

| EVENT | ACTION | | | | |
|--------------------|--------------------------------------------|---------------------------------------|------------------------------------|---------------------------------------|--|
| | ET | IEC | ER | CONTRACTOR | |
| Action Level being | 1. Identify source and investigate the | 1. Check monitoring data submitted | 1. Notify Contractor. | 1. Rectify any unacceptable practice; | |
| exceeded by | causes of exceedance; | by ET; | | 2. Amend working methods if | |
| one sampling | 2. Inform Contactor, IEC and ER; | 2. Check Contractor's working | | appropriate. | |
| | 3. Repeat measurement to confirm finding. | method. | | | |
| Action Level being | 1. Identify source and investigate the | 1. Check monitoring data submitted | 1. Confirm receipt of notification | 1. Discuss with ET and IEC on proper | |
| exceeded by | causes of exceedance; | by ET; | of exceedance in writing; | remedial actions; | |
| two or more | 2. Inform Contractor, IEC and ER; | 2. Check Contractor's working | 2. Notify Contractor; | 2. Submit proposals for remedial | |
| consecutive | 3. Increase monitoring frequency to daily; | method; | 3. In consolidation with the IEC, | actions to ER and IEC within three | |
| sampling | 4. Discuss with IEC and Contractor on | 3. Discuss with ET and Contractor on | agree with the Contractor on the | working days of notification; | |
| | remedial actions required; | possible remedial measures; | remedial measures to be | 3. Implement the agreed proposals; | |
| | 5. Assess the effectiveness of | 4. Advise the ER on the effectiveness | implemented; | 4. Amend proposal if appropriate. | |
| | Contractor's remedial actions; | of the proposed remedial measures. | 4. Supervise implementation of | | |
| | 6. If exceedance continues, arrange | | remedial measures; | | |
| | meeting with IEC and ER; | | 5. Conduct meeting with ET and | | |
| | 7. If exceedance stops, cease additional | | IEC if exceedance continues. | | |
| | monitoring. | | | | |
| Limit Level being | 1. Identify source and investigate the | 1. Check monitoring data submitted | 1. Confirm receipt of notification | 1. Take immediate action to avoid | |
| exceeded by | causes of exceedance; | by ET; | of exceedance in writing; | further exceedance; | |
| one sampling | 2. Inform Contractor, IEC, ER, and EPD; | 2. Check Contractor's working | 2. Notify Contractor; | 2. Discuss with ET and IEC on proper | |
| | 3. Repeat measurement to confirm finding; | method; | 3. In consolidation with the IEC, | remedial actions; | |
| | 4. Assess effectiveness of | 3. Discuss with ET and Contractor on | agree with the Contractor on the | 3. Submit proposals for remedial | |
| | Contractor's remedial actions and keep | possible remedial measures; | remedial measures to be | actions to ER and IEC within three | |

| | EPD, IEC and ER informed of | 4. Advise the ER on the | implemented; | working days of notification; |
|-------------------|-------------------------------------------|--------------------------------------|------------------------------------|---------------------------------------|
| | the results. | effectiveness of the proposed | 4. Supervise implementation of | 4. Implement the agreed proposals. |
| | | remedial measures. | remedial measures; | |
| | | | 5. Conduct meeting with ET and | |
| | | | IEC if exceedance continues. | |
| Limit Level being | 1. Notify IEC, ER, Contractor and | 1. Check monitoring data submitted | 1. Confirm receipt of notification | 1. Take immediate action to avoid |
| exceeded by | EPD; | by ET; | of exceedance in writing; | further exceedance; |
| two or more | 2. Repeat measurement to confirm | 2. Check Contractor's working | 2. Notify Contractor; | 2. Discuss with ET, ER and IEC on |
| consecutive | findings; | method; | 3. In consolidation with the IEC, | proper remedial actions; |
| sampling | 3. Carry out analysis of Contractor's | 3. Discuss amongst ER, ET, and | agree with the Contractor on the | 3. Submit proposals for remedial |
| | working procedures to identify source and | Contractor on the potential remedial | remedial measures to be | actions to IEC within three working |
| | investigate the causes of exceedance; | actions; | implemented; | days of notification; |
| | 4. Increase monitoring frequency to | 4. Review Contractor's remedial | 4. Supervise implementation of | 4. Implement the agreed proposals; |
| | daily; | actions whenever necessary to | remedial measures; | 5. Submit further remedial actions if |
| | 5. Arrange meeting with IEC, ER | assure their effectiveness and | 5. If exceedance continues, | problem still not under control; |
| | and Contractor to discuss the | advise the ER accordingly. | consider stopping the Contractor | 6. Stop the relevant portion of works |
| | remedial actions to be taken; | | to continue working on that | as instructed by the ER until the |
| | 6. Assess effectiveness of | | portion of work which causes the | exceedance is abated. |
| | Contractor's remedial actions and | | exceedance until the | |
| | keep EPD, IEC and ER informed | | exceedance is abated. | |
| | of the results; | | | |
| | 7. If exceedance stops, cease additional | | | |
| | monitoring. | | | |

Event/Action Plan for Construction Noise

| EVENT | ACTION | | | | | |
|--------------|----------------------------------------|-----------------------------------|------------------------------|-----------------------------------|--|--|
| | ET | IEC | ER | CONTRACTOR | | |
| Action Level | 1. Notify ER, IEC and Contractor; | 1. Review the investigation | 1. Confirm receipt of | 1. Submit noise mitigation | | |
| being | 2. Carry out investigation; | results submitted by the ET; | notification of failure in | proposals to IEC and ER; | | |
| exceeded | 3. Report the results of investigation | 2. Review the proposed remedial | writing; | 2. Implement noise mitigation | | |
| | to the IEC, ER and Contractor; | measures by the Contractor and | 2. Notify Contractor; | proposals. | | |
| | 4. Discuss with the IEC and | advise the ER accordingly; | 3. In consolidation with the | (The above actions should be | | |
| | Contractor on remedial measures | 3. Advise the ER on the | IEC, agree with the | taken within 2 working days after | | |
| | required; | effectiveness of the proposed | Contractor on the remedial | the exceedance is identified) | | |
| | 5. Increase monitoring frequency to | remedial measures. | measures to be implemented; | | | |
| | check mitigation effectiveness. | (The above actions should be | 4. Supervise the | | | |
| | (The above actions should be taken | taken within 2 working days after | implementation of remedial | | | |
| | within 2 working days after the | the exceedance is identified) | measures. | | | |
| | exceedance is identified) | | (The above actions should be | | | |
| | | | taken within 2 working days | | | |
| | | | after the exceedance is | | | |
| | | | identified) | | | |
| Limit Level | 1. Inform IEC, ER, Contractor and | 1. Discuss amongst ER, ET, and | 1. Confirm receipt of | 1. Take immediate action to | | |
| being | EPD; | Contractor on the potential | notification of failure in | avoid further exceedance; | | |
| exceeded | 2. Repeat measurements to confirm | remedial actions; | writing; | 2. Submit proposals for remedial | | |
| | findings; | 2. Review Contractor's remedial | 2. Notify Contractor; | actions to IEC and ER within 3 | | |
| | 3. Increase monitoring frequency; | actions whenever necessary to | 3. In consolidation with the | working days of notification; | | |
| | 4. Identify source and investigate the | assure their effectiveness and | IEC, agree with the | 3. Implement the agreed | | |
| | cause of exceedance; | advise the ER accordingly. | Contractor on the remedial | proposals; | | |

| 5. Carry out analysis of Contractor's | (The above actions should be | measures to be implemented; | 4. Submit further proposal if |
|---------------------------------------|-----------------------------------|------------------------------|-----------------------------------|
| working procedures; | taken within 2 working days after | 4. Supervise the | problem still not under control; |
| 6. Discuss with the IEC, Contractor | the exceedance is identified) | implementation of remedial | 5. Stop the relevant portion of |
| and ER on remedial measures | | measures; | works as instructed by the ER |
| required; | | 5. If exceedance continues, | until the exceedance is abated. |
| 7. Assess effectiveness of | | consider stopping the | (The above actions should be |
| Contractor's remedial actions and | | Contractor to continue | taken within 2 working days after |
| keep IEC, EPD and ER informed of | | working on that portion of | the exceedance is identified) |
| the results; | | work which causes the | |
| 8. If exceedance stops, cease | | exceedance until the | |
| additional monitoring. | | exceedance is abated. | |
| (The above actions should be taken | | (The above actions should be | |
| within 2 working days after the | | taken within 2 working days | |
| exceedance is identified) | | after the exceedance is | |
| | | identified) | |

Event/Action Plan for Landscape and Visual

| EVENT | | | ACTION | |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| ACTION LEVEL | ET | IEC | ER | CONTRACTOR |
| Design Check | Check final design conforms to the requirements of EP and prepare report. | Check report. Recommend remedial design if necessary | 1. Undertake remedial design if necessary | |
| Non-conformity on one occasion | Identify Source Inform IEC and ER Discuss remedial actions with IEC, ER and Contractor Monitor remedial actions until rectification has been completed | Check report Check Contractor's working method Discuss with ET and Contractor on possible remedial measures Advise ER on effectiveness of proposed remedial measures. Check implementation of remedial measures. | Notify Contractor Ensure remedial measures are properly implemented | Amend working methods Rectify damage and undertake any necessary replacement |
| Repeated Non-conformity | 1. Identify Source Inform IEC and | 1. Check monitoring report | Notify Contractor Ensure remedial measures are properly | Amend working methods Rectify damage and |

| ER | 2. Check Contractor's | implemented | undertake any necessary |
|----------------------|------------------------|-------------|-------------------------|
| 2. Increase | working method | | replacement |
| monitoring | 3. Discuss with ET and | | |
| frequency | Contractor on possible | | |
| 3. Discuss remedial | remedial measures | | |
| actions with IEC, | 4. Advise ER on | | |
| ER and Contractor | effectiveness of | | |
| 4. Monitor remedial | proposed remedial | | |
| actions until | measures | | |
| rectification has | 5. Supervise | | |
| been completed | implementation of | | |
| 5. If non-conformity | remedial measures. | | |
| stops, cease | | | |
| additional | | | |
| monitoring | | | |

APPENDIX K ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE (EMIS)

| EIA Ref. | Recommended Mitigation Measures | Implementation |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| | | Status |
| Construct | ion Air Quality | |
| S6.5 | 8 times daily watering of the work site with active dust emitting activities. | ۸ |
| S6.8 | Implementation of dust suppression measures stipulated in Air Pollution Control (Construction Dust) Regulation. The following mitigation | |
| | measures, good site practices and a comprehensive dust monitoring and audit programme are recommended to minimize cumulative dust impacts. | |
| | • Stockpiling site(s) should be lined with impermeable sheeting and bunded. Stockpiles should be fully covered by impermeable sheeting to | # |
| | reduce dust emission. | ٨ |
| | • 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. | ٨ |
| | • 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. | ٨ |
| | • 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. | ٨ |
| | • The vehicles should be restricted to maximum speed of 10 km per hour and confined haulage and delivery vehicle to designated roadways | |
| | insider the site. Onsite unpaved roads should be compacted and kept free of lose materials. | ٨ |
| | • Vehicle washing facilities should be provided at every vehicle exit point. | |
| | • 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 | ٨ |
| | concrete, bituminous materials or hardcores. | ٨ |
| | • 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. | ٨ |
| | • Every stock of more than 20 bags of cement should be covered entirely by impervious sheeting placed in an area sheltered on the top and the | |
| | three sides. | ٨ |
| | • Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites. | |
| | | ٨ |

| S6.8 | • | DWFI compound for JVBC: | N/A |
|------|---|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| | | A DWFI compound is proposed at the downstream of JVC to contain pollution in drainage systems entering the KTAC and KTTS by | |
| | | interception facilities until the ultimate removal of the pollution sources. Tidal barriers and desiliting facilities will form part of the | |
| | | compounds to prevent any accumulation of sediment within the downstream section of JVBC and hence fully mitigate the potential odour | |
| | | emissions from the headspace of JVBC near the existing discharge locations. The odour generating operations within the proposed desilting | |
| | | compound will be fully enclosed and the odorous air will be collected and treated by high efficiency deodorizers before discharge to the | |
| | | atmosphere. | |
| | • | Desilting compound for KTN: | N/A |
| | | Two desilting compounds are proposed for KTN (at Site 1D6 and Site 1P1) to contain pollution in drainage systems entering the KTAC and | |
| | | KTTS by interception facilities until the ultimate removal of the pollution sources. Tidal barriers and desiliting facilities will form part of the | |
| | | compounds to prevent any accumulation of sediment within the downstream section of KTN and hence fully mitigate the potential odour | |
| | | emissions from the headspace of KTN near the existing discharge locations. The odour generating operations within the proposed desilting | |
| | | compound will be fully enclosed and the odorous air will be collected and treated by high efficiency deodorizers before discharge to the | |
| | | atmosphere. | |
| | • | Decking or reconstruction of KTN within apron area: | N/A |
| | | It is proposed to deck the KTN or reconstruct the KTN within the former Apron area into Kai Tak River from the south of Road D1 to the | |
| | | north of Road D2 along the existing alignment of KTN. The Kai Tak River will compose of a number of channels flowing with nonodorous | |
| | | fresh water and THEES effluent. The channel flowing with THEES effluent will be designed with the width of water surface of not more | |
| | | than 16m. | |
| | • | Localised maintenance dredging: | N/A |
| | | Localised maintenance dredging should be conducted to provide water depth of not less than 3.5m over the whole of KTAC and KTTS. With | |
| | | reference to the water depth data recorded during the odour survey, only some of the areas in the northern part of KTAC (i.e. to the north of | |
| | | taxiway bridge) including the area near the northern edge of KTAC, the area near western bank of KTAC, and the area near the JVC | |
| | | discharge have water depths shallower than 3.5m. The area involved would be about 40% of the northern KTAC and the dredging depth | |
| | | required would be from about 2.7m to less than 1m. The maintenance dredging to be carried out prior to the occupation of any new | |
| | | development in the immediate vicinity of KTAC to avoid potential localized odour impacts at the future ASRs during the maintenance | |

| State Improvement of water circulation in KTAC and KTTS: N/A 600m gap opening at the northern part of the former Kai Tak runway, the water circulation in KTAC and KTTS would also be increased. N/A . In-situ sediment treatment by bioremediation: N/A Bioremediation would be applied to the entire KTAC and KTTS. N/A Construction Noise N/A State Render, Concrete Pump, Generator and Water Pump. State Only well-maintained plant should be operated on -site and plant should be serviced regularly during the construction program. . Only well-maintained plant should be utilized and should be serviced regularly during the construction program. . Machines and plant (such as tracks) that may be in intermittent use should be shut down between works periods or should be throttled down to a minimum. . Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities. A Str.9 Scheduling of Construction Works during School Examination Period A Str.9 Scheduling of Construction Works during School Examination Period A Str.9 Scheduling of Construction Works during School Examination Period A Str.9 Scheduling of Construction Works during School Examination Period A <th></th> <th></th> <th></th> | | | |
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| 600m gap opening at the northern part of the former Kai Tak runway, the water circulation in KTAC and KTTS would be substantially improved. Together with the improvement in water circulation, the DO level in KTAC and KTTS would also be increased. N/A Construct | | dredging operation. | |
| improved. Together with the improvement in water circulation, the D0 level in KTAC and KTTS would also be increased. N/A In-situ sediment treatment by bioremediation: Bioremediation would be applied to the entire KTAC and KTTS. N/A Construct—Noise N/A S7.8 Use of quiet PME, movable barrier for Asphalt Paver, Breaker, Excavator and Hand-held breaker and full enclosure for Air Compressor, Bar Bender, Concrete Pump, Generator and Water Pump. ^ S7.9 Good Site Practice: Outy well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program. Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program. Muchines and plant (auch as trucks) that may be in intermittent use should be shut down between works periods or should be throttled down to a minimum. Muterial stochplies and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities. Muterial stochplies and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities. Motorial stochplies and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities. Muterial stochplies and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities. Motorial stochplies and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities. Motor | | Improvement of water circulation in KTAC and KTTS: | N/A |
| In-situ sediment treatment by biorendiation: N/A Biorenediation would be applied to the entire KTAC and KTTS. N/A Constructor Noise N/A S7.8 Use of quiet PME, movable barriers barrier for Asphalt Paver, Breaker, Excavator and Hand-beld breaker and full enclosure for Air Compressor, Bar Bender, Concrete Pump, Generator and Water Pump. ^ S7.9 Good Site Practice: . • Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program. ^ • Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program. ^ • Mobile plant, if any, should be sited as far away from NSRs as possible. ^ • Material stockpiles and other structures should be effectively utilized, wherever possible, be orientated so that the noise is directed away from the nearby NSRs. ^ • Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities. ^ S7.9 Scheduling of Construction Works during School Examination Period ^ S7.9 Scheduling of Construction Works during school Examination Period ^ S7.9 Scheduling of Construction Works during School Examination Period ^ < | | 600m gap opening at the northern part of the former Kai Tak runway, the water circulation in KTAC and KTTS would be substantially | |
| Bioremediation would be applied to the entire KTAC and KTTS. N/A Construct N/A Construction State ST.8 Use of quiet PME, movable barriers barrier for Asphalt Paver, Breaker, Excavator and Hand-held breaker and full enclosure for Air Compressor, Bar Bender, Concrete Pump, Generator and Water Pump. ^ ST.9 Good Site Practice: | | improved. Together with the improvement in water circulation, the DO level in KTAC and KTTS would also be increased. | |
| Construction Noise S7.8 Use of quiet PME, movable barriers barrier for Asphalt Paver, Breaker, Excavator and Hand-held breaker and full enclosure for Air Compressor, Bar A A S7.9 Good Site Practice: A • Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program. A • Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program. A • Mobile plant, if any, should be sited as far away from NSRs as possible. A • Machines and plant (such as trucks) that may be in intermittent use should be shut down between works periods or should be throttled down to a minimum. A • Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs. A • Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities. A ST.9 Scheduling of Construction Works during School Examination Period A (i) Provision of low noise surfacing in a section of Road L2; and (i) Pirovision of structural fins N/A ST.9 (i) Avoid the sensitive façade of class room facing Road L2 and L4; and | | <u>In-situ sediment treatment by bioremediation:</u> | |
| S7.8 Use of quiet PME, movable barriers barrier for Asphalt Paver, Breaker, Excavator and Hand-held breaker and full enclosure for Air Compressor, Bar ^ S7.9 Good Site Practice: ^ • Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program. ^ • Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program. ^ • Mobile plant, if any, should be sited as far away from NSRs as possible. ^ • Machines and plant (such as trucks) that may be in intermittent use should be shut down between works periods or should be throttled down to a minimum. ^ • Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs. ^ • Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities. ^ S7.9 Scheduling of Construction Works during School Examination Period ^ S7.9 Scheduling of Lonstructural fins N/A (i) Provision of low noise surfacing in a section of Road 1.2; and L4; and N/A | | Bioremediation would be applied to the entire KTAC and KTTS. | N/A |
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| Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs. Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities. S7.9 Scheduling of Construction Works during School Examination Period S7.8 (i) Provision of low noise surfacing in a section of Road L2; and S7.8 (i) Avoid the sensitive façade of class room facing Road L2 and L4; and | | • Machines and plant (such as trucks) that may be in intermittent use should be shut down between works periods or should be throttled down | ٨ |
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| Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities. Scheduling of Construction Works during School Examination Period Provision of low noise surfacing in a section of Road L2; and Provision of structural fins N/A (i) Provision of structural fins N/A (ii) Avoid the sensitive façade of class room facing Road L2 and L4; and | | • Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the | |
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| S7.9 Scheduling of Construction Works during School Examination Period ^ S7.8 (i) Provision of low noise surfacing in a section of Road L2; and N/A (ii) Provision of structural fins N/A S7.8 (i) Avoid the sensitive façade of class room facing Road L2 and L4; and N/A | | • Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction | |
| S7.8 (i) Provision of low noise surfacing in a section of Road L2; and N/A (ii) Provision of structural fins N/A S7.8 (i) Avoid the sensitive façade of class room facing Road L2 and L4; and N/A | | activities. | ۸ |
| (ii) Provision of structural fins N/A S7.8 (i) Avoid the sensitive façade of class room facing Road L2 and L4; and N/A | S7.9 | Scheduling of Construction Works during School Examination Period | ۸ |
| S7.8 (i) Avoid the sensitive façade of class room facing Road L2 and L4; and N/A | S7.8 | (i) Provision of low noise surfacing in a section of Road L2; and | N/A |
| | | (ii) Provision of structural fins | N/A |
| (ii) Provision of low noise surfacing in a section of Road L2 & L4 N/A | S7.8 | (i) Avoid the sensitive façade of class room facing Road L2 and L4; and | N/A |
| | | (ii) Provision of low noise surfacing in a section of Road L2 & L4 | N/A |
| | | | |

| S7.8 | (i) | Provision of low noise surfacing in a section of Road L4 before occupation of Site 111; and | N/A |
|---------|----------|-----------------------------------------------------------------------------------------------------------------------------------------|-----|
| | (ii) | Setback of building about 5m from site boundary. | N/A |
| S7.8 | Setbac | k of building about 35m to the northwest direction at 1L3 and 5m at Site 1L2. | N/A |
| S7.8 | (i) | avoid any sensitive façades with openable window facing the existing Kowloon City Road network; and Avoid the sensitive façade of | N/A |
| | | class room facing Road L2 and L4; and | |
| | (ii) | for the sensitive facades facing the To Kwa Wan direction, either setback the facades by about 5m to the northeast direction or do not | N/A |
| | | provide the facades with openable window. | |
| S7.8 | (i) | avoid any sensitive facades with openable window facing the existing To Kwa Wan Road or | N/A |
| | (ii) | provision of 17.5m high noise tolerant building fronting To Kwa Wan Road and restrict the height of the residential block(s) located at | N/A |
| | | less than 55m away from To Kwa Wan Road to no more than 25m above ground | |
| S7.8 | (i) | avoid any sensitive facades with openable window facing the slip road connecting Prince Edward Road East and San Po Kong or other | ٨ |
| | | alternative mitigation measures and at-source mitigation measures for the surrounding new local roads to minimise the potential traffic | |
| | | noise impacts from the slip road | |
| S7.8 | All the | ventilation fans installed in the below will be provided with silencers or acoustics treatment. | |
| | (i) | SPS | N/A |
| | (ii) | ESS | N/A |
| | (iii) | Tunnel Ventilation Shaft | N/A |
| | (iv) | EFTS depot | N/A |
| S7.8 | Installa | ation of retractable roof or other equivalent measures | N/A |
| Constru | ction Wa | ter Quality | |
| S8.8 | The fo | llowing mitigation measures are proposed to be incorporated in the design of the SPS at KTD, including: | |
| | • | Dual power supply or emergency generator should be provided at all the SPSs to secure electrical power supply; | N/A |
| | • | Standby pumps should be provided at all SPSs to ensure smooth operation of the SPS during maintenance of the duty pumps; | N/A |
| | • | An alarm should be installed to signal emergency high water level in the wet well at all SPSs; and | |
| | • | For all unmanned SPSs, a remote monitor system connecting SPSs with the control station through telemetry system should be provided | N/A |
| | | so that swift actions could be taken in case of malfunction of unmanned facilities | N/A |

| Construction Phase | |
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| | |
| Marne-based Construction | |
| | |
| Capital and Maintenance Dredging for Cruise Terminal | |
| | |
| Mitigation measures for construction of the proposed cruise terminal should follow those recommended in the approved EIA for CT Dredging. | N/A |
| Fireboat Berth, Runway Opening and Road T2 | |
| | |
| Silt curtains should be deployed around the close grab dredger to minimize release of sediment and other contaminants for any dredging and filling | N/A |
| activities in open water. | |
| Dredging at and near the seawall area for construction of the public landing steps cum fireboat berth should be carried out at a maximum production | N/A |
| rate of 1,000m ³ per day using one grab dredger. | |
| The proposed construction method for runway opening should adopt an approach where the existing seawall at the runway will not be removed until | N/A |
| completion of all excavation and dredging works for demolition of the runway. Thus, excavation of bulk fill and majority of the dredging works will | |
| be carried out behind the existing seawall, and the sediment plume can be effectively contained within the works area. As there is likely some | |
| accumulation of sediments alongside the runway, there will be a need to dredge the existing seabed after completion of all the demolition works. | |
| Dredging alongside the 600m opening should be carried out at a maximum production rate of 2,000m ³ per day using one grab dredger. | |
| Dredging for Road T2 should be conducted at a maximum rate of 8,000m ³ per day (using four grab dredgers) whereas the sand filling should be | N/A |
| conducted at a maximum rate of 2,000m3 per day (using two grab dredgers). | |
| Silt screens shall be applied to seawater intakes at WSD seawater intake. | N/A |
| | Mitigation measures for construction of the proposed cruise terminal should follow those recommended in the approved EIA for CT Dredging. <i>Fireboat Berth, Runway Opening and Road T2</i> Silt curtains should be deployed around the close grab dredger to minimize release of sediment and other contaminants for any dredging and filling activities in open water. Dredging at and near the seawall area for construction of the public landing steps cum fireboat berth should be carried out at a maximum production rate of 1,000m ³ per day using one grab dredger. The proposed construction method for runway opening should adopt an approach where the existing seawall at the runway will not be removed until completion of all excavation and dredging works for demolition of the runway. Thus, excavation of bulk fill and majority of the dredging works will be carried out behind the existing seawall, and the sediment plume can be effectively contained within the works area. As there is likely some accumulation of sediments alongside the runway, there will be a need to dredge the existing seabed after completion of all the demolition works. Dredging alongside the 600m opening should be carried out at a maximum production rate of 2,000m ³ per day using one grab dredger. Dredging for Road T2 should be conducted at a maximum rate of 8,000m ³ per day (using four grab dredgers) whereas the sand filling should be conducted at a maximum rate of 2,000m ³ per day (using four grab dredgers). |

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| S8.8 | Land-based Construction | |
| | Construction Runoff | |
| | Exposed soil areas should be minimised to reduce the potential for increased siltation, 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 mitigation measures | |
| | which include: | |
| | • use of sediment traps | ٨ |
| | adequate maintenance of drainage systems to prevent flooding and overflow | ۸ |
| S8.8 | Ideally, construction works should be programmed to minimise surface excavation works during the rainy season (April to September). All exposed | ۸ |
| | 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 rainy season, or at any time of year when rainstorms are likely, | |
| | exposed slope surfaces should be covered by tarpaulin or other means. | |
| S8.8 | Construction site should be provided with adequately designed perimeter channel and pre-treatment facilities and proper maintenance. The | ۸ |
| | 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. | |
| S8.8 | Sediment tanks of sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8 m ³ capacity, are recommended as a | ۸ |
| | 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. | |
| S8.8 | Open stockpiles of construction materials (for examples, aggregates, sand and fill material) of more than 50 m ³ should be covered with tarpaulin or | ٨ |
| | similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any | |
| | drainage system. | |
| S8.8 | Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction | ٨ |
| | materials or debris being washed into the drainage system and storm runoff being directed into foul sewers. | |
| S8.8 | 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 | ٨ |
| | be taken during or after rainstorms are summarized in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty | |
| | | |

| | surface runoff during storm events. | |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| S8.8 | Oil interceptors should be provided in the drainage system and regularly cleaned to prevent the release of oils and grease into the storm water | N/A(1) |
| | drainage system after accidental spillages. The interceptor should have a bypass to prevent flushing during periods of heavy rain. | |
| S8.8 | All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on | ٨ |
| | roads. 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. | |
| S8.8 | Drainage | |
| | | |
| | It is recommended that on-site drainage system should be installed prior to the commencement of other construction activities. Sediment traps | ٨ |
| | 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 | |
| S8.8 | All temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge should be adequately designed for the controlled | ٨ |
| | 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. | |
| S8.8 | All fuel tanks and storage areas should be provided with locks and be located on sealed areas, within bunds of a capacity equal to 110% of the | ۸ |
| | storage capacity of the largest tank, to prevent spilled fuel oils from reaching the coastal waters of the Victoria Harbour WCZ. | |
| S8.8 | Sewage Effluent | |
| | | |
| | Construction work force sewage discharges on site are expected to be connected to the existing trunk sewer or sewage treatment facilities. The | ۸ |
| | 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. | |

| Stormunatar Discharges | |
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| Stormwater Discharges | |
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| | |
| Debris and Litter | |
| | |
| In order to maintain water quality in acceptable conditions with regard to aesthetic quality, contractors should be required, under conditions of | ٨ |
| contract, to ensure that site management is optimised and that disposal of any solid materials, litter or wastes to marine waters does not occur | |
| Construction Works at or in Close Proximity of Storm Culvert or Seafront | |
| | |
| The proposed works should preferably be carried out within the dry season where the flow in the drainage channel /storm culvert/ nullah is low. | ٨ |
| The use of less or smaller construction plants may be specified to reduce the disturbance to the bottom sediment at the drainage channel /storm | ٨ |
| culvert / nullah. | |
| Temporary storage of materials (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction materials should be | ٨ |
| located well away from any water courses during carrying out of the construction works | |
| Stockpiling of construction materials and dusty materials should be covered and located away from any water courses. | ۸ |
| Construction debris and spoil should be covered up and/or disposed of as soon as possible to avoid being washed into the nearby water receivers. | ٨ |
| Construction activities, which generate large amount of wastewater, should be carried out in a distance away from the waterfront, where practicable. | ٨ |
| Mitigation measures to control site runoff from entering the nearby water environment should be implemented to minimize water quality impacts. | ٨ |
| Surface channels should be provided along the edge of the waterfront within the work sites to intercept the runoff. | |
| Construction effluent, site run-off and sewage should be properly collected and/or treated. | * |
| Any works site inside the storm water courses should be temporarily isolated, such as by placing of sandbags or silt curtains with lead edge at | N/A |
| bottom and properly supported props to prevent adverse impact on the storm water quality. | |
| Silt curtain may be installed around the construction activities at the seafront to minimize the potential impacts due to accidental spillage of | N/A |
| construction materials. | |
| Proper shoring may need to be erected in order to prevent soil/mud from slipping into the storm culvert/drainage channel/sea. | N/A |
| | contract, to ensure that site management is optimised and that disposal of any solid materials, litter or wastes to marine waters does not occur Construction Works at or in Close Proximity of Storm Culvert or Seafront The proposed works should preferably be carried out within the dry season where the flow in the drainage channel /storm culvert/ nullah is low. The use of less or smaller construction plants may be specified to reduce the disturbance to the bottom sediment at the drainage channel /storm culvert / nullah. Temporary storage of materials (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction materials should be located well away from any water courses during carrying out of the construction works Stockpiling of construction materials and dusty materials should be covered and located away from any water courses. Construction activities, which generate large amount of wastewater, should be carried out in a distance away from the waterfront, where practicable. Mitigation measures to control site runoff from entering the nearby water environment should be implemented to minimize water quality impacts. Surface channels should be provided along the edge of the waterfront within the work sites to intercept the runoff. Construction effluent, site run-off and sewage should be temporarily isolated, such as by placing of sandbags or silt curtains with lead edge at bottom and properly supported props to prevent adverse impact on the storm water quality. Silt curtain may be installed around the construction activities at the seafront to minimize the potential impacts due to a |

| S8.8 | Supervisory staff should be assigned to station on site to closely supervise and monitor the works | ٨ |
|---------|----------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| S8.8 | Marine water quality monitoring and audit programme shall be implemented for the proposed sediment treatment operation. | N/A |
| Constru | inction Waste Management | |
| S9.5 | Good Site Practices | |
| | It is not anticipated that adverse waste management related impacts would arise, provided that good site practices are adhered to. Recommendations | |
| | for good site practices during the dredging activities include: | |
| | • Nomination of an approved person, such as a site manager, be responsible for good site practices, arrangements for collection and effective | ٨ |
| | disposal to an appropriate facility, of all wastes generated at the site. | |
| | Training of site personnel in proper waste management and chemical waste handling procedures. | ٨ |
| | Provision of sufficient waste disposal points and regular collection for disposal. | ٨ |
| | • Appropriate measure to minimize windblown litter and dust during transportation of waste by either covering trucks or by transporting | ٨ |
| | wastes in enclosed containers. | |
| | • A recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites). | ٨ |
| S9.5 | Waste Reduction Measures | |
| | Good management and control can prevent the generation of a significant amount of waste. Waste reduction is best achieved at the planning and | |
| | design stage, as well as by ensuring the implementation of good site practices. Recommendations to achieve waste reduction include: | |
| | Sort C&D waste from demolition of the remaining structures to recover recyclable portions such as metals | |
| | • Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and | ٨ |
| | their proper disposal | ٨ |
| | • Encourage collection of aluminium 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 | ٨ |
| | Any unused chemicals or those with remaining functional capacity should be recycled | |
| | Proper storage and site practices to minimise the potential for damage or contamination of construction materials | ٨ |

| S9.5 | Dredged Marine Sediment | |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| | The basic requirements and procedures for dredged mud disposal are specified under the ETWB TCW No. 34/2002. The management of the | N/A |
| | dredging, use and disposal of marine mud is monitored by the MFC, while the licensing of marine dumping is required under the Dumping at Sea | |
| | Ordinance and is the responsibility of the Director of Environmental Protection (DEP) | |
| S9.5 | The dredged marine sediments would be loaded onto barges and transported to the designated disposal sites allocated by the MFC depending on | N/A |
| | their level of contamination. Sediment classified as Category L would be suitable for Type 1 - Open Sea Disposal. Contaminated sediment would | |
| | require either Type 1 – Open Sea Disposal (Dedicated Sites), Type 2 - Confined Marine Disposal, or Type 3 – Special Treatment / Disposal and must | |
| | be dredged and transported with great care in accordance with ETWB TCW No. 34/2002. Subject to the final allocation of the disposal sites by | |
| | MFC, the dredged contaminated sediment must be effectively isolated from the environment and disposed properly at the designated disposal site | |
| S9.5 | It will be the responsibility of the contractor to satisfy the appropriate authorities that the contamination levels of the marine sediment to be dredged | |
| | have been analysed and recorded. According to the ETWB TCW No. 34/2002, this will involve the submission of a formal Sediment Quality Report | |
| | to the DEP, prior to the dredging contract being tendered. The contractor for the dredging works should apply for allocation of marine disposal sites | |
| | and all necessary permits from relevant authorities for the disposal of dredged sediment. During transportation and disposal of the dredged marine | |
| | sediments requiring Type 1, Type 2, or Type 3 disposal, the following measures should be taken to minimise potential impacts on water quality: | |
| | • Bottom opening of barges should be fitted with tight fitting seals to prevent leakage of material. Excess material should be cleaned from the | |
| | decks and exposed fittings of barges and hopper dredgers before the vessel is moved | N/A |
| | • Monitoring of the barge loading should be conducted to ensure that loss of material does not take place during transportation. Transport | |
| | barges or vessels should be equipped with automatic selfmonitoring devices as required under the Dumping at Sea Ordinance and as | N/A |
| | specified by the DEP | |
| | • Barges or hopper barges should not be filled to a level that would cause the overflow of materials or sediment laden water during loading or | |
| | transportation | N/A |
| \$9.5 | Construction and Demolition Material | |
| | Mitigation measures and good site practices should be incorporated into contract document to control potential environmental impact from handling | |
| | and transportation of C&D material. The mitigation measures include: | |
| | • Where it is unavoidable to have transient stockpiles of C&D material within the Project work site pending collection for disposal, the | ٨ |

| | transient stockpiles should be located away from waterfront or storm drains as far as possible | |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| | • Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric | # |
| | • Skip hoist for material transport should be totally enclosed by impervious sheeting | ٨ |
| | • Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site | ۸ |
| | • 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 | ٨ |
| | concrete, bituminous materials or hardcores | |
| | • The load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure | ۸ |
| | dust materials do not leak from the vehicle | |
| | • All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials | ٨ |
| | wet | |
| | • The height from which excavated materials are dropped should be controlled to a minimum practical height to limit fugitive dust generation | ٨ |
| | from unloading | |
| | | |
| | When delivering inert C&D material to public fill reception facilities, the material should consist entirely of inert construction waste and of size less | ٨ |
| | 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. | |
| S9.5 | 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 | |
| | | |

| S9.5 | General I | | |
|----------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| | the contra | refuse should be stored in enclosed bins or compaction units separate from C&D material. A licensed waste collector should be employed by actor to remove general refuse from the site, separately from C&D material. Effective collection and storage methods (including enclosed red area) of site wastes would be required to prevent waste materials from being blown around by wind, wastewater discharge by flushing | ^ |
| | or leachin | ng into the marine environment, or creating odour nuisance or pest and vermin problem | |
| Construc | tion Land | scape and Visual | |
| S13.9 | CM1 | All existing trees should be carefully protected during construction. | ^ |
| | CM2 | Trees unavoidably affected by the works should be transplanted where practical. Detailed transplanting proposal will be submitted to | Λ |
| | | relevant government departments for approval in accordance with ETWBC 2/2004 and 3/2006. Final locations of transplanted trees | |
| | | | |
| | CM3 | Control of night-time lighting. | N/A(1) |
| | CM4 | Erection of decorative screen hoarding. | ۸ |

Remarks:

| ^ | Compliance of mitigation measure |
|--------|--------------------------------------------------------------------------------------------------------|
| * | Recommendations were made during site audits but improved/rectified by the Contractor |
| # | Recommendations were made during site audits but has not yet been improved/rectified by the Contractor |
| • | Non-compliance but rectified by the Contractor |
| X | Non-compliance of mitigation measure |
| N/A | Not Applicable at this stage |
| N/A(1) | Not observed |

APPENDIX L SUMMARIES OF ENVIRONMENTAL COMPLAINT, WARNING, SUMMON AND NOTIFICATION OF SUCCESSFUL PROSECUTION

Contract No. KLN/2016/04 Environmental Monitoring Works for Contract No. KL/2015/02 Kai Tak Development – Stage 5A Infrastructure at Former North Apron Area

Appendix L – Summary of environmental complaint, warning, summon and notification of successful prosecution

| EPD Complaint Ref No. | Location | Received Date | Details of Complaint | Investigation/Mitigation Action | Status |
|-----------------------------|---------------------------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| 17-34438 | Dakota Drive and Olympic Avenue | 23 October 2017 | The complainant concerned about the dust emission when vehicle running on the dry surface outside Dakota Drive and Olympic Avenue. In addition, vehicles were not clear enough before leaving the construction site. | In accordance with the information gathered in the investigation, construction activities were conducted with proper mitigation measures to minimize the dust impact arise from the construction site to the vicinity of this Project. Regular water spraying was provided to haul roads and unpaved areas within the site areas to reduce the dust impact arise from the construction site to the vicinity of this Project. The Contractor had also ensured vehicles and plants were wheel washed to be cleaned of mud and debris before leaving the construction site area. Therefore, the complaint is considered as non-project related. The following recommendations were made to further enhance the mitigation measures: Where practicable, to provide sheltered area on the top and three sides for stockpiles of dusty materials, or perform frequent water spraying so as to maintain the entire surface wet; Frequent checking and repair the gaps or broken tarpaulin sheets; and To provide a hard-surfaced road between any cleaning facility and the public Road | Closed |

Complaint Log

Remarks: No complaint was received in the reporting month.

Contract No. KLN/2016/04 Environmental Monitoring Works for Contract No. KL/2015/02 Kai Tak Development – Stage 5A Infrastructure at Former North Apron Area

Appendix L – Summary of environmental complaint, warning, summon and notification of successful prosecution

Log Ref.Received DateDetails of Warning / Summons and Successful ProsecutionsInvestigation/Mitigation ActionStatusN/AN/AN/AN/AN/A

Warnings / Summons and Successful Prosecutions received

Remarks: No warning/summon and prosecution was received in the reporting month.

APPENDIX M SUMMARY OF WASTE GENERATION AND DISPOSAL RECORDS



Monthly Summary Waste Flow Table for 2020

| As at | 21 | March | 2020 |
|-------|----|-------|------|
| 10000 | | | |

| | Quantities of Inert C & D Materials Generated Monthly | | | | | | | Quantities of C & D Wastes Generated Monthly | | | | |
|-----------|-------------------------------------------------------|----------------------------------------------|---------------------------|--------------------------------|----------------------------|---------------|-------------|----------------------------------------------|--------------------------|-------------------|-----------------------------------|--|
| Month | 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 '000m³) | (in '000m³) | (in '000m³) | (in '000m³) | (in '000m³) | (in '000kg) | (in '000kg) | (in '000kg) | (in '000kg) | (in '000m³) | |
| Jan | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.007 | |
| Feb | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.021 | |
| Mar | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | |
| Apr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | |
| May | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | |
| June | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | |
| Sub-total | 66.537 | 0 | 0 | 0 | 66.537 | 0 | 0 | 0 | 0 | 0 | 1.862 | |
| July | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | |
| Aug | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | |
| Sept | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | |
| Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | |
| Nov | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | |
| Dec | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | |
| Total | 66.537 | 0 | 0 | 0 | 66.537 | 0 | 0 | 0 | 0 | 0 | 1.862 | |

| Forecast of Total Quantities of C&D Materials to be Generated from the Contract* | | | | | | | | | | |
|----------------------------------------------------------------------------------|----------------------------------------------|---------------------------|--------------------------------|----------------------------|---------------|-------------|----------------------------------|--------------------------|-------------------|-----------------------------------|
| 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 '000m³) | (in '000m³) | (in '000m³) | (in '000m³) | (in '000m³) | (in '000m³) | (in '000kg) | (in '000kg) | (in '000kg) | (in '000kg) | (in '000m³) |
| 63000 | 0 | 0 | 0 | 67 | 0 | 0 | 0 | 0 | 0 | 2.5 |

Notes: (1) The performance targets are given in PS clause 6(14).

(2) The waste flow table shall also include C & D materials that are specified in the Contract to be imported for use at the Site.

(3) Plastics refer to plastic bottles/ containers, plastic sheets/ foam from packaging material.

(4) The Contractor shall also submit the latest forcast of the total amount of C&D materials exected to be generated from the Works, together with a

braskdown of the nature where the total amount of C&D materials expected to be generated from the Works is equal to or excreeding 50,00 m³. (PS Cleuse 25.02A(7) refers).

APPENDIX N CONSTRUCTION PROGRAMME

KL/2015/02

Construction Programme

| | | | 2016 | 6 | | | | 20 | 17 | | | | | | | | 20 | 18 | | | | | | | 20 | 019 | | | | | | | | | 202 | 0 | | | |
|-----------------------------------|----------|--------|---------|------|-----|---|---|----|----|-----|------|------|------|-----|---|---|----|----|----|-------|------|-----|-----|---|-----|-----|---|----|------|------|---|---|-----|---|-----|----|---|-------|------|
| Works | Commence | Finish | 9 10 1: | 1 12 | 1 2 | 3 | 4 | 56 | 7 | 8 9 | 9 10 | 11 1 | .2 1 | 1 2 | 3 | 4 | 56 | 7 | 89 | 10 11 | . 12 | 1 2 | 2 3 | 4 | 5 6 | 5 7 | 8 | 91 | 0 11 | . 12 | 1 | 2 | 3 4 | 5 | 6 | 78 | 9 | 10 11 | l 12 |
| Drainage, Sewerage and Waterworks | Dec-16 | Sep-20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 30p 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| District Cooling Mains | Mar-18 | Sep-19 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Subway Construction | Dec-16 | Sep-20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bridge Construction | Oct-16 | Mar-20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Roadworks | Feb-19 | Sep-20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Landscape | Jan-20 | Sep-20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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Appendix E

Monthly EM&A Report For Contract No. ED/2018/01 Kai Tak Development – Stage 4 infrastructure at the former runway and south apron

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Environmental Monitoring and Audit Report for Contract No. ED/2018/01 – Kai Tak Development – Stage 4 infrastructure at the

former runway and south apron

Contract No.: EDO 15/2018

February 2020

(Version 1.2)

| Certified By: | pm. |
|---------------|-----------------------------|
| | (Environmental Team Leader) |



Ref.: CEDKTDS4EM00_0_0054L.20

13 March 2020

By Post and Email

AECOM Asia Company Limited 8/F, Grand Central Plaza, Tower 2 138 Shatin Rural Committee Road Shatin, Hong Kong

Attention: Mr. Clive Cheng

Dear Sir,

Re: Contract No. ED/2018/01 – Kai Tak Development Stage 4 Infrastructure at the Former Runway and South Apron

Monthly EM&A Report for February 2020

Reference is made to the Environmental Team's submission of the Monthly EM&A Report for February 2020 (Version 1.2) certified by the ET Leader and provided to us via e-mail on 13 March 2020. Please be informed that we have no adverse comments on the captioned submission. We hereby verify the captioned submission in accordance with Condition 3.3 of EP-337/2009, Condition 3.2 of EP-445/2013 and Condition 3.2 of EP-445/2013/A.

The ET Leader is reminded that it is the ET's responsibility to ensure the reported information be true, valid and correct as per Condition 3.4 of EP-337/2009, Condition 3.3 of EP-445/2013 and Condition 3.3 of EP-445/2013/A.

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

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

Kar

Ray Yan Independent Environmental Checker

| C.C. | CEDD | Attn.: Mr. Ronald Siu | Fax: 2739 0076 |
|------|-------------|-----------------------|----------------|
| | Ka Shing | Attn.: Mr. Chan Pang | By e-mail |
| | Penta-Ocean | Attn.: Mr. Daniel Ho | Fax: 2572 4080 |

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EXECUTIVE SUMMARY

1. This is the 2nd Monthly Environmental Monitoring & Audit (EM&A) report which summaries the findings of the EM&A Programme during the reporting period from 1 to 29 February 2020.

Breaches of Action and Limit Levels

- 2. 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.
- 3. 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.
- 4. Construction noise monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.
- 5. Summary of the non-compliance in the reporting month for the Project is tabulated in Table I.

| Demonstern | No. of Ex | ceedance | A stine Talan |
|--------------------|--------------|-------------|---------------|
| Parameter | Action Level | Limit Level | Action Taken |
| 1-hr TSP | 0 | 0 | N/A |
| 24-hr TSP | 0 | 0 | N/A |
| Construction noise | 0 | 0 | N/A |

Table I Non-compliance Record in the Reporting Month

Complaint log

6. No complaint was received in the reporting month. Summary of complaints in the reporting month is tabulated in Table II.

| Date of Notification from EPD | Date of compliant | Description of complaint | Recommendations / Action take | Close-out date / Status |
|-------------------------------------|-------------------|--------------------------|----------------------------------|----------------------------|
| No complaint | NA | NA | NA | NA |

Table II Summary of complaints in the Reporting Month

| Date of Notification from EPD | Date of compliant | Description of complaint | Recommendations / Action take | Close-out date / Status |
|-----------------------------------------------|-------------------|--------------------------|----------------------------------|----------------------------|
| was received in the reporting month. | | | | |

Notifications of summons and successful prosecutions

7. No notification of summons and successful prosecutions was received in the reporting month. Summary of summons and successful prosecutions in the reporting month is tabulated in Table III.

| | , si | ns and successful prosecuto | | |
|--------------------------------------------------------------------------|------------------------------------------|-----------------------------|-------------|----------------------------|
| Date of receiving notification of summons or prosecutions | Date of event | Description of event | Action take | Close-out date / Status |
| No notification of summons and | NA | NA | NA | NA |
| successful prosecutions | | | | |
| were received in | | | | |
| the reporting month. | | | | |

Table III Summary of summons and successful prosecutions in the Reporting Month

Report changes

8. There was no reporting change in the reporting month.

Key construction works in the reporting month

- 9. Major construction activities undertake during the reporting month included:
 - Ground investigation works
 - Underground Utilities Detection
 - Installation of Sheet Pile for Construction of North Depressed Road Cofferdam & D3 Underpass
 - Pumping Test at North Depressed Road Cofferdam
 - Construction of Bored Pile of Bridge D3
 - ELS Installation & Excavation for North Depressed Road

<u>Future key issues</u>

10. The future key issues and potential impact in the coming month are given in Table IV.

| Future key issues in the coming month | Potential impact |
|----------------------------------------------------------------|------------------|
| Ground Investigation | Noise |
| Underground Utilities Detection | Noise |
| Installation of Sheet Pile for Construction of North Depressed | Noise |
| Road Cofferdam & D3 Underpass | |
| Pumping Test at North Depressed Road Cofferdam | Noise |
| Construction of Bored Pile of Bridge D3 | Noise |
| ELS Installation & Excavation for North Depressed Road | Air Quality |

Table IV Summary of future key issues and potential impact in the coming month

1. INTRODUCTION

Project Background

- 1.1 The Kai Tak Development (KTD) is located in the south-eastern part of Kowloon Peninsula of the 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.
- 1.2 Contract No. ED/2018/01 Kai Tak Development stage 4 infrastructure at the former runway and south apron (The Project), comprises mainly the design and construction of a dual two- lane Road D3 (Metro Park Section), a single 2-lane Road L12d, a salt water pumping station, a sewage pumping station, landscaped deck and promenade above and adjoining Road D3 (Metro Park Section) respectively, some remaining road works at Road L14, noise barrier at Road D3A, and other associated works at the former runway and south apron. The proposed works are shown in Figure 1 and Figure 2. During the course of the Contract No. ED/2018/01, there may be modification of noise barriers in association with the construction of footbridges connecting to the landscaped deck of Road D3A by developers of adjacent lands (Figure 3). The proposed works and site boundary are shown in Figure 4.
- 1.3 Civil Engineering and Development Department (CEDD) had completed an Environmental Impact Assessment (EIA) and is the Permit Holder.
- 1.4 The construction work under ED/2018/01 comprises the EM&A Manuals (EIA Register Nos. AEIAR-130/2009 for Kai Tak Development and EIA Register Nos. AEIAR-170/2013 for Roads D3A and D4A) and Environmental Permit (EP) Nos. EP-337/2009, EP-445/2013 and Variation to the EP (VEP) No. EP-445/2013/A.
- 1.5 Air quality and noise monitoring has been proposed in the EM&A Manual with EIA Register Nos. AEIAR-130/2009 for Kai Tak Development while no air quality and noise monitoring are proposed in EM&A Manual with EIA Register Nos. AEIAR-170/2013 for Roads D3A and D4A.

Project Organization

1.6 The project organization chart and with respect to the EM&A programme is shown in Appendix A. Information of key personnel contact names and telephone numbers are summarized in Table 1.1.

| Party | Role | Contact Person | Position | Phone No. | Fax No. |
|---------------------------------------------------------------|--------------------------------------------------------------------------------------------|-----------------|--------------------------|-----------|-----------|
| Civil Engineering and | Project | Mr. Ronald Siu | Senior Engineer | 3579 2452 | 2739 0076 |
| Development Department (CEDD) | Proponent | Mr. Edwin Chan | Engineer | 3579 2458 | 2739 0076 |
| AECOM Asia Co. Ltd. (AECOM) | Supervisor (act as Engineers' Representative (ER) listed in EM&A Manual) | Mr. Clive Cheng | CRE | 3911 4201 | 3911 4288 |
| Ramboll Hong Kong Limited (Ramboll) | Independent Environmental Checker (IEC) | Mr. Ray Yan | IEC | 3465 2836 | 3465 2899 |
| Ka Shing Management Consultant Limited (Ka Shing) | Environmental Team (ET) | Mr. Chan Pang | ET Leader | 6082 2973 | 2120 7752 |
| Penta-Ocean Construction Co., Ltd. (Penta-Ocean) | Contractor | Mr. Tony Tang | Environmental Officer | 9433 2628 | 3465 8898 |

Table 1.1 Contact Information of Key Personnel

Works Area and Construction Programme

1.7 The construction works commenced on 20 January 2020. The construction programme of the Project is given in Appendix B.

Construction works undertaken during reporting month

1.8 Major construction works of the Project in the reporting month are summarized in Table 1.2:

Table 1.2 Major activities of the Project during reporting month



Construction of Bored Pile of Bridge D3

Depressed Road

Submission Status under the Environmental Permits

1.9 The status of required submission under Environmental Permit (EP) conditions under EP-337/2009, EP-445/2013 and Variation to the EP (VEP) No. EP-445/2013/A are summarized in Table 1.3.

| There 1.5 Summary of Status of Required Submission of ETS | | | | | | | |
|-----------------------------------------------------------|-----------------------------|-------------------------------|-----------------------------------------------------------------|--------------------|--|--|--|
| EP Condition EP-337/2009 | EP Condition EP-445/2013 | EP Condition EP-445/2013/A | Submission | Submission Date | | | |
| Condition 1.11 | Condition 1.12 | Condition 1.12 | NotificationofCommencementDateDateofConstruction of the Project | 6 Jan 2020 | | | |
| Condition 2.3 | Condition 2.3 | Condition 2.3 | ManagementOrganization ofMainConstructionCompanies | 9 Sep 2019 | | | |
| Condition 2.4 | Condition 2.4 | Condition 2.4 | Design Drawings | 6 Jan 2020 | | | |
| Condition 2.11 | Condition 2.5 | Condition 2.5 | Landscape Mitigation Plans | 2 Jan 2020 | | | |
| Condition 3.2 | NA | NA | Baseline Monitoring Report | 2 Jan 2020 | | | |
| Condition 3.3 | Condition 3.2 | Condition 3.2 | Monthly EM&A Report (January 2020) | 13 Feb2020 | | | |

Table 1.3 Summary of Status of Required Submission of EPs

2. AIR QUALITY MONITORING

Monitoring Requirements

2.1 In accordance with EM&A Manuals (EIA Register Nos. AEIAR-130/2009), impact air quality monitoring shall be carried out during the construction phase of the Project. For regular impact monitoring, a sampling frequency of at least once in every six says will be strictly observed at all of the monitoring stations for 24-hour TSP. For 1-hour TSP monitoring, the sampling frequency of at least three times in every six days will be undertaken when the highest dust impact occurs.

Monitoring Locations

2.2 Three designated monitoring stations were selected for air quality monitoring programme. Impact air quality monitoring was conducted at three air quality monitoring stations in the reporting month. Table 2.1 describes the air quality monitoring locations, which are also depicted in Figure 5.

| There 2.1 Decations of the guarry monthering station | <u> </u> |
|----------------------------------------------------------------------------------|-------------------------|
| Air Quality Monitoring Locations for the Project | Location of Measurement |
| AM3 - Sky Tower | Podium floor near T7 |
| AM4(A) - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop | Rooftop |
| AM7 – Hong Kong Children's Hospital | Rooftop |

Table 2.1 Locations of Air Quality Monitoring Stations

Monitoring Parameters, Frequency and Duration

2.3 The air quality monitoring locations and monitoring frequency are listed in Table 2.2.

| Air Monitoring Station | Location for Measurement | Parameter | Duration | Frequency |
|----------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------|------------------------|----------------------------------------------------------------|
| AM3 - Sky Tower | Podium floor near T7 | | | |
| AM4(A) - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop | Rooftop | 24-hour average TSP 1-hour | - 24 hours - 1 hour | Once every 6 days Three times |
| AM7 - Hong Kong Children's Hospital | Rooftop | average TSP | | every 6 days |

Table 2.2 Air Quality Monitoring Parameters, Frequency and Duration

- 2.4 The monitoring schedule for reporting month and next month is presented in Appendix C.
- 2.5 Photographic records of the impact monitoring setup are shown in Appendix D.

<u>Monitoring Equipment</u>

2.6 24-hour average TSP and 1-hour average TSP levels were measured for impact monitoring. 24-hour average TSP levels were measured by the High Volume Samplers (HVS) and 1-hour average TSP levels were measured by direct reading method to indicate short-term impacts. Wind data monitoring equipment was set up at conspicuous locations for logging wind speed and wind direction near to the dust monitoring locations. Table 2.3 summarizes the equipment to be used in the air quality monitoring.

| Equipment | Model | Quantity |
|-----------------------|--------------------------------------------------|----------|
| HVS Sampler | TE-5170 X c/w of TSP sampling inlet | 3 |
| Calibrator | TISCH TE-5025A | 1 |
| 1-hour TSP Dust Meter | TSI Model AM510 SidePak Personal Aerosol Monitor | 2 |
| Wind Anemometer | Davis Vantage Pro2 Weather Station | 1 |

Table 2.3 Air Quality Monitoring Equipment

- 2.7 High volume samplers (HVS) (TE-5170 X c/w of TSP sampling inlet) comprising with appropriate sampling inlets were employed for 24-hour TSP monitoring. The sampler was composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complied with that required by USEPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50).
- 2.8 Calibration certificates, catalogue of equipment are given in Appendix E.

Monitoring Methodology and QA/QC Procedure

24-hour TSP Monitoring

Operating/Analytical Procedures

- 2.9 Setup criteria of HVS are shown as follows:
 - A horizontal platform with appropriate support to secure the samplers against gusty wind was provided.
 - No two samplers were placed less than 2m apart.
 - The distance between the sampler and an obstacle, such as buildings, was at least twice the height that the obstacle protrudes above the sampler.
 - A minimum of 2m of separation from walls, parapets and penthouses was set for the rooftop samples.
 - A minimum of 2m separation from any supporting structure, measured horizontally was set.
 - No furnaces or incineration flues was nearby.
 - Airflow around the sampler was unrestricted.
 - The sampler was more than 20m from the dripline.
 - Any wire fence and gate, to protect the samplers, was not caused any obstruction during monitoring.
 - Permission were obtained to setup the samplers and to obtain access to the monitoring stations.
 - A secured supply of electricity was provided to operate the samplers.
- 2.10 Prior to the commencement of the dust sampling, the flow rate of the HVS was 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.
- 2.11 For TSP sampling, Glass Fiber Filter Media 8" x 10" have a collection efficiency of > 99 % for particles of 0.3 μm diameter were used.
- 2.12 The power supply was checked to ensure the sampler worked properly. On sampling, the sampler was operated for 5 minutes to establish thermal equilibrium before placing any filter media at the designated air monitoring station.

- 2.13 The filter holding frame was removed by loosening the four nuts and a weighted and conditioned filter was carefully centered with the stamped number upwards, on a supporting screen.
- 2.14 The filter was aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. Then the filter holding frame was tightened to the filter holder with swing bolts. The applied pressure was sufficient to avoid air leakage at the edges.
- 2.15 The shelter lid was closed and secured with the aluminium strip.
- 2.16 The timer was programmed. Information was 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).
- 2.17 After sampling, the filter was removed from the HVS and put into a clean and labeled seal plastic bag to avoid cross contamination. The elapsed time was also be recorded. The sampled filters were sent to the Castco Testing Centre Limited for weighting.
- 2.18 Before weighing, all filters were equilibrated in a conditioning environment for 24 hours. The conditioning environment temperature was between 25°C and 30°C and not vary by more than ±3°C; the relative humidity (RH) was less than 50% and not vary by more than ±5%. A convenient working RH is 40%.

Maintenance/Calibration

2.19 The following maintenance/calibration are required for the HVS:

- The HVS and their accessories were properly maintained. Appropriate maintenance such as routine motor brushes replacement and electrical wiring checking were made to ensure that the equipment and necessary power supply are in good working condition.
- High volume samplers were calibrated with at bi-monthly intervals using TE-5025A Calibration Kit throughout all stages of the air quality monitoring.

1-hour TSP Monitoring

Measurement Procedures

2.20 The measurement procedures of the 1-hour TSP were conducted in accordance with the

Manufacturer's Instruction Manual as follows:

- Set up the dust meter on a tripod at 1.2m level.
- Turned on the dust meter and check the battery, if too low, change new ones. Pointed the meter to the source area or the planned measurement area.
- The zero calibration of the instrument was conducted before and after each sampling.
- TSP levels were recorded for 1-hour with 5-minute data logging interval.
- Recorded down the general meteorological conditions, Test ID no., start/end time, initial/final reading at each sampling location for data processing.
- Recorded any activities that may generate dust during measurement period.

Maintenance/Calibration

2.21 The following maintenance/calibration are required for the direct dust meters:

• To validity the accuracy of dust meter, compare the results measured by dust meter and HVS by direct reading method every 12 months throughout all stages of the air quality monitoring.

Wind Data Monitoring

- 2.22 Wind Anemometer was installed at the roof-top of AM7 Hong Kong Children's Hospital with 10m above ground and clear of constructions or turbulence caused by the buildings.
- 2.23 The wind data was captured by a data logger and the data was downloaded at least once per month for analysis.
- 2.24 The wind data monitoring equipment will be re-calibrated at least once every six months.
- 2.25 Wind direction is divided into 16 sectors of 22.5 degrees each.
- 2.26 Details of weather information during the monitoring period are shown in Appendix F.

Action and Limit Levels

2.27 The Action and Limit Levels of 24-hour average TSP and 1-hour average TSP are summarized

in Table 2.4 and Table 2.5 respectively.

| Parameter | Air Monitoring Station | Action Level, $\mu g/m^3$ | Limit Level, µg/m ³ |
|---------------------|------------------------|------------------------------|-----------------------------------|
| 24-hour average TSP | AM3 | 182 | 260 |
| | AM4(A) | 187 | 260 |
| | AM7 | 181 | 260 |

Table 2.4 Action and Limit Levels of 24-hour average TSP for Construction Dust Monitoring

Table 2.5 Action and Limit Levels of 1-hour average TSP for Construction Dust Monitoring

| Parameter | Air Monitoring Station | Action Level, µg/m ³ | Limit Level, µg/m ³ |
|--------------------|------------------------|------------------------------------|-----------------------------------|
| 1-hour average TSP | AM3 | 297 | 500 |
| | AM4(A) | 326 | 500 |
| | AM7 | 315 | 500 |

Impact Air Quality Monitoring results

2.28 Impact monitoring results for 24-hour average TSP and 1-hour average TSP levels at the designed air quality monitoring stations are summarized in Table 2.6 and Table 2.7 respectively.

Table 2.6 Summary of 24-hour average TSP Monitoring Data during the reporting month

| Air Monitoring Station | Average TSP Concentration, µg/m ³ | Range, μg/m ³ | Action Level, µg/m ³ | Limit Level, µg/m ³ |
|---------------------------|----------------------------------------------------|-----------------------------|------------------------------------|-----------------------------------|
| AM3 | 54 | 30 - 79 | 182 | 260 |
| AM4(A) | 58 | 25 - 115 | 187 | 260 |
| AM7 | 52 | 30 - 73 | 181 | 260 |

Table 2.7 Summary of 1-hour average TSP Monitoring Data during the reporting month

| Air Monitoring Station | Average TSP Concentration, µg/m ³ | Range, µg/m ³ | Action Level, µg/m ³ | Limit Level, µg/m ³ |
|---------------------------|----------------------------------------------------|-----------------------------|------------------------------------|-----------------------------------|
| AM3 | 75 | 48-91 | 297 | 500 |
| AM4(A) | 75 | 43-98 | 326 | 500 |
| AM7 | 81 | 64-98 | 315 | 500 |

- 2.29 There was no Action and Limit Level exceedance of 24-hour average TSP and 1-hour average TSP levels recorded during the reporting month.
- 2.30 Graphical presentation and detailed monitoring results of 24-hour average TSP and 1-hour

average TSP levels are shown in Appendix G and Appendix H respectively.

- 2.31 The Event and Action Plan is provided in Appendix I.
- 2.32 Non-project related construction activities in the adjacent construction sites were observed during the reporting period and may affect the monitoring results.

3. NOISE MONITORING

Monitoring Requirements

- 3.1 In accordance with EM&A Manuals (EIA Register Nos. AEIAR-130/2009), impact noise monitoring shall be carried out during the construction phase of the Project.
- 3.2 Regular monitoring, L_{Aeq, 30-minute}, for each station will be on a weekly basis and conduct one set of measurements between 0700 1900 on normal weekdays.
- 3.3 If construction works are extended to include works during 1900 0700 as well as public holidays and Sundays, additional weekly impact monitoring will be carried out during the respective restricted hours periods.

Monitoring Locations

3.4 Two designated monitoring stations were selected for noise monitoring programme. Impact noise monitoring was conducted at two noise monitoring stations in the reporting month. Table 3.1 describes the noise monitoring locations, which are also depicted in Figure 6.

| Noise Monitoring Locations for the Project | Location of Measurement |
|-------------------------------------------------------------------------------|-------------------------|
| M11 - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop | Rooftop (Façade) |
| M12 - Hong Kong Children's Hospital | Rooftop (Façade) |

Table 3.1 Locations of Noise Monitoring Stations

Monitoring Parameters, Frequency and Duration

3.5 The noise monitoring locations and monitoring frequency are listed in Table 3.2.

| Noise Monitoring Station | Location for Measurement | Parameter | Frequency and Duration |
|-------------------------------------------------------------------------------------|-----------------------------|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| M11 - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop | Rooftop (Façade) | $L_{Aeq,} L_{A10}$ and L_{A90} | 30 - minutes measurement at each monitoring station between 0700 - 1900 hrs on normal weekdays (Monday, to Saturday) at |
| M12 - Hong Kong Children's Hospital | Rooftop (Façade) | | (Monday to Saturday) at frequency of once per week. |

Table 3.2 Noise Monitoring Parameters, Frequency and Duration

3.6 The monitoring schedule for reporting month and next month is presented in Appendix C.

3.7 Photographic records of the monitoring setup are shown in Appendix D.

<u>Monitoring Equipment</u>

3.8 As referred to in the Technical Memorandum (TM) issued under the Noise Control Ordinance (NCO), sound level meters in compliance with the IEC 61672-1 (Type 1) standard [this standard replaced the International Electrotechnical Commission Publications 60651:1979 (Type 1) and 60804:1985 (Type 1)] were used for noise monitoring. Table 3.3 summarizes the equipment to be used in the noise monitoring.

Table 3.3 Noise Monitoring Equipment

| Equipment | Model | Quantity |
|------------------------|------------------------|----------|
| Sound Level Meter | RION NL52 | 3 |
| Sound Level Calibrator | RION NC 75 | 1 |
| Air Flowmeter | TSI TA440 Air Velocity | 1 |

3.9 Calibration certificates, catalogue of equipment are given in Appendix J.

Monitoring Methodology and QA/QC Procedure

- 3.10 The noise level measurement was conducted at 1m from the exterior of the nearby noise sensitive receivers building façade and at 1.2m above the ground and facing to the source area or the planned measurement area.
- 3.11 No noise measurement was conducted in the presence of fog, rain, wind with a steady speed exceeding 5 m/s or wind with gusts exceeding 10 m/s. Air flow was measured by air flow

meter.

- 3.12 Turned on the sound level meter and check the battery, if too low, change new ones.
- 3.13 Calibration was conducted immediately prior to and after each noise measurement, the accuracy of the sound level meters was checked by using sound calibrator generating 1,000 Hz with 94dB. Measurement data was found to be valid only if the calibration levels from before and after the noise measurement agreed to within 1.0 dB.
- 3.14 Noise level was recorded.
- 3.15 Recorded any activities that may generate noise during measurement period.

Maintenance and Calibration

- 3.16 The microphone head of the sound level meter and calibrator was cleaned with a soft cloth at quarterly intervals.
- 3.17 The sound level meter and sound calibrator were calibrated annually.
- 3.18 Calibration for sound level meter was conducted immediately prior to and following each noise measurement by using sound calibrator generating a known sound pressure level at a known frequency (1,000 Hz with 94dB). Measurements may be accepted as valid only if the calibration levels from before and after the noise measurement agree to within 1.0 dB.

Action and Limit Levels

3.19 The Baseline Noise Levels and Action and Limit Levels for construction noise is presented in Table 3.4.

| Table 3.4 Baseline Noise Level and Action and Limit Levels for |
|----------------------------------------------------------------|
|----------------------------------------------------------------|

| Time Period | Noise Monitoring Station | Baseline Noise Levels, dB (A) | Action Level | Limit Level ^ |
|-----------------|-----------------------------|----------------------------------|------------------------|-------------------------|
| 0700 – 1900 on | M11 | 68.3 | When one documented | 75 dB(A) |
| normal weekdays | M12 | 61.9 | complaint is received. | $75 \text{ ub}(\Omega)$ |

Note: ^ If works are to be carried out during restricted hours, the conditions stipulated in the Construction Noise Permit

(CNP) issued by the Noise Control Authority have to be followed.

Impact Noise Monitoring results

3.20 Impact noise monitoring results at the designed noise monitoring stations are summarized in Table 3.5 respectively.

 Table 3.5 Summary of Noise Monitoring Data during the reporting month

 Noise

| Monitoring Station | Measured L _{Aeq, 30-min} , Average, dB(A) | Measured L _{Aeq, 30-min} , Range, dB(A) | Action Level | Limit Level ^ |
|-----------------------|-------------------------------------------------------|-----------------------------------------------------|-----------------------|------------------|
| M11 | 67.4 | 64.8 - 69.2 | When one documented | 75 |
| M12 | 66.4 | 64.6 - 68.1 | complaint is received | dB(A) |

Note: ^ If works are to be carried out during restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority have to be followed.

- 3.21 There was no Action and Limit Level exceedance of LAeq, 30-min recorded during the reporting month.
- 3.22 Graphical presentation and detailed monitoring results are shown in Appendix K.
- 3.23 The Event and Action Plan is provided in Appendix L.
- 3.24 Non-project related construction activities in the adjacent construction sites were observed during the reporting period and may affect the monitoring results.

4. COMPARISON OF EM&A RESULTS WITH EIA PREDICTIONS

4.1 The environmental impacts predictions were given in Agreement No. CE 35/2006(CE) Kai Tak Development Engineering Study cum Design and Construction of Advance Works -Investigation, Design and Construction - Kai Tak Development Environmental Impact Assessment Report, EIA Register Nos. AEIAR-130/2009 for Kai Tak Development (The EIA Report). The EM&A data was compared with the EIA predictions as summarized in Table 4.1 to Table 4.3.

Predicted Cumulative Maximum Measured 24-hr 24-hour average TSP average TSP in concentration ASR No. in Reporting Air Monitoring Station Scenario 1 Scenario 2 Month EIA report (Mid 2009 to (Mid 2013 to (February 2020) Mid 2013), Late 2016), $\mu g/m^3$ $\mu g/m^3$ $\mu g/m^3$ AM3 - Sky Tower A40^ 106 138 30 - 79 AM4(A) - The Hong Kong Society for the Blind's Factory A43^ 195 123 25 - 115 cum Sheltered Workshop AM7 – Hong Kong Children's PA60 NA NA 30 - 73 Hospital

Table 4.1 Comparison of 24-hour average TSP Monitoring Data with EIA predictions

Note:

^ Prediction results are given in the Table 3.13 of the EIA report EIA Register Nos. AEIAR-130/2009 for Kai Tak Development.

Table 4.2 Comparison of 1-hour average TSP Monitoring Data with EIA predictions

| Air Monitoring Station | ASR No. in EIA report | 1-hour av | lative Maximum erage TSP stration Scenario 2 (Mid 2013 to Late 2016), µg/m ³ | Measured 1-hr average TSP in Reporting Month (February 2020) µg/m ³ |
|-------------------------------------------------------------------------------------|--------------------------|-----------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| AM3 - Sky Tower | A40 | 217^ | 247^ | 48 - 91 |
| AM4(A) - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop | A43 | 283^ | 409^ | 43 - 98 |
| AM7 – Hong Kong Children's Hospital | PA60 | NA | NA | 64 - 98 |

Note:

^ Prediction results are given in the Table 3.13 of the EIA report EIA Register Nos. AEIAR-130/2009 for Kai Tak Development.

| Noise Monitoring Station | NSR No. in EIA report | Predicted Mitigated Construction Noise Levels during Normal Daytime Working Hour LAeq, 30min, dB(A) | Measured Noise Level in Reporting Month (February 2020) L _{Aeq, 30min} , dB(A) |
|----------------------------------------------------------------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| M11 - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop | | 50 - 76* | 64.8 - 69.2 |
| M12 - Hong Kong Children's Hospital | PN83, PN84, PN84A | NA | 64.6 - 68.1 |

Table 4.3 Comparison of Noise Monitoring Data with EIA predictions

Note:

* Prediction results are given in the Table 3.20 of the EIA report EIA Register Nos. AEIAR-130/2009 for Kai Tak Development.

- 4.2 24-hour TSP monitoring results at AM3, AM4(A) were recorded lower than the prediction in the EIA Report.
- 4.3 No prediction in the EIA Report for 24-hour TSP monitoring results at AM7.
- 4.4 1-hour TSP monitoring results at AM3, AM4(A) were recorded lower than the prediction in the EIA Report.
- 4.5 No prediction in the EIA Report for 1-hour TSP monitoring results at AM7.
- 4.6 Noise monitoring results at M11 was recorded lower than the prediction in the EIA Report.
- 4.7 No prediction in the EIA Report for noise monitoring results at M12.

5. LANDSCAPE AND VISUAL MONITORING

5.1 In accordance with EM&A Manuals (EIA Register Nos. AEIAR-130/2009 and AEIAR-170/2013), Landscape and Visual Monitoring shall be carried out during the construction phase of the Project. Regular impact monitoring will be conducted at least once per week.

Results and Observations

- 5.2 Site inspections were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site.
- 5.3 Site inspections were conducted on 6, 13, 21 and 27 of February 2020 in the reporting month.
- 5.4 The summaries of site audits are attached in Table 5.1.

Close-out Date / Recommendations / Actions **Inspection Date Key Observations** Status 6 Feb 2020 No NA NA NA 13 Feb 2020 No NA 21 Feb 2020 NA No NA NA 27 Feb 2020 No NA

Table 5.1 Summary of observations of Landscape and Visual impact during the reporting month

- 5.5 No non-compliance of the landscape and visual impact was recorded in the reporting month.
- 5.6 Should non-compliance of the landscape and visual impact occur, action in accordance with the action plan presented in Appendix M shall be performed.

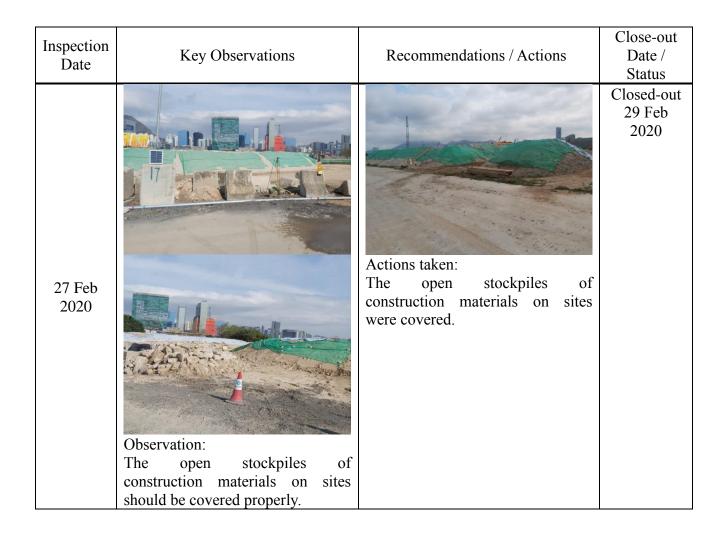
6. ENVIRONMENTAL SITE INSPECTION AND AUDIT

Site Inspection

- 6.1 Site inspections were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site.
- 6.2 Site inspections were conducted on 6, 13, 21 and 27 of February 2020 in the reporting month.
- 6.3 The summaries of site audits are attached in Table 6.1.

| Table 6.1 Summar | v 0 | f site inspections | observations | during | the re | enorting m | onth |
|------------------|-----|--------------------|----------------|------------|--------|------------|--------|
| idere oli summen | | , sile inspections | 00501 10110115 | 00000 0005 | | por ting m | 011111 |
| | | | | | | | |

| Inspection Date | Key Observations | Recommendations / Actions | Close-out Date / Status |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| 6 Feb 2020 | | | Closed-out on 13 Feb 2020 |
| | Observation: Dust suppression measures should | Actions taken: Water spraying regularly to | |
| | be implemented on dusty road. | minimize the dust emission. | |
| 13 Feb 2020 | Reminder: Please make sure if marine mud is found in bored-pile construction, it is not allowed to be disposed of at any public fill reception facility. | Actions taken: The marine mud has been collected in bored-pile construction. It is not allowed to be disposed of at any public fill reception facility. | Closed-out on 21 Feb 2020 |
| 21 Feb 2020 | No | No | NA |



Status of Waste Management

- 6.4 The amount of wastes generated by the major site activities of the work contracts within the Project during the reporting month is shown in Appendix N.
- 6.5 The Contractor was registered as a chemical waste producer for the Project. The Contractor was 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.

Status of Environmental Licenses, Notification and Permits

6.6 A summary of the relevant permits, licenses and/or notifications on environmental protection for the Project is shown in Table 6.2. Environmental licenses and notifications are reported in

Appendix O.

| Environmental Licenses, Notifications and Permits | Ref. No. | Valid Form | Valid Till |
|------------------------------------------------------|-------------------|-------------|-------------|
| | EP-337/2009 | 23 Apr 2009 | N/A |
| Environmental Permit under EIAO | EP-445/2013 | 3 May 2013 | N/A |
| | EP-445/2013/A | 13 Aug 2014 | N/A |
| Construction Dust Notification under APCO | 445956 | 6 Jun 2019 | N/A |
| Wastewater Discharge License under WPCO | WT00034610-2019 | 26 Sep 2019 | 30 Sep 2024 |
| | GW-RE0699-19 | 13 Sep 2019 | 12 Mar 2020 |
| Construction Noise Permit | GW-RE0786-19 | 5 Oct 2019 | 4 Apr 2020 |
| Construction Noise Permit | GW-RE0880-19 | 30 Oct 2019 | 27 Apr 2020 |
| | GW-RE0039-20 | 24 Jan 2020 | 23 Mar 2020 |
| Waste Disposal Billing Account | 7034450 | 28 Jun 2019 | N/A |
| Registration as a Chemical Waste Producer | 5218-286-P3182-03 | 18 Jul 2019 | N/A |

Table 6.2 Summary of Environmental Licenses, Notifications and Permits

Implementation Status of Environmental Mitigation Measures

- 6.7 The Contractor has implemented environmental mitigation measures and requires as stated in the EIA reports, the EP and the EM&A Manuals. The implementation status of the mitigation measures during the reporting month is summarized in Appendix P.
- 6.8 In response to the site audit findings, the Contractor carried out corrective actions with summary given in Appendix P.

Environmental Complaint and Non-compliance

6.9 No complaint was received in the reporting month. Summary of complaints in the reporting month is tabulated in Table 6.3.

| Date of Notification from EPD | Date of compliant | Description of complaint | Recommendations / Action take | Close-out date / Status |
|-------------------------------------|-------------------|--------------------------|----------------------------------|----------------------------|
| No | NA | NA | NA | NA |
| complaint | | | | |

Table 6.3 Summary of complaints in the Reporting Month

| Date of Notification from EPD | Date of compliant | Description of complaint | Recommendations / Action take | Close-out date / Status |
|-----------------------------------------------|-------------------|--------------------------|----------------------------------|----------------------------|
| was received in the reporting month. | | | | |

6.10 Complaint log is shown in Appendix Q.

Notifications of summons and successful prosecutions

6.11 No notification of summons and successful prosecutions was received in the reporting month. Summary of summons and successful prosecutions in the reporting month is tabulated in Table 6.4.

| Date of receiving notification of summons or prosecutions | Date of event | Description of event | Action take | Close-out date / Status |
|-------------------------------------------------------------------------------------------------------------------------|------------------|----------------------|-------------|----------------------------|
| No notification of summons and successful prosecutions were received in the reporting month. | NA | NA | NA | NA |

Table 6.4 Summary of summons and successful prosecutions in the Reporting Month

6.12 The summaries of cumulative environmental complaint, warning, summon and notification of successful prosecution for the Project is presented in Appendix Q.

7. FUTURE KEY ISSUES

Construction Programme in the coming month

7.1 The major construction activities and potential impacts in the next reporting month as follow:

| Tuble 7.1 Summary of Juline key issues and potential impact in | |
|----------------------------------------------------------------|------------------|
| Future key issues in the coming month | Potential impact |
| Ground Investigation | Noise |
| Underground Utilities Detection | Noise |
| Installation of Sheet Pile for Construction of North Depressed | Noise |
| Road Cofferdam & D3 Underpass | |
| Pumping Test at North Depressed Road Cofferdam | Noise |
| Construction of Bored Pile of Bridge D3 | Noise |
| ELS Installation & Excavation for North Depressed Road | Air Quality |

Table 7.1 Summary of future key issues and potential impact in the coming month

- 7.2 The mitigation measures for environmental impact including Air Quality, Construction Noise, Water Quality, Chemical and Waste Management, Landscape and Visual 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),
 - Provide movable noise barriers;
 - Appropriate desilting/ sedimentation devices provided on site for treatment before discharge,
 - Well maintain the drainage system to prevent the spillage of wastewater during heavy rainfall;
 - Onsite waste sorting and implementation of trip ticket system,
 - Good management and control on construction waste reduction,
 - Erection of decorative screen hoarding,
 - Strictly following the Environmental Permits and Licenses, and
 - Provide sufficient mitigation measures as recommended in Approved EIA Reports.

Environmental Site Inspection and Monitoring Schedule for next month

7.3 The tentative schedule for weekly site inspection and air quality and noise monitoring in the next month is provided in Appendix C.

8. CONCLUSIONS

- 8.1 Environmental monitoring works were performed in the reporting month and all monitoring results were checked and reviewed.
- 8.2 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.
- 8.3 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.
- 8.4 Construction noise monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.
- 8.5 No complaint was received in the reporting month.
- 8.6 No notification of summons and successful prosecutions was received in the reporting month.

Figure

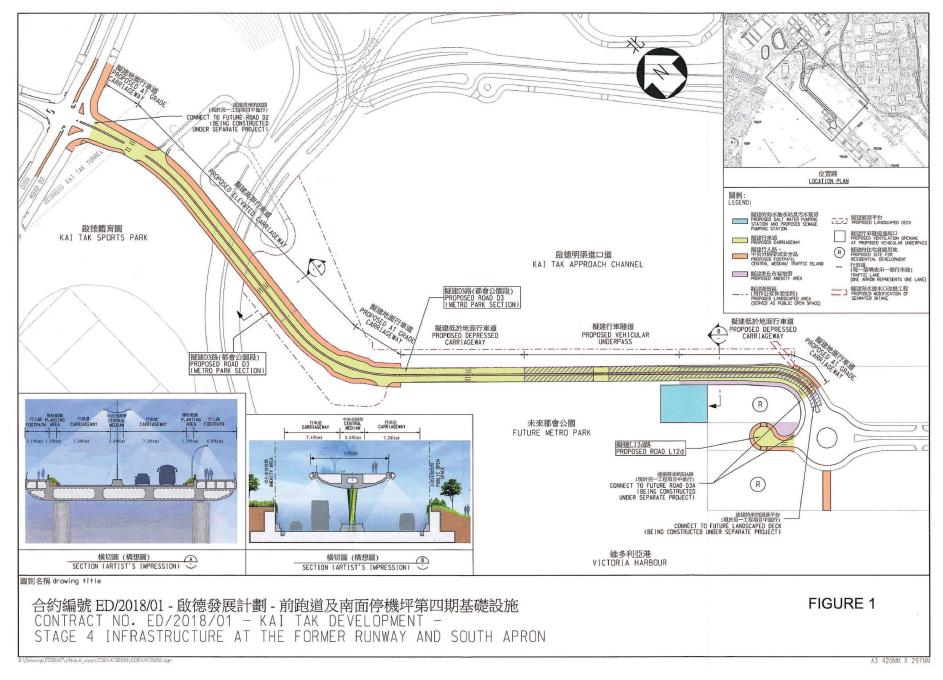


Figure 1 - Proposed works of Contract No. ED/2018/01

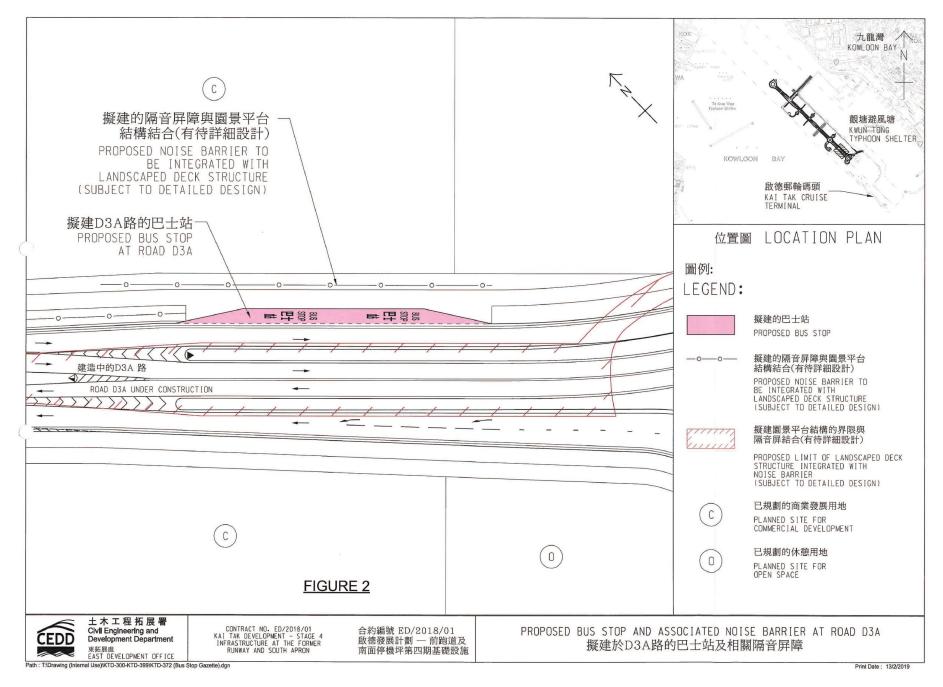


Figure 2 - Proposed Bus Stop And Associated Noise Barrier At Road D3A

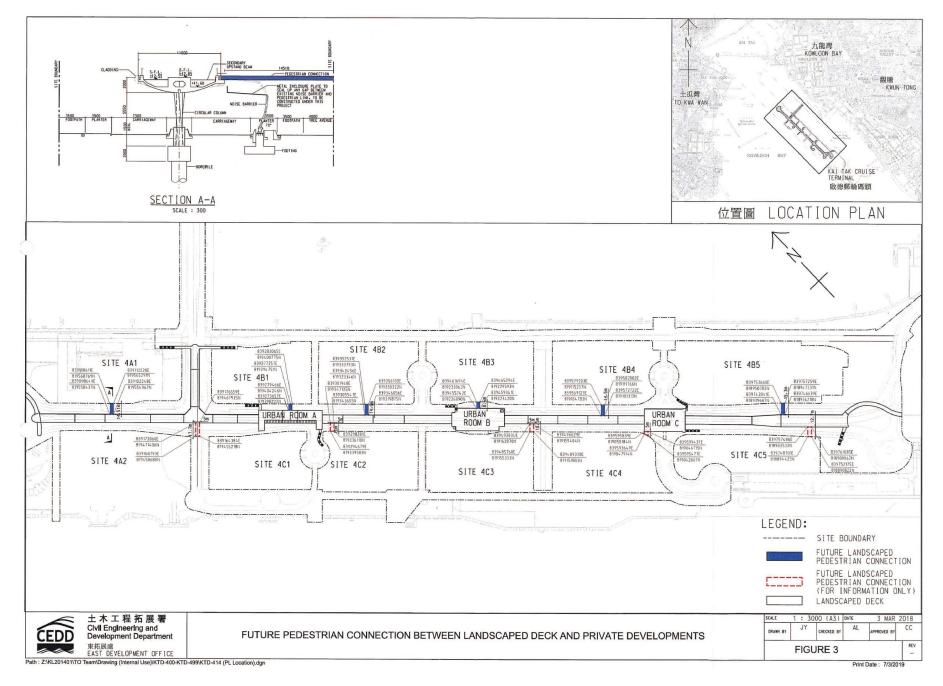


Figure 3 – Future Pedestrian Connection Between Landscaped Deck And Private Developments

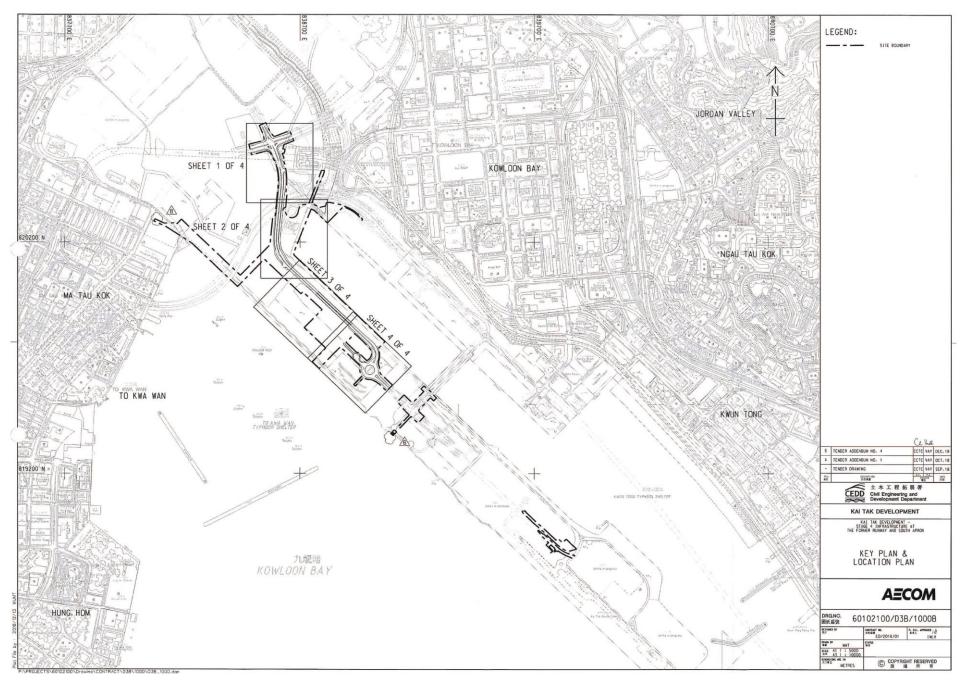


Figure 4 – Site Layout Plan

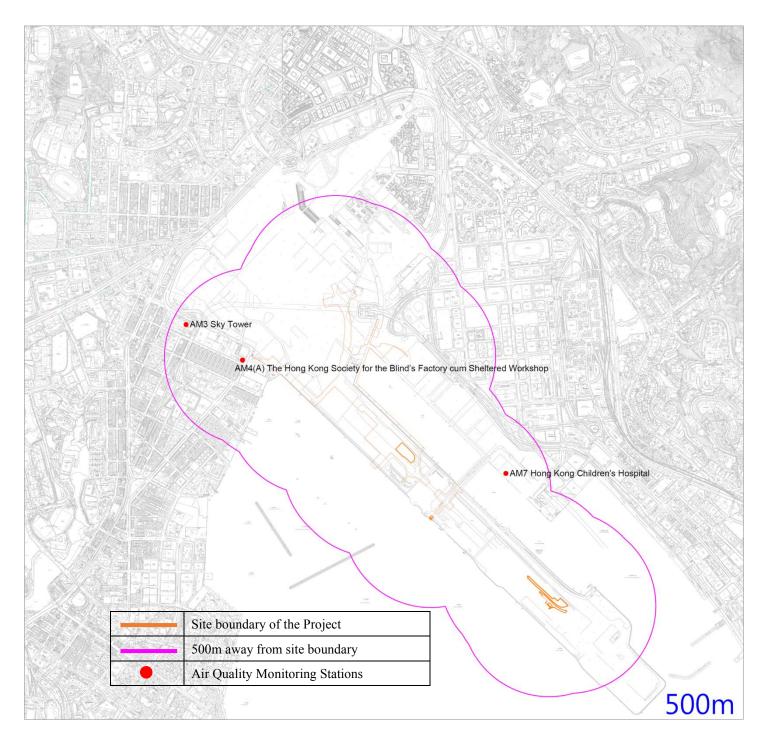


Figure 5 – Air Quality Monitoring Stations

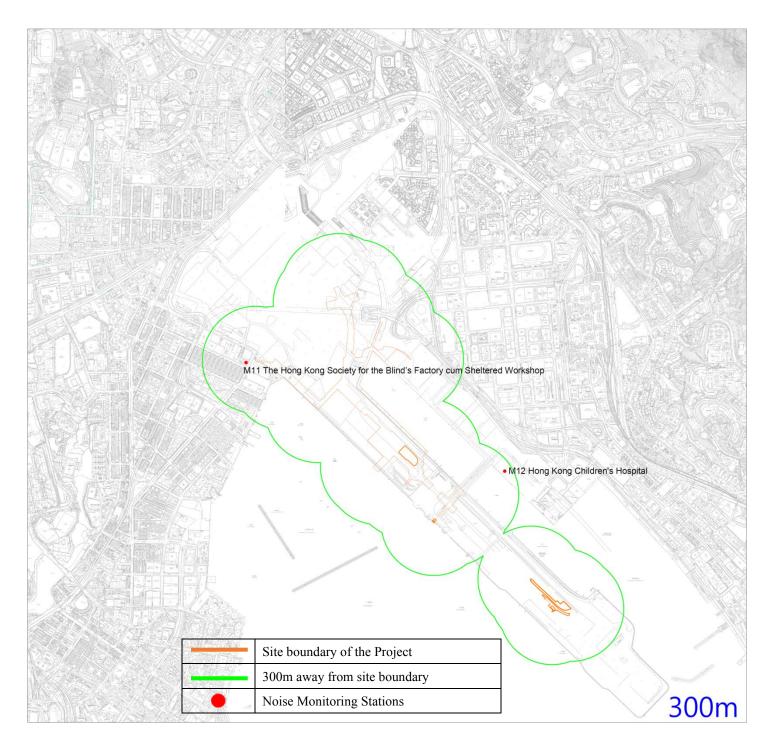
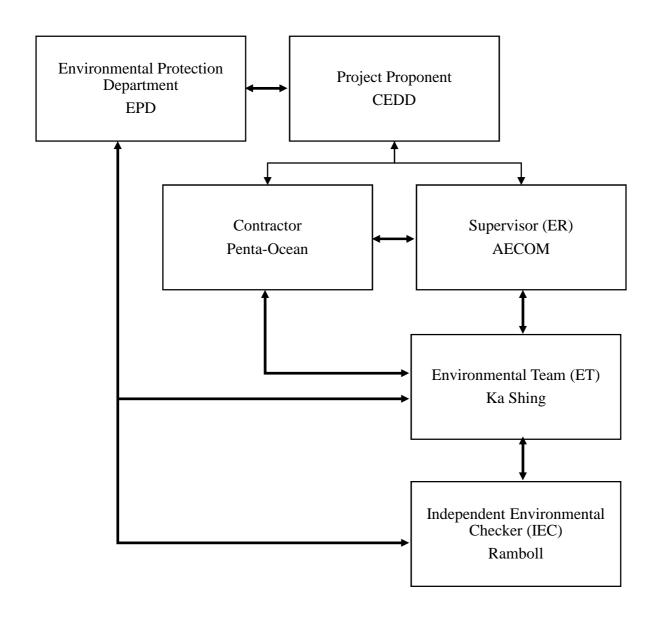
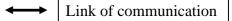


Figure 6 – Noise Monitoring Stations

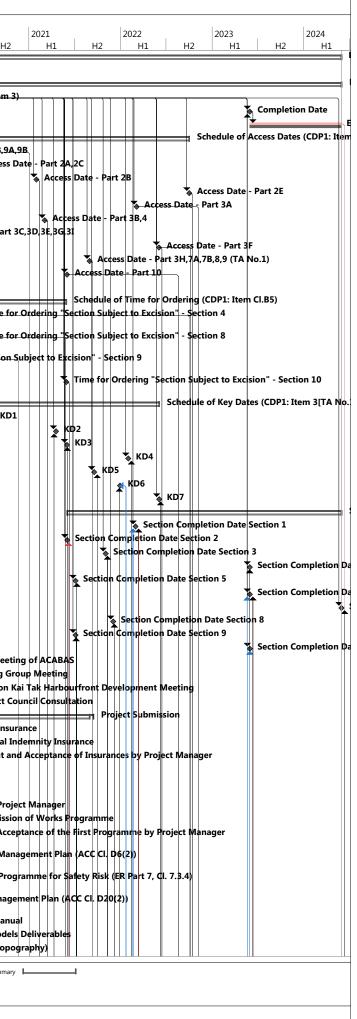
Appendix A – Organization Chart of EM&A Team



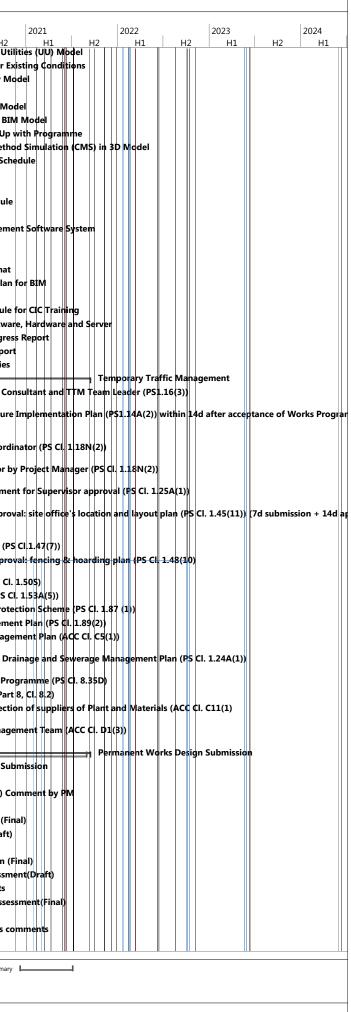


Appendix B – Construction Programme

| D | Task Name | Duration | Remaining Duration | Actual Start | Actual Finish | Plan Start | Plan Finish | Late Start | Late Finish | | Free Slack | | sk Total Ices Slack | 2019 | | 2020 | | |
|----------|----------------------------------------------------------------------------------------------------------------------------|---------------------|----------------------------|------------------------------|----------------------|----------------------------------|------------------------------------|----------------------------------|----------------------------------|-----------------|--------------------------------|---------------------|-----------------------------|--------------------------------------------------|---------------|-------------|---------------|-----------------|
| - | Purchash Partice | 1044 | 1044 | No. 16 2010 | | NA | NA 20, 2024 | No. 16 2010 | NA 20, 2024 | Complete | | (TRA) | 0.1 | H1 | H2 | H1 | | H2 |
| 1 | Project Dates Contract Date | 1841 days 0 days | 1841 days 0 days | May 16, 2019 | NA May 16, 2019 | May 16, 2019 | May 29, 2024 | May 16, 2019 May 16, 2019 | May 29, 2024 May 16, 2019 | 0% 0% | 0 days | 0 days 0 days | 0 days 0 days | Sun Sep | ract D | | | |
| 2 | Date of Commencement & Completion (CDP1: Item 3) | 1827 days | 1827 days | May 16, 2019 May 30, 2019 | NA | May 16, 2019 May 30, 2019 | May 16, 2019 May 29, 2024 | May 10, 2019 May 30, 2019 | May 29, 2024 | 0% | 0 days 0 days | 0 days | 0 days | | | | | |
| 4 | Starting Date (CDPart1: Item 3) | 0 days | 0 days | May 30, 2019 | May 30, 2019 | May 30, 2019 | May 30, 2019 | May 30, 2019 | May 30, 2019 | 100% | 0 days | 0 days | 0 days | Star | ting C | ate (CDPa | art1: J | item 3 |
| 5 | Completion Date | 0 days | 0 days | NA | NA | May 30, 2023 | May 30, 2023 | May 30, 2023 | May 30, 2023 | 0% | 0 days | 0 days | 0 days | | | | | |
| 6 | Establishment Work | 365 days | 365 days | NA | NA | May 31, 2023 | May 29, 2024 | May 31, 2023 | May 29, 2024 | 0% | 0 days | 0 days | 0 days | | | | | |
| 7 | Schedule of Access Dates (CDP1: Item 3[TA No.1) | 1221 days | 1221 days | May 30, 2019 | NA | May 30, 2019 | October 2, 2022 | May 30, 2019 | October 2, 2022 | 0% | 0 days | 0 days | 0 days | | | | ╞ | |
| 8 | Access Date - Part 1, 6A,6B,9A,9B | 0 days | 0 days | May 30, 2019 | May 30, 2019 | May 30, 2019 | May 30, 2019 | May 30, 2019 | May 30, 2019 | 100% | 0 days | 0 days | 0 days | Acc | ess Da | te - Part 1 | 6A,f | 6B,9A |
| 9 | Access Date - Part 2A,2C | 0 days | 0 days | NA | NA | June 2, 2020 | June 2, 2020 | June 2, 2020 | June 2, 2020 | 0% | 0 days | 0 days | 0 days | | | | 🖌 Ac | ccess l |
| 10 | Access Date - Part 2B | 0 days | 0 days | NA | NA | January 31, 2021 | January 31, 2021 | January 31, 2021 | January 31, 2021 | 0% | 0 days | 0 days | 0 days | | | | | |
| 11 | Access Date - Part 2E | 0 days | 0 days | NA | NA | October 2, 2022 | October 2, 2022 | October 2, 2022 | October 2, 2022 | 0% | 0 days | 0 days | 0 days | | | | | |
| 12 | Access Date - Part 3A | 0 days | 0 days | NA | NA | March 6, 2022 | March 6, 2022 | March 6, 2022 | March 6, 2022 | 0% | 0 days | 0 days | 0 days | | | | | |
| 13 | Access Date - Part 3B,4 | 0 days | 0 days | NA | NA | March 5, 2021 | March 5, 2021 | March 5, 2021 | March 5, 2021 | 0% | 0 days | 0 days | 0 days | | | | | - |
| 14 | Access Date - Part 3C,3D,3E,3G,3I | 0 days | 0 days | NA | NA | December 2, 2019 | | | December 2, 2019 | | 0 days | 0 days | 0 days | | • | Access D | ate - | Part |
| 15 | Access Date - Part 3F | 0 days | 0 days | NA | NA | June 3, 2022 | June 3, 2022 | June 3, 2022 | June 3, 2022 | 0% | 0 days | 0 days | 0 days | | | | | |
| 16 | Access Date - Part 3H,7A,7B,8,9 (TA No.1) | 0 days | 0 days | NA | NA | August 31, 2021 | August 31, 2021 | August 31, 2021 | August 31, 2021 | 0% | 0 days | 0 days | 0 days | _ | | | | |
| 17 | Access Date - Part 10 | 0 days | 0 days | NA | NA | June 2, 2021 | June 2, 2021 | June 2, 2021 | June 2, 2021 | 0% | 0 days | 0 days | 0 days | A 66 | J.L.b. | te - Area \ | | |
| 18 | Access Date - Area WA1 Schedule of Time for Ordering (CDP1: Item Cl.B5) | 0 days | 0 days | May 30, 2019 | May 30, 2019 | May 30, 2019 | May 30, 2019 | May 30, 2019 | May 30, 2019 | 100% | 0 days | 0 days | 0 days | | | e - Area v | | |
| 19 | | 695 days | 695 days | July 5, 2019 | NA | July 5, 2019 | May 30, 2021 | July 5, 2019 | May 30, 2021 | 0% | 0 days | 0 days | 0 days | | | | v T ir | me fo |
| 20 | Time for Ordering "Section Subject to Excision" - Section 4 Time for Ordering "Section Subject to Excision" - Section 8 | 0 days 0 days | 0 days 0 days | NA | NA | June 2, 2020 June 2, 2020 | June 2, 2020 June 2, 2020 | June 2, 2020 June 2, 2020 | June 2, 2020 June 2, 2020 | 0% | 0 days 0 days | 0 days 0 days | 0 days 0 days | | | . | Ĭ | me fo |
| 21 | Time for Ordering "Section Subject to Excision" - Section 9 | 0 days | 0 days | July 5, 2019 | July 5, 2019 | July 5, 2019 | July 5, 2019 | July 5, 2019 | July 5, 2019 | 100% | 0 days | 0 days | 0 days | Т | mefo | r Ordering |) | |
| | | | | | | | | | | | | | | | | | | |
| 23 | Time for Ordering "Section Subject to Excision" - Section 10 | 0 days | 0 days | NA | NA | May 30, 2021 | May 30, 2021 | May 30, 2021 | May 30, 2021 | 0% | 0 days | 0 days | 0 days | | | | | _ |
| 24 | Schedule of Key Dates (CDP1: Item 3[TA No.1]) | 665 days | 665 days | NA | NA | August 7, 2020 | June 3, 2022 | August 7, 2020 | June 3, 2022 | 0% | 0 days | 0 days | 0 days | | | | | KD1 |
| 25 | KD1 KD2 | 0 days 0 days | 0 days 0 days | NA | NA | August 7, 2020 April 18, 2021 | August 7, 2020 | August 7, 2020 April 18, 2021 | August 7, 2020 April 18, 2021 | 0% 0% | 0 days | 0 days 0 days | 0 days 0 days | | | | | 1 |
| 26 27 | KD3 | 0 days | 0 days | NA | NA | June 1, 2021 | April 18, 2021 June 1, 2021 | June 1, 2021 | June 1, 2021 | 0% | 0 days 0 days | 0 days | 0 days | | | | | |
| 27 | KD4 | 0 days | 0 days | NA | NA | January 31, 2022 | January 31, 2022 | January 31, 2022 | January 31, 2022 | 0% | 0 days | 0 days | 0 days | | | | | |
| 29 | KD5 | 0 days | 0 days | NA | NA | | | 1 September 17, 2021 | | | 0 days | 0 days | 0 days | | | | | |
| 30 | KD6 | 0 days | 0 days | NA | NA | | | 1 December 29, 2021 | | | 0 days | 0 days | 0 days | | | | | |
| 31 | KD7 | 0 days | 0 days | NA | NA | June 3, 2022 | June 3, 2022 | June 3, 2022 | June 3, 2022 | 0% | 0 days | 0 days | 0 days | | | | | |
| 32 | Schedule of Section Completion (CDP1 Cl. X5) | 1092 days | , 1092 days | NA | NA | June 2, 2021 | May 29, 2024 | June 2, 2021 | May 29, 2024 | 0% | 0 days | 0 days | 0 days | | | | | |
| 33 | Section Completion Date Section 1 | 0 days | 0 days | NA | NA | March 1, 2022 | March 1, 2022 | March 1, 2022 | March 1, 2022 | 0% | 0 days | 0 days | 0 days | | | | | |
| 34 | Section Completion Date Section 2 | 0 days | 0 days | NA | NA | June 2, 2021 | June 2, 2021 | June 2, 2021 | June 2, 2021 | 0% | 0 days | 0 days | 0 days | | | | | |
| 35 | Section Completion Date Section 3 | 0 days | 0 days | NA | NA | November 2, 2021 | November 2, 2021 | November 2, 2021 | November 2, 2021 | 0% | 0 days | 0 days | 0 days | | | | | |
| 36 | Section Completion Date Section 4 | 0 days | 0 days | NA | NA | May 30, 2023 | May 30, 2023 | May 30, 2023 | May 30, 2023 | 0% | 0 days | 0 days | 0 days | | | | | |
| 37 | Section Completion Date Section 5 | 0 days | 0 days | NA | NA | July 5, 2021 | July 5, 2021 | July 5, 2021 | July 5, 2021 | 0% | 0 days | 0 days | 0 days | | | | | |
| 38 | Section Completion Date Section 6 | 0 days | 0 days | NA | NA | May 30, 2023 | May 30, 2023 | May 30, 2023 | May 30, 2023 | 0% | 0 days | 0 days | 0 days | | | | | |
| 39 | Section Completion Date Section 7 | 0 days | 0 days | NA | NA | May 29, 2024 | May 29, 2024 | May 29, 2024 | May 29, 2024 | 0% | 0 days | 0 days | 0 days | | | | | |
| 40 | Section Completion Date Section 8 | 0 days | 0 days | NA | NA | December 2, 2021 | | December 2, 2021 | December 2, 2021 | | 0 days | 0 days | 0 days | | | | | |
| 41 | Section Completion Date Section 9 | 0 days | 0 days | NA | NA | July 5, 2021 | July 5, 2021 | July 5, 2021 | July 5, 2021 | 0% | 0 days | 0 days | 0 days | | | | | |
| 42 | Section Completion Date Section 10 | 0 days | 0 days | NA | NA | May 30, 2023 | May 30, 2023 | May 30, 2023 | May 30, 2023 | 0% | 0 days | | 0 days | | | | Dro | maati |
| 43 | Pre-meeting of ACABAS | 153 days | 153 days | NA | NA | November 29, 201 | • | May 29, 2024 | May 29, 2024 | 0% | 1491 d. | | 1491 d | | I I I | Design V | | meeti ing Gr |
| 44 | Design Working Group Meeting Task Force on Kai Tak Harbourfront Development Meeting | 0 days | 0 days | NA NA | NA NA | January 31, 2020 | 9 November 29, 201 | | May 29, 2024 | 0% | 1644 d. 1581 d. | | 1644 d | | | Task | | 10 |
| 45 46 | District Council Consultation | 0 days 0 days | 0 days 0 days | NA | NA | April 30, 2020 | January 31, 2020 April 30, 2020 | May 29, 2024 May 29, 2024 | May 29, 2024 May 29, 2024 | 0% 0% | 1491 d. | | 1581 d 1491 d | | | | | rict Co |
| 40 | Project Submission | 853 days | | May 16, 2019 | NA | May 16, 2019 | September 14, 20. | | May 29, 2024 May 29, 2024 | 0% | | rs 0 days | 988 days | | | | <u> </u> | |
| 48 | Submit Third Parties Insurance | 71 days | 0 days | June 18, 2019 | August 27, 2019 | June 18, 2019 | August 27, 2019 | June 18, 2019 | August 27, 2019 | 100% | 0 days | | 0 days | · · | Subn | nit Third P | 'artie: | s Insu |
| 49 | Submit Professional Indemnity Insurance | 29.39 days | 14 days | June 11, 2019 | NA | June 11, 2019 | October 22, 2019 | | May 29, 2024 | 52% | 2 days | 0 days | 1681.1 | | | ubmit Pro | | |
| 50 | Review, Comment and Acceptance of Insurances by Project Manager | 139.1 days | 50 days | June 13, 2019 | NA | June 13, 2019 | November 11, 201 | | May 29, 2024 | 64% | 1661 days | 0 days | 1661 days | | | Review, Co | omme | ant an |
| 51 | Works Programme | 160 days | 60.42 days | May 16, 2019 | NA | May 16, 2019 | October 22, 2019 | May 16, 2019 | June 1, 2020 | 0% | 223 day | rs | 223 days | | | | | |
| 52 | Submit First Programme | 20 days | 0 days | May 16, 2019 | June 4, 2019 | May 16, 2019 | June 4, 2019 | May 16, 2019 | June 4, 2019 | 100% | 0 days | | 0 days | | nit Fiı | st Progran | mme | |
| 53 | Review and Comment by Project Manager | 9 days | 0 days | June 5, 2019 | June 13, 2019 | June 5, 2019 | June 13, 2019 | June 5, 2019 | June 13, 2019 | 100% | 0 days | 0 days | 0 days | Rev | iew ar | d Comme | ent by | / Proje |
| 54 | Revise and Resubmission of Works Programme | 30 days | 9.21 days | June 14, 2019 | NA | June 14, 2019 | October 2, 2019 | June 14, 2019 | May 11, 2020 | 69% | 0 days | 0 days | 222.79 | | 👞 Re' | vise and R | esubr | missic |
| 55 | Final Review and Acceptance of the First Programme by | 21 days | 21 days | NA | NA | October 2, 2019 | October 23, 2019 | May 12, 2020 | June 1, 2020 | 0% | 218.79 | 0 days | 222.79 | | Fi | nal Reviev | wand | I Acce |
| 56 | Project Manager Submit Health and Safety Management Plan (ACC Cl. D6(2)) | 6 days | 0 days | May 30, 2019 | June 4, 2019 | May 30, 2019 | June 4, 2019 | May 30, 2019 | June 4, 2019 | 100% | days 0 days | 0 days | days O days | Sub | nit He | alth and S | Safety | y Man |
| 57 | Submit Detailed Programme for Safety Risk (ER Part 7, Cl. 7.3.4) | 12 days | 12 days | NA | NA | October 29, 2019 | November 9, 2019 | May 18, 2024 | May 29, 2024 | 0% | 1663 | 0 days | 1663 | | | ubmit De | atailec | d Proç |
| 58 | Submit Environmental Management Plan (ACC Cl. D20(2)) | 6 days | 0 days | May 30, 2019 | June 4, 2019 | May 30, 2019 | June 4, 2019 | May 30, 2019 | June 4, 2019 | 100% | days 0 days | 0 days | <mark>days</mark> O days | Subi | nit En | vironmen | tal M | anage |
| 59 | Submit QA/QC Manual | 14 days | 14 days | NA | NA | October 25, 2019 | November 7, 2019 | May 16, 2024 | May 29, 2024 | 0% | 1665 d. | <mark>0 days</mark> | 1665 d | | | ubmit QA | v/QC) | Manu |
| 60 | Submit BIM Models Deliverables | 103 days | 41.33 days | August 19, 2019 | NA | August 19, 2019 | November 30, 201 | | May 29, 2024 | 0% | 1643 d. | | 1643 d | | *** +• | Submit E | вім м | dodel |
| 61 | Existing Site Model (Topography) | 5 days | 0 days | August 19, 2019 | August 23, 2019 | August 19, 2019 | August 23, 2019 | | August 23, 2019 | 100% | 0 days | | 0 days | | Existi | ng Site M | odel (| (Торо |
| | | | | | | | | | | | | | | | | | | 1 |
| | vised Programme- /2018/01 with Progress Critical Split Critical Split | | | lanual Task | Duration Baseline | , | Baseline Milestone Milestone | | imary iual Summary | | tternal Tasks tternal Miles | | | Inactive Milestone \land Inactive Summary 🛛 🥅 | | Ba | seiine Si | Summary |
| | date as of 22-Sep-19 Critical Progress Task Pro | | 5 | inish-only | Baseline | | | | ect Summary | | active Task | | | Deadline | | | | |
| | | - | | · - | | | , ., ., | - | | | | | | | | | | |
| | | | | | | | | Page | 51 | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

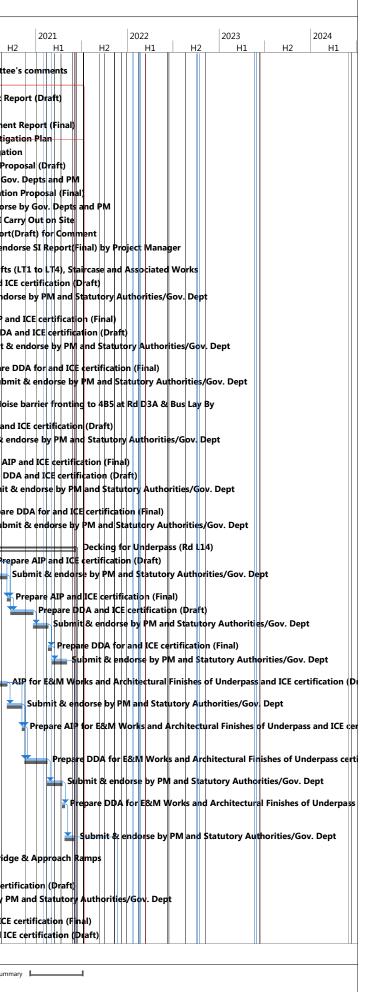


| 14 | sk Name | Duration | 9 | Actual Start | Actual Finish | Plan Start | Plan Finish | Late Start | Late Finish | Physical % | Free Slack | Time Risk Allowance | | 9 2020 |
|--------|----------------------------------------------------------------------------------------------------------------------|--------------------|------------------------|-----------------------------------------|----------------------------------------|---------------------------------------|--------------------|-------------------------------------------|-----------------------------------|---------------|-------------------------------------------------|------------------------|------------------|----------------------------------------|
| | | | Duration | | | | | | | % Complet | | (TRA) | | H1 H2 H1 |
| 2 3 | | 5 days | 0 days | | August 30, 2019 | August 26, 2019 | August 30, 2019 | August 26, 2019 | August 30, 2019 | 100% | 0 days | | 0 days | Sun September 22 Under |
| _ | | 28 days 46 days | 4.8 days 40.02 days | September 2, 2019 September 16, 2019 | | · · · · | | 9 September 2, 2019 September 16, 2019 | May 29, 2024 | 83% 13% | 1703 d 1670.9 | | 1703 d 1670.9 | 3D Photog |
| _ | | 18 days | 1.08 days | September 6, 2019 | | | | 9 September 6, 2019 | May 29, 2024 | 94% | 1709.9 | | 1709.9 | AIP Model |
| _ | | 15 days | 1.05 days | September 9, 2019 | | · · · · · · · · · · · · · · · · · · · | | 9 September 9, 2019 | May 29, 2024 | 93% | 1709.9 | | 1709.9 | Interfacing C |
| - | | 0 days | 0 days | NA | NA | | October 31, 2019 | | October 31, 2019 | | 0 days | | 0 days | Monthly L |
| _ | | 0 days 0 days | 0 days | NA | NA | October 31, 2019 | October 31, 2019 | · · · · | October 31, 2019 | | 0 days | | 0 days | 4D Model |
| _ | | 0 days 0 days | 0 days | NA | NA | | | November 30, 2019 | November 30, 2019 | | 0 days | | 0 days | Constru |
| _ | | 77 days | 77 days | | NA | August 16, 2019 | | August 16, 2019 | October 31, 2019 | | 0 days | | 0 days | BIM Deliv |
| _ | | 0 days | 0 days | August 16, 2019 | August 16, 2019 | August 16, 2019 | August 16, 2019 | August 16, 2019 | August 16, 2019 | 100% | 0 days | | 0 days | ♦ Establish BIM 1 |
| _ | | 0 days | 0 days | August 16, 2019 | August 16, 2019 | August 16, 2019 | August 16, 2019 | August 16, 2019 | August 16, 2019 | 100% | 0 days | | 0 days | BIM Execution |
| _ | | 0 days | 0 days | August 16, 2019 | August 16, 2019 | August 16, 2019 | August 16, 2019 | August 16, 2019 | August 16, 2019 | 100% | 0 days | | 0 days | BIM Submissio |
| _ | | 0 days | 0 days | | August 31, 2019 | August 31, 2019 | August 31, 2019 | August 31, 2019 | August 31, 2019 | 100% | 0 days | | 0 days | BIM 360 Licer |
| _ | | 0 days | 0 days | | August 31, 2019 | August 31, 2019 | August 31, 2019 | August 31, 2019 | August 31, 2019 | 100% | 0 days | | | BIM/Drawing |
| _ | | 0 days | 0 days | | | | | September 9, 2019 | September 9, 2019 | | 0 days | | 0 days 0 days | CDE Setup |
| _ | | 0 days | 0 days | | · · · | | | September 9, 2019 | | | 0 days | | | Clash Report |
| _ | • | | | | · · · · · · · · · · · · · · · · · · · | | | | September 9, 2019 | | | | 0 days | Monthly Rep |
| _ | | 0 days | 0 days | | | | | September 9, 2019 | September 9, 2019 | | 0 days | | 0 days | Quality Assu |
| _ | | 0 days | 0 days | | | | | 9 September 30, 2019 | | | 0 days | | 0 days | BIM Trainin |
| _ | | 0 days | 0 days | - | | | | 9 September 30, 2019 | - | | 0 days | | 0 days | BIM Trainin |
| _ | | 0 days | 0 days | | | | | 9 September 30, 2019 | | | 0 days | | 0 days | |
| | | 0 days | 0 days | NA | NA | October 31, 2019 | October 31, 2019 | | October 31, 2019 | | 0 days | | 0 days | 4 Sets of E Monthly E |
| | | 0 days | 0 days | NA | NA | October 31, 2019 | October 31, 2019 | October 31, 2019 | October 31, 2019 | | 0 days | | 0 days | Monthly E |
| | | 0 days | 0 days | NA | NA | October 31, 2019 | October 31, 2019 | | October 31, 2019 | | 0 days | | 0 days | Monthly C |
| | - | 0 days | 0 days | NA | NA | October 31, 2019 | October 31, 2019 | | October 31, 2019 | | <mark>0 days</mark> | | 0 days | BIM Object |
| | Temporary Traffic Management | 839 days | 682.35 days | May 30, 2019 | NA | May 30, 2019 | September 14, 20 | . May 30, 2019 | May 29, 2024 | 0% | 988 days | 6 | 988 days | |
| | · · · · · · · · · · · · · · · · · · · | 14 days | 0 days | May 30, 2019 | June 12, 2019 | May 30, 2019 | June 12, 2019 | May 30, 2019 | June 12, 2019 | 100% | 0 days | 0 days | 0 days | 🕇 Submit Traffic Engi |
| _ | (PS1.16(3)) Submit Road Closure Implementation Plan (PS1.14A(2)) within | 1/ days | 14 days | NA | NA | November 1, 2019 | November 14, 2019 | May 16, 2024 | May 29, 2024 | 0% | 1658 | 0 days | 1658 | _ Submit Ro |
| | 14d after acceptance of Works Programme | 14 0895 | 14 0893 | | | November 1, 2019 | November 14, 201 | , Widy 10, 2024 | Way 23, 2024 | 070 | days | U days | days | |
| | Submit EP Mgt System Co-ordinator (PS Cl. 1.18N(2)) | 7 days | 0 days | May 30, 2019 | June 5, 2019 | May 30, 2019 | June 5, 2019 | May 30, 2019 | June 5, 2019 | 100% | 0 days | 0 days | 0 days | Submit EP Mgt Syst |
| | Approve of EP Co-ordinator by Project Manager (PS Cl. 1.18N(2)) | 14 days | 0 days | June 6, 2019 | June 19, 2019 | June 6, 2019 | June 19, 2019 | June 6, 2019 | June 19, 2019 | 100% | 0 days | 0 days | 0 days | Approve of EP Co- |
| | | 7 days | 0 days | May 30, 2019 | June 5, 2019 | May 30, 2019 | June 5, 2019 | May 30, 2019 | June 5, 2019 | 100% | 0 days | 0 days | 0 days | Submit UU detectio |
| | Submit & obtain approval: site office's location and layout plan (PS Cl. 1.45(11)) (7d submission + 14d approval) | 31 days | 10 days | May 30, 2019 | NA | May 30, 2019 | October 2, 2019 | May 30, 2019 | May 29, 2024 | 100% | 1701 days | 0 days | 1701 days | ¥ Submit & ok |
| - | Submit Site survey record (PS Cl.1.47(7)) | 34 days | 0 days | May 30, 2019 | July 2, 2019 | May 30, 2019 | July 2, 2019 | May 30, 2019 | July 2, 2019 | 100% | 0 days | 0 days | 0 days | 📕 Submit Site surve |
| | Submit & obtain approval: fencing & hoarding plan (PS Cl. 1.48(10) | 5 days | 5 days | NA | NA | October 2, 2019 | October 6, 2019 | November 4, 2019 | November 8, 2019 | 0% | 1 day | 0.5 days | 33 days | Submit & ol |
| | | 65 days | 0 days | May 30, 2019 | August 2, 2019 | May 30, 2019 | August 2, 2019 | May 30, 2019 | August 2, 2019 | 100% | 0 days | 0 days | 0 days | 📕 Submit site facil |
| - | | 36 days | 0 days | May 30, 2019 | July 4, 2019 | May 30, 2019 | July 4, 2019 | May 30, 2019 | July 4, 2019 | 100% | | 0 days | 0 days | 📕 Submit security sy |
| - | | 12 days | 0 days | October 15, 2019 | October 26, 2019 | October 15, 2019 | October 26, 2019 | October 15, 2019 | October 26, 2019 | 100% | 0 days | 0 days | 0 days | Submit We |
| - | | 47 days | 0 days | May 30, 2019 | July 15, 2019 | May 30, 2019 | July 15, 2019 | May 30, 2019 | July 15, 2019 | 100% | 0 days | 0 days | 0 days | Submit Interface |
| _ | | | | | | | | | | | | | | Submit Subcontrac |
| | Submit Subcontractor Management Plan (ACC Cl. C5(1)) | 13 days | 0 days | May 30, 2019 | June 11, 2019 | May 30, 2019 | June 11, 2019 | May 30, 2019 | June 11, 2019 | 100% | 0 days | 0 days | 0 days | |
| | Submit Temporary Drainage and Sewerage Management Plan (PS Cl. 1.24A(1)) | 45 days | 33.12 days | May 30, 2019 | NA | May 30, 2019 | October 26, 2019 | May 30, 2019 | August 7, 2020 | 32% | 33.88 days | 0 days | 286.88 days | Submit Ter |
| | Submit Piling Programme (PS Cl. 8.35D) | 12 days | 12 days | NA | NA | January 2, 2020 | January 13, 2020 | February 1, 2020 | February 12, 2020 | 0% | 18 days | 0 days | 30 days | Submi |
| | Submit EM&A Manual (ER Part 8, Cl. 8.2) | 6 days | 0 days | May 30, 2019 | June 4, 2019 | May 30, 2019 | June 4, 2019 | May 30, 2019 | June 4, 2019 | 100% | 0 days | 0 days | 0 days | Submit EM&A Man |
| | Submit Proposal of selection of suppliers of Plant and | 80 days | 0 days | May 30, 2019 | August 17, 2019 | May 30, 2019 | August 17, 2019 | May 30, 2019 | August 17, 2019 | 100% | 0 days | 0 days | 0 days | Submit Propos |
| - | Materials (ACC Cl. C11(1) Submit Contractor's Management Team (ACC Cl. D1(3)) | 50 days | 0 days | May 30, 2019 | July 18, 2019 | May 30, 2019 | July 18, 2019 | May 30, 2019 | July 18, 2019 | 100% | 0 days | 0 days | 0 days | 📕 Submit Contracto |
| | | | | | • • | | | • | | | | | | |
| | - | 839 days | 705.7 days | May 30, 2019 | NA | May 30, 2019 | September 14, 20 | . May 30, 2019 | November 15, 2022 | 2 0% | 427 days | 5 | 427 days | |
| | General Design Submission | 192 days | 43.98 days | May 30, 2019 | NA | May 30, 2019 | December 7, 2019 | May 30, 2019 | December 10, 2019 | 0% | 3 days | | 3 days | General General |
| | Project Design Plan (Draft) | 16 days | 0 days | May 30, 2019 | June 14, 2019 | May 30, 2019 | June 14, 2019 | May 30, 2019 | June 14, 2019 | 100% | 0 days | 0 days | 0 days | 🖡 Project Design Plar |
| | Project Design Plan (Draft) Comment by PM | 14 days | 0 days | June 15, 2019 | June 28, 2019 | June 15, 2019 | June 28, 2019 | June 15, 2019 | June 28, 2019 | 100% | 0 days | | 0 days | Project Design Pla |
| | Address Comments | 66 days | 0 days | July 2, 2019 | September 5, 2019 | July 2, 2019 | September 5, 2019 | July 2, 2019 | September 5, 2019 | 100% | 0 days | 1 days | 0 days | Address Comr |
| | Project Design Plan (Final) | 19 days | 15.2 days | September 5, 2019 | NA | September 5, 2019 | October 8, 2019 | September 5, 2019 | December 10, 2019 | 20% | 63.8 day | s 0 days | 63.8 days | 📕 🎦 Project Desi |
| 1 | Design Memorandum (Draft) | 26 days | 0 days | June 4, 2019 | June 29, 2019 | June 4, 2019 | June 29, 2019 | June 4, 2019 | June 29, 2019 | 100% | 0 days | 0 days | 0 days | 🚽 Design Memorand |
| 1 | Address Comments | 15 days | 0 days | August 1, 2019 | August 15, 2019 | August 1, 2019 | August 15, 2019 | August 1, 2019 | August 15, 2019 | 100% | 0 days | 1 days | 0 days | 📑 Address Comm |
| | | 5 days | 5 days | July 23, 2019 | NA | July 23, 2019 | September 27, 201 | 9 July 23, 2019 | December 10, 2019 | 0% | 74 days | | 74 days | Design Mem |
| | | 25 days | 4 days | September 16, 2019 |) NA | | | September 16, 2019 | | | | 1 day | 8 days | 📕 🍆 Traffic Impa |
| 1 | | 28 days | 28 days | NA | NA | October 11, 2019 | November 7, 2019 | October 19, 2019 | November 15, 2019 | 9 0% | | 0.5 days | 8 days | 📕 🎽 Address C |
| | | 25 days | 25 days | NA | NA | November 8, 2019 | | November 16, 2019 | December 10, 2019 | | | 0.5 days | 8 days | Traffic Ir |
| | | 69 days | 0 days | May 30, 2019 | August 6, 2019 | May 30, 2019 | August 6, 2019 | May 30, 2019 | | 100% | | 2 days | 0 days | ACABAS (Draft) |
| | | 51 days | 6 days | August 7, 2019 | NA | August 7, 2019 | September 28, 201 | | December 10, 2019 | | 73 days | | 73 days | Address Con |
| _ | | 25 days | 0 days | August 28, 2019 | September 21, 2019 | u | September 21, 201 | | September 21, 2019 | | 0 days | | 0 days | ACABAS (Fin |
| | | | | | | | | | | | | | | |
| | d Programme- Critical Task | | M | lanual Task | Duration-or | nly | Baseline Milestone | ♦ Sum | mary | E | xternal Tasks | | Inactive | e Milestone 🔷 🛛 Ba |
| /201 | d Programme- L8/01 with Progress Critical Split Split e as of 22-Sep-19 Critical Progress Task Progr | | S | | Duration-or Baseline Baseline Sp | | Milestone | ♦ Man | mary ual Summary contract Summary | E | xternal Tasks xternal Milest nactive Task | one 🔶 | | e Summary |

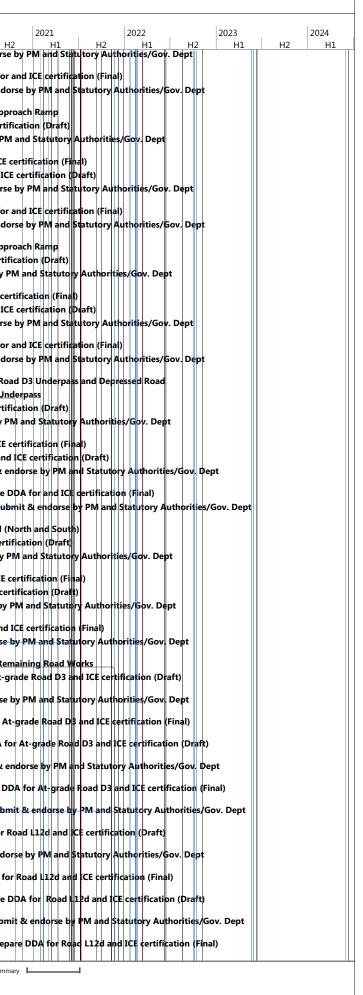


|) | fask Name | Duration | Remaining Duration | Actual Start | Actual Finish | Plan Start | Plan Finish | Late Start | Late Finish | Physical % Complete | Free Slack | Time Risk Allowances (TRA) | | 2019 Н1 Н | 12 | 2020 H1 | |
|------------|--------------------------------------------------------------------------------------------------------|---------------------|-----------------------|------------------------------|---------------------|---------------------------------------|------------------------------------|----------------------------------------|-------------------------------------|---------------------------|-------------------|----------------------------------|-------------------|--------------|----------------|----------------------|----------------|
| 120 | VCAB (Draft) | 45 days | 0 days | September 4, 2019 | October 18, 2019 | September 4, 2019 | October 18, 2019 | September 4, 2019 | October 18, 2019 | 100% | | 2 days | 0 days | Sun Septe | ember 22 | B (Draft) | <u>ا</u> |
| 121 | Address Committee's comments | 15 days | 15 days | NA | NA | October 19, 2019 | November 2, 2019 | | November 5, 2019 | 0% | 0 days | 2 days | 3 days | | | ldress Co | |
| 122 | VCAB (Final) | 15 days | 15 days | NA | NA | November 3, 2019 | | | November 20, 2019 | | | 2 days | 3 days | | | CAB (Fin: | |
| 123 | Durability Assessment Report (Draft) | 60 days | 0 days | May 30, 2019 | July 28, 2019 | May 30, 2019 | July 28, 2019 | May 30, 2019 | July 28, 2019 | 0% | | 3 days | 0 days | | | ty Assessi | |
| 124 | Address Comments | 30 days | 0 days | July 29, 2019 | August 27, 2019 | July 29, 2019 | ÷ . | July 29, 2019 | 3 , | 0% | | 2 days | 0 days | | | ss Commi | |
| 125 | Durability Assessment Report (Final) | 30 days | 4 days | Q | NA | August 28, 2019 | September 26, 2019 | G , | November 20, 2019 | | 52 days | | 55 days | | | bility Ass | |
| 126 | Landscape Mitigation Plan Site Investigation | 20 days | 20 days | NA | NA | | December 7, 2019 | | December 10, 2019 | | 3 days | 3 days | 3 days | | | landscap Site Inv | |
| 127 128 | Ground Investigation Proposal (Draft) | 209 days 56 days | 0 days | June 1, 2019 June 1, 2019 | NA July 26, 2019 | June 1, 2019 June 1, 2019 | December 26, 2019 July 26, 2019 | June 1, 2019 | • • | 0% 100% | 15 days 0 days | 1 days | 15 days 0 days | T Gr | | Investiga | |
| 128 | Submit & endorse by Gov. Depts and PM | 6 days | 0 days | July 27, 2019 | August 1, 2019 | July 27, 2019 | | July 27, 2019 | July 26, 2019 August 1, 2019 | 100% | | 1 days | 0 days | | | & endors | |
| 130 | Ground Investigation Proposal (Final) | 25 days | 25 days | • • | NA | August 2, 2019 | ÷ . | August 2, 2019 | November 29, 2019 | | | 1 days | 43 days | | | und Inve | |
| 131 | Submit and endorse by Gov. Depts and PM | 14 days | 14 days | NA | NA | October 18, 2019 | | | December 13, 2019 | | 28 days | | 43 days | | | bmit and | |
| 132 | Supervise the SI Carry Out on Site | , 90 days | , 46 days | August 10, 2019 | NA | August 10, 2019 | November 7, 2019 | | November 22, 2019 | | | , 4 days | , 15 days | | su Su | pervise t | the SI |
| 133 | Submit SI Report(Draft) for Comment | 21 days | 21 days | NA | NA | November 8, 2019 | November 28, 2019 | November 23, 2019 | December 13, 2019 | 0% | | 1 days | 15 days | | S S | ubmit SI | i Repo |
| 134 | Submit and endorse SI Report(Final) by Project Manager | 28 days | 28 days | NA | NA | November 29, 2019 | December 26, 2019 | December 14, 2019 | January 10, 2020 | 0% | 15 days | 1 days | 15 days | | | Submit | and ei |
| 135 | Lifts (LT1 to LT4), Staircase and Associated Works | 278 days | 269.21 days | September 12, 20 | NA | September 12, 20 | . June 15, 2020 | September 12, 2019 | June 19, 2020 | 0% | 0 days | | 4 days | | | | Lift |
| 136 | Prepare AIP and ICE certification (Draft) | 60 days | 49 days | September 12, 2019 | | | | September 12, 2019 | | | | 3 days | 4 days | | Pr(| epare All | Pand |
| 137 | Submit & endorse by PM and Statutory Authorities/Gov. | 60 days | 60 days | NA | NA | November 11, 2019 | January 9, 2020 | December 5, 2019 | February 2, 2020 | 0% | 0 days | 0.5 days | 24 days | | | Submit | t & enr |
| 120 | Dept | 10 | 10 1 | N 6 | | lan | 1 | 5-h | 5-h | 00/ | 20 1 | 0.1 | 24 4 | - | | Prepar | |
| 138 | Prepare AIP and ICE certification (Final) Prepare DDA and ICE certification (Draft) | 10 days | 10 days | NA | NA | | | February 3, 2020 | February 12, 2020 | | 20 days | | 24 days | | | FU * 1 | are DD |
| 139 140 | Submit & endorse by PM and Statutory Authorities/Gov. | 90 days 60 days | 90 days 60 days | NA | NA | November 11, 2019 February 9, 2020 | April 8, 2020 | November 15, 2019 February 13, 2020 | February 12, 2020 April 12, 2020 | 0% 0% | | 4 days 3 days | 4 days 4 days | | | | ubmit |
| | Dept | | | | | • • | • | • • | | | | | | | | | |
| 141 142 | Prepare DDA for and ICE certification (Final) Submit & endorse by PM and Statutory Authorities/Gov. | 15 days 53 days | 15 days 53 days | NA | NA | April 9, 2020 April 24, 2020 | April 23, 2020 June 15, 2020 | April 13, 2020 April 28, 2020 | April 27, 2020 June 19, 2020 | 0% 0% | | 1 days 3 days | 4 days 4 days | | | | Prepare Sub |
| 143 | Dept Noise barrier fronting to 4B5 at Rd D3A & Bus Lay By | 222 days | 222 days | NA | NA | November 11, 2019 | | November 18, 2019 | | 0% | 0 days | | 7 days | | | | No |
| | | | - | | | | | | , , | | | 2 de | • | | | Prepare | |
| 144 | Prepare AIP and ICE certification (Draft) | 50 days | 50 days 60 days | NA | NA | | December 30, 2019 | | January 6, 2020 March 10, 2020 | 0% 0% | | 2 days 0.5 days | 7 days 11 days | | | | mit & |
| 145 | Submit & endorse by PM and Statutory Authorities/Gov. Dept | 60 days | 60 days | NA | NA | December 31, 2019 | February 28, 2020 | January 11, 2020 | March 10, 2020 | 0% | 0 days | 0.5 days | 11 days | | 1 | | |
| L46 | Prepare AIP and ICE certification (Final) | 14 days | 14 days | NA | NA | February 29, 2020 | March 13, 2020 | March 11, 2020 | March 24, 2020 | 0% | 4 days | 0 days | 11 days | | | | epare A |
| 147 | Prepare DDA and ICE certification (Draft) | 78 days | 78 days | NA | NA | December 31, 2019 | | January 7, 2020 | March 24, 2020 | 0% | | 4 days | 7 days | | | | epare I |
| 148 | Submit & endorse by PM and Statutory Authorities/Gov. Dept | 40 days | 40 days | NA | NA | March 18, 2020 | April 26, 2020 | March 25, 2020 | May 3, 2020 | 0% | 0 days | 2 days | 7 days | | | | Submit |
| 149 | Prepare DDA for and ICE certification (Final) | 14 days | 14 days | NA | NA | April 27, 2020 | May 10, 2020 | May 4, 2020 | May 17, 2020 | 0% | 0 days | 1 days | 7 days | | | | Prepa |
| 150 | Submit & endorse by PM and Statutory Authorities/Gov. | 40 days | 40 days | NA | NA | May 11, 2020 | June 19, 2020 | May 18, 2020 | June 26, 2020 | 0% | 0 days | 1 days | 7 days | | | | Sub |
| 151 | Dept Decking for Underpass (Rd L14) | 390 days | 390 days | NA | NA | May 11, 2020 | June 4, 2021 | May 23, 2020 | June 16, 2021 | 0% | 0 days | | 12 days | | | | |
| 152 | Prepare AIP and ICE certification (Draft) | 60 days | 60 days | NA | NA | May 11, 2020 | July 9, 2020 | May 23, 2020 | July 21, 2020 | 0% | | 3 days | 12 days | | | 3 | Pr |
| 153 | Submit & endorse by PM and Statutory Authorities/Gov. | 60 days | 60 days | NA | NA | July 10, 2020 | September 7, 2020 | | | 0% | | 0.5 days | 44 days | | | Ţ | |
| 154 | Dept Prepare AIP and ICE certification (Final) | 14 days | 14 days | NA | NA | September 8, 2020 | September 21, 2020 | October 22, 2020 | November 4, 2020 | 0% | 0 days | 0 days | 44 days | | | | |
| 155 | Prepare DDA and ICE certification (Draft) | 90 days | 90 days | NA | NA | | December 20, 2020 | | | 0% | | 1 day | 44 days | | | | |
| 156 | Submit & endorse by PM and Statutory Authorities/Gov. | 60 days | 60 days | NA | NA | December 21, 2020 | February 18, 2021 | February 3, 2021 | April 3, 2021 | 0% | 0 days | 0.5 days | 44 days | | | | |
| 157 | Dept Prepare DDA for and ICE certification (Final) | 14 days | 14 days | NA | NA | February 19, 2021 | March 4, 2021 | April 4, 2021 | April 17, 2021 | 0% | 0 days | 0 days | 44 days | | | | |
| 158 | Submit & endorse by PM and Statutory Authorities/Gov. | 60 days | 60 days | NA | NA | March 5, 2021 | May 3, 2021 | April 18, 2021 | June 16, 2021 | 0% | 32 days | , | 44 days | | | | |
| 159 | Dept AIP for E&M Works and Architectural Finishes of | 60 days | 60 days | NA | NA | July 10, 2020 | September 7, 2020 | July 22, 2020 | September 19, 2020 | 0% | 0 days | 3 day | 12 days | | | | - |
| 160 | Underpass and ICE certification (Draft) Submit & endorse by PM and Statutory Authorities/Gov. | 60 days | 60 days | NA | NA | Sontombor 9, 2020 | November 6, 2020 | September 20, 2020 | November 18, 2020 | 0% | 0 days | 3 days | 12 days | | | | |
| 160 | Dept | oo uays | oo uays | NA | INA . | September 8, 2020 | November 0, 2020 | September 20, 2020 | November 18, 2020 | 078 | 0 uays | 5 uays | 12 uays | | | | |
| 161 | Prepare AIP for E&M Works and Architectural Finishes of Underpass and ICE certification (Final) | 10 days | 10 days | NA | NA | November 7, 2020 | November 16, 2020 | November 19, 2020 | November 28, 2020 | 0% | 0 days | 0 days | 12 days | | | | |
| 162 | Prepare DDA for E&M Works and Architectural Finishes | 90 days | 90 days | NA | NA | November 17, 2020 | Eebruary 14, 2021 | November 29, 2020 | February 26, 2021 | 0% | 0 days | 3 days | 12 days | - | | | |
| | of Underpass certification (Draft) | | • | | | | | | • • | | | | | | | | |
| 163 | Submit & endorse by PM and Statutory Authorities/Gov. Dept | 60 days | 60 days | NA | NA | February 15, 2021 | April 15, 2021 | February 27, 2021 | April 27, 2021 | 0% | 0 days | 3 days | 12 days | | | | |
| 164 | Prepare DDA for E&M Works and Architectural Finishes of Underpass and ICE certification (Final) | 10 days | 10 days | NA | NA | April 16, 2021 | April 25, 2021 | April 28, 2021 | May 7, 2021 | 0% | 0 days | 0 days | 12 days | | | | |
| 165 | Submit & endorse by PM and Statutory Authorities/Gov. | 40 days | 40 days | NA | NA | April 26, 2021 | June 4, 2021 | May 8, 2021 | June 16, 2021 | 0% | 12 days | 2 days | 12 days | | | | |
| 166 | Dept Road D3 Bridge & Approach Ramps | 226 days | 98.71 days | May 30, 2019 | NA | May 30, 2019 | January 10, 2020 | May 30, 2019 | January 10, 2020 | 0% | 0 days | | 0 days | | | Road I | DB Bri |
| 167 | D3 Bridge | 226 days | | May 30, 2019 | NA | May 30, 2019 | | May 30, 2019 | • • | 0% | 0 days | | 0 days | | | D3 Bri | |
| 168 | Prepare AIP and ICE certification (Draft) | 66 days | 0 days | May 30, 2019 | August 3, 2019 | May 30, 2019 | | May 30, 2019 | August 3, 2019 | 100% | | 3 days | 0 days | Pr | epare | AIP and I | ICE ce |
| 169 | Submit & endorse by PM and Statutory | 15 days | 0 days | August 5, 2019 | August 19, 2019 | August 5, 2019 | - · | August 5, 2019 | August 19, 2019 | 100% | | 1 days | 0 days | 🙀 s | ubmit | & endor | rse by |
| 170 | Authorities/Gov. Dept | 21 | 24 | August 20, 2010 | | August 20, 2010 | Ostaber 12, 2010 | August 20, 2012 | Ostaber 10 2015 | 00/ | - ام | 0 de | a | │ | | pare AIP | |
| 170 | Prepare AIP and ICE certification (Final) | 21 days | 21 days | Q | NA | August 20, 2019 | | August 20, 2019 | , | 0% | | 0 days | 3 days | | | pare AIP pare DDA | |
| 171 | Prepare DDA and ICE certification (Draft) | 90 days | 24 days | July 19, 2019 | NA | July 19, 2019 | October 16, 2019 | July 19, 2019 | October 16, 2019 | /3% | 0 days | 5 days | 0 days | 📫 | H T P P | pare DDA | A land |

Page 3

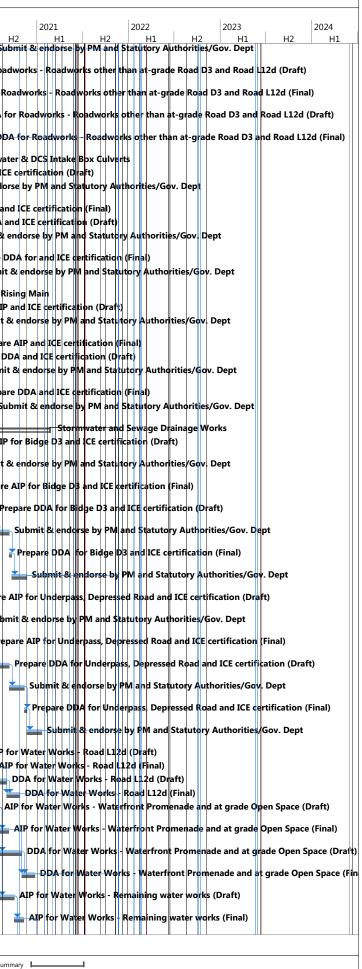


| | sk Name | Duration | Remaining Duration | Actual Start | Actual Finish | Plan Start | Plan Finish | ised Programme with Late Start | Late Finish | Physical | Free Slack | Time Risk Allowance (TRA) | | 2019 H1 | ц | -12 | 2020 H1 | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------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| 172 | Submit & endorse by PM and Statutory | 40 days | 40 days | NA | NA | October 17, 2019 | November 25, 2019 | October 17, 2019 | November 25, 2019 | | - | 3 days | 0 days | | Sun Septe | | 2)bmit & e | ndc |
| .73 | Authorities/Gov. Dept Prepare DDA for and ICE certification (Final) | 15 days | 15 days | NA | NA | November 26, 2019 | December 10. 2019 | November 26, 2019 | December 10, 2019 | 0% | 0 days | 1 days | 0 days | | | | Prepare D | DA |
| .74 | Submit & endorse by PM and Statutory | 31 days | 31 days | NA | NA | December 11, 2019 | | December 11, 2019 | | | | 1 days | 0 days | | | 💾 | Submit a | 8. er |
| | Authorities/Gov. Dept | | | | | | | | | | | | | | | | D3 Nor | |
| 5 | D3 North Approach Ramp Prepare AIP and ICE certification (Draft) | 226 days | | May 30, 2019 | NA | May 30, 2019 | | May 30, 2019 | • • | | 0 days | 2 days | 0 days | | - Dr | anard | AIP and IC | |
| 6 7 | Submit & endorse by PM and Statutory | 56 days 12 days | 0 days 0 days | May 30, 2019 July 25, 2019 | July 24, 2019 August 5, 2019 | May 30, 2019 July 25, 2019 | July 24, 2019 August 5, 2019 | May 30, 2019 July 25, 2019 | July 24, 2019 | | | 3 days 1 days | 0 days 0 days | | _ | | & endorse | |
| / | Authorities/Gov. Dept | 12 uays | 0 uays | July 23, 2019 | August 5, 2019 | July 25, 2019 | August 5, 2019 | July 25, 2019 | August 5, 2019 | 100% | 0 uays | 1 uays | U uays | | | | | |
| 8 | Prepare AIP and ICE certification (Final) | 29 days | 15 days | August 6, 2019 | NA | August 6, 2019 | October 7, 2019 | August 6, 2019 | October 16, 2019 | 48% | 9 days | 0 days | 9 days | | * - | - Pref | pare AIP ai | nd I |
| '9 | Prepare DDA and ICE certification (Draft) | 90 days | 24 days | July 19, 2019 | NA | July 19, 2019 | October 16, 2019 | July 19, 2019 | October 16, 2019 | 73% | 0 days | 5 days | 0 days | | — | | epare DDA | |
| 0 | Submit & endorse by PM and Statutory | 40 days | 40 days | NA | NA | October 17, 2019 | November 25, 2019 | October 17, 2019 | November 25, 2019 | 0% | 0 days | 3 days | 0 days | | | s 🚺 | Submit & e | ndc |
| 1 | Authorities/Gov. Dept Prepare DDA for and ICE certification (Final) | 15 days | 15 days | NA | NA | November 26, 2019 | December 10, 2019 | November 26, 2019 | December 10, 2019 | 0% | 0 days | 1 days | 0 days | | | | Prepare D | DA |
| 2 | Submit & endorse by PM and Statutory | 31 days | 31 days | NA | NA | December 11, 2019 | | December 11, 2019 | | | | 1 days | 0 days | | | 111 탈 | Submit a | |
| | Authorities/Gov. Dept | | | | | | | | | | | , | | | | | | |
| 3 | D3 South Approach Ramp | 226 days | | May 30, 2019 | NA | May 30, 2019 | | May 30, 2019 | • • | | 0 days | | 0 days | | | #₩ | D3 Sout | |
| 4 | Prepare AIP and ICE certification (Draft) | 50 days | 0 days | May 30, 2019 | July 18, 2019 | May 30, 2019 | July 18, 2019 | May 30, 2019 | July 18, 2019 | | | 3 days | 0 days | l I | | | AIP and IC | |
| 5 | Submit & endorse by PM and Statutory Authorities/Gov. Dept | 46 days | 0 days | July 19, 2019 | September 2, 2019 | July 19, 2019 | September 2, 2019 | July 19, 2019 | September 2, 2019 | 100% | 0 days | 1 days | 0 days | | | Subini | iit & endor | se o |
| 6 | Prepare AIP and ICE certification (Final) | 15 days | 0 days | August 18, 2019 | September 1, 2019 | August 18, 2019 | September 1, 2019 | August 18, 2019 | September 1, 2019 | 100% | 0 days | 0 days | 0 days | | | Prepar | re AIP and | ICE |
| 7 | Prepare DDA and ICE certification (Draft) | 90 days | 24 days | July 19, 2019 | NA | July 19, 2019 | October 16, 2019 | - · | October 16, 2019 | | | 5 days | 0 days | | | e Pr e | epare DDA | and |
| 8 | Submit & endorse by PM and Statutory | 40 days | 40 days | NA | NA | October 17, 2019 | November 25, 2019 | October 17, 2019 | November 25, 2019 | 0% | 0 days | 3 days | 0 days | | | s 🚺 S | Submit & e | ndo |
| | Authorities/Gov. Dept | مام 1 | 1E ala | NA | NA | Novomber 20, 2012 | December 10, 2012 | November 20, 2012 | December 10, 2012 | 0% | 0 days | 1 dave | 0 days | | | | Prepare D | |
| 9 0 | Prepare DDA for and ICE certification (Final) Submit & endorse by PM and Statutory | 15 days 31 days | 15 days 31 days | NA | NA | | | November 26, 2019 December 11, 2019 | December 10, 2019 | | | 1 days 1 days | 0 days 0 days | | | | Submit | |
| 0 | Authorities/Gov. Dept | SIUdys | SIUdys | NA | NA | December 11, 2019 | January 10, 2020 | December 11, 2019 | January 10, 2020 | 0% | 0 uays | 1 uays | 0 uays | | | | | 10 |
| 1 | Road D3 Underpass and Depressed Road | 412 days | 213.27 days | May 30, 2019 | NA | May 30, 2019 | July 14, 2020 | May 30, 2019 | December 1, 2020 | 0% | 140 days | | 140 days | | | ⊭₩₩ | + | ₩. |
| 2 | Underpass | 412 days | 296 days | May 30, 2019 | NA | May 30, 2019 | July 14, 2020 | May 30, 2019 | December 1, 2020 | 0% | 100 days | | 140 days | | | | | ₩. |
| 3 | Prepare AIP and ICE certification (Draft) | 50 days | 0 days | May 30, 2019 | July 18, 2019 | May 30, 2019 | July 18, 2019 | May 30, 2019 | July 18, 2019 | 100% | 0 days | 3 days | 0 days | | | | AIP and IC | |
| 4 | Submit & endorse by PM and Statutory | 40 days | 0 days | July 19, 2019 | August 27, 2019 | July 19, 2019 | August 27, 2019 | July 19, 2019 | August 27, 2019 | 100% | 0 days | 1 days | 0 days | | | submi | it & endors | se b |
| 5 | Authorities/Gov. Dept Prepare AIP and ICE certification (Final) | 38 days | 12 days | August 28, 2019 | NA | August 28, 2019 | October 4, 2019 | August 28, 2019 | October 4, 2019 | 68% | 0 days | 2 days | 0 days | | | Prer | pare AIP au | nd I |
| 5 | Prepare DDA and ICE certification (Draft) | 64 days | 64 days | NA | NA | October 5, 2019 | December 7, 2019 | - · | December 7, 2019 | | | 3 days | 0 days | | | | Prepare D | |
| 7 | Submit & endorse by PM and Statutory | 90 days | 90 days | NA | NA | December 8, 2019 | | April 26, 2020 | July 24, 2020 | | | 0.5 days | 140 days | | | | Subn | nit { |
| | Authorities/Gov. Dept | | | | | | | | | | | | | | | | | |
| 8 | Prepare DDA for and ICE certification (Final) | 40 days | 40 days | NA | NA | March 7, 2020 | | July 25, 2020 | September 2, 2020 | | | 0 days | 140 days | | | | Pr 🎽 | 11 |
| 9 | Submit & endorse by PM and Statutory Authorities/Gov. Dept | 90 days | 90 days | NA | NA | April 16, 2020 | July 14, 2020 | September 3, 2020 | December 1, 2020 | 0% | 100 days | 0 days | 140 days | | | | | • • • |
| 2 | Depressed Road (North and South) | 162 days | 33.85 days | May 30, 2019 | NA | May 30, 2019 | November 7, 2019 | May 30, 2019 | April 15, 2020 | 0% | 46 days | | 160 days | | | ee b | Depressed I | Roa |
| | Prepare AIP and ICE certification (Draft) | 66 days | 0 days | May 30, 2019 | August 3, 2019 | May 30, 2019 | August 3, 2019 | May 30, 2019 | August 3, 2019 | 100% | 0 days | 1 days | 0 days | | P | repare | AIP and I | ¢∎c |
| 2 | Submit & endorse by PM and Statutory | 30 days | 0 days | August 6, 2019 | September 4, 2019 | August 6, 2019 | September 4, 2019 | August 6, 2019 | September 4, 2019 | 100% | 0 days | 2 days | 0 days | | _ _× | Submi | iit & endor | rse t |
| | Authorities/Gov. Dept | 10.1 | 10.1 | | | a i l an anta | | | | | 105.1 | 0.1 | 105.1 | | | | | |
| 3 | Prepare AIP and ICE certification (Final) | 10 days | 10 days | NA | NA | September 23, 2019 | | April 6, 2020 May 30, 2019 | April 15, 2020 | | 196 days | | 196 days 0 days | | D | | pare AIP ar e DDA and | |
| | Dressers DDA and ICC contification (Dreft) | 71 | | May 30, 2019 | August 8, 2019 | May 30, 2019 | 0, | | August 8, 2019 September 17, 2019 | | 0 days | 5 days | | | | | | |
| _ | Prepare DDA and ICE certification (Draft) | 71 days | 0 days | August 0, 2010 | Sontombor 17, 2010 | August 0, 2010 | | | | | 0 days | 1 days | | | | Sinter | hit & endo | WINGE . |
| | Submit & endorse by PM and Statutory | 71 days 40 days | 0 days 0 days | August 9, 2019 | September 17, 2019 | August 9, 2019 | September 17, 2019 | | September 17, 2019 | 100% | 0 days | 1 days | 0 days | | | Subn | nit & endo | wrse |
| 5 | | | | August 9, 2019 September 18, 2019 | • | | | September 18, 2019 | | | 0 days 0 days | | | | | | nit & endo pare DDA f | |
| 5 | Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare DDA for and ICE certification (Final) Submit & endorse by PM and Statutory | 40 days | 0 days | | • | September 18, 2019 | | September 18, 2019 | | 45% | | 1 days | 0 days | | | Prep | | for a |
| 5 6 7 | Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare DDA for and ICE certification (Final) Submit & endorse by PM and Statutory Authorities/Gov. Dept | 40 days 11 days 40 days | 0 days 6 days 40 days | September 18, 2019 NA | NA NA | September 18, 2019 September 29, 2019 | September 28, 2019 November 7, 2019 | September 18, 2019 March 7, 2020 | March 6, 2020 April 15, 2020 | 45% 0% | 0 days 160 days | 1 days 1 days | 0 days 160 days 160 days | | | Prep | oare DDA f | for a nder |
| 5 6 7 8 | Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare DDA for and ICE certification (Final) Submit & endorse by PM and Statutory Authorities/Gov. Dept Remaining Road Works | 40 days 11 days 40 days 332 days | 0 days 6 days 40 days 316.32 days | September 18, 2019 NA August 13, 2019 | NA NA NA | September 18, 2019 September 29, 2019 August 13, 2019 | September 28, 2019 November 7, 2019 July 9, 2020 | September 18, 2019 March 7, 2020 August 13, 2019 | March 6, 2020 April 15, 2020 November 21, 2021 | 45% 0% | 0 days 160 days 500 days | 1 days 1 days | 0 days 160 days 160 days 500 days | | | Prep 2 - S u | oare DDA f ubmit & er | for a nder |
| 04 05 06 07 08 09 | Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare DDA for and ICE certification (Final) Submit & endorse by PM and Statutory Authorities/Gov. Dept | 40 days 11 days 40 days | 0 days 6 days 40 days | September 18, 2019 NA | NA NA | September 18, 2019 September 29, 2019 | September 28, 2019 November 7, 2019 | September 18, 2019 March 7, 2020 August 13, 2019 | March 6, 2020 April 15, 2020 | 45% 0% | 0 days 160 days | 1 days 1 days | 0 days 160 days 160 days | | | Prep 2 - S u | oare DDA f | for a nder |
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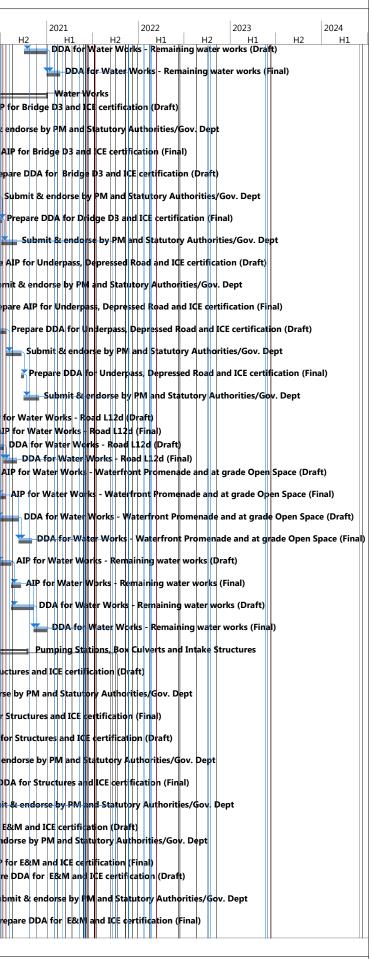
| | Fask Name | Duration | Remaining Duration | Actual Start | Actual Finish | Plan Start | Plan Finish | Late Start | Late Finish | | Slack | Time Risk Allowance (TRA) | | 2019 H1 | H2 | 2020 H |
|----------|------------------------------------------------------------------------------------|----------|-----------------------|-----------------|---------------|--------------------|--------------------|--------------------|--------------------|-----|----------|---------------------------------|----------|------------|-----|-----------|
| 2 | Submit & endorse by PM and Statutory Authorities/Gov. Dept | 14 days | 14 days | NA | NA | June 26, 2020 | July 9, 2020 | November 8, 2021 | November 21, 2021 | | 500 days | | 500 days | Sun Sep | - | |
| 3 | AIP for Roadworks - Roadworks other than at-grade Road D3 and Road L12d (Draft) | 60 days | 60 days | NA | NA | December 11, 2019 | February 8, 2020 | July 16, 2020 | September 13, 2020 | 0% | 0 days | 1 day | 218 days | | | AI |
| 4 | AIP for Roadworks - Roadworks other than at-grade Road | 38 days | 38 days | NA | NA | February 9, 2020 | March 17, 2020 | August 24, 2021 | September 30, 2021 | 0% | 52 days | 0.5 days | 562 days | | | |
| 25 | 6 | 90 days | 90 days | NA | NA | February 9, 2020 | May 8, 2020 | July 3, 2021 | September 30, 2021 | 0% | 0 days | 1 day | 510 days | | | |
| 26 | - | 52 days | 52 days | NA | NA | May 9, 2020 | June 29, 2020 | October 1, 2021 | November 21, 2021 | 0% | 510 days | 0.5 days | 510 days | | | |
| 27 | Road D3 and Road L12d (Final) Seawater & DCS Intake Box Culverts | 253 days | 199.53 days | August 13, 2019 | NA | August 13, 2019 | April 21, 2020 | August 13, 2019 | April 21, 2020 | 0% | 0 days | | 0 days | = | _ | |
| 28 | Prepare AIP and ICE certification (Draft) | 60 days | 19 days | August 13, 2019 | NA | August 13, 2019 | October 11, 2019 | August 13, 2019 | October 11, 2019 | 68% | 0 days | 3 days | 0 days | | Pre | - |
| 29 | Submit & endorse by PM and Statutory Authorities/Gov. Dept | 60 days | 60 days | NA | NA | October 12, 2019 | December 10, 2019 | October 12, 2019 | December 10, 2019 | 0% | 0 days | 3 days | 0 days | | | \$ubm |
| 30 | • | 15 days | 15 days | NA | NA | December 11, 2019 | December 25, 2019 | December 11, 2019 | December 25, 2019 | 0% | 0 days | 1 days | 0 days | | | F Prep |
| 31 | Prepare DDA and ICE certification (Draft) | 135 days | 94 days | August 13, 2019 | NA | August 13, 2019 | December 25, 2019 | August 13, 2019 | December 25, 2019 | | | 1 days | 0 days | | | Prep |
| 32 | Submit & endorse by PM and Statutory Authorities/Gov. Dept | 66 days | 66 days | NA | NA | December 26, 2019 | February 29, 2020 | December 26, 2019 | February 29, 2020 | 0% | 0 days | 3 days | 0 days | | | |
| 33 | • | 14 days | 14 days | NA | NA | March 1, 2020 | March 14, 2020 | March 1, 2020 | March 14, 2020 | 0% | 0 days | 0 days | 0 days | | | |
| 34 | Submit & endorse by PM and Statutory Authorities/Gov. Dept | 38 days | 38 days | NA | NA | March 15, 2020 | April 21, 2020 | March 15, 2020 | April 21, 2020 | 0% | 0 days | 2 days | 0 days | | | |
| 35 | • | 215 days | 215 days | NA | NA | December 8, 2019 | July 9, 2020 | December 8, 2019 | July 9, 2020 | 0% | 0 days | | 0 days | | | ┢╋┫┻┙ |
| 36 | Prepare AIP and ICE certification (Draft) | 60 days | 60 days | NA | NA | December 8, 2019 | February 5, 2020 | December 8, 2019 | | | | 3 days | 0 days | | | P |
| 37 | | 60 days | 60 days | NA | NA | February 6, 2020 | April 5, 2020 | February 21, 2020 | April 20, 2020 | 0% | 0 days | 0.5 days | 15 days | | | |
| 38 | Dept Prepare AIP and ICE certification (Final) | 20 days | 20 days | NA | NA | April 6, 2020 | April 25, 2020 | April 21, 2020 | May 10, 2020 | 0% | 15 days | 0 days | 15 days | | | |
| 39 | Prepare DDA and ICE certification (Draft) | 90 days | 90 days | NA | NA | December 8, 2019 | | December 8, 2019 | March 6, 2020 | 0% | 0 days | 4 days | 0 days | | | |
| 40 | Submit & endorse by PM and Statutory Authorities/Gov. Dept | 55 days | 55 days | NA | NA | March 7, 2020 | April 30, 2020 | March 7, 2020 | April 30, 2020 | 0% | 0 days | 3 days | 0 days | | | * |
| 41 | • | 10 days | 10 days | NA | NA | May 1, 2020 | May 10, 2020 | May 1, 2020 | May 10, 2020 | 0% | 0 days | 0 days | 0 days | | | |
| 42 | Submit & endorse by PM and Statutory Authorities/Gov. | 60 days | 60 days | NA | NA | May 11, 2020 | July 9, 2020 | May 11, 2020 | July 9, 2020 | 0% | 0 days | 3 days | 0 days | | | |
| 43 | Dept Stormwater and Sewage Drainage Works | 442 days | 442 days | NA | NA | December 8, 2019 | February 21, 2021 | March 18, 2020 | June 2, 2021 | 0% | 84 days | | 101 days | | | |
| 45 44 | | 60 days | 60 days | NA | NA | | | March 18, 2020 | May 16, 2020 | | | 1 day | 101 days | | | P |
| 45 | Submit & endorse by PM and Statutory Authorities/Gov. | 60 days | 60 days | NA | NA | February 6, 2020 | April 5, 2020 | August 17, 2020 | October 15, 2020 | 0% | 0 days | 0.5 days | 193 days | | | |
| | Dept | | | | | | • | - | | | | - | | | | |
| 46 | Prepare AIP for Bidge D3 and ICE certification (Final) | 10 days | 10 days | NA | NA | April 6, 2020 | April 15, 2020 | October 16, 2020 | October 25, 2020 | 0% | 0 days | 0 days | 193 days | | | |
| 47 | Prepare DDA for Bidge D3 and ICE certification (Draft) | 90 days | 90 days | NA | NA | April 16, 2020 | July 14, 2020 | October 26, 2020 | January 23, 2021 | 0% | 0 days | 1 day | 193 days | | | |
| 48 | Submit & endorse by PM and Statutory Authorities/Gov. Dept | 60 days | 60 days | NA | NA | July 15, 2020 | September 12, 2020 | January 24, 2021 | March 24, 2021 | 0% | 0 days | 0.5 days | 193 days | | | |
| 49 | | 10 days | 10 days | NA | NA | September 13, 2020 | September 22, 2020 | March 25, 2021 | April 3, 2021 | 0% | 0 days | 0 days | 193 days | | | |
| 50 | Submit & endorse by PM and Statutory Authorities/Gov. | 60 days | 60 days | NA | NA | September 23, 2020 | November 21, 2020 | April 4, 2021 | June 2, 2021 | 0% | 176 days | 0 days | 193 days | | | |
| 51 | Dept Prepare AIP for Underpass, Depressed Road and ICE | 60 days | 60 days | NA | NA | February 6, 2020 | April 5, 2020 | May 17, 2020 | July 15, 2020 | 0% | 0 days | 1 day | 101 days | | | |
| 52 | certification (Draft) Submit & endorse by PM and Statutory Authorities/Gov. | 60 days | 60 days | NA | NA | April 6, 2020 | June 4, 2020 | August 17, 2020 | October 15, 2020 | 0% | 0 days | 0.5 days | 133 days | | | |
| | Dept | | | NIA | | | | | | | | | | | | |
| 53 | certification (Final) | 10 days | 10 days | NA | NA | June 5, 2020 | | October 16, 2020 | October 25, 2020 | | | 0 days | 133 days | | | |
| 54 | Prepare DDA for Underpass, Depressed Road and ICE certification (Draft) | 90 days | 90 days | NA | NA | June 15, 2020 | September 12, 2020 | October 26, 2020 | January 23, 2021 | 0% | 0 days | 1 day | 133 days | | | |
| 55 | Submit & endorse by PM and Statutory Authorities/Gov. Dept | 60 days | 60 days | NA | NA | September 13, 2020 | November 11, 2020 | January 24, 2021 | March 24, 2021 | 0% | 0 days | 0.5 days | 133 days | | | |
| 56 | Prepare DDA for Underpass, Depressed Road and ICE | 10 days | 10 days | NA | NA | November 12, 2020 | November 21, 2020 | March 25, 2021 | April 3, 2021 | 0% | 0 days | 0 days | 133 days | | | |
| 57 | certification (Final) Submit & endorse by PM and Statutory Authorities/Gov. | 60 days | 60 days | NA | NA | November 22, 2020 | January 20, 2021 | April 4, 2021 | June 2, 2021 | 0% | 116 days | 0 days | 133 days | | | |
| 58 | Dept AIP for Water Works - Road L12d (Draft) | 60 days | 60 days | NA | NA | April 6, 2020 | June 4, 2020 | July 16, 2020 | September 13, 2020 | 0% | 0 days | 1 day | 101 days | | | |
| 59 | | 38 days | 38 days | NA | NA | June 5, 2020 | | March 5, 2021 | April 11, 2021 | | 52 days | • | 273 days | | | |
| 60 | DDA for Water Works - Road L12d (Draft) | 90 days | 90 days | NA | NA | June 5, 2020 | September 2, 2020 | January 12, 2021 | April 11, 2021 | 0% | 0 days | 1 day | 221 days | | | 1 |
| 61 | | 52 days | 52 days | NA | NA | September 3, 2020 | | April 12, 2021 | June 2, 2021 | | 204 days | • | 221 days | | | 1 |
| 62 | AIP for Water Works - Waterfront Promenade and at grade Open Space (Draft) | 60 days | 60 days | NA | NA | June 5, 2020 | August 3, 2020 | September 14, 2020 | November 12, 2020 | 0% | 0 days | 1 day | 101 days | | | 1 |
| 63 | | 38 days | 38 days | NA | NA | August 4, 2020 | September 10, 2020 | March 5, 2021 | April 11, 2021 | 0% | 52 days | 0.5 days | 213 days | | | i 📗 |
| 64 | DDA for Water Works - Waterfront Promenade and at | 90 days | 90 days | NA | NA | August 4, 2020 | November 1, 2020 | January 12, 2021 | April 11, 2021 | 0% | 0 days | 1 day | 161 days | | | 1 |
| 65 | | 52 days | 52 days | NA | NA | November 2, 2020 | December 23, 2020 | April 12, 2021 | June 2, 2021 | 0% | 144 days | 1 day | 161 days | | | 1 |
| 66 | grade Open Space (Final) AIP for Water Works - Remaining water works (Draft) | 60 days | 60 days | NA | NA | August 4, 2020 | October 2, 2020 | November 13, 2020 | January 11. 2021 | 0% | 0 days | 1 day | 101 days | | | |
| | | | | | | | , | | | | | | | | | |
| 67 | AIP for Water Works - Remaining water works (Final) | 38 days | 38 days | NA | NA | October 3, 2020 | November 9, 2020 | March 5, 2021 | April 11, 2021 | 0% | 52 days | 0.5 days | 153 days | | | i II |

| Title: Revised Programme- | Critical | | Task | Manual Task | | Duration-only | Baseline Mileste | one 🗇 | Summary | | External Tasks | Inactive Milestone | > | Baseline Summary |
|---------------------------|-------------------|-------|---------------|----------------|-----|----------------|-------------------|-------|-----------------|---------------------------------------|--------------------|--------------------|---|------------------|
| ED/2018/01 with Progress | Critical Split | ••••• | Split | Start-only | E | Baseline | Milestone | • | Manual Summary | | External Milestone | Inactive Summary | 1 | |
| Update as of 22-Sep-19 | Critical Progress | | Task Progress | Finish-only | D . | Baseline Split | Summary Progr | ess | Project Summary | I I I I I I I I I I I I I I I I I I I | Inactive Task | Deadline 🦊 | • | |
| | | | | | | | | | Page 5 | | | | | |



| Tas | sk Name | Duration | Remaining Duration | Actual Start | Actual Finish | Plan Start | Plan Finish | Late Start | Late Finish | Physical | Free Slack | Time Risk Allowances SI (TRA) | ack 2019 | 11 | H2 | | 202 | 20 H1 |
|--------|--------------------------------------------------------------------------------------------------------|--------------------|-----------------------|---------------|---------------|----------------------------------|-------------------------------|-------------------------------------|---------------------------------|----------|-------------------|-------------------------------------|--------------------|----|----------|--------|-------|----------|
| 68 | DDA for Water Works - Remaining water works (Draft) | 90 days | 90 days | NA | NA | October 3, 2020 | December 31, 2020 | January 12, 2021 | April 11, 2021 | | 0 days | |)1 days | | 1 Septem | | 9 | |
| 69 | DDA for Water Works - Remaining water works (Final) | 52 days | 52 days | NA | NA | January 1, 2021 | February 21, 2021 | April 12, 2021 | June 2, 2021 | 0% | 84 days | 1 day 10 |)1 days | | | | | |
| 0 | Water Works | 442 days | | NA | NA | October 17, 2019 | December 31, 2020 | May 1, 2020 | July 16, 2021 | | 197 days | | 97 days | | Ľ | ₩ | ╞ | + |
| - | Prepare AIP for Bridge D3 and ICE certification (Draft) | 60 days | 60 days | NA | NA | October 17, 2019 | December 15, 2019 | May 1, 2020 | June 29, 2020 | 0% | 0 days | 1 day 19 | 97 days | | | | Prep | - |
| 2 | Submit & endorse by PM and Statutory Authorities/Gov. Dept | 28 days | 28 days | NA | NA | December 16, 2019 | January 12, 2020 | October 28, 2020 | November 24, 2020 | 0% | 0 days | 0.5 days 33 | 17 days | | | | Su | ndr |
| 3 | Prepare AIP for Bridge D3 and ICE certification (Final) | 14 days | 14 days | NA | NA | January 13, 2020 | January 26, 2020 | November 25, 2020 | December 8, 2020 | 0% | 0 days | 0 days 33 | 17 days | | | | P | Prep |
| 4 | Prepare DDA for Bridge D3 and ICE certification (Draft) | 90 days | 90 days | NA | NA | January 27, 2020 | April 25, 2020 | December 9, 2020 | March 8, 2021 | 0% | 0 days | 1 day 33 | 17 days | | | | F | - |
| 5 | Submit & endorse by PM and Statutory Authorities/Gov. Dept | 60 days | 60 days | NA | NA | April 26, 2020 | June 24, 2020 | March 9, 2021 | May 7, 2021 | 0% | 0 days | 0.5 days 33 | 17 days | | | | | |
| 6 | • | 10 days | 10 days | NA | NA | June 25, 2020 | July 4, 2020 | May 8, 2021 | May 17, 2021 | 0% | 0 days | 0 days 33 | 17 days | | | | | |
| 7 | Submit & endorse by PM and Statutory Authorities/Gov. | 60 days | 60 days | NA | NA | July 5, 2020 | September 2, 2020 | May 18, 2021 | July 16, 2021 | 0% | 268 days | 0 days 33 | 17 days | | | | | |
| 8 | Dept Prepare AIP for Underpass, Depressed Road and ICE | 60 days | 60 days | NA | NA | December 16, 2019 | February 13, 2020 | June 30, 2020 | August 28, 2020 | 0% | 0 days | 1 day 19 | 97 days | | | | T | Pr |
| '9 | certification (Draft) Submit & endorse by PM and Statutory Authorities/Gov. | 60 days | 60 days | NA | NA | February 14, 2020 | April 13, 2020 | September 30, 2020 | November 28, 2020 | 0% | 0 days | 0.5 days 22 | 29 days | | | | | |
| 0 | Dept Prepare AIP for Underpass, Depressed Road and ICE | 10 days | 10 days | NA | NA | April 14, 2020 | April 23, 2020 | November 29, 2020 | December 8, 2020 | 0% | 0 days | 0 22 | 29 days | | | | | |
| 1 | certification (Final) | 90 days | | NA | NA | April 24, 2020 | July 22, 2020 | December 9, 2020 | | | | | 29 days | | | | | |
| | certification (Draft) | | , | | | • • | | , | , | | | • | | | | | | |
| 2 | Submit & endorse by PM and Statutory Authorities/Gov. Dept | | 60 days | NA | NA | July 23, 2020 | September 20, 2020 | | May 7, 2021 | | | • | 29 days | | | | | |
| 3 | Prepare DDA for Underpass, Depressed Road and ICE certification (Final) | 10 days | 10 days | NA | NA | September 21, 2020 | September 30, 2020 | May 8, 2021 | May 17, 2021 | 0% | 0 days | 0 days 22 | 29 days | | | | | |
| 1 | Submit & endorse by PM and Statutory Authorities/Gov. Dept | 60 days | 60 days | NA | NA | October 1, 2020 | November 29, 2020 | May 18, 2021 | July 16, 2021 | 0% | 180 days | 0 days 22 | 29 days | | | | | |
| | AIP for Water Works - Road L12d (Draft) | 60 days | | NA | NA | | April 13, 2020 | August 29, 2020 | , | | 0 days | | 97 days | | | | Ĭ | - |
| _ | AIP for Water Works - Road L12d (Final) DDA for Water Works - Road L12d (Draft) | 38 days 90 days | | NA | NA | April 14, 2020 April 14, 2020 | May 21, 2020 July 12, 2020 | April 18, 2021 February 25, 2021 | | | 52 days 0 days | | 59 days 17 days | | | | | |
| _ | | 52 days | | NA | NA | July 13, 2020 | | May 26, 2021 | | | 268 days | | 17 days | | | | | |
| ;) | AIP for Water Works - Waterfront Promenade and at | 60 days | , | NA | NA | April 14, 2020 | June 12, 2020 | October 28, 2020 | December 26, 2020 | | 0 days | | 97 days | | | | | |
| • | grade Open Space (Draft) AIP for Water Works - Waterfront Promenade and at | 38 days | 38 days | NA | NA | June 13, 2020 | July 20, 2020 | April 18, 2021 | May 25, 2021 | 0% | 52 days | 0.5 days 30 |)9 days | | | | | |
| _ | grade Open Space (Final) DDA for Water Works - Waterfront Promenade and at | 90 days | 90 days | NA | NA | June 13, 2020 | September 10, 2020 | February 25, 2021 | May 25, 2021 | 0% | 0 days | 1 day 2! | 57 days | | | | | |
| _ | grade Open Space (Draft) DDA for Water Works - Waterfront Promenade and at | 52 days | 52 days | NA | NA | September 11, 2020 | November 1, 2020 | May 26, 2021 | July 16, 2021 | 0% | 208 days | 1 day 2! | 57 days | | | | | |
| _ | grade Open Space (Final) AIP for Water Works - Remaining water works (Draft) | 60 days | 60 days | NA | NA | June 13, 2020 | August 11, 2020 | December 27, 2020 | February 24, 2021 | 0% | 0 days | 1 day 19 | 97 days | | | | | |
| | | , 38 days | , 38 days | NA | NA | | September 18, 2020 | | | | , 52 days | • | , 19 days | | | | | |
| | | 90 days | 90 days | NA | NA | | November 9, 2020 | | May 25, 2021 | | 0 days | | 97 days | | | | | |
| | | | | | | | | • • | • • | | | • | | | | | | |
| | | 52 days | , | NA | NA | November 10, 2020 | | | July 16, 2021 | | 148 days | • | 97 days | | | | | |
| | Pumping Stations, Box Culverts and Intake Structures | 505 days | 409.17 days | May 30, 2019 | NA | May 30, 2019 | October 15, 2020 | May 30, 2019 | February 10, 2022 | | 340 days | | 33 days | | | ĦĦ | Ŧ | 1 |
| | Prepare AIP for Structures and ICE certification (Draft) | 61 days | 0 days | May 30, 2019 | July 29, 2019 | May 30, 2019 | July 29, 2019 | May 30, 2019 | July 29, 2019 | 100% | 0 days | 1 day 0 | days | | Prep | iare / | AIP | f |
| | Submit & endorse by PM and Statutory Authorities/Gov. Dept | 60 days | 5 days | July 30, 2019 | NA | July 30, 2019 | September 27, 2019 | July 30, 2019 | September 15, 2021 | 92% | 0 days | 0.5 days 7 | 19 days | | | iubn | nit 8 | ¥ |
|) | • | 14 days | 14 days | NA | NA | September 28, 2019 | October 11, 2019 | September 16, 2021 | September 29, 2021 | 0% | 18 days | 0 days 72 | 19 days | | | Prep | pare | : A |
| | Prepare DDA for Structures and ICE certification (Draft) | 92 days | 37 days | July 30, 2019 | NA | July 30, 2019 | October 29, 2019 | July 30, 2019 | May 30, 2020 | 0% | 0 days | 1 day 2: | 4 days | | | Pre | epar | ·e |
| 2 | Submit & endorse by PM and Statutory Authorities/Gov. | 60 days | 60 days | NA | NA | October 30, 2019 | December 28, 2019 | September 30, 2021 | November 28, 2021 | 0% | 0 days | 0.5 days 70 |)1 days | | | | Sul | br |
| | Dept Prepare DDA for Structures and ICE certification (Final) | 14 days | 14 days | NA | NA | December 29, 2019 | January 11, 2020 | November 29, 2021 | December 12, 2021 | 0% | 0 days | 0 days 70 |)1 days | | | Ĩ | Pr | re |
| | Submit & endorse by PM and Statutory Authorities/Gov. | 60 days | 60 days | NA | NA | January 12, 2020 | March 11, 2020 | December 13, 2021 | February 10, 2022 | 0% | 558 days | 0 days 70 |)1 days | | | | | |
| _ | Dept Prepare AIP for E&M and ICE certification (Draft) | 60 days | 5 days | July 30, 2019 | NA | July 30, 2019 | September 27, 2019 | July 30, 2019 | May 30, 2020 | 0% | 0 days | 1 day 24 | l6 days | | | Prep | are | A |
| | Submit & endorse by PM and Statutory Authorities/Gov. | | | NA | NA | September 28, 2019 | | • • | | | | | 7 days | | | | Subm | - 1 |
| _ | Dept Prepare AIP for F&M and ICE certification (Final) | 10 dove | 10 days | NA | ΝΑ | November 27, 2019 | December 6 2010 | lune 26 2021 | luly 5, 2021 | 0% | 0 days | 0 days 5 | 7 days | | | ₩, | Prep | _ |
| 7 3 | Prepare AIP for E&M and ICE certification (Final) Prepare DDA for E&M and ICE certification (Draft) | 10 days 90 days | | NA NA | NA NA | December 7, 2019 | | June 26, 2021 July 6, 2021 | July 5, 2021 October 3, 2021 | | 0 days 0 days | | 7 days 77 days | | | | | h |
| | Submit & endorse by PM and Statutory Authorities/Gov. | 60 davs | 60 days | NA | NA | March 6, 2020 | May 4, 2020 | October 4, 2021 | December 2, 2021 | 0% | 0 days | 0.5 days 5 | 77 days | | | | | |
| 9 | Dept | | | | | | • • | | | | | | | | | | | 1 |
| | Prepare DDA for E&M and ICE certification (Final) | 10 days | 10 days | NA | NA | May 5, 2020 | May 14, 2020 | December 3, 2021 | December 12, 2021 | υ% | 0 days | 0 days 5 | 7 days | | | | | |

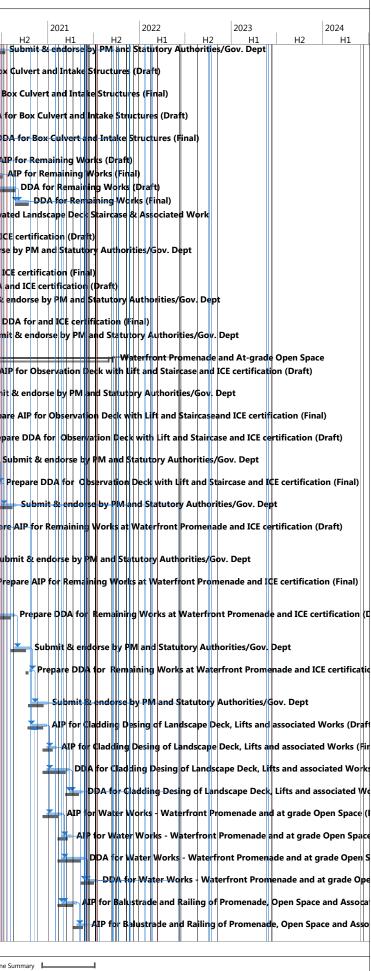
| Title: Revised Programme- ED/2018/01 with Progress | Critical Critical Split | Task Split | Manual Task Start-only | с | Duration-only Baseline | Baseline Mileston Milestone | e ◇ ◆ | Summary Manual Summary | External Tasks External Milestone | Inactive Milestone Inactive Summary | | Baseline Summa |
|-------------------------------------------------------|----------------------------|-------------------|-------------------------------|---|---------------------------|------------------------------------|----------|---------------------------|-----------------------------------|----------------------------------------|---|----------------|
| Undate as of 22 Sep 10 | Critical Progress | Task Progress | Finish-only | 3 | | | s | Project Summary | Inactive Task | Deadline | + | |
| | | | | | | | | Page 6 | | | | |



nary

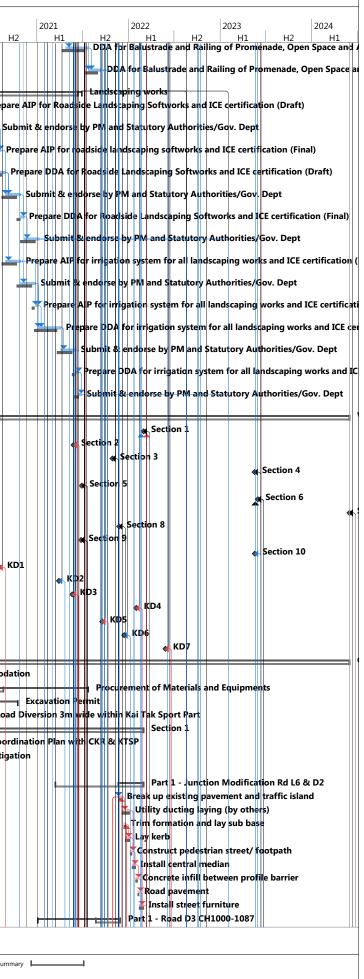
| T | ask Name | Duration | Remaining | Actual Start | Actual Finish | Plan Start | Plan Finish | Late Start | Late Finish | Physical | Free | Time Risk To | al | | | | |
|----------|--------------------------------------------------------------------------------------------------|----------|-------------|-------------------|--------------------|---------------------|--------------------|---------------------|--------------------|----------|----------|----------------|---------|-----------------|-----------|----------|-----------|
| | | | Duration | | | | | | | % | Slack | Allowances Sla | ck 2019 | | | 2020 | 0 |
| | Cubrait & and area by DNA and Chatytery, Authoritics/Cau | | CO deve | NA | NA | May 15, 2020 | hulu 12, 2020 | December 13, 2021 | Cohmient 10, 2022 | Complete | | (TRA) | H | I1 F | H2 | | <u>H1</u> |
| 811 | Submit & endorse by PM and Statutory Authorities/Gov. Dept | 60 days | 60 days | NA | NA | May 15, 2020 | July 13, 2020 | December 13, 2021 | February 10, 2022 | 0% | 434 days | U days 57 | days | <u>Sun sept</u> | | ſ | |
| 12 | AIP for Box Culvert and Intake Structures (Draft) | 60 days | 60 days | NA | NA | October 30, 2019 | December 28, 2019 | May 31, 2020 | July 29, 2020 | 0% | 0 days | 1 day 21 | days | | | AIP | ² fc |
| .3 | AIP for Box Culvert and Intake Structures (Final) | 38 days | 38 days | NA | NA | December 29, 2019 | February 4, 2020 | November 13, 2021 | December 20, 2021 | 0% | 52 days | 0.5 days 68 | days | | 1 7 | - | ЦP |
| .4 | DDA for Box Culvert and Intake Structures (Draft) | 90 days | 90 days | NA | NA | December 29, 2019 | March 27, 2020 | July 30, 2020 | October 27, 2020 | 0% | 0 days | 1 dav 21 | days | | | ╨ | |
| | . , | | | | | , | | | | | | | | | | Τ | יש |
| 5 | DDA for Box Culvert and Intake Structures (Final) | 52 days | 52 days | NA | NA | March 28, 2020 | May 18, 2020 | December 21, 2021 | February 10, 2022 | 0% | 490 days | 1 day 63 | days | | | | |
| 6 | AIP for Remaining Works (Draft) | 60 days | 60 days | NA | NA | March 28, 2020 | May 26, 2020 | October 28, 2020 | December 26, 2020 | 0% | 0 days | 1 day 21 | days | | | | T |
| 7 | AIP for Remaining Works (Final) | 38 days | 38 days | NA | NA | May 27, 2020 | July 3, 2020 | , | December 20, 2021 | | 52 days | | days | | | | |
| .8 | DDA for Remaining Works (Draft) | 90 days | 90 days | NA | NA | May 27, 2020 | August 24, 2020 | September 22, 2021 | | | 0 days | | days | | | | |
| 9 | DDA for Remaining Works (Final) | 52 days | 52 days | NA | NA | August 25, 2020 | October 15, 2020 | December 21, 2021 | February 10, 2022 | | 340 days | | days | | | | |
| 0 | Elevated Landscape Deck Staircase & Associated Work | 302 days | 173.99 days | May 30, 2019 | NA | May 30, 2019 | March 26, 2020 | May 30, 2019 | May 5, 2020 | 0% | 40 days | 40 | days | | (TTTT | F | 171 |
| 1 | Prepare AIP and ICE certification (Draft) | 96 days | 0 days | May 30, 2019 | September 2, 2019 | May 30, 2019 | September 2, 2019 | May 30, 2019 | September 2, 2019 | 100% | 0 days | 3 days 0 d | ays | | Prepa | | |
| 2 | Submit & endorse by PM and Statutory Authorities/Gov. Dept | 18 days | 0 days | September 3, 2019 | September 20, 2019 | 9 September 3, 2019 | September 20, 2019 | 9 September 3, 2019 | September 20, 2019 | 9 100% | 0 days | 1 days 0 d | ays | -* | Subn | nit & | ٤e |
| 3 | • | 14 days | 0 days | August 29, 2019 | September 11, 2019 | 9 August 29, 2019 | September 11, 2019 | August 29, 2019 | September 11, 2019 | 9 100% | 0 days | 0 days 0 d | ays | | Prepa | ire A | JР |
| 1 | Prepare DDA and ICE certification (Draft) | 52 days | 46.9 days | September 14, 201 | 9 NA | September 14, 2019 | November 13, 2019 | September 14, 2019 | December 9, 2019 | 10% | 0 days | 1 day 26 | days | | ⋹ | repa | re |
| 5 | | 60 days | 60 days | NA | NA | November 14, 2019 | January 12, 2020 | December 24, 2019 | February 21, 2020 | 0% | 0 days | 0.5 days 40 | days | | | Su | ıþı |
| | Dept Prepare DDA for and ICE certification (Final) | 14 days | 14 days | NA | NA | January 13, 2020 | January 26, 2020 | February 22, 2020 | March 6, 2020 | 0% | 0 days | 0 days 40 | days | | | P | Pre |
| 6 7 | 1 | 60 days | 60 days | NA | NA | January 27, 2020 | March 26, 2020 | March 7, 2020 | May 5, 2020 | | | | days | | | | |
| / | Dept | oo uays | 00 uays | INA | INA | January 27, 2020 | March 20, 2020 | Warch 7, 2020 | Iviay 5, 2020 | 078 | U uays | 0 uays 40 | Jays | | | | T |
| 3 | Waterfront Promenade and At-grade Open Space | 671 days | 671 days | NA | NA | November 14, 2019 | September 14, 20 | December 10, 2019 | October 10, 2021 | 0% | 0 days | 26 | days | | ∣ u≞≢ | #= | + |
| 9 | Prepare AIP for Observation Deck with Lift and Staircase | 61 days | 61 days | NA | NA | November 14, 2019 | January 13, 2020 | December 10, 2019 | February 8, 2020 | 0% | 0 days | 1 day 26 | days | | | Pr | ۴I |
| D | and ICE certification (Draft) Submit & endorse by PM and Statutory Authorities/Gov. | 60 days | 60 days | NA | NA | January 14, 2020 | March 13, 2020 | March 17, 2021 | May 15, 2021 | 0% | 0 days | 0.5 days 42 | days | | | | |
| | Dept | | | | | | | | | | | | | | | Π. | |
| L | Prepare AIP for Observation Deck with Lift and Staircaseand ICE certification (Final) | 14 days | 14 days | NA | NA | March 14, 2020 | March 27, 2020 | May 16, 2021 | May 29, 2021 | 0% | 18 days | 0 days 42 | days | | | - | ſ |
| 2 | Prepare DDA for Observation Deck with Lift and | 92 days | 92 days | NA | NA | January 14, 2020 | April 14, 2020 | February 9, 2020 | May 10, 2020 | 0% | 0 days | 1 day 26 | days | | . | | + |
| 3 | Staircase and ICE certification (Draft) Submit & endorse by PM and Statutory Authorities/Gov. | 60 days | 60 days | NA | NA | April 15, 2020 | June 13, 2020 | May 30, 2021 | July 28, 2021 | 0% | 0 days | 0.5 days 41 | days | | | | |
| ' | Dept | oo uays | 00 days | NA | INA | April 13, 2020 | June 13, 2020 | Way 50, 2021 | July 28, 2021 | 078 | 0 uays | 0.5 uays 41 | uays | | | | |
| 4 | Prepare DDA for Observation Deck with Lift and | 14 days | 14 days | NA | NA | June 14, 2020 | June 27, 2020 | July 29, 2021 | August 11, 2021 | 0% | 0 days | 0 days 41 | days | | | | |
| 5 | Staircase and ICE certification (Final) Submit & endorse by PM and Statutory Authorities/Gov. | 60 days | 60 days | NA | NA | June 28, 2020 | August 26, 2020 | August 12, 2021 | October 10, 2021 | 0% | 384 days | 0 days 41 | days | | | | |
| | Dept | 00 00,5 | 00 4475 | | | 54110 20, 2020 | , lagast 20, 2020 | , (agust 12) 2021 | 0000001 10, 2021 | 0,0 | 501 4475 | | aays | | | | |
| 5 | Prepare AIP for Remaining Works at Waterfront Promenade and ICE certification (Draft) | 60 days | 60 days | NA | NA | January 14, 2020 | March 13, 2020 | September 24, 2020 | November 22, 2020 | 0% | 0 days | 1 day 25 | days | | 1 | Ť | |
| 7 | Submit & endorse by PM and Statutory Authorities/Gov. | 60 days | 60 days | NA | NA | March 14, 2020 | May 12, 2020 | December 25, 2020 | February 22, 2021 | 0% | 0 days | 0.5 days 28 | days | | | | ≱ |
| 8 | Dept Prepare AIP for Remaining Works at Waterfront | 10 days | 10 days | NA | NA | May 13, 2020 | May 22, 2020 | February 23, 2021 | March 4, 2021 | 0% | 0 days | 0 days 28 | days | | | | |
| | Promenade and ICE certification (Final) | | | | | | ,, | | | | ,- | | | | | | |
| 9 | Prepare DDA for Remaining Works at Waterfront | 90 days | 90 days | NA | NA | May 23, 2020 | August 20, 2020 | March 5, 2021 | June 2, 2021 | 0% | 0 days | 1 day 28 | days | | | | |
| | Promenade and ICE certification (Draft) | | | | | | | | | | | | | | | | |
| C | Submit & endorse by PM and Statutory Authorities/Gov. | 60 days | 60 days | NA | NA | August 21, 2020 | October 19, 2020 | June 3, 2021 | August 1, 2021 | 0% | 0 days | 0.5 days 28 | days | | | | |
| 1 | Dept Prepare DDA for Remaining Works at Waterfront | 10 days | 10 days | NA | NA | October 20, 2020 | October 29, 2020 | August 2, 2021 | August 11, 2021 | 0% | 0 days | 0 days 29 | dave | | | | |
| 1 | Promenade and ICE certification (Final) | 10 days | 10 days | NA | INA | October 20, 2020 | October 29, 2020 | August 2, 2021 | August 11, 2021 | 0% | 0 days | 0 udys 20 | days | | | | |
| , | Submit & endorse by PM and Statutory Authorities/Gov. | 60 days | 60 days | NA | NA | October 20, 2020 | December 28, 2020 | August 12, 2021 | October 10, 2021 | 0% | 260 days | 0 days 29 | davs | | | | |
| 2 | Dept | ou uays | ou days | NA | INA | October 30, 2020 | December 28, 2020 | August 12, 2021 | October 10, 2021 | 0% | 200 uays | 0 udys 20 | days | | | | |
| 3 | AIP for Cladding Desing of Landscape Deck, Lifts and associated Works (Draft) | 60 days | 60 days | NA | NA | October 28, 2020 | December 26, 2020 | November 23, 2020 | January 21, 2021 | 0% | 0 days | 1 day 26 | days | | | | |
| 4 | | 38 days | 38 days | NA | NA | December 27, 2020 | February 2, 2021 | July 13, 2021 | August 19, 2021 | 0% | 52 days | 0.5 days 19 | days | | | | |
| 5 | associated Works (Final) DDA for Cladding Desing of Landscape Deck, Lifts and | 90 days | 90 days | NA | NA | December 27, 2020 | March 26, 2021 | May 22, 2021 | August 19, 2021 | 0% | 0 days | 1 day 14 | days | | | | |
| 2 | associated Works (Draft) | 50 uays | Souays | NA | NA . | December 27, 2020 | Wiai cii 20, 2021 | Way 22, 2021 | August 19, 2021 | 078 | 0 uays | 1 Udy 14 | uays | | | | |
| 5 | | 52 days | 52 days | NA | NA | March 27, 2021 | May 17, 2021 | August 20, 2021 | October 10, 2021 | 0% | 120 days | 1 day 14 | days | | | | |
| 7 | associated Works (Final) AIP for Water Works - Waterfront Promenade and at | 60 days | 60 days | NA | NA | December 27, 2020 | February 24, 2021 | January 22, 2021 | March 22, 2021 | 0% | 0 days | 1 dav 26 | days | | | | |
| | grade Open Space (Draft) | | | | | | | | | | | | | | | | |
| 8 | AIP for Water Works - Waterfront Promenade and at grade Open Space (Final) | 38 days | 38 days | NA | NA | February 25, 2021 | April 3, 2021 | July 13, 2021 | August 19, 2021 | 0% | 52 days | 0.5 days 13 | days | | | | |
| 9 | DDA for Water Works - Waterfront Promenade and at | 90 days | 90 days | NA | NA | February 25, 2021 | May 25, 2021 | May 22, 2021 | August 19, 2021 | 0% | 0 days | 1 day 86 | days | | | | |
| 0 | grade Open Space (Draft) DDA for Water Works - Waterfront Promenade and at | 52 days | 52 days | NA | NA | May 26, 2021 | July 16, 2021 | August 20, 2021 | October 10, 2021 | 0% | 60 days | 1 day oc | days | | | | |
| | grade Open Space (Final) | 52 00y3 | JE days | | | | 5317 10, 2021 | | 500501 10, 2021 | 070 | 30 uuys | - 00 00 | | | | | |
| 1 | AIP for Balustrade and Railing of Promenade, Open Space | 60 days | 60 days | NA | NA | February 25, 2021 | April 25, 2021 | March 23, 2021 | May 21, 2021 | 0% | 0 days | 1 day 26 | days | | | | |
| 2 | and Assocated Works (Draft) AIP for Balustrade and Railing of Promenade, Open Space | 38 dave | 38 days | NA | NA | April 26, 2021 | June 2, 2021 | July 13, 2021 | August 19, 2021 | 0% | 52 days | 0.5 days 70 | days | | | | |
| 4 | and Assocated Works (Final) | Jouays | Juays | | | , ipini 20, 2021 | June 2, 2021 | July 13, 2021 | , lugust 13, 2021 | 070 | JZ uays | 0.5 udys /8 | | | | | |

| Title: Revised Programme- | Critical | Task | Manual Task | | Duration-only | Baseline Milestor | e 🛇 | Summary | External Tasks | Inactive Milestone | \$ | Baseline Summa |
|---------------------------|-------------------|-------------------|----------------|---|----------------|--------------------|-----|-----------------|---------------------------------------|--------------------|----|----------------|
| ED/2018/01 with Progress | Critical Split | Split | Start-only | C | Baseline | Milestone | • | Manual Summary | External Milestone \diamondsuit | Inactive Summary | | 1 |
| Update as of 22-Sep-19 | Critical Progress | Task Progress | Finish-only | 3 | Baseline Split | Summary Progre | 55 | Project Summary | Inactive Task | Deadline | ÷ | |
| | | | | | | | | Page 7 | | | | |



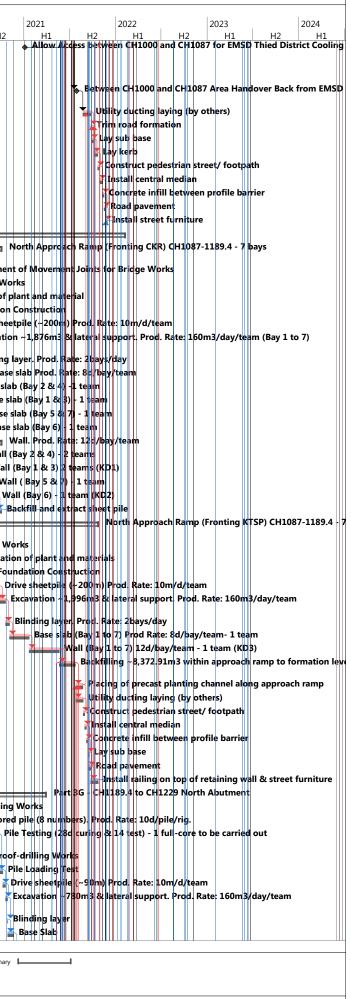
| | ask Name | | Remaining Duration | Actual Start | Actual Finish | Plan Start | Plan Finish | Late Start | Late Finish | Physical Free % Slack Complete | | | 1 | | 2020 H1 | |
|----------------|----------------------------------------------------------------------------------------------|------------|-----------------------|--------------------|--------------------|--------------------|------------------------------------|---------------------------------------|------------------------------------|--------------------------------------|------------------------|------------------|---------------|------------------|------------|-----|
| | DDA for Balustrade and Railing of Promenade, Open Space and Assocated Works (Draft) | 90 days | 90 days | NA | NA | April 26, 2021 | July 24, 2021 | May 22, 2021 | August 19, 2021 | 0% 0 day | | 26 days | Sun Septem | iber 22 | | ÌT |
| | | 52 days | 52 days | NA | NA | July 25, 2021 | September 14, 2023 | 1 August 20, 2021 | October 10, 2021 | 0% 0 day | ys 1 day | 26 days | | | | |
| 1 | Landscaping works | 457 days | 457 days | NA | NA | March 29, 2020 | June 28, 2021 | April 24, 2020 | November 15, 2022 | 2 0% 26 da | ays | 26 days | | | l Le | ₩ |
| | Prepare AIP for Roadside Landscaping Softworks and ICE certification (Draft) | 61 days | 61 days | NA | NA | March 29, 2020 | May 28, 2020 | April 24, 2020 | June 23, 2020 | 0% 0 day | ys 1 day | 26 days | | | ╞╴╞╡ | • |
| | Submit & endorse by PM and Statutory Authorities/Gov. Dept | 60 days | 60 days | NA | NA | May 29, 2020 | July 27, 2020 | April 22, 2022 | June 20, 2022 | 0% 0 day | ys 0.5 days | 693 days | | | | |
| | Prepare AIP for roadside landscaping softworks and ICE | 14 days | 14 days | NA | NA | July 28, 2020 | August 10, 2020 | June 21, 2022 | July 4, 2022 | 0% 18 da | ays 0 days | 693 days | | | | |
| + | certification (Final) Prepare DDA for Roadside Landscaping Softworks and ICE | 92 days | 92 days | NA | NA | May 29, 2020 | August 28, 2020 | June 24, 2020 | September 23, 2020 | 0 0% 0 day | ys 1 day | 26 days | | | | |
| + | certification (Draft) Submit & endorse by PM and Statutory Authorities/Gov. | 60 days | 60 days | NA | NA | August 29, 2020 | October 27, 2020 | July 5, 2022 | September 2, 2022 | 0% 0 day | ys 0.5 days | 675 days | | | | |
| + | Dept Prepare DDA for Roadside Landscaping Softworks and ICE | 14 days | 14 days | NA | NA | October 28, 2020 | November 10, 2020 |) September 3, 2022 | September 16, 2022 | 2 0% 0 day | ys 0 days | 675 days | | | | |
| _ | certification (Final) Submit & endorse by PM and Statutory Authorities/Gov. | 60 days | 60 days | NA | NA | November 11, 2020 |) January 9, 2021 | September 17, 2022 | November 15, 2022 | . 0% 587 (| days 0 days | 675 days | | | | |
| _ | Dept Prepare AIP for irrigation system for all landscaping | 60 days | 60 days | NA | NA | August 29, 2020 | October 27, 2020 | September 24, 2020 | November 22, 2020 | 0% 0 day | ys 1 day | 26 days | | | | |
| _ | works and ICE certification (Draft) Submit & endorse by PM and Statutory Authorities/Gov. | | 60 days | NA | NA | | December 26, 2020 | | May 15, 2022 | 0% 0 day | | 505 days | | | | |
| | Dept | | • | | | | | | | - | | | | | | |
| | Prepare AIP for irrigation system for all landscaping works and ICE certification (Final) | 10 days | 10 days | NA | NA | December 27, 2020 | January 5, 2021 | May 16, 2022 | May 25, 2022 | 0% 0 day | ys 0 days | 505 days | | | | |
| | Prepare DDA for irrigation system for all landscaping works and ICE certification (Draft) | 90 days | 90 days | NA | NA | January 6, 2021 | April 5, 2021 | May 26, 2022 | August 23, 2022 | 0% 0 day | ys 1 day | 505 days | | | | |
| 7 | Submit & endorse by PM and Statutory Authorities/Gov. Dept | 60 days | 60 days | NA | NA | April 6, 2021 | June 4, 2021 | August 24, 2022 | October 22, 2022 | 0% 0 day | ys 0.5 days | 505 days | | | | |
| 8 | • | 10 days | 10 days | NA | NA | June 5, 2021 | June 14, 2021 | October 23, 2022 | November 1, 2022 | 0% 0 day | ys 0 days | 505 days | | | | |
| 9 | Submit & endorse by PM and Statutory Authorities/Gov. Dept | 14 days | 14 days | NA | NA | June 15, 2021 | June 28, 2021 | November 2, 2022 | November 15, 2022 | 0% 417 c | days 0 days | 505 days | | | | |
|) V | • | 1394 days | 1394 days | NA | NA | August 4, 2020 | May 29, 2024 | August 7, 2020 | May 29, 2024 | 0% 0 day | /s | 0 days | | | | |
| | Section 1 | 0 days | 0 days | NA | NA | March 1, 2022 | March 1, 2022 | March 1, 2022 | March 1, 2022 | 0% 0 day | ys 0 days | 0 days | | | | |
| 2 | Section 2 | 0 days | 0 days | NA | NA | May 26, 2021 | May 26, 2021 | June 2, 2021 | June 2, 2021 | 0% 6 day | ys 0 days | 6 days | | | | |
| 3 | Section 3 | 0 days | 0 days | NA | NA | October 28, 2021 | October 28, 2021 | November 2, 2021 | November 2, 2021 | 0% 4 day | ys 0 days | 4 days | | | | |
| 1 | Section 4 | 0 days | 0 days | NA | NA | May 17, 2023 | May 17, 2023 | May 30, 2023 | May 30, 2023 | 0% 10 da | ays 0 days | 10 days | | | | |
| 5 | Section 5 | 0 days | 0 days | NA | NA | June 28, 2021 | June 28, 2021 | July 5, 2021 | July 5, 2021 | 0% 5 day | ys 0 days | 5 days | | | | |
| 6 | Section 6 | 0 days | 0 days | NA | NA | May 30, 2023 | May 30, 2023 | May 30, 2023 | May 30, 2023 | 0% 0 day | ys 0 days | 0 days | | | 11 | |
| 7 | Section 7 | 0 days | 0 days | NA | NA | May 29, 2024 | May 29, 2024 | May 29, 2024 | May 29, 2024 | 0% 0 day | ys 0 days | 0 days | | | | |
| 8 | Section 8 | 0 days | 0 days | NA | NA | November 24, 2021 | November 24, 2021 | December 2, 2021 | December 2, 2021 | 0% 7 day | ys 0 days | 7 days | | | | |
| 9 | | | , 0 days | NA | NA | June 25, 2021 | June 25, 2021 | July 5, 2021 | July 5, 2021 | 0% 7 day | | 7 days | | | | |
| 0 | | | 0 days | NA | NA | May 18, 2023 | May 18, 2023 | May 30, 2023 | May 30, 2023 | 0% 9 day | | 9 days | | | | |
| 1 | | | 0 days | NA | NA | August 4, 2020 | August 4, 2020 | August 7, 2020 | August 7, 2020 | 0% 3 day | | 3 days | | | 11 | |
| _ | | | | NA | NA | | March 29, 2021 | August 7, 2020 April 18, 2021 | August 7, 2020 April 18, 2021 | 0% 3 day 0% 14 da | | | | | | |
| 2 | | | 0 days | | | March 29, 2021 | | | • | | | 14 days | | | | |
| 3 | | | 0 days | NA | NA | May 21, 2021 | May 21, 2021 | June 1, 2021 | June 1, 2021 | 0% 9 day | | 9 days | | | | |
| 4 | | | 0 days | NA | NA | January 31, 2022 | January 31, 2022 | January 31, 2022 | | 0% 0 day | ys 0 days | 0 days | | | | |
| 5 | | 0 days | 0 days | NA | NA | | | 1 September 17, 2021 | September 17, 2021 | 1 0% 0 day | ys 0 days | 0 days | | | | |
| 6 | KD6 | 0 days | 0 days | NA | NA | December 14, 2021 | December 14, 2021 | December 29, 2021 | December 29, 2021 | 0% 11 da | ays 0 days | 11 days | | | | |
| 7 | KD7 | 0 days | 0 days | NA | NA | May 27, 2022 | May 27, 2022 | June 3, 2022 | June 3, 2022 | 0% 5 day | ys 0 days | 5 days | | | | |
| 8 C | Construction Works | 1499 days | 1491.94 days | s May 16, 2019 | NA | May 16, 2019 | May 29, 2024 | May 16, 2019 | May 29, 2024 | 0% 0 day | /S | 0 days | - | | ╞╤╡ | Ħ |
|) | Office Accommodation | 53 days | 32 days | August 8, 2019 | NA | August 8, 2019 | October 31, 2019 | August 8, 2019 | January 10, 2020 | 40% 58 da | ays <mark>1 day</mark> | 58 days | | Qffic | ce Ac | ¢¢ |
| 0 | Procurement of Materials and Equipments | 509 days ! | 509 days | NA | NA | November 4, 2019 | July 23, 2021 | November 26, 2019 | July 27, 2022 | 0% 19 da | ays | 19 days | _ ↓ ₽ | ↓₽ ₽₽₽₽₽₽ | ╞═╤┩ | |
| 8 | Excavation Permit | 297 days 2 | 297 days | NA | NA | October 18, 2019 | October 16, 2020 | November 22, 2020 | November 21, 2021 | 0% 326 d | lays | 326 days | | ▞┼╍╊╾┶┩ | | Ħ |
| 0 | Haul Road Diversion 3m wide within Kai Tak Sport Part | 152 days 2 | 152 days | NA | NA | November 1, 2019 | March 31, 2020 | December 30, 2023 | May 29, 2024 | 0% 1520 | d | 1520 d | | 1 | | ŀ |
| 1 | Section 1 | 831 days 🛛 | 825.54 days | May 16, 2019 | NA | May 16, 2019 | March 1, 2022 | May 16, 2019 | May 29, 2024 | 0% 668 d | Jays | 668 days | | ╞╪╤╬╪╤┾┙ | | # |
| 2 | Agree Interface Coordination Plan with CKR & KTSP | 14 days | 0 days | August 27, 2019 | September 11, 2019 | 9 August 27, 2019 | September 11, 2019 | 9 August 27, 2019 | September 11, 2019 |) 100% 0 day | ys 0 days | 0 days | | Agree | Inter | rfa |
| 3 | Ground Investigation | 60 days | 52 days | September 12, 2019 |) NA | September 12, 20 | . November 23, 2019 | 9 September 12, 2019 | January 10, 2020 | 0% 38 da | ays | 38 days | | H G | rounc | d. |
| 4 | GI Work | | 52 days | September 12, 2019 |) NA | September 12, 2019 | 9 November 23, 2019 | September 12, 2019 | January 10, 2020 | 13% 38 da | ays 0.5 days | 38 days | 🕌 | li ki | Worl | k |
| 5 | Part 1 - Junction Modification Rd L6 & D2 | | 80 days | NA | NA | November 22, 2021 | | November 22, 2021 | | 0% 0 day | | 0 days | | | | |
| 5 | | | 12 days | NA | NA | | | | December 4, 2021 | | | 0 days | | | | |
| | | | 25 days | NA | NA | December 6, 2021 | | December 6, 2021 | | 0% 0 day | | 0 days | | | | |
| _ | | | | | | | | | | | | | | | | |
| | | | 7 days | NA | NA | | | | December 20, 2021 | | | 0 days | | | | |
|) | | | 12 days | NA | NA | December 21, 2021 | | | | 0% 0 day | | 0 days | | | | |
|) (| | | 7 days | NA | NA | January 7, 2022 | January 14, 2022 | January 7, 2022 | | 0% 0 day | | 0 days | | | | |
| - | | | 12 days | NA | NA | January 15, 2022 | January 28, 2022 | January 15, 2022 | January 28, 2022 | | | 0 days | | | | |
| 1 | Concrete infill between profile barrier | 4 days 4 | 4 days | NA | NA | January 29, 2022 | February 5, 2022 | January 29, 2022 | | 0% 0 day | | 0 days | | | | |
| 1 | | | | | | | | | | | | | | | | |
| .1 .2 .3 | | | 5 days | NA | NA | February 7, 2022 | February 11, 2022 | February 7, 2022 | February 11, 2022 | 0% 0 day | ys 0 days | 0 days | | | | |
| 1 2 | Road pavement | 5 days | 5 days 15 days | NA NA | NA NA | | February 11, 2022 March 1, 2022 | February 7, 2022 February 12, 2022 | February 11, 2022 March 1, 2022 | 0% 0 day 0% 0 day | | 0 days 0 days | | | | |

| Title: Revised Programme- | Critical | Task | Manual Task | | Duration-only | | Baseline Milesto | one 🛇 | Summary | | External Tasks | Inactive Milestone | Baselin | ne Summary |
|---------------------------|-------------------|---------------|----------------|---|----------------|---|------------------|-------|-----------------|---|--------------------|--------------------|---------|------------|
| ED/2018/01 with Progress | Critical Split | Split | Start-only | E | Baseline | 1 | Milestone | • | Manual Summary | 1 | External Milestone | Inactive Summary | 1 | |
| Update as of 22-Sep-19 | Critical Progress | Task Progress | Finish-only | 3 | Baseline Split | | Summary Progr | ess | Project Summary | | Inactive Task | Deadline 🖊 | | |
| | | | | | | | | | Page 8 | | | | | |

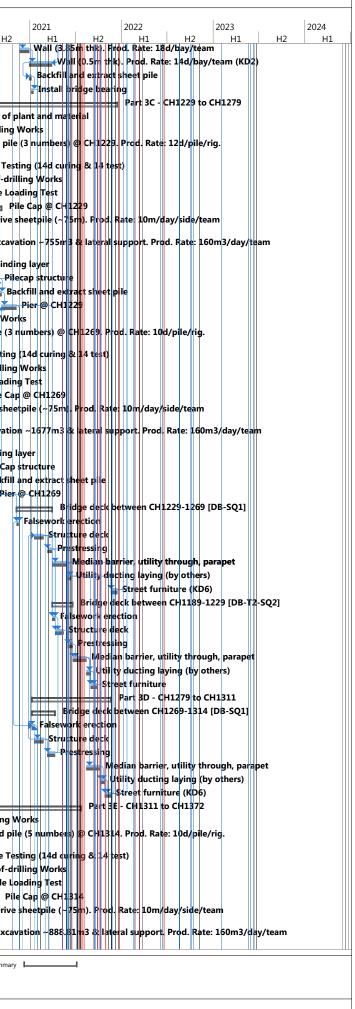


| Ta | isk Name | Duration | Remaining Duration | Actual Start | Actual Finish | Plan Start | Plan Finish | Late Start | Late Finish | , , | | Time Risk Allowances (TRA) | | 2019 H1 | H2 | 2020 H | |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------------|--------------|---------------|----------------------------------------|------------------------------------|------------------------------------------|-----------------------------------------|--------|-------------------|----------------------------------|--------------------|------------|-------------|--------------|----|
| | Allow Access between CH1000 and CH1087 for EMSD Thied District Cooling System for Associated Pipeline Laying (Assume the DCS Pipeline Lay within CH1010 and Ch1087 | 0 days | 0 days | NA | NA | January 5, 2021 | January 5, 2021 | February 25, 2021 | February 25, 2021 | 0% 2 | 26 days | | 51 days | Sun | September 2 | 2 | |
| 17 | Area) Between CH1000 and CH1087 Area Handover Back from EMSD third District Cooling System Contractor | 0 days | 0 days | NA | NA | July 30, 2021 | July 30, 2021 | August 24, 2021 | August 24, 2021 | 0% 2 | 25 days | | 25 days | | | | |
| L8 | Utility ducting laying (by others) | 26 days | 26 days | NA | NA | August 24, 2021 | September 23, 202 | 1 August 24, 2021 | September 23, 202 | 10% 0 |) days | 2 days | 0 days | | | 1 | |
| 19 | Trim road formation | 3 days | 3 days | NA | NA | September 24, 202 | 1 September 27, 202 | 1 September 24, 2021 | September 27, 202 | 1 0% 0 |) days | 0 days | 0 days | | | 1 | |
| 120 | Lay sub base | 7 days | 7 days | NA | NA | September 28, 202 | 1 October 6, 2021 | September 28, 2021 | October 6, 2021 | 0% 0 |) days | 0 days | 0 days | | | 1 | |
| 121 | Lay kerb | 12 days | 12 days | NA | NA | October 7, 2021 | October 21, 2021 | October 7, 2021 | October 21, 2021 | 0% 0 |) days | 0 days | 0 days | | | 1 | |
| 122 | Construct pedestrian street/ footpath | 7 days | 7 days | NA | NA | October 22, 2021 | October 29, 2021 | October 22, 2021 | October 29, 2021 | 0% 0 |) days | 0 days | 0 days | | | 1 | |
| 23 | Install central median | 10 days | 10 days | NA | NA | October 30, 2021 | November 10, 2023 | l October 30, 2021 | November 10, 2021 | L 0% 0 |) days | 0 days | 0 days | | | 1 | |
| 124 | Concrete infill between profile barrier | 4 days | 4 days | NA | NA | November 11, 2021 | November 15, 2023 | November 11, 2021 | November 15, 2021 | L 0% 0 |) days | 0 days | 0 days | | | 1 | |
| 125 | Road pavement | | 5 days | NA | NA | | | November 16, 2021 | November 20, 2021 | | | | 0 days | | | 1 | |
| 126 | | | 7 days | NA | NA | | November 29, 2023 | | March 1, 2022 | | 73 days | • | 73 days | | | 1 | |
| 127 | Bridge D3 (Approach Ramp and Bridge) CH1087-1444.7 | | 812 days | NA | NA | May 16, 2019 | February 7, 2022 | December 28, 2019 | | | L9 days | | 19 days | | | ┍╋╋═╤╤ | # |
| 28 | North Approach Ramp (Fronting CKR) CH1087-1189.4 - 7 bays | 306 days | 306 days | NA | NA | September 23, 2019 | October 3, 2020 | December 28, 2019 | • | | 79 days | | 79 days | | | | P |
| 29 | Procurement of Movement Joints for Bridge Works | 90 days | 90 days | NA | NA | January 11, 2020 | April 9, 2020 | March 4, 2020 | June 1, 2020 | | 19 days | | 53 days | | | ound M | |
| 130 | Ground Monitoring Works Mobilization of plant and material | 14 days 10 days | 14 days | NA | NA | September 23, 201 January 11, 2020 | | December 28, 2019 | | | • | • | 96 days | | | Mo | |
| 131 | Foundation Construction | 10 days 64 days | 10 days 64 days | NA | NA | | January 22, 2020 April 14, 2020 | January 11, 2020 January 23, 2020 | January 22, 2020 April 14, 2020 | | • | • | 0 days | | | | F |
| 32 | Drive sheetpile (~200m) Prod. Rate: 10m/d/team | | 64 days 20 days | NA | NA | January 23, 2020 April 15, 2020 | April 14, 2020 May 10, 2020 | April 18, 2020 | April 14, 2020 May 13, 2020 | | • | | 0 days 3 days | | | | I |
| 133 134 | Excavation ~1,876m3 & lateral support. Prod. Rate: 160m3/day/team (Bay 1 to 7) | 12 days | 12 days | NA | NA | May 11, 2020 | May 10, 2020 May 24, 2020 | May 14, 2020 | May 13, 2020 May 27, 2020 | | | • | 3 days 3 days | | | | F |
| 35 | Blinding layer. Prod. Rate: 2bays/day | 4 days | 4 days | NA | NA | May 25, 2020 | May 28, 2020 | May 28, 2020 | June 1, 2020 | 0% 0 |) days | 0 days | 3 days | | | | |
| 136 | Base slab Prod. Rate: 8d/bay/team | | 56 days | NA | NA | May 29, 2020 | August 4, 2020 | June 2, 2020 | March 15, 2021 | | • | • | 3 days | | | | |
| 137 | Base slab (Bay 2 & 4) -1 team | 16 days | 16 days | NA | NA | May 29, 2020 | June 16, 2020 | June 2, 2020 | June 19, 2020 | | • | • | 3 days | | | | |
| 138 | Base slab (Bay 1 & 3) - 1 team | | 16 days | NA | NA | June 17, 2020 | July 7, 2020 | June 20, 2020 | July 10, 2020 | | • | • | 3 days | | | | |
| 139 | Base slab (Bay 5 & 7) - 1 team | 16 days | 16 days | NA | NA | July 8, 2020 | July 25, 2020 | January 25, 2021 | February 11, 2021 | | | | 166 days | | | 1 | |
| 140 | Base slab (Bay 6) - 1 team | 8 days | 8 days | NA | NA | July 27, 2020 | August 4, 2020 | March 6, 2021 | March 15, 2021 | 0% 2 | 24 days | 0 days | 182 days | | | 1 | |
| 41 | Wall. Prod. Rate: 12d/bay/team | 74 days | 74 days | NA | NA | July 8, 2020 | October 3, 2020 | July 11, 2020 | April 17, 2021 | 0% 3 | 8 days | 3 days | 3 days | | | 1 | |
| 142 | Wall (Bay 2 & 4) - 2 teams | 12 days | 12 days | NA | NA | July 8, 2020 | July 21, 2020 | July 11, 2020 | July 24, 2020 | 0% 0 |) days | 1 days | 3 days | | | 1 | |
| 143 | Wall (Bay 1 & 3) 2 teams (KD1) | 12 days | 12 days | NA | NA | July 22, 2020 | August 4, 2020 | July 25, 2020 | August 7, 2020 | 0% 0 |) days | 1 days | 3 days | | | 1 | |
| 144 | Wall (Bay 5 & 7) - 1 team | 24 days | 24 days | NA | NA | August 5, 2020 | September 1, 2020 | February 16, 2021 | March 15, 2021 | 0% 0 |) days | 0.5 days | 158 days | | | 1 | |
| 145 | Wall (Bay 6) - 1 team (KD2) | 12 days | 12 days | NA | NA | September 2, 2020 | September 15, 202 | 0 March 16, 2021 | March 29, 2021 | 0% 0 |) days | 0 days | 158 days | | | 1 | |
| 146 | Backfill and extract sheet pile | 14 days | 14 days | NA | NA | September 16, 202 | 0 October 3, 2020 | March 30, 2021 | April 17, 2021 | 0% 1 | L44 days | 0 days | 158 days | | | 1 | |
| 47 | North Approach Ramp (Fronting KTSP) CH1087-1189.4 - 7 bays | 608 days | 608 days | NA | NA | October 7, 2019 | October 23, 2021 | April 1, 2020 | February 21, 2022 | 0% 9 | 97 days | | 97 days | | | ╞╋╫═╤╴ | = |
| 48 | Ground Monitoring Works | 14 days | 14 days | NA | NA | October 7, 2019 | October 20, 2019 | April 1, 2020 | April 14, 2020 | 0% 0 |) days | 0 days | 177 days | | - Tet | round N | 10 |
| 149 | Mobilization of plant and materials | 19 days | 19 days | NA | NA | April 15, 2020 | May 8, 2020 | April 15, 2020 | May 8, 2020 | | | | 0 days | | | i III ' | H |
| 150 | Foundation Construction | 94 days | 94 days | NA | NA | May 9, 2020 | August 28, 2020 | May 9, 2020 | August 28, 2020 | | | • | 0 days | | | 1 | |
| 151 | Drive sheetpile (~200m) Prod. Rate: 10m/d/team | 24 days | 24 days | NA | NA | August 29, 2020 | September 25, 202 | | September 25, 2020 | | | | 0 days | | | 1 | |
| 152 | Excavation ~1,996m3 & lateral support. Prod. Rate: 160m3/day/team | 18 days | 18 days | NA | NA | September 26, 202 | | September 26, 2020 | October 19, 2020 | |) days | 1 days | 0 days | | | 1 | |
| 153 | Blinding layer. Prod. Rate: 2bays/day | 13 days | 13 days | NA | NA | October 20, 2020 | November 4, 2020 | | November 4, 2020 | 0% 0 |) days | 0 days | 0 days | | | 1 | |
| 154 | | | 64 days | NA | NA | November 5, 2020 | January 21, 2021 | November 5, 2020 | January 21, 2021 | |) days | • | 0 days | | | | |
| 155 | Wall (Bay 1 to 7) 12d/bay/team - 1 team (KD3) | | 95 days | NA | NA | January 22, 2021 | May 21, 2021 | January 22, 2021 | May 21, 2021 | |) days | | 0 days | | | | |
| 156 | Backfilling ~8,372.91m3 within approach ramp to formation level (160m3/day) considered time for SRT | | 53 days | NA | NA | May 22, 2021 | July 24, 2021 | May 22, 2021 | July 24, 2021 | | | | 0 days | | | | |
| 157 | Placing of precast planting channel along approach ramp | | 24 days | NA | NA | July 27, 2021 | August 23, 2021 | July 27, 2021 | 0, | | | | 0 days | | | · | |
| 158 | Utility ducting laying (by others) | | 26 days | NA | NA | July 26, 2021 | August 24, 2021 | July 26, 2021 | 0, | |) days | | 0 days | | | · | |
| 159 | Construct pedestrian street/ footpath | | 5 days | NA | NA | August 25, 2021 | August 30, 2021 | August 25, 2021 | | | • | | 0 days | | | · | |
| 160 | Install central median Concrete infill between profile barrier | | 6 days | NA | NA | August 31, 2021 | September 6, 2021 | - · | September 6, 2021 | | • | • | 0 days | | | · | |
| 161 | Lay sub base | | 5 days | NA | NA | | | 1 September 7, 2021 | September 11, 202 | | • | | 0 days | | | · | |
| 162 | , | | 4 days | NA | NA | | | 1 September 13, 2021 | | | • | | 0 days 0 days | | | · | |
| 163 164 | Road pavement Install railing on top of retaining wall & street furniture | | 5 days 24 days | NA | NA | September 17, 202 September 24, 202 | | 1 September 17, 2021 January 21, 2022 | September 23, 2022 February 21, 2022 | |) days 24 days | | 0 days 97 days | | | · | |
| 164 165 | Part 3G - CH1189.4 to CH1229 North Abutment | | 24 days 286 days | NA | NA | April 15, 2020 | March 29, 2021 | May 4, 2020 | April 17, 2021 | | L4 days | | 97 days 14 days | | | · | |
| 65 66 | Pre-drilling Works | | 14 days | NA | NA | April 15, 2020 | April 28, 2020 | May 4, 2020 | May 17, 2020 | |) days | | 19 days | | | | # |
| 67 | Bored pile (8 numbers). Prod. Rate: 10d/pile/rig. | 80 days | 80 days | NA | NA | April 29, 2020 | August 4, 2020 | May 18, 2020 | | | | | 14 days | | | | ¶₽ |
| 68 | Pile Testing (28d curing & 14 test) - 1 full-core to be carried out | 42 days | 42 days | NA | NA | August 5, 2020 | September 22, 202 | | October 10, 2020 | |) days | • | 14 days | | | | |
| 69 | | 7 days | 7 days | NA | NA | August 5, 2020 | August 11, 2020 | October 4, 2020 | October 10, 2020 | 0% 4 | 12 days | 0 days | 60 days | | | | |
| 170 | Pile Loading Test | | , 16 days | NA | NA | September 23, 202 | - · | October 11, 2020 | October 26, 2020 | |) days | | 18 days | | | | |
| 171 | Drive sheetpile (~90m) Prod. Rate: 10m/d/team | 9 days | 9 days | NA | NA | October 9, 2020 | October 19, 2020 | October 27, 2020 | November 5, 2020 | 0% 0 |) days | 0 days | 14 days | | | | |
| 172 | Excavation ~780m3 & lateral support. Prod. Rate: | 6 days | 6 days | NA | NA | October 20, 2020 | October 27, 2020 | November 6, 2020 | November 12, 2020 | 0% 0 |) days | 0 days | 14 days | | | | |
| | 160m3/day/team Blinding layer | 1 day | 1 day | NA | NA | October 28, 2020 | October 28, 2020 | November 13, 2020 | November 13, 2020 |) 0% 0 |) days | 0 days | 14 days | | | | |
| 173 | | | - uu y | | 1.1/1 | 0000001 20, 2020 | 2000001 20, 2020 | | | 0 | , uuys | u uuyo | uuyo | | | 4 I II I ' | |

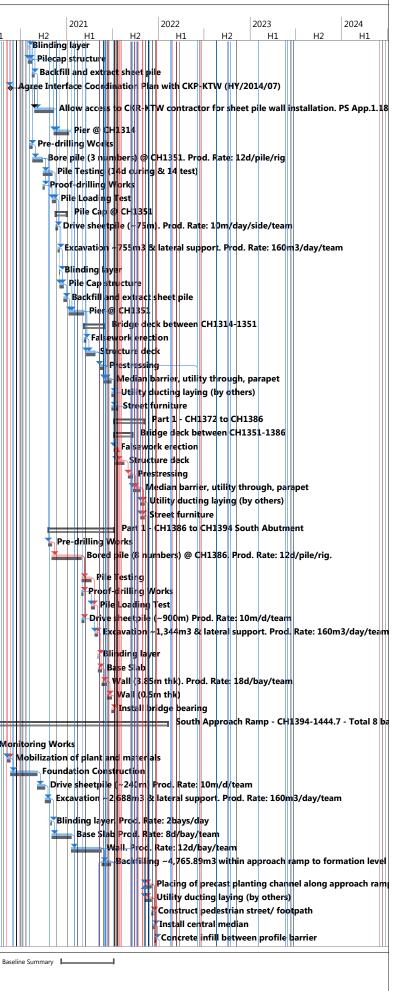
| Update as of 22-Sep-19 | Critical Progress | | Task Progress | Finish-only | 3 | Baseline Split | Summary Progr | 255 | Project Summary | | Inactive Task | Deadline 🖊 | |
|---------------------------|-------------------|-------|---------------|----------------|---|----------------|-------------------|----------|-----------------|-------------|-----------------------------------|--------------------------|------------------|
| ED/2018/01 with Progress | Critical Split | ••••• | Split | Start-only | C | Baseline | Milestone | ♦ | Manual Summary | · · · · · · | External Milestone \diamondsuit | Inactive Summary | |
| Title: Revised Programme- | Critical | | Task | Manual Task | | Duration-only | Baseline Milesto | ne 🗇 | Summary | | External Tasks | Inactive Milestone \land | Baseline Summary |



| | sk Name | Duration | Remaining Duration | Actual Start | Actual Finish | Plan Start | Plan Finish | Late Start | Late Finish | - | | Time Risk Allowances | | 2019 | | 2020 | h |
|-----------|---------------------------------------------------------------------------------------------------------------|--------------------|-----------------------|--------------|---------------|-------------------------------------|---------------------------------------|-------------------------------|-------------------------------------|----------|-------------------|-------------------------|--------------------|-------------------|-----------|---------------------|------------|
| | | | | | | | | | | Complete | | (TRA) | | H1 | <u>H2</u> | | н1 Н1 |
| 75 | Wall (3.85m thk). Prod. Rate: 18d/bay/team | 30 days | 30 days | NA | NA | | December 28, 2020 | | January 14, 2021 | | | 1 days | 14 days | Sun | September | 22 | |
| '6 -7 | Wall (0.5m thk). Prod. Rate: 14d/bay/team (KD2) | 74 days | 74 days | NA | NA | December 29, 2020 | | January 15, 2021 | April 17, 2021 | | • | 0 days | 14 days | | | | |
| 7 | Backfill and extract sheet pile | 7 days | 7 days | NA | NA | December 29, 2020 | | March 27, 2021 | April 7, 2021 | | • | 0 days | 72 days | | | | |
| 8 9 | Install bridge bearing Part 3C - CH1229 to CH1279 | 7 days 573 days | 7 days 573 days | NA | NA NA | January 7, 2021 January 11, 2020 | January 14, 2021 December 14, 2021 | April 8, 2021 | April 15, 2021 December 29, 2021 | | 51 days 7 days | 0 days | 72 days 7 days | | | ШL | |
| | Mobilization of plant and material | | | NA | | | | | - | | • | 1 days | | | | Тм | obili |
| 0 | · · · · · · · · · · · · · · · · · · · | 6 days | 6 days | | NA | January 11, 2020 | January 17, 2020 | January 20, 2020 | • | | • | | 7 days | | | | - P |
| 31 | Pre-drilling Works | 14 days | 14 days | NA | NA | March 21, 2020 | April 7, 2020 | May 14, 2020 | May 29, 2020 | | • | 0 days | 40 days | - | | | |
| 82 | Bored pile (3 numbers) @ CH1229. Prod. Rate: 12d/pile/rig. | 36 days | 36 days | NA | NA | March 21, 2020 | May 8, 2020 | May 14, 2020 | June 24, 2020 | 0% 0 |) days | 0.5 days | 40 days | | | 1 | |
| 83 | Pile Testing (14d curing & 14 test) | 28 days | 28 days | NA | NA | May 9, 2020 | June 10, 2020 | June 26, 2020 | July 29, 2020 | 0% 0 |) days | 0.5 days | 40 days | | | | |
| 84 | Proof-drilling Works | 7 days | 7 days | NA | NA | May 9, 2020 | May 15, 2020 | July 23, 2020 | July 29, 2020 | | , | 0 days | 75 days | | | | |
| 85 | Pile Loading Test | 14 days | 14 days | NA | NA | June 11, 2020 | June 24, 2020 | July 30, 2020 | | | | 0 days | 49 days | - | | | |
| | | | | | | | | | | | • | U uays | | | | | |
| 36 | Pile Cap @ CH1229 | 64 days | 64 days | NA | NA | June 26, 2020 | September 9, 2020 | | September 23, 20 | | L2 days | | 12 days | - | | | |
| 37 | Drive sheetpile (~75m). Prod. Rate: 10m/day/side/team | 8 days | 8 days | NA | NA | June 26, 2020 | July 6, 2020 | August 13, 2020 | August 21, 2020 | 0% 0 |) days | 0 days | 40 days | | | | |
| 88 | Excavation ~755m3 & lateral support. Prod. Rate: 160m3/day/team | 5 days | 5 days | NA | NA | July 7, 2020 | July 11, 2020 | August 22, 2020 | August 27, 2020 | 0% 0 |) days | 0 days | 40 days | | | | |
| 39 | Blinding layer | 1 day | 1 day | NA | NA | July 13, 2020 | July 13, 2020 | August 28, 2020 | August 28, 2020 | 0% 2 | 28 days | 0 days | 40 days | | | | |
| 90 | Pilecap structure | 14 days | 14 days | NA | NA | August 15, 2020 | August 31, 2020 | August 29, 2020 | September 14, 2020 | 0% 0 |) days | 1 days | 12 days | | | | |
| 91 | Backfill and extract sheet pile | 8 days | 8 days | NA | NA | September 1. 2020 | - · | - · | September 23, 2020 | | • | , 0 days | 12 days | | | | |
| 92 | Pier @ CH1229 | 48 days | 48 days | NA | NA | September 10, 2020 | | September 24, 2020 | · · · | | • | 2 days | 12 days | | | | |
| 3 | Pre-drilling Works | 14 days | 14 days | NA | NA | January 18, 2020 | January 31, 2020 | January 30, 2020 | February 12, 2020 | | | 1 days | 12 days | | | 📗 🖁 Р | re-c |
| 95 | Bored pile (3 numbers) @ CH1269. Prod. Rate: | 30 days | 30 days | NA | NA | February 1, 2020 | March 6, 2020 | February 13, 2020 | | | | | 12 days | | | 1 | Bo |
| 24 | 10d/pile/rig. | Juays | Juays | | | 1 COLUCITY 1, 2020 | 19101 CH U, 2020 | 1 COLUCITY 13, 2020 | 1010111 10, 2020 | 570 L | uays | o uays | 10 uays | | | | I |
| 95 | Pile Testing (14d curing & 14 test) | 28 days | 28 days | NA | NA | March 7, 2020 | April 9, 2020 | April 21, 2020 | May 25, 2020 | 0% 0 |) days | 0.5 days | 34 days | | | 11 11 1 | i F |
| 96 | Proof-drilling Works | 7 days | 7 days | NA | NA | March 7, 2020 | March 13, 2020 | May 19, 2020 | May 25, 2020 | | 27 days | • | 73 days | | | (i | Pr |
| 97 | Pile Loading Test | 14 days | 14 days | NA | NA | April 10, 2020 | April 23, 2020 | May 26, 2020 | June 8, 2020 | | , | 0 days | 46 days | | | (■ | |
| | Pile Cap @ CH1269 | 42 days | 42 days | NA | NA | April 24, 2020 | June 13, 2020 | June 9, 2020 | July 29, 2020 | | 37 days | c uuys | 37 days | | | | |
| 98 | • • | | | | | | | | • • | | • | 0 days | | | | | |
| 99 | Drive sheetpile (~75m). Prod. Rate: 10m/day/side/team Excavation ~1677m3 & lateral support. Prod. Rate: | 8 days | 8 days 11 days | NA | NA | April 24, 2020 May 6, 2020 | May 5, 2020 May 18, 2020 | June 9, 2020 June 18, 2020 | June 17, 2020 July 2, 2020 | | | 0 days 0 days | 37 days 37 days | | | | |
|)1 | 160m3/day/team Blinding layer | 1 day | 1 day | NA | NA | May 19, 2020 | May 19, 2020 | July 3, 2020 | July 3, 2020 | | | 0 days | 37 days | | | | |
| 02 | Pile Cap structure | 14 days | 14 days | NA | NA | May 20, 2020 | June 4, 2020 | July 4, 2020 | July 20, 2020 | 0% 0 |) days | 0 days | 37 days | | | | |
| 03 | Backfill and extract sheet pile | 8 days | 8 days | NA | NA | June 5, 2020 | June 13, 2020 | July 21, 2020 | July 29, 2020 | 0% 0 |) days | 0 days | 37 days | | | | |
|)4 | Pier @ CH1269 | 48 days | 48 days | NA | NA | June 15, 2020 | August 11, 2020 | July 30, 2020 | September 23, 2020 | | 25 days | • | 37 days | | | | |
|)4)5 | Bridge deck between CH1229-1269 [DB-SQ1] | 116 days | 116 days | NA | NA | November 9, 2020 | | January 22, 2021 | April 15, 2021 | | L1 days | o duys | 11 days | | | | |
| | | | | | | | - | | | | • | 0.1 | | | | | |
| 06 | Falsework erection | 7 days | 7 days | NA | NA | | | | | | 50 days | • | 61 days | - | | | |
| 17 | Structure deck | 28 days | 28 days | NA | NA | January 19, 2021 | February 23, 2021 | | March 8, 2021 | | • | • | 11 days | - | | | |
|)8 | Prestressing | 16 days | 16 days | NA | NA | March 12, 2021 | March 30, 2021 | March 25, 2021 | April 15, 2021 | | • | | 11 days | - | | | |
| 09 | Median barrier, utility through, parapet | 45 days | 45 days | NA | NA | March 31, 2021 | May 27, 2021 | May 10, 2021 | July 3, 2021 | 0% 0 |) days | 0.5 days | 30 days | | | | |
| 10 | Utility ducting laying (by others) | 14 days | 14 days | NA | NA | May 28, 2021 | June 12, 2021 | September 25, 2021 | October 12, 2021 | 0% 6 | 55 days | 0 days | 100 days | | | | |
| 11 | Street furniture (KD6) | 21 days | 21 days | NA | NA | November 20, 2021 | December 14, 2021 | December 3, 2021 | December 29, 2021 | 0% 0 |) days | 2 days | 11 days | | | | |
| 12 | Bridge deck between CH1189-1229 [DB-T2-SQ2] | 64 days | 64 days | NA | NA | March 31, 2021 | June 19, 2021 | April 16, 2021 | July 3, 2021 | 0% 1 | L1 days | | 11 days | | | | |
| 13 | Falsework erection | 7 days | 7 days | NA | NA | March 31, 2021 | April 10, 2021 | April 16, 2021 | April 23, 2021 | 0% 0 |) days | 0 days | 11 days | | | | |
| 4 | Structure deck | 28 days | 28 days | NA | NA | April 12, 2021 | May 14, 2021 | April 24, 2021 | May 28, 2021 | 0% 0 |) days | 1 days | 11 days | | | | |
| .5 | Prestressing | 15 days | 15 days | NA | NA | June 2, 2021 | June 19, 2021 | June 16, 2021 | July 3, 2021 | 0% 0 |) days | 1 days | 11 days | | | | |
| .6 | Median barrier, utility through, parapet | 46 days | 46 days | NA | NA | June 21, 2021 | August 13, 2021 | July 5, 2021 | | | • | 2 days | , 11 days | | | | |
| 17 | Utility ducting laying (by others) | 14 days | 14 days | NA | NA | August 14, 2021 | August 30, 2021 | September 25, 2021 | | | | 0 days | 35 days | | | | |
| | Street furniture | | | | | | September 24, 2021 | | | | 24 days | | | | | | |
| 18 | | 21 days | 21 days | NA | NA | August 31, 2021 | | | November 6, 2021 | | | o uays | 35 days | | | | |
| 19 | Part 3D - CH1279 to CH1311 | 257 days | 257 days | NA | NA | January 9, 2021 | November 19, 2021 | | December 2, 2021 | | L1 days | | 11 days | - | | | |
| 20 | Bridge deck between CH1269-1314 [DB-SQ1] | 73 days | 73 days | NA | NA | January 9, 2021 | April 10, 2021 | January 22, 2021 | • | | L1 days | | 11 days | | | | |
| 1 | Falsework erection | 8 days | 8 days | NA | NA | January 9, 2021 | January 18, 2021 | January 22, 2021 | | | • | | 11 days | | | | |
| 22 | Structure deck | 28 days | 28 days | NA | NA | January 19, 2021 | February 23, 2021 | February 1, 2021 | March 8, 2021 | 0% 0 |) days | 1 days | 11 days | | | | |
| 23 | Prestressing | 23 days | 23 days | NA | NA | March 12, 2021 | April 10, 2021 | March 25, 2021 | April 23, 2021 | 0% 0 |) days | 0 days | 11 days | | | | |
| 24 | Median barrier, utility through, parapet | 45 days | 45 days | NA | NA | August 14, 2021 | October 7, 2021 | August 27, 2021 | October 21, 2021 | 0% 0 |) days | 2 days | 11 days | | | | |
| 25 | Utility ducting laying (by others) | 14 days | 14 days | NA | NA | October 8, 2021 | October 25, 2021 | October 22, 2021 | November 6, 2021 | 0% 0 |) days | 1 days | 11 days | | | | |
| 26 | Street furniture (KD6) | 22 days | 22 days | NA | NA | October 26, 2021 | November 19, 2021 | November 8, 2021 | December 2, 2021 | 0% 0 |) days | 0 days | 11 days | | | | |
| 27 | Part 3E - CH1311 to CH1372 | 407 days | 407 days | NA | NA | March 7, 2020 | July 22, 2021 | March 19, 2020 | October 23, 2021 | 0% 1 | LO days | | 10 days | | | (₁ | ₩ |
| 28 | Pre-drilling Works | 14 days | 14 days | NA | NA | March 7, 2020 | March 20, 2020 | March 19, 2020 | April 1, 2020 | |) days | 0 | 12 days | | | (j | P |
| 29 | Bored pile (5 numbers) @ CH1314. Prod. Rate: 10d/pile/rig. | 50 days | 50 days | NA | NA | March 21, 2020 | May 25, 2020 | April 2, 2020 | June 5, 2020 | | | 1 days | 10 days | | | | |
| 0 | Pile Testing (14d curing & 14 test) | 28 days | 28 days | NA | NA | May 26, 2020 | June 27, 2020 | June 6, 2020 | July 10, 2020 | 0% 0 |) days | 1 days | 10 days | | | | |
| 30 81 | Proof-drilling Works | 7 days | 7 days | NA | NA | May 26, 2020 | June 1, 2020 | July 4, 2020 | July 10, 2020 | | • | 0 days | 39 days | | | | |
| 32 | Pile Loading Test | 14 days | 14 days | NA | NA | June 28, 2020 | July 11, 2020 | July 11, 2020 | July 24, 2020 | | | 1 days | 13 days | | | | |
| | | | | | | | | | | | | r aays | | | | | |
| 33 | Pile Cap @ CH1314 | 37 days | 37 days | NA | NA | July 13, 2020 | August 24, 2020 | July 25, 2020 | September 5, 2020 | | L1 days | 0 do: | 11 days | | | | |
| 34 | Drive sheetpile (~75m). Prod. Rate: 10m/day/side/team | 8 days | 8 days | NA | NA | July 13, 2020 | July 21, 2020 | July 25, 2020 | August 3, 2020 | 0% 0 |) days | 0 days | 11 days | | | | |
| 35 | Excavation ~888.81m3 & lateral support. Prod. Rate: 160m3/day/team | 6 days | 6 days | NA | NA | July 22, 2020 | July 28, 2020 | August 4, 2020 | August 10, 2020 | 0% 0 |) days | 0 days | 11 days | | | | |
| | | | м | lanual Task | Duration | n-only | Baseline Milestone | ⇔ Sumr | mary | Exter | mal Tasks | | Ir | nactive Milestone | | | B |
| : Revised | | | | | | | | | | | | | | | | | |
| ED/201 | 8/01 with Progress Critical Split Split Split Split Split Task | | St | art-only | Baseline | | Milestone | Manu | ual Summary | Exter | nal Milesto | ne 🗇 | Ir | nactive Summary | | | |

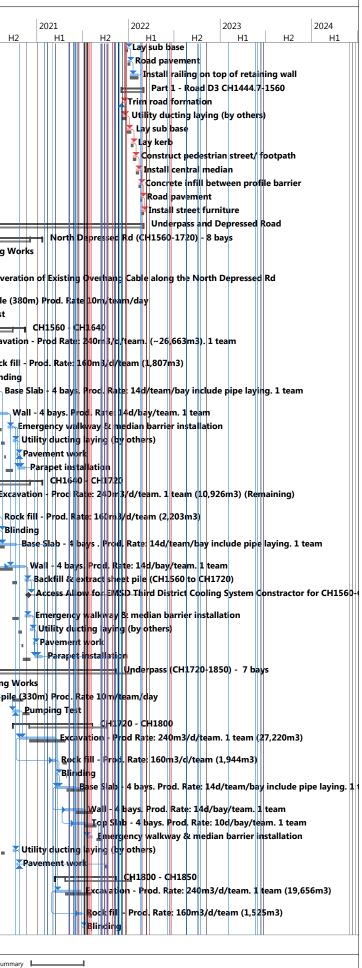


| | sk Name | Duration | Remaining Duration | Actual Start | Actual Finish | Plan Start | Plan Finish | Late Start | Late Finish | | lack A | ime Risk Total Ilowances Slack TRA) | 2019 2020 H1 H2 |
|-------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|---------------------------------------|-------------------------------------|---------------------------------|------------------------------------------------------------|----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------|--------------------------------|----------------------------------------------------------|----------------------------------------------|---------------------------------------|
| 36 | Blinding layer | 1 day | 1 day | NA | NA | July 29, 2020 | July 29, 2020 | August 11, 2020 | August 11, 2020 | | | days 11 days | |
| 37 | Pilecap structure | 14 days | 14 days | NA | NA | July 30, 2020 | August 14, 2020 | August 12, 2020 | August 27, 2020 | 0% 0 | days 1 | days 11 days | ; |
| 38 | Backfill and extract sheet pile | 8 days | 8 days | NA | NA | August 15, 2020 | August 24, 2020 | August 28, 2020 | September 5, 2020 | 0% 0 | days 1 | days 11 days | i i i i i i i i i i i i i i i i i i i |
| 39 | Agree Interface Coordination Plan with CKP-KTW (HY/2014/07) | 14 days | 14 days | NA | NA | May 6, 2020 | May 21, 2020 | August 21, 2020 | September 5, 2020 | 0% 7 | 9 days 0 | days 90 days | ; ; |
| 540 | Allow access to CKR-KTW contractor for sheet pile wall installation. PS App.1.18 2.7(A)(c) | 63 days | 63 days | NA | NA | August 25, 2020 | November 9, 2020 | September 7, 2020 | November 21, 2020 | 0% 0 | days 3 | days 11 days | · |
| 41 | Pier @ CH1314 | 49 days | 49 days | NA | NA | November 10, 2020 |) January 8, 2021 | November 23, 2020 | January 21, 2021 | 0% 0 | days 2 | days 11 days | i i i i i i i i i i i i i i i i i i i |
| 542 | Pre-drilling Works | 12 days | 12 days | NA | NA | August 5, 2020 | August 16, 2020 | August 23, 2020 | September 3, 2020 | 0% 0 | days 1 | days 18 days | i i i i i i i i i i i i i i i i i i i |
| 543 | Bore pile (3 numbers) @ CH1351. Prod. Rate: 12d/pile/rig | g 36 days | 36 days | NA | NA | August 17, 2020 | September 26, 202 | 0 September 4, 2020 | October 17, 2020 | 0% 0 | days 1 | days 16 days | ; |
| 544 | Pile Testing (14d curing & 14 test) | 28 days | 28 days | NA | NA | September 28, 202 | 0 November 2, 2020 | January 2, 2021 | February 3, 2021 | 0% 0 | days 0. | .5 days 77 days | i |
| 545 | Proof-drilling Works | 7 days | 7 days | NA | NA | September 27, 202 | 0 October 3, 2020 | January 28, 2021 | February 3, 2021 | 0% 30 | 0 days 0 | days 123 day | ys |
| 546 | Pile Loading Test | 14 days | 14 days | NA | NA | November 3, 2020 | November 16, 2020 |) February 4, 2021 | February 17, 2021 | 0% 0 | days 0 | days 93 days | i |
| 547 | - | 36 days | 36 days | NA | NA | | 0 December 30, 2020 | | | | 4 days | 74 days | |
| 548 | • | 8 days | 8 days | NA | NA | | November 25, 2020 | | February 26, 2021 | | • | days 74 days | |
| 549 | 10m/day/side/team Excavation ~755m3 & lateral support. Prod. Rate: | 5 days | 5 days | NA | NA | November 26, 2020 | December 1, 2020 | February 27, 2021 | March 4, 2021 | 0% 0 | days 0 | days 74 days | <u>;</u> |
| | 160m3/day/team | 1 day | 1 | N10 | NA | December 2, 2020 | December 2, 2020 | March F 2021 | March F 2021 | 0% 0 | dava 0 | dava 74 dava | _ |
| 550 | | 1 day | 1 day | NA | NA | | December 2, 2020 | | March 5, 2021 | | | days 74 days | |
| 551 | · · · · · · · · · · · · · · · · · · · | 14 days | 14 days | NA | NA | December 3, 2020 | | | March 22, 2021 | | | days 74 days | |
| 552 | - | 8 days | 8 days | NA | NA | | December 30, 2020 | | | | | days 74 days | |
| 553 | | 48 days | 48 days | NA | NA | January 9, 2021 | March 9, 2021 | April 1, 2021 | June 1, 2021 | | | .5 days 67 days | |
| 554 | - | 64 days | 64 days | NA | NA | March 10, 2021 | May 28, 2021 | June 2, 2021 | | | 7 days 1 | | |
| 555 | Falsework erection | 7 days | 7 days | NA | NA | March 10, 2021 | March 17, 2021 | June 2, 2021 | June 9, 2021 | 0% 0 | days 0 | days 67 days | |
| 556 | Structure deck | 28 days | 28 days | NA | NA | March 18, 2021 | April 22, 2021 | June 10, 2021 | July 14, 2021 | 0% 0 | days 0. | .5 days 67 days | |
| 557 | Prestressing | 15 days | 15 days | NA | NA | May 11, 2021 | May 28, 2021 | August 4, 2021 | August 20, 2021 | 0% 0 | days 0 | days 70 days | |
| 558 | Median barrier, utility through, parapet | 24 days | 24 days | NA | NA | May 29, 2021 | June 26, 2021 | August 26, 2021 | September 23, 2021 | 0% 0 | days 0. | .5 days 74 days | ,] |
| 559 | Utility ducting laying (by others) | 14 days | 14 days | NA | NA | June 28, 2021 | July 14, 2021 | October 7, 2021 | October 23, 2021 | 0% 8 | 1 days 0 | days 84 days | , |
| 560 | Street furniture | 21 days | 21 days | NA | NA | June 28, 2021 | July 22, 2021 | September 24, 2021 | October 20, 2021 | 0% 74 | 4 days 0 | days 74 days | |
| 561 | | 102 days | 102 days | NA | NA | July 7, 2021 | November 5, 2021 | | November 9, 2021 | | days | 0 days | |
| 562 | | 64 days | 64 days | NA | NA | July 7, 2021 | September 19, 20 | | September 20, 20 | | days | 0 days | |
| 563 | - | 7 days | 7 days | NA | NA | July 7, 2021 | July 14, 2021 | July 7, 2021 | July 14, 2021 | | | days 0 days | |
| 564 | | 28 days | 28 days | NA | NA | July 15, 2021 | August 16, 2021 | July 15, 2021 | | | | days 0 days | |
| 565 | | 15 days | 15 days | NA | NA | | | 1 September 2, 2021 | September 20, 2021 | | | days 0 days | |
| 566 | - | 24 days | 24 days | NA | NA | | | September 20, 2021 | | | | days 0 days | |
| | | | | NA | NA | | November 5, 2021 | • | | | • | | |
| 567 | | 14 days | 14 days | | | October 21, 2021 | , | , | November 9, 2021 | | | days 3 days | |
| 568 | | 14 days | 14 days | NA | NA | October 21, 2021 | November 5, 2021 | , | November 5, 2021 | | | days 0 days | |
| 69 | | 210 days | 210 days | NA | NA | October 19, 2020 | July 6, 2021 | October 19, 2020 | July 6, 2021 | | days | 0 days | |
| 570 | - | 14 days | 14 days | NA | NA | October 19, 2020 | November 1, 2020 | | November 1, 2020 | | | days 0 days | |
| 571 | Bored pile (8 numbers) @ CH1386. Prod. Rate: 12d/pile/rig. | 96 days | 96 days | NA | NA | November 2, 2020 | February 27, 2021 | November 2, 2020 | February 27, 2021 | U% 0 | days 1 | days 0 days | |
| 572 | Pile Testing | 30 days | 30 days | NA | NA | March 1, 2021 | April 7, 2021 | March 1, 2021 | April 7, 2021 | 0% 0 | days 1 | days 0 days | |
| 573 | Proof-drilling Works | 7 days | 7 days | NA | NA | February 28, 2021 | March 6, 2021 | April 1, 2021 | April 7, 2021 | 0% 32 | 2 days 0 | days 32 days | · |
| 574 | Pile Loading Test | 14 days | 14 days | NA | NA | April 8, 2021 | April 21, 2021 | April 8, 2021 | April 21, 2021 | 0% 0 | days 1 | days 0 days | |
| 575 | Drive sheetpile (~900m) Prod. Rate: 10m/d/team | 9 days | 9 days | NA | NA | March 1, 2021 | March 10, 2021 | April 12, 2021 | April 21, 2021 | 0% 3 | 3 days 0 | days 33 days | , |
| 576 | | 9 days | 9 days | NA | NA | April 22, 2021 | May 3, 2021 | April 22, 2021 | May 3, 2021 | | days 1 | | |
| 577 | | 1 day | 1 day | NA | NA | May 4, 2021 | May 4, 2021 | May 4, 2021 | May 4, 2021 | 0% 0 | days 0 | days 0 days | |
| 578 | | , 12 days | 12 days | NA | NA | May 5, 2021 | May 19, 2021 | May 5, 2021 | May 20, 2021 | | | days 0 days | |
| 579 | | 18 days | 18 days | NA | NA | May 20, 2021 | June 9, 2021 | May 20, 2021 | June 9, 2021 | | | days 0 days | |
| 580 | | 14 days | 14 days | NA | NA | June 10, 2021 | June 27, 2021 | June 10, 2021 | June 28, 2021 | | | days 0 days | |
| 581 | · · · · | 7 days | 7 days | NA | NA | June 28, 2021 | July 6, 2021 | June 28, 2021 | July 6, 2021 | | | days 0 days | |
| 582 | South Approach Ramp - CH1394-1444.7 - Total 8 bays (4 | 682 days | 682 days | NA | NA | October 21, 2019 | February 7, 2022 | August 11, 2020 | March 1, 2022 | | 9 days | 19 days | · |
| 583 | bay/side) Ground Monitoring Works | 14 days | 14 days | NA | NA | October 21, 2019 | November 3, 2019 | August 11 2020 | August 24, 2020 | 0% 18 | 87 days 0 | days 295 day | vs Ground |
| | | 14 days 10 days | 14 days 10 days | NA | NA | May 9, 2020 | May 20, 2020 | August 25, 2020 | September 4, 2020 | | days 0 | | |
| 584 | • | | 10 days 90 days | NA | | | | | | | | | |
| 585 | | 90 days | | NA | NA | May 21, 2020 | | September 5, 2020 | December 22, 2020 | | days 1 | | |
| 586 587 | | 24 days 18 days | 24 days 18 days | NA | NA | September 5, 2020 October 6, 2020 | October 5, 2020 October 27, 2020 | December 23, 2020 January 23, 2021 | January 22, 2021 February 16, 2021 | | | .5 days 90 days days 90 days | |
| 1 | 160m3/day/team | | | | | | | | | | | | |
| | | 4 days | 4 days | NA | NA | October 28, 2020 | October 31, 2020 | February 17, 2021 | February 20, 2021 | | | days 90 days | |
| | | 64 days | 64 days | NA | NA | November 2, 2020 | | February 22, 2021 | May 11, 2021 | | | day 90 days | |
| 589 | | 96 days | 96 days | NA | NA | January 19, 2021 | May 18, 2021 | May 12, 2021 | September 3, 2021 | | | day 90 days | |
| 589 590 | | 30 days | 30 days | NA | NA | May 20, 2021 | June 24, 2021 | September 4, 2021 | October 11, 2021 | 0% 0 | days 0. | .5 days 90 days | |
| 589 590 | | 50 0035 | | | | November 6, 2021 | December 3, 2021 | November 6, 2021 | December 3, 2021 | 0% 0 | days 1 | days 0 days | |
| 588 589 590 591 592 | Backfilling ~4,765.89m3 within approach ramp to | | 24 days | NA | NA | | | No | December 7, 2021 | 00/ | | | |
| 589 590 591 | Backfilling ~4,765.89m3 within approach ramp to formation level (160m3/day) considered time for SRT Placing of precast planting channel along approach ramp | | 24 days 24 days | NA NA | NA | November 6, 2021 | December 3, 2021 | November 10, 2021 | December 7, 2021 | 0% 0 | days 1 | days 3 days | |
| 589 590 591 592 | Backfilling ~4,765.89m3 within approach ramp to formation level (160m3/day) considered time for SRT Placing of precast planting channel along approach ramp Utility ducting laying (by others) | 24 days | | | | | | December 29, 2021 | | | | days 3 days days 19 days | |
| 589 590 591 592 593 | Backfilling ~4,765.89m3 within approach ramp to formation level (160m3/day) considered time for SRT Placing of precast planting channel along approach ramp Utility ducting laying (by others) Construct pedestrian street/ footpath | 24 days 24 days | 24 days | NA | NA | December 4, 2021 | | December 29, 2021 | January 4, 2022 | 0% 0 | days 0 | | |
| 589 590 591 592 593 594 | Backfilling ~4,765.89m3 within approach ramp to formation level (160m3/day) considered time for SRT Placing of precast planting channel along approach ramp Utility ducting laying (by others) Construct pedestrian street/ footpath Install central median | 24 days 24 days 5 days | 24 days 5 days | NA NA | NA NA | December 4, 2021 December 10, 2021 | December 9, 2021 | December 29, 2021 January 5, 2022 | January 4, 2022 | 0% 0 0% 0 | days 0 days 0 | days 19 days | 5 |
| 89 90 91 92 93 94 95 96 | Backfilling ~4,765.89m3 within approach ramp to formation level (160m3/day) considered time for SRT Placing of precast planting channel along approach ramp Utility ducting laying (by others) Construct pedestrian street/ footpath Install central median Concrete infill between profile barrier | 24 days 24 days 5 days 5 days | 24 days 5 days 5 days 5 days | NA NA NA | NA NA NA NA | December 4, 2021 December 10, 2021 December 16, 2021 | December 9, 2021 L December 15, 2021 | December 29, 2021 January 5, 2022 January 11, 2022 | January 4, 2022 January 10, 2022 January 15, 2022 | 0% 0 0% 0 0% 0 | days 0 days 0 days 0 | days 19 days days 19 days | 5 |
| 89 90 91 92 93 94 95 95 96 e: Revise | Backfilling ~4,765.89m3 within approach ramp to formation level (160m3/day) considered time for SRT Placing of precast planting channel along approach ramp Utility ducting laying (by others) Construct pedestrian street/ footpath Install central median Concrete infill between profile barrier | 24 days 24 days 5 days 5 days 5 days | 24 days 5 days 5 days 5 days | NA NA NA | NA NA NA | December 4, 2021 December 10, 2021 December 16, 2021 | December 9, 2021 December 15, 2021 December 21, 2021 Baseline Milestone | December 29, 2021 January 5, 2022 January 11, 2022 Sum | January 4, 2022 January 10, 2022 | 0% 0 0% 0 0% 0 Extern | days 0 days 0 | days 19 days days 19 days days 19 days | 5 |
| Revise ED/201 | Backfilling ~4,765.89m3 within approach ramp to formation level (160m3/day) considered time for SRT Placing of precast planting channel along approach ramp Utility ducting laying (by others) Construct pedestrian street/ footpath Install central median Concrete infill between profile barrier d Programme- | 24 days 24 days 5 days 5 days 5 days | 24 days 5 days 5 days 5 days | NA NA NA NA Manual Task | NA NA NA NA Duratio | December 4, 2021 December 10, 2021 December 16, 2021 | December 9, 2021 December 15, 2021 December 21, 2021 Baseline Milestone | December 29, 2021 January 5, 2022 January 11, 2022 | January 4, 2022 January 10, 2022 January 15, 2022 | 0% 0 0% 0 0% 0 Extern | days 0 days 0 days 0 nal Tasks nal Milestone | days 19 days days 19 days days 19 days | 5 5 Inactive Milestone |

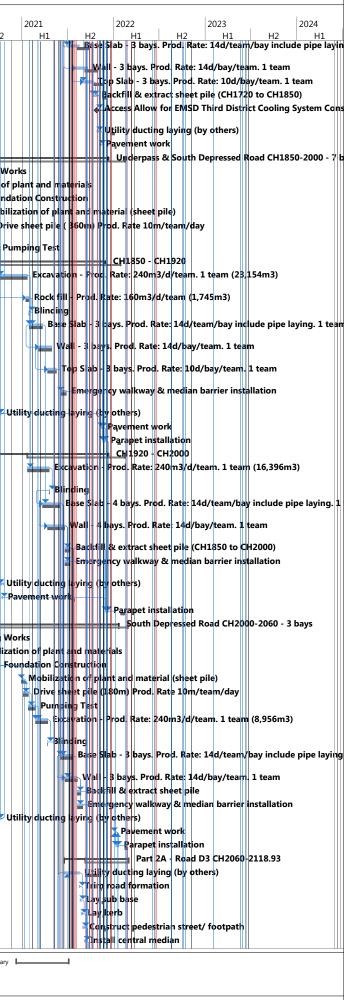


| | Task Name | Duration | Remaining Duration | Actual Start | Actual Finish | Plan Start | Plan Finish | Late Start | Late Finish | Physical Fre % Sla | ck Allowar | sk Total ices Slack 2 | 019 | | 2020 | |
|------------|--------------------------------------------------------------------------------------------------|----------|-----------------------|-------------------|--------------------|--------------------|--------------------|----------------------------------|--------------------|-----------------------|---------------|--------------------------|----------|------------|-------------------|--------------|
| | | | | | | | | | | Complete | (TRA) | | H1 | H2 | F | 1 |
| 597 | Lay sub base | 4 days | 4 days | | NA | , | December 28, 2021 | | January 20, 2022 | 0% 0 d | | 19 days | Sun S | eptember : | 2 | |
| 598 | • | | 7 days | | NA | December 29, 2021 | | January 21, 2022 | January 28, 2022 | 0% 0 d | | 19 days | | | | |
| 599 | Install railing on top of retaining wall | | | | NA | January 7, 2022 | February 7, 2022 | January 29, 2022 | March 1, 2022 | | days 0.5 days | | | | | |
| 500 | Part 1 - Road D3 CH1444.7-1560 | 69 days | | NA | NA | December 4, 2021 | • | December 4, 2021 | March 1, 2022 | 0% 0 d | | 0 days | | | | |
| 501 | Trim road formation | 3 days | 3 days | | NA | | December 7, 2021 | | December 7, 2021 | | ays 0 days | 0 days | | | | |
| 502 | Utility ducting laying (by others) | 14 days | | NA | NA | | December 23, 2021 | | December 23, 2021 | 0% 0 d | | 0 days | | | | |
| 503 | Lay sub base | 12 days | 12 days | NA | NA | December 24, 2021 | January 10, 2022 | December 24, 2021 | January 10, 2022 | 0% 0 d | ays 0 days | 0 days | | | | |
| 504 | Lay kerb | 7 days | 7 days | NA | NA | January 11, 2022 | January 18, 2022 | January 11, 2022 | January 18, 2022 | 0% 0 d | ays 0 days | 0 days | | | | |
| 505 | Construct pedestrian street/ footpath | 10 days | 10 days | NA | NA | January 19, 2022 | January 30, 2022 | January 19, 2022 | January 31, 2022 | 0% 0 d | ays 0 days | 0 days | | | | |
| 506 | Install central median | 7 days | 7 days | NA | NA | January 31, 2022 | February 10, 2022 | January 31, 2022 | February 10, 2022 | 0% 0 d | ays 0 days | 0 days | | | | |
| 507 | Concrete infill between profile barrier | 5 days | 5 days | NA | NA | February 11, 2022 | February 16, 2022 | February 11, 2022 | February 16, 2022 | 0% 0 d | ays 0 days | 0 days | | | | |
| 508 | Road pavement | 5 days | 5 days | NA | NA | February 17, 2022 | February 22, 2022 | February 17, 2022 | February 22, 2022 | 0% 0 d | ays 0 days | 0 days | | | | |
| 509 | Install street furniture | 6 days | 6 days | NA | NA | February 23, 2022 | March 1, 2022 | February 23, 2022 | March 1, 2022 | 0% 0 d | ays 0 days | 0 days | | | | |
| 510 | Underpass and Depressed Road | 739 days | 733.65 days | September 3, 2019 | NA | September 3, 2019 | March 1, 2022 | September 3, 2019 | May 29, 2024 | 0% 668 | days | 668 days | | | | |
| 511 | North Depressed Rd (CH1560-1720) - 8 bays | 413 days | 401.77 days | September 3, 2019 | NA | September 3, 2019 | January 22, 2021 | September 3, 2019 | March 1, 2022 | 0% 326 | days | 326 days | L | | | |
| 512 | Ground Monitoring Works | 17 days | 0 days | September 3, 2019 | September 19, 2019 | September 3, 2019 | September 19, 2019 | September 3, 2019 | September 19, 2019 | 0 d | ays 2 days | 0 days | - | - Gro | und M | onitoring ' |
| 513 | Mobilization | 7 days | 7 days | NA | NA | October 8, 2019 | October 15, 2019 | June 15, 2020 | June 22, 2020 | 0% 0 d | ays 0 days | 203 days | | . M | obiliza | tion |
| 514 | | | 0 days | NA | NA | October 15, 2019 | October 15, 2019 | | June 23, 2020 | 0% 1 d | | 252 days | | ¢ ¢ | mplet | e the Dive |
| | along the North Depressed Rd | | | | | | | | | | | | | | | |
| 515 | Drive Sheet Pile (380m) Prod. Rate 10m/team/day | 38 days | 38 days | NA | | October 16, 2019 | November 28, 2019 | June 23, 2020 | August 7, 2020 | 0% 0 d | ays 1 days | 203 days | | | Drive | Sheet Pile |
| 516 | Pumping Test | 21 days | 21 days | NA | NA | November 29, 2019 | December 23, 2019 | August 8, 2020 | September 1, 2020 | 0% 0 d | ays 1 days | 203 days | | | l Pum | ping Test |
| 517 | CH1560 - CH1640 | 264 days | 264 days | NA | NA | December 24, 2019 | November 14, 2020 | September 2, 2020 | December 16, 2021 | 0% 203 | days | 203 days | | | ┢╫╢┼╞ | |
| 518 | Excavation - Prod Rate: 240m3/d/team. (~26,663m3). | 112 days | 112 days | NA | NA | December 24, 2019 | May 15, 2020 | September 2, 2020 | January 16, 2021 | 0% 0 d | ays 1 days | 203 days | | | ** | Excav |
| | 1 team | | | | | | | | | | | | | | | |
| 519 | Rock fill - Prod. Rate: 160m3/d/team (1,807m3) | 12 days | 12 days | NA | NA | May 14, 2020 | May 27, 2020 | January 15, 2021 | | 0% 0 d | | 203 days | | | - - - | Rock |
| 520 | Blinding | 1 day | 1 day | | NA | May 28, 2020 | May 28, 2020 | January 29, 2021 | January 29, 2021 | 0% 0 d | | 203 days | | | | Blind |
| 521 | | 56 days | 56 days | NA | NA | May 29, 2020 | August 4, 2020 | January 30, 2021 | April 12, 2021 | 0% 0 d | ays 3 days | 203 days | | | | E CONTRACTOR |
| | pipe laying. 1 team | E6 dour | EC davia | NA | NA | lulu 2, 2020 | Contomber 5 2022 | lupo 26, 2024 | August 21, 2024 | 0% | la C | 202 4 | | | | |
| 522 | Wall - 4 bays. Prod. Rate: 14d/bay/team. 1 team | 56 days | | | NA | July 3, 2020 | September 5, 2020 | | August 31, 2021 | 0% 0 d | | 292 days | | | | |
| 23 | Emergency walkway & median barrier installation | 18 days | , | | NA | | September 26, 2020 | | November 1, 2021 | | | 324 days | | | | |
| 24 | Utility ducting laying (by others) | 10 days | | | NA | September 28, 2020 | | November 2, 2021 | November 12, 2021 | | | 324 days | | | | |
| 525 | Pavement work | 5 days | 5 days | | NA | October 12, 2020 | | November 13, 2021 | November 18, 2021 | | | 324 days | | | | |
| 526 | Parapet installation | | , | NA | NA | October 17, 2020 | | November 19, 2021 | December 16, 2021 | | days 0.5 days | | | | | |
| 527 | CH1640 - CH1720 | 208 days | 208 days | NA | NA | May 16, 2020 | January 22, 2021 | January 18, 2021 | March 1, 2022 | 0% 203 | days | 203 days | | | | |
| 528 | Excavation - Prod Rate: 240m3/d/team. 1 team | 46 days | 46 days | NA | NA | May 16, 2020 | July 10, 2020 | January 18, 2021 | March 15, 2021 | 0% 0 d | ays 1 days | 203 days | | | | Ex |
| 20 | (10,926m3) (Remaining) | 20 dava | 20 davia | NA | NA | lulu 11, 2020 | August 2, 2020 | March 1C 2021 | April 10, 2021 | 0% | اما2 مىرد | | | | | F |
| 529 | Rock fill - Prod. Rate: 160m3/d/team (2,203m3) | 20 days | , | | NA | July 11, 2020 | August 3, 2020 | March 16, 2021 | April 10, 2021 | 0% 0 d | | 203 days | | | | |
| 530 | Blinding | 1 day | 1 day | | NA | August 4, 2020 | August 4, 2020 | April 12, 2021 | April 12, 2021 | 0% 0 d | | 203 days | | | | |
| 531 | Base Slab - 4 bays . Prod. Rate: 14d/team/bay include | 56 days | 56 days | NA | NA | August 5, 2020 | October 10, 2020 | April 13, 2021 | June 19, 2021 | 0% 0 d | ays 2 days | 203 days | | | | |
| 532 | pipe laying. 1 team Wall - 4 bays. Prod. Rate: 14d/bay/team. 1 team | 56 days | 56 days | NA | NA | September 7 2020 | November 13 2020 | September 1, 2021 | November 8, 2021 | 0% 0 d | ays 2 days | 292 days | | | | |
| | | | | | | | | | , | | | | | | | |
| 533 | Backfill & extract sheet pile (CH1560 to CH1720) | 12 days | 12 days | NA | NA | | November 27, 2020 | | December 16, 2021 | | days 1 day | 313 days | | | | |
| 534 | Access Allow for EMSD Third District Cooling System Constractor for CH1560-CH1720 Pipe Laying | 0 days | 0 days | NA | NA | November 27, 2020 | November 27, 2020 | Warch 1, 2022 | March 1, 2022 | 0% 459 | days | 459 days | | | | |
| 535 | . , 3 | 18 days | 18 days | NA | NA | November 14, 2020 | December 4, 2020 | November 9, 2021 | November 29, 2021 | 0% 0 d | ays O days | 292 days | | | | |
| i 36 | Utility ducting laying (by others) | 10 days | | | NA | | | November 30, 2021 | December 10, 2021 | | ays O days | 292 days | | | | |
| 37 37 | Pavement work | 5 days | | | NA | | | December 11, 2021 | December 16, 2021 | | ays 0 days | 292 days | | | | |
| 538 | Parapet installation | | | | NA | , | | December 17, 2021 | | | days 0.5 days | | | | | |
| 538 539 | Underpass (CH1720-1850) - 7 bays | 635 days | , | | NA | | November 11, 2021 | | May 29, 2024 | | days 0.5 days | 145 days | , | | | |
| | Ground Monitoring Works | | | | NA | September 23, 20 | | March 19, 2020 March 19, 2020 | April 1, 2020 | | ays O days | 145 days 178 days | | | | Ionitoring |
| 540 41 | 0 | 14 days | , | | | | , | | | | | | | | | /e sheet pi |
| 541 | Drive sheet pile (330m) Prod. Rate 10m/team/day | | | | NA | November 29, 2019 | | | November 6, 2020 | | days 0 days | 245 days | | | | |
| 542 | Pumping Test | | | | NA | September 26, 2020 | | November 7, 2020 | December 1, 2020 | | ays 1 days | 33 days | | | | |
| 543 | CH1720 - CH1800 | | | NA | NA | September 28, 20 | U , | December 2, 2020 | May 29, 2024 | | days | 53 days | | | | |
| 544 | Excavation - Prod Rate: 240m3/d/team. 1 team | 114 days | 114 days | NA | NA | October 23, 2020 | March 12, 2021 | December 2, 2020 | April 23, 2021 | 0% 0 d | ays 5 days | 33 days | | | | |
| 545 | (27,220m3) Rock fill - Prod. Rate: 160m3/d/team (1,944m3) | 13 days | 13 days | NA | NA | March 3, 2021 | March 17, 2021 | June 3, 2021 | June 18, 2021 | 0% 0 d | ays 0 days | 74 days | | | | |
| | | , | , | | | | | | | | | | | | | |
| 46 | - | 1 day | 1 day | | NA | March 18, 2021 | March 18, 2021 | June 19, 2021 | June 19, 2021 | | | 74 days | | | | |
| 47 | Base Slab - 4 bays. Prod. Rate: 14d/team/bay include pipe laying. 1 team | 56 days | 56 days | NA | NA | March 19, 2021 | May 28, 2021 | June 21, 2021 | August 25, 2021 | 0% 0 d | ays 1 day | 74 days | | | | |
| 48 | Wall - 4 bays. Prod. Rate: 14d/bay/team. 1 team | 56 days | 56 days | NA | NA | April 24, 2021 | July 2, 2021 | August 12, 2021 | October 19, 2021 | 0% 0 d | ays 1 day | 90 days | | | | |
| 40 49 | | 40 days | | | NA | May 29, 2021 | July 16, 2021 | September 14, 2021 | | | days 0.5 days | | | | | |
| | | | | | | | | | | | | | | | | |
| 50 | Emergency walkway & median barrier installation | 18 days | | | NA | July 20, 2021 | August 9, 2021 | May 8, 2024 | May 29, 2024 | | days 0 days | 834 days | | | | |
| 51 | Utility ducting laying (by others) | 10 days | | | NA | September 28, 2020 | | November 2, 2021 | November 12, 2021 | | ays 0 days | 324 days | | | | |
| 52 | | 5 days | | | NA | | October 16, 2020 | December 2, 2021 | December 7, 2021 | | days 0 days | 340 days | | | | |
| 53 | CH1800 - CH1850 | 199 days | | | NA | March 13, 2021 | November 11, 2021 | • | March 1, 2022 | | days | 33 days | | | | |
| 54 | Excavation - Prod. Rate: 240m3/d/team. 1 team | 82 days | 82 days | NA | NA | March 13, 2021 | June 23, 2021 | April 24, 2021 | August 2, 2021 | 0% 0 d | ays 1 days | 33 days | | | | |
| | (19,656m3) Rock fill - Prod. Rate: 160m3/d/team (1,525m3) | 10 days | 10 days | NA | ΝΔ | lupo 16, 2021 | lupo 26, 2024 | July 26, 2021 | August E 2024 | 0% | | 22 dour | | | | |
| 55 56 | | 10 days | | | NA | June 16, 2021 | June 26, 2021 | July 26, 2021 | August 5, 2021 | 0% 0 d | | 33 days | | | | |
| | Blinding | 1 day | 1 day | NA | NA | June 28, 2021 | June 28, 2021 | August 6, 2021 | August 6, 2021 | 0% 0 d | ays 0 days | 33 days | | | | |

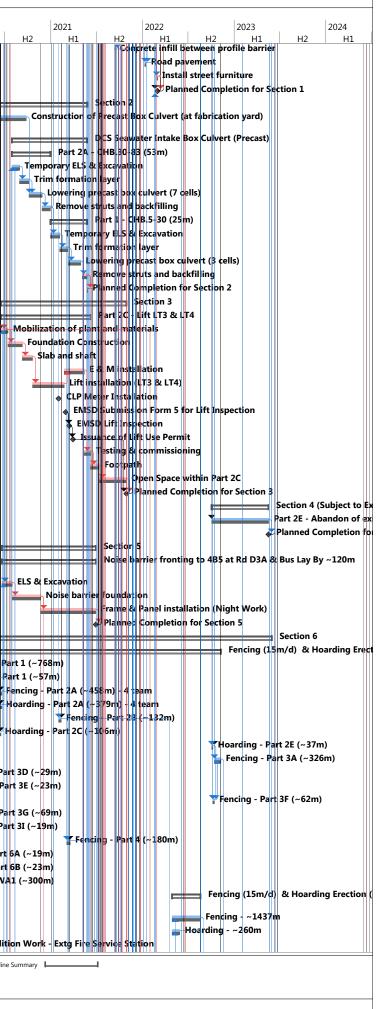
| Title: Revised Programme- | Critical | Task | Manual Task | | Duration-only | Baseline Milestone | \$ | Summary | External Tasks | I | inactive Milestone | \$ | Baseline Summary |
|---------------------------|-------------------|-------------------|----------------|---|----------------|------------------------|----|-----------------|-----------------------|----------|--------------------|----|------------------|
| ED/2018/01 with Progress | | Split | Start-only | C | Baseline | Milestone | • | Manual Summary | External Milestor | ne 🔶 🛛 I | inactive Summary | | |
| Update as of 22-Sep-19 | Critical Progress | Task Progress | Finish-only | Э | Baseline Split | Summary Progress | | Project Summary | Inactive Task | | Deadline | ÷ | |
| | | | | | | | | | | | | | |



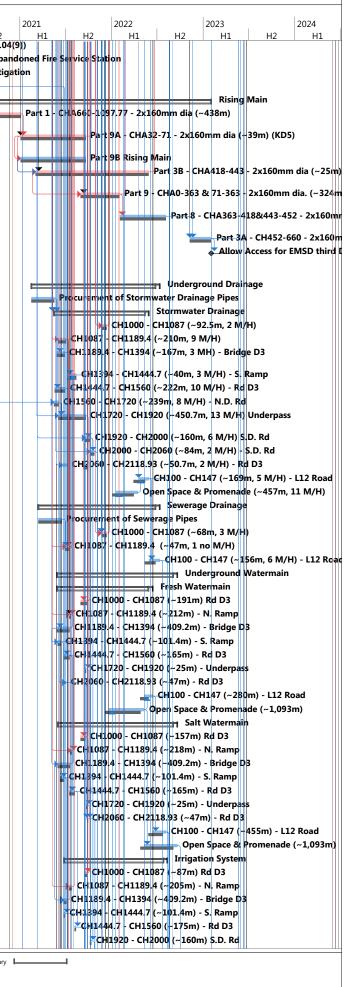
| | < Name | Duration | Remaining Duration | Actual Start | Actual Finish | Plan Start | Plan Finish | Late Start | Late Finish | - | Free Slack | Time Risk Allowances (TRA) | Slack 2019 |) 11 | H2 | 2020 H1 | 1 |
|------------|---------------------------------------------------------------------------------|--------------------|-----------------------|--------------|---------------|--------------------------------------|------------------------------------|--------------------------------------|---------------------------------------|------|---------------------|----------------------------------|----------------------|-------------|----|------------|--------------|
| 557 | Base Slab - 3 bays. Prod. Rate: 14d/team/bay include pipe laying. 1 team | 42 days | 42 days | NA | NA | June 29, 2021 | August 17, 2021 | August 26, 2021 | October 16, 2021 | | 0 days | | 49 days | Sun Se | | 22 | <u>İ</u> |
| 558 | Wall - 3 bays. Prod. Rate: 14d/bay/team. 1 team | 42 days | 42 days | NA | NA | August 2, 2021 | September 18, 2021 | September 29, 2021 | November 18, 2021 | 0% | 0 days | 1 days | 49 days | | | | |
| 559 | | 30 days | 30 days | NA | NA | September 3, 2021 | | November 3, 2021 | December 7, 2021 | | • | | 49 days | | | | |
| 560 | Backfill & extract sheet pile (CH1720 to CH1850) | 12 days | 12 days | NA | NA | October 11, 2021 | , | December 8, 2021 | December 21, 2021 | | | | 49 days | | | | |
| 561 | | 0 days | 0 days | NA | NA | October 25, 2021 | October 25, 2021 | March 1, 2022 | March 1, 2022 | 0% | 127 days | | 127 days | | | | |
| 562 | Constractor for CH1720-CH1850 Pipe Laying Utility ducting laying (by others) | 10 days | 10 days | NA | NA | October 26, 2021 | November 5, 2021 | December 22, 2021 | January 5, 2022 | 0% | 0 days | 1 day | 49 days | | | | |
| 563 | Pavement work | 5 days | 5 days | NA | NA | , | November 11, 2021 | , | January 11, 2022 | | 0 days | | 49 days | | | | |
| 564 | Underpass & South Depressed Road CH1850-2000 - 7 bays | | 650 days | NA | NA | October 7, 2019 | December 11, 2021 | | February 14, 2022 | | 49 days | | 49 days | | | | |
| 565 | Ground Monitoring Works | 14 days | 14 days | NA | NA | October 7, 2019 | October 20, 2019 | • * | | | | | 178 days | | G | ound N | /lonitorin |
| 566 | Mobilization of plant and materials | 15 days | 15 days | NA | NA | January 29, 2020 | | April 16, 2020 | • | | 35 days | | 63 days | _ | | | obilizatio |
| 567 | Foundation Construction | 90 days | 90 days | NA | NA | March 27, 2020 | July 18, 2020 | May 6, 2020 | | | 0 days | | 28 days | | | 🚽 | Fc |
| 568 | Mobilization of plant and material (sheet pile) | , 6 days | 6 days | NA | NA | July 15, 2020 | July 21, 2020 | August 17, 2020 | | | | | 28 days | | | | M |
| 569 | Drive sheet pile (360m) Prod. Rate 10m/team/day | 36 days | 36 days | NA | NA | July 22, 2020 | September 1, 2020 | ÷ . | | | | | 28 days | | | | |
| | | , | , | | | , , | , | , , , , | | | | | | | | | |
| 570 | Pumping Test | 21 days | 21 days | NA | NA | September 2, 2020 | September 25, 2020 | October 7, 2020 | October 31, 2020 | 0% | 0 days | 0 days | 28 days | | | | |
| 571 | CH1850 - CH1920 | 349 days | 349 days | NA | NA | • | November 29, 2021 | November 2, 2020 | January 28, 2022 | 0% | 28 days | | 28 days | | | | |
| 572 | Excavation - Prod. Rate: 240m3/d/team. 1 team | 96 days | 96 days | NA | NA | September 26, 2020 |) January 22, 2021 | November 2, 2020 | February 27, 2021 | 0% | 0 days | 1 day | 28 days | | | | |
| 572 | (23,154m3) Rock fill - Prod. Rate: 160m3/d/team (1,745m3) | 11 days | 11 days | NA | NA | January 16, 2021 | January 28, 2021 | February 22 2021 | March 5, 2021 | 0% | 0 dave | 0 days | 28 days | | | 1 | |
| 573 | Blinding | | | NA | NA | January 16, 2021 | | February 22, 2021 | , | | • | | | | | 1 | |
| 574 575 | Bilnoing Base Slab - 3 bays. Prod. Rate: 14d/team/bay include | 1 day 42 days | 1 day 42 days | NA | NA | January 29, 2021 January 30, 2021 | January 29, 2021 March 23, 2021 | March 6, 2021 March 8, 2021 | | | • | | 28 days 28 days | | | 1 | |
| 0/5 | pipe laying, 1 team | 42 uays | 42 udys | INA | NA | January 50, 2021 | War CI1 25, 2021 | Widi (11 8, 2021 | April 28, 2021 | 0% | U uays | 0.5 uays | 20 uays | | | | |
| 576 | Wall - 3 bays. Prod. Rate: 14d/bay/team. 1 team | 42 days | 42 days | NA | NA | March 8, 2021 | April 28, 2021 | September 29, 2021 | November 18, 2021 | 0% | 0 days | 0.5 days | 168 days | | | | |
| | | | | | | | | | | | | | | | | | |
| 577 | Top Slab - 3 bays. Prod. Rate: 10d/bay/team. 1 team | 30 days | 30 days | NA | NA | April 13, 2021 | May 18, 2021 | November 3, 2021 | December 7, 2021 | 0% | 0 days | 0.5 days | 168 days | | | | |
| 578 | Emergency walkway & median barrier installation | 18 days | 18 days | NA | NA | June 5, 2021 | June 26, 2021 | December 24, 2021 | January 17, 2022 | 0% | 119 days | 0 days | 168 days | | | | |
| 578 | Emergency warkway a mealan surrer installation | 10 0035 | 10 0035 | | | June 3, 2021 | 50110 20, 2021 | December 24, 2021 | Junuary 17, 2022 | 070 | 115 0075 | o days | 100 days | | | | |
| 579 | Utility ducting laying (by others) | 10 days | 10 days | NA | NA | September 28, 2020 | October 10, 2020 | November 2, 2021 | November 12, 2021 | 0% | 0 days | 0 days | 324 days | | | | - |
| 580 | Pavement work | 5 days | 5 days | NA | NA | November 12, 2021 | November 17, 2021 | January 12, 2022 | January 17, 2022 | 0% | 0 days | 0 days | 49 days | | | | |
| 581 | Parapet installation | 10 days | 10 days | NA | NA | November 18, 2021 | November 29, 2021 | January 18, 2022 | January 28, 2022 | 0% | 0 days | 0 days | 49 days | | | | |
| 582 | CH1920 - CH2000 | 359 days | 359 days | NA | NA | September 28, 20 | December 11, 2021 | April 14, 2021 | February 14, 2022 | 0% | 49 days | | 49 days | | | | |
| 583 | Excavation - Prod. Rate: 240m3/d/team. 1 team | 68 days | 68 days | NA | NA | January 23, 2021 | April 19, 2021 | April 14, 2021 | July 6, 2021 | 0% | 0 days | 1 day | 63 days | | | | |
| | (16,396m3) | | | | | | | | | | | | | | | | |
| 584 | Blinding | 1 day | 1 day | NA | NA | April 20, 2021 | April 20, 2021 | July 7, 2021 | • • | | • | | 63 days | | | | |
| 585 | | 56 days | 56 days | NA | NA | March 24, 2021 | June 2, 2021 | April 29, 2021 | July 7, 2021 | 0% | 0 days | 1 day | 28 days | | | | |
| 586 | pipe laying. 1 team Wall - 4 bays. Prod. Rate: 14d/bay/team. 1 team | 56 days | 56 days | NA | NA | April 13, 2021 | June 19, 2021 | July 10, 2021 | September 13, 2021 | 0% | 0 days | 1 day | 72 days | | | | |
| | | ,- | | | | | | ,, | | | ,- | , | ,- | | | | |
| 587 | Backfill & extract sheet pile (CH1850 to CH2000) | 18 days | 18 days | NA | NA | June 21, 2021 | July 12, 2021 | September 14, 2021 | October 6, 2021 | 0% | 0 days | 0 days | 72 days | | | | |
| 588 | Emergency walkway & median barrier installation | 18 days | 18 days | NA | NA | June 21, 2021 | July 12, 2021 | January 8, 2022 | January 28, 2022 | 0% | 117 days | 0 days | 166 days | | | | |
| | (h) at a sting (h) at have | 10 days | 10 dava | NIA | NA | Contombor 20, 2020 | October 10, 2020 | Nevember 2, 2021 | Nevember 12, 2021 | 00/ | 0 dava | O deus | 224 days | | | | |
| 589 | Utility ducting laying (by others) Pavement work | 10 days 5 days | 10 days | NA | NA | September 28, 2020 | | November 2, 2021 January 24, 2022 | November 12, 2021 January 28, 2022 | | 0 days 333 days | | 324 days 382 days | | | | |
| 590 | | 11 days | 5 days 11 days | NA | NA | | December 11, 2021 | | February 14, 2022 | | 21 days | | 49 days | | | | |
| 591 | South Depressed Road CH2000-2060 - 3 bays | 671 days | 671 days | NA | NA | , | January 21, 2022 | | February 26, 2022 | | 21 days 28 days | | | | Ш | | |
| 592 | Ground Monitoring Works | 14 days | 14 days | NA | NA | | November 3, 2019 | | | | 20 uays 211 days | | 28 days 222 days | | | round I | Menitoriı |
| 593 594 | Mobilization of plant and materials | 14 days 12 days | 14 days 12 days | NA | NA | June 2, 2020 | | June 13, 2020 | | | | | 10 days | - | | 1 4 | Mol |
| | Foundation Construction | 90 days | 90 days | NA | NA | June 16, 2020 | | December 18, 2020 | | | 72 days | | 154 days | | | | |
| 595 506 | Mobilization of plant and material (sheet pile) | | | NA | NA | | • | | | | • | | | | | | |
| 596 | | 5 days | 5 days | | | December 30, 2020 | | April 13, 2021 | | | | | 82 days | | | | |
| 597 | Drive sheet pile (180m) Prod. Rate 10m/team/day | 18 days | 18 days | NA | NA | January 6, 2021 | | April 19, 2021 | | | • | | 82 days | | | | |
| 598 | Pumping Test Excavation - Prod. Rate: 240m3/d/team. 1 team | 21 days | 21 days | NA | NA | January 27, 2021 | • • | May 11, 2021 | | | | | 82 days | | | 1 | |
| 599 | (8,956m3) | 38 days | 38 days | INA. | INA | February 24, 2021 | Ahiii 12, 2021 | June 5, 2021 | July 21, 2021 | 070 | 0 days | 0.5 udys | 82 days | | | | |
| 700 | Blinding | 1 day | 1 day | NA | NA | April 13, 2021 | April 13, 2021 | July 22, 2021 | July 22, 2021 | 0% | 41 days | 0 days | 82 days | | | 1 | |
| 701 | Base Slab - 3 bays. Prod. Rate: 14d/team/bay include pipe | 40 days | 40 days | NA | NA | June 3, 2021 | July 21, 2021 | July 23, 2021 | September 7, 2021 | 0% | 0 days | 0.5 days | 41 days | | | 1 | |
| | laying. 1 team | | | | | | | | | | | | | | | 1 | |
| 702 | Wall - 3 bays. Prod. Rate: 14d/bay/team. 1 team | 42 days | 42 days | NA | NA | June 21, 2021 | August 9, 2021 | November 24, 2021 | January 14, 2022 | | • | | 130 days | | | 1 | |
| 703 | Backfill & extract sheet pile | 12 days | 12 days | NA | NA | August 10, 2021 | August 23, 2021 | January 28, 2022 | February 14, 2022 | | 113 days | | 141 days | | | 1 | |
| 04 | Emergency walkway & median barrier installation | 18 days | 18 days | NA | NA | August 10, 2021 | August 30, 2021 | January 15, 2022 | February 8, 2022 | | 102 days | | 130 days | | | 1 | |
| 705 | Utility ducting laying (by others) | 10 days | 10 days | NA | NA | September 28, 2020 | | November 2, 2021 | November 12, 2021 | | 0 days | | 324 days | | | | = |
| 06 | Pavement work | 5 days | 5 days | NA | NA | January 4, 2022 | January 8, 2022 | February 9, 2022 | February 14, 2022 | | | | 28 days | | | 1 | |
| 07 | Parapet installation | 11 days | 11 days | NA | NA | January 10, 2022 | January 21, 2022 | February 15, 2022 | February 26, 2022 | | 27 days | | 28 days | | | 1 | |
| 08 | Part 2A - Road D3 CH2060-2118.93 | 208 days | 208 days | NA | NA | June 19, 2021 | | November 22, 2021 | | | 1 day | | 1 day | | | 1 | |
| '09 | Utility ducting laying (by others) | 50 days | 50 days | NA | NA | June 19, 2021 | August 17, 2021 | November 22, 2021 | | | | | 129 days | | | 1 | |
| /10 | Trim road formation | 2 days | 2 days | NA | NA | August 18, 2021 | August 19, 2021 | January 22, 2022 | | | • | | 129 days | | | 1 | |
| /11 | Lay sub base | 4 days | 4 days | NA | NA | August 20, 2021 | August 24, 2021 | January 25, 2022 | January 28, 2022 | | • | | 129 days | | | 1 | |
| 712 | Lay kerb | 5 days | 5 days | NA | NA | August 25, 2021 | - · | January 29, 2022 | February 7, 2022 | | | | 129 days | | | | |
| 713 | Construct pedestrian street/ footpath | 6 days | 6 days | NA | NA | August 31, 2021 | September 6, 2021 | | February 14, 2022 | | • | | 129 days | | | 1 | |
| 14 | Install central median | 4 days | 4 days | NA | NA | September 7, 2021 | September 10, 2021 | February 15, 2022 | February 18, 2022 | 0% | 0 days | 0 days | 129 days | | | | |
| e Revised | Programme- Critical Task | | | lanual Task | Duration | n-only | Baseline Milestone < | > Sum | mary | Evto | rnal Tasks | | Inactivo | Milestone 🔷 | > | | Baseline Sum |
| nevised | | | | tart-only | Baseline | , | Milestone | | ual Summary | | rnal Milesto | one 🔷 | | Summary | | | _asenne Sull |
| ED/2018 | /01 with Progress Critical Split Split | | | | | | | | | | | | | | | | |



| | fask Name | Duration | Remaining Duration | Actual Start | Actual Finish | Plan Start | Plan Finish | Late Start | Late Finish | Physical Free % Slack | Time Risk Allowance | | 2019 | 2020 | 1 |
|----------------------------|---------------------------------------------------------------------------------------------|---------------------|-----------------------|-----------------------|----------------------------------|--------------------------------------|-----------------------------------------------|--------------------------------------|----------------------------------------|--------------------------------------------------|------------------------|----------------------|--------------------|----------------|----------------|
| 71 5 | Concrete infill between profile barrier | 2 days | 2 days | NA | NA | Sontombor 11, 202 | 1 Contombor 12, 202 | 1 February 10, 2022 | February 21, 2022 | Complete | (TRA) | 120 days | H1 s Sun S | H2 H | <u>11 Н</u> |
| 715 716 | Road pavement | 2 days 5 days | 2 days 5 days | NA | NA | January 10, 2022 | 1 September 13, 202: January 14, 2022 | February 22, 2022 | February 21, 2022 February 26, 2022 | | 0 days 0 days | 129 days 34 days | | eptember 22 | |
| 710 | Install street furniture | 2 days | 2 days | NA | NA | February 26, 2022 | | February 28, 2022 | March 1, 2022 | 0% 1 day | 0 days | 1 day | _ | (| |
| 718 | Planned Completion for Section 1 | 0 days | 0 days | NA | NA | March 1, 2022 | March 1, 2022 | March 1, 2022 | March 1, 2022 | 0% 0 days | 0 days | 0 days | - | 1 11111 | |
| 719 | Section 2 | 325 days | 325 days | NA | NA | April 22, 2020 | May 26, 2021 | May 14, 2020 | June 2, 2021 | 0% 6 days | ,. | 6 days | - | 1 11111 | |
| 720 | Construction of Precast Box Culvert (at fabrication yard) | 130 days | 130 days | NA | NA | April 22, 2020 | September 24, 2020 | | | 0% 7 days | 1 day | 17 days | | | |
| 721 | DCS Seawater Intake Box Culvert (Precast) | 243 days | 243 days | NA | NA | July 30, 2020 | May 25, 2021 | August 11, 2020 | June 1, 2021 | 0% 6 days | | 6 days | - | (| |
| 722 | Part 2A - CHB.30-83 (53m) | 126 days | 126 days | NA | NA | July 30, 2020 | December 29, 2020 | August 11, 2020 | January 11, 2021 | 0% 10 days | | 10 days | - | (| |
| 723 | Temporary ELS & Excavation | 30 days | 30 days | NA | NA | July 30, 2020 | August 28, 2020 | August 11, 2020 | September 9, 2020 | 0% 0 days | 1 days | 12 days | - | (| 1 |
| 724 | Trim formation layer | 30 days | 30 days | NA | NA | August 29, 2020 | October 5, 2020 | September 10, 2020 | October 16, 2020 | 0% 0 days | 1 days | 10 days | | (| |
| 725 | Lowering precast box culvert (7 cells) | 44 days | 44 days | NA | NA | October 6, 2020 | November 26, 2020 | October 17, 2020 | December 8, 2020 | 0% 0 days | 2 days | 10 days | | (| |
| 726 | Remove struts and backfilling | 26 days | 26 days | NA | NA | November 27, 2020 | December 29, 2020 | December 9, 2020 | January 11, 2021 | 0% 0 days | 1 days | 10 days | | (| |
| 727 | Part 1 - CHB.5-30 (25m) | 117 days | 117 days | NA | NA | December 30, 2020 | May 25, 2021 | January 12, 2021 | June 1, 2021 | 0% 6 days | | 6 days | | (| |
| 728 | Temporary ELS & Excavation | 31 days | 31 days | NA | NA | December 30, 2020 | February 4, 2021 | January 12, 2021 | February 19, 2021 | 0% 0 days | 1 days | 10 days | | (| |
| 729 | Trim formation layer | 26 days | 26 days | NA | NA | February 5, 2021 | March 10, 2021 | February 20, 2021 | March 22, 2021 | 0% 0 days | 1 days | 10 days | | (| |
| 730 | Lowering precast box culvert (3 cells) | 40 days | 40 days | NA | NA | March 11, 2021 | April 29, 2021 | March 23, 2021 | May 12, 2021 | 0% 4 days | | 10 days | | (| |
| 731 | Remove struts and backfilling | 16 days | 16 days | NA | NA | May 6, 2021 | May 25, 2021 | May 13, 2021 | June 1, 2021 | 0% 0 days | 1 days | 6 days | | (| |
| 732 | Planned Completion for Section 2 | 1 day | 1 day | NA | NA | May 26, 2021 | May 26, 2021 | June 2, 2021 | June 2, 2021 | 0% 0 days | 0 days | 6 days | | (| |
| 733 | Section 3 | 408 days | 408 days | NA | NA | June 16, 2020 | | June 20, 2020 | May 29, 2024 | 0% 4 days | | 4 days | _ | | |
| 734 | Part 2C - Lift LT3 & LT4 | 291 days | 291 days | NA | NA | June 16, 2020 | June 8, 2021 | June 20, 2020 | May 29, 2024 | 0% 4 days | | 4 days | - | | |
| 735 | Mobilization of plant and materials | 22 days | 22 days | NA | NA | June 16, 2020 | July 13, 2020 | June 20, 2020 | July 17, 2020 | 0% 0 days | | 4 days | - | | Mo Mo |
| 736 | Foundation Construction | 49 days | 49 days | NA | NA | July 14, 2020 | September 8, 2020 | | September 12, 2020 | · · | | 4 days | _ | | |
| 737 | Slab and shaft | 33 days | 33 days | NA | NA | September 9, 2020 | | September 14, 2020 | | 0% 0 days | 1 days | 4 days | - | | |
| 738 | E & M installation | 65 days | 65 days | NA | NA | | May 13, 2021 | February 27, 2021 | | 0% 0 days | | 4 days | - | | |
| 739 | Lift installation (LT3 & LT4) | 101 days | 101 days | NA | NA | October 20, 2020 | | October 24, 2020 | February 26, 2021 | | | 4 days | | (| |
| 740 | CLP Meter Installation | 0 days | 0 days | NA | NA | February 1, 2021 | | May 29, 2024 | | 0% 1214 d. | | 1214 d | <mark> </mark> | (| |
| 741 | EMSD Submission Form 5 for Lift Inspection | 0 days | 0 days | NA | NA | March 1, 2021 | March 1, 2021 | October 5, 2021 | | 0% 0 days | | 218 days | | (| |
| 742 743 | EMSD Lift Inspection Issuance of Lift Use Permit | 0 days 0 days | 0 days 0 days | NA NA | NA NA | March 14, 2021 March 29, 2021 | March 14, 2021 March 29, 2021 | October 19, 2021 November 2, 2021 | October 19, 2021 November 2, 2021 | | 1C | 218 days 218 days | | (| |
| 745 | Testing & commissioning | 21 days | 21 days | NA | NA | May 14, 2021 | June 8, 2021 | May 20, 2021 | June 12, 2021 | 0% 213 day | | 4 days | 4 | (| |
| 745 | Footpath | 27 days | 27 days | NA | NA | June 9, 2021 | July 12, 2021 | June 15, 2021 | July 16, 2021 | 0% 0 days | | 4 days | _ | (| |
| 746 | Open Space within Part 2C | 90 days | 90 days | NA | NA | July 13, 2021 | October 28, 2021 | July 17, 2021 | November 2, 2021 | | 4 days | 4 days | - | (| |
| 747 | Planned Completion for Section 3 | 0 days | 0 days | NA | NA | October 28, 2021 | October 28, 2021 | November 2, 2021 | November 2, 2021 | | | 4 days | - | (| |
| 748 | Section 4 (Subject to Excision) | 185 days | 185 days | NA | NA | October 3, 2022 | May 17, 2023 | October 15, 2022 | May 30, 2023 | 0% 10 days | | 10 days | - | (| |
| 749 | Part 2E - Abandon of existing DCS | 185 days | 185 days | NA | NA | October 3, 2022 | May 17, 2023 | October 15, 2022 | May 30, 2023 | 0% 0 days | | 10 days | - | (| |
| 750 | Planned Completion for Section 4 | , 0 days | , 0 days | NA | NA | May 17, 2023 | May 17, 2023 | May 30, 2023 | May 30, 2023 | 0% 0 days | | 10 days | - | (| |
| 751 | Section 5 | 303 days | 303 days | NA | NA | June 20, 2020 | June 28, 2021 | June 27, 2020 | July 5, 2021 | 0% 5 days | | 5 days | - | (| |
| 752 | Noise barrier fronting to 4B5 at Rd D3A & Bus Lay By ~120m | 303 days | 303 days | NA | NA | June 20, 2020 | June 28, 2021 | June 27, 2020 | July 5, 2021 | 0% 5 days | | 5 days | | | |
| 753 | ELS & Excavation | 33 days | 33 days | NA | NA | June 20, 2020 | July 30, 2020 | June 27, 2020 | August 5, 2020 | 0% 0 days | 2 days | 5 days | - | | EL: |
| 754 | Noise barrier foundation | 94 days | 94 days | NA | NA | July 31, 2020 | November 20, 2020 |) August 6, 2020 | November 26, 2020 | 0% 0 days | 4 days | 5 days | | (| |
| 755 | Frame & Panel installation (Night Work) | 176 days | 176 days | NA | NA | November 21, 2020 |) June 28, 2021 | November 27, 2020 | July 5, 2021 | 0% 0 days | 8 days | 5 days | | (| |
| 756 | Planned Completion for Section 5 | 0 days | 0 days | NA | NA | June 28, 2021 | June 28, 2021 | July 5, 2021 | July 5, 2021 | 0% 0 days | 0 days | 5 days | | (| |
| 757 | Section 6 | 1202 days | 1198.4 days | May 16, 2019 | NA | May 16, 2019 | May 30, 2023 | May 16, 2019 | May 29, 2024 | 0% 297 day | rs | 297 days | \$ | | |
| 758 | Fencing (15m/d) & Hoarding Erection (10m/d) | 919 days | 919 days | NA | NA | October 8, 2019 | November 8, 2022 | ļ | May 29, 2024 | 0% 28 days | | 28 days | | | |
| 759 | Fencing - Part 1 (~768m) | 51 days | 51 days | NA | NA | October 21, 2019 | December 18, 2019 | | | | 1 day | 17 days | - | | ing - Part 1 |
| 760 | Hoarding - Part 1 (~57m) | 6 days | 6 days | NA | NA | | November 25, 2019 | | | | 0 days | 37 days | <u> </u> • , | Heard | ling Part 1 |
| 761 | Fencing - Part 2A (~458m) - 4 team | 12 days | 12 days | NA | NA | June 2, 2020 | June 15, 2020 | June 12, 2020 | | 0% 4 days | | 9 days | | | Fenci |
| 762 | Hoarding - Part 2A (~379m) - 4 team | 12 days | 12 days | NA | NA | June 2, 2020 | June 15, 2020 | June 12, 2020 | | | 1 days | 9 days | | | T Hoar |
| 763 | Fencing - Part 2B (~132m) | 9 days | 9 days | NA | NA | | February 10, 2021 | | | | s 0 days | 404 days | | | Hoard |
| 764 | Hoarding - Part 2C (~106m) | 9 days | 9 days | | NA | June 2, 2020 October 3, 2022 | | June 10, 2020 | | | 1 days | 7 days | 4 | | Floard |
| 765 | Hoarding - Part 2E (~37m) Fencing - Part 3A (~326m) | 4 days 22 days | 4 days 22 days | NA | NA | October 3, 2022 October 14, 2022 | October 7, 2022 November 8, 2022 | January 27, 2023 | | 0% 0 days 0% 0 days | 0 days 0.5 days | 95 days 95 days | - | | |
| 766 | | | | NA | | | | | | | | | - | Eencir | ng - Part 3D |
| 767 768 | Fencing - Part 3D (~29m) Fencing - Part 3E (~23m) | 2 days 2 days | 2 days 2 days | NA | NA | December 2, 2019 December 7, 2019 | December 3, 2019 December 9, 2019 | • • | • • | | 0 days 0 days | 40 days 80 days | - | | ng - Part 3E |
| 768 | Fencing - Part 3E (~23m) Fencing - Part 3F (~62m) | 2 days 5 days | 2 days 5 days | NA | NA | October 8, 2022 | October 13, 2022 | | | 0% 70 days | | 95 days | - | | |
| 770 | Fencing - Part 3G (~69m) | 5 days | 5 days | NA | NA | December 2, 2019 | December 6, 2019 | | | 0% 0 days | | 80 days | - | Fencir | ng - Part 3G |
| 771 | Fencing - Part 3I (~19m) | 2 days | 2 days | NA | NA | December 2, 2019 | | | | 0% 3 days | | 83 days | - | | ng - Part 3I |
| 772 | Fencing - Part 4 (~180m) | 12 days | 12 days | NA | NA | March 5, 2021 | | June 9, 2021 | June 23, 2021 | | 0 days | 77 days | - | | |
| 773 | Fencing - Part 6A (~19m) | 2 days | 2 days | NA | NA | November 1, 2019 | | | | 0% 0 days | | 1355 d | | Fencina |) - Part 6A (· |
| 774 | Fencing - Part 6B (~23m) | 2 days | 2 days | NA | NA | November 4, 2019 | November 5, 2019 | - · · · | | | . 0 days | 1355 d | | Π Π Ι - | y - Part 6B (|
| 775 | Hoarding - WA1 (~300m) | 21 days | 21 days | NA | NA | October 8, 2019 | | April 29, 2024 | | | 0.5 days | 1355 d | | - | ng - WA1 (~ |
| 776 | Fencing (15m/d) & Hoarding Erection (10m/d) - Upon Works | | 95 days | NA | NA | April 29, 2022 | | July 25, 2022 | November 15, 2022 | | | 72 days | | | |
| | Completion | 05 days | 05 days | ΝΔ | NA | April 20, 2022 | August 10, 2022 | luby 25, 2022 | November 15, 2022 | 0% 0.4 | 1 day | 72 4 | _ | | |
| 777 | Fencing - ~1437m | 95 days | 95 days | NA | NA | April 29, 2022 | August 19, 2022 | July 25, 2022 | November 15, 2022 | | | 72 days | | | |
| 778 | Hoarding - ~260m | 26 days 136 days | 26 days | NA August 16, 2019 | NA NA | April 29, 2022 August 16, 2019 | May 28, 2022 | October 17, 2022 August 16, 2019 | November 15, 2022 May 13, 2020 | | 0.5 days | 141 days 82 days | | <u>п</u> | emolition V |
| | Demolition Work - Extg Fire Service Station | 130 uays | 117.24 days | August 10, 2019 | NA . | August 10, 2019 | January 31, 2020 | August 10, 2019 | 141ay 15, 2020 | 0% 82 days | <u> </u> | oz udys | | | |
| | | | | | | | | | | | | | | | |
| 779 tle: Revis | Seed Programme- Critical Task | | | anual Task | Duration | - | Baseline Milestone | | - | External Task | | | Inactive Milestone | Þ | Baseline Summ |
| 779 tle: Revis ED/20 | te as of 22-Sep-19 Critical Progress Critical Split Split Critical Progress Task Prog | | St | | Duratior Baseline Baseline | | Baseline Milestone Milestone Summary Progress | Man | mary ual Summary contract Summary | External Task External Miles Inactive Task | | | Inactive Milestone | | Baseline Sumn |

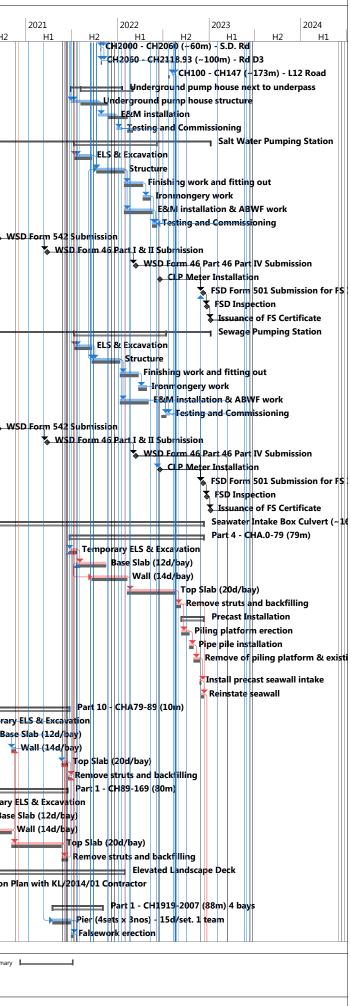


| T | ask Name | Duration | Remaining Duration | Actual Start | Actual Finish | Plan Start | Plan Finish | Late Start | Late Finish | Physical % Complet | Slack | Time Risk Allowances (TRA) | | 2019 H1 | 1 | 2020 H2 H | |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|--------------|--------------|
| 0 | Asbesto Survey (PS Cl. 2.04(9)) | 8 days | 0 days | August 16, 2019 | August 23, 2019 | August 16, 2019 | August 23, 2019 | August 16, 2019 | August 23, 2019 | 100% | | 0 days | 0 days | HI | Sun Sept | | 1⊥ vey (P |
| 1 | Demolish of abandoned Fire Service Station | 50 days | 50 days | NA | NA | November 28, 2019 | January 31, 2020 | March 10, 2020 | May 13, 2020 | 0% | 65 days | 1 day | 82 days | | | | emolis |
| 2 | Ground Investigation | 50 days | 50 days | NA | NA | November 26, 2019 | 9 January 29, 2020 | May 11, 2020 | July 9, 2020 | 0% | 131 days | | 131 days | | F | | round |
| 3 | GI Work | 50 days | 50 days | NA | NA | November 26, 2019 | | May 11, 2020 | July 9, 2020 | 0% | 131 days | 0.5 days | 131 days | | - | - GI | Work |
| 4 | Rising Main | 765 days | 765 days | NA | NA | July 10, 2020 | - | July 10, 2020 | May 30, 2023 | 0% | 0 days | 7 dava | 0 days | | | | |
| 5 | Part 1 - CHA660-1097.77 - 2x160mm dia (~438m) | 146 days | 146 days | NA | NA | July 10, 2020 | January 2, 2021 | July 10, 2020 | January 2, 2021 | 0% | 0 days | 7 days | 0 days | | | | |
| 6 | Part 9A - CHA32-71 - 2x160mm dia (~39m) (KD5) | 211 days | 211 days | NA | NA | January 4, 2021 | September 17, 202 | 1 January 4, 2021 | September 17, 2021 | 1 0% | 0 days | 30 days | 0 days | | | | |
| _ | | | | | | | C 1 1 17 000 | | | 001 | | 20.1 | | | | | |
| 7 | - | 211 days | 211 days | NA | NA | January 4, 2021 | September 17, 202 | | November 23, 2021 | | 49 days | | 54 days | | | | |
| 8 | Part 3B - CHA418-443 - 2x160mm dia (~25m) (KD7) | 365 days | 365 days | NA | NA | March 5, 2021 | May 27, 2022 | March 11, 2021 | June 2, 2022 | 0% | 0 days | 50 days | 5 days | | | | |
| 9 | Part 9 - CHA0-363 & 71-363 - 2x160mm dia. (~324m) (KD4) | 126 days | 126 days | NA | NA | August 31, 2021 | January 31, 2022 | August 31, 2021 | January 31, 2022 | 0% | 0 days | 15 day | 0 days | | | | |
| | | | | | | | | | | | | | | | | | |
|) | Part 8 - CHA363-418&443-452 - 2x160mm dia (~64m) | 150 days | 150 days | NA | NA | February 4, 2022 | August 4, 2022 | September 2, 2022 | March 3, 2023 | 0% | 79 days | 0 days | 174 days | | | | |
| | Part 3A - CH452-660 - 2x160mm dia (~208m) | 69 days | 69 days | NA | NA | November 9, 2022 | February 1, 2023 | March 4, 2023 | May 30, 2023 | 0% | 0 days | 1 day | 95 days | | | | |
| 2 | Allow Access for EMSD third District Cooling System | 0 days | 0 days | NA | NA | February 1, 2023 | February 1, 2023 | May 30, 2023 | May 30, 2023 | 0% | 118 days | | 118 days | | | | |
| | Contractor for DCS Pipeline Laying at Parts 3A, 3B, 8, 9 and | | | | | | | | | | | | | | | | |
| ; | 9A Underground Drainage | 416 days | 416 days | NA | NA | February 16, 2021 | July 11 2022 | March 5, 2021 | September 24, 20 | 0% | 15 days | | 15 days | | | | |
| , | Procurement of Stormwater Drainage Pipes | 90 days | 90 days | NA | NA | February 16, 2021 | • • | March 5, 2021 | June 2, 2021 | 0% | 0 days | | 17 days | | | | |
| | Stormwater Drainage | 308 days | 308 days | NA | NA | May 17, 2021 | May 28, 2022 | June 3, 2021 | September 24, 20 | | 14 days | | 14 days | | | | |
| | CH1000 - CH1087 (~92.5m, 2 M/H) | 16 days | 16 days | NA | NA | | | November 24, 2021 | | | 0 days | | 0 days | | | | |
| + | CH1087 - CH1087 (~210m, 9 M/H) | 24 days | 24 days | NA | NA | June 3, 2021 | July 2, 2021 | June 3, 2021 | July 2, 2021 | 0% | | 1 days | 0 days | | | | |
| - | CH1189.4 - CH1394 (~167m, 3 MH) - Bridge D3 | 24 days | 24 days | NA | NA | May 29, 2021 | June 26, 2021 | September 11, 2021 | | | 18 days | | 88 days | | | | |
| | | | | | | | | | | | | | | | | | |
| | CH1394 - CH1444.7 (~40m, 3 M/H) - S. Ramp | 21 days | 21 days | NA | NA | July 20, 2021 | August 12, 2021 | October 12, 2021 | November 5, 2021 | 0% | 70 days | 0 days | 70 days | | | | |
| | CH1444.7 - CH1560 (~222m, 10 M/H) - Rd D3 | 35 days | 35 days | NA | NA | May 20, 2021 | June 30, 2021 | October 25, 2021 | December 3, 2021 | 0% | 130 days | 0.5 days | 130 days | | | | |
| | CH1560 - CH1720 (~239m, 8 M/H) - N.D. Rd | 14 days | 14 days | NA | NA | May 17, 2021 | June 2, 2021 | April 19, 2022 | May 4, 2022 | 0% | 0 days | | 273 days | | | | |
| | CH1720 - CH1920 (~450.7m, 13 M/H) Underpass | 90 days | 90 days | NA | NA | June 3, 2021 | September 17, 202 | 1 May 5, 2022 | August 19, 2022 | 0% | 0 days | 1 day | 273 days | | | | |
| - | CH1920 - CH2000 (~160m, 6 M/H) S.D. Rd | 14 days | 14 days | NA | NA | September 18, 202 | 1 October 6. 2021 | August 20, 2022 | September 5, 2022 | 0% | 0 days | 0 days | 273 days | | | | |
| 1 | CH2000 - CH2060 (~84m, 2 M/H) - S.D. Rd | , 14 days | 14 days | NA | NA | October 7, 2021 | October 23, 2021 | September 6, 2022 | September 22, 2022 | | | , 0 days | , 273 days | | | | |
| | CH2060 - CH2118.93 (~50.7m, 2 M/H) - Rd D3 | 14 days | 14 days | NA | NA | June 19, 2021 | July 6, 2021 | September 8, 2022 | September 24, 2022 | 2 0% | 0 days | 0 days | 366 days | | | | |
| | CH100 - CH147 (~169m, 5 M/H) - L12 Road | , 35 days | , 35 days | NA | NA | April 19, 2022 | May 28, 2022 | June 25, 2022 | | 0% | | | , 57 days | | | | |
| , | Open Space & Promenade (~457m, 11 M/H) | 70 days | 70 days | NA | NA | January 19, 2022 | April 14, 2022 | March 30, 2022 | June 24, 2022 | 0% | 0 days | 1 day | 57 days | | | | |
| 3 | Sewerage Drainage | 392 days | 392 days | NA | NA | March 16, 2021 | July 11, 2022 | April 4, 2021 | September 16, 20 | . 0% | 15 days | | 15 days | | | | |
| | Procurement of Sewerage Pipes | 90 days | 90 days | NA | NA | March 16, 2021 | June 13, 2021 | April 4, 2021 | July 2, 2021 | 0% | 19 days | | 19 days | | | | |
| | CH1000 - CH1087 (~68m, 3 M/H) | 18 days | 18 days | NA | NA | November 22, 2021 | December 11, 2021 | November 22, 2021 | December 11, 2021 | 0% | 0 days | 1 days | 0 days | | | | |
| | CH1087 - CH1189.4 (~47m, 1 no M/H) | 12 days | 12 days | NA | NA | July 3, 2021 | July 16, 2021 | July 3, 2021 | July 16, 2021 | 0% | 0 days | 1 days | 0 days | | | | |
| | CH100 - CH147 (~156m, 6 M/H) - L12 Road | 35 days | 35 days | NA | NA | May 30, 2022 | July 11, 2022 | August 6, 2022 | September 16, 2022 | 2 0% | 0 days | 0.5 days | 57 days | | | | |
| | Underground Watermain | 392 days | 392 days | NA | NA | May 29, 2021 | September 19, 20 | . July 16, 2021 | October 14, 2022 | 0% | 20 days | | 20 days | | | | |
| | Fresh Watermain | 310 days | 310 days | NA | NA | May 29, 2021 | June 13, 2022 | July 17, 2021 | September 22, 20 | . 0% | 40 days | | 40 days | | | | |
| | CH1000 - CH1087 (~191m) Rd D3 | 20 days | 20 days | NA | NA | August 31, 2021 | September 23, 202 | 1 August 31, 2021 | September 23, 2021 | 1 0% | 0 days | 1 days | 0 days | | | | |
| | CH1087 - CH1189.4 (~212m) - N. Ramp | 4 days | 4 days | NA | NA | July 17, 2021 | July 21, 2021 | July 17, 2021 | July 21, 2021 | 0% | 0 days | 0 days | 0 days | | | | |
| | CH1189.4 - CH1394 (~409.2m) - Bridge D3 | 40 days | 40 days | NA | NA | May 29, 2021 | July 16, 2021 | August 21, 2021 | | 0% | | | 70 days | | | | |
| | CH1394 - CH1444.7 (~101.4m) - S. Ramp | 10 days | 10 days | NA | NA | June 1, 2021 | June 11, 2021 | October 9, 2021 | October 21, 2021 | | | | 108 days | | | | |
| _ | CH1444.7 - CH1560 (~165m) - Rd D3 | 18 days | 18 days | NA | NA | June 25, 2021 | July 16, 2021 | October 19, 2021 | November 8, 2021 | | | 0 days | 95 days | | | | |
| _ | | 2 days | 2 days | NA | NA | | | 1 September 19, 2022 | | | | 0 days | 297 days | | | | |
| _ | | 2 days | 2 days | NA | NA | July 2, 2021 | July 3, 2021 | • | September 22, 2022 | | 69 days | | 366 days | | | | |
| - I. | CH100 - CH147 (~280m) - L12 Road | 28 days | 28 days | NA | NA | May 11, 2022 | June 13, 2022 | July 5, 2022 | | 0% | | | 45 days | | | | |
| + | Open Space & Promenade (~1,093m) | 110 days | 110 days | NA NA | NA | December 22, 2021 June 1, 2021 | May 10, 2022 September 19, 20 | January 18, 2022 | June 2, 2022 October 14, 2022 | 0% 0% | 0 days 20 days | 1 day | 20 days | | | | |
| | Salt Watermain | 390 days | 390 days | NA | NA | August 31, 2021 | September 19, 20 September 16, 202 | • • | September 16, 2021 | | | 1 days | 20 days 0 days | | | | |
| | Salt Watermain | 15 days | | INA | NA . | | July 26, 2021 | July 22, 2021 | July 26, 2021 | 0% | | 0 days | 0 days | | | | |
| | CH1000 - CH1087 (~157m) Rd D3 | 15 days | 15 days | ΝΔ | NA | July 22 2021 | | July 22, 2021 | | | | | 70 days | | | | |
| | CH1000 - CH1087 (~157m) Rd D3 CH1087 - CH1189.4 (~218m) - N. Ramp | 4 days | 4 days | NA | NA | July 22, 2021 June 1, 2021 | | August 24 2021 | October 11 2021 | | | | | | | | |
| | CH1000 - CH1087 (~157m) Rd D3 CH1087 - CH1189.4 (~218m) - N. Ramp CH1189.4 - CH1394 (~409.2m) - Bridge D3 | 4 days 40 days | 4 days 40 days | NA | NA | June 1, 2021 | July 19, 2021 | August 24, 2021 October 22, 2021 | October 11, 2021 November 2, 2021 | | | | | | | | |
| | CH1000 - CH1087 (~157m) Rd D3 CH1087 - CH1189.4 (~218m) - N. Ramp CH1189.4 - CH1394 (~409.2m) - Bridge D3 CH1394 - CH1444.7 (~101.4m) - S. Ramp | 4 days 40 days 10 days | 4 days 40 days 10 days | NA NA | NA NA | June 1, 2021 June 12, 2021 | July 19, 2021 June 24, 2021 | October 22, 2021 | November 2, 2021 | 0% | 0 days | 0 days | 108 days | | | 1 | |
| | CH1000 - CH1087 (~157m) Rd D3 CH1087 - CH1189.4 (~218m) - N. Ramp CH1189.4 - CH1394 (~409.2m) - Bridge D3 CH1394 - CH1444.7 (~101.4m) - S. Ramp CH1444.7 - CH1560 (~165m) - Rd D3 | 4 days 40 days 10 days 18 days | 4 days 40 days 10 days 18 days | NA NA NA | NA NA NA | June 1, 2021 June 12, 2021 July 17, 2021 | July 19, 2021 June 24, 2021 August 6, 2021 | October 22, 2021 November 9, 2021 | November 2, 2021 November 29, 2021 | 0% 0% | 0 days 0 days | 0 days 0 days | 108 days 95 days | - | | | |
| | CH1000 - CH1087 (~157m) Rd D3 CH1087 - CH1189.4 (~218m) - N. Ramp CH1189.4 - CH1394 (~409.2m) - Bridge D3 CH1394 - CH1444.7 (~101.4m) - S. Ramp CH1444.7 - CH1560 (~165m) - Rd D3 CH1720 - CH1920 (~25m) - Underpass | 4 days 40 days 10 days 18 days 2 days | 4 days 40 days 10 days 18 days 2 days | NA NA | NA NA NA NA | June 1, 2021 June 12, 2021 July 17, 2021 September 21, 202 | July 19, 2021 June 24, 2021 August 6, 2021 1 September 23, 202 | October 22, 2021 November 9, 2021 September 21, 2022 | November 2, 2021 November 29, 2021 September 22, 2022 | 0% 0% 2 0% | 0 days 0 days 0 days | 0 days 0 days 0 days | 108 days 95 days 297 days | - | | | |
| | CH1000 - CH1087 (~157m) Rd D3 CH1087 - CH1189.4 (~218m) - N. Ramp CH1189.4 - CH1394 (~409.2m) - Bridge D3 CH1394 - CH1444.7 (~101.4m) - S. Ramp CH1444.7 - CH1560 (~165m) - Rd D3 CH1720 - CH1920 (~25m) - Underpass | 4 days 40 days 10 days 18 days 2 days 2 days | 4 days 40 days 10 days 18 days 2 days 2 days | NA NA NA | NA NA NA | June 1, 2021 June 12, 2021 July 17, 2021 September 21, 202 September 24, 202 | July 19, 2021 June 24, 2021 August 6, 2021 1 September 23, 202 1 September 25, 202 | October 22, 2021 November 9, 2021 1 September 21, 2022 1 September 23, 2022 | November 2, 2021 November 29, 2021 September 22, 2022 September 24, 2022 | 0% 0% 2 0% 2 0% | 0 days 0 days 0 days 24 days | 0 days 0 days 0 days 0 days | 108 days 95 days 297 days 297 days | - | | | |
| | CH1000 - CH1087 (~157m) Rd D3 CH1087 - CH1189.4 (~218m) - N. Ramp CH1189.4 - CH1394 (~409.2m) - Bridge D3 CH1394 - CH1444.7 (~101.4m) - S. Ramp CH1444.7 - CH1560 (~165m) - Rd D3 CH1720 - CH1920 (~25m) - Underpass CH2060 - CH2118.93 (~47m) - Rd D3 | 4 days 40 days 10 days 18 days 2 days | 4 days 40 days 10 days 18 days 2 days | NA NA NA NA | NA NA NA NA NA | June 1, 2021 June 12, 2021 July 17, 2021 September 21, 202 | July 19, 2021 June 24, 2021 August 6, 2021 1 September 23, 202 | October 22, 2021 November 9, 2021 September 21, 2022 September 23, 2022 August 6, 2022 | November 2, 2021 November 29, 2021 September 22, 2022 | 0% 0% 2 0% 2 0% 2 0% | 0 days 0 days 0 days 24 days | 0 days 0 days 0 days 0 days 0.5 days | 108 days 95 days 297 days | - | | | |
| | CH1000 - CH1087 (~157m) Rd D3 CH1087 - CH1189.4 (~218m) - N. Ramp CH1189.4 - CH1394 (~409.2m) - Bridge D3 CH1394 - CH1394 (~101.4m) - S. Ramp CH1444.7 - CH1560 (~165m) - Rd D3 CH1720 - CH1920 (~25m) - Underpass CH2060 - CH2118.93 (~47m) - Rd D3 CH100 - CH147 (~455m) - L12 Road | 4 days 40 days 10 days 18 days 2 days 2 days 45 days | 4 days 40 days 10 days 18 days 2 days 2 days 45 days | NA NA NA NA NA | NA NA NA NA NA | June 1, 2021 June 12, 2021 July 17, 2021 September 21, 202 September 24, 202 June 14, 2022 | July 19, 2021 June 24, 2021 August 6, 2021 1 September 23, 2022 August 5, 2022 September 19, 2022 | October 22, 2021 November 9, 2021 September 21, 2022 September 23, 2022 August 6, 2022 | November 2, 2021 November 29, 2021 September 22, 2022 September 24, 2022 September 28, 2022 | 0% 0% 20% 20% 20% 0% | 0 days 0 days 0 days 24 days 0 days | 0 days 0 days 0 days 0 days 0.5 days | 108 days 95 days 297 days 297 days 45 days 20 days | | | | |
| | CH1000 - CH1087 (~157m) Rd D3 CH1087 - CH1189.4 (~218m) - N. Ramp CH1189.4 - CH1394 (~409.2m) - Bridge D3 CH1394 - CH1344.7 (~101.4m) - S. Ramp CH1444.7 - CH1560 (~165m) - Rd D3 CH1720 - CH1920 (~25m) - Underpass CH2060 - CH2118.93 (~47m) - Rd D3 CH100 - CH147 (~455m) - L12 Road Open Space & Promenade (~1,093m) | 4 days 40 days 10 days 18 days 2 days 2 days 45 days 110 days | 4 days 40 days 10 days 2 days 2 days 45 days 110 days | NA NA NA NA NA NA | NA NA NA NA NA NA | June 1, 2021 June 12, 2021 July 17, 2021 September 21, 202 September 24, 202 June 14, 2022 May 11, 2022 June 25, 2021 | July 19, 2021 June 24, 2021 August 6, 2021 September 23, 2022 September 25, 2022 September 19, 2022 August 10, 2022 | October 22, 2021 November 9, 2021 1 September 21, 2022 1 September 23, 2022 August 6, 2022 2 June 4, 2022 | November 2, 2021 November 29, 2021 September 22, 2022 September 24, 2022 September 28, 2022 October 14, 2022 October 5, 2022 | 0% 0% 20% 20% 20% 0% 0% | 0 days 0 days 24 days 0 days 0 days 0 days 17 days | 0 days 0 days 0 days 0 days 0 days 0.5 days 1 day | 108 days 95 days 297 days 297 days 45 days | | | | |
| | CH1000 - CH1087 (~157m) Rd D3 CH1087 - CH1189.4 (~218m) - N. Ramp CH1189.4 - CH1394 (~409.2m) - Bridge D3 CH1394 - CH1344.7 (~101.4m) - S. Ramp CH1444.7 - CH1560 (~165m) - Rd D3 CH1720 - CH1920 (~25m) - Underpass CH2060 - CH2118.93 (~47m) - Rd D3 CH100 - CH147 (~455m) - L12 Road Open Space & Promenade (~1,093m) Irrigation System | 4 days 40 days 10 days 18 days 2 days 2 days 45 days 110 days 337 days | 4 days 40 days 10 days 2 days 2 days 45 days 110 days 337 days | NA NA NA NA NA NA NA NA | NA NA NA NA NA NA NA NA | June 1, 2021 June 12, 2021 July 17, 2021 September 21, 202 September 24, 202 June 14, 2022 May 11, 2022 June 25, 2021 | July 19, 2021 June 24, 2021 August 6, 2021 September 23, 2022 September 25, 2022 September 19, 2022 August 10, 2022 | October 22, 2021 November 9, 2021 September 21, 2022 September 23, 2022 August 6, 2022 June 4, 2022 July 16, 2021 | November 2, 2021 November 29, 2021 September 22, 2022 September 24, 2022 September 28, 2022 October 14, 2022 October 5, 2022 | 0% 0% 20% 20% 20% 0% 0% | 0 days 0 days 24 days 0 days 0 days 0 days 17 days 0 days | 0 days 0 days 0 days 0 days 0 days 0.5 days 1 day | 108 days 95 days 297 days 297 days 45 days 20 days 17 days | | | | |
| | CH1000 - CH1087 (~157m) Rd D3 CH1087 - CH1189.4 (~218m) - N. Ramp CH1189.4 - CH1394 (~409.2m) - Bridge D3 CH1394 - CH1344.7 (~101.4m) - S. Ramp CH1444.7 - CH1560 (~165m) - Rd D3 CH1720 - CH1920 (~25m) - Underpass CH2060 - CH2118.93 (~47m) - Rd D3 CH100 - CH147 (~455m) - L12 Road Open Space & Promenade (~1,093m) Irrigation System CH1000 - CH1087 (~87m) Rd D3 CH1007 - CH1189.4 (~205m) - N. Ramp | 4 days 40 days 10 days 2 days 2 days 2 days 45 days 110 days 337 days 5 days | 4 days 40 days 10 days 2 days 2 days 45 days 110 days 337 days 5 days | NA | NA NA NA NA NA NA NA NA | June 1, 2021 June 12, 2021 July 17, 2021 September 21, 202 June 14, 2022 May 11, 2022 June 25, 2021 September 17, 202 | July 19, 2021 June 24, 2021 August 6, 2021 September 23, 2022 August 5, 2022 September 19, 2022 August 10, 2022 September 23, 2022 | October 22, 2021 November 9, 2021 September 21, 2022 September 23, 2022 August 6, 2022 June 4, 2022 July 16, 2021 September 17, 2021 | November 2, 2021 November 29, 2021 September 22, 2022 September 24, 2022 September 28, 2022 October 14, 2022 October 5, 2022 September 23, 2021 | 0% 0% 20% 20% 20% 0% 0% 0% | 0 days 0 days 24 days 0 days 0 days 0 days 17 days 0 days | 0 days 0 days 0 days 0 days 0.5 days 1 day 0 days 0 days 0 days | 108 days 95 days 297 days 45 days 20 days 17 days 0 days | | | | |
| | CH1000 - CH1087 (~157m) Rd D3 CH1087 - CH1189.4 (~218m) - N. Ramp CH1189.4 - CH1394 (~409.2m) - Bridge D3 CH1394 - CH1444.7 (~101.4m) - S. Ramp CH1444.7 - CH1560 (~165m) - Rd D3 CH1720 - CH1920 (~25m) - Underpass CH2060 - CH2118.93 (~47m) - Rd D3 CH100 - CH147 (~455m) - L12 Road Open Space & Promenade (~1,093m) Irrigation System CH1000 - CH1087 (~87m) Rd D3 CH1007 - CH1189.4 (~205m) - N. Ramp CH1087 - CH1189.4 (~409.2m) - Bridge D3 | 4 days 40 days 10 days 2 days 2 days 2 days 45 days 110 days 337 days 5 days 9 days | 4 days 40 days 10 days 2 days 2 days 45 days 110 days 337 days 5 days 9 days | NA | NA NA NA NA NA NA NA NA NA | June 1, 2021 June 12, 2021 July 17, 2021 September 21, 202 June 14, 2022 June 14, 2022 June 25, 2021 September 17, 202 July 16, 2021 | July 19, 2021 June 24, 2021 August 6, 2021 September 23, 2022 August 5, 2022 September 19, 2022 August 10, 2022 September 23, 2022 July 26, 2021 | October 22, 2021 November 9, 2021 September 21, 2022 September 23, 2022 August 6, 2022 June 4, 2022 July 16, 2021 | November 2, 2021 November 29, 2021 September 22, 2022 September 24, 2022 September 28, 2022 October 14, 2022 October 14, 2022 September 23, 2021 | 0% 0% 20% 20% 20% 0% 0% 0% 0% | 0 days 0 days 24 days 0 days 0 days 0 days 17 days 0 days 0 days | 0 days 0 days 0 days 0 days 0.5 days 1 day 0 days 0 days 0 days 0 days | 108 days 95 days 297 days 45 days 20 days 17 days 0 days | | | | |
| | CH1000 - CH1087 (~157m) Rd D3 CH1087 - CH1189.4 (~218m) - N. Ramp CH1189.4 - CH1394 (~409.2m) - Bridge D3 CH1394 - CH1444.7 (~101.4m) - S. Ramp CH1444.7 - CH1560 (~165m) - Rd D3 CH1720 - CH1920 (~25m) - Underpass CH2060 - CH2118.93 (~47m) - Rd D3 CH100 - CH147 (~455m) - L12 Road Open Space & Promenade (~1,093m) Irrigation System CH1000 - CH1087 (~87m) Rd D3 CH1007 - CH1189.4 (~205m) - N. Ramp CH1087 - CH1189.4 (~409.2m) - Bridge D3 | 4 days 40 days 10 days 2 days 2 days 2 days 45 days 110 days 337 days 9 days 7 days | 4 days 40 days 10 days 2 days 2 days 45 days 110 days 337 days 5 days 9 days 7 days | NA | NA NA NA NA NA NA NA NA NA NA | June 1, 2021 June 12, 2021 July 17, 2021 September 21, 202 June 14, 2022 June 14, 2022 June 25, 2021 September 17, 202 July 16, 2021 | July 19, 2021 June 24, 2021 August 6, 2021 September 23, 2022 August 5, 2022 August 5, 2022 September 19, 2022 August 10, 2022 I September 23, 2022 July 26, 2021 July 3, 2021 | October 22, 2021 November 9, 2021 September 21, 2022 Suptember 23, 2022 June 4, 2022 June 4, 2022 July 16, 2021 July 16, 2021 October 4, 2021 November 3, 2021 | November 2, 2021 November 29, 2021 September 22, 2022 September 24, 2022 September 28, 2022 October 14, 2022 September 23, 2021 July 26, 2021 October 11, 2021 | 0% 0% 2 0% 2 0% 2 0% 0% 0% 0% 0% 0% | 0 days 0 days 24 days 0 days 0 days 0 days 17 days 0 days 0 days 13 days | 0 days 0 days 0 days 0 days 0.5 days 1 day 0 days 0 days 0 days 0 days 0 days | 108 days 95 days 297 days 297 days 45 days 20 days 0 days 0 days 83 days | | | | |
| | CH1000 - CH1087 (~157m) Rd D3 CH1087 - CH1189.4 (~218m) - N. Ramp CH1189.4 - CH1394 (~409.2m) - Bridge D3 CH1394 - CH1444.7 (~101.4m) - S. Ramp CH1444.7 - CH1560 (~165m) - Rd D3 CH1720 - CH1920 (~25m) - Underpass CH2060 - CH2118.93 (~47m) - Rd D3 CH100 - CH147 (~455m) - L12 Road Open Space & Promenade (~1,093m) Irrigation System CH1000 - CH1087 (~87m) Rd D3 CH1007 - CH1189.4 (~205m) - N. Ramp CH1087 - CH1189.4 (~409.2m) - Bridge D3 CH1394 - CH1394 (~409.2m) - Bridge D3 CH1394 - CH1444.7 (~101.4m) - S. Ramp CH1444.7 - CH1560 (~175m) - Rd D3 | 4 days 40 days 10 days 2 days 2 days 2 days 45 days 110 days 337 days 5 days 9 days 7 days 3 days | 4 days 40 days 10 days 2 days 2 days 45 days 110 days 337 days 5 days 9 days 7 days 3 days | NA NA | NA NA NA NA NA NA NA NA NA NA NA | June 1, 2021 June 12, 2021 July 17, 2021 September 21, 202 September 24, 202 June 14, 2022 June 25, 2021 September 17, 202 July 16, 2021 June 25, 2021 June 25, 2021 | July 19, 2021 June 24, 2021 August 6, 2021 September 23, 2022 August 5, 2022 August 5, 2022 August 5, 2022 August 10, 2022 I September 23, 2022 July 26, 2021 July 3, 2021 June 28, 2021 August 11, 2021 | October 22, 2021 November 9, 2021 September 21, 2022 Suptember 23, 2022 June 4, 2022 June 4, 2022 July 16, 2021 July 16, 2021 October 4, 2021 November 3, 2021 | November 2, 2021 November 29, 2021 September 22, 2022 September 24, 2022 September 28, 2022 October 14, 2022 September 23, 2021 July 26, 2021 October 11, 2021 November 5, 2021 December 3, 2021 | 0% 0% 2 0% 2 0% 2 0% 0% 0% 0% 0% 0% 0% 0% | 0 days 0 days 24 days 0 days 0 days 0 days 17 days 0 days 0 days 13 days 108 days | 0 days 0 days 0 days 0 days 1 day 0 days 0 days 0 days 0 days 0 days 0 days 0 days 0 days | 108 days 95 days 297 days 297 days 45 days 20 days 0 days 83 days 108 days | | | | |
| | CH1000 - CH1087 (~157m) Rd D3 CH1087 - CH1189.4 (~218m) - N. Ramp CH1189.4 - CH1394 (~409.2m) - Bridge D3 CH1394 - CH1444.7 (~101.4m) - S. Ramp CH1444.7 - CH1560 (~165m) - Rd D3 CH1720 - CH1920 (~25m) - Underpass CH2060 - CH2118.93 (~47m) - Rd D3 CH100 - CH147 (~455m) - L12 Road Open Space & Promenade (~1,093m) Irrigation System CH1000 - CH1087 (~87m) Rd D3 CH1007 - CH1189.4 (~205m) - N. Ramp CH1189.4 - CH1394 (~409.2m) - Bridge D3 CH1394 - CH1444.7 (~101.4m) - S. Ramp CH1444.7 - CH1560 (~175m) - Rd D3 | 4 days 40 days 10 days 2 days 2 days 45 days 110 days 337 days 5 days 9 days 7 days 3 days 4 days | 4 days 40 days 10 days 18 days 2 days 2 days 45 days 110 days 337 days 5 days 9 days 7 days 3 days 4 days | NA NA NA NA NA NA NA NA NA NA NA NA NA N | NA NA NA NA NA NA NA NA NA NA NA NA NA N | June 1, 2021 June 12, 2021 July 17, 2021 September 21, 202 September 24, 202 June 14, 2022 May 11, 2022 June 25, 2021 September 17, 202 July 16, 2021 June 25, 2021 August 7, 2021 | July 19, 2021 June 24, 2021 August 6, 2021 September 23, 202 September 25, 202 August 5, 2022 September 19, 202 August 10, 2022 September 23, 202 July 26, 2021 July 3, 2021 June 28, 2021 August 11, 2021 October 11, 2021 | October 22, 2021 November 9, 2021 September 21, 2022 August 6, 2022 June 4, 2022 July 16, 2021 September 17, 2021 July 16, 2021 October 4, 2021 November 3, 2021 November 30, 2021 September 19, 2022 | November 2, 2021 November 29, 2021 September 22, 2022 September 24, 2022 October 14, 2022 October 5, 2022 September 23, 2021 July 26, 2021 October 11, 2021 November 5, 2021 December 3, 2021 September 22, 2022 | 0% 0% 2 0% 2 0% 0% 0% 0% 0% 0% 0% 0% 0% | 0 days 0 days 2 days 2 days 0 days 0 days 17 days 0 days 10 days 13 days 108 days 95 days | 0 days 0 days 0 days 0 days 1 day 0 days 0 days 0 days 0 days 0 days 0 days 0 days 0 days | 108 days 95 days 297 days 297 days 45 days 20 days 0 days 0 days 83 days 108 days 95 days | | | | |
| | CH1000 - CH1087 (~157m) Rd D3 CH1087 - CH1189.4 (~218m) - N. Ramp CH1189.4 - CH1394 (~409.2m) - Bridge D3 CH1394 - CH1444.7 (~101.4m) - S. Ramp CH1444.7 - CH1560 (~165m) - Rd D3 CH1720 - CH1920 (~25m) - Underpass CH2060 - CH2118.93 (~47m) - Rd D3 CH100 - CH147 (~455m) - L12 Road Open Space & Promenade (~1,093m) Irrigation System CH1000 - CH1087 (~87m) Rd D3 CH1087 - CH189.4 (~205m) - N. Ramp CH1087 - CH189.4 (~409.2m) - Bridge D3 CH1394 - CH1394 (~409.2m) - Bridge D3 CH1394 - CH1444.7 (~101.4m) - S. Ramp CH1444.7 - CH1560 (~175m) - Rd D3 CH1920 - CH2000 (~160m) S.D. Rd | 4 days 40 days 10 days 2 days 2 days 2 days 45 days 110 days 337 days 5 days 7 days 3 days 4 days | 4 days 40 days 10 days 18 days 2 days 2 days 45 days 110 days 337 days 5 days 9 days 7 days 3 days 4 days 4 days | NA NA NA NA NA NA NA NA NA NA NA NA NA | NA NA NA NA NA NA NA NA NA NA NA NA Duration- | June 1, 2021 June 12, 2021 July 17, 2021 September 21, 202 September 24, 202 June 14, 2022 May 11, 2022 June 25, 2021 September 17, 202 July 16, 2021 June 25, 2021 August 7, 2021 | July 19, 2021 June 24, 2021 August 6, 2021 September 23, 2021 September 25, 2022 August 5, 2022 September 19, 2022 August 10, 2022 September 23, 2021 July 26, 2021 July 26, 2021 June 28, 2021 August 11, 2021 October 11, 2021 Baseline Milestone | October 22, 2021 November 9, 2021 September 21, 2022 August 6, 2022 June 4, 2022 July 16, 2021 September 17, 2021 November 3, 2021 November 30, 2021 September 19, 2022 | November 2, 2021 November 29, 2021 September 22, 2022 September 24, 2022 October 14, 2022 October 5, 2022 September 23, 2021 July 26, 2021 October 11, 2021 November 5, 2021 December 3, 2021 September 22, 2022 | 0% 0% 20% 20% 20% 0% 0% 0% 0% 0% 0% 0% 0% 20% | 0 days 0 days 0 days 0 days 2 days 0 days 1 days 0 days 0 days 0 days 0 days 1 days 0 days 1 days 1 days 95 days 10 days 10 days | 0 days 0 days 0 days 0 days 0 days 1 day 0 days 0 days 0 days 0 days 0 days | 108 days 95 days 297 days 297 days 45 days 20 days 0 days 0 days 0 days 108 days 95 days 283 days | nactive Miles | | | Baselin |
| /2(| CH1000 - CH1087 (~157m) Rd D3 CH1087 - CH1189.4 (~218m) - N. Ramp CH1189.4 - CH1394 (~409.2m) - Bridge D3 CH1394 - CH1444.7 (~101.4m) - S. Ramp CH1444.7 - CH1560 (~165m) - Rd D3 CH1720 - CH1920 (~25m) - Underpass CH2060 - CH2118.93 (~47m) - Rd D3 CH100 - CH147 (~455m) - L12 Road Open Space & Promenade (~1,093m) Irrigation System CH1000 - CH1087 (~87m) Rd D3 CH1007 - CH1189.4 (~205m) - N. Ramp CH1189.4 - CH1394 (~409.2m) - Bridge D3 CH1394 - CH1444.7 (~101.4m) - S. Ramp CH1444.7 - CH1560 (~175m) - Rd D3 | 4 days 40 days 10 days 2 days 2 days 45 days 110 days 337 days 9 days 7 days 3 days 4 days 4 days | 4 days 40 days 10 days 18 days 2 days 2 days 45 days 110 days 337 days 5 days 9 days 7 days 3 days 4 days 4 days | NA NA NA NA NA NA NA NA NA NA NA NA NA N | NA NA NA NA NA NA NA NA NA NA NA NA NA N | June 1, 2021 June 1, 2021 July 17, 2021 September 21, 202 September 24, 202 June 14, 2022 May 11, 2022 June 25, 2021 July 16, 2021 June 25, 2021 June 25, 2021 August 7, 2021 | July 19, 2021 June 24, 2021 August 6, 2021 September 23, 202 September 25, 202 August 5, 2022 September 19, 202 August 10, 2022 September 23, 202 July 26, 2021 July 3, 2021 June 28, 2021 August 11, 2021 October 11, 2021 | October 22, 2021 November 9, 2021 September 21, 2022 September 23, 2022 June 4, 2022 July 16, 2021 September 17, 2021 November 3, 2021 November 3, 2021 September 19, 2022 | November 2, 2021 November 29, 2021 September 22, 2022 September 24, 2022 October 14, 2022 October 5, 2022 September 23, 2021 July 26, 2021 October 11, 2021 November 5, 2021 December 3, 2021 September 22, 2022 | 0% 0% 20% 20% 20% 0% 0% 0% 0% 0% 0% 0% 0% 20% | 0 days 0 days 2 days 2 days 0 days 0 days 17 days 0 days 10 days 13 days 108 days 95 days | 0 days 0 days 0 days 0 days 0 days 1 day 0 days 0 days 0 days 0 days 0 days | 108 days 95 days 297 days 297 days 207 days 20 days 0 days 0 days 0 days 83 days 108 days 95 days 283 days | nactive Miless | | | Baseli |



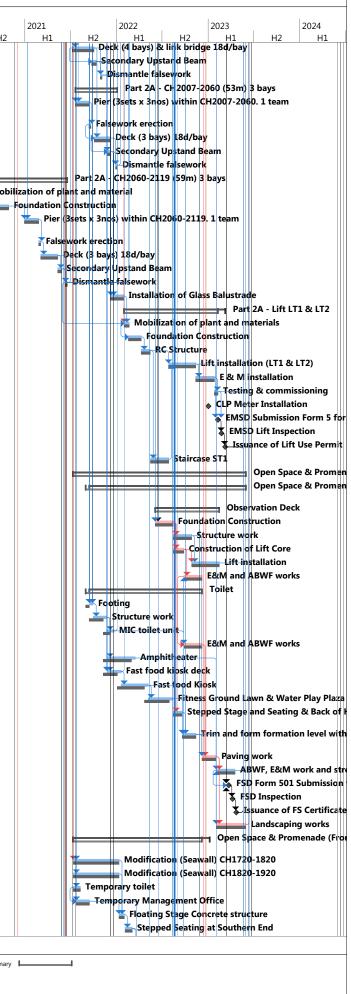
| - | ask Name | Duration | Remaining Duration | Actual Start | Actual Finish | Plan Start | Plan Finish | Late Start | | | Slack | Time Risk Allowance | es Slack 2019 | | 2020 |
|----------------------------------------|-----------------------------------------------------------------|----------|----------------------------|--------------|---------------|-----------------------------------------|-----------------------------------|------------------------------|--------------------|----------------|--------------------------|------------------------|--------------------|-----------------------|----------|
| 841 | CH2000 - CH2060 (~60m) - S.D. Rd | 2 days | 2 days | NA | NA | October 25, 2021 | October 26, 2021 | September 23, 2022 | September 24, 2022 | Complete 0% | | (TRA) 0 days | 273 days | H2 Sun September 2 | H1 |
| 42 | CH2060 - CH2118.93 (~100m) - Rd D3 | 3 days | 3 days | NA | NA | October 27, 2021 | | • | September 28, 2022 | | , 228 days | | 273 days | | _ |
| 43 | CH100 - CH147 (~173m) - L12 Road | 4 days | 4 days | NA | NA | August 6, 2022 | August 10, 2022 | September 29, 2022 | | | | 0 days | 45 days | | |
| 44 | Underground pump house next to underpass | 168 days | 168 days | NA | NA | June 29, 2021 | January 18, 2022 | • | | | 33 days | ,- | 33 days | | |
| 45 | Underground pump house structure | 90 days | 90 days | NA | NA | June 29, 2021 | | August 7, 2021 | November 23, 2021 | | | 4 days | 33 days | | |
| 46 | E&M installation | 60 days | 60 days | NA | NA | October 16, 2021 | December 24, 2021 | - · | | | | 3 days | 33 days | | |
| | | | | | | | | | | | | | - | | |
| 847 | Testing and Commissioning | 18 days | 18 days | NA | NA | December 28, 2021 | | February 9, 2022 | | | 33 days | | 33 days | | |
| 848 | Salt Water Pumping Station | 689 days | 689 days | NA | NA | September 15, 20. | | July 23, 2022 | | | 114 days | | 114 days | | |
| 849 | ELS & Excavation | 60 days | 60 days | NA | NA | July 13, 2021 | September 20, 2021 | | | | 14 days | | 307 days | | |
| 350 | Structure | 90 days | 90 days | NA | NA | October 9, 2021 | January 26, 2022 | October 5, 2022 | January 18, 2023 | 0% | 0 days | 1 day | 293 days | | |
| 851 | Finishing work and fitting out | 60 days | 60 days | NA | NA | January 27, 2022 | April 11, 2022 | January 30, 2023 | April 13, 2023 | 0% | 0 days | 1 day | 299 days | | |
| 352 | Ironmongery work | 24 days | 24 days | NA | NA | April 12, 2022 | May 12, 2022 | April 14, 2023 | May 12, 2023 | 0% | 6 days | 0.5 days | 299 days | | |
| 353 | E&M installation & ABWF work | 90 days | 90 days | NA | NA | January 27, 2022 | May 19, 2022 | January 19, 2023 | May 12, 2023 | 0% | 0 days | 1 day | 293 days | | |
| 54 | Testing and Commissioning | 14 days | 14 days | NA | NA | May 20, 2022 | June 6, 2022 | May 13, 2023 | May 30, 2023 | 0% | 293 days | 0 days | 293 days | | |
| 55 | WSD Form 542 Submission | 0 days | 0 days | NA | NA | September 15, 202 | 0 September 15, 2020 | May 1, 2023 | May 1, 2023 | 0% | 193 days | | 958 days | | |
| 56 | WSD Form 46 Part I & II Submission | 0 days | 0 days | NA | NA | March 27, 2021 | March 27, 2021 | May 1, 2023 | May 1, 2023 | 0% | 353 days | | 765 days | | |
| 57 | WSD Form 46 Part 46 Part IV Submission | 0 days | 0 days | NA | NA | March 15, 2022 | March 15, 2022 | May 1, 2023 | | | 268 days | | 412 days | | |
| 58 | CLP Meter Installation | 0 days | 0 days | NA | NA | June 19, 2022 | June 19, 2022 | May 1, 2023 | | | 172 days | | 316 days | | |
| 59 | FSD Form 501 Submission for FS Inspection | 0 days | 0 days | NA | NA | December 8, 2022 | | | | | 0 days | | 144 days | | |
| _ | FSD Inspection | 0 days | | NA | NA | | December 22, 2022 | | | | 0 days | | | | |
| 60 61 | | | 0 days | | | | | | | | | | 144 days | | |
| 361 | Issuance of FS Certificate | 0 days | 0 days | NA | NA | January 6, 2023 | | May 30, 2023 | | | 144 days | | 144 days | | |
| 62 | Sewage Pumping Station | 689 days | 689 days | NA | NA | September 15, 20. | | November 26, 2021 | • • | | 114 days | | 114 days | | |
| 63 | ELS & Excavation | 60 days | 60 days | NA | NA | July 13, 2021 | | November 26, 2021 | February 10, 2022 | | • | 1 day | 114 days | | |
| 64 | Structure | 90 days | 90 days | NA | NA | September 21, 202 | | February 11, 2022 | | | 0 days | | 114 days | | |
| 65 | Finishing work and fitting out | 60 days | 60 days | NA | NA | January 11, 2022 | March 24, 2022 | June 9, 2022 | August 18, 2022 | 0% | 0 days | 1 day | 120 days | | |
| 366 | Ironmongery work | 24 days | 24 days | NA | NA | March 25, 2022 | April 26, 2022 | August 19, 2022 | September 16, 2022 | 0% | 63 days | 0.5 days | 120 days | | |
| 367 | E&M installation & ABWF work | 90 days | 90 days | NA | NA | January 11, 2022 | May 3, 2022 | June 1, 2022 | September 16, 2022 | 0% | 39 days | 1 day | 114 days | | |
| 68 | Testing and Commissioning | 14 days | 14 days | NA | NA | July 12, 2022 | July 27, 2022 | September 17, 2022 | October 5, 2022 | 0% | 12 days | 0 days | 57 days | | |
| 69 | WSD Form 542 Submission | 0 days | 0 days | NA | NA | September 15, 202 | 0 September 15, 2020 | May 1, 2023 | May 1, 2023 | 0% | 193 days | | 958 days | | |
| 370 | WSD Form 46 Part I & II Submission | 0 days | 0 days | NA | NA | March 27, 2021 | March 27, 2021 | May 1, 2023 | | | 353 days | | 765 days | | |
| 371 | WSD Form 46 Part 46 Part IV Submission | 0 days | 0 days | NA | NA | March 15, 2022 | March 15, 2022 | May 1, 2023 | | | 268 days | | 412 days | | |
| 372 | CLP Meter Installation | 0 days | 0 days | NA | NA | June 19, 2022 | June 19, 2022 | May 1, 2023 | | | 172 days | | 316 days | | |
| | FSD Form 501 Submission for FS Inspection | | | NA | NA | December 8, 2022 | | | | | | | | | |
| 373 | · · · · · · · · · · · · · · · · · · · | 0 days | 0 days | | | | | | | | 0 days | | 144 days | | |
| 374 | FSD Inspection | 0 days | 0 days | NA | NA | | December 22, 2022 | | | | 0 days | | 144 days | | |
| 375 | Issuance of FS Certificate | 0 days | 0 days | NA | NA | January 6, 2023 | | May 30, 2023 | | | 144 days | | 144 days | | |
| 376 | Seawater Intake Box Culvert (~169m) | 812 days | 812 days | NA | NA | March 20, 2020 | December 10, 2022 | | December 10, 2022 | | 0 days | | 0 days | | C |
| 77 | Part 4 - CHA.0-79 (79m) | 440 days | 440 days | NA | NA | June 24, 2021 | December 10, 2022 | | December 10, 2022 | | 0 days | | 0 days | | |
| 78 | Temporary ELS & Excavation | 24 days | 24 days | NA | NA | June 24, 2021 | July 22, 2021 | June 24, 2021 | • • | | | 1 days | 0 days | | |
| 79 | Base Slab (12d/bay) | 96 days | 96 days | NA | NA | July 23, 2021 | November 15, 2021 | | November 15, 2021 | | • | 5 days | 0 days | | |
| 30 | Wall (14d/bay) | 112 days | 112 days | NA | NA | | | | February 7, 2022 | 0% | 0 days | 5 days | 0 days | | |
| 81 | Top Slab (20d/bay) | 160 days | 160 days | NA | NA | February 8, 2022 | August 19, 2022 | February 8, 2022 | August 19, 2022 | 0% | 0 days | 8 days | 0 days | | |
| 82 | Remove struts and backfilling | 18 days | 18 days | NA | NA | August 20, 2022 | September 9, 2022 | August 20, 2022 | September 9, 2022 | 0% | 0 days | 1 days | 0 days | | |
| 33 | Precast Installation | 76 days | 76 days | NA | NA | September 12, 20. | . December 10, 2022 | September 12, 2022 | December 10, 2022 | 0% | 0 days | | 0 days | | |
| 34 | Piling platform erection | 26 days | 26 days | NA | NA | September 12, 202 | 2 October 13, 2022 | September 12, 2022 | October 13, 2022 | | | 1 days | 0 days | | |
| 85 | Pipe pile installation | 14 days | 14 days | NA | NA | | October 29, 2022 | | October 29, 2022 | | | 1 days | 0 days | | |
| 86 | Remove of piling platform & existing seawall | 21 days | 21 days | NA | NA | | November 23, 2022 | | November 23, 2022 | | | 1 days | 0 days | | |
| | | | ,5 | | | | | | | - | | | | | |
| 37 | Install precast seawall intake | 5 days | 5 days | NA | NA | November 24, 2022 | 2 November 29, 2022 | November 24, 2022 | November 29, 2022 | 0% | 0 days | 0 days | 0 days | | |
| 88 | Reinstate seawall | 10 days | 10 days | NA | NA | November 30, 2022 | 2 December 10, 2022 | November 30, 2022 | December 10, 2022 | 0% | 0 days | 0 days | 0 days | | |
| 39 | Part 10 - CHA79-89 (10m) | 348 days | 348 days | NA | NA | April 22, 2020 | June 23, 2021 | April 1, 2021 | | | 0 days | | 0 days | | |
| 90 | Temporary ELS & Excavation | 14 days | 14 days | NA | NA | April 22, 2020 | May 9, 2020 | April 1, 2021 | | | 82 days | 0 davs | 282 days | | |
| 91 | Base Slab (12d/bay) | 12 days | 12 days | NA | NA | August 17, 2020 | | April 21, 2021 | | | 54 days | | 200 days | | |
| 91 92 | Wall (14d/bay) | 14 days | 14 days | NA | NA | | November 20, 2020 | | | | 146 days | | 146 days | | |
| | Top Slab (20d/bay) | | | | | | | | | | | | | | |
| 93 | | 20 days | 20 days | NA | NA | May 24, 2021 | June 16, 2021 | May 24, 2021 | | | 0 days | | 0 days | | |
| 94 | Remove struts and backfilling | 6 days | 6 days | NA | NA | June 17, 2021 | June 23, 2021 | June 17, 2021 | | | | 0 days | 0 days | | |
| 95 | Part 1 - CH89-169 (80m) | 366 days | 366 days | NA | NA | March 20, 2020 | June 16, 2021 | April 22, 2020 | | | 0 days | | 0 days | | |
| 96 | Temporary ELS & Excavation | 24 days | 24 days | NA | NA | March 20, 2020 | April 21, 2020 | March 4, 2021 | | | | 0.5 days | 282 days | | <u> </u> |
| 97 | Base Slab (12d/bay) | 96 days | 96 days | NA | NA | April 22, 2020 | August 15, 2020 | April 22, 2020 | August 15, 2020 | 0% | 0 days | 4 days | 0 days | | |
| 98 | Wall (14d/bay) | 112 days | 112 days | NA | NA | June 22, 2020 | November 4, 2020 | June 22, 2020 | November 4, 2020 | 0% | 0 days | 5 days | 0 days | | |
| | Top Slab (20d/bay) | 160 days | 160 days | NA | NA | November 5, 2020 | May 22, 2021 | November 5, 2020 | May 22, 2021 | 0% | 0 days | 8 days | 0 days | | |
| 99 | Remove struts and backfilling | 20 days | 20 days | NA | NA | May 24, 2021 | June 16, 2021 | May 24, 2021 | | | | , 1 days | 0 days | | |
| | Elevated Landscape Deck | 808 days | 788.7 days | May 16, 2019 | NA | May 16, 2019 | | May 16, 2019 | | | 65 days | | 65 days | | |
| 00 | | 14 days | 0 days | May 16, 2019 | May 31, 2019 | May 16, 2019 | May 31, 2019 | May 16, 2019 | | | | 0 days | 0 days | 🔶 Agree Inte | erface |
| 00 01 | Agree Interface Coordination Plan with KL/2014/01 | 14 00 95 | | | | | | | | | | | | | |
| 00 01 02 | Agree Interface Coordination Plan with KL/2014/01 Contractor | | | | | | | | | | | | | | |
| 900 901 902 | Agree Interface Coordination Plan with KL/2014/01 | 165 days | 165 days | NA | NA | April 17, 2021 | November 3, 2021 | May 22, 2021 | February 8, 2022 | | 28 days | | 28 days | | |
| 399 900 901 902 903 904 | Agree Interface Coordination Plan with KL/2014/01 Contractor | | 165 days 60 days | NA NA | NA NA | April 17, 2021 April 17, 2021 | November 3, 2021 June 29, 2021 | May 22, 2021 May 22, 2021 | | | 28 days 0 days | 1 day | 28 days 28 days | | |

| itle: Revised Programme- | Critical | | Task | | Manual Task | | Duration-only | Baseline N | lilestone 🔇 | > | Summary | External Tasks | Inactive Milestone | \diamond | Baseline Summ |
|--------------------------|-------------------|-------|---------------|-------|-------------|---|----------------|------------|-------------|---|-----------------|------------------------|------------------------|------------|---------------|
| ED/2018/01 with Progress | | ••••• | Split | ••••• | Start-only | E | Baseline | Milestone | • | • | Manual Summary | External Milestone | \$ Inactive Summary | | - |
| Update as of 22-Sep-19 | Critical Progress | | Task Progress | | Finish-only | 3 | Baseline Split | Summary | Progress 🔳 | | Project Summary | Inactive Task | Deadline | ÷ | |
| | | | | | | | | | | F | Page 16 | | | | |



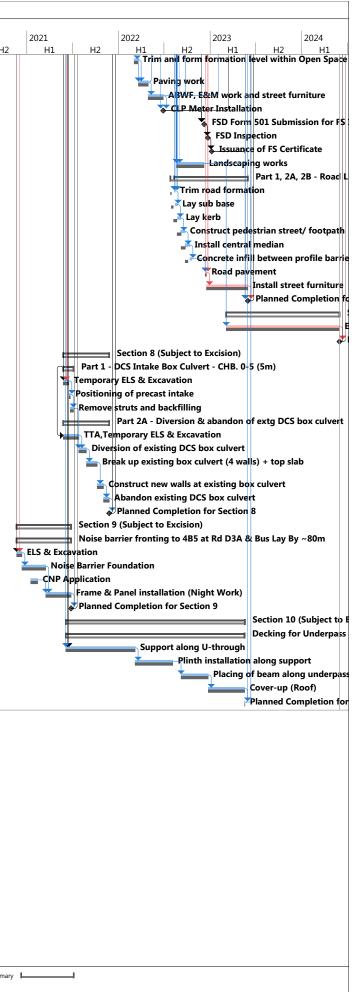
| | Task Name | Duration | Remaining | Actual Start | Actual Finish | Plan Start | Plan Finish | Late Start | Late Finish | Physical | Free | Time Risk | Total | | | |
|------------|-------------------------------------------------------------------------------|--------------------|--------------------|--------------|---------------|--------------------|------------------------------|---------------------|--------------------|----------|--------------|-----------------|----------|--------|------------|---|
| | | | Duration | | | | | | | % | Slack | Allowance | | 2019 | 202 | |
| | | | | | | | | | | Complete | | (TRA) | | H1 | | ŀ |
| 906 | Deck (4 bays) & link bridge 18d/bay | 72 days | 72 days | NA | NA | July 9, 2021 | October 2, 2021 | August 11, 2021 | November 5, 2021 | | 0 days | 1 day | 28 days | Sun Se | ptember 22 | |
| 907 | Secondary Upstand Beam | 14 days | 14 days | NA | NA | September 24, 202 | | December 11, 2021 | December 29, 2021 | | 0 days | 0 days | 65 days | | | |
| 908 | Dismantle falsework | 5 days | 5 days | NA | NA | | November 3, 2021 | | February 8, 2022 | | 49 days | 0 days | 77 days | | | |
| 909 | Part 2A - CH2007-2060 (53m) 3 bays | 136 days | 136 days | NA | NA | July 22, 2021 | January 3, 2022 | September 8, 2021 | February 8, 2022 | | 28 days | | 28 days | | | |
| 910 | Pier (3sets x 3nos) within CH2007-2060. 1 team | 45 days | 45 days | NA | NA | July 22, 2021 | September 11, 202 | 1 September 8, 2021 | November 2, 2021 | 0% | 0 days | 0.5 days | 41 days | | | |
| 911 | Falsework erection | 7 days | 7 days | NA | NA | Sentember 13, 202 | Sentember 20, 202 | 1 November 3, 2021 | November 10, 2021 | 0% | 13 days | 0 days | 41 days | | | |
| 912 | Deck (3 bays) 18d/bay | 54 days | 54 days | NA | NA | October 4, 2021 | • | November 6, 2021 | January 11, 2022 | | 0 days | 1 day | 28 days | | | |
| | | | | NA | | | | | | | | | | | | |
| 913 | Secondary Upstand Beam | 12 days | 12 days | | NA | | | December 30, 2021 | January 13, 2022 | | 0 days | 0 days | 28 days | | | |
| 914 | Dismantle falsework | 5 days | 5 days | NA | NA | December 28, 2021 | | January 31, 2022 | February 8, 2022 | | 0 days | 0 days | 28 days | | | |
| 915 | Part 2A - CH2060-2119 (59m) 3 bays | 299 days | 299 days | NA | NA | June 16, 2020 | June 18, 2021 | June 29, 2020 | November 20, 2021 | | 10 days | | 10 days | | | |
| 916 | Mobilization of plant and material | 36 days | 36 days | NA | NA | June 16, 2020 | July 29, 2020 | June 29, 2020 | August 10, 2020 | 0% | 0 days | 2 days | 10 days | | | |
| 917 | Foundation Construction | 90 days | 90 days | NA | NA | July 30, 2020 | October 27, 2020 | March 11, 2021 | June 8, 2021 | 0% | 63 days | 1 day | 224 days | | | |
| 918 | Pier (3sets x 3nos) within CH2060-2119. 1 team | 45 days | 45 days | NA | NA | December 30, 2020 | February 24, 2021 | June 9, 2021 | August 2, 2021 | 0% | 0 days | 0.5 days | 129 days | | | |
| 10 | Falsework erection | 7 days | 7 days | NA | NA | February 25, 2021 | March 4, 2021 | August 2, 2021 | August 10, 2021 | 0% | 0 days | 0 days | 129 days | | | |
| 919 | | | 7 days | | | | | August 3, 2021 | | | | | | | | |
| 920 | Deck (3 bays) 18d/bay | 54 days | 54 days | NA | NA | March 5, 2021 | May 11, 2021 | August 11, 2021 | | 0% | 0 days | 1 day | 129 days | | | |
| 921 | Secondary Upstand Beam | 12 days | 12 days | NA | NA | May 12, 2021 | May 26, 2021 | October 16, 2021 | October 29, 2021 | | 0 days | 0 days | 129 days | | | |
| 922 | Dismantle falsework | 5 days | 5 days | NA | NA | June 12, 2021 | June 18, 2021 | November 16, 2021 | November 20, 2021 | | 0 days | 0 days | 129 days | | | |
| 923 | Installation of Glass Balustrade | 42 days | 42 days | NA | NA | December 9, 2021 | | March 2, 2022 | April 23, 2022 | 0% | 0 days | 0.5 days | 65 days | | | |
| 924 | Part 2A - Lift LT1 & LT2 | 330 days | 330 days | NA | NA | January 31, 2022 | March 9, 2023 | April 25, 2022 | May 30, 2023 | 0% | 64 days | | 64 days | | | |
| 925 | Mobilization of plant and materials | 15 days | 15 days | NA | NA | January 31, 2022 | February 19, 2022 | April 25, 2022 | May 11, 2022 | 0% | 0 days | 0 days | 65 days | | | |
| 926 | Foundation Construction | 43 days | 43 days | NA | NA | February 17, 2022 | April 8, 2022 | May 9, 2022 | June 28, 2022 | 0% | 0 days | 0.5 days | 65 days | | | |
| 927 | RC Structure | 28 days | 28 days | NA | NA | April 9, 2022 | May 14, 2022 | June 29, 2022 | August 1, 2022 | 0% | 0 days | 0.5 days | 65 days | | | |
| 928 | Lift installation (LT1 & LT2) | 90 days | 90 days | NA | NA | July 27, 2022 | November 11, 2022 | 2 October 14, 2022 | January 31, 2023 | 0% | 0 days | 1 day | 65 days | | | |
| 929 | E & M installation | 60 days | 60 days | NA | NA | November 12, 2022 | January 25, 2023 | February 1, 2023 | April 15, 2023 | 0% | 0 days | 1 day | 65 days | | | |
| 930 | Testing & commissioning | 12 days | 12 days | NA | NA | January 26, 2023 | February 8, 2023 | April 17, 2023 | April 29, 2023 | 0% | 0 days | 0 days | 65 days | | | |
| 931 | CLP Meter Installation | 0 days | 0 days | NA | NA | January 2, 2023 | January 2, 2023 | January 2, 2023 | January 2, 2023 | 0% | 0 days | | 0 days | | | |
| 932 | EMSD Submission Form 5 for Lift Inspection | 0 days | 0 days | NA | NA | February 8, 2023 | February 8, 2023 | May 2, 2023 | May 2, 2023 | 0% | 0 days | | 82 days | | | |
| 933 | EMSD Lift Inspection | 0 days | 0 days | NA | NA | February 22, 2023 | February 22, 2023 | May 16, 2023 | May 16, 2023 | 0% | 0 days | | 82 days | | | |
| 934 | Issuance of Lift Use Permit | 0 days | 0 days | NA | NA | March 9, 2023 | March 9, 2023 | May 30, 2023 | May 30, 2023 | 0% | , 82 days | | 82 days | | | |
| 935 | Staircase ST1 | 60 days | 60 days | NA | NA | May 16, 2022 | July 26, 2022 | August 2, 2022 | October 13, 2022 | 0% | 0 days | 1 day | 65 days | | | |
| 936 | Open Space & Promenade | 561 days | 561 days | NA | NA | July 13, 2021 | May 30, 2023 | October 7, 2021 | May 30, 2023 | 0% | 0 days | 1 ddy | | | | |
| 936 937 | Open Space & Promenade Open Space & Promenade (From Northern End - CH1720) | 501 days | 501 days | NA | NA | September 15, | May 30, 2023 May 30, 2023 | October 11, 2021 | May 30, 2023 | 0% | 0 days | | 0 days | | | |
| 150 | open space & momenade (mom Northern End - CM1/20) | Joo uays | Joo uays | | 10 | 2021 | 1104 30, 2023 | JUIDEI 11, 2021 | 1110y 30, 2023 | 0/0 | o uays | | 0 days | | | |
| 938 | Observation Deck | 210 days | 210 days | NA | NA | June 4, 2022 | February 13, 2023 | June 4, 2022 | May 30, 2023 | 0% | 0 days | | 0 days | | | |
| 939 | Foundation Construction | 60 days | 60 days | NA | NA | June 4, 2022 | August 13, 2022 | June 4, 2022 | August 13, 2022 | 0% | 0 days | 3 days | 0 days | | | |
| 940 | Structure work | 60 days | 60 days | NA | NA | August 15, 2022 | - | September 26, 2022 | | | 0 days | 1 day | 35 days | | | |
| 941 | Construction of Lift Core | 35 days | 35 days | NA | NA | August 15, 2022 | September 25, 202 | • | September 26, 2022 | | | 2 days | 0 days | | | |
| 942 | Lift installation | 90 days | 90 days | NA | NA | | February 13, 2023 | | May 30, 2023 | 0% | 85 days | | 85 days | | | |
| 943 | E&M and ABWF works | 60 days | 60 days | NA | NA | | | September 26, 2022 | | | | 3 days | 0 days | | | |
| 943 944 | Toilet | 366 days | 366 days | NA | NA | | December 6, 2022 | | December 6, 2022 | | 0 days | 5 0015 | 0 days | | | |
| | | | | | | • | | | October 25, 2021 | | | 0 days | | | | |
| 945 | Footing | 12 days | 12 days | NA | NA | September 15, 202 | • | | | | 0 days | 0 days | 20 days | | | |
| 946 | Structure work | 45 days | 45 days | NA | NA | September 30, 202 | | | December 16, 2021 | | 0 days | 0.5 days | 20 days | | | |
| 947 | MIC toilet unit | 24 days | 24 days | NA | NA | | | L December 17, 2021 | January 17, 2022 | | 0 days | 0.5 days | 20 days | | | |
| 948 | E&M and ABWF works | 60 days | 60 days | NA | NA | | | September 26, 2022 | | | 0 days | 3 days | 0 days | | | |
| 949 | Amphitheater | 90 days | 90 days | NA | NA | November 24, 2021 | | October 15, 2022 | February 1, 2023 | | 264 days | | 264 days | | | |
| 950 | Fast food kiosk deck | 45 days | 45 days | NA | NA | November 24, 2021 | | January 26, 2022 | March 22, 2022 | 0% | | 0.5 days | 51 days | | | |
| 951 | Fast food Kiosk | 86 days | 86 days | NA | NA | January 19, 2022 | May 6, 2022 | March 23, 2022 | July 7, 2022 | 0% | | 1 day | 51 days | | | |
| 952 | Fitness Ground Lawn & Water Play Plaza | 82 days | 82 days | NA | NA | May 7, 2022 | August 12, 2022 | July 8, 2022 | October 14, 2022 | 0% | 31 days | 1 day | 51 days | | | |
| 953 | Stepped Stage and Seating & Back of House Facility | 30 days | 30 days | NA | NA | August 15, 2022 | September 19, 202 | 2 September 7, 2022 | October 14, 2022 | 0% | 0 days | 0.5 days | 20 days | | | |
| | (under Bridge D3) | 4E | 4 | N 0 | NA | Contractor 20 area | Neverther (2, 200 | Ostaber 15, 2022 | Deservice acces | 00/ | 20 - | 0 5 -1 | 20 -1- | | | |
| 954 | Trim and form formation level within Open Space & Promenade area | 45 days | 45 days | NA | NA | September 20, 2022 | vovember 12, 2022 | 2 Uctober 15, 2022 | December 6, 2022 | 0% | 20 days | 0.5 days | 20 days | | | |
| 955 | Paving work | 45 days | 45 days | NA | NA | December 7, 2022 | February 1 2023 | December 7, 2022 | February 1, 2023 | 0% | 0 days | 2 days | 0 days | | | |
| | ABWF, E&M work and street furniture | 45 days 60 days | 45 days 60 days | NA | NA | | | March 12, 2023 | May 27, 2023 | 0% | | 2 days 1 day | | | | |
| 956 | | | | | | February 2, 2023 | April 17, 2023 | | | | | 1 009 | 33 days | | | |
| 957 | FSD Form 501 Submission for FS Inspection | 0 days | 0 days | NA | NA | March 23, 2023 | March 23, 2023 | May 1, 2023 | May 1, 2023 | 0% | 0 days | | 38 days | | | |
| 958 | FSD Inspection | 0 days | 0 days | NA | NA | April 7, 2023 | April 7, 2023 | May 16, 2023 | May 16, 2023 | 0% | 0 days | | 38 days | | | |
| 959 | Issuance of FS Certificate | 0 days | 0 days | NA | NA | April 22, 2023 | April 22, 2023 | May 30, 2023 | May 30, 2023 | 0% | 38 days | | 38 days | | | |
| 960 | Landscaping works | 95 days | 95 days | NA | NA | February 2, 2023 | May 30, 2023 | February 2, 2023 | May 30, 2023 | 0% | 0 days | 4 days | 0 days | | | |
| 961 | Open Space & Promenade (From CH1720 - South End) | 447 days | 447 days | NA | NA | July 13, 2021 | January 6, 2023 | October 7, 2021 | May 30, 2023 | 0% | 72 days | | 72 days | | | |
| | Madification (Committee UNCLATED COCC | 150 -1 | 150 -1 | N 0 | NA | huhu 42, 2025 | lanuar: 10, 2025 | Ostaber 7 2021 | Amril 0, 2022 | 00/ | 0.4- | 1 | 70 -1- | | | |
| 962 | Modification (Seawall) CH1720-1820 | 150 days | 150 days | NA | NA | July 13, 2021 | January 10, 2022 | October 7, 2021 | April 8, 2022 | 0% | | 1 day | 72 days | | | |
| 963 | Modification (Seawall) CH1820-1920 | 150 days | 150 days | NA | NA | July 13, 2021 | January 10, 2022 | October 7, 2021 | April 8, 2022 | 0% | 0 days | 1 day | 72 days | | | |
| 964 | Temporary toilet | 24 days | 24 days | NA | NA | July 13, 2021 | August 9, 2021 | January 31, 2022 | March 2, 2022 | 0% | 0 days | 0.5 days | 167 days | | | |
| 965 | Temporary Management Office | 45 days | 45 days | NA | NA | July 24, 2021 | September 14, 202 | 1 February 15, 2022 | April 8, 2022 | 0% | 95 days | 0.5 days | 167 days | | | |
| 966 | Floating Stage Concrete structure | 18 days | 18 days | NA | NA | January 11, 2022 | January 31, 2022 | April 9, 2022 | May 3, 2022 | 0% | 0 days | 0 days | 72 days | | | |
| 967 | Stepped Seating at Southern End | 24 days | 24 days | NA | NA | February 4, 2022 | March 3, 2022 | May 4, 2022 | May 31, 2022 | 0% | 0 days | 0.5 days | 72 days | | | |

| Title: Revised Programme- | Critical | Task | | Manual Task | | Duration-only | Baseline Mileste | one 🛇 | Summary | | External Tasks | | Inactive Milestone | \$ | Baseline Summary |
|---------------------------|-------------------|-------|----------|-----------------|----|----------------|-------------------|-------|-----------------|----|-------------------|-----|--------------------|----|------------------|
| ED/2018/01 with Progress | Critical Split | Split | | Start-only | E | Baseline | Milestone | • | Manual Summary | 1 | External Milestor | e 🔷 | Inactive Summary | | J. |
| Update as of 22-Sep-19 | Critical Progress | Task | Progress | Finish-only | з. | Baseline Split | Summary Progr | ess | Project Summary | 00 | Inactive Task | | Deadline | + | |
| | | | | | | | | | Page 17 | | | | | | |



|) | Task Name | Duration | 5 | Actual Start | Actual Finish | Plan Start | Plan Finish | Late Start | Late Finish | Physical % | Free | Time Risk Allowance | | 019 | 20 |
|------------|------------------------------------------------------------------|----------|-----------|--------------|---------------|-------------------|--------------------|--------------------|--------------------|----------------|----------|------------------------|------------|----------------------|----|
| | | | Duration | | | | | | | | Slack | | S SIACK 20 | 1 | |
| 968 | Trim and form formation level within Open Space & Promenade area | 14 days | 14 days | NA | NA | March 4, 2022 | March 19, 2022 | June 1, 2022 | June 17, 2022 | Complete 0% | | (TRA) 0 days | 72 days | H1 H2 Sun Septemb | |
| 969 | Paving work | 30 days | 30 days | NA | NA | March 21, 2022 | April 28, 2022 | June 18, 2022 | July 23, 2022 | 0% | 0 days | 0.5 days | 72 days | | |
| 970 | ABWF, E&M work and street furniture | 50 days | 50 days | NA | NA | April 29, 2022 | June 27, 2022 | July 28, 2022 | September 24, 2022 | 0% | 0 days | 1 day | 75 days | | |
| 971 | CLP Meter Installation | 0 days | 0 days | NA | NA | June 27, 2022 | June 27, 2022 | May 1, 2023 | May 1, 2023 | 0% | 163 days | | 307 days | | |
| 972 | FSD Form 501 Submission for FS Inspection | 0 days | 0 days | NA | NA | December 8, 2022 | December 8, 2022 | | May 1, 2023 | 0% | 0 days | | 144 days | | |
| 973 | FSD Inspection | 0 days | 0 days | NA | NA | December 22, 2022 | December 22, 2022 | May 16, 2023 | May 16, 2023 | 0% | 0 days | | 144 days | | |
| 974 | Issuance of FS Certificate | 0 days | 0 days | NA | NA | January 6, 2023 | January 6, 2023 | May 30, 2023 | May 30, 2023 | 0% | 144 days | | 144 days | | |
| 975 | Landscaping works | 90 days | 90 days | NA | NA | August 20, 2022 | | November 16, 2022 | | 0% | 72 days | | 72 days | | |
| 976 | Part 1, 2A, 2B - Road L12 | 238 days | 238 days | NA | NA | August 11, 2022 | May 30, 2023 | October 6, 2022 | May 30, 2023 | | 0 days | , | 0 days | | |
| 977 | Trim road formation | 3 days | 3 days | NA | NA | August 11, 2022 | August 13, 2022 | October 6, 2022 | October 8, 2022 | 0% | | 1 day | 45 days | | |
| 978 | Lay sub base | 7 days | 7 days | NA | NA | August 15, 2022 | August 22, 2022 | October 10, 2022 | | 0% | | 1 day | 45 days | | |
| 979 | Lay kerb | 12 days | 12 days | NA | NA | August 23, 2022 | September 5, 2022 | | | 0% | | 1 day | 45 days | | |
| 980 | Construct pedestrian street/ footpath | 14 days | 14 days | NA | NA | | September 22, 2022 | | November 16, 2022 | | | 1 day | 45 days | | |
| 981 | Install central median | 14 days | 14 days | NA | NA | | • | November 17, 2022 | | | | 1 day | 45 days | | |
| 981 | Concrete infill between profile barrier | 7 days | 7 days | NA | NA | | October 19, 2022 | | December 10, 2022 | | | 0 days | 45 days | | |
| 982 983 | Road pavement | 5 days | 5 days | NA | NA | | | December 12, 2022 | | | | 0 days | 0 days | | |
| 983 984 | Install street furniture | 131 days | 131 days | NA | NA | December 17, 2022 | | December 17, 2022 | | 0% | | 6 days | 0 days | | |
| | Planned Completion for Section 6 | | | NA | NA | May 30, 2023 | | May 30, 2023 | May 30, 2023 | | | | 0 days | | |
| 985 | | 0 days | 0 days | | | | May 30, 2023 | | | | | 0 days | | | |
| 986 | Section 7 | 365 days | 365 days | NA | NA | March 6, 2023 | May 29, 2024 | March 6, 2023 | May 29, 2024 | | 0 days | 10 -1 | 0 days | | |
| 987 | Establishment work for landscape softwork | 365 days | 365 days | NA | NA | March 6, 2023 | May 29, 2024 | March 6, 2023 | May 29, 2024 | | | 10 days | 0 days | | |
| 988 | Planned Completion for Section 7 | 0 days | 0 days | NA | NA | May 29, 2024 | May 29, 2024 | May 29, 2024 | May 29, 2024 | 0% | 0 days | | 0 days | | |
| 989 | Section 8 (Subject to Excision) | 152 days | 152 days | NA | NA | May 26, 2021 | November 24, 2021 | | December 2, 2021 | | 7 days | | 7 days | | |
| 990 | Part 1 - DCS Intake Box Culvert - CHB. 0-5 (5m) | 33 days | 33 days | NA | NA | May 26, 2021 | July 5, 2021 | June 25, 2021 | August 3, 2021 | 0% | 0 days | | 25 days | | |
| 991 | Temporary ELS & Excavation | 18 days | 18 days | NA | NA | May 26, 2021 | June 16, 2021 | June 25, 2021 | July 16, 2021 | 0% | | 2 days | 25 days | | |
| 992 | Positioning of precast intake | 5 days | 5 days | NA | NA | June 17, 2021 | June 22, 2021 | July 17, 2021 | July 22, 2021 | 0% | 0 days | 1 days | 25 days | | |
| 993 | Remove struts and backfilling | 10 days | 10 days | NA | NA | June 23, 2021 | July 5, 2021 | July 23, 2021 | August 3, 2021 | 0% | 18 days | 2 days | 25 days | | |
| 994 | Part 2A - Diversion & abandon of extg DCS box culvert | 152 days | 152 days | NA | NA | May 26, 2021 | November 24, 2021 | June 3, 2021 | December 2, 2021 | 0% | 7 days | | 7 days | | |
| 995 | TTA, Temporary ELS & Excavation | 51 days | 51 days | NA | NA | May 26, 2021 | July 26, 2021 | June 3, 2021 | August 3, 2021 | 0% | 0 days | 3 days | 7 days | | |
| 996 | Diversion of existing DCS box culvert | 26 days | 26 days | NA | NA | July 27, 2021 | August 25, 2021 | August 4, 2021 | September 2, 2021 | 0% | 0 days | 2 days | 7 days | | |
| 997 | Break up existing box culvert (4 walls) + top slab | 35 days | 35 days | NA | NA | August 26, 2021 | October 7, 2021 | September 3, 2021 | October 16, 2021 | 0% | 0 days | 2 days | 7 days | | |
| 998 | Construct new walls at existing box culvert | 20 days | 20 days | NA | NA | October 8, 2021 | November 1, 2021 | October 18, 2021 | November 9, 2021 | 0% | 0 days | 1 days | 7 days | | |
| 999 | Abandon existing DCS box culvert | 20 days | 20 days | NA | NA | November 2, 2021 | November 24, 2021 | November 10, 2021 | December 2, 2021 | 0% | 0 days | 1 days | 7 days | | |
| 1000 | Planned Completion for Section 8 | 0 days | 0 days | NA | NA | November 24, 2021 | November 24, 2021 | December 2, 2021 | December 2, 2021 | 0% | 0 days | 0 days | 7 days | | |
| 1001 | Section 9 (Subject to Excision) | 174 days | 174 days | NA | NA | November 21, 2020 | June 25, 2021 | November 30, 2020 | July 5, 2021 | 0% | 7 days | | 7 days | | |
| 1002 | Noise barrier fronting to 4B5 at Rd D3A & Bus Lay By ~80m | 174 days | 174 days | NA | NA | November 21, 2020 | June 25, 2021 | November 30, 2020 | July 5, 2021 | 0% | 7 days | | 7 days | | |
| 1003 | ELS & Excavation | 18 days | 18 days | NA | NA | November 21, 2020 | December 11, 2020 | November 30, 2020 | December 19, 2020 | 0% | 0 days | 1 days | 7 days | | |
| 1004 | Noise Barrier Foundation | 75 days | 75 days | NA | NA | December 12, 2020 | March 16, 2021 | December 21, 2020 | March 24, 2021 | 0% | 0 days | 4 days | 7 days | | |
| 1005 | CNP Application | 28 days | 28 days | NA | NA | January 16, 2021 | February 12, 2021 | February 25, 2021 | March 24, 2021 | 0% | 32 days | | 40 days | | |
| 1006 | Frame & Panel installation (Night Work) | 81 days | 81 days | NA | NA | March 17, 2021 | June 25, 2021 | March 25, 2021 | July 5, 2021 | 0% | 0 days | 4 days | 7 days | | |
| 1007 | Planned Completion for Section 9 | 0 days | 0 days | NA | NA | June 25, 2021 | June 25, 2021 | July 5, 2021 | July 5, 2021 | 0% | | 0.5 days | 10 days | | |
| 1008 | Section 10 (Subject to Excision) | 582 days | 582 days | NA | NA | June 5, 2021 | May 18, 2023 | June 17, 2021 | May 30, 2023 | 0% | 9 days | | 9 days | | |
| 1009 | Decking for Underpass (Rd L14) | 581 days | 581 days | NA | NA | June 5, 2021 | May 17, 2023 | June 17, 2021 | May 29, 2023 | 0% | 9 days | | 9 days | | |
| 1010 | Support along U-through | 225 days | 225 days | NA | NA | June 5, 2021 | March 7, 2022 | June 17, 2021 | March 17, 2022 | 0% | | 10 days | 9 days | | |
| 1010 | Plinth installation along support | 123 days | 123 days | NA | NA | March 8, 2022 | August 4, 2022 | March 18, 2022 | August 15, 2022 | 0% | | 6 days | 9 days | | |
| 1011 | Placing of beam along underpass | 90 days | 90 days | NA | NA | | | September 19, 2022 | - · | 0% | | 4 days | 9 days | | |
| 1012 | Cover-up (Roof) | 115 days | 115 days | NA | NA | December 24, 2022 | | January 5, 2023 | May 29, 2023 | 0% | | 5 days | 9 days | | |
| | | 110 00,0 | 110 00 15 | | | 20022 | , 17, 2025 | 53301 y 5, 2025 | | 0.0 | o duys | S duys | Judys | | |

| Title: Revised Programme- | Critical | Task | Manual Task | | Duration-only | Baseline Milestor | e 🛇 | Summary | External Tasks | Inactive Milestone | • • | Baseline Summary |
|----------------------------------------------------|-------------------------------------|----------------------------|-------------------------------|--------|----------------------------|---------------------------------|-----|-----------------------------------|-------------------------------------|------------------------------|-----|------------------|
| ED/2018/01 with Progress Update as of 22-Sep-19 | Critical Split Critical Progress | Split Task Progress | Start-only Finish-only | C 3 | Baseline Baseline Split | Milestone Summary Progre | \$ | Manual Summary Project Summary | External Milestone Inactive Task | Inactive Summary Deadline | • | |
| | | | , | | | , , | | Page 18 | | | | |



Appendix C – Environmental monitoring schedules

Contract No. EDO 15/2018 Environmental Monitoring at Kai Tak Development Stage 4 Infrastructure at the former runway and south apron Environmental Monitoring and Weekly Site Inspection Schedule for February 2020

| February 2020 |
|---------------|
|---------------|

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|-----|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|-----|------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| | | | | | | 1 |
| 2 | 3 | 4 24-hr TSP: AM3, AM4(A), AM7 1-hr X3 TSP: AM3, AM4(A), AM7 30-min Noise: M11, M12 | 5 | 6 Weekly Site Inspection + SSMC meeting | 7 | 8 |
| 9 | 10 24-hr TSP: AM AM4(A), AM7 1-hr X3 TSP: AM AM4(A), AM7 30-min Noise: M11, M1 | 3, ¹¹ 3, | 12 | 13 Weekly Site Inspection | 14 | 15 24-hr TSP: AM3, AM4(A), AM7 1-hr X3 TSP: AM3, AM4(A), AM7 |
| 16 | 17 | 18 | 19 | 20 | 21 Weekly Site Inspection 24-hr TSP: AM3, AM4(A), AM7 1-hr X3 TSP: AM3, AM4(A), AM7 30-min Noise: M11, M12 | 22 |
| 23 | 24 | 25 | 26 | 27 Weekly Site Inspection 24-hr TSP: AM3, AM4(A), AM7 1-hr X3 TSP: AM3, AM4(A), AM7 30-min Noise: M11, M12 | 28 | 29 |

Air Quality Monitoring Station

AM3 - Sky Tower AM4(A) - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop AM7 - Hong Kong Children's Hospital

Noise Quality Monitoring Station

M11 - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop M12 - Hong Kong Children's Hospital

Contract No. EDO 15/2018 Environmental Monitoring at Kai Tak Development Stage 4 Infrastructure at the former runway and south apron Propose Environmental Monitoring and Weekly Site Inspection Schedule for March 2020

March 2020

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|-----|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|------------------------------------------------|----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| 1 | 2 | 3 | 4 24-hr TSP: AM3, AM4(A), AM7 1-hr X3 TSP: AM3, AM4(A), AM7 30-min Noise: M11, M12 | 5 Weekly Site Inspection | 6 | 7 |
| 8 | 9 | 10 24-hr TSP: AM3, AM4(A), AM7 1-hr X3 TSP: AM3, AM4(A), AM7 30-min Noise: M11, M12 | 11 | 12 Weekly Site Inspection + SSMC meeting | 13 | 14 |
| 15 | 16 24-hr TSP: AM3, AM4(A), AM7 1-hr X3 TSP: AM3, AM4(A), AM7 30-min Noise: M11, M12 | 17 | 18 | 19 Weekly Site Inspection | 20 | 21 24-hr TSP: AM3, AM4(A), AM7 1-hr X3 TSP: AM3, AM4(A), AM7 |
| 22 | 23 | 24 | 25 | 26 Weekly Site Inspection | 27 24-hr TSP: AM3, AM4(A), AM7 1-hr X3 TSP: AM3, AM4(A), AM7 30-min Noise: M11, M12 | 28 |
| 29 | 30 | 31 | | | | |

NOTE:

1) Site inspection schedule and Impact monitoring schedule may be changed due to unforeseen circumstance (e.g. adverse weather).

Air Quality Monitoring Station

AM3 - Sky Tower AM4(A) - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop AM7 - Hong Kong Children's Hospital

Noise Quality Monitoring Station

M11 - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop M12 - Hong Kong Children's Hospital

Appendix D – Photographic records

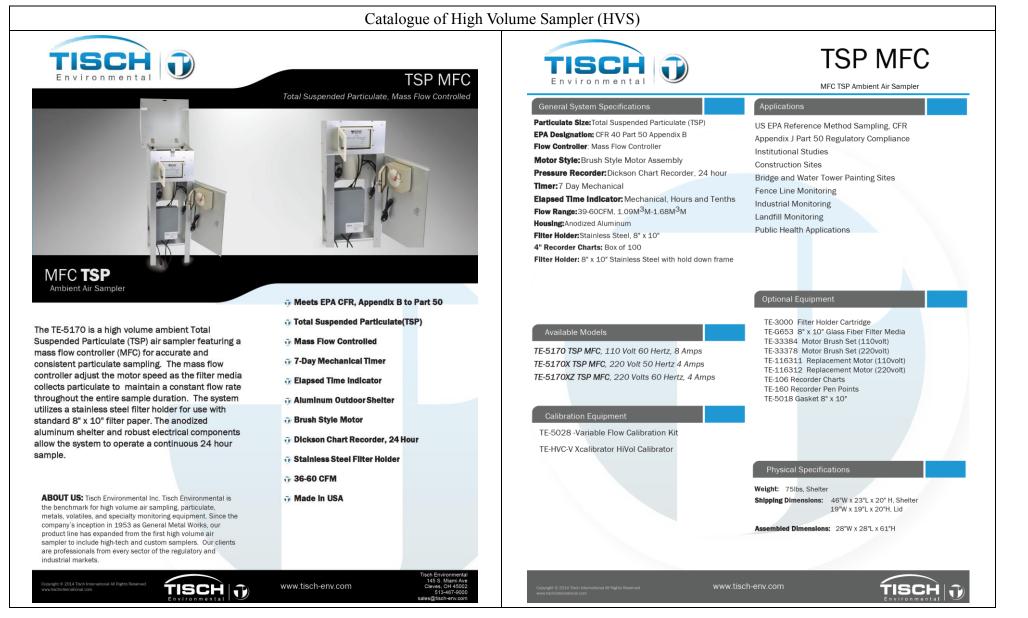
Impact Air Quality Monitoring



Impact Noise Monitoring



Appendix E – Calibration certificates, catalogue of air quality monitoring equipment



| | Air Sampler (| Calibration Curve (Dickson recor | Plotting & Calculat der) | ion |
|--------------------------|------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|-----------------------------|
| Calibration curve ref. N | No.: ATSPC-01- | 2020011601 Date | e of calibration : | 16/01/2020 |
| | Iong Kong Society for ctory cum Sheltered W | | pler : | TE-5170X |
| Calibration Data | | <u> </u> | | 1201/011 |
| Ambient barometric pro | essure, Pa = 762. 2.03067 | | bient temperature, $Ta =$ d Intercept, $b = -0.00$ | (deg K |
| Calibration Curve | | | - | |
| Plate No. | H ₂ O | Qstd | I (short) | IC (approximated) |
| 18 | (in) 6,90 | (m ³ /min) 1.302 | (chart) 60.0 | (corrected) 60.22 |
| 13 | 6.40 | 1.254 | 58.0 | 58.21 |
| 10 | 5.60 | 1.173 | 50.0 | 50.18 |
| 7 | 4.20 | 1.017 | 42.0 | 42.15 |
| 5 | 3.20 | 0.888 | 34.0 | 34.12 |
| Subsequent calculation | n of sampler flow | | | |
| Method | | libration equation | Slope, m | Intercept, b Corr. coe |
| Dickson recorder | Qstd = 1 / m1 [(I) (S | qrt ((Pav / 760) (298 / Ta | av)))-b1] 63.487 | -22.5613 0.9953 |
| | 65.00 55.00 45.00 25.00 15.00 0.6 0.7 0.6 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.7 | | Qstd (m3/min) 1.6 1.8 2.0 | |
| | | Qstd / IC Calibratic | <u>n curve</u> | |
| Calibration curve requi | rements : (A). $r > 0$ | | | SP range (1.1 - 1.7 m3 / m |
| | | .990 ; (B). At least 3 (| Ostd numbers are in the T | SP range (1.1 - 1.7 m3 / m |
| Remark : Qst | td (m^3 / min) = 1/m [| .990 ; (B). At least 3 C Sqrt (H ₂ O (Pa / 760) | Qstd numbers are in the Ta (298 / Ta)) - b]. | SP range (1.1 - 1.7 m3 / m |
| Remark : Qst | td (m^3 / min) = 1/m [(corrected) = I [Sqrt | .990 ; (B). At least 3 (Sqrt (H ₂ O (Pa / 760) ; ((Pa / 760) (298 / Ta | Qstd numbers are in the T (298 / Ta)) - b]. a))]. | SP range (1.1 - 1.7 m3 / m |
| Remark : Qst | td (m^3 / min) = 1/m [(corrected) = I [Sqrt | .990 ; (B). At least 3 C Sqrt (H ₂ O (Pa / 760) | Qstd numbers are in the T (298 / Ta)) - b]. a))]. | SP range (1.1 - 1.7 m3 / m |
| Remark : Qst | td (m^3 / min) = 1/m [(corrected) = I [Sqrt | 990 ; (B). At least 3 C Sqrt (H ₂ O (Pa / 760) ; ((Pa / 760) (298 / Ta qrt (FLOW (mano) (1 | Qstd numbers are in the T (298 / Ta)) - b]. a))]. | SP range (1.1 - 1.7 m3 / m |

Calibration Certificate of HVS

Air Sampler Calibration Curve Plotting & Calculation

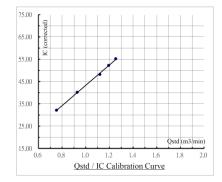
(Dickson recorder)

| Calibration curve ref. No. : | ATSPC-01-2020011602 | Date of calibration : | 16/01/2020 |
|-------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------|--------------------------------|
| Location : | Sky Tower | Sampler : | TE-5170X |
| Calibration Data Ambient barometric pressure Qstd Slope, m = 2.0306 | () | Ambient temperature, Qstd Intercept, b = | Ta = 296.65 (deg K) -0.007660 |
| Calibration Curve | | | |

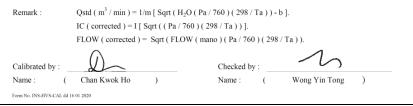
| Plate No. | H ₂ O | Qstd | Ι | IC |
|-----------|------------------|-------------|-----------|---------------|
| Flate NO. | (in) | (m^3/min) | (chart) | (corrected) |
| 18 | 6.40 | 1.254 | 55.0 | 55.20 |
| 13 | 5.80 | 1.194 | 52.0 | 52.19 |
| 10 | 5.10 | 1.120 | 48.0 | 48.17 |
| 7 | 3.50 | 0.928 | 40.0 | 40.15 |
| 5 | 2.30 | 0.753 | 32.0 | 32.12 |

Subsequent calculation of sampler flow

| Method | Calibration equation | Slope, m | Intercept, b | Corr. coeff., r |
|------------------|-----------------------------------------------------------------------|----------|--------------|-----------------|
| Dickson recorder | Qstd = 1 / m1 [(I) (Sqrt ((Pav / 760) (298 / Tav))) - b1] | 45.529 | -2.2307 | 0.9993 |



Calibration curve requirements : (A). r > 0.990; (B). At least 3 Qstd numbers are in the TSP range (1.1 - 1.7 m3 / min).



| | | ation Certific | | | Calibration Certificate for Calibrator |
|--------------------------------------------------------------------|--------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Air Sampler | Calibration Curve Pl (Dickson recorde | - | n | RECALIBRATION |
| Calibration curve ref. | No. : ATSPC-01 | -2020011603 Date o | f calibration : 16 | 5/01/2020 | TISCH July 25, 2020 |
| Location : | Hong Kong Children's | Hospital Sample | er : | TE-5170X | Environmental |
| <u>Calibration Data</u> Ambient barometric p Qstd Slope, m = | pressure, Pa =762 2.03067 | | nt temperature, $Ta =$ ntercept, $b =$ 0007 | 296.65 (deg K) 660 | Certificate of Calibration |
| Calibration Curve | | | | | Cal. Date: July 25, 2019 Rootsmeter S/N: 438320 Ta: 297 °K Operator: Jim Tisch Pa: 755.7 mm Hg |
| Plate No. | H ₂ O (in) | Qstd (m ³ /min) | I (chart) | IC (corrected) | Calibration Model #: TE-5025A Calibrator S/N: 0006 |
| 18 | 7.10 | 1.321 | 60.0 | 60.22 | Vol. Init Vol. Final ΔVol. ΔTime ΔP ΔΗ |
| 13 | 6.20 | 1.234 | 54.0 | 54.20 | Run (m3) (m3) (m1n) (mm Hg) (in H2O) 1 1 2 1 1.4200 3.2 2.00 |
| 10 | 5.40 | 1.152 | 49.0 | 49.18 | 2 3 4 1 1.0040 6.3 4.00 |
| 7 | 3.80 | 0.967 | 41.0 | 41.15 | 3 5 6 1 0.8960 7.9 5.00 4 7 8 1 0.8480 8.8 5.50 |
| 5 | 3.00 | 0.860 | 33.0 | 33.12 | 5 9 10 1 0.7040 12.7 8.00 |
| Subsequent calculati | on of sampler flow | | | | |
| Method | Ca | libration equation | Slope, m | Intercept, b Corr. coeff., r | $\begin{array}{ c c c c c c c } \hline Vstd & Qstd \\ (m3) & (x-axis) & (y-axis) & Va & (x-axis) & (y-axis) \\ \hline \end{array}$ |
| Remark : Q | uirements : (A). $r > 0$ ustd (m^3 / min) = 1/m | 8 1.0 1.2 1.4 Qstd / IC Calibration 0.990; (B). At least 3 Qst [Sqrt (H ₃ O (Pa / 760) (2 t ((Pa / 760) (298 / Ta) | Curve d numbers are in the TSP 198 / Ta)) - b]. | Prange (1.1 - 1.7 m3 / min). | $ \frac{0.9872}{0.9860} \frac{1.1013}{1.627} \frac{2.23424}{2.3424} \frac{0.9895}{0.9864} \frac{1.1044}{1.4019} \frac{1.4019}{1.4703} \\ 0.9860 \frac{1.1627}{0.9809} \frac{2.3244}{2.3244} \frac{0.9895}{0.98824} \frac{1.1045}{1.1655} \frac{1.4703}{1.4703} \\ 0.9809 \frac{1.3933}{1.3933} \frac{2.8251}{0.98324} \frac{0.9892}{1.3966} \frac{1.7732}{1.7732} \\ \hline QSTD b= -0.00766 \\ QA b= -0.00481 \\ \hline p= -0.099992 \\ \hline QA b= -0.00481 \\ \hline p= -0.099992 \\ \hline QA b= -0.00481 \\ \hline p= -0.099992 \\ \hline QA b= -0.00481 \\ \hline p= -0.099992 \\ \hline QA b= -0.00481 \\ \hline p= -0.00481 \\ \hline$ |
| F Calibrated by : | | Sqrt (FLOW (mano) (Pa Check) Name | / 760) (298 / Ta)). ed by : | L Tin Tong) | illage of Cleves, OH 45002 FAX: (513)467-9009 |
| | | | | | |

| | + Convenient, threaded tripod socket accommodates area sampling | Minimum Resolution Zero stability | 0.001 mg/m ³ ±0.001 mg/m ³ over 24 hours | Communications Port | Un v 1 |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|----------------------------|
| | Advanced Features + Smart Battery Management System provides precise run time | Temperature Coefficient | using 10-second time-constant Approximately +0.0005 mg/m ³ per °C (for variations from temperature at which instrument was last zeroed) | Operating System Battery Performanc | Mic (32 |
| | information, maximizes battery capacity and speeds charging + Integrated pump allows use of size-selective aerosol inlet conditioners | Flow Rate Range | User-adjustable, 0.7 to 1.8 liters/min (L/min) | Pattery Ontions | ce Charge Time (hrs) |
| MRG B | + Built-in impactors let you choose "none," 1.0, 2.5 or 10-micron cut off | Temperature Range Operating Range Storage Range | 32 to 120°F (0 to 50°C) -4 to 140°F (-20 to 60°C) | 1600 mAH NiMH Pack, 4.8 V (P/N 801723) 1650 mAH | 3.0 |
| | + 10-mm Dorr-Oliver cyclone for respirable sampling + Display shows real-time concentrations (mg/m³) and "on-the-fly" TWA as you data log | Operational Humidity 0 to 95% RH, non-condensi | ng | NiMH Pack, 4.8V (P/N 801724, 801729 or 801743) | 3.5 |
| | + Display statistics: max, min and average readings, elapsed time and 8-hour TWA | Time Constant (LCD disp Range | blay) User-adjustable, 1 to 60 seconds | 2700 mAH NiMH Pack, 4.8 V (P/N 801722 or 801728) 2700 mAH | 5.5 |
| A A | Quick and Easy Reports + Convenient preprogramming for occupational exposure sampling | Data Logging Data Points Logging Interval | Approx. 31,000 User-adjustable, 1 second to 1 hour | NiMH Pack, 4.8 V (P/N 801735) 6-Cell AA-size | 5.5 |
| | + Data log for long periods and store multiple tests + Analyze data, print graphs and create reports with TrakPro Data Analysis Software | User-Select Calibration I Factory Setting User-defined Settings Range | Factors 1.0 (non-adjustable) 3, with user-defined labels 0.1 to 10.0, user-adjustable | Alkaline Pack*** (P/N 801708 or 801736 with six user-supplied AA cells) | N/A |
| | + USB port lets you conveniently connect to your computer Power to Spare + Long-lasting NIMH rechargeable battery packs eliminate | Physical External Dimensions | 4.2 x 3.7 x 2.8 in. (106 x 92 x 70 mm) with 801723, 801724, 801729 or 801743 battery 5.1 x 3.7 x 2.8 in. (130 x 92 x 70 mm) | *Of a fully depleted battery **All dust plugs and dust gaske ***Using Energizer AA-size, ES | |
| | "memory" issues + Choice of rechargeable NiMH smart battery packs or AA-cell pack | Weight | with 801708, 801722, 801728, 801735, or 801736 battery 16 oz (0.46 kg) with 801723, 801724, 801729 or 801743 battery | Battery Level Indica The Smart Battery Man built-in "gauge" in the S | nagement : SidePak™ l |
| | | Display Tripod Socket | 19 oz (0.54 kg) with 801708, 01722, 801728, 801735, or 801736 battery 2 line x 12 character LCD 1/4-20 female thread | battery capacity and ca capacity of the battery consumed by the instru | (mAH) by ument (mA |
| | | Power Supply/Charger (Input Voltage Range Output Voltage | P/N 2613210) 100 to 240 VAC, 50 to 60 Hz 9 VDC @ 1.0 A | current operating condi | |
| | | | | | |
| | | | | | |

Catalogue of Dust Meter (TSI Sidepack AM510)

The SidePak AM510 monitor's easy-to-read display shows your data as both real-time aerosol mass-concentration and 8-hour time-weighted average (TWA). With its convenient data logging and long battery life, the AMS10 is also ideal for extended sampling. The easy-to-use TrakPro Data Analysis Software lets you create effective graphs and reports.



User Friendly

+ Small, lightweight and quiet to maximize worker acceptance + Rugged design with secure belt clip + Easy-to-understand user interface with only four keys + Lockable keypad prevents tampering while sampling + User-adjustable sample flow rate + Define, label and store multiple calibration constants + Easy-to-read LCD display

Model AM510 SidePak Personal Aerosol Monitor Sensitivity

90° light scattering,

670 nm laser diode

A1 test dust)

0.001 to 20 mg/m³ (calibrated to respirable fraction of ISO 12103-1,

0.1 to 10 micrometer (µm)

| Sensor Type | |
|-------------------------------------------------------------|-----|
| Aerosol Concentration Range | |
| Particle Size Range Minimum Resolution Zero stability | |
| Temperature Coefficie | ≥nt |
| | |

Maintenance Factory Clean/Calibrate User Zero Calibration

Recommended annually Before each use User Flow Calibration As needed

Communications Interface Turno USB 1.1 Turno USB 1.1 USB Mini-B (socket)

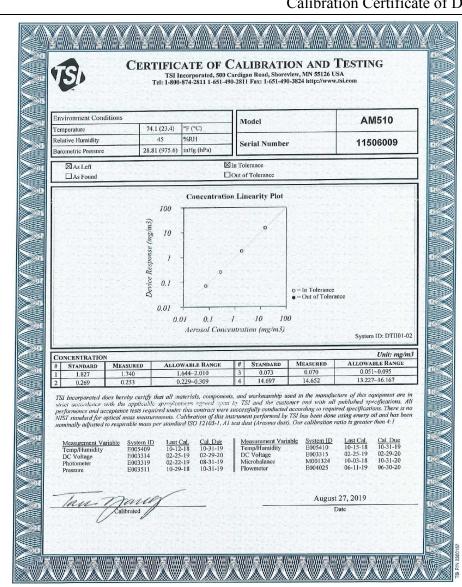
Minimum Computer Requirements for TrakPro™ Data Analysis Software

Universal Serial Bus (USB) v 1.1 or higher Microsoft Windows® XP, or 7 (32-bit or 64-bit) operating systems

| attery Options | Charge Intrinsic Time (hrs)* Safety Rating | | Run Time (hrs @ 1.7 L/min) | |
|-------------------------------------------------------------------------------------|-----------------------------------------------|-------|----------------------------------|--|
| 600 mAH IiMH Pack, 4.8 V P/N 801723) | 3.0 | No | 7.1 | |
| 650 mAH liMH Pack, 4.8V P/N 801724, 01729 or 801743) | 3.5 | CSA** | 7.5 | |
| 700 mAH NiMH ack, 4.8 V (P/N 01722 or 801728) | 5.5 | No | 12.0 | |
| 700 mAH liMH Pack, 4.8 V P/N 801735) | 5.5 | No | 12.0 | |
| -Cell AA-size Ikaline Pack*** P/N 801708 or 01736 with six ser-supplied | N/A | No | 22.5 | |

e installed. e batteries.

ent System™ technology utilizes a ™ battery packs. The gauge monitors s run time information by dividing by the instantaneous current mA). This calculation is correct for nd can change due to current (mA) ttery capacity.



Calibration Certificate of Dust Meter (TSI Sidepack AM510)

Personal Aerosol Monitor Performance check with High Volume Sampler

| Preformance Check ref. No. : | AS0200201-1 | Report Issue Date: | 29/01/2020 | |
|------------------------------|-------------|--------------------|------------|--|
| Date of performance check : | 20/01/2020 | | | |

Objective:

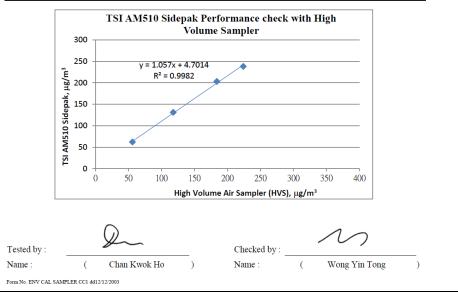
A dust meter, TSI AM510 Sidepak, and a Total Suspended Particulate High Volume Air Sampler (HVS) were placed together to measure the Total Suspended Particulate (TSP) concentrations simultaneously to check the performance.

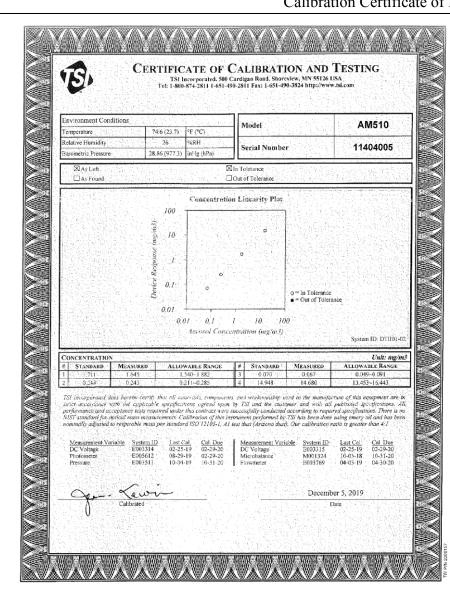
Equipment Used:

| Equipment | Manufacturer and Model | Serial Number | |
|-----------------------------------------------------------|------------------------|---------------|--|
| Personal Aerosol Monitor | TSI AM510 Sidepak | 11506009 | |
| Total Suspended Particulate High Volume Air Sampler (HVS) | GS2310 | 10346 | |

<u>Resustt:</u>

| Equipment | Measurement Result, µg/m3 | | | | | |
|-------------------------------|---------------------------|--|--|--|--|--|
| TSI AM510 Sidepak | 62 131 203 238 | | | | | |
| High Volume Air Sampler (HVS) | 56 118 184 224 | | | | | |





Calibration Certificate of Dust Meter (TSI Sidepack AM510)

Personal Aerosol Monitor Performance check with High Volume Sampler

| Preformance Check ref. No. : | AS0200201-1 | Report Issue Date: | 29/01/2020 | |
|------------------------------|-------------|--------------------|------------|--|
| Date of performance check : | 20/01/2020 | | | |

Objective:

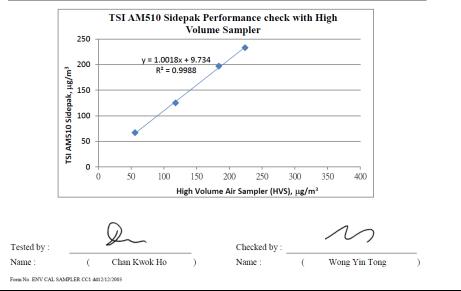
A dust meter, TSI AM510 Sidepak, and a Total Suspended Particulate High Volume Air Sampler (HVS) were placed together to measure the Total Suspended Particulate (TSP) concentrations simultaneously to check the performance.

Equipment Used:

| Equipment | Manufacturer and Model | Serial Number | |
|-----------------------------------------------------------|------------------------|---------------|--|
| Personal Aerosol Monitor | TSI AM510 Sidepak | 11404005 | |
| Total Suspended Particulate High Volume Air Sampler (HVS) | GS2310 | 10346 | |

Resustt:

| Equipment | Measurement Result, µg/m ³ | | | | | | |
|-------------------------------|---------------------------------------|----------------|--|--|--|--|--|
| TSI AM510 Sidepak | 67 125 197 233 | | | | | | |
| High Volume Air Sampler (HVS) | 56 | 56 118 184 224 | | | | | |



7 Cabled Vantage Pro2™ 6152C Vantage Pro2 & Vantage Pro2 Plus[™] Stations 6162C Ultra Violet (UV) Radiation Index (requires UV sensor) Resolution and Units 0.1 Index Vantage Pro2[™] Range 0 to 16 Index High)) The Vantage Pro2[™] (# 6152C) and Vantage Pro2[™] Plus (# 6162C) cabled weather stations include two components: the Integrated Sensor Suite (ISS) and the console. The ISS contains the sensor interface module (SIM), rain collector, Cosine Response ±4% FS (0° to 90° zenith angle) an anemometer, and a passive radiation shield. The Vantage Pro2 console provides the user interface, data display, and calculations. The Vantage Pro2 Plus weather station includes two additional sensors that are optional on the Current Graph Data..... Instant Reading and Hourly Average; Daily, Monthly High Vantage Pro2 and purchased separately: the UV Sensor and the Solar Radiation Sensor. The console and ISS are powered by an AC-power adapter connected to the console. Batteries can be installed in the console to provide a Historical Graph Data Hourly Average, Daily, Monthly Highs backup power supply. Use WeatherLink[®] to let your weather station interface with a computer, log data, and upload weather information to the Internet. The 6152C and 6162C models rely on passive shielding to reduce solar-radiation induced temperature errors in the outside temperature sensor readings. Wind Integrated Sensor Suite (ISS) console and ISS Cable Type 4-conductor, 26 AWG Maximum displayable wind decreases as the length of cable increases, at 140° (42 m) of cable, the maximum wind speed displayed is 135 mph (60 Note m/s); at 240' (73 m), the maximum wind speed displayed is 100 mph (34 m/s). Wind Speed Sensor Solid state magnetic sensor Wind Direction Sensor Wind vane with potentiometer (214 cm²) collection area Temperature Sensor Type..... PN Junction Silicon Diode Relative Humidity Sensor Type Film capacitor element Housing Material UV-resistant ABS, polypropylene Sensor Inputs RF Filtering RC low-pass filter on each signal line

Catalogue of Weather Station

ISS Dimensions(not including anemometer or bird spikes):

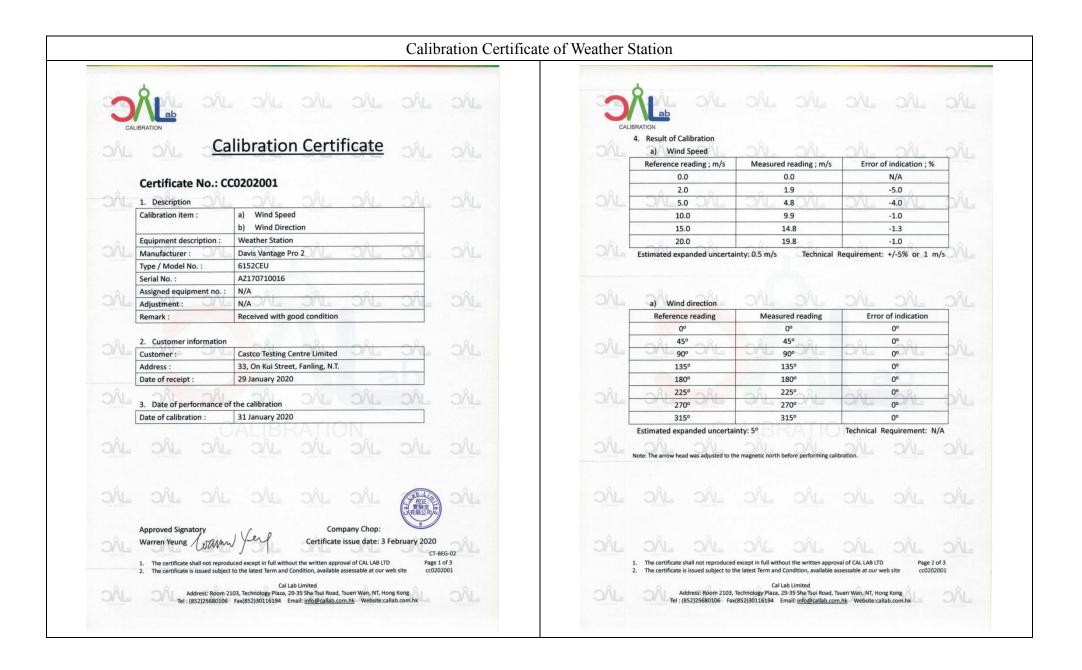
| Vantage Pro2 with Standard Rad Shield | . 14.0" x 9.4" x 14.5" (356 mm x 239 mm x 368 mm) |
|-------------------------------------------------|---------------------------------------------------|
| Vantage Pro2 with Fan-Asprated Rad Shield | . 20.8" x 9.4" x 16.0" (528 mm x 239 mm x 406 mm) |
| Vantage Pro2 Plus with Standard Rad Shield | . 14.3" x 9.7" x 14.5" (363 mm x 246 mm x 368 mm) |
| Vantage Pro2 Plus with Fan-Aspirated Rad Shield | . 21.1" x 9.7" x 16.0" (536 mm x 246 mm x 406 mm) |



Davis Instruments 3465 Diablo Ave., Hayward, CA 94545-2778 USA (510) 732-9229 - FAX (510) 670-0589 - sales@davisinstruments.com - www.davisinstruments.com

DS6152C, 6162C Rev. W 12/7/18

| Wind Chill (Calculated) | |
|-------------------------|-----------------------------------------------------------------------------|
| Resolution and Units | 1°F or 1°C (user-selectable); °C is converted from °F and rounded to |
| | the nearest 1°C |
| Range | -110° to +135°F (-79° to +57°C) |
| Accuracy | ±2°F (±1°C) (typical) |
| Update Interval | 10 to 12 seconds |
| Source | United States National Weather Service (NWS)/NOAA |
| Equation Used | Osczevski (1995) (adopted by US NWS in 2001) |
| Variables Used | Instant Outside Temperature and 10-min. Avg. Wind Speed |
| Current Display Data | Instant Calculation |
| Current Graph Data | |
| Historical Graph Data | |
| Alarm | Low Threshold from Instant Calculation |
| Wind Direction | |
| Range | 1 - 360° |
| Display Resolution | 16 points (22.5°) on compass rose, 1° in numeric display |
| Accuracy | ±3° |
| Update Interval | 2.5 to 3 seconds |
| Current Graph Data | Instant Reading (user adjustable); 10-min. Dominant; Hourly, Daily, |
| | Monthly Dominant |
| Historical Graph Data | Past 6 10-min. Dominants on compass rose only; Hourly, Daily, |
| | Monthly Dominants |
| Wind Speed | |
| Resolution and Units | 1 mph, 1 km/h, 0.4 m/s, or 1 knot (user-selectable) Measured in mph; |
| | other units are converted from mph and rounded to nearest 1 km/hr, 0.1 |
| Panga | m/s, or 1 knot. 0 to 200 mph, 0 to 173 knots, 0 to 89 m/s, 0 to 322 km/h |
| | Instant Reading: 2.5 to 3 seconds, 10-minute Average: 1 minute |
| | ±2 mph (2 kts, 3.2 km/h, 0.9 m/s) or ±5%, whichever is greater |
| | 540' (165 m) (Note that maximum wind speed reading decreases as |
| | length of cable from anemometer to ISS increases.) |
| Current Display Data | 5 |
| | Instant Reading; 10-minute and Hourly Average; Hourly High; Daily, |
| | Monthly and Yearly High with Direction of High |
| Historical Graph Data | 10-min. and Hourly Averages; Hourly Highs; Daily, Monthly and Yearly |
| | Highs with Direction of Highs |
| Alarms | High Thresholds from Instant Reading and 10-minute Average |
| | |



| | Calibration Certificate of Weather Station |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| G | RATION |
| <u>JÅL</u> | 5. Reference method for calibration Wind Speed SOP-251 Wind Direction SOP-252 |
| SAL | 6. Environment condition of calibration Temperature ; °C 24.0 °C Relative humidity ; %RH 44 %RH |
| SAL | No. Expiry date Traceable to Item Model Serial No. Expiry date Traceable to Reference Anemometer 405-V1 41543692 1 Jan 2021 SMQ |
| LAC IRC | Note1: The estimated expanded uncertainties have been calculated in "Evaluation and expression of uncertainty in measurement" and give an internal estimated to have a level of confidence of 95%. A coverage factor of 2 is assumed unless explicitly stated. Note2: The standard (5) and instrument used in the calibration are traceable to national or international recognized standard and are calibrated on a schedule to maintain the accuracy and good condition. Note3: The result reported in this cartificate refer to the instrument on the date of calibration and carry no implication regarding the long term stability of the instrument. Note4: The result shows in this calibration cartificate relate only to the item calibrated, and the result only applies to the calibration item as received. |
| JAC | SAL SAL SAL SAL SAL SAL |
| JAL JAL | Calibrated by: Wing Date: 31 January 2020 Checked by: Wing Date: 31 January 2020 |
| - AL | *** End of Certificate *** CT-END-02 T. The certificate shall not reproduced except in full without the written approval of CAL LAB LTD Page 3 of 3 |
| NL. | 2. The certificate is issued subject to the latest Term and Condition, available assessable at our web site cc0202001 Cal Lab Limited Address: Room 2103, Technology Plaza, 29-35 Sha Tsui Road, Tsuen Wan, NT, Hong Kong Tel : (852)25680106 Fax(852)30116194 Email: info@callab.com.hk Website:callab.com.hk |

Appendix F – Weather information

General Information

| Date | Absolute Daily Min Temperature (°C) | Absolute Daily Max Temperature (°C) | Total Rainfall (mm) |
|------------|----------------------------------------|----------------------------------------|---------------------|
| 01/02/2020 | 14.1 | 18.8 | 0 |
| 02/02/2020 | 15.9 | 19.5 | 0 |
| 03/02/2020 | 16.6 | 20.4 | Trace |
| 04/02/2020 | 15.4 | 19 | 0.8 |
| 05/02/2020 | 16.6 | 18.3 | 1 |
| 06/02/2020 | 15.9 | 18.6 | Trace |
| 07/02/2020 | 17.3 | 20.6 | 0 |
| 08/02/2020 | 16.7 | 19.6 | 0 |
| 09/02/2020 | 15 | 18.5 | Trace |
| 10/02/2020 | 15.5 | 18.6 | 0 |
| 11/02/2020 | 16.8 | 19.1 | 0.8 |
| 12/02/2020 | 18.4 | 24.7 | 0 |
| 13/02/2020 | 18.9 | 20.5 | 41.6 |
| 14/02/2020 | 19.5 | 22.5 | 9.7 |
| 15/02/2020 | 19.4 | 22.3 | Trace |
| 16/02/2020 | 10.6 | 22.4 | 25.5 |
| 17/02/2020 | 10.3 | 18 | 0 |
| 18/02/2020 | 11.6 | 18.4 | 0 |
| 19/02/2020 | 14 | 19.4 | 0 |
| 20/02/2020 | 15.4 | 21.2 | 0 |
| 21/02/2020 | 16.5 | 22.6 | 0 |
| 22/02/2020 | 17.1 | 25.5 | 0 |
| 23/02/2020 | 17.5 | 23.9 | 0 |
| 24/02/2020 | 17.5 | 22 | 0 |
| 25/02/2020 | 19.7 | 25 | Trace |
| 26/02/2020 | 20.6 | 28.1 | 0 |
| 27/02/2020 | 19.1 | 22.6 | 0.4 |
| 28/02/2020 | 18.1 | 25.3 | 0 |
| 29/02/2020 | 20.2 | 26.6 | 0 |

NOTE1: The above weather information was obtained from manned weather station of Hong Kong Observatory. NOTE2: Trace means rainfall less than 0.05 mm

https://www.hko.gov.hk/en/cis/dailyExtract.htm?y=2020&m=2

| Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction |
|----------|-------|------------------|----------------|----------|-------|------------------|----------------|
| 1/2/2020 | 0:00 | 1.12 | 307.5 | 2/2/2020 | 0:00 | 1.65 | 311.25 |
| 1/2/2020 | 1:00 | 1.52 | 311.25 | 2/2/2020 | 1:00 | 1.92 | 296.25 |
| 1/2/2020 | 2:00 | 2.08 | 296.25 | 2/2/2020 | 2:00 | 1.49 | 285 |
| 1/2/2020 | 3:00 | 2.64 | 285 | 2/2/2020 | 3:00 | 1.43 | 285 |
| 1/2/2020 | 4:00 | 2.22 | 326.25 | 2/2/2020 | 4:00 | 0.99 | 292.5 |
| 1/2/2020 | 5:00 | 1.72 | 315 | 2/2/2020 | 5:00 | 0.82 | 326.25 |
| 1/2/2020 | 6:00 | 2.29 | 273.75 | 2/2/2020 | 6:00 | 0.35 | 288.75 |
| 1/2/2020 | 7:00 | 1.7 | 273.75 | 2/2/2020 | 7:00 | 0.67 | 292.5 |
| 1/2/2020 | 8:00 | 1.95 | 262.5 | 2/2/2020 | 8:00 | 0.97 | 292.5 |
| 1/2/2020 | 9:00 | 1.59 | 292.5 | 2/2/2020 | 9:00 | 0.23 | 281.25 |
| 1/2/2020 | 10:00 | 1.92 | 311.25 | 2/2/2020 | 10:00 | 0.3 | 318.75 |
| 1/2/2020 | 11:00 | 1.68 | 303.75 | 2/2/2020 | 11:00 | 0.67 | 315 |
| 1/2/2020 | 12:00 | 1.9 | 315 | 2/2/2020 | 12:00 | 1.19 | 311.25 |
| 1/2/2020 | 13:00 | 1.35 | 300 | 2/2/2020 | 13:00 | 1.95 | 326.25 |
| 1/2/2020 | 14:00 | 1.36 | 326.25 | 2/2/2020 | 14:00 | 0.77 | 307.5 |
| 1/2/2020 | 15:00 | 1.13 | 300 | 2/2/2020 | 15:00 | 0.36 | 330 |
| 1/2/2020 | 16:00 | 1.72 | 322.5 | 2/2/2020 | 16:00 | 0.67 | 326.25 |
| 1/2/2020 | 17:00 | 1.47 | 326.25 | 2/2/2020 | 17:00 | 1.58 | 292.5 |
| 1/2/2020 | 18:00 | 1.31 | 330 | 2/2/2020 | 18:00 | 1.66 | 296.25 |
| 1/2/2020 | 19:00 | 2.02 | 322.5 | 2/2/2020 | 19:00 | 0.64 | 326.25 |
| 1/2/2020 | 20:00 | 1.14 | 307.5 | 2/2/2020 | 20:00 | 0.99 | 322.5 |
| 1/2/2020 | 21:00 | 0.49 | 318.75 | 2/2/2020 | 21:00 | 0.6 | 288.75 |
| 1/2/2020 | 22:00 | 0.62 | 333.75 | 2/2/2020 | 22:00 | 0.92 | 322.5 |
| 1/2/2020 | 23:00 | 0.03 | 326.25 | 2/2/2020 | 23:00 | 0.77 | 326.25 |

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Hong Kong Children's Hospital

| Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction |
|----------|-------|------------------|----------------|----------|-------|------------------|----------------|
| 3/2/2020 | 0:00 | 0.83 | 318.75 | 4/2/2020 | 0:00 | 0.09 | 315 |
| 3/2/2020 | 1:00 | 0.62 | 315 | 4/2/2020 | 1:00 | 0.16 | 292.5 |
| 3/2/2020 | 2:00 | 1.44 | 277.5 | 4/2/2020 | 2:00 | 0.04 | 292.5 |
| 3/2/2020 | 3:00 | 0.52 | 318.75 | 4/2/2020 | 3:00 | 0.06 | 270 |
| 3/2/2020 | 4:00 | 0.76 | 195 | 4/2/2020 | 4:00 | 0.48 | 315 |
| 3/2/2020 | 5:00 | 0.04 | 240 | 4/2/2020 | 5:00 | 0.16 | 337.5 |
| 3/2/2020 | 6:00 | 0.22 | 247.5 | 4/2/2020 | 6:00 | 0.42 | 377.5 |
| 3/2/2020 | 7:00 | 0.01 | 326.25 | 4/2/2020 | 7:00 | 0.35 | 56.25 |
| 3/2/2020 | 8:00 | 0.12 | 307.5 | 4/2/2020 | 8:00 | 0.6 | 330 |
| 3/2/2020 | 9:00 | 0.45 | 333.75 | 4/2/2020 | 9:00 | 1.09 | 318.75 |
| 3/2/2020 | 10:00 | 0.22 | 330 | 4/2/2020 | 10:00 | 1.05 | 311.25 |
| 3/2/2020 | 11:00 | 0.21 | 318.75 | 4/2/2020 | 11:00 | 1.7 | 322.5 |
| 3/2/2020 | 12:00 | 0.09 | 303.75 | 4/2/2020 | 12:00 | 1.28 | 296.25 |
| 3/2/2020 | 13:00 | 0.04 | 307.5 | 4/2/2020 | 13:00 | 0.89 | 292.5 |
| 3/2/2020 | 14:00 | 0.73 | 326.25 | 4/2/2020 | 14:00 | 0.83 | 307.5 |
| 3/2/2020 | 15:00 | 0.37 | 322.5 | 4/2/2020 | 15:00 | 0.48 | 315 |
| 3/2/2020 | 16:00 | 0.12 | 322.5 | 4/2/2020 | 16:00 | 0.61 | 333.75 |
| 3/2/2020 | 17:00 | 0.01 | 330 | 4/2/2020 | 17:00 | 1.57 | 333.75 |
| 3/2/2020 | 18:00 | 0.3 | 330 | 4/2/2020 | 18:00 | 1.14 | 303.75 |
| 3/2/2020 | 19:00 | 0.77 | 330 | 4/2/2020 | 19:00 | 2.67 | 326.25 |
| 3/2/2020 | 20:00 | 0.47 | 318.75 | 4/2/2020 | 20:00 | 2.3 | 337.5 |
| 3/2/2020 | 21:00 | 0.85 | 236.25 | 4/2/2020 | 21:00 | 2.04 | 311.25 |
| 3/2/2020 | 22:00 | 0.79 | 52.5 | 4/2/2020 | 22:00 | 2.28 | 322.5 |
| 3/2/2020 | 23:00 | 0.61 | 0 | 4/2/2020 | 23:00 | 1.62 | 225 |

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Hong Kong Children's Hospital

| Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction |
|----------|-------|------------------|----------------|----------|-------|------------------|----------------|
| 5/2/2020 | 0:00 | 2.18 | 221.25 | 6/2/2020 | 0:00 | 0.61 | 311.25 |
| 5/2/2020 | 1:00 | 1.6 | 123.75 | 6/2/2020 | 1:00 | 1.26 | 300 |
| 5/2/2020 | 2:00 | 2.19 | 183.75 | 6/2/2020 | 2:00 | 0.97 | 292.5 |
| 5/2/2020 | 3:00 | 4.03 | 60 | 6/2/2020 | 3:00 | 1.3 | 288.75 |
| 5/2/2020 | 4:00 | 3.54 | 41.25 | 6/2/2020 | 4:00 | 0.82 | 288.75 |
| 5/2/2020 | 5:00 | 3.75 | 225 | 6/2/2020 | 5:00 | 1.13 | 300 |
| 5/2/2020 | 6:00 | 3.65 | 307.5 | 6/2/2020 | 6:00 | 1.03 | 315 |
| 5/2/2020 | 7:00 | 3.1 | 285 | 6/2/2020 | 7:00 | 1.44 | 311.25 |
| 5/2/2020 | 8:00 | 2.45 | 273.75 | 6/2/2020 | 8:00 | 1.15 | 330 |
| 5/2/2020 | 9:00 | 2.58 | 273.75 | 6/2/2020 | 9:00 | 0.82 | 322.5 |
| 5/2/2020 | 10:00 | 2.75 | 288.75 | 6/2/2020 | 10:00 | 1.41 | 315 |
| 5/2/2020 | 11:00 | 2.82 | 281.25 | 6/2/2020 | 11:00 | 1.18 | 322.5 |
| 5/2/2020 | 12:00 | 2.95 | 307.5 | 6/2/2020 | 12:00 | 2.19 | 296.25 |
| 5/2/2020 | 13:00 | 3.06 | 315 | 6/2/2020 | 13:00 | 1.7 | 311.25 |
| 5/2/2020 | 14:00 | 3.13 | 303.75 | 6/2/2020 | 14:00 | 1.3 | 333.75 |
| 5/2/2020 | 15:00 | 2.83 | 311.25 | 6/2/2020 | 15:00 | 1.77 | 337.5 |
| 5/2/2020 | 16:00 | 2.05 | 311.25 | 6/2/2020 | 16:00 | 1.12 | 326.25 |
| 5/2/2020 | 17:00 | 2.99 | 307.5 | 6/2/2020 | 17:00 | 1.21 | 333.75 |
| 5/2/2020 | 18:00 | 3.41 | 307.5 | 6/2/2020 | 18:00 | 1.04 | 322.5 |
| 5/2/2020 | 19:00 | 2.5 | 330 | 6/2/2020 | 19:00 | 0.37 | 333.75 |
| 5/2/2020 | 20:00 | 2.21 | 322.5 | 6/2/2020 | 20:00 | 0.5 | 333.75 |
| 5/2/2020 | 21:00 | 2.11 | 311.25 | 6/2/2020 | 21:00 | 0.91 | 337.5 |
| 5/2/2020 | 22:00 | 2.08 | 296.25 | 6/2/2020 | 22:00 | 0.62 | 318.75 |
| 5/2/2020 | 23:00 | 2.64 | 296.25 | 6/2/2020 | 23:00 | 0.47 | 277.5 |

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Hong Kong Children's Hospital

| Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction |
|----------|-------|------------------|----------------|----------|-------|------------------|----------------|
| 7/2/2020 | 0:00 | 0.61 | 315 | 8/2/2020 | 0:00 | 0.97 | 292.5 |
| 7/2/2020 | 1:00 | 1.26 | 337.5 | 8/2/2020 | 1:00 | 0.91 | 240 |
| 7/2/2020 | 2:00 | 0.97 | 337.5 | 8/2/2020 | 2:00 | 0.69 | 93.75 |
| 7/2/2020 | 3:00 | 1.3 | 315 | 8/2/2020 | 3:00 | 0.44 | 191.25 |
| 7/2/2020 | 4:00 | 0.82 | 315 | 8/2/2020 | 4:00 | 0.61 | 228.75 |
| 7/2/2020 | 5:00 | 1.13 | 292.5 | 8/2/2020 | 5:00 | 0.7 | 307.5 |
| 7/2/2020 | 6:00 | 1.03 | 292.5 | 8/2/2020 | 6:00 | 1.08 | 311.25 |
| 7/2/2020 | 7:00 | 1.44 | 292.5 | 8/2/2020 | 7:00 | 0.92 | 300 |
| 7/2/2020 | 8:00 | 1.15 | 292.5 | 8/2/2020 | 8:00 | 1.19 | 285 |
| 7/2/2020 | 9:00 | 0.82 | 292.5 | 8/2/2020 | 9:00 | 0.95 | 281.25 |
| 7/2/2020 | 10:00 | 1.41 | 157.5 | 8/2/2020 | 10:00 | 0.88 | 296.25 |
| 7/2/2020 | 11:00 | 1.18 | 337.5 | 8/2/2020 | 11:00 | 0.84 | 300 |
| 7/2/2020 | 12:00 | 2.19 | 337.5 | 8/2/2020 | 12:00 | 1.15 | 285 |
| 7/2/2020 | 13:00 | 1.7 | 55.5 | 8/2/2020 | 13:00 | 1.29 | 266.25 |
| 7/2/2020 | 14:00 | 1.3 | 315 | 8/2/2020 | 14:00 | 1.04 | 206.25 |
| 7/2/2020 | 15:00 | 1.77 | 337.5 | 8/2/2020 | 15:00 | 1.31 | 195 |
| 7/2/2020 | 16:00 | 1.12 | 337.5 | 8/2/2020 | 16:00 | 2.24 | 146.25 |
| 7/2/2020 | 17:00 | 1.21 | 337.5 | 8/2/2020 | 17:00 | 1.93 | 157.5 |
| 7/2/2020 | 18:00 | 1.04 | 337.5 | 8/2/2020 | 18:00 | 2.14 | 183.75 |
| 7/2/2020 | 19:00 | 0.37 | 337.5 | 8/2/2020 | 19:00 | 2.36 | 206.25 |
| 7/2/2020 | 20:00 | 0.5 | 45 | 8/2/2020 | 20:00 | 1.16 | 210 |
| 7/2/2020 | 21:00 | 0.91 | 45 | 8/2/2020 | 21:00 | 0.73 | 210 |
| 7/2/2020 | 22:00 | 0.62 | 337.5 | 8/2/2020 | 22:00 | 0.46 | 221.25 |
| 7/2/2020 | 23:00 | 0.47 | 337.5 | 8/2/2020 | 23:00 | 1.33 | 206.25 |

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Hong Kong Children's Hospital

| Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction |
|----------|-------|------------------|----------------|-----------|-------|------------------|----------------|
| 9/2/2020 | 0:00 | 1.97 | 161.25 | 10/2/2020 | 0:00 | 0.42 | 198.75 |
| 9/2/2020 | 1:00 | 1.82 | 191.25 | 10/2/2020 | 1:00 | 1.12 | 165 |
| 9/2/2020 | 2:00 | 1.43 | 176.25 | 10/2/2020 | 2:00 | 1.66 | 191.25 |
| 9/2/2020 | 3:00 | 1.24 | 161.25 | 10/2/2020 | 3:00 | 0.88 | 202.5 |
| 9/2/2020 | 4:00 | 2.08 | 168.75 | 10/2/2020 | 4:00 | 0.99 | 165 |
| 9/2/2020 | 5:00 | 1.75 | 165 | 10/2/2020 | 5:00 | 0.86 | 168.75 |
| 9/2/2020 | 6:00 | 1.97 | 206.25 | 10/2/2020 | 6:00 | 1.39 | 213.75 |
| 9/2/2020 | 7:00 | 1.33 | 176.25 | 10/2/2020 | 7:00 | 0.92 | 202.5 |
| 9/2/2020 | 8:00 | 0.82 | 210 | 10/2/2020 | 8:00 | 0.37 | 161.25 |
| 9/2/2020 | 9:00 | 0.97 | 180 | 10/2/2020 | 9:00 | 1.46 | 176.25 |
| 9/2/2020 | 10:00 | 0.96 | 195 | 10/2/2020 | 10:00 | 0.72 | 157.5 |
| 9/2/2020 | 11:00 | 1.18 | 172.5 | 10/2/2020 | 11:00 | 1.56 | 180 |
| 9/2/2020 | 12:00 | 0.86 | 180 | 10/2/2020 | 12:00 | 1.19 | 142.5 |
| 9/2/2020 | 13:00 | 0.55 | 228.75 | 10/2/2020 | 13:00 | 1.35 | 157.5 |
| 9/2/2020 | 14:00 | 0.73 | 217.5 | 10/2/2020 | 14:00 | 1.41 | 172.5 |
| 9/2/2020 | 15:00 | 1.2 | 236.25 | 10/2/2020 | 15:00 | 1.57 | 180 |
| 9/2/2020 | 16:00 | 0.74 | 210 | 10/2/2020 | 16:00 | 0.73 | 195 |
| 9/2/2020 | 17:00 | 0.85 | 187.5 | 10/2/2020 | 17:00 | 1.36 | 168.75 |
| 9/2/2020 | 18:00 | 1.06 | 228.75 | 10/2/2020 | 18:00 | 1.35 | 195 |
| 9/2/2020 | 19:00 | 0.9 | 228.75 | 10/2/2020 | 19:00 | 1.28 | 138.75 |
| 9/2/2020 | 20:00 | 0.45 | 210 | 10/2/2020 | 20:00 | 1.44 | 112.5 |
| 9/2/2020 | 21:00 | 1.28 | 202.5 | 10/2/2020 | 21:00 | 1.45 | 146.25 |
| 9/2/2020 | 22:00 | 0.57 | 210 | 10/2/2020 | 22:00 | 1.65 | 273.75 |
| 9/2/2020 | 23:00 | 1 | 221.25 | 10/2/2020 | 23:00 | 1.09 | 150 |

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Hong Kong Children's Hospital

| Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction |
|-----------|-------|------------------|----------------|-----------|-------|------------------|----------------|
| 11/2/2020 | 0:00 | 2.89 | 168.75 | 12/2/2020 | 0:00 | 1.51 | 221.25 |
| 11/2/2020 | 1:00 | 1.89 | 176.25 | 12/2/2020 | 1:00 | 0.97 | 198.75 |
| 11/2/2020 | 2:00 | 2.26 | 168.75 | 12/2/2020 | 2:00 | 1.09 | 183.75 |
| 11/2/2020 | 3:00 | 1.7 | 180 | 12/2/2020 | 3:00 | 1.26 | 168.75 |
| 11/2/2020 | 4:00 | 1.79 | 198.75 | 12/2/2020 | 4:00 | 1.54 | 168.75 |
| 11/2/2020 | 5:00 | 1.41 | 180 | 12/2/2020 | 5:00 | 1.13 | 168.75 |
| 11/2/2020 | 6:00 | 2.8 | 172.5 | 12/2/2020 | 6:00 | 0.61 | 176.25 |
| 11/2/2020 | 7:00 | 1.87 | 157.5 | 12/2/2020 | 7:00 | 1.19 | 172.5 |
| 11/2/2020 | 8:00 | 1.8 | 172.5 | 12/2/2020 | 8:00 | 1.4 | 195 |
| 11/2/2020 | 9:00 | 1.67 | 168.75 | 12/2/2020 | 9:00 | 1.84 | 176.25 |
| 11/2/2020 | 10:00 | 2.21 | 161.25 | 12/2/2020 | 10:00 | 1.47 | 191.25 |
| 11/2/2020 | 11:00 | 1.72 | 180 | 12/2/2020 | 11:00 | 1.98 | 180 |
| 11/2/2020 | 12:00 | 2.72 | 176.25 | 12/2/2020 | 12:00 | 2.1 | 213.75 |
| 11/2/2020 | 13:00 | 1.74 | 161.25 | 12/2/2020 | 13:00 | 2.01 | 213.75 |
| 11/2/2020 | 14:00 | 1.16 | 172.5 | 12/2/2020 | 14:00 | 1.62 | 243.75 |
| 11/2/2020 | 15:00 | 1.35 | 176.25 | 12/2/2020 | 15:00 | 1.43 | 240 |
| 11/2/2020 | 16:00 | 1.51 | 146.25 | 12/2/2020 | 16:00 | 2.22 | 243.75 |
| 11/2/2020 | 17:00 | 1.41 | 142.5 | 12/2/2020 | 17:00 | 1.96 | 273.75 |
| 11/2/2020 | 18:00 | 1.66 | 180 | 12/2/2020 | 18:00 | 1.73 | 187.5 |
| 11/2/2020 | 19:00 | 1.84 | 191.25 | 12/2/2020 | 19:00 | 2.31 | 183.75 |
| 11/2/2020 | 20:00 | 2.78 | 228.75 | 12/2/2020 | 20:00 | 2.29 | 183.75 |
| 11/2/2020 | 21:00 | 1.21 | 195 | 12/2/2020 | 21:00 | 2.06 | 202.5 |
| 11/2/2020 | 22:00 | 0.64 | 198.75 | 12/2/2020 | 22:00 | 1.95 | 202.5 |
| 11/2/2020 | 23:00 | 0.83 | 202.5 | 12/2/2020 | 23:00 | 1.91 | 202.5 |

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Hong Kong Children's Hospital

| Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction |
|-----------|-------|------------------|----------------|-----------|-------|------------------|----------------|
| 13/2/2020 | 0:00 | 1.21 | 195 | 14/2/2020 | 0:00 | 0.89 | 183.75 |
| 13/2/2020 | 1:00 | 1.65 | 168.75 | 14/2/2020 | 1:00 | 0.88 | 213.75 |
| 13/2/2020 | 2:00 | 2.22 | 165 | 14/2/2020 | 2:00 | 0.81 | 232.5 |
| 13/2/2020 | 3:00 | 1.4 | 165 | 14/2/2020 | 3:00 | 0.9 | 221.25 |
| 13/2/2020 | 4:00 | 1.56 | 153.75 | 14/2/2020 | 4:00 | 0.79 | 180 |
| 13/2/2020 | 5:00 | 1.33 | 168.75 | 14/2/2020 | 5:00 | 0.79 | 206.25 |
| 13/2/2020 | 6:00 | 1.19 | 150 | 14/2/2020 | 6:00 | 0.74 | 195 |
| 13/2/2020 | 7:00 | 1.08 | 157.5 | 14/2/2020 | 7:00 | 1.18 | 168.75 |
| 13/2/2020 | 8:00 | 0.94 | 161.25 | 14/2/2020 | 8:00 | 1.15 | 198.75 |
| 13/2/2020 | 9:00 | 1.21 | 165 | 14/2/2020 | 9:00 | 0.96 | 210 |
| 13/2/2020 | 10:00 | 1.24 | 180 | 14/2/2020 | 10:00 | 1.31 | 228.75 |
| 13/2/2020 | 11:00 | 1.15 | 172.5 | 14/2/2020 | 11:00 | 1.16 | 221.25 |
| 13/2/2020 | 12:00 | 0.84 | 195 | 14/2/2020 | 12:00 | 0.82 | 195 |
| 13/2/2020 | 13:00 | 1.31 | 183.75 | 14/2/2020 | 13:00 | 1.24 | 191.25 |
| 13/2/2020 | 14:00 | 1.07 | 183.75 | 14/2/2020 | 14:00 | 1.06 | 165 |
| 13/2/2020 | 15:00 | 0.47 | 180 | 14/2/2020 | 15:00 | 1.21 | 187.5 |
| 13/2/2020 | 16:00 | 0.82 | 157.5 | 14/2/2020 | 16:00 | 0.99 | 195 |
| 13/2/2020 | 17:00 | 0.18 | 191.25 | 14/2/2020 | 17:00 | 1.43 | 243.75 |
| 13/2/2020 | 18:00 | 0.28 | 183.75 | 14/2/2020 | 18:00 | 1.09 | 210 |
| 13/2/2020 | 19:00 | 0.53 | 217.5 | 14/2/2020 | 19:00 | 1.25 | 165 |
| 13/2/2020 | 20:00 | 1.26 | 221.25 | 14/2/2020 | 20:00 | 0.96 | 172.5 |
| 13/2/2020 | 21:00 | 0.73 | 198.75 | 14/2/2020 | 21:00 | 1.32 | 187.5 |
| 13/2/2020 | 22:00 | 0.91 | 198.75 | 14/2/2020 | 22:00 | 0.98 | 195 |
| 13/2/2020 | 23:00 | 1.18 | 210 | 14/2/2020 | 23:00 | 1.56 | 217.5 |

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Hong Kong Children's Hospital

| Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction |
|-----------|-------|------------------|----------------|-----------|-------|------------------|----------------|
| 15/2/2020 | 0:00 | 1.91 | 202.5 | 16/2/2020 | 0:00 | 0.49 | 180 |
| 15/2/2020 | 1:00 | 1.14 | 195 | 16/2/2020 | 1:00 | 0.69 | 157.5 |
| 15/2/2020 | 2:00 | 0.76 | 206.25 | 16/2/2020 | 2:00 | 1.07 | 157.5 |
| 15/2/2020 | 3:00 | 1.17 | 232.5 | 16/2/2020 | 3:00 | 1.09 | 165 |
| 15/2/2020 | 4:00 | 0.74 | 183.75 | 16/2/2020 | 4:00 | 1.08 | 142.5 |
| 15/2/2020 | 5:00 | 0.58 | 251.25 | 16/2/2020 | 5:00 | 0.96 | 153.75 |
| 15/2/2020 | 6:00 | 1.17 | 198.75 | 16/2/2020 | 6:00 | 0.57 | 195 |
| 15/2/2020 | 7:00 | 1.51 | 221.25 | 16/2/2020 | 7:00 | 0.73 | 240 |
| 15/2/2020 | 8:00 | 0.97 | 213.75 | 16/2/2020 | 8:00 | 0.1 | 311.25 |
| 15/2/2020 | 9:00 | 0.98 | 168.75 | 16/2/2020 | 9:00 | 0.08 | 307.5 |
| 15/2/2020 | 10:00 | 1.55 | 176.25 | 16/2/2020 | 10:00 | 0.1 | 326.25 |
| 15/2/2020 | 11:00 | 1.4 | 176.25 | 16/2/2020 | 11:00 | 0.25 | 315 |
| 15/2/2020 | 12:00 | 0.82 | 202.5 | 16/2/2020 | 12:00 | 0.83 | 315 |
| 15/2/2020 | 13:00 | 0.44 | 221.25 | 16/2/2020 | 13:00 | 0.18 | 311.25 |
| 15/2/2020 | 14:00 | 0.71 | 240 | 16/2/2020 | 14:00 | 0.18 | 337.5 |
| 15/2/2020 | 15:00 | 0.96 | 228.75 | 16/2/2020 | 15:00 | 0.02 | 318.75 |
| 15/2/2020 | 16:00 | 0.68 | 198.75 | 16/2/2020 | 16:00 | 0.11 | 307.5 |
| 15/2/2020 | 17:00 | 1.57 | 262.5 | 16/2/2020 | 17:00 | 0.28 | 270 |
| 15/2/2020 | 18:00 | 1.91 | 202.5 | 16/2/2020 | 18:00 | 0.06 | 206.25 |
| 15/2/2020 | 19:00 | 1.2 | 232.5 | 16/2/2020 | 19:00 | 0.36 | 138.75 |
| 15/2/2020 | 20:00 | 0.48 | 198.75 | 16/2/2020 | 20:00 | 0.34 | 90 |
| 15/2/2020 | 21:00 | 1.37 | 206.25 | 16/2/2020 | 21:00 | 0.32 | 112.5 |
| 15/2/2020 | 22:00 | 1.07 | 202.5 | 16/2/2020 | 22:00 | 0.14 | 142.5 |
| 15/2/2020 | 23:00 | 0.47 | 172.5 | 16/2/2020 | 23:00 | 0.07 | 168.75 |

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Hong Kong Children's Hospital

| Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction |
|-----------|-------|------------------|----------------|-----------|-------|------------------|----------------|
| 17/2/2020 | 0:00 | 0.88 | 157.5 | 18/2/2020 | 0:00 | 1.06 | 303.75 |
| 17/2/2020 | 1:00 | 1.77 | 172.5 | 18/2/2020 | 1:00 | 1.72 | 180 |
| 17/2/2020 | 2:00 | 1.41 | 180 | 18/2/2020 | 2:00 | 1.57 | 176.25 |
| 17/2/2020 | 3:00 | 1.58 | 266.25 | 18/2/2020 | 3:00 | 0.88 | 221.25 |
| 17/2/2020 | 4:00 | 1.39 | 281.25 | 18/2/2020 | 4:00 | 2.1 | 176.25 |
| 17/2/2020 | 5:00 | 1.69 | 228.75 | 18/2/2020 | 5:00 | 1.48 | 176.25 |
| 17/2/2020 | 6:00 | 1.34 | 243.75 | 18/2/2020 | 6:00 | 1.55 | 210 |
| 17/2/2020 | 7:00 | 0.92 | 198.75 | 18/2/2020 | 7:00 | 1.42 | 157.5 |
| 17/2/2020 | 8:00 | 1.23 | 183.75 | 18/2/2020 | 8:00 | 3.61 | 187.5 |
| 17/2/2020 | 9:00 | 0.61 | 161.25 | 18/2/2020 | 9:00 | 3.92 | 292.5 |
| 17/2/2020 | 10:00 | 0.05 | 206.25 | 18/2/2020 | 10:00 | 2.68 | 285 |
| 17/2/2020 | 11:00 | 0.28 | 183.75 | 18/2/2020 | 11:00 | 2.56 | 285 |
| 17/2/2020 | 12:00 | 0.09 | 232.5 | 18/2/2020 | 12:00 | 2.41 | 288.75 |
| 17/2/2020 | 13:00 | 0.05 | 195 | 18/2/2020 | 13:00 | 2.24 | 273.75 |
| 17/2/2020 | 14:00 | 0.27 | 206.25 | 18/2/2020 | 14:00 | 3.23 | 236.25 |
| 17/2/2020 | 15:00 | 0.17 | 266.25 | 18/2/2020 | 15:00 | 2.86 | 285 |
| 17/2/2020 | 16:00 | 0.29 | 243.75 | 18/2/2020 | 16:00 | 2.52 | 243.75 |
| 17/2/2020 | 17:00 | 0.37 | 303.75 | 18/2/2020 | 17:00 | 2.4 | 262.5 |
| 17/2/2020 | 18:00 | 0.13 | 243.75 | 18/2/2020 | 18:00 | 2.94 | 247.5 |
| 17/2/2020 | 19:00 | 0.04 | 213.75 | 18/2/2020 | 19:00 | 2.98 | 202.5 |
| 17/2/2020 | 20:00 | 0.16 | 225 | 18/2/2020 | 20:00 | 3.14 | 168.75 |
| 17/2/2020 | 21:00 | 0.82 | 262.5 | 18/2/2020 | 21:00 | 2.1 | 157.5 |
| 17/2/2020 | 22:00 | 1.27 | 300 | 18/2/2020 | 22:00 | 2.75 | 217.5 |
| 17/2/2020 | 23:00 | 1.46 | 300 | 18/2/2020 | 23:00 | 1.98 | 168.75 |

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Hong Kong Children's Hospital

| Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction |
|-----------|-------|------------------|----------------|-----------|-------|------------------|----------------|
| 19/2/2020 | 0:00 | 1.79 | 157.5 | 20/2/2020 | 0:00 | 0.76 | 326.25 |
| 19/2/2020 | 1:00 | 2.08 | 161.25 | 20/2/2020 | 1:00 | 1.23 | 288.75 |
| 19/2/2020 | 2:00 | 1.85 | 176.25 | 20/2/2020 | 2:00 | 0.67 | 322.5 |
| 19/2/2020 | 3:00 | 2.31 | 176.25 | 20/2/2020 | 3:00 | 1.14 | 311.25 |
| 19/2/2020 | 4:00 | 2.5 | 303.75 | 20/2/2020 | 4:00 | 1.25 | 300 |
| 19/2/2020 | 5:00 | 1.7 | 303.75 | 20/2/2020 | 5:00 | 0.73 | 292.5 |
| 19/2/2020 | 6:00 | 2.12 | 296.25 | 20/2/2020 | 6:00 | 0.76 | 307.5 |
| 19/2/2020 | 7:00 | 1.8 | 277.5 | 20/2/2020 | 7:00 | 0.3 | 303.75 |
| 19/2/2020 | 8:00 | 2.06 | 296.25 | 20/2/2020 | 8:00 | 0.61 | 315 |
| 19/2/2020 | 9:00 | 1.88 | 303.75 | 20/2/2020 | 9:00 | 0.39 | 303.75 |
| 19/2/2020 | 10:00 | 2.34 | 296.25 | 20/2/2020 | 10:00 | 0.35 | 303.75 |
| 19/2/2020 | 11:00 | 1.2 | 251.25 | 20/2/2020 | 11:00 | 0.55 | 315 |
| 19/2/2020 | 12:00 | 1 | 303.75 | 20/2/2020 | 12:00 | 0.7 | 307.5 |
| 19/2/2020 | 13:00 | 1.46 | 303.75 | 20/2/2020 | 13:00 | 0.95 | 307.5 |
| 19/2/2020 | 14:00 | 1.16 | 281.25 | 20/2/2020 | 14:00 | 0.63 | 315 |
| 19/2/2020 | 15:00 | 0.98 | 277.5 | 20/2/2020 | 15:00 | 0.64 | 315 |
| 19/2/2020 | 16:00 | 1.04 | 288.75 | 20/2/2020 | 16:00 | 0.5 | 307.5 |
| 19/2/2020 | 17:00 | 1.61 | 315 | 20/2/2020 | 17:00 | 0.34 | 330 |
| 19/2/2020 | 18:00 | 0.9 | 303.75 | 20/2/2020 | 18:00 | 0.66 | 318.75 |
| 19/2/2020 | 19:00 | 0.41 | 270 | 20/2/2020 | 19:00 | 0.42 | 307.5 |
| 19/2/2020 | 20:00 | 0.45 | 281.25 | 20/2/2020 | 20:00 | 1.42 | 315 |
| 19/2/2020 | 21:00 | 1.57 | 303.75 | 20/2/2020 | 21:00 | 1.48 | 326.25 |
| 19/2/2020 | 22:00 | 0.47 | 318.75 | 20/2/2020 | 22:00 | 1.08 | 262.5 |
| 19/2/2020 | 23:00 | 0.53 | 322.5 | 20/2/2020 | 23:00 | 0.68 | 326.25 |

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Hong Kong Children's Hospital

| Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction |
|-----------|-------|------------------|----------------|-----------|-------|------------------|----------------|
| 21/2/2020 | 0:00 | 0.18 | 337.5 | 22/2/2020 | 0:00 | 0.2 | 330 |
| 21/2/2020 | 1:00 | 0.19 | 337.5 | 22/2/2020 | 1:00 | 0.06 | 330 |
| 21/2/2020 | 2:00 | 0.31 | 326.25 | 22/2/2020 | 2:00 | 0.5 | 217.5 |
| 21/2/2020 | 3:00 | 0.21 | 322.5 | 22/2/2020 | 3:00 | 0.49 | 277.5 |
| 21/2/2020 | 4:00 | 0.34 | 318.75 | 22/2/2020 | 4:00 | 0.23 | 326.25 |
| 21/2/2020 | 5:00 | 0.08 | 322.5 | 22/2/2020 | 5:00 | 0.19 | 330 |
| 21/2/2020 | 6:00 | 0.01 | 315 | 22/2/2020 | 6:00 | 0.09 | 330 |
| 21/2/2020 | 7:00 | 0.07 | 303.75 | 22/2/2020 | 7:00 | 0.65 | 285 |
| 21/2/2020 | 8:00 | 0.08 | 311.25 | 22/2/2020 | 8:00 | 0.52 | 322.5 |
| 21/2/2020 | 9:00 | 0.15 | 330 | 22/2/2020 | 9:00 | 0.16 | 315 |
| 21/2/2020 | 10:00 | 0.31 | 318.75 | 22/2/2020 | 10:00 | 1.06 | 296.25 |
| 21/2/2020 | 11:00 | 0.24 | 300 | 22/2/2020 | 11:00 | 1.35 | 300 |
| 21/2/2020 | 12:00 | 0.45 | 311.25 | 22/2/2020 | 12:00 | 1.4 | 311.25 |
| 21/2/2020 | 13:00 | 0.49 | 318.75 | 22/2/2020 | 13:00 | 1.15 | 307.5 |
| 21/2/2020 | 14:00 | 0.02 | 315 | 22/2/2020 | 14:00 | 1.4 | 285 |
| 21/2/2020 | 15:00 | 0.09 | 318.75 | 22/2/2020 | 15:00 | 1.53 | 307.5 |
| 21/2/2020 | 16:00 | 0.02 | 337.5 | 22/2/2020 | 16:00 | 1.57 | 303.75 |
| 21/2/2020 | 17:00 | 0.02 | 322.5 | 22/2/2020 | 17:00 | 1.5 | 311.25 |
| 21/2/2020 | 18:00 | 0.39 | 333.75 | 22/2/2020 | 18:00 | 2.15 | 307.5 |
| 21/2/2020 | 19:00 | 0.2 | 285 | 22/2/2020 | 19:00 | 2.25 | 270 |
| 21/2/2020 | 20:00 | 0.24 | 277.5 | 22/2/2020 | 20:00 | 2.11 | 273.75 |
| 21/2/2020 | 21:00 | 0.53 | 142.5 | 22/2/2020 | 21:00 | 2.13 | 270 |
| 21/2/2020 | 22:00 | 0.68 | 307.5 | 22/2/2020 | 22:00 | 2.63 | 270 |
| 21/2/2020 | 23:00 | 0.78 | 333.75 | 22/2/2020 | 23:00 | 2.77 | 262.5 |

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Hong Kong Children's Hospital

| Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction |
|-----------|-------|------------------|----------------|-----------|-------|------------------|----------------|
| 23/2/2020 | 0:00 | 1.26 | 255 | 24/2/2020 | 0:00 | 0.21 | 292.5 |
| 23/2/2020 | 1:00 | 1.38 | 277.5 | 24/2/2020 | 1:00 | 0.17 | 288.75 |
| 23/2/2020 | 2:00 | 1.99 | 221.25 | 24/2/2020 | 2:00 | 0.33 | 285 |
| 23/2/2020 | 3:00 | 2.71 | 333.75 | 24/2/2020 | 3:00 | 0.39 | 281.25 |
| 23/2/2020 | 4:00 | 1.39 | 326.25 | 24/2/2020 | 4:00 | 0.36 | 225 |
| 23/2/2020 | 5:00 | 2.42 | 217.5 | 24/2/2020 | 5:00 | 0.09 | 292.5 |
| 23/2/2020 | 6:00 | 2.19 | 165 | 24/2/2020 | 6:00 | 0.13 | 266.25 |
| 23/2/2020 | 7:00 | 2.24 | 258.75 | 24/2/2020 | 7:00 | 0.13 | 228.75 |
| 23/2/2020 | 8:00 | 2.27 | 277.5 | 24/2/2020 | 8:00 | 0.11 | 217.5 |
| 23/2/2020 | 9:00 | 2.26 | 303.75 | 24/2/2020 | 9:00 | 0.16 | 206.25 |
| 23/2/2020 | 10:00 | 2.46 | 333.75 | 24/2/2020 | 10:00 | 0.34 | 198.75 |
| 23/2/2020 | 11:00 | 1.53 | 337.5 | 24/2/2020 | 11:00 | 0.24 | 195 |
| 23/2/2020 | 12:00 | 0.55 | 337.5 | 24/2/2020 | 12:00 | 0.71 | 217.5 |
| 23/2/2020 | 13:00 | 0.82 | 333.75 | 24/2/2020 | 13:00 | 0.21 | 225 |
| 23/2/2020 | 14:00 | 1.36 | 333.75 | 24/2/2020 | 14:00 | 0.05 | 217.5 |
| 23/2/2020 | 15:00 | 2.43 | 337.5 | 24/2/2020 | 15:00 | 0.06 | 187.5 |
| 23/2/2020 | 16:00 | 3.25 | 318.75 | 24/2/2020 | 16:00 | 0.47 | 150 |
| 23/2/2020 | 17:00 | 3.16 | 322.5 | 24/2/2020 | 17:00 | 0.06 | 168.75 |
| 23/2/2020 | 18:00 | 2.17 | 330 | 24/2/2020 | 18:00 | 0.05 | 168.75 |
| 23/2/2020 | 19:00 | 2.02 | 315 | 24/2/2020 | 19:00 | 0.19 | 176.25 |
| 23/2/2020 | 20:00 | 3.57 | 322.5 | 24/2/2020 | 20:00 | 0.77 | 161.25 |
| 23/2/2020 | 21:00 | 2.93 | 285 | 24/2/2020 | 21:00 | 0.15 | 165 |
| 23/2/2020 | 22:00 | 2.02 | 315 | 24/2/2020 | 22:00 | 0.73 | 142.5 |
| 23/2/2020 | 23:00 | 2.81 | 300 | 24/2/2020 | 23:00 | 0.91 | 180 |

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Hong Kong Children's Hospital

| Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction |
|-----------|-------|------------------|----------------|-----------|-------|------------------|----------------|
| 25/2/2020 | 0:00 | 1.16 | 198.75 | 26/2/2020 | 0:00 | 0.45 | 296.25 |
| 25/2/2020 | 1:00 | 0.69 | 183.75 | 26/2/2020 | 1:00 | 0.23 | 296.25 |
| 25/2/2020 | 2:00 | 0.79 | 161.25 | 26/2/2020 | 2:00 | 0.18 | 288.75 |
| 25/2/2020 | 3:00 | 0.49 | 168.75 | 26/2/2020 | 3:00 | 0.34 | 292.5 |
| 25/2/2020 | 4:00 | 0.72 | 161.25 | 26/2/2020 | 4:00 | 0.23 | 288.75 |
| 25/2/2020 | 5:00 | 0.52 | 161.25 | 26/2/2020 | 5:00 | 0.69 | 243.75 |
| 25/2/2020 | 6:00 | 0.63 | 165 | 26/2/2020 | 6:00 | 1.03 | 322.5 |
| 25/2/2020 | 7:00 | 0.25 | 150 | 26/2/2020 | 7:00 | 0.92 | 326.25 |
| 25/2/2020 | 8:00 | 0.64 | 157.5 | 26/2/2020 | 8:00 | 0.63 | 307.5 |
| 25/2/2020 | 9:00 | 0.27 | 168.75 | 26/2/2020 | 9:00 | 1.35 | 255 |
| 25/2/2020 | 10:00 | 0.58 | 191.25 | 26/2/2020 | 10:00 | 0.46 | 150 |
| 25/2/2020 | 11:00 | 2.42 | 180 | 26/2/2020 | 11:00 | 0.29 | 232.5 |
| 25/2/2020 | 12:00 | 0.98 | 198.75 | 26/2/2020 | 12:00 | 0.42 | 285 |
| 25/2/2020 | 13:00 | 0.48 | 172.5 | 26/2/2020 | 13:00 | 1.6 | 277.5 |
| 25/2/2020 | 14:00 | 0.27 | 202.5 | 26/2/2020 | 14:00 | 1.39 | 330 |
| 25/2/2020 | 15:00 | 1.18 | 210 | 26/2/2020 | 15:00 | 0.96 | 266.25 |
| 25/2/2020 | 16:00 | 1.06 | 307.5 | 26/2/2020 | 16:00 | 0.33 | 337.5 |
| 25/2/2020 | 17:00 | 0.74 | 300 | 26/2/2020 | 17:00 | 0.99 | 337.5 |
| 25/2/2020 | 18:00 | 0.46 | 296.25 | 26/2/2020 | 18:00 | 1.27 | 337.5 |
| 25/2/2020 | 19:00 | 0.95 | 296.25 | 26/2/2020 | 19:00 | 0.82 | 296.25 |
| 25/2/2020 | 20:00 | 0.33 | 285 | 26/2/2020 | 20:00 | 0.52 | 322.5 |
| 25/2/2020 | 21:00 | 0.13 | 288.75 | 26/2/2020 | 21:00 | 0.92 | 315 |
| 25/2/2020 | 22:00 | 0.18 | 288.75 | 26/2/2020 | 22:00 | 0.88 | 168.75 |
| 25/2/2020 | 23:00 | 0.26 | 292.5 | 26/2/2020 | 23:00 | 1.59 | 168.75 |

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Hong Kong Children's Hospital

| Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction |
|-----------|-------|------------------|----------------|-----------|-------|------------------|----------------|
| 27/2/2020 | 0:00 | 0 | 0 | 28/2/2020 | 0:00 | 0.54 | 187.5 |
| 27/2/2020 | 1:00 | 0 | 0 | 28/2/2020 | 1:00 | 0.24 | 202.5 |
| 27/2/2020 | 2:00 | 0 | 0 | 28/2/2020 | 2:00 | 0.17 | 198.75 |
| 27/2/2020 | 3:00 | 0.95 | 262.5 | 28/2/2020 | 3:00 | 0.06 | 221.25 |
| 27/2/2020 | 4:00 | 1.81 | 322.5 | 28/2/2020 | 4:00 | 0.23 | 191.25 |
| 27/2/2020 | 5:00 | 0.93 | 326.25 | 28/2/2020 | 5:00 | 0.14 | 168.75 |
| 27/2/2020 | 6:00 | 0.72 | 300 | 28/2/2020 | 6:00 | 0.18 | 157.5 |
| 27/2/2020 | 7:00 | 0.92 | 326.25 | 28/2/2020 | 7:00 | 0.05 | 277.5 |
| 27/2/2020 | 8:00 | 0.61 | 281.25 | 28/2/2020 | 8:00 | 0.04 | 232.5 |
| 27/2/2020 | 9:00 | 0.43 | 277.5 | 28/2/2020 | 9:00 | 0.07 | 326.25 |
| 27/2/2020 | 10:00 | 0.59 | 333.75 | 28/2/2020 | 10:00 | 0.07 | 337.5 |
| 27/2/2020 | 11:00 | 0.57 | 330 | 28/2/2020 | 11:00 | 0.08 | 303.75 |
| 27/2/2020 | 12:00 | 0.58 | 285 | 28/2/2020 | 12:00 | 0.01 | 273.75 |
| 27/2/2020 | 13:00 | 0.79 | 300 | 28/2/2020 | 13:00 | 0.01 | 258.75 |
| 27/2/2020 | 14:00 | 0.47 | 262.5 | 28/2/2020 | 14:00 | 0.14 | 277.5 |
| 27/2/2020 | 15:00 | 0.65 | 303.75 | 28/2/2020 | 15:00 | 0.31 | 288.75 |
| 27/2/2020 | 16:00 | 0.56 | 112.5 | 28/2/2020 | 16:00 | 0.71 | 303.75 |
| 27/2/2020 | 17:00 | 1.17 | 0 | 28/2/2020 | 17:00 | 0.25 | 288.75 |
| 27/2/2020 | 18:00 | 1.74 | 225 | 28/2/2020 | 18:00 | 0.1 | 292.5 |
| 27/2/2020 | 19:00 | 1.94 | 333.75 | 28/2/2020 | 19:00 | 0.24 | 288.75 |
| 27/2/2020 | 20:00 | 2.36 | 45 | 28/2/2020 | 20:00 | 0.26 | 285 |
| 27/2/2020 | 21:00 | 2.15 | 45 | 28/2/2020 | 21:00 | 0.06 | 255 |
| 27/2/2020 | 22:00 | 1.43 | 45 | 28/2/2020 | 22:00 | 0.15 | 213.75 |
| 27/2/2020 | 23:00 | 1.46 | 183.75 | 28/2/2020 | 23:00 | 0.41 | 225 |

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Hong Kong Children's Hospital

| Date | Time | Wind Speed (m/s) | Wind Direction | Date | Time | Wind Speed (m/s) | Wind Direction |
|-----------|-------|------------------|----------------|------|------|------------------|----------------|
| 29/2/2020 | 0:00 | 0.82 | 183.75 | | | | |
| 29/2/2020 | 1:00 | 0.05 | 187.5 | | | | |
| 29/2/2020 | 2:00 | 0.18 | 183.75 | | | | |
| 29/2/2020 | 3:00 | 0.04 | 255 | | | | |
| 29/2/2020 | 4:00 | 0.87 | 270 | | | | |
| 29/2/2020 | 5:00 | 0.43 | 277.5 | | | | |
| 29/2/2020 | 6:00 | 0.59 | 285 | | | | |
| 29/2/2020 | 7:00 | 0.61 | 225 | | | | |
| 29/2/2020 | 8:00 | 0.52 | 206.25 | | | | |
| 29/2/2020 | 9:00 | 0.66 | 236.25 | | | | |
| 29/2/2020 | 10:00 | 0.87 | 255 | | | | |
| 29/2/2020 | 11:00 | 0.98 | 206.25 | | | | |
| 29/2/2020 | 12:00 | 0.75 | 191.25 | | | | |
| 29/2/2020 | 13:00 | 1.16 | 195 | | | | |
| 29/2/2020 | 14:00 | 0.64 | 202.5 | | | | |
| 29/2/2020 | 15:00 | 1.08 | 206.25 | | | | |
| 29/2/2020 | 16:00 | 0.73 | 183.75 | | | | |
| 29/2/2020 | 17:00 | 0.66 | 206.25 | | | | |
| 29/2/2020 | 18:00 | 0.62 | 221.25 | | | | |
| 29/2/2020 | 19:00 | 0.32 | 213.75 | | | | |
| 29/2/2020 | 20:00 | 0.21 | 251.25 | | | | |
| 29/2/2020 | 21:00 | 0.38 | 221.25 | | | | |
| 29/2/2020 | 22:00 | 0.51 | 217.5 | | | | |
| 29/2/2020 | 23:00 | 1.02 | 210 | | | | |

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Hong Kong Children's Hospital

Appendix G – 24-hr TSP monitoring results and graphical presentation

Location: AM3 – Sky Tower

| Start Date | Weather | Air Temp. | Atmospheric Pressure | Filter we | eight (g) | Particulate | Elapse | e Time | Sampling Time | | Rate m) | Av. Flow | Total vol. | Conc. |
|------------|---------|--------------|-------------------------|-----------|-----------|-------------|---------|--------|------------------|---------|------------|-----------------------|---------------|---------------|
| | | (°C) | (hPa) | Initial | Final | weight (g) | Initial | Final | (min) | Initial | Final | (m ³ /min) | (m^{3}) | $(\mu g/m^3)$ |
| 4/2/2020 | Sunny | 21.1 | 1024 | 18.5583 | 18.6304 | 0.0721 | 43200 | 45600 | 1440 | 50 | 50 | 1.39 | 2001 | 36 |
| 10/2/2020 | Sunny | 23.1 | 1022 | 15.0316 | 15.1387 | 0.1071 | 45600 | 48000 | 1440 | 50 | 50 | 1.38 | 1992 | 54 |
| 15/2/2020 | Cloudy | 19.7 | 1018 | 18.4466 | 18.5063 | 0.0597 | 48000 | 50400 | 1440 | 49 | 49 | 1.36 | 1961 | 30 |
| 21/2/2020 | Sunny | 24.3 | 1017 | 15.0834 | 15.2273 | 0.1439 | 55200 | 57600 | 1440 | 46 | 46 | 1.27 | 1828 | 79 |
| 27/2/2020 | Sunny | 21.3 | 1020 | 15.1449 | 15.2745 | 0.1296 | 60000 | 62400 | 1440 | 46 | 46 | 1.28 | 1840 | 70 |
| | | | | | | | | | | | | Maxi | mum | 79 |
| | | | | | | | | | | | | Minii | mum | 30 |
| | | | | | | | | | | | | Aver | rage | 54 |
| | | | | | | | | | | | | Action | Level | 182 |
| | | | | | | | | | | | | Limit | Level | 260 |

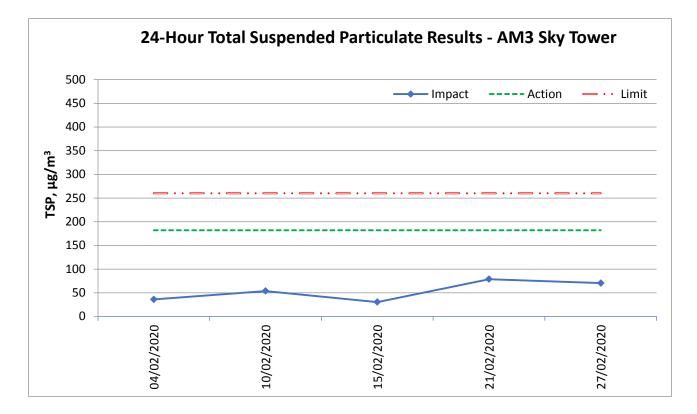
Location: AM4(A) – The Hong Kong Society for the Blind's Factory cum Sheltered Workshop

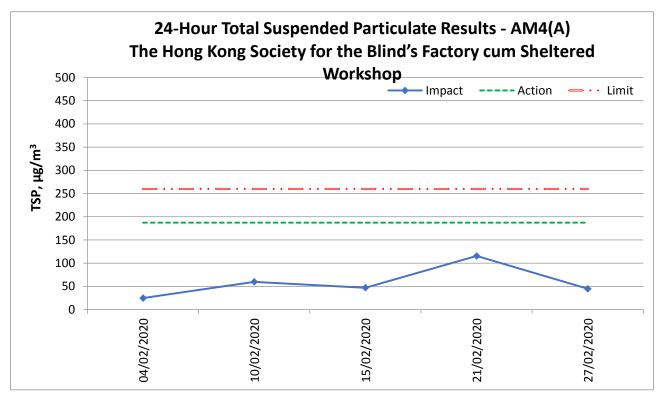
| Start Date | Weather | Air Temp. | Atmospheric Pressure | Filter we | eight (g) | Particulate | Elapse | e Time | Sampling Time | Flow (cf | Rate m) | Av. Flow | Total vol. | Conc. |
|------------|---------|--------------|-------------------------|-----------|-----------|-------------|---------|--------|------------------|-------------|------------|-----------------------|-------------------|---------------|
| | | (°C) | (hPa) | Initial | Final | weight (g) | Initial | Final | (min) | Initial | Final | (m ³ /min) | (m ³) | $(\mu g/m^3)$ |
| 4/2/2020 | Sunny | 21.1 | 1024 | 15.2665 | 15.3158 | 0.0493 | 43200 | 45600 | 1440 | 50 | 50 | 1.39 | 2001 | 25 |
| 10/2/2020 | Sunny | 23.1 | 1022 | 15.0402 | 15.1496 | 0.1094 | 45600 | 48000 | 1440 | 46 | 46 | 1.28 | 1836 | 60 |
| 15/2/2020 | Cloudy | 19.7 | 1018 | 15.072 | 15.1621 | 0.0901 | 48000 | 50400 | 1440 | 48 | 48 | 1.33 | 1921 | 47 |
| 21/2/2020 | Sunny | 24.3 | 1017 | 15.4953 | 15.7062 | 0.2109 | 55200 | 57600 | 1440 | 46 | 46 | 1.27 | 1828 | 115 |
| 27/2/2020 | Sunny | 21.3 | 1020 | 18.5242 | 18.6133 | 0.0891 | 60000 | 62400 | 1440 | 50 | 50 | 1.39 | 1996 | 45 |
| | | | | | | | | | | | | Maxi | mum | 115 |
| | | | | | | | | | | | | Minii | num | 25 |
| | | | | | | | | | | | | Aver | rage | 58 |
| | | | | | | | | | | | | Action | Level | 187 |
| | | | | | | | | | | | | Limit | Level | 260 |

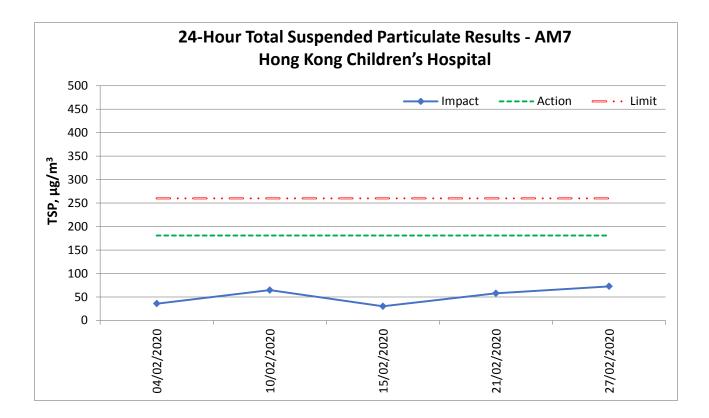
Location: AM7 – Hong Kong Children's Hospital

| Start Date | Weather | Air Temp. | Atmospheric Pressure | Filter we | eight (g) | Particulate | Elapse | e Time | Sampling Time | | Rate m) | Av. Flow | Total vol. | Conc. |
|------------|---------|--------------|-------------------------|-----------|-----------|-------------|---------|--------|------------------|---------|------------|-----------------------|---------------|---------------|
| | | (°C) | (hPa) | Initial | Final | weight (g) | Initial | Final | (min) | Initial | Final | (m ³ /min) | (m^{3}) | $(\mu g/m^3)$ |
| 4/2/2020 | Sunny | 21.1 | 1024 | 18.4264 | 18.4952 | 0.0688 | 43200 | 45600 | 1440 | 48 | 48 | 1.34 | 1922 | 36 |
| 10/2/2020 | Sunny | 23.1 | 1022 | 18.6307 | 18.7492 | 0.1185 | 45600 | 48000 | 1440 | 46 | 46 | 1.28 | 1836 | 65 |
| 15/2/2020 | Cloudy | 19.7 | 1018 | 18.6164 | 18.6721 | 0.0557 | 48000 | 50400 | 1440 | 46 | 46 | 1.28 | 1843 | 30 |
| 21/2/2020 | Sunny | 24.3 | 1017 | 18.446 | 18.5561 | 0.1101 | 57600 | 60000 | 1440 | 48 | 48 | 1.32 | 1906 | 58 |
| 27/2/2020 | Sunny | 21.3 | 1020 | 18.2027 | 18.3419 | 0.1392 | 60000 | 62400 | 1440 | 48 | 48 | 1.33 | 1918 | 73 |
| | | | | | | | | | | | | Maxi | mum | 73 |
| | | | | | | | | | | | | Mini | mum | 30 |
| | | | | | | | | | | | | Ave | rage | 52 |
| | | | | | | | | | | | | Action | Level | 181 |
| | | | | | | | | | | | | Limit | Level | 260 |

24-hour average TSP





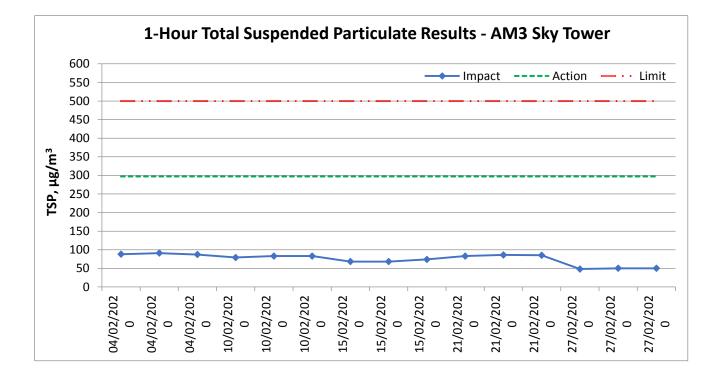


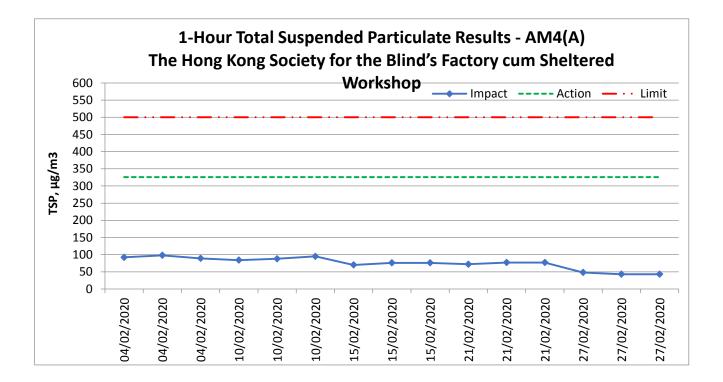
Appendix H – 1-hr TSP monitoring results and graphical presentation

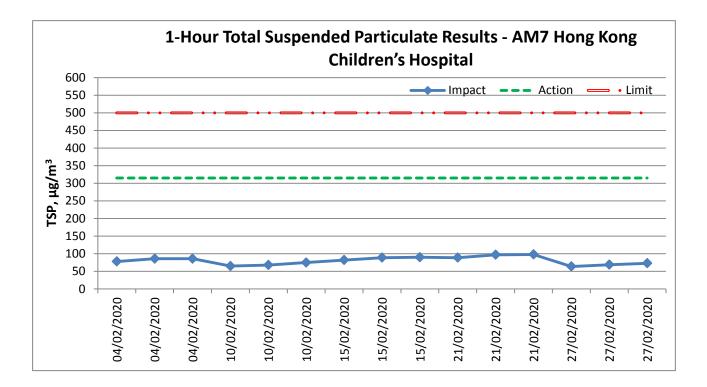
| | Date | Measure | emer | nt Period | 1-hr TSP concentration, $\mu g/m^3$ | Weather |
|-----------------|------------|-----------------------|------|-----------|----------------------------------------|---------|
| Location: | | 09:00 | - | 10:00 | 88 | |
| AM3 - | 4/2/2020 | 10:00 | - | 11:00 | 91 | Sunny |
| Sky Tower | | 11:00 | - | 12:00 | 87 | |
| Sky luwel | | 13:00 | - | 14:00 | 79 | |
| | 10/2/2020 | 14:00 | - | 15:00 | 83 | Sunny |
| | | 15:00 | - | 16:00 | 83 | |
| | | 13:00 | - | 14:00 | 68 | |
| | 15/2/2020 | 14:00 | - | 15:00 | 68 | Cloudy |
| | | 15:00 | - | 16:00 | 74 | |
| | | 09:00 | - | 10:00 | 83 | |
| | 21/2/2020 | 10:00 | - | 11:00 | 86 | Sunny |
| - | | 11:00 | | 12:00 | 85 | |
| | | 13:54 | - | 14:54 | 48 | a |
| | 27/2/2020 | 14:54 | - | 15:54 | 50 | Sunny |
| | | 15:54 | - | 16:54 | 50 | |
| | | laximum | | | 91 | |
| | | <u> Iinimum</u> | | | 48 | |
| - | | Average tion Level | | | 75 297 | |
| | | mit Level | | | 500 | |
| Location: | LI | 13:00 | _ | 14:00 | 92 | |
| | 4/2/2020 | 13:00 | _ | 15:00 | 98 | Sunny |
| AM4(A) - | 1, 2, 2020 | 15:00 | - | 16:00 | 89 | Sumy |
| The Hong Kong | | 09:00 | - | 10:00 | 84 | |
| Society for the | 10/2/2020 | 10:00 | - | 11:00 | 88 | Sunny |
| Blind's Factory | | 11:00 | - | 12:00 | 95 | 2 |
| cum Sheltered | | 9:00 | - | 10:00 | 70 | |
| | 15/2/2020 | 10:00 | - | 11:00 | 76 | Cloudy |
| Workshop | | 11:00 | - | 12:00 | 76 | |
| | | 13:00 | - | 14:00 | 72 | |
| | 21/2/2020 | 14:00 | - | 15:00 | 77 | Sunny |
| | | 15:00 | | 16:00 | 77 | |
| | | 9:25 | - | 10:25 | 48 | _ |
| | 27/2/2020 | 10:25 | - | 11:25 | 43 | Sunny |
| | | 17:25 | - | 18:25 | 43 | |
| | | laximum Iinimum | | | 98 43 | |
| | | Average | | | 75 | |
| - | | tion Level | | | 326 | |
| | | mit Level | | | 500 | |
| Location: | | 9:00 | - | 10:00 | 78 | |
| | 4/2/2020 | 10:00 | - | 11:00 | 86 | Sunny |
| AM7 - | - | 11:00 | - | 12:00 | 86 | 5 |
| Hong Kong | | 09:00 | - | 10:00 | 65 | |
| Children's | 10/2/2020 | 10:00 | - | 11:00 | 68 | Sunny |
| Hospital | | 11:00 | - | 12:00 | 75 | |
| | 15/2/2020 | 13:00 | - | 14:00 | 82 | Cloudy |

| Date | Measure | emer | nt Period | 1-hr TSP concentration, $\mu g/m^3$ | Weather | |
|-----------|------------|------|-----------|----------------------------------------|---------|--|
| | 14:00 | - | 15:00 | 89 | | |
| | 15:00 | - | 16:00 | 90 | | |
| | 13:00 | - | 14:00 | 89 | | |
| 21/2/2020 | 14:00 | - | 15:00 | 97 | Sunny | |
| | 15:00 | | 16:00 | 98 | | |
| | 09:00 | - | 10:00 | 64 | | |
| 27/2/2020 | 10:00 | - | 11:00 | 69 | Sunny | |
| | 11:00 | | 12:00 | 73 | | |
| Maximum | | | | 98 | | |
| Minimum | | | | 64 | | |
| I | Average | | | 81 | | |
| Act | tion Level | | | 315 | | |
| Li | mit Level | | | 500 | | |

1-hour average TSP







Appendix I – Event and Action Plan for air quality

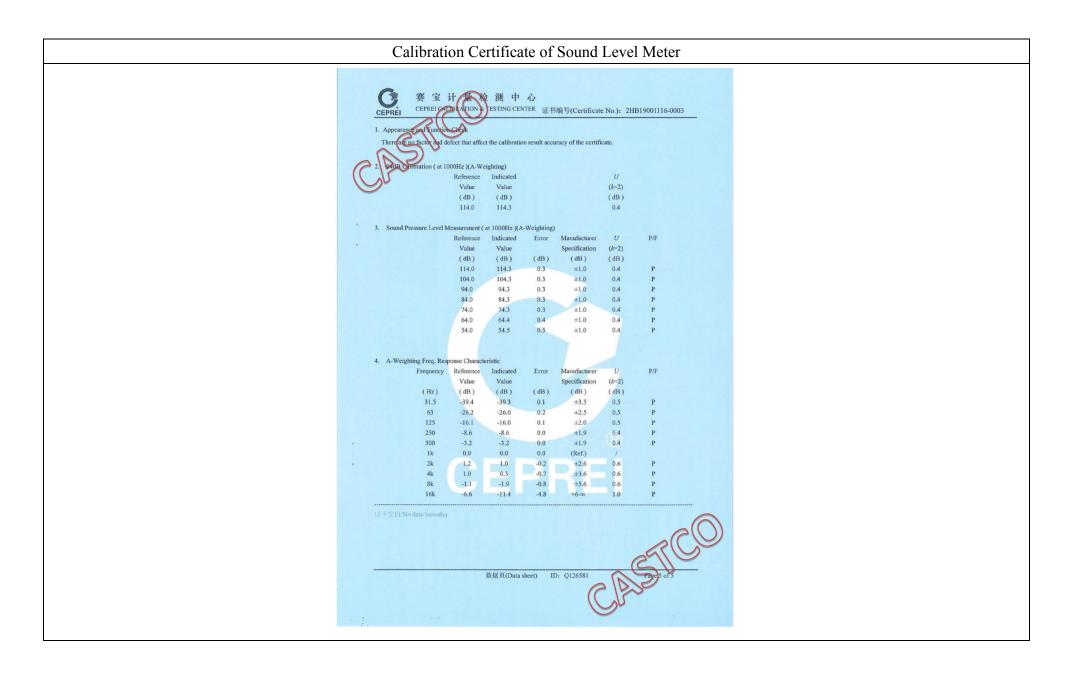
| | | Acti | ion | |
|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Event | ET | IEC | Supervisor / ER | Contractor |
| Action Level being exceeded by one sampling | Identify source and investigate the causes of exceedance; Inform Contractor, IEC and Supervisor /ER; Repeat measurement to confirm finding. | Check monitoring data submitted by ET; Check Contractor's working method. | 1. Notify Contractor. | Rectify any unacceptable practice; Amend working methods if appropriate. |
| Action Level being exceeded by two or more consecutive sampling | Identify source and investigate the causes of exceedance; Inform Contractor, IEC and Supervisor /ER; Increase monitoring | submitted by ET; 2. Check Contractor's working method; | Confirm receipt of notification of exceedance in writing; Notify Contractor; In consolidation with the IEC, agree with the | Discuss with ET and IEC on proper remedial actions; Submit proposals for remedial actions to Supervisor /ER and IEC |
| | frequency to daily; 4. Discuss with IEC and Contractor on remedial actions required; | remedial measures; | Contractor on the remedial measures to be implemented; 4. Supervise implementation | within three working day of notification;3. Implement the agreed proposals; |
| | Assess the effectiveness of Contractor's remedial actions; If exceedance continues, arrange meeting with IEC and Supervisor /ER; If exceedance stops, cease | measures. | of remedial measures; 5. Conduct meeting with ET and IEC if exceedance continues. | 4. Amend proposal if appropriate. |
| Limit Level being | additional monitoring. | 1 Charle monitoring data | 1. Confirm receipt of | 1. Take immediate action to |
| Limit Level being exceeded by one sampling | investigate the causes of exceedance; | submitted by ET; 2. Check Contractor's | notification of exceedance in writing; | Take immediate action to avoid further exceedance; Discuss with ET and IEC |
| | 2. Inform Contractor, IEC, Supervisor /ER, and EPD; | 3. Discuss possible remedial | Notify Contractor; In consolidation with the | on proper remedial actions; |
| | 3. Repeat measurement to confirm finding; | measures with ET and Contractor; | IEC, agree with the Contractor on the remedial | 3. Submit proposal for remedial actions to |
| | 4. Assess effectiveness of | 4. Advise the Supervisor /ER | measures to be | Supervisor /ER and IEC |

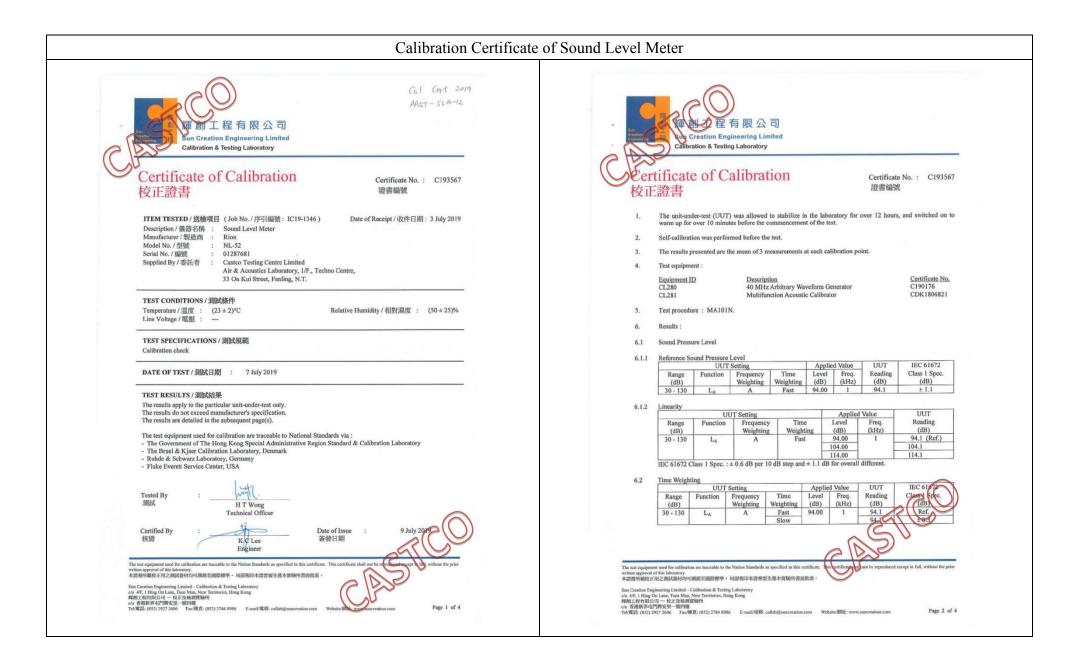
| E (| | Ac | tion | |
|-------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Event | ЕТ | IEC | Supervisor / ER | Contractor |
| | Contractor's remedial actions and keep EPD, IEC and Supervisor /ER informed of the results. | on the effectiveness of the proposed remedial measures. | implemented; 4. Supervise implementation of remedial measures; 5. Conduct meeting with ET and IEC if exceedance continues. | within three working days of notification;4. Implement the agreed proposals. |
| Limit Level being exceeded by two or more consecutive sampling | Notify IEC, Supervisor /ER, Contractor and EPD; Repeat measurement to confirm findings; Carry out analysis of Contractor's working procedures to identify source and investigate the causes of exceedance; Increase monitoring frequency to daily; Arrange meeting with IEC, Supervisor /ER and Contractor to discuss the remedial action to be taken; Assess effectiveness of Contractor's remedial actions and keep EPD, IEC and Supervisor /ER informed of the results; If exceedance stop, cease additional monitoring. | Check monitoring data submitted by ET; Check Contractor's working method; Discuss with Supervisor /ER, ET, and Contractor on the potential remedial actions; Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the Supervisor /ER accordingly. | notification of exceedance in writing; 2. Notify Contractor; | Take immediate action to avoid further exceedance; Discuss with ET and IEC on proper remedial actions; Submit proposal for remedial actions to Supervisor /ER and IEC within three working days of notification; Implement the agreed proposals; Submit further remedial actions if problem still not under control; Stop the relevant portion of works as instructed by the Supervisor /ER until the exceedance is abated. |

Appendix J – Calibration certificates, catalogue of noise monitoring equipment

| | | | Å | : | | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------------------|---------------------------------------------|-------------------------------------------------|----------|-------------------------|------------------------------------|-----------------------------------------------------------------------|
| | Spec | ifications | Tizo. | 1220. | | | | |
| | | | NI -52 | NI -42 | | | | an be saved in internal memory, for later recall |
| | Applicable | e standards | IEC 61672-1: 2002 Class 1 | IEC 61672-1: 2002 Class 2 | Wavefo | orm recording *3 | Start up via file settings previou | sly stored on SD card possible |
| | | • | | | File | oformat | | |
| | | | ANSI S1.43-1997 Type 1 | ANSI S1.43-1997 Type 2 | | | | z |
| | | | | | Outputs | | Output DC signals using a frequen | |
| | | | | | | | | |
| | weasurer | nent functions | | onowing items, with selected time | | Output voltage | | |
| | Proces | ising (main ch) | | | | Comparator | Turns on when the open-collec | tor output exceeds the set value |
| | | | Sound exposure level: LE | - | USB | | | |
| | | | | | 72 72 72 | 1 | Allows USB to be controlled via | communication commands |
| | Press | sing (cub ch) | Percentile sound levels: LN (0.1 to 99 | .9 %, 0.1-increment steps, max. 5 values) | | | | ation via use of a dedicated cable |
| | | | | | Тур | e of Instantaneous valu | e Lp | |
| | | | | ound level: I cea | Out | tput interval | 100 ms | |
| | | | C-weighted peak sound level: Lcpeal | k | | | | |
| | | | | | | | Alkaline battery LR6 (AA): 26 h | Ni-MH secondary battery: 25 h |
| | | | Maximum 1-time-weighted equivalent of | continuous sound level: LAImax*2 | AC | adapter | | |
| | | | | | Ext | emal power voltage | 5 to 7 ∨ (rated voltage: 6 ∨) | |
| Image: Normal mathematic intermed mathemathematint intermed mathematic intermed mathematic intermed math | | | of the sub-channel, so when the sub-channel | has A-weighting, LAtm5 can be selected. | | | -10 to +50 °C | |
| Improvement | | | (Lzpeak) are selectable. | | | | | |
| Summary level A-way drive A3 dB Measurement range A-waydrug 25 dB to 18d dB A-waydrug 25 dB to 18d dB C-waydrug 23 dB to 18d dB C-waydrug 23 dB to 18d dB A-waydrug 25 dB to 18d dB C-waydrug 25 dB to ress 27 dB or ress 27 dB or ress C-waydrug 25 dB to ress 27 dB or ress 20 dB or ress C-waydrug 25 dB to ress 27 dB or ress 20 dB or ress C-waydrug 25 dB to ress 27 dB or ress 20 dB or ress C-waydrug 25 dB to ress 20 dB or ress 20 dB or ress Frequency waydrug 26 dB to ress 20 dB or ress 20 dB or ress C-waydrug 26 dB to ress 20 dB or ress 20 dB or ress C-waydrug 26 dB to ress 20 dB to ress 20 dB to ress C-waydrug 26 dB to ress 20 dB to ress 20 dB to ress C-waydrug 26 dB to ress 20 dB to ress 20 dB to ress C-waydrug 26 dB to ress 20 dB to ress 20 dB to ress C-waydrug 26 dB to ress 20 dB to ress 20 dB to ress C-waydrug 26 dB to ress 20 dB to ress 20 dB to ress C-waydrug 26 dB to ress | | | | | perform | mance * 4 | See precautions regarding wat | erproofing |
| Notestamentary (normality) Arresults (2) and (| | Sensitivity level | –27 dB | | | | | |
| Available of a stabilization of the second of the secon | weasurer | nentrange | | | | | Hand strap x 1, LR6 (AA) alkaline | |
| Learning in the standard with the Control of the C | | | Z-weighting: 38 dB to 138 dB | B to 141 dB | | | preinstalled model only) | |
| Interview Overland 100 to line 100 to line 100 to line Interview Overland 100 to line 120 to line 120 to line Interview Interview 120 to line 120 to line 120 to line Interview Interview 120 to line 120 to line 120 to line 120 to line Interview Interview 120 to line | | | Z-weighting peak sound level: 60 dB | 3 to 141 dB | Optio | | aduat nama | Draduat sumb se |
| Zewageling 30 db of ess 32 db of also Progunery rung 20 bt to 0 bitz 20 bt to 0 bitz 20 bt to 0 bitz Progunery rung 20 bt to 0 bitz 20 bt to 0 bitz 20 bt to 0 bitz Progunery rung End of also 1 bits 20 bt to 0 bitz 20 bt to 0 bitz Bits rung & Ender rung (Linearly runge, 113 db) Ender rung (Linearly runge, 113 db) Ender runge (Linearly runge, 113 db) Bits rung (bits runge) 20 bit 10 db (Dit 10 | | | | | | ded function progr | am (Inst.on 512 MB SD card) | NX-42EX |
| Interface 101/21 to 20 MH2 101/21 to 20 MH2 101/21 to 20 MH2 Three weighting F (Pas) and S (Slow) F (Pas) and S (Slow) Nx-42FT Three weighting F (Pas) and S (Slow) Single range A Se 00.1 Burge new weighting Kx (100 B (20 to 130 GR) A Se 00.1 Nx-42FT Data processing method Single range A Se 00.1 Nx-42FT Data processing method Data processing method A Se 00.1 Nx-42FT Calibration Data processing method A Se 00.1 Nx-42FT Data management software for environmetal measurement A Se 00.1 Nx-42FT Data management software for environmetal measurement A Se 00.1 Nx-42FT Data processing method Data processing method Nx-42FT Bate management software for environmetal measurement A Se 00.1 Data processing method Data processing method Data processing method Nx-42FT Bate management software for environmetal measurement A Se 00.1 Correction functions Data processing method Data processing method Nx-42FT Bate management software for environmetal measurement A Se 00.1 Data processing method strot 10 method | | Z-weighting | 30 dB or less | 32 dB or less | | | | |
| Time weighting F (F ast) and S (Stow) Every tange Style range (Linearly range: 113 dB) Burged hadge range (Linearly range) Burged hadge r | | | | 20 Hz to 8 kHz | FFT a | nalysis program*2 | (Inst.on 512 MB SD card) | NX-42FT |
| Lare transport Single range Single rang | Time weig | ghting | F (Fast) and S (Slow) | P) | Data n | nanagement softwa | re for environmental measurement | |
| Sector Solution Display (Lp, Lp, Lp, Lp, Lp, Lp, Lp, Lp, Lp, Lp, | Bar grap | oh display range max | Max. 110 dB (20 to 130 dB) | | Data n | nanagement softwa | re for environmental measurement | |
| Sampling cycle 20.0 µ (b, (c, 1, k, Lans, Law, Lyck 3: sampling frequency: 48 kHz) 100 ms (Lh) Image: the sampling frequency: 100 ms (Lh) | | | | ncrements. | (Inclue | des the vibration le | vel data management software) | |
| Calibration Heastmonet Line: electrical calibration performed according to EEC and JIS standards, using informaly generated signals, accoustic calibration performed with the NC-7.4. Battery pack BP21 Correction functions Windexcene correction: Correction of frequency characteristics in order to comply with standards. Correction of frequency characteristics in order to comply with standards. Correction of the start butch nabeen pressed to pause measurement, the preceding after the start butch nabeen pressed to pause measurement, the preceding. User selection color TFT LCD display WOX46 (VA 0x 240 dots) + LCD with ouch panel (Capacity Teories Display WOX46 (VA 0x 240 dots) + LCD with ouch panel (Capacity Teories Display WOX46 (VA 0x 240 dots) + LCD with ouch panel (Capacity Teories Display WOX46 (VA 0x 240 dots) + LCD with ouch panel (Capacity Teories Display WOX46 (VA 0x 240 dots) + LCD with ouch panel (Capacity Teories Display WOX46 (VA 0x 240 dots) + LCD with ouch panel (Capacity Teories Display WOX46 (VA 0x 240 dots) + LCD with ouch panel (Capacity Teories Display WOX46 (VA 0x 240 dots) + LCD with ouch panel (Capacity Teories Display WOX46 (VA 0x 240 dots) + LCD with ouch panel (Capacity Teories Display WOX46 (VA 0x 240 dots) + LCD with ouch panel (Capacity Teories Display WOX46 (VA 0x 240 dots) + LCD with ouch panel) The Addition Panel Historic Display WOX46 (VA 0x 240 dots) + LCD with ouch panel) The Addition Historic Display WOX46 (VA 0x 240 dots) + LCD with ouch panel (Capacity Teories Display WOX46 (VA 0x 240 dots) + LCD with ouch panel (Capacity Teories Display WOX46 (VA 0x 240 dots) + LCD with ouch panel (Capacity Teories Display WOX46 (VA 0x 240 dots) + LCD with ouch panel (Capacity Teories Display WOX46 (VA 0x 240 dots) + LCD with ouch panel (Capacity Teories Display WOX46 (VA 0x 240 dots) + LCD with ouch panel (Capacity Teories Display Historics D | | | 20.8 µS (Lp, Leq, LE, Lmax, Lmin, Lpeal | k : sampling frequency: 48 kHz) | SD Ca | ard 512 MB | | SD-512M |
| using internally generated signals: accusitic altibution performed with the NC-74. BP-21 Correction function: Correction of frequency characteristics in order to comply with standards: Correction of frequency characteristics in order to comply with standards: Correction of frequency characteristics in order to comply with standards: Correction of frequency characteristics in order to comply with standards: Correction of frequency characteristics in order to comply with standards: Correction of frequency characteristics in order to comply with standards: Correction of the start button has been pressed or when a user-set trigger is exceeded after the start button has been pressed or when a user-set trigger is exceeded in the PAUSE key is pressed to pause measurement. (user selectable) 0, 1, 3 or 5 s tale are excluded from processing. Number of data start denimation deploy update frequency: 100 ms, 100 mst. SDC Correct depends on the capacity of the SD Card +1 Instantaneous values (La mode) and processed values (La mode) are stored continuously and uncontectivit pressed to pause stored continuously and uncontectivit pressed frequency: 100 ms, 100 mst. SD Card depends on the capacity of the SD Card +1 Instantaneous values (La mode) and processed values (La mode) are stored continuously and uncontectivit pressed threads. SD Card depends on the capacity of the SD Card +1 Instantaneous values (La mode) and processed values (La mode) are stored continuously and uncontectivit pressed threads. SD 14001 RION CO., LTD SD 1400 | Calibratio | n | | performed according to IEC and JIS standards, | AC ad | lapter (100 ∨ to 24 | 0 \(\) | NC-98C |
| Compliant with EC 61872-1 and JIS C 1509-1 standards when the windscreen is installed Diffuse sound field correction: Correction of frequency characteristics in order to comply with standards (ANS IS 1.4) in diffuse sound field. CC-242 Delay time The meter can be set to start measuring a specified time (OFF, 1, 3, 5 or 10 s) after the start button has been pressed or when a user-set tigger is exceeded. RS 2322 contal J/O cable CC-42R Back erase function When the PAUSE key is pressed to pause measurement, the preceding (user selectable) 0, 1, 3 or 5 s data are excluded from processing. RS 2322 contal J/O cable CC-42R Using a function Numerical display update frequency: 10 USICBar graph update frequency: 100 ms store Number of data internal menary: max. 1000 sets sD Card: depends on the capacity of the SD Card*1 resound and processed values (Leq mode) are stored continuously and automatically at preset intervals. SD Card: depends on the capacity of the SD Card*1 resound instruction windscreen in type. Windows is a trademark of Microsoft Corporation. Specifications subject to change without notice. SD SD Card*1 resound interve the SD Card*1 Distributed by: Distributed by: Vindows is a trademark of Microsoft Corporation. Specifications subject to change without notice. | Correction | n functione | using internally generated signals: acoust | | | | ables | |
| Correction of frequency characteristics in order to comply with standards (ANSI St 4.) in diffuse sound held. Defund that Delay time The meter can be sot bart measuring a specified time (OFF, 1, 3, 5 or 105) after the start button has been prossed or when a user-set trigger is axceeded. CC-42P Back erase function When the PAUSE Key is pressed to pusue measurement, the precending (user selectable) 0, 1, 3 or 5 s data are excluded from processing #LCD with touch panel (Capacitive Touch Panel) Numerical display update frequency: 15EEBar graph update frequency: 100 Exclude 12 Data for measurement results are stored manually in single address increments. With a moder the set of the second manually in single address increments. Display Data for measurement results are stored manually in single address increments. With a for measurement results are stored manually in single address increments. Number of data Leg sampling cycle 100 ms, 200 ms, 1 s, 1 Leg 16 Leg sampling cycle 100 ms, 200 ms, 1 s, 1 Leg 16 Leg sampling cycle 100 ms, 200 ms, 1 s, 6, 24 h Measurement Time Max. 1000 h (depends on the capacity of the SD Card) + 1 Histore for add ast proof rating, internal packing replacement is required every two years (at cost). Distributed by: Distributed by: Iso 14001 RON Co., LDD. Distributed by: Store Octoperation. Store Octoperation. Distributed by: Store Octoperation. Store Octoperation. Distributed by: Store Octoperation. Store Octoperation. Distribu | Correction | Tuncuons | Compliant with IEC 61672-1 and JIS C 150 | 9-1 standards when the windscreen is installed. | BNC-I | Pin output code | | CC-24 |
| Control reductory with required sound held. CC 42P Delay time The meter can be sot to start measuring a specified time (OFF, 1, 3, 5 or 10 s) after the start button has been pressed or when a user-set trigger is acceeded. Back erase function When the PAUSE key is pressed to pause measurement, the preceding (user selectable) 0, 1, 3 or 5 s data are excluded from processing. Display BackII semitransparent color TF1 LCD display WUXGA (400 x 240 dots) * LCD with touch panel (Capacitive Touch Panel) Numerical display update frequency: 100 ms. Store Manual Data for measurement, the preceding water tripped ST-80 Windscreen mounting adapter WS-15 Windscreen tripped ST-80 Autive of data Internal memory: max. 1000 sets Store doends on the capacity of the SD Card *1 Windows is a trademark of Microsoft Corporation. Exampling cycle 100 ms, 1.5, 1.0, 1.5, 3.0 ns, 1.8, 2.4 h Lex sampling cycle 100 ms, 2.00 ms, 1.5, L.4 in Windows is a trademark of Microsoft Corporation. Escence without notice. Distributed by: Iso redeender of the capacity of the SD Card)+1 | | | | stics in order to comply with standarde | | | • | |
| after the start button has been pressed or when a user-set trigger is exceeded. Back arease function When the PAUSE key is pressed to pause measurement, the preceding (user selectable), 0.1, 3 or 5 5 data are excluded from processing. Display Backitt semitransparent color TFT LCD bipley WOVGA (400 x 240 dots) + LCD with buch panel (Capacitive Touch Panel) Number of data (Internal menory: max. 1000 set SD Card: depends on the capacity of the SD Card+1 SD Card: depends on the capacity of the SD Card+1 Instantaneous values (La mode) and processed values (Lag mode) are stored continuously and automatically at present inervals. Lasampling cycle 100 ms. 200 ms. 1, 5, Let, 1s Lasampling cycle 100 ms. 200 ms. 1, 5, Let, 1s Lasampling cycle 100 ms. 200 ms. 1, 5, Let, 1s Lasampling cycle 100 ms. 200 ms. 1, 5, Let, 1s Lasampling cycle 100 ms. 200 ms. 1, 5, Let, 1s Lasampling cycle 100 ms. 200 ms. 1, 5, Let, 1s Lasampling cycle 100 ms. 200 ms. 1, 5, Let, 1s Lasampling cycle 100 ms. 200 ms. 1, 5, Let, 1s Lasampling cycle 100 ms. 200 ms. 1, 5, Let, 1s Lasampling cycle 100 ms. 200 ms. 1, 5, Let, 1s Lasampling cycle 100 ms. 200 ms. 1, 5, Let, 1s Lasampling cycle 100 ms. 200 ms. 1, 5, Let, 1s Lasampling cycle 100 ms. 200 ms. 1, 5, Let, 1s Lasampling cycle 100 ms. 200 ms. 1, 200 ms. 200 ms. 1, 200 ms. 200 ms. 1, 200 ms. 1, 200 ms. 200 ms. 1, 200 ms. 200 ms. 1, 200 ms. 1, 200 ms. 200 ms. 1, 200 ms. 200 ms. 1, 200 ms. 200 ms. 2, 200 ms. 1, 200 ms. 200 ms. 2, 200 ms. 1, | | | (ANSI S1.4) in diffuse sound field. | | Printe | r cable | | CC-42P |
| Back erase function When the PAUSE key is pressed to pause measurement, the preceding (user selectable) 0, 1, 3 or 5 a data are excluded from processing. Not complete the processing. Display Backti semitransparent color TFL CD display (WQVGA (400 x240 dots) + LCD with buch panel (capacitive Touch Panel) With semitarsparent color TFL CD display (WQVGA (400 x240 dots) + LCD with buch panel (capacitive Touch Panel) With semitarsparent color TFL CD display (WQVGA (400 x240 dots) + LCD with buch panel (capacitive Touch Panel) With semitarsparent color TFL CD display (WQVGA (400 x240 dots) + LCD with buch panel (capacitive Touch Panel) With semitarsparent color TFL CD display (WQVGA (400 x240 dots) + LCD with buch panel (capacitive Touch Panel) With semitarsparent color TFL CD display (WQVGA (400 x240 dots) + LCD with buch panel (capacitive Touch Panel) With semitarsparent color TFL CD display (WQVGA (400 x240 dots) + LCD with buch panel (capacity 1 ditt Requency: 100 ms store for memory: max. 1000 sets Store Meaneal With semitarsparent color TFL CD display (Key mode) are gainst harmful dust and water splashing from any direction. Store Meaneal (Key mode) are gainst harmful dust and water splashing from any direction. Figure Auto *2 Instantaneous values (Le mode) and processed values (Le ₁ mode) are gainst harmful dust and water palshing from any direction. Free during undergreement is required every to years (at cost). La sampling cycle 100 ms, 200 ms, 1 s, Le ts East and mark of Microsoft Corporation. Iso 14001 Rion co., LTD. Specifications subject to change without notice. Distributed | Delay tim | e | | | | | 8 | |
| Display Backit semitansport color TFT LCD display WQVGA (400 x 240 dots) + LCD with buch panel (Capacitive Touch Panel) Windscreen mounting adapter Wis-15006 Number of data informal meany max. 1000 sets stored continuously and automatedly at present results are stored manually in single address increments stored continuously and automatedly at present results are stored manually in single address increments. It aparticle address increments stored continuously and automatedly at present results. Windscreen tripod stored continuously and automatedly at present intervals. It aparting explete intervals. Store Manual internal memory max. 1000 sets stored continuously and automatedly at present intervals. It aparting explete intervals. Windscreen tripod stored continuously and automatedly at present intervals. It aparting explete intervals. Windscreen tripod store dontinuously and automatedly at present intervals. It aparting explete intervals. Store Manual is present and the protection against harmful dust and water splashing from any direction. The maintain the water and dust proof rating, internal packing replacement is required every two years (at cost). Windows is a trademark of Microsoft Corporation. Specifications subject to change without notice. Store Microsoft Corporation. Store Microsoft Corporation. Specifications subject to change without notice. Store Microsoft Corporation. Store Microsoft Corporation. Store Microsoft Corporation. Store 1000 r Rion Co., LTD. Store 200 r Rion Co., LTD. | Back eras | se function | When the PAUSE key is pressed to | pause measurement, the preceding | Sound | d calibrator | | |
| * LCD with buck panel (Capacitive Touch Panel) Numerical display update frequency: 19 CEB argraph update frequency: 100 ms Store Munual Data for measurement results are stored manually in single address increments. Image: Card: dependent of the capacity of the SD Card + 1 Store (Lag mode) are card - dependent of the capacity of the SD Card + 1 Image: Card: dependent of the capacity of the SD Card + 1 Image: Card: dependent of the capacity of the SD Card + 1 Image: Card: dependent of the capacity of the SD Card + 1 Protection against harmful dust and water splashing from any direction. Image: Card: dependent of the capacity of the SD Card + 1 Protection against harmful dust and water splashing from any direction. Image: Card dependent of the capacity of the SD Card + 1 Before use, with the thrat the role to the dependent of the capacity of the SD Card + 1 Image: Card dependent of the capacity of the SD Card + 1 Before use, with the the role to four and the battery compartment lid are firmly dosed. Image: Card dependent of the capacity of the SD Card + 1 Store (Card dependent of the capacity of the SD Card + 1) Windows is a trademark of Microsoft Corporation. Iso 14001 Rilon Co., LTD. Iso 14001 Rilon Co., LTD. Image: Card dependent of the capacity of the SD Card + 1 Store (Card dependent of the capacity of the SD Card + 1) Image: Card dependent of the capacity of the SD Card + 1 Store (Card dependent of the ca | Display | | | | Winds | creen mounting a | | WS-15006 |
| Store Manual Data for measurement results are stored manually insplie address increments. Image: Store Number of data Internal memory: max. 1000 sets ST-81 Image: Store Store Store Manual Store Image: Store Store Store Manual Store Image: Store Store Store Store Store Image: Store Store Store Store Store Image: Store Instantaneous values (LP mode) and processed values (Leg mode) are stored continuously and automatically at preset intervals. Store Protection against harmful dust and valuer splashing from any direction. Image: Store Ion s., 200 ms., 1s, Leg is Store Store Store Store Leg sampling cycle 100 s., 1, 5, 10, 15, 30 ms, 1, 8, 24 h Store | | | * LCD with touch panel (Capacitive | Touch Panel) | | | | |
| SD Card: depends on the capacity of the SD Card*1 Image: SD Card: depends on the capacity of the SD Card*1 Image: SD Card: depends on the capacity of the SD Card*1 Image: SD Card: depends on the capacity of the SD Card*1 Image: SD Card: depends on the capacity of the SD Card*1 Image: SD Card: depends on the capacity of the SD Card*1 Image: SD Card: depends on the capacity of the SD Card*1 Image: SD Card: depends on the capacity of the SD Card*1 Image: SD Card: depends on the capacity of the SD Card*1 Image: SD Card: depends on the capacity of the SD Card*1 Image: SD Card: depends on the capacity of the SD Card*1 Image: SD Card: depends on the capacity of the SD Card*1 Image: SD Card: depends on the capacity of the SD Card*1 Image: SD Card: depends on the capacity of the SD Card*1 Image: SD Card: depends on the capacity of the SD Card*1 Image: SD Card: depends on the capacity of the SD Card*1 Image: SD Card: depends on the capacity of the SD Card*1 Image: SD Card: depends on the capacity of the SD Card*1 Image: SD Card: depends on the capacity of the SD Card*1 Image: SD Card: depends on the capacity of the SD Card*1 Image: SD Card: depends on the capacity of the SD Card*1 Image: SD Card*1 Image: SD Card*1 Image: SD | | | Data for measurement results are stor | | All-we | ather windscreen | tripod | ST-81 |
| Instantaneous values (La mode) and processed values (La mode) are stored continuously and automatically at preset intervals. Precuding register of the stored continuously and automatically at preset intervals. La sampling oxide 10 s. 1, 5, 10, 15, 30 ms, 1, 8, 24 h The standard processed values (La mode) are stored continuously and automatically at preset intervals. Precuding register of the store | | Number of data | | of the SD Card*1 | *4 Pro | tection against har | mful dust and water splashing from | separately). *3 NX-42WR required (sold separately). any direction. |
| stored continuously and automatically at preset intervals. Le sampling cycle 100 ms. 200 ms. 15, 15, 15, 15, 30 ms, 1, 8, 24 h Measurement Time Max. 1000 h (depends on the capacity of the SD Card)+1 Windows is a trademark of Microsoft Corporation. Specifications subject to change without notice. Distributed by: | | ito∗2 | Instantaneous values (Lp mode) and | d processed values (Leg mode) are | | | | compartment lid are firmly closed. |
| La sampling oxide 10 s, 1, 5, 10, 15, 30 ms, 1, 8, 24 h Measurement Time Max. 1000 h (depends on the capacity of the SD Card)+1 Windows is a trademark of Microsoft Corporation. Iso 14001 RION CO., LTD. Specifications subject to change without notice. Iso 2001 RION CO., LTD. Distributed by: Iso 14001 RION CO., LTD. Attract to the second seco | Г | Lp sampling cycle | | ily at preset intervals. | | | | |
| Windows is a trademark of Microsoft Corporation. Specifications subject to change without notice. Distributed by: Distributed by: 3-20-41, Higashimotomachi, Kokubunji, Tokyo 185-8533, Japan | | Leg sampling cycle | 10 s, 1, 5, 10, 15, 30 ms, 1, 8, 24 h | nity of the SD Card)#1 | | | | |
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| • specifications subject to change without notice. • iso and i Rion CO., LTD. Distributed by: • Rion CO., LTD. • http://www.rion.co.jp/english/ 3-20-41, Higashimotomachi, Kokubunji, Tokyo 185-8533, Japan | | | | | | | | |
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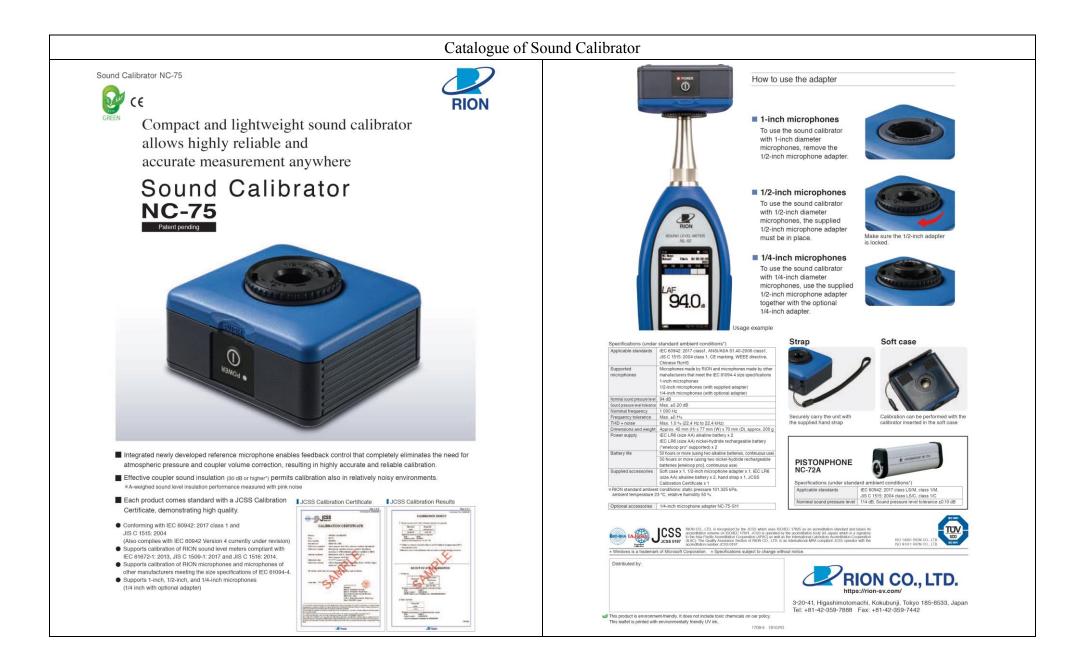






| Calibration Certificate o | f Sound Level Meter |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TEST REPORT for PRECISION SOUND LEVEL METER (NX-42EX installed) Model : <u>NL-52</u> : Serial No. : <u>01232551</u> | $NL-52 \ 1/2 \\ 01232551$ 1. Frequency weightings (Fig. 1) Pass |
| Microphone No.: 05990 Preamplifier No.: 32579 Condition : Temperature 25 °C Humidity 31 % RH Date : November, 14, 2019 Signature : Managements | 3. Toneburst response (Time weighted sound level) Input signal level : 127 dB Toneburst : Frequency : 4 kHz, duration : 0.25 ms Frequency weighting : A, Time-weighting : F (dB) Design goal Indicated value Difference Tolerance limit 100.0 99.9 -0.1 ±1.0 4. Time weighting I (impulse) Input signal level : 120 dB Toneburst : Frequency : 4 kHz, duration : 5 ms, period : 500 ms Frequency weighting : A (dB) Design goal Indicated value Difference Tolerance limit 100.0 99.9 -0.1 ±1.0 4. Time weighting I (impulse) Input signal level : 120 dB Toneburst : Frequency : 4 kHz, duration : 5 ms, period : 500 ms Frequency weighting : A (dB) Design goal Indicated value Difference Tolerance limit 111.2 110.3 -0.9 ±2.0 *When the optional Extended Function Program NX-42EX is installed, time weighting I(impulse) can be selected in only sub-channel. |
| RION CO., LTD. | RION 1304 |

| NL-52 22 0123801Grounney weighting: C(4B)Teregencey weighting: 102(4B)(4B)(1270(128(1270136.5(1270136.5(1270136.5(1370139.4(139.4(139.4(139.4(139.4(139.4(139.4(139.4(139.4(139.4(139.4(139.4(139.4(139.4(139.4(139.4(139.4(139.4(139.4(139.4(139.4(139.4(139.4(139.4(139.4(139.4(139.4(139.4(139.4(139.4(139.4(139.4(139.4(139.4(139.4(139.4(139.4(139.4(139.4(139.4(139.4 | Calibration Certificate of Sound Level Meter |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A 10.4 17 or less C 14.9 25 or less Z 20.6 30 or less | S. Peak sound level (dB) Frequency weighting : C $\frac{Frequency weighting : C}{(12)} \frac{Frequency Weighting : C}{1000} \frac{(dB)}{1 evel} \frac{(dB)}$ |
| 84.0 dB ± 0.7 dB <u>00 dB</u> Applicable standards JS C 1509-1 : 2005 Class 1 LEC 61672-1 : 2002 Class 1 ANSI S1.4-1983 Type 1 ANSI S1.43-1997 Type 1 CE marking (EMCD Fractive 2004/108/EC, Low Voltage Directive 2006/95/EC) WEEE Directive (2002/96/EC) Chinese RoHS 1304 | Applicable standards JIS C 1509-1 : 2005 Class 1 IEC 61672-1 : 2002 Class 1 ANSI S1.4-1983 Type 1 ANSI S1.4-1983 Type 1 CE marking (EMC Directive 2004/108/EC, Low Voltage Directive 2006/95/EC) WEEE Directive (2002/96/EC) Chinese RoHS |





| SPECIFICATIONS | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| THERMAL ANEMOMETERS | | |
| MODELS TA410, TA430 AND TA440 | | |
| Jelocity | Time Constant (TA430, TA440) | CERTIFICATE OF CALIBRATION AND TESTING IN STRUMENTS CERTIFICATE OF CALIBRATION AND TESTING ISI Instruments Lid, Stirling Road, Cressex Business Park High Wyombe Buschs Wirl 2087 England Tel: (Int +44) (UK 0) 1494 459200 http://www.airflowinstruments.co.ak |
| Range (TA410) 0 to 20 m/s (0 to 4,000 fr Range (TA430, TA440) 0 to 30 m/s (0 to 6,000 fr Accuracy (TA410) ¹⁸² ±5% of reading or ±0.02 (±5 fr/ min), whichever is | nin) n/s External Meter Dimensions | ENVIRONMENT CONDITION TEMPERATURE 22.1 °C MODEL TA440 |
| Accuracy (TA430, TA440) ³⁶² ±3% of reading or ±0.01! (±3 ft/min), whichever is Resolution 0.01 m/s (1 ft/min) | n/s | RELATIVE HUMIDITY 43.89 %RH SERIAL NUMBER TA4401232005 BAROMETRIC PRESSURE 1007.8 hPa Fractional Section 1000000000000000000000000000000000000 |
| | 0.27 kg (0.6 lbs.) | As Left In Tolerance |
| Duct Size (TA430, TA440) Dimensions 1 to 635 cm in increment | f Meter Probe Dimensions | As Found Out of Tolerance |
| Dimensions 1 to 635 cm in increment 0.1 cm (1 to 250 inches in increments of 0.1 in.) | Probe Length 101.6 cm (40 in.) Probe Diameter of Tip 7.0 mm (0.28 in.) | - CALIBRATION VERIFICATION RESULTS - |
| | Probe Diameter of Base 13.0 mm (0.51 in.) | TEMPERATURE VERIFICATION System T-200 Unit: °C # STANDARD MEASURED ALLOWABLE RANGE # STANDARD MEASURED ALLOWABLE RANGE |
| Volumetric Flow Rate (TA430, TA440) Range Actual range is a function | f velocity, Articulating Probe Dimensions | # STANDARD MEASONAD MEASONAD 1 0.0 0.1 -0.3-0.3 2 60.0 60.0 59.7-60.3 |
| and duct size | Articulating Section 19.7 cm (7.8 in.) Length | VELOCITY VERIFICATION SYSTEM V-352 Unit: m/s |
| Temperature Range (TA410, TA430) -18 to 93°C (0 to 200°F) -18 to 93°C (0 to 200°F) -18 to 93°C (0 to 200°F) | Diameter of 9.5 mm (0.38 in.) Articulating Knuckle | I STANDARD Interstellar Constraint |
| Range (TA440) -10 to 60°C (14 to 140°F) Accuracy ² ±0.3°C (±0.5°F) Resolution 0.1°C (0.1°F) | Power Requirements Four AA-size batteries or AC adapter | 3 0.33 0.32-0.35 9 7.51 7.28-7.73 4 0.51 0.50 0.49-0.52 10 12.78 12.85 12.39-13.16 5 0.82 0.81 0.80-0.85 11 22.97 23.08 22.29-23.66 |
| Relative Humidity (TA440 only) | | 6 1.71 1.69 1.66-1.76 12 29.47 29.43 28.59-30.36 |
| Range 5 to 95% RH | TA 410 TA 430, TA 440, TA 440, TA 440, TA 440, TA 440, TA 440-A | HUMIDITY VERIFICATION System H-200 Unit: %RH # STANDARD MEASURED ALLOWABLE RANGE # STANDARD MEASURED ALLOWABLE RANGE |
| Accuracy ⁴ ±3% RH Resolution 0.1% RH | Velocity range 0 to 20.00 T/ms (0 to 4000 T/min) Velocity range | I STANDARD MELSCRED Actomatic Action I Optimize Optimize <thoptize< th=""> <thoptimize< th=""> <thoptimi< td=""></thoptimi<></thoptimize<></thoptize<> |
| Wet Bulb Temperature (TA440 only) | 0 to 90.00 m/s + + | 3 50.0 49.2 47.8-52.2 |
| Range 5 to 60°C (40 to 140°F) Resolution 0.1°C (0.1°F) | Temperature + + + | TSI does hereby certify that the above described instrument conforms to the ariginal manufacturer's specification (not applicable to As Found data) and has been calibrated using standards whose accuracies are traceable to makers of the European a-operation for Accreditation (EA) (for example: UKAS SPEDAC, DAKS) or has been verified with respect to instrumentation whose occuracy is reached to some member of EA, or is derived from accepted values of physical constants. Tsi's calibration system is registered to ISO-9001:2008 and meets the requirements of the end of the |
| Dew Point (TA440 only) | Humidity, wet bulb, | or is derived from accepted values of physical constants. TSI's calibration system is registered to ISO-9001/2008 and meets the requirements of ISO 10012-2003. |
| Range -15 to 49°C (5 to 120°F) Resolution 0.1°C (0.1°F) | dew point | Measurement Variable System ID Measurement Variable System ID Dc Volts E006008 Temperature E006020 |
| Instrument Temperature Range | Variable time + + | Temperature E006127 Temperature E006002 Pressure E006002 Temperature E006022 |
| Operating (Electronics) 5 to 45°C (40 to 113°F) Model TA410, TA430 -18 to 93°C (0 to 200°F) | Constant Annual | Pressure E006038 DC Voltage E006010 Velocity E006121 Pressure E006078 |
| Operating (Probe) Model TA440 -10 to 60°C (14 to 140°F) | Auto save | Humidity E006018 DC Volts E006125 Temperature E006007 |
| Operating (Probe) | data logging | |
| Storage -20 to 60°C (-4 to 140°F) | Statistics + + | P. MCBAIN, 13 MAR 2019 |
| Data Storage Capabilities (TA430, TA440) | Review data + + + | |
| Range 12,700+ samples and 100 | est IDs Debate downloading + + software | Doc. ID: CERT_DEFAULT |
| Logging Interval (TA430, TA440) 1 second to 1 hour | Free Certificate + + + + | |
| Specifications subject to change without notice. | ¹ Temperature compensated over an air temperature range of 5 to 65°C (40 to 150°F). ² The accuracy statement business at 30 fittmin through 4000 fittmin (0.16 min theorem) 20 m/s). | |
| TSI and the TSI logo are registered trademarks, and Airflow, the Airflow logo and LogDat2 are trademarks of TSI incorporated. | " The accuracy statement begins at 30 ft/min through 4000 ft/min (0.15 m/s through 20 m/s) for the Model TA410, and 30 ft/min through 6,000 ft/min (0.15 m/s through 30 m/s) for Models TA430 and TA440. | |
| | * Accuracy with instrument case (32%C(7FF) add uncertainty of 0.03%C*C(0.05%F*F) for change in instrument inseparature. * Accuracy with probe at 25%C(7FF), Add uncertainty of 0.26% RH/*C(0.1% RH/*F) for change in probe temperature. Includes 1% hysteresis. | |
| Airflow instruments, TSI instruments Ltd. Visit our website at www.airflowinstruments.co.uk for | pre information. | |
| | 19 241 523030 | |

Appendix K – Noise monitoring results and graphical presentation

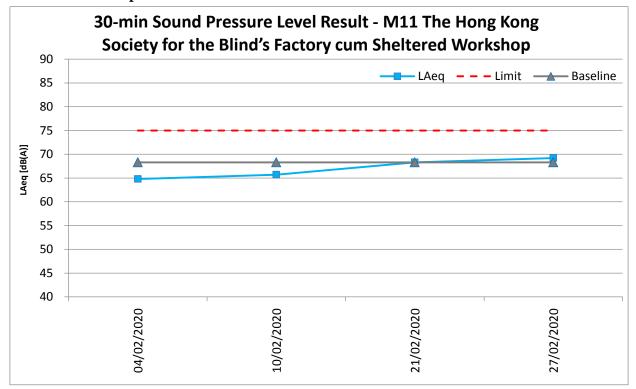
| D | XX7 (1 | Measured Noise Level at M11, dB(A) | | | | | | | | |
|-----------|--------------|------------------------------------|---------|---------|-------|----------|-----------|------------------|------------------|-------|
| Date | Temp (°C) | Weather | r | Time | | Baseline | L_{Aeq} | L _{A10} | L _{A90} | Limit |
| 4/2/2020 | 18.3 | Sunny | 9:45 | - | 10:15 | 68.3 | 64.8 | 71 | 60.4 | 75 |
| 10/2/2020 | 18.2 | Sunny | 15:00 | - | 15:30 | 68.3 | 65.7 | 69.4 | 61.6 | 75 |
| 21/2/2020 | 24.3 | Sunny | 14:05 | - | 14:35 | 68.3 | 68.3 | 72.1 | 64.2 | 75 |
| 27/2/2020 | 21.3 | Sunny | 9:50 | - | 10:20 | 68.3 | 69.2 | 70.9 | 64.5 | 75 |
| | | | | Maximum | | | | | | |
| | | | Minimum | | | 64.8 | | | | |
| | | | Average | | | 67.4 |] | | | |

M11 - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop

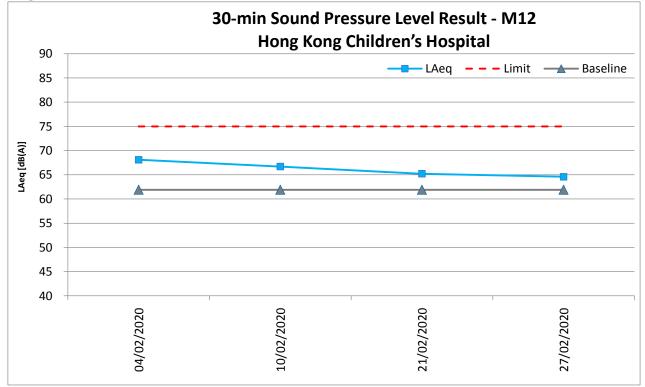
M12 - Hong Kong Children's Hospital

| Dete | Temp Weather | | | | Measured Noise Level at M12, dB(A) | | | | | | | |
|-----------|--------------|---------|---------|---------------|------------------------------------|----------|-----------|------------------|------------------|-------|--|--|
| Date | (°C) | Weather |] | Time | | Baseline | L_{Aeq} | L _{A10} | L _{A90} | Limit | | |
| 4/2/2020 | 18.3 | Sunny | 10:45 | - | 11:15 | 61.9 | 68.1 | 70.3 | 64.5 | 75 | | |
| 10/2/2020 | 18.2 | Sunny | 11:05 | - | 11:35 | 61.9 | 66.7 | 69.8 | 62.0 | 75 | | |
| 21/2/2020 | 24.3 | Sunny | 15:10 | 15:10 - 15:40 | | | 65.2 | 68.8 | 61.7 | 75 | | |
| 27/2/2020 | 21.3 | Sunny | 11:10 | - | 11:40 | 61.9 | 64.6 | 68.3 | 62.1 | 75 | | |
| | | | | Maximum | | | 68.1 | | | | | |
| | | | Minimum | | | 64.6 | | | | | | |
| | | | Average | | | 66.4 | | | | | | |

 $L_{Aeq, 30-min}$ graphical results of M11 - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop



L_{Aeq, 30-min} graphical results of M12 - Hong Kong Children's Hospital



Appendix L – Event and Action Plan for noise

| E-con4 | | Act | tion | |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Event | ЕТ | IEC | Supervisor / ER | Contractor |
| Action Level being exceeded | Notify Supervisor / ER, IEC and Contractor; Carry out investigation; Report the results of investigation to the IEC, Supervisor / ER and Contractor; Discuss with the IEC and Contractor on remedial measures required; Increase monitoring frequency to check mitigation effectiveness. (The above actions should be taken within 2 working days after the exceedance is | Review the investigation results submitted by the ET; Review the proposed remedial measures submitted by the Contractor and advise the ER accordingly; Advise the Supervisor / ER on the proposed remedial measures. (The above actions should be taken within 2 working days after the exceedance is identified.) | notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; | Submit noise mitigation proposal to IEC and Supervisor / ER; Implement noise mitigation proposals. (The above actions should be taken within 2 working days after the exceedance is identified.) |
| Limit Level being exceeded | identified.) Inform IEC, Supervisor /ER, Contractor and EPD; Repeat measurement to confirm findings; Increase monitoring frequency; Identify source and investigate the cause of exceedance; Carry out analysis of Contract's working procedure; Discuss remedial measures required with the IEC, Contractor and Supervisor /ER; Assess effectiveness of | Discuss the potential remedial actions with Supervisor /ER, ET and Contractor; Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the Supervisor /ER accordingly. (The above actions should be taken within 2 working days after the exceedance is identified.) | notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures; | Take immediate action to avoid further exceedance; Submit proposals for remedial actions to IEC and Supervisor /ER within 3 working days of notification; Implement the agreed proposal; Submit further proposal if problem still not under control; Stop the relevant portion of works as instructed by the Supervisor /ER until the exceedance is abated. (The above actions should be |

| Event | Action | | | | | | | | | | |
|-------|-------------------------------|-----|------------------------------|-----------------------------|--|--|--|--|--|--|--|
| Event | ЕТ | IEC | Supervisor / ER | Contractor | | | | | | | |
| | Contractor's remedial | | exceedance until the | taken within 2 working days | | | | | | | |
| | actions and keep IEC, | | exceedance is abated. | after the exceedance is | | | | | | | |
| | EPD, and Supervisor /ER | | (The above actions should be | identified.) | | | | | | | |
| | informed of the results; | | taken within 2 working days | | | | | | | | |
| | 8. If exceedance stops, cease | | after the exceedance is | | | | | | | | |
| | additional monitoring. | | identified.) | | | | | | | | |
| | (The above actions should be | | | | | | | | | | |
| | taken within 2 working days | | | | | | | | | | |
| | after the exceedance is | | | | | | | | | | |
| | identified.) | | | | | | | | | | |

Appendix M – Event and Action Plan for Landscape and Visual Impact

| Errorat | | Act | tion | |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Event | ЕТ | IEC | Supervisor / ER | Contractor |
| Design Check | 1. Check final design conforms to the requirements of EP and prepare report. | Check report. Recommend remedial design if necessary. | 1. Undertake remedial design if necessary. | |
| Non-conformity on one occasion | Identify Source. Inform IEC and Supervisor /ER. Discuss remedial actions with IEC, Supervisor /ER and Contractor. Monitor remedial actions until rectification has been completed. | Check report. Check Contractor's working method. Discuss with ET and Contractor on possible remedial measures. Advise Supervisor /ER on effectiveness of proposed remedial measures. Check implementation of remedial measures. | Notify Contractor. Ensure remedial measures are properly implemented. | Amend working methods. Rectify damage and undertake any necessary replacement. |
| Repeated Non- conformity | Identify Source. Inform IEC and Supervisor /ER. Increase monitoring frequency. Discuss remedial actions with IEC, Supervisor /ER and Contractor. Monitor remedial actions until rectification has been completed. If non-conformity stops, cease additional monitoring. | Contractor on possible remedial measures. | Notify Contractor. Ensure remedial measures are properly implemented. | Amend working methods. Rectify damage and undertake any necessary replacement. |

Appendix N – Waste Flow Table

Contract No. ED/2018/01 Kai Tak development – stage 4 infrastructure at the former runway and south apron



Appendix F - Monthly Summary Waste Flow Table

Name of Department : CEDD

Contract No.: ED/2018/01

Monthly Summary Waste Flow Table for February 2020

| | Actual Quantities of Inert C&D Materials Generated Monthly | | | | | | | Actual Quantities of C&D Wastes Generated Monthly | | | |
|-----------|------------------------------------------------------------|----------------------------------------------|--------------------------|--------------------------|-------------------------------|--------------------------|--------------|---------------------------------------------------|--------------------------|-------------------|-----------------------------------|
| Month | Total Quantity Generated | Hard Rock and Large Broken Concrete | Reused in the Contract | Reused in other Projects | Disposed as Public Fill | Imported Fill | Metals | Paper / cardboard packaging | Plastics (see Note 3) | Chemical Waste | Others, e.g. general refuse |
| | (in '000m ³) | (in '000m ³) | (in '000m ³) | (in '000m ³) | (in '000m ³) | (in '000m ³) | (in '000 kg) | (in '000kg) | (in '000kg) | (in '000kg) | (in '000m ³) |
| Jan | 1.036 | | | | 1.036 | | | | | | 0.0070 |
| Feb | 3.517 | | | | 3.517 | | | | | | 0.0008 |
| Mar | | | | | | | | | | | |
| Apr | | | | | | | | | | | |
| May | | | | | | | | | | | |
| Jun | | | | | | | | | | | |
| Sub-total | | | | | | | | | | | |
| July | | | | | | | | | | | |
| Aug | | | | | | | | | | | |
| Sep | | | | | | | | | | | |
| Oct | | | | | | | | | | | |
| Nov | | | | | | | | | | | |
| Dec | | | | | | | | | | | |
| Total | 4.553 | | | | 4.553 | | | | | | 0.0079 |

| | Forecast of Total Quantities of C&D Materials to be Generated from the Contract* | | | | | | | | | | |
|--------------------------------|----------------------------------------------------------------------------------|--------------------------|-----------------------------|----------------------------|--------------------------|--------------|-----------------------------------|--------------------------|-------------------|--------------------------------|--|
| 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) | |
| | | | | | | - | | | | | |

Notes: (1) The performance targets are given in ER Appendix 8I Clause 14 and the EM&A Manual

(2) The waste flow table shall also include C&D materials to be imported for use at the Site

(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material

(4) The Contractor shall also submit the latest forecast of the total amount of C&D materials expected to be generated from the works, together with a breakdown of the nature where the total amount of C&D materials expected to be generated from the Works is equal to or exceeding 50,000m³ (ER Part 8 Clause 8.7.5(d)(ii) refers)

(5) Assume inert C&D materials density and non-inert C&D materials are 1.9 m³/ton and 1.5 m³/ton

Appendix O – Environmental Licenses and Notification

| Our Ref: Environmei 來函檔號 Your Ref: 電話 5 th Floor, l | al Protection Department ental Compliance Division Regional Office (East) Nan Fung Commercial Centre, Lam Lok Street, Kowloon Bay, Kowloon, Hong Kong. 電力 | (府文中文释本) |
|------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 網 址 Homepage: http://www.epd.gov.hk/ | 06/06/2019 | |
| Penta-Ocean Construction Co Flat 601, K. Wah Centre, 191 North Point, Hong Kong | | 工地/庭所 (見喜文版本) 表信已於 2019 年 6 月 6 日收到你是交的文件,詳列如下: |
| Dear Sirs, | | □ 進行指明工序所需的牌照申請 □ 申請批准裝置或改裝火爐、烘爐及煙囱 □ 申請處天逆物許可證 — |
| Kai Tak Develop | ite /Premises: pment - Stage 4 Infrastruvture rr runway and south apron | □ 「有些人又包引了起 □ 石棉罰查報告、石棉造減計劃,石棉管理計劃,及/或開始 進行石棉消滅工程通知書 □ 空氣污染管制(建造工程/重換)規例的建造工程通知書 □ 一般工程/訂明建造工程的建築噪音許可證申請 |
| This is to acknowledge receipt of | of the following submission(s) on 06/06/2019 | □ 遭擊式打樁工程的寔築嗓音許可證申請 □ 申請空氣壓縮機的嗓音標籤 |
| | n 3(1) of The Air Pollution Control (Construction Dust) | □ 申請手長撞擊式破碎機的嗓音標籤 |
| Regulation Ref. Number: 445956 | | □ 水污染管制条例的排污牌照申請 □ 申請化學廢物產生者的登記 |
| | ther questions, please contact the undersigned. | □ 化學廢物處置牌照申請 □ 化學廢物收集牌照申請 □ 振讓條例第17條的規定呈報指定(甲類)化學廢物通知書 □ 申請批准使用容量超逾450公升的化學廢物容器 |
| | Yours faithfully, | □ 廢勘追出口許可證申續 □ 申請批准使用油污分款劑及藥似物質 □ 傾物入濤許可證申請 |
| | Gn. | 如有疑問。 讀與代行人查詢 |

月

H

環境保護署署長 代行)

(

(Customer Service Counter (RE)) for Director of Environmental Protection

再造紙 RECYCLED PAPER

本署檔號 Our Ref: EP682/286/0141/I 來函檔號 Your Ref: 電話: 2117 7539 圖文傳真 Fax No: 2756 8588 電子郵件 E-Mail: 網 址 Homepage: http://www.epd.gov.hk/ Environmental Protection Department Environmental Compliance Division Regional Office (East) 5th Floor, Nan Fung Commercial Centre, 19 Lam Lok Street, Kowloon Bay, Kowloon, Hong Kong.



BY REGISTERED POST

2.6 SEP 2019

PENTA-OCEAN

0 3 OCT 2019

RECEIVED

Penta-Ocean Construction Co., Ltd. Room 601, K. Wah Centre, 191 Java Road, North Point, Hong Kong

Dear Sir/Madam,

Water Pollution Control Ordinance (Cap. 358) Victoria Harbour (Phase Two) Water Control Zone Issue of Licence

I refer to your application for a licence made under Section $19/23/23A^*$ of the Water Pollution Control Ordinance ("the Ordinance"), Chapter 358, for the discharge/deposit from your premises as stated in your application. The licence pursuant to Section $20/23A^*$ of the Ordinance is enclosed. Your attention is drawn to the details, terms and conditions subject to which the licence is granted. You should note, in particular, the stipulated sampling, treatment and disposal requirements and should also read the notes at the back of the licence.

Please note that granting of this licence to you does not imply that the discharge from your premises is in compliance with the required limits as stipulated in the licence. It is your responsibility to ensure that the terms and conditions of the licence are complied with.

You are reminded that it is an offence to contravene any of the provisions specified in the licence. The offender is liable to a fine of \$200,000 and to imprisonment for 6 months.

If you are aggrieved by any of the terms and conditions of the licence, you may appeal to the Appeal Board by lodging a notice of appeal under Section 29 of the Ordinance in the prescribed manner and form within 21 days after receipt of this licence.

Should you have any enquiry, please feel free to contact <u>LEE Yau-hang, Benson</u> at 2117 7527.

Yours faithfully,

hasha-1

(CHAN Wai-lun, William) Environmental Protection Officer for Director of Environmental Protection

掛號郵件

先生/女士:

《水污染管制條例》(第358章) 維多利亞港(第二期)水質管制區 發出排污牌照事宜

你根據香港法例第 358 章《水污染管制條例》(「本條例」)第 19/23/23A*條 就你的申請所述處所排放的污水/沉積物向本署遞交的牌照申請書已經收悉。現寄 上根據本條例第 20/23A*條簽發的牌照。請留意發出牌照的細節、條款及條件,尤須 注意有關取樣、處理及排放等事宜的規定,另請細讀牌照背頁的附註。

獲簽發本牌照並不表示從你的處所排出的污水或污染物質已達到牌照所規定的排放限度。你必須採取必要措施,以確保符合牌照中的條款及條件。

請注意,任何人違反牌照的任何條文,均屬違法,可處罰款二十萬元及監禁六個 月。

如你對牌照所載的條款及條件感到不滿,可於收到本牌照後 21 天內,按本條例 第 29 條的規定,使用訂明的方式及表格,向上訴委員會遞交上訴通知書,提出上 訴。

如有查詢,請致電 2117 7527 與本署 李有恒 聯絡。

環境保護署署長 (環境保護主任) (陳偉麟代行)

附件:排污牌照

* 將不適用者删去

Encl.: Discharge Licence

* Delete as appropriate







0502

)

代行)

30 September 2024

本牌照有效期至: 二〇二四年九月三十日 ENVIRONMENTAL PROTECTION DEPARTMENT 環境保護署

WATER POLLUTION CONTROL ORDINANCE (CAP. 358) 水污染管制條例(第358章) LICENCE PURSUANT TO SECTION 15/20/23A* 按第15 / 20/ 23A*條簽發的牌照

The Director of Environmental Protection ("the Authority") grants this licence under the Water Pollution Control Ordinance ("the Ordinance") on the terms and conditions stated below.

環境保護署署長(「監督」)按下列的條款及條件,根據水污染管制條例(「本條例」)批給此牌照。

26 September 2019 Date 日期

hanha. (CHAN Wai-lun, William

For the Authority 監督(陳偉麟

PARTA 甲部 GENERAL TERMS 一般條款 :

| Name of Licensee ("the Licensee") 持牌人名稱 (「持牌人」) | Penta-Ocean Construction Co., Ltd. |
|---------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Discharge Premises ("the premises") 排 放 處 所(「處 所」) | Construction Site of Kai Tak Development – Stage 4 Infrastructure at the Former Runway and South Apron, Kowloon City, Kowloon (CEDD Contract No. ED/2018/01) (See Annex I) 九龍九龍城啟德發展-前跑道和南停機坪的第4階段基礎設施之建築地盤(土木工程拓 展署合約編號 ED/2018/01) (參見附件 I) |
| Water Control Zone 水 質 管 制 區 | Victoria Harbour (Phase Two) Water Control Zone 維多利亞港(第二期)水質管制區 |
| Discharge Category 排 放 種 類 | Discharge of industrial trade effluent 工業污水排放 |
| Nature of Discharge and Wastewater Treatment Facilities 排放性質及廢水處理設施 | Effluent, Surface Run-off, and all other wastewater discharges from the premises 上址排放的污水、地面徑流水及其他的廢水 Screen, pH Adjustment, Sedimentation Tank and Chemical Precipitation 隔濾設施,酸鹼值調節,沉澱池及化學沉降缸 |
| Discharge Point(s) 排 放 點 | Discharge into communal storm water drain 排放入公用爾水渠 |
| Sampling Point(s) 取 | Discharge outlet(s) of Wastewater Treatment Facility marked S.P. on Annex II attached 参見附件 II 中標指 S.P.的廢水處理設施的出水口 |
| *Delete as appropriate 將不適用者副去 | |
| Reference No. 参考编号 EP682/286/0141/I | - 1 - Printed on Recycled Paper EPD156 |

SPECIFIC CONDITIONS 特別條件 PARTB 乙部 :

B1. Limitations on Discharge 排放限制

The quantity and composition of any discharge from the premises shall not exceed the limits stated in the table below(Note a). All figures are upper limits unless otherwise indicated. All units are expressed as concentration in milligramme per litre unless otherwise stated.

任何源自處所之排放的量和成份不得超過下表所列的限度^{创胜3,0}除另予表明外,所有數字均為上限。除另予說明 外,所有單位均以臺克/升的濃度表示。

| Determinand 測量物 | Limit 限度 |
|-----------------------------------------------|----------|
| Flow Rate (m ³ / day) 流量(立方米/日) | 60 |
| pH (pH units) 酸鹼值 (pH 單位) | 6-9# |
| Suspended Solids 懸浮固體 | 30 |
| Chemical Oxygen Demand 化學需氧量 | 80 |

Range 上下限

B2. Self-monitoring and Reporting 自行監测及報告

- The Licensee shall perform self-monitoring as and when required by the Authority. 持牌人須在監督要求時進行自行監測。
- The Licensee shall sample the discharge at the Sampling Point(s) and, at his own expense carry out analyses in accordance with the sample type and measurement frequency specified for each determinand named below:-

持牌人須在取樣點為排放抽取樣本,並依照下列指定的測量物、取樣形式及頻率,自資予以分析。

| Determinand 測量物 | Unit 單位 | Sample Type 取樣形式 | Frequency 頻 率 |
|------------------|---------|------------------|---------------|
| Suspended Solids | mg/L | Grab | Quarterly |
| 懸浮固體 | 毫克/升 | 隨意取集 | 每三個月一次 |

Results of these monitoring shall be summarized in a report on a Monthly/Bi-monthly/Quarterly/Yearly* basis and shall be submitted to the Authority. 所有監測結果須以摘要形式,每一個月/兩個月/三個月/年*作出報告,並須呈交監督審閱。

*Delete as appropriate 將不適用者團去

PART C 丙部 : STANDARD CONDITIONS 標準條件

C1. The Discharge 排放

C1.1 The discharge shall not contain polychlorinated biphenyls (PCB), polyaromatic hydrocarbon (PAH), fumigant, pesticide or toxicant, chlorinated hydrocarbons, flammable or toxic solvents, calcium carbide; any substance likely to damage the sewer or to interfere with any of the treatment processes, or to be harmful to the health and safety of any personnel engaged in the operation or maintenance of a sewerage system; waste liable to form scum or deposits in any part of the drainage or sewerage system, or the waters of Hong Kong; waste liable to form discolouration in any parts of the waters of Hong Kong; sludge, floatable substances or solids larger than 10 mm; and sludge or solid refuse of any kind.

排放不得含有多氯聯苯、聚芳烴、薰蒸劑、殺蟲劑或毒劑、氯化烴、可燃的或有毒的溶劑、碳化鈣;會損 毀污水渠結構或干擾任何處理程序的物質,或有損操作及維修排污系統人員健康及安全的任何物質;足以 在排水或排污系統,或香港水域任何範圍內形成浮渣或沉積物的廢物;足以在香港水域任何範圍內形成變 色的廢物;污泥、漂浮物質或體積超越10毫米的固體;及任何種類的污泥或固體垃圾。

C1.2 No discharge shall bypass the wastewater treatment facilities, the Sampling Point(s) or the Discharge Point(s) unless it is unavoidable to prevent loss of life, personal injury or severe property damage or no feasible alternative exists.

除非避免人命傷亡或嚴重財物損失或無其他可行代替辦法,排放不得繞流不經其廢水處理設施,取樣點或 排放點。

C1.3 Dilution of the discharge to achieve compliance with the limits contained in this licence is prohibited. 不得將排放稀釋,以求達到本牌照內所訂的限度。

C2. Flow Measurement 量度流量

The Licensee shall determine the flow rate of the discharge by installing, operating and maintaining a continuous flow measuring device with an accuracy certified by its manufacturer to be within plus or minus 3 percent of the actual flow, and calibrating the flow measuring device regularly according to manufacturer's recommendations. If no such device is installed, the Licensee shall determine the flow rate through using calculation methods agreed by the Authority, by making reference to the amount of water used in the premises being served by mains supply and other sources, less process consumption and any other losses. 持牌人必須設置、操作及保養一個連續性流量計作為測定排放的流量率之方法、其準確程度須經製造商證實為不超逾或低於真正流量的 3%,並應根據製造商建議的方法,定期校準流量計。如沒有設置該設備,持牌人須依照 監督同意的計算方法,根據處所由自來水及其他水源供應的總用水量減去工序耗水量及其他耗水量來測定流量 率。

C3. Treatment 處理

C3.1 The Licensee shall provide necessary wastewater treatment facilities, and shall engage personnel with adequate qualification and experience to properly operate and maintain all wastewater treatment facilities at all times. Standby equipment shall be provided to guard against failure of major treatment equipment.

持牌人須提供必需的廢水處理設施,並須僱用有足夠資格及經驗的人士,時常妥善操作及保養所有廢水處 理設施。主要處理設施須配有後備裝置,以應付故障發生。

C3.2 In the event of loss of efficiency of operation, or failure of all or part of the wastewater treatment facility, the Licensee shall take all reasonable steps to the extent necessary to maintain compliance with this licence. Such steps shall remain until operation of the wastewater treatment facility is restored or an alternative method of treatment is provided.

倘若部份或整個廢水處理設施操作失靈或發生故障,持牌人須採取所有必要的合理措施,以求達到符合本牌照的規定。此等措施須維持至廢水處理設施恢復如常操作或有其他代替的處理方法可供採用為止。

C3.3 If the wastewater treatment facilities are not properly operated and maintained to the satisfaction of the Authority, the Licensee shall take immediate and effective remedial actions as required by the Authority.

倘若廢水處理設施的操作及保養未能令監督滿意,持牌人須按監督之規定,採取即時及有效的補救行動。

C4. Disposal 棄置

Sludges, screenings, solids, oil and grease, filter backwash, or other pollutants removed in the course of treatment shall be disposed of in a proper manner^(Note b & c).

處理過程中所產生的污泥、隔濾物、固體、油脂、過濾器回洗或其他污染物,必須妥善地棄置(問題も見の)。

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C5. Monitoring 監測

C5.1 The Licensee shall provide and maintain suitable and accessible facility such as an inspection chamber, manhole or sampling valve at each Sampling Point to enable duly authorized officer(s) of the Authority to take samples of the discharge at any time from the premises.

持牌人須在每一個取樣點提供及保養適當及可容易到達的設施,例如檢查槽,沙井或取樣閥,以確保獲監 督授權的人員隨時可在處所內抽取排放樣本。

- C5.2 For self-monitoring, "grab samples" shall be taken during the period when the determinand to be analyzed for is likely to be present in its maximum concentration. "Composite samples" shall include samples taken over daily duration of the discharge. 在自行監測中,「隨意取集樣本」須在測量物的濃度很可能是最高的那段時間內抽取。「綜合樣本」須包含在每日排放期間不同時候所抽取的樣本。
- C5.3 For self-monitoring, all samples shall be analyzed in accordance with the most updated analytical methods used by the Government Chemist ^(Note d). 在自行監測中,所有樣本均須按照政府化驗師所採用的最新分析方法予以分析^(filled)。

C6. Records and Reporting 紀錄及報告

C6.1 The Licensee shall keep the following records in the premises for inspection by duly authorized officer(s) of the Authority:

持牌人須在處所內保存下列紀錄,以備獲監督授權的人員隨時查閱:

- (i) records of flow rate, nature and composition of the discharge; 排放流量率、性質及成份的紀錄;
- (ii) updated records of all monitoring information, including all laboratory analytical results relating to samples taken, all original chart recordings for continuous flow and pH monitoring; and 所有最新監測資料的紀錄,包括所有關於已取樣本的檢驗分析結果、所有連續性流量及酸鹼值監測 記錄圖表的正本;及
- (iii) records of all desludging and degreasing operation, and records of corresponding disposal operation.

所有清除污泥和清理隔油池廢物工序的紀錄,及其棄置工序的紀錄。

Copies of all such records shall be submitted to the Authority upon request. 在監督要求時,須向監督呈交所有該等紀錄的副本。

C6.2 The Licensee shall notify and explain to the Authority: Director of Environmental Protection, Regional Office (E), Kowloon City Section by fax (fax no.: 2756 8588) or electronic mail (email address: hotline_e@epd.gov.hk) within 24 hours upon the occurrence of an accidental discharge or any emergency bypass or an overflow of untreated effluent or an operation upset which places the discharge in a temporary state of non-compliance with this licence. The Licensee shall within 7 days following the incident, submit to the Authority a detailed report in writing on the cause and duration of the non-compliance and steps taken or to be taken to reduce, eliminate, or prevent recurrence of such non-compliance. Reporting in accordance with this Condition does not relieve the Licensee of any obligations imposed by this licence.

倘若有未經處理的污水意外排放、緊急繞流或溢滿的事件或操作失靈,引至排放出現短暫不符合牌照規定 的情況,持牌人須在事發後24,小時內以傳真(傳真號碼:27568588)或電郵(電郵地址: hotline_e@epd.gov.hk)通知監督:環境保護署署長,區域辦事處(東)九龍城區,並予以解釋。持牌人須 在事故發生後7天內,以書面報告,詳述事件的起因、違反牌照條件的時間及為減少、消除或防止類似事 件再次發生所採取或將會採取的措施,送交監督審閱。然而,按照本條件的規定提交報告並不表示持牌人 可復免除承擔本牌照內所載的任何責任。

C7. Operation Manual 操作手册

The Licensee shall prepare an operation manual which shall include, as a minimum, operating procedures, inspection programme and repair and maintenance programme for the wastewater treatment facilities. The operation manual shall be kept at the aforesaid wastewater treatment facilities and a copy of the manual shall be submitted to the Authority upon request.

持牌人須擬備廢水處理設施的操作手冊。手冊內容須最低限度包括操作程序、檢查、維修及保養工作計劃表。該 手冊須保存在上述廢水處理設施內。持牌人須在監督要求時,呈交手冊副本乙份。

C8. Notification of Change 更改通知

The Licensee shall notify the Authority: Director of Environmental Protection, Regional Office (E), Kowloon City Section by fax (fax no.: 2756 8588) or electronic mail (email address: hotline_e@epd.gov.hk) -4in writing within 14 days of any changes or proposed changes in the wastewater treatment methods/facilities, the processes of manufacture or the nature of the raw materials used or of any other circumstances which may alter the nature and composition of the discharge or may result in the permanent cessation of the discharge.

倘若持牌人更改或擬更改其廢水處理設施、生產程序、或所用原料的性質、或有其他足以改變其排放的性質及成 份或可導致永久性終止排放的事情,必須在 14 日內以傳真(傳真號碼: 2756 8588)或電郵(電郵地址: hotline_e@epd.gov.hk)書面通知監督:環境保護署署長,區域辦事處(東)九龍城區。

Notes 附註

(a) For the purposes of determining compliance with the limits stated in Specific Condition B1, samples shall be taken by the duly authorized officer(s) of the Authority at the Sampling Point(s) or any other points from which the samples so taken are regarded by the duly authorized officer(s) as being representative of the quality of the discharge. When any single sample analyzed for a determinand is proved not complying with corresponding limit set out in the table, the discharge is deemed to have failed to comply with Specific Condition B1.
為確定排放是否符合特別條件第 B1 項內所列的限度,獲監督授權的人員須在取樣點或在認為可以抽取到具代表性的樣

為確止在斯政定台付台村加限市并BI境门仍均加限度,遵监督按值的人員現在取標點或在認為可以抽取到具代表性的接 本的任何其他位置抽取樣本。只要在任何一個經分析的樣本中,證實任何一個測量物不符合表中所列的相應限度時,排 放即被視為不符合特別條件第BI項。

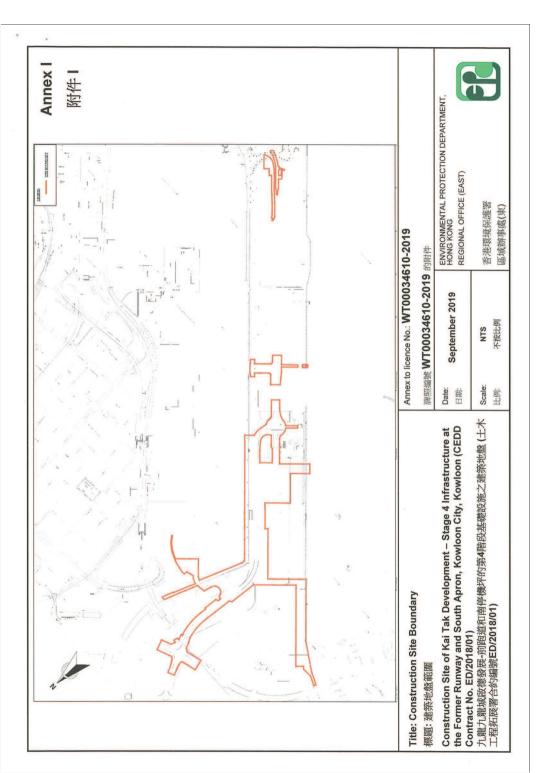
- (b) An example of proper disposal method for sludge is sending dewatered sludge to landfill for disposal. 妥善築置污泥方法中的一個例子是將脫水後的污泥運往堆填區棄置。
- (c) Proper disposal of grease trap waste includes but is not limited to employing registered grease trap waste collector to conduct the disposal work. All registered collectors should have a Certificate of Registration issued by the Environmental Protection Department. The most updated list of the registered collectors can be obtained from the Environmental Protection Department. Set Set Mark 12, 2017 (1997) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017) (2017)
- (d) The Licensee may make reference to Annex 1 of the <Technical Memorandum on Effluent Standards> for analytical methods used by the Government Chemist.

持牌人可參照「流出物標準技術備忘錄」附件1有關政府化驗師所採用的分析方法。

- (e) The Licensee shall keep this licence in the premises and make it available at all times for inspection by duly authorized officer(s) of the Authority, 持限人獨在處所內保存出牌照,以借復監督授權的人員腳時查閱。
- (f) (i) The Licensee shall allow duly authorized officer(s) of the Authority to enter the premises for the purposes of inspection, sampling, records examination or any other duties authorized by Section 37 and Section 38 of the Ordinance. 持限人须准許獲監督授權的人員進入處所內進行檢查、抽取樣本、審查紀錄或執行其他根據本條例第 37 及第 38 條 所授權的職務。
 - (ii) Where the premises has security measures in force which would require proper identification and clearance before entry, the Licensee shall make necessary arrangements such that upon presentation of evidence of identity and of authorization, duly authorized officer(s) will be permitted to enter, without delay, for the purposes of performing duties. 倘若由於處所的保安理由而需先行鑑定來人的身份,持牌人必須作出必要的安排,以便獲授權人員在出示身份證明 及授權文件後,即可內進執行其職務而不致受延誤。
- (g) (i) For a licence granted under Section 15 of the Ordinance, the Licensee may, not less than 2 months before expiry of the licence, apply under Section 19 of the Ordinance for a new licence. The Authority may grant the licence or otherwise. 持有根據本條例第 15 條所批給牌照的人士,可於牌照屆滿前不少於 2 個月內,根據本條例第 19 條的規定,申請一 面新牌照,監督可批給或拒絕批給牌照。
 - (ii) For a licence granted under Section 20 or 23A of the Ordinance, the Licensee may, not more than 4 months and not less than 2 months before expiry of the licence, apply under Section 23 or 23A respectively of the Ordinance for renewal of licence. The Authority may renew the licence or otherwise. 持有根據本條例第 20 條或第 23 A 條所批給牌照的人士,可於牌照屆滿前不多於 4 個月及不少於 2 個月內,根據本 條例的第 23 a, 23 A 條的消費, 申請腱照續期。幣層可將牌照極續期或指絕經濟的。

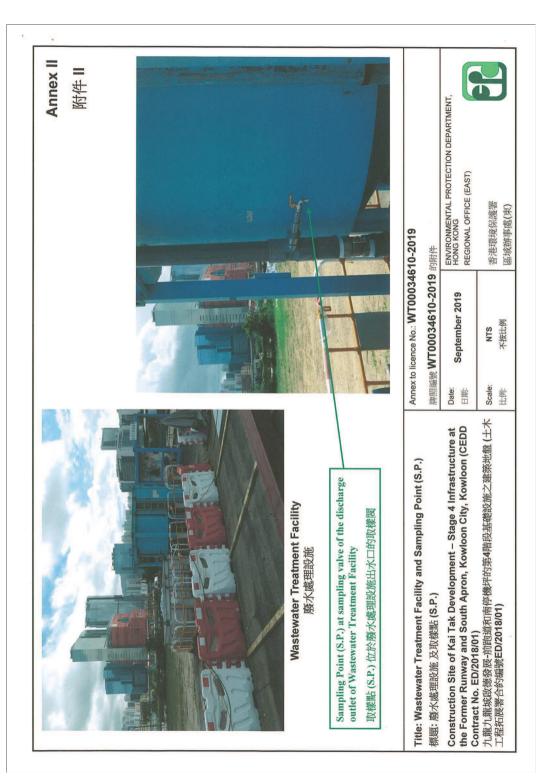
(h) Under Section 24 of the Ordinance, the Authority may by notice in writing, impose new or amended terms and conditions on this licence or cancel this licence. Under Section 25, 26 and 27 of the Ordinance, a Licensee whose licence has been so varied or cancelled may be entitled to compensation. 根據本條例第 24 條的規定,監督可以書面通知,向本牌照施加新訂或經修訂的條款及條件,或取消本牌照。根據本條例第 25、26 及 27 條的規定, 被更改或取消牌照的持牌人可能會獲得補償。

- (i) Under Section 28 of the Ordinance, the Licensee may apply to the Authority for a variation of this licence. 根據本條例第 28 條的規定,持牌人可向監督申請更改本牌照。
- (j) Under Section 49 of the Ordinance, this licence shall not be construed as a dispensation from the requirements of any other Ordinance except where that other Ordinance so provides. 根據本條例第 49 條的規定,本牌照並不得解釋為豁免符合任何其他條例的規定,除非該其他條例如此訂定。
- (k) The licensee should ensure good practice is carried out in dealing with discharges from the construction site. The licensee should make reference to the EPD's Practice Note for Professional Persons, No. PN 1/94, "Construction Site Drainage." 持牌人気確保安善處理地盤之去、排放。持牌人可參考環保署印發之 Practice Note for Professional Persons, 編號 PN 1/94, "Construction Site Drainage" •



- 5 -

EPD156



| 本署檔案 OUR REF: (4) in EP631/K19/RE448177-19 來虛檔案 YOUR REF: 電話 TEL NO: 2150 8081 圖文傳真 FAX NO: 2402 8275 網址 HOMEPAGE: http://www.epd.gov.hk/ | Environmental 8/F _s , Cheung SI | Protection Department I Compliance Division Regional Office (East) ha Wan Government Offices, 303 Cheung Sha Wan Road, Kowloon | R | 環境保護署 0354 環保法規管理科 區域辦事處(東) 九龍長沙灣道303號 長沙灣政府合署8樓 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|---------|--------------------------------------------------------------|
| Registered Post | KTD (902) | | 30 Augu | st 2019 |

To: PENTA – OCEAN CONSTRUCTION CO., LTD. Flat 601, K.Wah Centre, 191 Java Road, North Point, Hong Kong

Dear Sir,

Notice of Issue of Construction Noise Permit pursuant to section 8(6) of the Noise Control Ordinance (Cap. 400)

I write to inform you that, under section 8(6) of the Noise Control Ordinance, the Authority has decided to issue a construction noise permit in respect of your application, which was received by the Authority on 16 August 2019 for the use of powered mechanical equipment for carrying out construction work at <u>Kai Tak Development – Stage 4</u> infrastructure at the former runway and south apron, Kai Tak, Kowloon (CEDD) Contract No. ED/2018/01).

The construction noise permit No. GW-RE0699-19 is enclosed.

You are advised to read the conditions of the permit carefully and to ensure compliance with these conditions. Any breaching of the conditions may lead to cancellation of the permit, **subsequent prosecution action** and the Authority's refusal to issue further permit for the above construction site.

Yours faithfully,

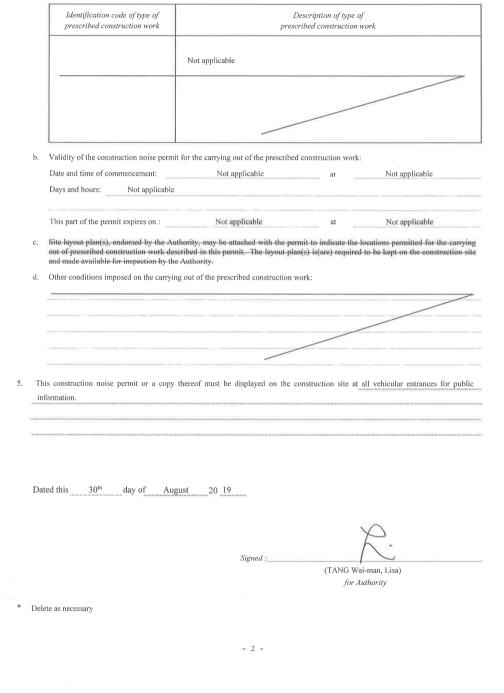


Note:

Electronic submission of application for construction noise permit is available at Environmental Protection Department's website. File attachments with total size not exceeding 20 MB in acceptable format are allowed for electronic submission. Electronic application form can be downloaded from our website (https://epic.epd.gov.hk/eForm/ChangeLanguage.do?language=eng&url=/pages/datadownload/downloadMain.jsp) and an overview of application submission (https://epic.epd.gov.hk/eForm/introduce.html) is provided for more information.

| (4) in EP631/K19/RE448177-19 | FORM 3 [reg.5(a)] NOISE CONTROL ORDINANCE (Chapter 400) SECTION 8(9) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2150 8081 2402 8275 | CONSTRUCTION NOISE PERMIT FOR THE USE OF POWERED MECHANICAL EQUIPMENT FOR THE PURPOSE OF CARRYING OUT CONSTRUCTION WORK OTHER THAN PERCUSSIVE PILING AND/OR THE CARRYING OUT OF PRESCRIBED CONSTRUCTION WORK |
| 致: 香港 掛號函件 渣華道 191 號 | CONSTRUCTION NOISE PERMIT NO. <u>GW-RE0699-19</u> To : PENTA – OCEAN CONSTRUCTION CO., LTD. This construction noise permit is issued in accordance with section 8 of the Noise Control Ordinance. Permission is granted for the use of |
| 嘉華國際中心 601 室 PENTA – OCEAN CONSTRUCTION CO., LTD. | powered mechanical equipment for the purpose of carrying out construction work other than percussive piling and/or the carrying out of prescribed construction work, subject to the conditions set out below. The carrying out of construction work otherwise than in accordance with the conditions may result in the permit being cancelled and in a prosecution for an offence. |
| 執事先生: | CONDITIONS Construction site where the powered mechanical equipment and/or prescribed construction work may be employed: Full address : Kai Tak Development – Stage 4 infrastructure at the former runway and south apron, Kai Tak, Kowloon (CEDD Contract No. ED/2018/01). Lot No. : The site boundary, that is, the boundary of the area within which the powered mechanical equipment may be used and the prescribed construction work may be carried out is delineated on the attached plan which forms part of this construction noise permit. |
| 根據《噪音管制條例(第400章)》第8(6)條 發出的通知書——簽發「建築噪音許可證」 | * PART/WHOLE of the site falls * WITHIN/OUTSIDE a designated area. Powered Mechanical Equipment a. Items of powered mechanical equipment which may be used inside the site boundary : |
| 本監督於二零一九年八月十六日,收到你擬於下述地址:九 <u>龍啟德啟德發展計劃</u> - <u>前跑道及南面停機坪第四期基礎設施(土木工程拓展署合約編號 ED/2018/01)</u> ,使用機 動設備進行建築工程而提出的「建築噪音許可證」申請,現根據《噪音管制條例》第 8(6)條的規定通知你,上述的申請已被批准。 | Identification code of item of powered mechanical equipment (if applicable) Description of item of powered mechanical equipment No. of units Refer to attached sheet. Refer to attached sheet. Item of the sheet of the shee |
| 隨函附上「第 GW-RE0699-19 號建築噪音許可證」。 | |
| 請細閱許可證各項條件,確保遵守,如有違反,本監督可撤銷許可證,提出檢控 及拒絕再就上述地盤簽發任何「建築噪音許可證」。 | b. Validity of the construction noise permit for the use of the powered mechanical equipment: Date and time of commencement : 13 September 2019 at 1900 hours Days and hours : 0000-2400 hours on general holiday (including Sunday), 0000-0700 hours and 1900-2400 hours on any day not being a general holiday [but note condition 3.d.1. below for the operating hours within which the use of the above listed powered mechanical equipment is allowed]. This part of the permit expires on : 12 March 2020 at 2300 hours |
| 監 督 (鄧慧敏 代行) | c. One photograph, endorsed by the Authority, of each item of powered mechanical equipment described in this construction noise permit is required to be kept on the construction site and made available for inspection by the Authority. d. Other conditions imposed on the use of the powered mechanical equipment : The powered mechanical equipment listed in condition 3.a shall only be operated during the hours shown below; |
| 二零一九年八月三十日 | General holiday (including Sunday) 0700 – 2300 hours Any day not being a general holiday 1900 – 2300 hours |
| 注意: 環境保護署提供網上申請「建築嗓音許可證」服務。網上申請容許上傳檔案總容量不大於 20 MB 的有 關文件。可於本署網頁下載電子表格 (https://epic.epd.gov.hk/eForm/ChangeLanguage.do?language=eng&url=/pages/datadownload/downloadMain .jsp)及參閱電子表格提交服務概覧(https://epic.epd.gov.hk/eForm/introduce.html),了解更多資料。 | 2. Only one group of the powered mechanical equipment listed in condition 3.a. shall be allowed to operate at any time. |
| | EPD76A(s) - 1 - |

a. Type of prescribed construction work which may be carried out inside the site boundary



[第5(a)條]

建築噪音許可證 為進行建築工程(撞擊式打樁除外) 而使用機動設備及/或進行訂明建築工程

建築噪音許可證編號: _____ GW-RE0699-19

致: PENTA - OCEAN CONSTRUCTION CO., LTD.

本建築噪音許可證是按照《噪音管制條例》第8條的規定而發出的。現准予使用機動設備以進行 撞擊式打樁工程以外的建築工程及/或進行訂明建築工程,但須受以下條件規限。若不按照該等 條件進行建築工程,許可證可遭撤銷,而且會受到檢控。

條件

1. 可使用機動設備及/或進行訂明建築工程的建築地盤:

詳細地址: 九龍啟德啟德發展計劃-前跑道及南面停機坪第四期基礎設施 (土木工程拓展署合約編號

| ED/2018/01) ° | 地段編號: | | |
|-------------------------------------|--------------|----------|--------|
| 地 盤 範 圍 (即 可 使 用 機 動 設 備 及 進 行 訂 印 | 目建築工程的地方範圍)已 | 描劃於夾附的圖則 | 1上, 而該 |

地區範圍(仰号使用候動設備及進行計码建築工程的地方範圍)已抽動於來的的圖則上,而設 圖則是本建築嗓音許可證的一部分。

- 2. 該地盤部分/全部*位於指定範圍之內/外*。
- 3 機動設備
 - a. 在地盤範圍內可使用的各項機動設備:

| 各項機動設備的識辨代碼 (如適用的話) | 各項機動設備的說明 | 數目 |
|------------------------|-----------|----|
| | 参見附頁。 | |

b. 可使用機動設備的建築噪音許可證有效期:

| 生效日期及時間: | 二零一九年九月十三日 下午七時 |
|------------------|------------------------------|
| 日期及時間: 公眾假日(包括星) | 明日)的凌晨零時至晚上十二時,公眾假日以外的任何一日 |
| 凌晨零時至上午七時及下午七時 | 至晚上十二時【但須注意條件3.d.1.有關可以使用上列機 |
| 動設備的時間】。 | |

此部分許可證屆滿日期及時間: 二零二零年三月十二日 晚上十一時

EL期
 EL期
 時間
 6. 建築地盤須備有本建築噪音許可證所述每件機動設備的照片各一幀,供監督隨時查看;該
 等照片須經監督認可。

d. 規限使用機動設備的其他條件:

1. 祇可於以下時間內使用列在條件3.a 內的機動設備 ·

| 公眾假日(包括星期日) | 上午七時至晚上十一時 |
|-------------|------------|
| 公眾假日以外的任何一日 | 下午七時至晚上十一時 |

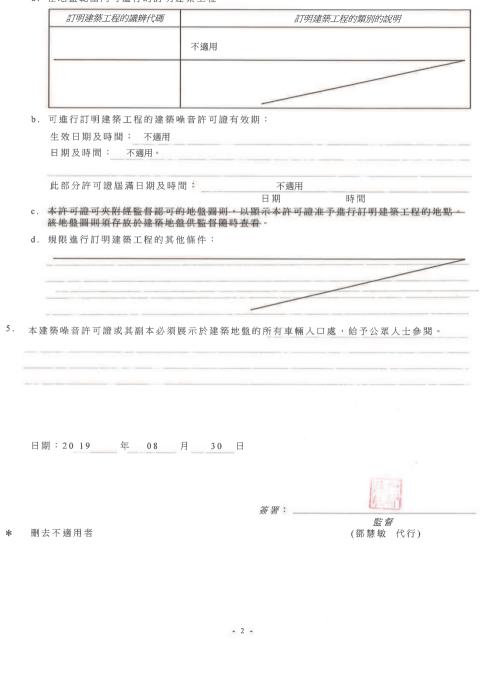
2. 在任何時間內,衹可使用列在條件3.a.內的其中一組機動設備。

EPD76B(s)

-1-

4. 訂明建築工程

a. 在地盤範圍內可進行的訂明建築工程:



Sheet Attached to Construction Noise Permit No. GW-RE0699-19

3.a. Items of powered mechanical equipment which may be used inside the site boundary :

| Identification code of item of powered mechanical equipment (if applicable) | | Description of item of powered mechanical equipment | No. of units |
|-----------------------------------------------------------------------------------|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| <u>Group A</u> | CNP 101 | Generator, standard Lorry with grab, 5.5 tonne <gross <math="" vehicle="" weight="">\leq 38 tonne Lorry with crane, 5.5 tonne<gross <math="" vehicle="" weight="">\leq 38 tonne</gross></gross> | One One One |
| | | Wastewater treatment plant | One |
| | CNP 281 | Water pump (electric) | One |
| | CNP 283 Water pump, submersible (electric) | | One |
| <u>Group B</u> | CNP 101 | Generator, standard | One |
| | | Dump truck, 5.5 tonne <gross td="" vehicle="" weight<=""><td>One</td></gross> | One |
| | Wastewater treatment plant | | One |
| | CNP 281 | 281 Water pump (electric) | |
| | CNP 283 | Water pump, submersible (electric) | One |
| CNP 081 | | Excavator, tracked | One |



共一頁,頁一

建築噪音許可證 編號 GW-RE0699-19 的附頁

3.a. 在地盤範圍內可使用的各項機動設備:

| | 設備的識辨代碼 適用的話) | 各項機動設備的說明 | 數目 |
|------------|------------------|--------------------|----|
| <u>A 組</u> | CNP 101 | 發電機,標準型 | 壹 |
| | | 抓斗貨車,5.5噸<總重量 ≦38噸 | 营 |
| | | 吊臂貨車,5.5噸<總重量 ≦38噸 | 責 |
| | | 污水處理器 | 壹 |
| | CNP 281 | 水泵 (電動) | 壹 |
| | CNP 283 | 潛水泵 (電動) | 壹 |
| <u>B 組</u> | CNP 101 | 發電機,標準型 | 营 |
| | | 卸土車,5.5噸<總重量 ≦38噸 | 壹 |
| | | 污水處理器 | 壹 |
| | CNP 281 | 水泵 (電動) | 壹 |
| | CNP 283 | 潛水泵 (電動) | 壹 |
| | CNP 081 | 挖土機,履帶式 | 壹 |
| | | | |

簽署: 監督 (鄧慧敏 代行)

Photograph(s) attached to Construction Noise Permit No. <u>GW-RE0699-19</u> 建築噪音許可證編號: <u>GW-RE0699-19</u>的照片



CNP 101 Generator, standard 發電機,標準型



Lorry with grab, 5.5 tonne<gross vehicle weight \leq 38 tonne 抓斗貨車, 5.5 噸<總重量 \leq 38 噸

Photograph(s) attached to Construction Noise Permit No. <u>GW-RE0699-19</u> 建築噪音許可證編號: <u>GW-RE0699-19</u>的照片



Wastewater treatment plant 污水處理器



CNP 281 Water pump (electric) 水泵 (電動)

Photograph(s) attached to Construction Noise Permit No. <u>GW-RE0699-19</u> 建築噪音許可證編號: <u>GW-RE0699-19</u>的照片



CNP 283 Water pump, submersible (electric) 潛水泵 (電動)



Lorry with crane, 5.5 tonne<gross vehicle weight≦38 tonne 吊臂貨車,5.5 噸<總重量≦38 噸

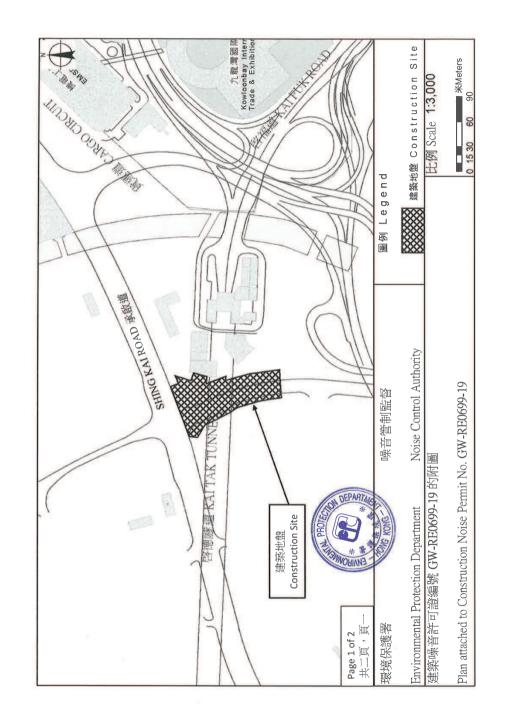
Photograph(s) attached to Construction Noise Permit No. <u>GW-RE0699-19</u> 建築噪音許可證編號: <u>GW-RE0699-19</u>的照片

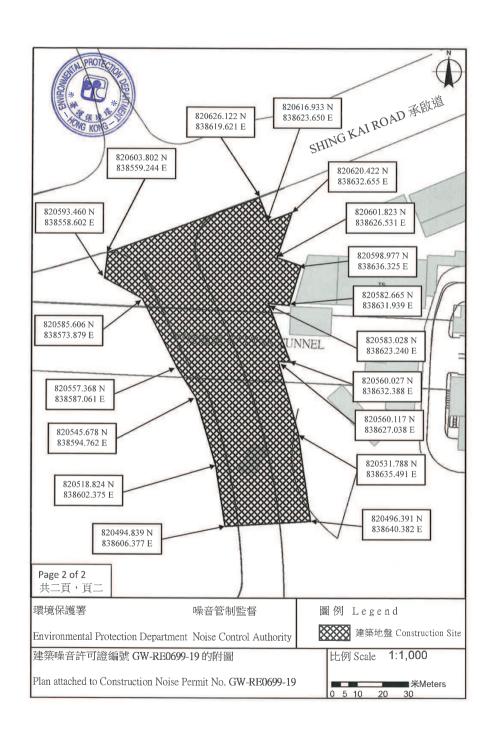


Dump truck, 5.5 tonne<gross vehicle weight≦38 tonne 卸土車, 5.5 噸<總重量≦38 噸



CNP 081 Excavator, tracked 挖土機,履帶式





| 本署檔案 OUR REF: (4) in EP631/K19/RE449113-19 来函構案 YOUR REF: 電話 TEL NO: 2150 8081 國文傳真 | Environmental Protection Department Environmental Compliance Division Regional Office (East) 8/F., Cheung Sha Wan Government Offices, 303 Cheung Sha Wan Road, Kowloon | | f | 環境保護署 0513 環保護署 0513 環球辦事處(東) 九龍長沙灣道303 號 長沙灣政府合署8樓 |
|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------|-----------------------------------------------------------------|
| 國文傳真 FAX NO: 2402 8275 網 址 HOMEPAGE : http://www.epd.gov.hk/ | RECEIVED | | | |
| Registered Post | PENTA-OCEAN KTD (902) | | 03 Octob | ber 2019 |

To: PENTA – OCEAN CONSTRUCTION CO., LTD. Flat 601, K.Wah Centre, 191 Java Road, North Point, Hong Kong

Dear Sir,

Notice of Issue of Construction Noise Permit pursuant to section 8(6) of the Noise Control Ordinance (Cap. 400)

I write to inform you that, under section 8(6) of the Noise Control Ordinance, the Authority has decided to issue a construction noise permit in respect of your application, which was received by the Authority on 16 September 2019 for the use of powered mechanical equipment for carrying out construction work at <u>Kai Tak Development – Stage 4</u> infrastructure at the former runway and south apron (Works Area WA1), Kai Tak, Kowloon (CEDD Contract No. ED/2018/01).

The construction noise permit No. GW-RE0786-19 is enclosed.

You are advised to read the conditions of the permit carefully and to ensure compliance with these conditions. Any breaching of the conditions may lead to cancellation of the permit, **subsequent prosecution action** and the Authority's refusal to issue further permit for the above construction site.

Yours faithfully,

(TANG Wai-man, Lisa) for Authority

Note:

Electronic submission of application for construction noise permit is available at Environmental Protection Department's website. File attachments with total size not exceeding 20 MB in acceptable format are allowed for electronic submission. Electronic application form can be downloaded from our website (https://epic.epd.gov.hk/eForm/ChangeLanguage.do?language=eng&url=/pages/datadownload/downloadMain.jsp) and an overview of application submission (https://epic.epd.gov.hk/eForm/introduce.html) is provided for more information.

| (4) in EP631/K19/RE449113-19 | 5 A A A | | FORM 3 NOISE CONTROL ORDINANCE (Chapter 400) SECTION 8(9) | [reg.5(a)] |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| 2150 8081 2402 8275 | 制號函件 | MECHANICAL EQ CONSTRUCTION V | ON NOISE PERMIT FOR THE USE OF POWERED UIPMENT FOR THE PURPOSE OF CARRYING ON VORK OTHER THAN PERCUSSIVE PILING AND/ GOUT OF PRESCRIBED CONSTRUCTION WORK | OR |
| 致: 香港 北角 渣華道 191 號 嘉華國際中心 601 室 PENTA – OCEAN CONSTRUCTION CO., LTD. | To : P This cor powerec prescrib | mechanical equipment for the purpos ed construction work, subject to the co | | d/or the carrying out of |
| 執事先生: | F | | CONDITIONS anical equipment and/or prescribed construction work may be employe – Stage 4 infrastructure at the former runway and south apron (N ED/2018/01). Lot No. : | Works Area WA1), Kai |
| 根據《噪音管制條例(第 400 章)》第 8(6)條 發出的通知書 — 簽發「建築噪音許可證」 本監督於二零一九年九月十六日,收到你擬於下述地址:九龍啟德啟德 | con 2. * P 3. Pov | struction work may be carried out is de ART/WHOLE of the site falls * WITHI vered Mechanical Equipment | f the area within which the powered mechanical equipment may be lineated on the attached plan which forms part of this construction nois N/OUTSIDE a designated area. | |
| - 前跑道及南面停機坪第四期基礎設施(工作地區 WAI)(土木工程拓展署 <u>ED/2018/01</u>),使用機動設備進行建築工程而提出的「建築噪音許可證」申請 《嗓音管制條例》第8(6)條的規定通知你,上述的申請已被批准。 | 合約編號 | Identification code of item of powered mechanical equipment (if applicable) | Description of item of powered mechanical equipment Generator, with Quality Powered Mechanical Equipment Lab showing a Sound Power Level ≤93 dB(A) | No. of units |
| 隨函附上「第 GW-RE0786-19 號建築噪音許可證」。 請細閱許可證各項條件,確保遵守,如有違反,本監督可撤銷許可證, 及拒絕再就上述地盤簽發任何「建築噪音許可證」。 | | Date and time of commencement : | nit for the use of the powered mechanical equipment: 05 October 2019 at 1900 hours 1900 hours and 1900-22 06 general holiday (including Sunday), 0000-0700 hours and 1900-22 | |
| 監 督 (鄧慧敏 二零一九年十月三日 | | | 04 April 2020 at 2400 hou thority, of each item of powered mechanical equipment described in nstruction site and made available for inspection by the Authority. f the powered mechanical equipment : | |
| 注意: 環境保護署提供網上申請「建築噪音許可證」服務。網上申請容許上傳檔案總容量不大於2 關文件。可於本署網頁下載電子表格 (https://epic.epd.gov.hk/eForm/ChangeLanguage.do?language=eng&url=/pages/datadownload/dow .jsp)及參閱電子表格提交服務概覽(https://epic.epd.gov.hk/eForm/introduce.html),了解更多資 | nloadMain EPD76A | s) | sta . | |

| Prescribed Construction Work | 4. | Prescribed | Construction | Work |
|------------------------------------------------|----|------------|--------------|------|
|------------------------------------------------|----|------------|--------------|------|

| a. | Type of prescribed | construction | work which may | be carried ou | t inside the site boundary : |
|----|--------------------|--------------|----------------|---------------|------------------------------|
|----|--------------------|--------------|----------------|---------------|------------------------------|

| | Identification code of type of prescribed construction work | pr | Description of type of rescribed construction | |
|------|------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|--------------------------------------------------|------------------------------------|
| | ili . | Not applicable | | |
| | | | | |
| | | | | |
|). | Validity of the construction noise perm | it for the carrying out of the prescri | bed construction work | |
| | Date and time of commencement: | Not applicable | at | Not applicable |
| | Days and hours: Not applicable | | | |
| | This part of the permit expires on : | Not applicable | at | Not applicable |
| | Site layout plan(s), endorsed by the Au out of prescribed construction work de and made available for inspection by th | scribed in this permit. The layout- | | |
| | Other conditions imposed on the carryi | | n work: | |
| | | | | / |
| | | | | |
| | | | | |
| | | | | / |
| | | | | |
| | | | | |
| Гhi | s construction noise permit or a copy | thereof must be displayed on th | e construction site at | all vehicular entrances for public |
| | s construction noise permit or a copy formation. | thereof must be displayed on th | , | |
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| inf | ormation. | | , | |
| inf | ormation. | <u>bber</u> 20 <u>19</u> | (TANG Wa | ii-man, Lisa) |
| inf | ormation. | <u>bber</u> 20 <u>19</u> | (TANG Wa | R |
| Date | ormation. | <u>bber</u> 20 <u>19</u> | (TANG Wa | ii-man, Lisa) |
| Date | ormation. | <u>bber</u> 20 <u>19</u> | (TANG Wa | ii-man, Lisa) |

| | | 表格3 [噪音管制條例 (第400章) | 第5(a)條] |
|------|--------------------------------------------------|-----------------------------------------------------------|----------|
| | | 第8(9)條 | |
| | | 建築噪音許可證 建築工程(撞撃式打樁除外) 力設備及/或進行訂明建築工程 | |
| 建築噪 | 音許可證編號: <u>GW-RE0786-</u> | 19 | |
| 致:Pl | ENTA - OCEAN CONSTRUCTION CO. | , LTD. | |
| 撞擊式 | | 條例》第8條的規定而發出的。現准予使用機 或進行訂明建築工程,但須受以下條件規限。 ,而且會受到檢控。 | |
| | | 條件 | |
| 1. 7 | 可使用機動設備及/或進行訂明 | 建築工程的建築地盤: | |
| Ę | 洋細地址:九龍啟德啟德發展計劃 | 」-前跑道及南面停機坪第四期基礎設施(工作地區WA | 1)(土木工程拓 |
| ĥ | 要署合約編號ED/2018/01)。 | 地段編號: | |
| | 也盤範圍(即可使用機動設備及 圖則是本建築噪音許可證的一部 | 進行訂明建築工程的地方範圍)已描劃於夾附的 分。 |]圖則上,而該 |
| 2. 嵩 | 亥地盤 部分 /全部 [*] 位於指定範圍 | □之舟/外* □ | |
| 3. # | 後動設備 | | |
| - P | x 動 設 确 . "在地盤範圍內可使用的各項核 | * 動 設 備 : | |
| | | | |
| | 各項機動設備的識辨代碼 (如適用的話) | 各項機動設備的說明 | 數目 |
| | (外口)炮(州口)活石) | | |
| | | 發電機,備有優質機動設備標籤顯示聲功率級≦93分貝 | L(A) 貢 |
| | | | |
| b | .可使用機動設備的建築噪音 生效日期及時間: | F 可 證 有 效 期 : 二零一九年十月五日 下午七時 | |
| | | | 人外的任何一日 |
| | 凌晨零時至上午七時及下午1 | | |
| | | | × |
| | 此部分許可證屆滿日期及時間 | 引:二零二零年四月四日 晚上十二時 | |
| с | 建築地盤須備有本建築噪音計 等照片須經監督認可。 | 日期 時間 午可證所述每件機動設備的照片各一幀,供監督 | 随時查看;該 |
| d | . 規限使用機動設備的其他條件 | ŧ: | |
| | | | |
| | | | |
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EPD76B(s)

-1-

4. 訂明建築工程

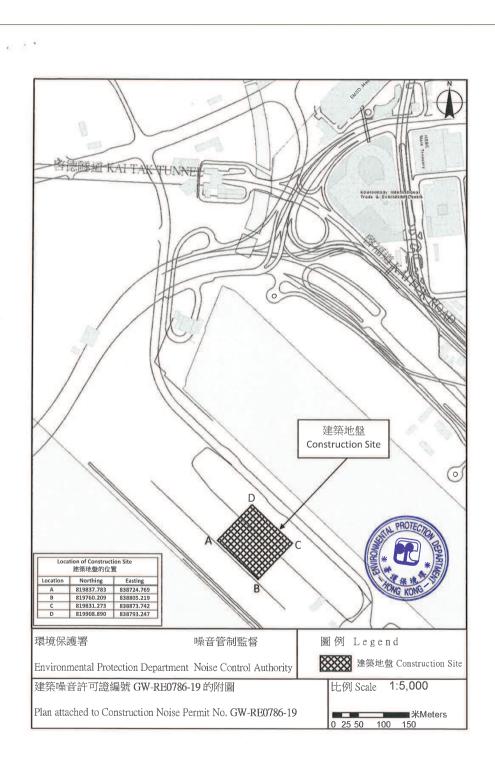
a. 在地盤範圍內可進行的訂明建築工程:



Photograph(s) attached to Construction Noise Permit No. <u>GW-RE0786-19</u> 建築噪音許可證編號: <u>GW-RE0786-19</u>的照片



Generator, with Quality Powered Mechanical Equipment Label showing a Sound Power Level ≦93 dB(A) 發電機,備有優質機動設備標籤顯示聲功率級≦93 分貝(A)



Environmental Protection Department 環境保護署 本習檔案 Environmental Compliance Division 環保法規管理科 OUR REF: (4) in EP631/K19/RE449941-19 Regional Office (East) 來承檔案 區域辦事處(東) YOUR REF 8/F., Cheung Sha Wan Government Offices, 九龍長沙灣道 303 號 電話 303 Cheung Sha Wan Road, 長沙灣政府合署8樓 TEL NO: 2150 8081 Kowloor 圖文傳真 000687 FAX NO: 2402 8275 網 址 HOMEPAGE : http://www.epd.gov.hk/ Registered Post 30 October 2019 RECEIVED To: PENTA - OCEAN CONSTRUCTION CO., LTD. Flat 601, K.Wah Centre, 0 9 NOV 1119 191 Java Road. PENTA-OCEAN PENTA-OCEAN KTD (902) North Point, Hong Kong 08 NOV 2019 RECEIVED Dear Sir,

Notice of Issue of Construction Noise Permit pursuant to section 8(6) of the Noise Control Ordinance (Cap. 400)

I write to inform you that, under section 8(6) of the Noise Control Ordinance, the Authority has decided to issue a construction noise permit in respect of your application, which was received by the Authority on 14 October 2019 for the use of powered mechanical equipment for carrying out construction work at <u>Kai Tak Development – Stage 4</u> infrastructure at the former runway and south apron (Works Area Part 1), Kai Tak, <u>Kowloon (CEDD Contract No. ED/2018/01)</u>.

The construction noise permit No. GW-RE0880-19 is enclosed.

You are advised to read the conditions of the permit carefully and to ensure compliance with these conditions. Any breaching of the conditions may lead to cancellation of the permit, **subsequent prosecution action** and the Authority's refusal to issue further permit for the above construction site.

Yours faithfully,



Note:

Electronic submission of application for construction noise permit is available at Environmental Protection Department's website. File attachments with total size not exceeding 20 MB in acceptable format are allowed for electronic submission. Electronic application form can be downloaded from our website (https://epic.epd.gov.hk/eForm/ChangeLanguage.do?language=eng&url=/pages/datadownload/downloadMain.jsp) and an overview of application submission (https://epic.epd.gov.hk/eForm/introduce.html) is provided for more information.

| (4) in EP631/K19/RE449941-19 | FORM 3 [reg.5(a)] NOISE CONTROL ORDINANCE (Chapter 400) SECTION 8(9) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2402 8275 | CONSTRUCTION NOISE PERMIT FOR THE USE OF POWERED MECHANICAL EQUIPMENT FOR THE PURPOSE OF CARRYING OUT CONSTRUCTION WORK OTHER THAN PERCUSSIVE PILING AND/OR THE CARRYING OUT OF PRESCRIBED CONSTRUCTION WORK |
| 致: 香港 北角 渣華道 191 號 嘉華國際中心 601 室 PENTA - OCEAN CONSTRUCTION CO., LTD. | CONSTRUCTION NOISE PERMIT NO. <u>GW-RE0880-19</u> To: <u>PENTA – OCEAN CONSTRUCTION CO., LTD.</u> This construction noise permit is issued in accordance with section 8 of the Noise Control Ordinance. Permission is granted for the use of powered mechanical equipment for the purpose of carrying out construction work other than percussive piling and/or the carrying out of prescribed construction work, subject to the conditions set out below. The carrying out of construction work otherwise than in accordance with the conditions may result in the permit being cancelled and in a prosecution for an offence. |
| 執事先生: | CONDITIONS 1. Construction site where the powered mechanical equipment and/or prescribed construction work may be employed : Full address : Kai Tak Development – Stage 4 infrastructure at the former runway and south apron (Works Area Part 1), Kai Tak, Kowloon (CEDD Contract No. ED/2018/01), Lot No.: |
| 根據《噪音管制條例(第 400 章)》第 8(6)條 發出的通知書 — 簽發「建築噪音許可證」 | Kowloon (CEDD Contract No. ED/2018/01). Lot No.: The site boundary, that is, the boundary of the area within which the powered mechanical equipment may be used and the prescribed construction work may be carried out is delineated on the attached plan which forms part of this construction noise permit. * PART/WHOLE of the site falls * WITHIN/OUTSIDE a designated area. |
| 本監督於二零一九年十月十四日,收到你擬於下述地址:九龍啟德啟德發展計劃 -前跑道及南面停機坪第四期基礎設施(工作地區第一部分)(土木工程拓展署合約編號 ED/2018/01),使用機動設備進行建築工程而提出的「建築噪音許可證」申請,現根據 《噪音管制條例》第8(6)條的規定通知你,上述的申請已被批准。 | 3. Powered Mechanical Equipment a. Items of powered mechanical equipment which may be used inside the site boundary : Identification code of item of powered mechanical equipment (if applicable) No. of units |
| 隨函附上「第 GW-RE0880-19 號建築噪音許可證」。 | Refer to attached sheet. |
| 請細閱許可證各項條件,確保遵守,如有違反,本監督可撤銷許可證,提出檢控 及拒絕再就上述地盤簽發任何「建築噪音許可證」。 監督 (鄧慧敏 (① | b. Validity of the construction noise permit for the use of the powered mechanical equipment: Date and time of commencement : <u>30 October 2019</u> at <u>1900 hours</u> Days and hours : <u>0000-2400 hours</u> on general holiday (including Sunday), 0000-0700 hours and 1900-2400 hours on any day not being a general holiday [but note Condition 3.d.1. below for the operating hours within which the use of the above listed powered mechanical equipment is allowed]. This part of the permit expires on : <u>27 April 2020</u> at <u>2400 hours</u> c. One photograph, endorsed by the Authority, of each item of powered mechanical equipment described in this construction noise permit is required to be kept on the construction site and made available for inspection by the Authority. d. Other conditions imposed on the use of the powered mechanical equipment : |
| 二零一九年十月三十日 | Refer to attached sheet. |
| 注意: 環境保護署提供網上申請「建築噪音許可證」服務。網上申請容許上傳檔案總容量不大於 20 MB 的有 關文件。可於本署網頁下載電子表格 (https://epic.epd.gov.hk/eForm/ChangeLanguage.do?language=eng&url=/pages/datadownload/downloadMain .jsp)及參閱電子表格提交服務概覽(https://epic.epd.gov.hk/eForm/introduce.html),了解更多資料。 | EPD764(s) |

| | | | | 表格 3 | [第5(a)條] |
|-----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-----------------------------|--------------------------------------------------|--------------|
| . Prescribed Construction Work | | · · · · · · · · · · · · · · · · · · · | | 噪音管制條例 | |
| a. Type of prescribed construction work | which may be carried out inside the site boundary: | | | (第400章) | * |
| Identification code of type of prescribed construction work | Description of type of prescribed construction work | | | 第8(9)條 | |
| | Not applicable | | | 建築噪音許可證 9進行建築工程(撞擊式打樁除外) 1目機動設備及/或進行訂明建築工程 | |
| | | ۵. Example of the second se | 售築噪音許可證編號∶ <u></u> G₩-I | RE0880-19 | |
| | | 至 | 友 : PENTA - OCEAN CONSTRUC | TON CO., LTD. | |
| | | <u></u> | | 音管制條例》第8條的規定而發出的。現准予修 及/或進行訂明建築工程,但須受以下條件規序 | |
| | nit for the carrying out of the prescribed construction work: | | い 建 宗 上 任 , 訂 り 超 り 道 撤す | | |
| Date and time of commencement: | Not applicable at Not applica | | | 條件 | |
| Days and hours: Not applicable. | | 1 | · 可使用機動設備及/或進 | 行訂明建築工程的建築地盤: | |
| | | | 詳細地址:九龍啟德啟德到 | 展計劃-前跑道及南面停機坪第四期基礎設施(工作 | 地區第一部分) (土木工 |
| This part of the permit expires on : | Not applicable at Not applica | able | 程拓展署合約編號ED/2018/ | 01)。 | (444) |
| c. Site layout plan(s), endorsed by the A | uthority, may be attached with the permit to indicate the locations permitted for | or the carrying out | | 設備及進行訂明建築工程的地方範圍)已描劃於 | : 夾附的圖則上,而該 |
| of prescribed construction work descrimed available for inspection by the A | ribed in this permit. The layout plan(s) is(are) required to be kept on the conjustion of the conjustion of the second seco | | 圖則是本建築噪音許可證 | | |
| · · · | ring out of the prescribed construction work: | 2 | , 該地盤 部分 /全部*位於指 | 定範圍之內/外*。 | |
| ······································ | | 3 | • 機動設備 | | |
| A CONTRACT OF A CONTRACT OF A REC | | | a. 在地盤範圍內可使用的 | 7各項機動設備: | |
| | | | 各項機動設備的識辨代 | 碼 各項機動設備的說明 | 數目 |
| | | | (如適用的話) | | 30A 11 |
| | | | | | |
| | | | | 参見附頁。 | |
| | y thereof must be displayed on the construction site at all vehicular entra | nces for public | | | |
| information. | | 011(0.000000000000000000000000000000000 | | | |
| | | | b. 可使用機動設備的建築 | | lan (1994 |
| | | | 生效日期及時間: | <u>二零一九年十月三十日</u> 下 日(包括星期日)的凌晨零時至晚上十二時,公知 | 下七時 |
| | | | | 及下午七時至晚上十二時【但須注意條件3.d.1 | |
| | | | 動設備的時間】。 | | |
| Dated this <u>30th</u> day of Oc | tober 20 19 | - | 此部分許可證屆滿日其 | | 上十二時 時間 |
| | P. | | c. 建築地盤須備有本建築 等照片須經監督認可。 | 『噪音許可證所述每件機動設備的照片各一幀, | 41.9 |
| | Signed : | | d. 規限使用機動設備的非 | "他條件: | |
| | (TANG Wai-man, Lisa) for Authority | - | 參見附頁。 | | |
| | s. | | | | |
| Delete as necessary | | | | | |
| | | | | | |
| | - 2 - | | | | |
| | | EI | PD76B(s) | · 1 · | |

4. 訂明建築工程

a. 在地盤範圍內可進行的訂明建築工程;

| 訂明建築工程的識辨代碼 | 訂明建築工程的類別的說明 |
|-------------|--------------|
| | 不適用 |
| | |
| | |

b. 可進行訂明建築工程的建築噪音許可證有效期:

| 此部分許可證屆滿日期及時間: | 及時間: | 不適用 | | |
|------------------------|------|-----|-------------|--|
| | | 日期 | 時間 | |
| 本許可證可夾附經監督語該地盤圖則須存放於建等 | | | 予進行訂明建築工程的地 | |
| 規限進行訂明建築工程的其他條件: | | | | |
| | | | | |
| | | | | |
| | | | | |

日期:2019 年 10 月 30 日





5.

Sheet Attached to Construction Noise Permit No. GW-RE0880-19

3.a. Items of powered mechanical equipment which may be used inside the site boundary :

| Identification code of item of powered mechanical equipment (if applicable) | | Description of item of powered mechanical equipment | No. of units |
|-----------------------------------------------------------------------------------|---------|-------------------------------------------------------------------------------------------------------------------|-----------------|
| <u>Group A</u> | | Generator, with Quality Powered Mechanical Equipment Label showing a Sound Power Level $\leq 93 \text{ dB}(A)$ | One |
| | | Piling, vibrating hammer | One |
| | CNP 048 | Crane, mobile (diesel) | One |
| | | Welding machine (electric) | One |
| | 272742 | Air blower (electric) | One |
| | | Power pack (diesel) | One |
| | CNP 283 | Water pump, submersible (electric) | Eight |
| | | Wastewater treatment plant | One |
| <u>Group B</u> | | Generator, with Quality Powered Mechanical Equipment Label showing a Sound Power Level ≤93 dB(A) | One |
| | CNP 081 | Excavator, tracked | One |
| | CNP 283 | Water pump, submersible (electric) | Eight |
| | | Wastewater treatment plant | One |
| | | Dump truck with grab, 5.5 tonne <gross <math="" vehicle="" weight="">\leq 38 tonne</gross> | One |
| | | Welding machine (electric) | One |
| | CNP 048 | Crane, mobile (diesel) | One |
| <u>Group C</u> | | Generator, with Quality Powered Mechanical Equipment Label showing a Sound Power Level $\leq 93 \text{ dB}(A)$ | Three |
| | CNP 283 | Water pump, submersible (electric) | Twelve |
| | 2755 | Wastewater treatment plant | Two |



Page 1 of 2

建築噪音許可證 編號 GW-RE0880-19 的附頁

3.a. 在地盤範圍內可使用的各項機動設備:

| | 设備的識辨代碼 適用的話) | 各項機動設備的說明 | 數目 |
|------------|--------------------|--------------------------------------------------------------------------------------------------------------|--------------|
| <u>A 級</u> | CNP 048 | 發電機,備有優質機動設備標籤顯示聲功率級≤93分貝(A) 打樁機,震動鎚 起重機,流動(油渣) 焊接機(電動) 吹風機(電動) 油渣動力供應器 潛水泵(電動) 污水處理器 | 壹壹壹壹壹壹捌壹 |
| <u>B 組</u> | CNP 081 CNP 283 | 發電機,備有優質機動設備標籤顯示聲功率級≦93分貝(A) 挖土機,履帶式 潛水泵(電動) 污水處理器 抓斗卸土車,5.5 噸<總重量≦38 噸 焊接機(電動) 起重機,流動(油渣) | 壹壹捌壹壹壹壹 |
| <u>C 組</u> | CNP 283 | 發電機,備有優質機動設備標籤顯示聲功率級≦93分貝(A) 潛水泵(電動) 污水處理器 | 叁 拾貳 貳 |

簽署:

監督 (鄧慧敏 代行)

Sheet Attached to Construction Noise Permit No. <u>GW-RE0880-19</u>

3.d. Other conditions imposed on the use of the powered mechanical equipment:

1. The powered mechanical equipment listed in condition 3.a shall only be operated during the hours shown below:

| Group A and | General holiday including Sunday | 0700 – 1900 hours |
|----------------|-------------------------------------|-----------------------------------------|
| <u>Group B</u> | Any day not being a general holiday | 1900 – 2300 hours |
| Group C | General holiday including Sunday | 0000 – 2400 hours |
| <u>Group C</u> | Any day not being a general holiday | 0000 – 0700 hours AND 1900 – 2400 hours |

2. Only one group of the powered mechanical equipment listed in condition 3.a shall be allowed to operate at any time.

Signed (TANG Wai-man, Lisa) for Authority

Page 2 of 2

共二頁,頁二

81 H)

建築噪音許可證 編號 GW-RE0880-19 的附頁

3.d. 規限使用機動設備的其他條件:

1. 祇可於以下時間內使用列在條件 3.a 內的機動設備:

| | 公眾假日包括星期日 | 上午七時 至下午七時 |
|-----------|-------------|----------------------|
| A組及B組 | 公眾假日以外的任何一日 | 下午七時 至晚上十一時 |
| C AT | 公眾假日包括星期日 | 凌晨零時至晚上十二時 |
| <u>C組</u> | 公眾假日以外的任何一日 | 凌晨零時至上午七時及下午七時至晚上十二時 |

2. 在任何時間內, 祇可使用列在條件 3. a. 內其中一組機動設備。



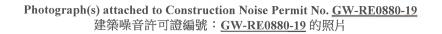
Photograph(s) attached to Construction Noise Permit No. <u>GW-RE0880-19</u> 建築噪音許可證編號: <u>GW-RE0880-19</u>的照片



Generator, with Quality Powered Mechanical Equipment Label showing a Sound Power Level ≦93 dB(A) 發電機,備有優質機動設備標籤顯示聲功率級≦93 分貝(A)



CNP 283 Water pump, submersible (electric) 潛水泵 (電動)





Wastewater treatment plant 污水處理器



Air blower (electric) 吹風機 (電動) Photograph(s) attached to Construction Noise Permit No. <u>GW-RE0880-19</u> 建築噪音許可證編號: <u>GW-RE0880-19</u>的照片



Dump truck with grab, 5.5 tonne<gross vehicle weight \leq 38 tonne 抓斗卸土車 , 5.5 噸< 總重量 \leq 38 噸



CNP 081 Excavator, tracked 挖土機,履帶式



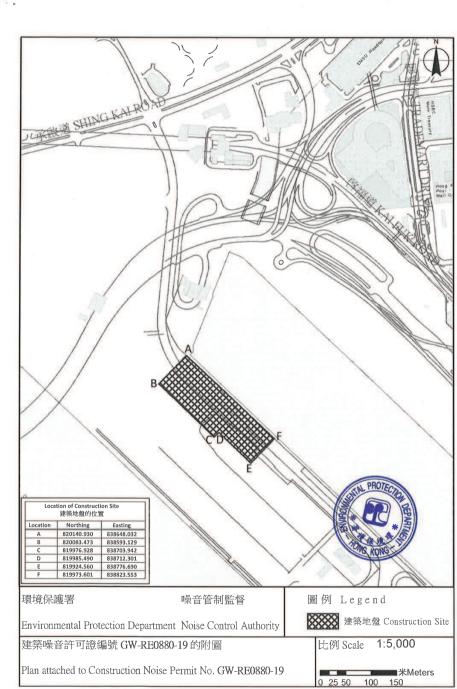




CNP 048 Crane, mobile (diesel) (2) 起重機,流動(油渣)(2)

Piling, vibrating hammer 打樁機,震動鎚





| 本習檔案 OUR REF: (4) in EP631/K19/RE452581-20 來函檔案 YOUR REF: 電 話 TEL No: 2150 8081 | Environmental Protection Department Environmental Compliance Division Regional Office (East) &/F., Cheung Sha Wan Government Offices, 303 Cheung Sha Wan Road, Kowloon | (4) in EP631/1 |
|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 圖文傳真 | NUWIOUT | 2150 8081 |
| FAX NO:2402 8275 網 址 HOMEPAGE:http://www.epd.gov.hk/ | | 2402 8275 |
| Registered Post | 22 January 2020 | |
| | | 致: |
| | ONSTRUCTION CO., LTD. | |
| Flat 601, K.Wah Cent 191 Java Road, | PENTA-OCEAN | M2. 171 |
| North Point, Hong Ko | 0 7 FEB 2020 | 10001 |
| | RECEIVED | 1 . S & |
| Dear Sir, | | 執事先生: |
| | Issue of Construction Noise Permit pursuant (6) of the Noise Control Ordinance (Cap. 400) | |

I write to inform you that, under section 8(6) of the Noise Control Ordinance, the Authority has decided to issue a construction noise permit in respect of your application, which was received by the Authority on 8 January 2020 for the use of powered mechanical equipment for carrying out construction work at <u>Kai Tak Development – Stage 4</u> infrastructure at the former runway and south apron (Works Area Part 1), Kai Tak, Kowloon (CEDD Contract No. ED/2018/01).

The construction noise permit No. GW-RE0039-20 is enclosed.

You are advised to read the conditions of the permit carefully and to ensure compliance with these conditions. Any breaching of the conditions may lead to cancellation of the permit, **subsequent prosecution action** and the Authority's refusal to issue further permit for the above construction site. (4) in EP631/K19/RE452581-20

: 香港 北角 渣華道 191 號 嘉華國際中心 601 室 PENTA – OCEAN CONSTRUCTION CO., LTD.

根據《噪音管制條例(第400章)》第8(6)條 發出的通知書 — 簽發「建築噪音許可證」

本監督於二零二零年一月八日,收到你擬於下述地址:<u>九龍啟德啟德發展計劃-</u> 前跑道及南面停機坪第四期基礎設施(工作地區第一部分)(土木工程拓展署合約編號 ED/2018/01),使用機動設備進行建築工程而提出的「建築噪音許可證」申請,現根據 《噪音管制條例》第 8(6)條的規定通知你,上述的申請已被批准。

隨函附上「第 GW-RE0039-20 號建築噪音許可證」。

請細閱許可證各項條件,確保遵守,如有違反,本監督可撤銷許可證,提出檢控及拒絕再就上述地盤簽發任何「建築噪音許可證」。



掛號函件

二零二零年一月二十二日

注意:

環境保護署提供網上申請「建築噪音許可證」服務。網上申請容許上傳檔案總容量不大於 20 MB 的有 關文件。可於本署網頁下載電子表格

(https://epic.epd.gov.hk/eForm/ChangeLanguage.do?language=eng&url=/pages/datadownload/downloadMain .jsp)及參閱電子表格提交服務概覽(https://epic.epd.gov.hk/eForm/introduce.html),了解更多資料。

Yours faithfully,

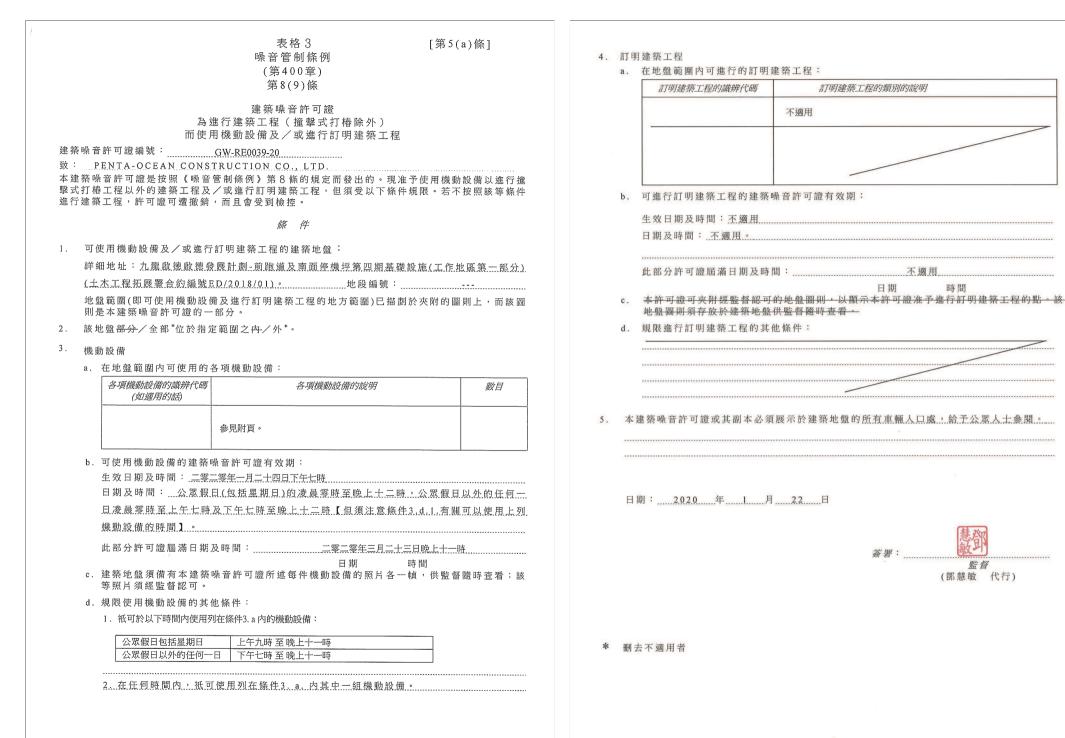
(TANG Wai-man, Lisa) for Authority

Note:

Electronic submission of application for construction noise permit is available at Environmental Protection Department's website. File attachments with total size not exceeding 20 MB in acceptable format are allowed for electronic submission. Electronic application form can be downloaded from our website

(https://epic.epd.gov.hk/eForm/ChangeLanguage.do?language=eng&url=/pages/datadownload/downloadMain.jsp) and an overview of application submission (https://epic.epd.gov.hk/eForm/introduce.html) is provided for more information.

| | | FORM 3 NOISE CONTROL ORDINANCE (Chapter 400) SECTION 8(9) | [reg.5(a)] | | | which may be carried out inside the site boundary: |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|--------|---------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| | MECHANICAL I CONSTRUCTION | TION NOISE PERMIT FOR THE USE OF POWERE EQUIPMENT FOR THE PURPOSE OF CARRYING N WORK OTHER THAN PERCUSSIVE PILING AN NG OUT OF PRESCRIBED CONSTRUCTION WOI | OUT D/OR | | Identification code of type of prescribed construction work | Description of type of prescribed construction work Not applicable |
| CONS | TRUCTION NOISE PERMIT | NO. <u>GW-RE0039-20</u> | | | | |
| | | CTION CO., LTD. | | | | |
| This co powered prescrib | nstruction noise permit is issued in a d mechanical equipment for the pur red construction work, subject to the | accordance with section 8 of the Noise Control Ordinance. Permiss pose of carrying out construction work other than percussive pilin conditions set out below. The carrying out of construction work other cancelled and in a prosecution for an offence. CONDITIONS | ion is granted for the use of g and/or the carrying out of | b. | Date and time of commencement : | it for the carrying out of the prescribed construction work: Not applicable |
| | | | | | | |
| Fu (<u>C</u> | II address: <u>Kai Tak Development – S</u> EDD Contract No. ED/2018/01). | chanical equipment and/or prescribed construction work may be emplo tage 4. infrastructure at the former runway and south apron (Works Am Lot No.: ry of the area within which the powered mechanical equipment may | ea Part 1), Kai Tak, Kowloon | с. | This part of the permit expires on : Site layout plan(s), endorsed by the At | Not applicable |
| | | delineated on the attached plan which forms part of this construction n | | d. | Other conditions imposed on the carryi | ing out of the prescribed construction work: |
| 2. *- | ART/WHOLE of the site falls * WIT | HIN/OUTSIDE a designated area. | | | | |
| 3. Po | wered Mechanical Equipment | | | | | |
| a. | Items of powered mechanical equip Identification code of item of | oment which may be used inside the site boundary : | | | | |
| | powered mechanical equipment (if applicable) | Description of item of powered mechanical equipment | No. of units | | | |
| | | Refer to attached sheet. | | 5. Thi | s construction noise permit or a copy the | reof must be displayed on the construction site at <u>all vehicular entrances for public information.</u> |
| b. | | permit for the use of the powered mechanical equipment: 24 January 2020at | 1900 hours | | | |
| | day not being a general holiday | rs on general holidays (including Sundays), 0000-0700 hours ar [but note condition 3.d.1, below for the operating hours within pment is allowed]. | which the use of the above | Da | ted this <u>22nd</u> day of <u>January</u> | 2020 |
| | | 23 March 2020 at | | | | \Diamond |
| c. | One photograph, endorsed by the | Authority, of each item of powered mechanical equipment describ construction site and made available for inspection by the Authority. | | | | Signed :(TANG Wai-man, Lisa) |
| d. | • | se of the powered mechanical equipment: uipment listed in condition 3.a. shall only be operated during the | hours shown below: | * Dele | te as necessary | for Authority |
| | General holiday (includin Any day not being a gene | | | | | |
| | 2. Only one group of the power | red mechanical equipment listed in condition 3.a shall be allowe | d to operate at any time | | | |
| | | | | | | |



時間

監督

(鄧慧敏 代行)

Page 1 of 1

Sheet Attached to Construction Noise Permit No. <u>GW-RE0039-20</u>

3.a. Items of powered mechanical equipment which may be used inside the site boundary :

| of powered | n code of item l mechanical (if applicable) | Description of item of powered mechanical equipment | No. of units |
|----------------|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|--------------|
| <u>Group A</u> | | Generator, with Quality Powered Mechanical Equipment Label showing a Sound Power Level $\leq 94 \text{ dB}(A)$ | One |
| | CNP 166 | Piling, large diameter bored, reverse circulation drill | Two |
| | | Air compressor, with Noise Emission Label showing a | Two |
| | | Sound Power Level of ≤ 104 dB(A) | |
| | | Power pack (diesel) | One |
| | | Wastewater treatment plant | One |
| | CNP 283 | Water pump, submersible (electric) | Four |
| <u>Group B</u> | | Generator, with Quality Powered Mechanical Equipment Label showing a Sound Power Level ≦94 dB(A) | One |
| | CNP 164 | Piling, large diameter bored, grab and chisel | One |
| | CNP 048 | Crane, mobile (diesel) | One |
| <u>Group C</u> | | Generator, with Quality Powered Mechanical Equipment Label showing a Sound Power Level ≤94 dB(A) | One |
| | | Welding machine (electric) | Five |
| | CNP 048 | Crane, mobile (diesel) | One |
| <u>Group D</u> | | Generator, with Quality Powered Mechanical Equipment Label showing a Sound Power Level ≤94 dB(A) | One |
| | | Air compressor, with Noise Emission Label showing a Sound Power Level of ≤ 104 dB(A) | One |
| | CNP 048 | Crane, mobile (diesel) | One |
| | | Wastewater treatment plant | One |
| | CNP 283 | Water pump, submersible (electric) | Four |
| <u>Group E</u> | | Generator, with Quality Powered Mechanical Equipment Label showing a Sound Power Level ≦94 dB(A) | One |
| | CNP 048 | Crane, mobile (diesel) | One |
| | CNP 165 | Piling, large diameter bored, oscillator | One |
| | CNP 044 | Concrete lorry mixer | One |
| | CNP 283 | Water pump, submersible (electric) | One |
| | | Wastewater treatment plant | One |

建築噪音許可證 編號 GW-RE0039-20 的附頁

3.a. 在地盤範圍內可使用的各項機動設備:

| | 设備的識辨代碼 商用的話) | 各項機動設備的說明 | 數目 |
|------------|------------------|-----------------------------------|----|
| <u>A 組</u> | - | 發電機,備有優質機動設備標籤顯示聲功率級≦94分貝 (A) | 壹 |
| | CNP 166 | 大直徑鑽孔樁,循環式鑽機 | 漬 |
| | | 空氣壓縮機,備有噪音標籤顯示聲功率級≦104分貝(A) | 濵 |
| | | 油渣動力供應器 | 壹 |
| | | 污水處理器 | 壹 |
| | CNP 283 | 潛水泵 (電動) | 肆 |
| <u>B 組</u> | | 發電機,備有優質機動設備標籤顯示聲功率級≦94 分貝 (A) | 壹 |
| | CNP 164 | 大直徑鑽孔樁,抓斗及鑿 | 壹 |
| | CNP 048 | 起重機,流動 (油渣) | 壹 |
| <u>C組</u> | | 發電機,備有優質機動設備標籤顯示聲功率級≦94分貝 (A) | 壹 |
| | | 焊接機 (電動) | 伍 |
| | CNP 048 | 起重機,流動 (油渣) | 壹 |
| <u>D組</u> | | 發電機,備有優質機動設備標籤顯示聲功率級≦94 分貝 (A) | 壹 |
| | | 空氣壓縮機,備有噪音標籤顯示聲功率級≦104分貝(A) | 壹 |
| | CNP 048 | 起重機,流動(油渣) | 壹 |
| | | 污水處理器 | 壹 |
| | CNP 283 | 潛水泵 (電動) | 肆 |
| <u>E組</u> | - | 發電機,備有優質機動設備標籤顯示聲功率級≦94 分貝 (A) | 壹 |
| | CNP 048 | 起重機,流動(油渣) | 壹 |
| | CNP 165 | 大直徑鑽孔樁,擺動機 | 壹 |
| | CNP 044 | 混凝土攪拌車 | 壹 |
| | | 污水處理器 | 壹 |
| | CNP 283 | 潛水泵 (電動) | 壹 |



簽署: 監督 (鄧慧敏 代行)

Photograph(s) attached to Construction Noise Permit No. <u>GW-RE0039-20</u> 建築噪音許可證編號: <u>GW-RE0039-20</u>的照片



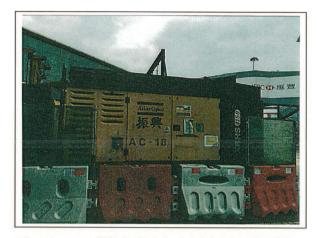
Generator, with Quality Powered Mechanical Equipment Label showing a Sound Power Level ≦94dB(A) 發電機,備有優質機動設備標籤顯示聲功率級≦94 分貝(A)



CNP 283 Water pump, submersible (electric) 潛水泵 (電動)



Photograph(s) attached to Construction Noise Permit No. <u>GW-RE0039-20</u> 建築噪音許可證編號: <u>GW-RE0039-20</u> 的照片

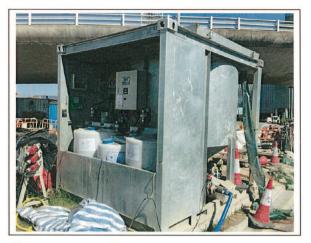


Air compressor, with Noise Emission Label showing a Sound Power Level of ≤ 104 dB(A)(1) 空氣壓縮機,備有噪音標籤顯示聲功率級 ≤ 104 分貝(A)(-)





Air compressor, with Noise Emission Label showing a Sound Power Level of ≤ 104 dB(A) (2) 空氣壓縮機,備有噪音標籤顯示聲功率級 ≤ 104 分貝 (A) (二) Photograph(s) attached to Construction Noise Permit No. <u>GW-RE0039-20</u> 建築噪音許可證編號: <u>GW-RE0039-20</u> 的照片



Wastewater treatment plant 污水處理器



Power pack (diesel) 油渣動力供應器



Photograph(s) attached to Construction Noise Permit No. <u>GW-RE0039-20</u> 建築噪音許可證編號: <u>GW-RE0039-20</u> 的照片



CNP 165 Piling, large diameter bored, oscillator 大直徑鑽孔樁, 擺動機



CNP 164 Piling, large diameter bored, grab and chisel 大直徑鑽孔樁,抓斗及鑿



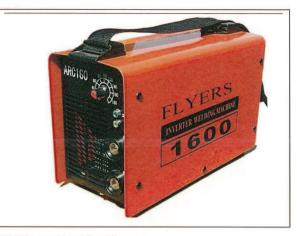
Photograph(s) attached to Construction Noise Permit No. <u>GW-RE0039-20</u> 建築噪音許可證編號: <u>GW-RE0039-20</u> 的照片



CNP 048 Crane, mobile (diesel) 起重機,流動(油渣)



Photograph(s) attached to Construction Noise Permit No. <u>GW-RE0039-20</u> 建築噪音許可證編號: <u>GW-RE0039-20</u>的照片

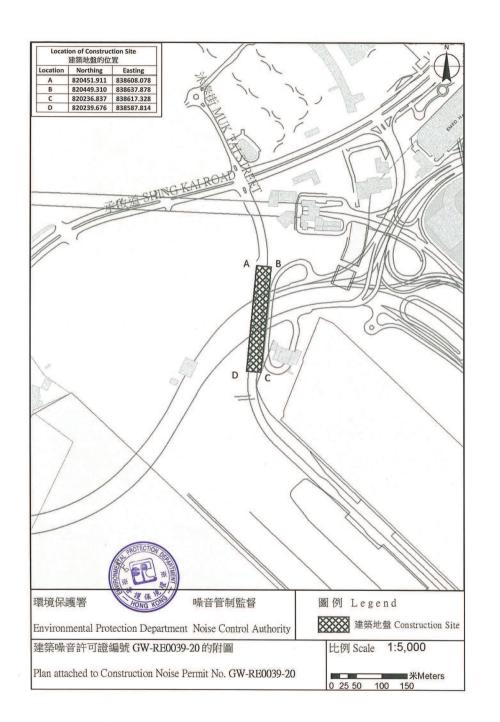


Welding machine (electric) 焊接機 (電動)



CNP 166 Piling, large diameter bored, reverse circulation drill 大直徑鑽孔樁,循環式鑽機





| 本署檔號 OUR REF.: 來函檔號 YOUR REF.: 電話 | RE04380 |
|-----------------------------------------------|----------------------|
| TEL. NO.: 圖文傳真 | 2872 1769 |
| 画文诗英 FAX NO.: 網址 | 2591 0361 |
| HOMEPAGE: | http://www.epd.gov.h |

Environmental Protection Department Environmental Infrastructure Division

nfrastructure Division 88 Victoria Road, Kennedy Town, Hong Kong.



0119

OMEPAGE: http://www.epd.gov.hk

PENTA-OCEAN CONSTRUCTION CO., LTD. FLAT/ROOM 601, K. WAH CENTRE, 191 JAVA ROAD, NORTH POINT, HONG KONG Attn.: CHOI CHONG KEI

RECEIVED 03 JUL 2019 PENTA-OCEAN Friday, 28 June, 2019

Dear Sir/Madam,

Waste Disposal (Charges for Disposal of Construction Waste) Regulation Approval of Application for Billing Account (Construction work contract with value of \$1 million or above) Application No.: <u>RE04380</u>

I am pleased to inform you that your application for billing account for disposal of construction waste under the following construction work contract has been approved under Section 6 and 9 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation:

Contract No.: ED/2018/01

Contract Name: KAI TAK DEVELOPMENT - STAGE 4 INFRASTRUCTURE AT THE FORMER RUNWAY AND SOUTH APRON

Construction Waste Generated Site: KAI TAK THE FORMER RUNWAY AND SOUTH APRON

The account number is <u>7034450</u>. Please quote this account number for enquiries in relation to the billing account.

You are bound by the "Basic Conditions" and "Conditions of Use" accompanied with this account for disposal of construction waste at the prescribed facilities. You shall ensure that (a) the billing account established solely for the contract as stated above is used for paying any prescribed charge payable in respect of construction waste generated from construction work undertaken under the above contract; and (b) that billing account is <u>not</u> used for paying any prescribed charge payable in respect of construction work undertaken under the above contract; and (b) that billing account is <u>not</u> used for paying any prescribed charge payable in respect of any other construction waste <u>not</u> generated from construction work undertaken under the contract as stated above.

Regarding your application for issuance of chits, a demand note for the deposit required will be sent to you accordingly. Request for additional chits can be made using "Form 4". Please note that one chit is required for each load of construction waste to be disposed of at prescribed facility.

Should you have any queries, please contact us at 2872 1769.

Yours faithfully,

(K O Yeung) Principal Environmental Protection Officer for Director of Environmental Protection



再造紙 RECYCLED PAPER

本署檔號

Our Ref: 米函橋號 Your Ref: 電話 2117 7539 Tel. No.: 電子郵信 E-Mail: 網址 Homepage: http://www.epd.gov.hk/

447046

Environmental Protection Department Environmental Compliance Division Regional Office (East) 5th Floor, Nan Fung Commercial Centre, 19 Lam Lok Street, Kowloon Bay, Kowloon, Hong Kona,



3 1 JUL 2019

By Registered Post

PENTA-OCEAN CONSTRUCTION CO., LTD. FLAT 601, K. WAH CENTRE, 191 JAVA ROAD, NORTH POINT, HONG KONG

PENTA-OCEAN 0 2 AUG 2019 RECEIVED

Dear Sir/Madam,

Waste Disposal Ordinance (Cap. 354) Waste Disposal (Chemical Waste) (General) Regulation Registration as a Chemical Waste Producer <u>Completion of Registration</u>

I am pleased to inform you that your registration with this department as a chemical waste producer has been completed.

The assigned Waste Producer Number (WPN) and the particulars of your establishment are printed in the enclosed form (EPD 130). If you consider there are any discrepancies about the particulars, please notify me immediately, quoting the assigned WPN.

The "EPD 130" is an important document, please archive appropriately. This registration is not transferable and will be valid only in respect of the applicant and the premises registered. In future when there is change in the registration particulars, you should inform this department as soon as possible so that our record can be amended accordingly. Under section 7 of the above regulation, failure to notify this department of relevant changes is an offence and liable to a maximum fine of HK\$10,000.

For enquiries, please contact us at Tel 2117 7546.

Yours faithfully,

hanhail

(CHAN Wai-lun, William) Environmental Protection Officer for Director of Environmental Protection 先生/女士:

香港法例第三五四章廢物處置條例 廢物處置(化學廢物)(一般)規例 化學廢物產生者 完成登記程序

本署已完成辦理 貴機構申請登記為「化學廢物產生者」。現隨信附上EPD 130表格;載有 貴機 構的各項資料及你的「化學廢物產生者」編號。請即核對表格內的各項資料,如有錯漏,請即聯絡 本署職員以便更正。通訊時請註明你的化學廢物產生者編號。

EPD 130 表格是一份重要文件,請妥善存檔。同時,是項登記,不得轉讓,並只適用於已登記 的申請人/機構及有關地址。日後如果已申報的資料有變更,你應馬上通知本署,以便修正紀錄。 按照上述規例第七條規定,任何人倘未有將變更資料及時呈報,乃屬違例行為,一經定罪,可被判 罰款最高港幣一萬元正。

若有任何疑問,請致電 2117 7546 與本署職員聯絡。

環境保護署署長 (環境保護主任 陳偉麟 代行)

掛號函件

附件

Encl.

| 4 K | | | |
|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| | 理 Waste Dispo 香港法伊 Waste Disposal(C 廢物處 Registr | tal Protection Departm 景 境 保 護 署 sal Ordinance (Chapter 354) 刘第354章廢物處置條例 hemical Waste)(General) R 證(化學廢物)(一般)規例 ation of Waste Producer 廢物產生者登記證 | |
| To: 致 Chemical Waste Producer 化學廢物產 生者 | L (只 文) (Chinese) (中 文) Business Reg. Cert. No. (if any) 商業登記證號碼: (如有者 Address for Correspondence 通訊地址: FLAT 601, K. WAA | ——— 身份) | . Card No. (if any) |
| | Tel. No. 電 話: | Fax No. | 25724080 |
| Producer un WPN <u>5]2</u> listed below 前於 <u>2019</u> 予廢物產生者 | 2118 ⁻² 21816 ⁻ 2 2 4 2 4 2 4 5 12 118 ⁻² 18 18 2 5 12 118 ⁻² 18 18 2 18 18 18 18 18 18 18 18 18 18 18 18 18 | al Waste) (General) Regulat _{0 3} is assigned to you in re | |
| Location or Premises where the waste is produced 產生廢物 的地點或 處所 | 10% (將 □ 作 · Business Reg. Cert. No. (if any) 商業登記證號碼:(如有 Nature of Business 業務性質: | (者) | 8-7 OIL, SPENT MINERAL OIL, SURPLUS |
| | | Y AND SOUTH APRON, KOW | T - STAGE 4 INFRASTRUCTURE AT VLOON CITY, KOWLOON (CEDD |
| | | 瑕 Da | (んみ、んみ、 (CHAN Wai-lun, William) or Director of Environmental Protection 環境保護署署長(陳偉麟 代行) ate 18 07 2019 |
| 警告: | Any registered waste producer who change in his registration particulars c 任何已登記的廢物產生者,若其登記資# 港幣10,000元。 | commits an offence and is liable | e on conviction to a fine of \$10,000. |

Appendix P – Environmental Mitigation Implementation Schedule (EMIS)

| - | mplementation Schedule for Air Quality Measures | | | | |
|------------------------------------|-------------------------------------------------|-----------------------------------------------------------------------------------------------|--------|--|--|
| EIA for KTD Development Ref. | EIA for KTD – Roads D3A & D4A Ref. | Environmental Protection Measures / Mitigation Measures | Status | | |
| \$3.2 | | 8 times daily watering of the work site with active dust emitting | ^ | | |
| | | activities. | | | |
| \$3.2 | S4.8 | Implementation of dust suppression measures stipulated in Air | | | |
| | | Pollution Control (Construction Dust) Regulation. The following | | | |
| | | mitigation measures, good site practices and a comprehensive dust | | | |
| | | monitoring and audit programme are recommended to minimize | | | |
| | | cumulative dust impacts. | | | |
| | | - Stockpiling site(s) should be lined with impermeable sheeting | ^* | | |
| | | and bunded. Stockpiles should be fully covered by | | | |
| | | impermeable sheeting to reduce dust emission. | | | |
| | | - 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. | | | |
| | | - 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. | | | |
| | | - 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. | | | |
| | | - The vehicles should be restricted to maximum speed of 10 km | ^ | | |
| | | per hour and confined haulage and delivery vehicle to | | | |
| | | designated roadways insider the site. On- site unpaved roads | | | |
| | | should be compacted and kept free of lose materials. | | | |
| | | Vehicle washing facilities should be provided at every vehicle | ^ | | |
| | | exit point. | | | |
| | | - 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. | | | |
| | | | NIA | | |
| | | - Every stock of more than 20 bags of cement should be covered | NA | | |
| | | entirely by impervious sheeting placed in an area sheltered on | | | |
| | | the top and the three sides. | ~ | | |
| | | - Every vehicle should be washed to remove any dusty materials | ^ | | |
| | | from its body and wheels before leaving the construction sites. | | | |

| P | | Noise Measures | |
|-----------------|----------------------------------|---------------------------------------------------------------------|--------|
| Development – R | ofor KTD oads D3A D4A Ref. | Environmental Protection Measures / Mitigation Measures | Status |
| \$3.3 | | Use of quiet PME, movable barriers barrier for Asphalt Paver, | ^ |
| | | Breaker, Excavator and Hand-held breaker and full enclosure for Air | |
| | | Compressor, Bar Bender, Concrete Pump, Generator and Water | |
| | | Pump. | |
| \$3.3 | | Good Site Practice: | |
| \$3.3 | | - Only well-maintained plant should be operated on-site and | ^ |
| | | plant should be serviced regularly during the construction | |
| | | program. | |
| | | - Silencers or mufflers on construction equipment should be | ^ |
| | | utilized and should be properly maintained during the | |
| | | construction program. | |
| | | - Mobile plant, if any, should be sited as far away from NSRs as | ^ |
| | | possible. | |
| | | - Machines and plant (such as trucks) that may be in intermittent | ^ |
| | | use should be shut down between works periods or should be | |
| | | throttled down to a minimum. | |
| | | - Plant known to emit noise strongly in one direction should, | ^ |
| | | wherever possible, be orientated so that the noise is directed | |
| | | away from the nearby NSRs. | |
| | | - Material stockpiles and other structures should be effectively | ^ |
| | | utilized, wherever practicable, in screening noise from on-site | |
| | | construction activities. | |
| | | - Scheduling of Construction Works during School | ^ |
| | | Examination Period | |

| Implementatio | Implementation Schedule for Water Quality Measures | | | | |
|------------------------------------|----------------------------------------------------|----------------------------------------------------------------------|--------|--|--|
| EIA for KTD Development Ref. | EIA for KTD - Roads D3A & D4A Ref. | Environmental Protection Measures / Mitigation Measures | Status | | |
| S3.4 | | Construction Runoff | | | |
| | | Exposed soil areas should be minimised to reduce the potential for | | | |
| | | increased siltation, 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 mitigation measures which include: | | | |
| S3.4 | | - use of sediment traps. | ^ | | |
| S3.4 | | - adequate maintenance of drainage systems to prevent flooding | ^ | | |

| EIA for KTD Development Ref. | EIA for KTD - Roads D3A & D4A Ref. | | Environmental Protection Measures / Mitigation Measures | Status |
|------------------------------------|------------------------------------------|---|----------------------------------------------------------------------|--------|
| | | | and overflow. | |
| | S5.8 | - | Surface run-off from construction sites should be discharged | ^ |
| | | | into storm drains via adequately designed sand/silt removal | |
| | | | facilities such as sand traps, silt traps and sedimentation basins. | |
| | S5.8 | - | Channels or earth bunds or sand bag barriers should be | ^ |
| | | | provided on site to properly direct stormwater to such silt | |
| | | | removal facilities. Perimeter channels should be provided on | |
| | | | site boundaries where necessary to intercept storm run-off from | |
| | | | outside the site so that it will not wash across the site. Catchpits | |
| | | | and perimeter channels should be constructed in advance of site | |
| | | | formation works and earthworks. | |
| | S5.8 | - | Silt removal facilities, channels and manholes should be | ^ |
| | | | maintained and the deposited silt and grit should be removed | |
| | | | regularly, at the onset of and after each rainstorm to prevent | |
| | | | local flooding. Any practical options for the diversion and | |
| | | | re-alignment of drainage should comply with both engineering | |
| | | | and environmental requirements in order to provide adequate | |
| | | | hydraulic capacity of all drains. Minimum distance of 100 m | |
| | | | should be maintained between the discharge points of | |
| | | | construction site run-off and the existing saltwater intakes. | |
| | S5.8 | - | Earthworks final surfaces should be well compacted and the | ^ |
| | | | subsequent permanent work or surface protection should be | |
| | | | carried out immediately after the final surfaces are formed to | |
| | | | prevent erosion caused by rainstorms. Appropriate drainage like | |
| | | | intercepting channels should be provided where necessary. | |
| | S5.8 | - | Measures should be taken to minimize the ingress of rainwater | ^ |
| | | | into trenches. If excavation of trenches in wet seasons is | |
| | | | necessary, they should be dug and backfilled in short sections. | |
| | | | Rainwater pumped out from trenches or foundation excavations | |
| | | | should be discharged into storm drains via silt removal facilities. | |
| | S5.8 | - | Open stockpiles of construction materials (e.g. aggregates, | ^* |
| | | | sand and fill material) on sites should be covered with tarpaulin | |
| | | | or similar fabric during rainstorms. | |
| | S5.8 | - | Manholes (including newly constructed ones) should always be | NA |
| | | | adequately covered and temporarily sealed so as to prevent silt, | |
| | | | construction materials or debris from getting into the drainage | |
| | | | system, and to prevent storm run-off from getting into foul | |
| | | | sewers. Discharge of surface run-off into foul sewers must | |

| Implementation Schedule for Water Quality Measures | | | | | |
|----------------------------------------------------|------------------------------------------|-------------------------------------------------------------------------|--------|--|--|
| EIA for KTD Development Ref. | EIA for KTD – Roads D3A & D4A Ref. | Environmental Protection Measures / Mitigation Measures | Status | | |
| | | always be prevented in order not to unduly overload the foul | | | |
| | | sewerage system. | | | |
| | S5.8 | - Good site practices should be adopted to remove rubbish and | ^ | | |
| | | litter from construction sites so as to prevent the rubbish and | | | |
| | | litter from spreading from the site area. It is recommended to | | | |
| | | clean the construction sites on a regular basis. | | | |
| S3.4 | | 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. | | | |
| S3.4 | S5.8 | 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 rainy season, or at | | | |
| | | any time of year when rainstorms are likely, exposed slope surfaces | | | |
| | | should be covered by tarpaulin or other means. | | | |
| | | If excavation in soil cannot be avoided in these months or at any | | | |
| | | time of year when rainstorms are likely, for the purpose of | | | |
| | | preventing soil erosion, temporary exposed slope surfaces should be | | | |
| | | covered e.g. by tarpaulin, and temporary access roads should be | | | |
| | | protected by crushed stone or gravel, as excavation proceeds. | | | |
| | | Intercepting channels should be provided (e.g. along the crest / edge | | | |
| | | of excavation) to prevent storm runoff from washing across exposed | | | |
| | | soil surfaces. Arrangements should always be in place in such a way | | | |
| | | that adequate surface protection measures can be safely carried out | | | |
| | | well before the arrival of a rainstorm. | | | |
| \$3.4 | | 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 | | | |

| Implementatio | Implementation Schedule for Water Quality Measures | | | | | |
|------------------------------------|----------------------------------------------------|-------------------------------------------------------------------------------|--------|--|--|--|
| EIA for KTD Development Ref. | EIA for KTD - Roads D3A & D4A Ref. | Environmental Protection Measures / Mitigation Measures | Status | | | |
| | | flexible and able to handle multiple inputs from a variety of sources | | | | |
| | | and particularly suited to applications where the influent is pumped. | | | | |
| S3.4 | | 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. | | | | |
| S3.4 | | Manholes (including newly constructed ones) should always be | NA | | | |
| | | 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. | | | | |
| S3.4 | | 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. | | | | |
| S3.4 | | Oil interceptors should be provided in the drainage system and | NA | | | |
| | | 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. | | | | |
| S3.4 | S5.8 | Wheel Washing Water | ^ | | | |
| | | All vehicles and plant should be cleaned before leaving a | | | | |
| | | construction site to ensure no earth, mud, debris and the like is | | | | |
| | | deposited by them on roads. An adequately designed and 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. | | | | |
| \$3.4 | | Drainage | ^ | | | |
| | | 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. | | | | |
| | | should be no uncer discharge of enfuent noni ule site into ule sea. | l | | | |

| Implementatio | on Schedule for V | Water Quality Measures | |
|------------------------------------|------------------------------------------|---------------------------------------------------------------------------|--------|
| EIA for KTD Development Ref. | EIA for KTD - Roads D3A & D4A Ref. | Environmental Protection Measures / Mitigation Measures | Status |
| S3.4 | | 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. | |
| S3.4 | | All fuel tanks and storage areas should be provided with locks and | ^ |
| | | be located 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. | |
| S3.4 | S5.8 | 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. | |
| | | Notices should be posted at conspicuous locations to remind the | |
| | | workers not to discharge any sewage or wastewater into the | |
| | | surrounding environment. Regular environmental audit of the | |
| | | construction site will provide an effective control of any | |
| | | malpractices and can encourage continual improvement of | |
| | | environmental performance on site. It is anticipated that sewage | |
| | | generation during the construction phase of the project would not | |
| | | cause water pollution problem after undertaking all required | |
| | | measures. | |
| S3.4 | | Stormwater Discharges | ^ |
| | | Minimum distances of 100 m should be maintained between the | |
| | | existing or planned stormwater discharges and the existing or | |
| | | planned seawater intakes | |
| S3.4 | | Debris and Litter | ^ |
| | | In order to maintain water quality in acceptable conditions with | |
| | | regard to aesthetic quality, contractors should be required, under | |
| | 1 | | I |

| EIA for KTD Development Ref. | EIA for KTD – Roads D3A & D4A Ref. | Environmental Protection Measures / Mitigation Measures | Status |
|------------------------------------|------------------------------------------|------------------------------------------------------------------------|--------|
| | | 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. | |
| | S5.8 | Boring and Drilling Water | ^ |
| | | Water used in ground boring and drilling for site investigation or | |
| | | rock / soil anchoring should as far as practicable be re-circulated | |
| | | after sedimentation. When there is a need for final disposal, the | |
| | | wastewater should be discharged into storm drains via silt removal | |
| | | facilities. | |
| | S5.8 | Acid Cleaning, Etching and Pickling Wastewater | NA |
| | | Acidic wastewater generated from acid cleaning, etching, pickling | |
| | | and similar activities should be neutralized to within the pH range | |
| | | of 6 to 10 before discharging into | |
| | | foul sewers. | |
| | S5.8 | Effluent Discharge | ^ |
| | | There is a need to apply to EPD for a discharge licence for discharge | |
| | | of effluent from the construction site under the WPCO. The | |
| | | discharge quality must meet the requirements specified in the | |
| | | discharge licence. All the runoff and wastewater generated from the | |
| | | works areas should be treated so that it satisfies all the standards | |
| | | listed in the TM-DSS. Minimum distance of 100 m should be | |
| | | maintained between the discharge points of construction site effluent | |
| | | and the existing seawater intakes and the planned WSR mentioned in | |
| | | S5.3.1 as appropriate. The beneficial uses of the treated effluent for | |
| | | other on-site activities such as dust suppression, wheel washing and | |
| | | general cleaning etc., can minimise water consumption and reduce | |
| | | the effluent discharge volume. If monitoring of the treated | |
| | | effluent quality from the works areas is required during the | |
| | | construction phase of the Project, the monitoring should be carried | |
| | | out in accordance with the relevant WPCO licence which is under | |
| | | the ambit of regional office (RO) of EPD. | |
| | S5.8 | Accidental Spillage | ^ |
| | | Contractor must register as a chemical waste producer if chemical | |
| | | wastes would be produced from the construction activities. The | |
| | | Waste Disposal Ordinance (Cap 354) and its subsidiary regulations | |
| | | in particular the Waste Disposal (Chemical Waste) (General) | |
| | | Regulation, should be observed and complied with for control of | |
| | | chemical wastes. | |

| Implementatio EIA for KTD Development Ref. | n Schedule for EIA for KTD – Roads D3A & D4A Ref. | Water Quality Measures Environmental Protection Measures / Mitigation Measures | Status | |
|-----------------------------------------------------|------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--|
| | | Any service shop and maintenance facilities should be located on hard standings within a bunded area, and sumps and oil interceptors should be provided. Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges. | | |
| S5.8 | | Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows: Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport. | ^ | |
| | S5.8 | - Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents. | ^ | |
| | S5.8 | - Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area. | ^ | |

| Implementatio | Implementation Schedule for Waste Management Measures | | | | | | |
|------------------------------------|-------------------------------------------------------|----------------------------------------------------------------------|--------|--|--|--|--|
| EIA for KTD Development Ref. | EIA for KTD - Roads D3A & D4A Ref. | Environmental Protection Measures / Mitigation Measures | Status | | | | |
| \$3.5 | | Good Site Practices | | | | | |
| | | It is not anticipated that adverse waste management related impacts | | | | | |
| | | would arise, provided that good site practices are adhered to. | | | | | |
| | | Recommendations for good site practices during construction | | | | | |
| | | activities include: | | | | | |
| \$3.5 | | - 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. | | | | | |
| | S6.7 | - Prepare a Waste Management Plan, which becomes a part of the | ^ | | | | |
| | | Environmental Management Plan, in accordance with the | | | | | |
| | | requirements stipulated in ETWB TC(W) No. 19/2005, | | | | | |
| | | approved by the Engineer/Supervising Officer of the Project | | | | | |
| | | based on current practices on construction sites. | | | | | |

| Implementatio | on Schedule for V | Waste Management Measures | |
|------------------------------------|------------------------------------------|----------------------------------------------------------------------|--------|
| EIA for KTD Development Ref. | EIA for KTD - Roads D3A & D4A Ref. | Environmental Protection Measures / Mitigation Measures | Status |
| S3.5 | S6.7 | - Training of site personnel in proper waste management and | ^ |
| | | chemical waste handling procedures. | |
| S3.5 | S6.7 | - Provision of sufficient waste disposal points and regular | ^ |
| | | collection for disposal. | |
| S3.5 | S6.7 | - Appropriate measures to minimise windblown litter and dust | ^ |
| | | during transportation of waste by either covering trucks or by | |
| | | transporting wastes in enclosed containers. | |
| S3.5 | | - A recording system for the amount of wastes generated, | Λ |
| | | recycled and disposed of (including the disposal sites). | |
| | S6.7 | - Regular cleaning and maintenance programme for drainage | ^ |
| | | systems, sumps and oil interceptors. | |
| | S6.7 | - Training should be provided to workers about the concepts of | ^ |
| | | site cleanliness and appropriate waste management procedures, | |
| | | including waste reduction, reuse and recycle. | |
| S3.5 | | Waste Reduction Measures | ^ |
| | | Good management and control can prevent the generation of a | |
| | | significant amount of waste. Waste reduction is best achieved at the | |
| | | planning and design stage, as well as by ensuring the | |
| | | implementation of good site practices. Recommendations to achieve | |
| | | waste reduction include: | |
| S3.5 | S6.7 | - Sort C&D waste from demolition of the remaining structures to | Λ |
| | | recover recyclable portions such as metals. | |
| S3.5 | S6.7 | - 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. | |
| S3.5 | S6.7 | - Encourage collection of aluminium 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. | |
| S3.5 | | - Any unused chemicals or those with remaining functional | ^ |
| | | capacity should be recycled. | |
| S3.5 | S6.7 | - Proper storage and site practices to minimise the potential for | ^ |
| | | damage or contamination of construction materials. | |
| S3.5 | | Construction and Demolition Materials | |
| | | Mitigation measures and good site practices should be incorporated | |
| | | in the contract document to control potential environmental impact | |
| | | from handling and transportation of C&D material. The mitigation | |
| | | measures include: | |

| Implementation Schedule for Waste Management Measures | | | | | |
|-------------------------------------------------------|------------------------------------------|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--|
| EIA for KTD Development Ref. | EIA for KTD - Roads D3A & D4A Ref. | | Environmental Protection Measures / Mitigation Measures | Status | |
| S3.5 | | - | Where it is unavoidable to have transient stockpiles of C&D material within the Project work site pending collection for disposal, the transient stockpiles shall be located away from waterfront or storm drains as far as possible. | ^ | |
| \$3.5 | | - | Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric. | ^* | |
| S3.5 | | - | Skip hoist for material transport should be totally enclosed by impervious sheeting. | ^ | |
| \$3.5 | | - | Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site. | ^ | |
| \$3.5 | | - | 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. | ^ | |
| 83.5 | | - | 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. | ^ | |
| \$3.5 | | - | All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet. | ^ | |
| \$3.5 | | - | The height from which excavated materials are dropped should be controlled to a minimum practical height to limit fugitive dust generation from unloading. | ^ | |
| S3.5 | | - | 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. | ^ | |

| EIA for KTD Development Ref. | EIA for KTD - Roads D3A & D4A Ref. | Environmental Protection Measures / Mitigation Measures | Status | |
|------------------------------------|------------------------------------------|----------------------------------------------------------------------|--------|--|
| S6.7 | | - Plan and stock construction materials carefully to minimize | ^ | |
| | | amount of waste generated and avoid unnecessary generation | | |
| | | of waste. | | |
| \$3.5 | | 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. | | |
| | S6.7 | Separation of chemical wastes for special handling and appropriate | ^ | |
| | | treatment. | | |
| S3.5 | | 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. | | |

| Implementation Schedule for Landscape and Visual Measures | | | | | | |
|-----------------------------------------------------------|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--|--|--|
| EIA for KTD Development Ref. | EIA for KTD - Roads D3A & D4A Ref. | Environmental Protection Measures / Mitigation Measures | Status | | | |
| \$3.8.12 | | All existing trees should be carefully protected during construction | ^ | | | |
| \$3.8.12 | | 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. | ^ | | | |
| \$3.8.12 | | Control of night-time lighting. | ^ | | | |
| \$3.8.12 | | Erection of decorative screen hoarding. | ^ | | | |
| | S7.9 | <u>Construction Site Control</u> CM1 - Minimized construction area and contractor's temporary works areas. | ^ | | | |
| | | - CM2- Control of night-time lighting and glare by hooding all | ^ | | | |

| Implementation Schedule for Landscape and Visual Measures | | | | | |
|-----------------------------------------------------------|-----------------------------------------------------------------------------------------|----------------------------------------------------------------|---|--|--|
| EIA for KTD Development Ref. | EIA for KTDEnvironmental Protection Measures / Mitigation Measures- Roads D3A& D4A Ref. | | | | |
| | | lights. | | | |
| | | - CM3 - Erection of decorative mesh screens or construction | ^ | | |
| | | hoardings around works areas in visually unobtrusive colours. | | | |
| | | - CM4 - Reduction of construction period to practical minimum. | ^ | | |
| | | - CM5 - Limitation of / Ensuring no run-off into surrounding | ^ | | |
| | | landscape and adjacent seawater areas. | | | |
| | | - CM6 - Temporary or advance landscape should be provided | ^ | | |
| | | along the temporary access roads to the Cruise Terminal until | | | |
| | | such time as road D3 is open. | | | |

| Remarks | : | | |
|---------|-------------------------------------------|---|-------------------------------------------------|
| ^ | Compliance of mitigation measure. | Х | Non-compliance of mitigation measure. |
| N/A | Not Applicable at this stage. | • | Non-compliance but rectified by the contractor. |
| N/A (1) | Not observed. | | |
| * | Recommendation was made during site audit | # | Recommendation was made during audit and to be |
| | but improved/rectified by the contractor. | | improved/ rectified by the contractor. |

| Mitigation Measures u | Indertaken by the Contraction of | eactor for site inspections | HB 635 TEL:286/1080 |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|---------------------------|
| Date: | 6 Feb 2020 | Date: | 13 Feb 2020 |
| Mitigation Measures: | Watering of the work | Mitigation Measures: | Quiet PME was used. |
| | site with active dust | | |
| | emitting activities. | | |
| | | | |
| Date: | 21 Feb 2020 | | |
| Mitigation Measures: | Stockpile had been | | |
| | covered properly. | | |

Appendix Q – Summaries of Environmental Complaint, Warning, Summon and Notification of Successful Prosecution

Reporting Month: February 2020

| Contract No. | Record of Complaint (Yes/No) | Record of Warning (Yes/No) | Notification of Summons and Successful Prosecutions (Yes/No) |
|--------------|---------------------------------|-------------------------------|--------------------------------------------------------------------------|
| ED/2018/01 | No | No | No |

Cumulative Statistics on Complaints, Notification of Summons and Successful Prosecutions upto reporting month

| Contract No. | Record of Complaint | Record of Warning | Notification of Summons and Successful Prosecutions |
|--------------|---------------------|--------------------------|--------------------------------------------------------------|
| ED/2018/01 | 0 | 0 | 0 |

| Complaint Log for ED/2018/01 | | | | | | | |
|------------------------------|----------------------|-------------------------------------------------|-------------------------------------------|----------------------------|--|--|--|
| EPD Complaint Ref. No. | Date of Complaint | Description of Complaint | Investigation / Recommendations / Actions | Close-Out Date / Status | | | |
| | | No compliant was receipted in Jan and Feb 2020. | | | | | |
| | | | | | | | |
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